U.S. Department of Transportation United States Coast Guard

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# Technical Basis for Maneuvering Performance Standards

Hydronautics, Incorporated

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## NOMENCLATURE

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A	Advance in turn in meters
AR	Total rudder area in square meters
As	Submerged profile area in meters squared
Ą	Above water (windage) profile area in meters squared Αδ
Α'	Non-dimensional advance - Aδ <sub>r</sub> <u>35 LBP</u>
В	Ship beam in meters
с <sub>в</sub>	Block coefficient
DT	Tactical diameter in meters
Dp	Propeller diameter in meters
D'	Non-dimensional tactical diameter - $\frac{D_T \delta_r}{35 \text{ LBP}}$
F	Froude number - V/vg LBP
g	Gravitational acceleration - 9.80665 meters per second square
HPa	Maximum astern horsepower
Κ'	Nomoto-Norrbin zig-zag parameter
к*	1/K'
L	Ship length in meters
LBP	Length between perpendiculars in meters
Rh	Head Reach in meters
R'	Non-dimensional value of $R_h = \frac{R_h}{LBP} \times \frac{1}{F}$
t	Time in seconds
t <sub>s</sub>	Time to stop in seconds
т	Ship draft in meters
т <sub>т</sub>	Transfer in turn in meters
Τ	Nomoto-Norrbin zig-zag parameter
T <sup>*</sup>	ו/ד'

V	Velocity in meters per second
V <sub>a</sub> , V <sub>o</sub>	Initial or approach velocity in meters per second
V <sub>ship</sub>	Ship velocity in meters per second
V <sub>wind</sub>	Wind velocity in meters per second
δ <sub>r</sub>	Rudder angle in degrees
δ <sub>1</sub>	First overshoot angle in degrees
δ <sub>2</sub>	Final overshoot angle in degrees
δ'	Non-dimensional overshoot angle = $\frac{\delta}{\delta_r}$
Δ	Ship displacement in metric tons
ρ	Mass density of seawater - 104 kilogram-meters square per second fourth
σ	Standard deviation or RMS value
Subscrip	bts

S

D	lactical diameter
m	Mean value
R	Head reach
δ	Overshoot angle

#### **Definitions:**

RMS or Root Mean Square Value - The standard deviation of a set of data, equal to the square root of the summation of the squares of the difference between the value of each data point and the mean value of the set.

Mean Value - The average value of all data or, for a straight line curve fit, the local value of the straight line having the smallest RMS value (least squares curve).

Least Squares Fit - The curve, of specified type or order, which yields the smallest RMS value for all data points in a given set.

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#### EXECUTIVE SUMMARY

This report describes the development of maneuvering performance standards for commercial vessels larger than 1000 metric tons displacement, intended for normal cargo or passenger operations. These standards are designed to provide a means for rating controllability under conditions where collisions, rammings and groundings (CRGs) are likely to occur. This work has been carried out for the U.S. Coast Guard by HYDRONAUTICS, Incorporated under Department of Transportation Contract DTCG23-80-C-20037.

This development was carried out in seven tasks which were to:

- 1. Collect available trials data and incorporate in a maneuvering data base.
- 2. Analyze trials data to determine statistics of maneuvering performance.
- 3. Conduct maneuvering simulations on ships for which maneuvering qualities were known, to determine behavior in standard maneuvers.
- 4. Determine the effect of wind on ship controllability.
- 5. Consider the effect of machinery on controllability.
- 6. Determine if a correlation between frequency of casualties and maneuvering performance can be established.
- 7. Establish, based on results of Tasks 2-6 above, proposed maneuvering performance standards.

#### Motivation for this Study

This study was motivated by a long term awareness of the need for maneuvering performance standards and the requirement that the Coast Guard provide rules and regulations governing ship safety and pollution control. In particular, the Coast Guard has been charged to:

"Begin publication as seen as practicable of proposed rules and regulations setting forth minimum standards of design, construction, alteration, and repair of vessels .... such rules and regulations shall, to the extent possible, include but not be limited to <u>improved</u> <u>vessel maneuvering and stopping ability</u> and otherwise reduce the possibility of collisions, grounding or other accident ..." (emphasis added)

#### Background

At present there are no standards or requirements for ship maneuvering and stopping performance. There are a number of reasons for this: most ships have traditionally had at least acceptable maneuvering performance; human operators, who are highly adaptable, can compensate, at least in part, for poor ship capability; and owners have not had a clear economic incentive for improving maneuvering performance. Any meaningful standards must take these factors into account, and rigid (go/no go) or inflexible standards will not be accepted and applied.

Successful standards must provide a more flexible approach which is based on some type of performance ratings and is generally acceptable to industry and which reflects inherent ship controllability under restricted water conditions typical of those under which most ship maneuvering and most CRG casualties occur. The standards developed in this study and discussed in this report attempt to meet these goals.

#### Approach to Developing Standards

The approach selected in this study involves a three level process in which available data have been used to establish:

- "Criteria" which could be used as a basis for selecting specific measures of performance.
- "Measures" of performance which would provide a basis for selecting quantitative performance levels.
- "Levels" of performance which would represent specific quantitative definitions of performance, i.e., superior performance, average performance, etc.

In establishing the proposed maneuvering performance standards, measures and levels of performance, several separate approaches have been followed, including:

• An analysis of ship casualty data to see what correlation could be established between ship maneuvering performance and maneuvering related casualties.

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- Collection and analysis of a large enough body of ship trials data to rate ship maneuvering performance primarily on the basis of ship's performance in selected trials maneuvers.
- o Simulations of the effect of ship aerodynamic characteristics on the ability of a ship to maintain course and/or execute a desired maneuver.

#### Nature of Standards

Performance standards were developed based on the following assumptions: (1) all vessels must have the inherent maneuvering capability to allow them to be navigated from Point A to Point B; (2) the greatest demands on maneuvering performance occur in restricted waters and all vessels must be able to initiate and check a turn, maintain course, stop, operate at moderate speeds and not be overly sensitive to the environment, particularly wind; (3) standards should be intended to cover normal operating conditions and to provide a ranking of performance relative to other vessels of a similar size and type. Measures of maneuvering performance should reflect the following critieria:

- o The measure should be directly related to the type of performance being rated, i.e., head reach is a good measure of stopping ability,
- The measures should be ones which can be based on available data for existing ships since the rankings are relative,
- The performance in a given measure should be able to be determined from trials,
- There should not be a significant increase in the complexity or time required for trials needed to establish performance standards,
- The measures should reflect the effects of environment, and particularly wind, on maneuvering performance.

For each measure considered, quantitative levels of performance must be established. For the present standards, five levels of performance have been used. These are: superior; above average; average; below average; and marginal. These levels have been established based on the following:

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- Performance levels which are known, on the basis of operating experience
   or simulation studies, to increase or reduce casualty risk.
- Performance levels that significantly differ from those of other vessels
   of similar size and type, i.e., performance which a pilot would not expect.
- Performance levels of vessels identified by pilots as "problem vessels"
   or "superior vessels".

Performance levels of vessels with a large number of casualties.
 This report discusses, in detail, the technical basis for establishing such levels of performance.

#### Proposed Standards

A set of proposed standards and trials agenda have been established. These standards are based on ratings in each of the following areas:

- o Turning and Coursekeeping -
  - The tactical diameter/length ratio for a full rudder angle turn at full maneuvering speed. (eight to 10 knots)
  - The overshoot angle from a 20-20 zig-zag maneuver performed at full maneuvering speed.
  - 3. The K'-T' relationship from a 20-20 zig-zag maneuver performed at full maneuvering speed.
- o Stopping -
  - 4. The head reach/length ratio of a crash stopping maneuver from a steady initial reduced maneuvering speed of eight knots.
- Ability to Operate at Moderate Speed -
  - 5. The ability to operate continuously at a speed between four and six knots for all ship load conditions.
- For Operation Under Severe Environment -
  - 6. The ability to operate at any heading to the wind at some representative severe wind condition.

Levels of performance in the first four areas are defined, from performance in standard trials, using Figures 28-31 of the text. If the ship is unable to meet the conditions of either item 5 or 6 the ship receives a marginal rating in the area, otherwise it receives no rating in these areas. The overall ship rating is taken to be the lowest of the ratings in these individual areas.

In addition, for vessels meeting one of the following criteria, acceptable maneuvering performance shall be demonstrated to United States Coast Guard satisfaction during the "design phase" by means of special investigations. These criteria are:

- o The ratio of above water profile area to below water profile area exceeds three in the minimum operating draft condition.
- o No rudders are located in the slip stream of a propeller.
- o Propeller direction of rotation (or direction of propeller thrust) cannot be changed at least four times in one minute.

At present sufficient data are not available to establish numerical values for the last criterion and additional data need to be collected.

## Proposed and Alternative Trials Agenda

The trials maneuvers to be carried out to determine ship performance ratings are:

- o Turning maneuver from full maneuvering speed with maximum rudder angle.
- o 20-20 zig-zag maneuvers from full maneuvering speed.
- o Crash stopping maneuvers from reduced maneuvering speed.
- o Demonstration of ability to operate at a continuous speed between four and six knots.

Based on present understanding, two additional maneuvers are considered highly desirable and are strongly recommended, but not required:

- o Coasting zig-zag in which the propeller is stopped at the initiation of the maneuver.
- o Standing turn in which the propeller is started and the rudder is put over simultaneously, with the ship at zero speed.

The performance measures for these maneuvers are the same as those for the standard zig-zag and turn. It would be highly desirable to include performance measures from one or both of these measures in future standards.

It is proposed to conduct all trials maneuvers at a "maneuvering" speed rather than ship design speed. It may be desirable for other reasons, to conduct supplement trials for some or all maneuvers at or near design speed, when feasible. If such trials are conducted, the same measures of performance should be determined and compared with "maneuvering" speed values to determine speed sensitivity, but should not be used to determine ship performance ratings.

#### Conclusions and Recommendations

The conclusions of this study are reflected in the proposed standards and trials agenda. The most significant conclusions include:

- 1. It is not feasible or desirable to establish absolute performance standards in which some ships are rated unacceptable.
- 2. It was possible to rely heavily on a straightforward statistical analysis of the extensive body of collected trials data in formulating the proposed standards.
- 3. Ship performance in normal turns, crash stops and zig-zag maneuvers are all important for rating performance.
- 4. Large differences in maneuvering performance between different ship and machinery types exist in some areas.
- 5. If an overall ship performance rating is needed it should be based on the lowest of the individual ratings rather than an average rating.
- 6. Trials used to determine maneuvering performance ratings should be conducted at a typical maneuvering speed rather than ship design speed.
- 7. While some further refinements are needed, the proposed standards presented in this report are considered suitable for immediate use in rating ship maneuvering performance.

Recommendations for additional work include the need to identify ships which have unusually good or bad maneuvering performance, to determine the performance in trials maneuvers of ships having large number of maneuvering related CRG casualties and to conduct additional man-in-the-loop simulations studies. Much of this work is currently under way or planned.

#### **1.0 INTRODUCTION**

#### 1.1 Purpose of this Study

This report describes a study to develop a set or system of maneuvering performance standards which can be used to rate the maneuvering performance of any commercial oceangoing or Great Lakes vessel over 1000 metric tons  $\star$  intended for the normal transport of cargo or passengers. These standards are designed to provide a means for rating the controllability of a ship under conditions where casualties of the collision, ramming and grounding (CRG) type are most likely to occur. The need for such standards is discussed in the next section.

This work has been carried out for the U.S. Coast Guard by HYDRONAUTICS, Incorporated under Department of Transportation Contract DTCG23-80-C-20037.

#### 1.2 Motivation for this Study

The U.S. Coast Guard has been charged, by "The Presidential Initiative to Reduce Maritime Oil Pollution of March 1977," as described by Card, et al (1979) to:

"....undertake several studies of other promising programs and techniques for reducing marine oil pollution. These studies will include: ..... an evaluation of devices to improve maneuvering and stopping ability of barge tankers ..."

The Coast Guard has been previously charged, by the Ports and Waterways Safety Act (PL 92-340) and the later Port and Tanker Safety Act of 1978 (PL 95-474), to:

"begin publication as soon as practicable of proposed rules and regularions setting forth minimum standards of design, construction, alteration, and repair of the vessels .... such rules and regulations shall, to the extent possible, include but not be limited to <u>improved</u> <u>vessel maneuvering and stopping ability</u> and otherwise reduce the possibility of collisions, grounding or other accident ...." (emphasis added).

This minimum vessel size was selected as a reasonable boundary between small vessels such as fishing vessels and harbor bessels, and larger vessels for which safety considerations are more acute.

As described by Card, et al (1979), the Coast Guard has not proposed rules in this area because it feels that such rules did not appear justified. Rather, the Coast Guard proposed and has begun implementation of the following action:

"The Coast Guard has initiated a regulatory project to require the maneuvering and stopping capabilities of <u>new</u> tankers to be addressed in the design process and measured after construction. This requirement will most likely take the form of maneuvering performance standards based on definitive maneuvers to be verified by full scale trials. An Advance Notice of Proposed Rulemaking (ANPRM) will be published to solicit a wide range of comments and ideas for implementing the action. <u>Existing</u> tankers will be evaluated using the standards developed. Further action for existing tankships will be based on that evaluation. The Coast Guard will also pursue this action internationally at the Inter-Governmental Maritime Consultative Organization (IMCO), where the Ship Design and Equipment Subcommittee is currently dealing with maneuverability of tank vessels as an item of high priority." (Italics added)

Such an ANPRM has been issued (Cojeen and Mervin, (1981). The form of the maneuvering performance standards given in the ANPRM reflects to some extent the approach selected in this study and described in this Report.

There are a number of alternatives available in the development of maneuvering performance standards, as discussed in the ANPRM. They include:

- o Establish no standards (do nothing!)
- o Provide guidance on maneuvering performance of vessels
- Establish regulations for tankers and provide guidance for other vessel
   maneuvering performance
- o Establish regulations for all new commercial vessels
- Establish regulations permitting the use of tugs when vessel inherent maneuvering performance is not acceptable
- o Establish regulations for all new and existing commercial vessels.

An important part of this study was to determine which of these alternatives were feasible and which was most appropriate.

1.3 Scope of Study

This report describes all work carried out during the study and summarizes results given in earlier Technical Notes and Reports (Barr, et al, 1981, Barr and Miller, 1981, etc.)

The study consisted of the following tasks:

- Collect available trials data and incorporate them in a ship maneuvering data base program.
- 2. Analyze these trials data to determine statistical distributions of ship maneuvering performance.
- 3. Conduct maneuvering simulations for ships for which maneuvering qualities were known to determine behavior in standard maneuvers.
- 4. Determine the effect of wind on ship controllability.
- 5. Consider the effect of machinery on controllability.
- 6. Review CRG casualty data to determine if a correlation between frequency of casualties and maneuvering performance could be established.
- 7. Establish, based on results of Tasks 2-6 above, proposed maneuvering performance standards which can be used to evaluate the controllability of any commercial oceangoing or Great Lakes vessels over 1000 metric tons displacement intended for the normal transport of cargo or passengers.

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# 2.0 BACKGROUND ON SHIP CONTROLLABILITY, MANEUVERING STANDARDS AND CASUALTIES

#### 2.1 Introduction

Increased ship controllability can have a number of benefits, foremost of which is the possibility of reducing collisions, rammings and groundings (hereafter called CRGs), which are the type of ship casualties directly related to controllability. Various studies have defined relationships between such casualties and controllability. However, no standards for ship maneuvering performance exist. The reasons why no such standards currently exist and the relationships between CRG casualties and ship maneuvering or controllability are briefly reviewed in this section.

## 2.2 Lack of Performance Requirements or Standards

There are presently no national or international performance requirements or standards for maneuvering and stopping abilities of vessels. It is useful to review the implications of this for the process and type of maneuvering standards which may be developed. Several reasons may be listed as to why there are now no standards. They include:

- 1. <u>Tradition</u>: Ships have been designed for a very long time and designers have learned that, if normal proportions are followed, and a typicalsized rudder provided, the maneuvering performance will not be an obvious problem. Assuming no special requirements, there are very few cases of ships being rejected by owners because of maneuvering performance. If it can be steered at sea and stopped it is "acceptable".
- 2. <u>Adaptability of Operators</u>: With experience the human operator is a very adaptable controller and can learn to at least partially compensate. The operator can generally improve the maneuvering and stopping performance in difficult situations. This is done by speed reduction (reduces stopping distance and makes available the rudder kick effect for initiating and checking turns) and the aid of tugs.
- 3. <u>Economic Incentive</u>: The ship owner does not have a clear economic incentive to improve maneuvering performance. A ship with poor maneuvering performance may be more likely to have a casualty or be subject to delay due to low maneuvering speed, but this is hard to prove and/or is covered

by insurance, the cost of which is insensitive to performance. There will probably be great resistance to requirements which increase the very visible initial ship cost even if, in the long term, reduced costs (including the losses to others due to casualties) result.

2.2.1 <u>Likely Nature of Standards</u> - Given these reasons for a lack of standards at this time, it is reasonable to expect that:

- A. Wholly acceptable maneuvering standards will not be developed in a short time. SNAME H-10 Panel has been discussing maneuvering standards off and on for 20 years.
- B. Rigid standards probably will not be successful. Such standards reflect a thou shall/thou shall not approach in which some poor ships are judged unacceptable and their operations restricted or prohibited. An example would be that a ship of a given type and size <u>must</u> have a tactical diameter of no more than "X" ship lengths based on the fact that "Y" percent of similar ships have a tactical diameter of less than "X". This type of standard will be attacked because 1) the designer etc. can find successful ships that do not satisfy the requirement, 2) there is no clear connection with CRG casualties and 3) procedures such as speed management and tugs can be used when "better" maneuvering performance is required.
- C. Suitable maneuvering performance standards, based on an evaluation or rating of a ship's maneuvering ability relative to certain established levels of performance, can be established using available data and will probably avoid most of the criticism of rigid standards. Such relative ratings may provide a greater incentive for owners to invest in improved maneuvering performance.

2.2.2 <u>Data Available to Develop Standards</u> - In general, available maneuvering data will be of three types. These types are 1) Numerical measures from definitive maneuvers (normal turns, zig-zags, crash stop and spirals) performed during formal trials. 2) Numerical measures from maneuvers performed during special trials and 3) Mathematical models developed from model tests and some day, from full scale trials by system identification. The formal trial data are the most numerous. Clarke (1970) and Della Logia, et al, (1975) reference and make use of data from numerous trials. Such previous work indicates that useful performance ratings could be developed using a sufficiently large and complete trials data base. Maneuvering standards could be developed solely on the basis of collecting and manipulating these data, although this alone will probably not result in meaningful standards. Rather, a more comprehensive approach in which the collection and analysis of reliable trials data is but one component, is required.

The results of special full scale maneuvering trials are particularly useful since the types of maneuvers performed have a more direct relationship to situations in which CRG casualties occur. The "ESSO OSAKA" trial is a classic example of such trials.

Maneuvering mathematical models (hydrodynamic data) can also be of great value. The biggest problem with math models is that they must be validated for the particular type of maneuver being studied.

#### 2.3 Maneuvering Problems Associated with CRG Casualties

In the development of maneuvering standards, the types of maneuvering problems associated with CRG casualties should be considered. Much more work should have been done in this area than has been the case. However a number of references do address this. In these references, which are discussed in Section 3, the results of analyses of CRG casualty reports are presented.

Miller, et al (1981) show that in cases which vessel controllability could have affected the result, typical casualty situations reoccurred. These casualty situations are listed in Table 1 of the paper, which is reproduced as Appendix B of this report. This paper also suggested a number of controllability evaluation maneuvers that could be related to the typical casualty situations. These maneuvers and their relationship to the typical casualty situations are also listed in Table 1 of the paper. The important conclusion from this table is that controllability evaluation maneuvers can be related to CRG casualty situations and that these evaluation maneuvers are <u>not necessarily</u> the same as the maneuvers performed on normal trials and for which data are available.

#### 3.0 DEVELOPMENT OF TECHNICAL APPROACH AND BASIS

Factors influencing the establishment of realistic maneuvering performance standards have been discussed in preceding sections. The process can be divided into two areas. The first is to establish a rational approach which insures that the standards reflect the relationship between the ability of the ship to operate safely and some measurable indices of maneuvering performance. The second is to establish a basis for defining quantitative standards which reflect this relationship. The development of a technical approach and basis must attempt to reflect all of the factors discussed earlier.

#### 3.1 Establishment of Approach

A crucial part of this effort was the development of a general approach which would best reflect our understanding of ship maneuvering performance and make the best use of available technical tools and data.

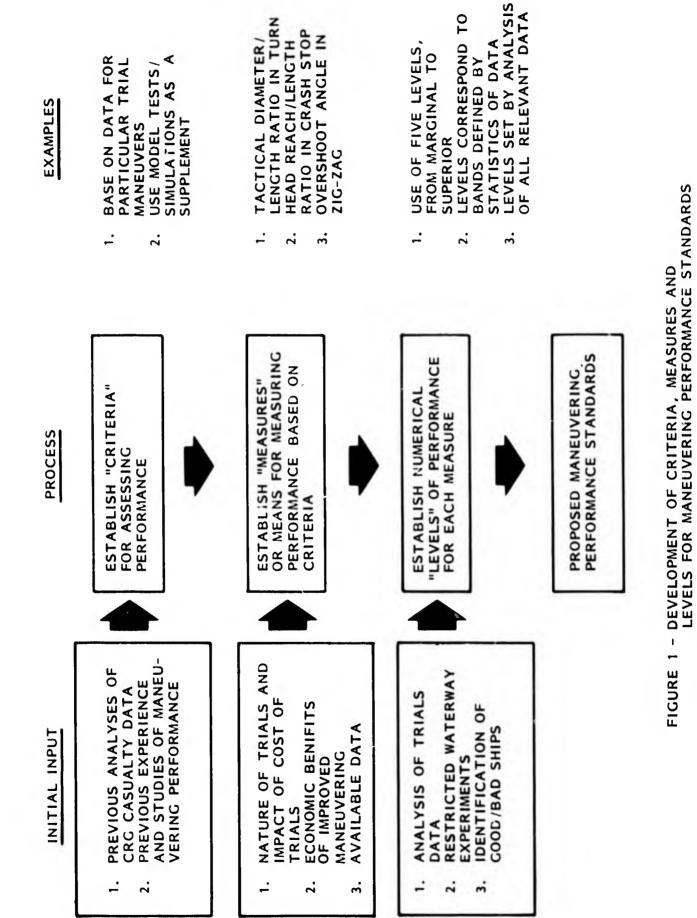
The approach selected uses available understanding and data in a three level process, which is outlined in Figure 1. This approach involves the establishment of:

- "Criteria" which could be used as a basis for selecting specific measures of performance.
- "Measures" of performance which would provide a basis for selecting quantitative performance levels.
- "Levels" of performance which would represent specific quantitative definitions of performance, i.e., superior performance, average performance, etc.

Figure 1 also includes the basic inputs used in developing each of these elements and indicates the dependence of each element on the other elements. Examples of criteria, measures and levels are also shown.

The proposed maneuvering performance standards presented in this report are based on a set of measures and levels of performance. Several distinct lines of approach have been followed, as described in the rest of Section 3,

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in selecting measures and levels of performance. These include:

- A review of previous ship casualty studies and an analysis of ship casualty data to see what correlation could be established between ship maneuvering performance and frequency of maneuvering related casualties. (Section 3.3.)
- A collection and analysis of available ship trials data and correlation with available assessments of ship maneuvering capabilities to see if ship maneuvering performance can be characterized by the ship's performance in selected trials maneuvers. (Sections 3.4 and 3.5.)
- Simulations of the effect of ship aerodynamic characteristics on the ability of a ship to maintain course and/or execute a desired maneuver. (Section 3.6.)

#### 3.2 Maneuvering Performance Requirements and Measures

All vessels must have the inherent maneuvering capability to allow them to be navigated from Point A to Point B. From the standpoint of maneuvering performance, the greatest demands will occur in restricted waters. As a minimum this requires that the vessel be able to initiate and check a turn, maintain course, stop, operate at moderate speeds and not be overly sensitive to the environment, in particular wind. The MarAd Computer Aided Operations Research Facility (CAORF) restricted waterways studies, Atkins and Bertsche (1980) have addressed the ability of a ship to maneuver under these conditions, and provided a good introduction to the performance of maneuvers under restricted conditions. These aspects of maneuvering should be addressed by maneuvering performance standards.

There are aspects of maneuvering performance which are not considered by the proposed standards. One concerns the maneuvering performance in an emergency situation such as that resulting from a steering gear or machinery failure. In such situations the results depend largely on the initial speed, environment and the availability of assistance. In any event, this study has not considered maneuvering requirements subsequent to a failure. The other aspect of maneuvering performance not considered is the case or situations which require special maneuvering capabilities. The most common of these would involve operating a large vessel in very restricted conditions, operating in unusual environments or the requirement for stationkeeping, coursekeeping, etc. It was felt that these special situations were beyond the scope of this study and that in such situations the maneuvering performance requirements of the vessel to be used should be specifically determined and modifications to the vessel or other aspects of the system made as required.

In summary, the standards are intended to cover operating conditions representative for maneuvering and to provide a ranking of performance relative to other vessels of a similar size and type. Performance standards should be defined on the basis of a vessel's ability to initiate and check a course change, turn, maintain course, stop, to operate continuously at moderate speeds and operate in normal environments.

It is necessary to establish specific measures of or quantitatively defined methods for describing ship performance of a given maneuver. In the selection of measures of maneuvering performance for use in standards, it is necessary to consider the following criteria:

- The measure should be directly related to the type of performance being rated, i.e., head reach is a good measure of stopping ability,
- The measures should be ones which can be based on available data for existing ships since the rankings are relative.
- The performance in a given measure should be able to be determined from trials,
- There should not be a significant increase in the complexity or time required for trials needed to establish performance standards.

At present, commercial ship maneuvering performance is generally characterized by performance of two standards trials maneuvers, maximum rudder angle turns and crash stop. It has now become standard practice to post results of these maneuvers on the ship's bridge, as discussed by Landsburg, et.al. (1980). In many cases, trials also include additional standard maneuvers such as zig-zag and spiral maneuvers or turns at smaller rudder angles. The nature and conduct of various standard maneuvers are discussed in detail in a SNAME Research Bulletin (1974) and in the Maneuvering Committee Report to the Fourteenth International Towing Tank Conference (ITTC, 1975). This portion of the ITTC report is included as Appendix A of this report.

Table 1, from the 1975 ITTC report, compares recommended or proposed maneuvering trials from various sources (see Appendix A). The most widely proposed tests are the full speed turning test and the zig-zag (all five sources) and the full speed crash stop (four sources). These are, in fact, the most widely conducted maneuvers. Each of the maneuvers of Table 1 is described in Appendix A, as are the usual measures derived from these maneuvers.

Based on these considerations and on the previously defined "criteria", the following "measures" of maneuvering performance were ultimately selected for use in the performance standards (see Sections 3.4 - 3.6).

- o Turning and Coursekeeping -
  - The tactical diameter/length ratio for a full rudder angle turn at full maneuvering speed. (eight to 10 knots)
  - The overshoot angle from a 20-20 zig-zag maneuver performed at full maneuvering speed.
  - 3. The K'-T' relationship from a 20-20 zig-zag maneuver performed at full maneuvering speed.
- o Stopping -
  - 4. The head reach/length ratio of a crash stopping maneuver from a steady initial reduced maneuvering speed of eight knots.
- Ability to Operate at Moderate Speed -
  - 5. The ability to operate continuously at a speed between four and six knots for all ship load conditions.
- For Operation Under Severe Environment -
  - 6. The ability to operate at any heading to the wind at some representative severe wind condition.

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## TABLE 1

# Maneuvering Trials Recommended by Various Organizations

	BSRA	SNAME	DnV	10th ITTC	14th ITTC
Crash-stop (AV) at full speed	×	x	x		x
Stopping trial at low speed					x
Coasting stop test			x		
Crash-stop (AR)		x			
Stopping by use of rudder			x		
Turning test at full speed	x	x	x	x	x
Turning test at medium speed					x
Turning test at slow speed	x		x		x
Turning test with propulsion stopped			x		
Turning test from zero speed	x				x
Pull-out	x				×
Weave manoeuvre	x				
7.igzag	x	x	x	x	x
Direct spiral	x			x	x
Reverse spiral	×		x		×
Statistical method	x				
Change of heading				x	x
Lateral thruster :					
- Turning test			x		x
- Zigzag test, ahead			x		x
- Zigzag test, astern			x		x
- Course-keep test, astern			x		

In addition, there are other aspects of ship maneuvering which have been identifed as important but which are not covered by these measures. They include the effects of wind and current and special maneuvering requirements imposed in restricted water situations. The effects of windage can be significant but it is not practical to quantify it by the conduct of routine trials. Thus it is proposed to require a special investigation of the effect of wind during the design stages for vessels which exceed a certain ratio of above water profile area to below water profile area. This is discussed further in Section 3.5.

Discussion with pilots indicate that one of the most important aspects of maneuverability in restricted waters is the ability to maintain control while coasting and slowing down. This can be done by direct control with the rudder and/or alternately going astern and ahead and using the improved rudder effectiveness from the propeller slip stream. This aspect of a ship's maneuvering performance could be characterized by a coasting zig-zag maneuver. Such maneuvers are not routinely performed so there is no body of data against which to compare performance. Such a maneuver would also increase the time and complexity of the trials. An alternate to an additional trial maneuver is to require special investigation of the maneuvering performance of vessels which have characteristics which are known to cause poor low speed control. These characteristics include vessels with rudders located outside of the propeller race and diesel powered vessels with such a small amount of starting air that the engines can not be reversed as often as desired. At this time it is recommended that the approach of special investigation for vessels with such characteristics be followed. This should be considered further.

Once measures of maneuvering performance have been selected, it is necessary to set quantitative values or "levels" of these measures which correspond to various rankings or ratings. These levels should be established based on the following:

• Performance levels which are known, on the basis of operating experience or simulation studies, to increase or reduce casualty risk.

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- Performance levels that significantly differ from those of other vessels
   of similar size and type, i.e., performance which a pilot would not expect.
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Performance levels of vessels identified by pilots as "problem vessels" or "superior vessels".

o Performance levels of vessels with a large number of casualties.

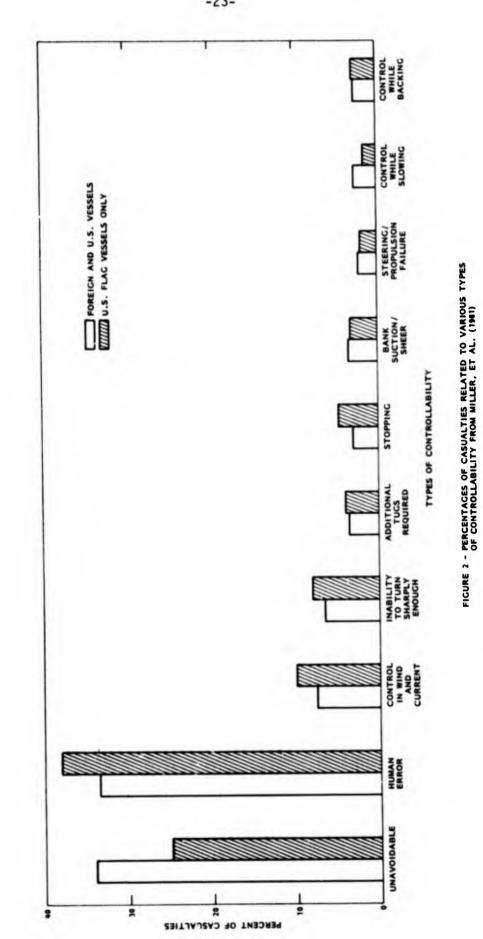
Sections 3.3 - 3.6 describe in detail the establishment of rankings based on levels of performance defined by these considerations. It should be noted that the proposed rankings are based almost entirely on the first two of these factors. The latter two factors need further study so that performance rankings can adequately reflect all four factors.

One important factor which must be considered in establishing performance measures and levels is whether to use dimensional or nondimensional parameters. The particular measures selected in this study are those which are felt to provide the best means for assessing performance. Most of the measures selected involve some degree of nondimensionalizations, as described in Sections 3.5 and 3.6, in order to suitably systematize the data.

## 3.3 Use of Casualty Data Analyses

Two previous studies which are based in part or in whole on analyses of ship CRG casualty data, Miller, et. al., (1981) and Paramore, et. al., (1979), discuss the relationship between CRG casualties and ship controllability. Relevant results from these studies are briefly reviewed below and the first of these references is incorporated in this report as Appendix B.

3.3.1 <u>Improved Tanker Controllability Study</u> - The most relevant conclusions from this study by Miller, et. al., (1981) are summarzied in Figure 2. This figure shows the percentage of casualties attributed to various factors and particularly to controllability factors. Appendix C presents a paper by Landsberg, et. al., (1980), which discusses the types of trials data used in ship bridge posting data.



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The potential problem that typical maneuvering trial definitive maneuvers are not necessarily related to maneuvering problems associated with CRG casualties is further illustrated by information from ship pilots. Discussions of the basic question, "What maneuvering characteristics cause the most problems," with a number of pilots have produced a number of typical answers, including:

- Ships that are hard to control while slowing down. Single rudder twin screw container ships and ships with controllable pitch (CRP) props that block the flow to the rudder are examples.
- Ships that cannot run dead slow when required. Some diesel ships have this problem.
- Ships with some limitation on use or response to astern RPM's commands.
   Diesel ships with limited engine starts or steam vessels with boiler water level problems are examples.
- Ships that develop a high turn rate and require a long time to check.
   The open stern LNG ships are an example.

The following are considered to be important considerations in the development of maneuvering standards. The considerations include:

- o The development of maneuvering standards is a complex problem.
- There should be some relationship between maneuverability standards and the types of problems which result in CRG Casualties.
- Extensive full scale maneuvering trial data are available for only two or three finite maneuvers, but it should be possible to develop standards using results only for these maneuvers.

It is useful, in considering ship trials and performance in trials maneuvers, to consider the special deep and shallow water trials of the ESSO OSAKA, Crane (1979), which provide the only known example of maneuvering trials encompassing most of the trials in Table 1. The OSAKA trials include normal, accelerating and coasting turns and zig-zags and crash stops. These trials were carried out in deep water, shallow water (depth of 1.2 ship drafts) and medium depth water (depth of 1.5 ship drafts). It is not possible to

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discuss the results of these trials here, but it can be noted that large differences in ship behavior occurred with normal, coasting and accelerating maneuvers.

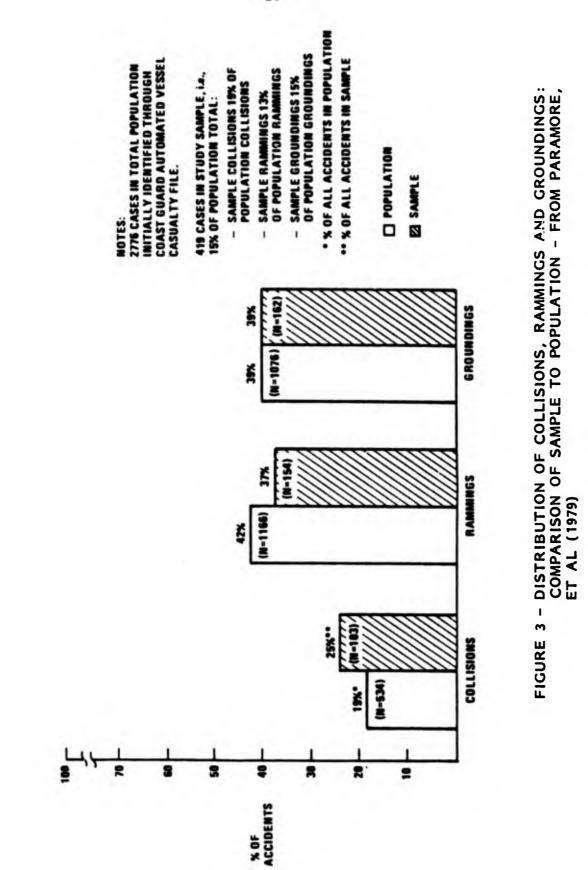
Figure 2 presents a distribution of causality and indicates that approximately 35 percent of the 835 CRG casualties considered were related to controllability. The most frequently identified controllability cause factors and corresponding percentages of all casualties for each are: control in wind and current (8%); inability to turn sharply enough (7%); additional tugs required (4%) and stopping (4%). The need for additional tugs is probably a combination of human error and controllability factors such as control in wind and current or stopping. Miller et. al., (1981) conclude that of the eight CRG casualties to be expected during a 20 year ship lifetime, almost three casualties might be avoided with improved controllability.

3.3.2 <u>Restricted Water Casualty Studies</u> - A study of CRG casualties in harbors and entrances is reported by Paramore, et. al., (1979). Results of this study are briefly summarized below.

Casualties in harbors and entrances for a five year period (FY 1972-1976) involving at least one ship over 10,000 gross register tons were considered. After screening, 419 cases out of a total of 2805 casualties were selected for detailed study. Rammings and groundings were found to be approximately twice as frequent as collisions, as shown in Figure 3. The human factors involved in collisions were found to be:

"... of a different character than those involved in the groundings and rammings. The latter two types of accidents were found typically to be cases of inability to maintain control. ... The collisions, by contrast, were found to occur most often when essential tasks were omitted ....,"

The second most frequent cause of collisions was found to be failure to maintain navigational position, which was found in 36 percent of cases. This was associated with:



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"insufficient knowledge of vessel response characteristics, and also with current or wind as an accident factor. There were two typical scenarios involving failure to maintain position. In one, the most common, the vessel was forced out of position by environmental effects (e.g., current, wind, suction) while, apparently, a sound maneuvering plan was being executed. In the other common scenarios, the report indicated that maneuvering was inappropriate and, as it turned out, infeasible."

Paramore, et. al., (1979) concluded that for groundings, "Just over 60 percent of the groundings studied involved failure to maintain position resulting from:

- O Incorrect assessment of current force or, to a lesser extent, wind force. (This was called a problem in hazard "identification" -- i.e., in determining the nature/extent of the hazard with sufficient precision.)
- 0 Incorrect assessment of vessel response characteristics.

o A combination of the two."

With regard to groundings they further concluded that

- "o Twenty-six percent of the groundings occurred when the vessel was negotiating a sharp (>20 deg) turn
- One-third of the groundings took place when wind speed exceeded 10 knots. Sea swell over 4 feet was reported in 11 percent of the groundings."

Paramore, et. al., (1979) concluded that for rammings:

"o The ships involved in the rammings tended to be larger than those involved in the collisions and groundings ... The greatest opportunity for ramming obviously occurs during maneuvering in limited space, near some other physical object(s). The larger the vessel the less the margin for control error."

- "o Thirty-eight percent of the rammings took place when the wind speed was in excess of 10 knots."
- "o ....combined effects of current and wind are reported in rammings whereas in groundings the two forces typically were not both cited in the same case."

In the concluding remarks it is also noted that:

"A commonly proposed solution is to enhance vessel maneuverability by increasing horsepower. The study results do not suggest that this would be productive, except that wider use of bow thrusters would help to reduce the incidence of accidents involving ships, and also barge arrays of the push variety. This solution is applicable to the large number of cases involving failure to maintain position at low speed. The potential for ramming while docking, in particular, could be reduced by this means."

3.3.3 <u>Present Study of Ships with Multiple CRG Casualties</u> - As part of this study, CRG casualties to U.S. Flag vessels during the period 1975-1979 were investigated using the Coast Guard Casualty Data Base. 112 ships were identified as having 2 or more casualties which could be related to controllability. The goal was to identify any of these ships which were also in the maneuvering data base and to see if any correlation with poor performance in one or more trials maneuvers existed for these ships. This investigation is described in detail in Appendix D.

This goal was not achieved because it was not possible to establish oneto-one correspondances between particular ships with multiple casualties and ships in the maneuvering data base. The correspondence of ship displacements and dimensions in many cases provides strong evidence that ships with multiple casualties are of the same class as ships in the maneuvering data base. It was not possible to correlate results by ship class, as should be done.

A correlation of casualty and maneuvering performance data is undoubtedly an important tool for establishing performance standards. The limited investigation described here and in Appendix D should be expanded to cover a longer time period and should include an identification of ships and correlation of results by ship class.

3.3.4 <u>Relationship of Casualty Analyses to Measures of Maneuvering</u> <u>Performance.</u> - The analyses of casualty data described in this section lead to several findings affecting selection of specific trials maneuvers and associated performance measures appropriate to maneuvering performance standards. These findings include:

- Actual maneuvers associated with typical CRG casualties do not correspond directly to specific available trials maneuvers, but appear, to be related to a number of definable maneuvers.
- O Trials have generally been limited to normal turns, normal zig-zags and/or crash stops. Miller, et. al., (1981) indicate that most types of controllability associated with normal ship operations are related to one or two of these maneuvers.
- It will generally not be economically feasible to conduct most or all of the relevant trials listed in Table 1. However, limited maneuvering trials, as now conducted, can be supplemented by limited special trials and/or special investigations of factors affecting low speed controllability.
- It is essential that ship controllability at low speeds be demonstrated by some means. One means is to conduct trials of coasting maneuvers (turn or zig-zag) and/or accelerating turns. A second means is to demonstrate the ability of the ship to maintain course at maneuvering speeds (say four to six knots) and to execute a number of propeller RPM reversals in a short time period. A final method is to use captive model tests and maneuvering simulations. Such demonstrations are particularly important for ships in which the rudder(s) is(are) not directly behind the propeller(s), or for ships with diesel engines having limited restart capability.
- o Environment plays an important role in many casualties, and the influence of environment, and particularly wind, on maneuvering should be reflected in any performance standards.

These conclusions played an important role in the formulation of performance measures.

## 3.4 <u>Relationship Between Performance Under Realistic Operating Conditions</u> and Performance of Definitive or Trials Maneuvers

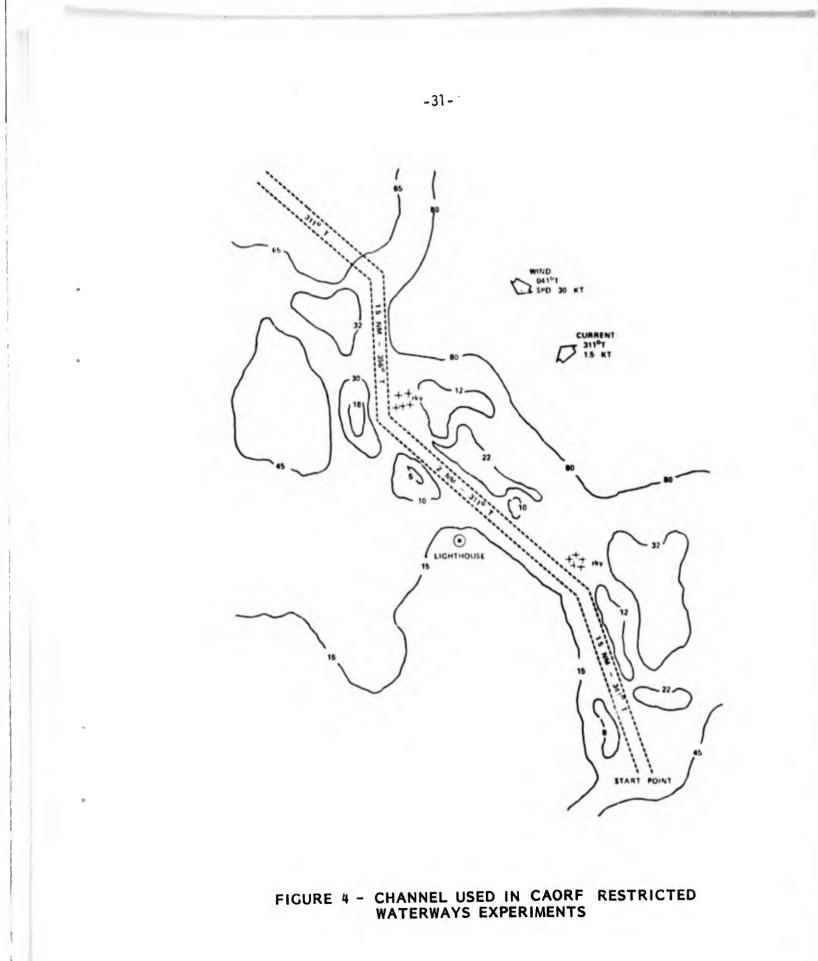
One means for establishing maneuvering performance standards is to establish a correlation between the ability of given ships to carry out difficult but realistic maneuvers, such as transit of a narrow, winding channel, and the ability of the same ships to execute definative maneuvers such as zig-zags and turns. Unfortunately, few relevant data are available.

One set of data which appeared useful for this purpose was the results of simulation experiments by five pilots at CAORF, Atkins and Bertsche (1980). Each pilot made 16 transits of a canal, during which the ability of the ship to remain within the 500 foot wide channel and to avoid other ship traffic was determined. The use of these experiments as a basis for correlation is discussed in this section. Analysis of the results is not yet complete.

3.4.1 <u>CAORF Restricted Waterways Experiments</u> - A series of simulation experiments was carried out at CAORF to study the ability of a typical 80,000 DWT tanker to transit a representative restricted channel, as shown in Figure 4. Results of experiments with this tanker and with a tanker which was identical except that it had half the rudder forces of the original tanker, are reported by Atkins and Bertsche

Table 2. from this study compares the ability of the original tanker and the degraded tanker to successfully complete turns in a representative environment. The overall success rate is 41 percent greater with the original ship than with the degraded ship. This difference was large enough to give some hope that a useful correlation with differences in performance of definative maneuvers could be achieved.

The CAORF simulation experiments were conducted with an initial ship speed of six knots. The environmental conditions used in the experiment are given



SUCCESS PROPORTIONS BETWEEN RUDDER SIZE VARIATIONS FOR ALL TURNS AND SIGNIFICANCE OF COMPARISONS TABLE 2

	Full R	Full Rudder Effectiveness	veness	One-Half Ru	Ome-Half Rudder Effectiveness	_	
Condition	No. Trials	Successes	Percent	No. Trials Successes	Successes	4	Percent Confidence Level
All turns	116	61	52.6	115	43	37.4	Yes
All corner buoy turns	30	19	63.3	30	6	30.0	Yes
All gated buoy turns	29	15	51.7	30	12	40.0	
All range turns	30	11	36.7	26	7	26.9	
All precise navigator turns	27	16	59.3	29	15	51.7	ı

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in Figure 4. The channel water depth was sufficiently large that it could be considered deep water.

3.4.2 Definitive Maneuvers for CAORF Ships - Results of definitive maneuvers for the original and degraded tankers used in the CAORF experiments were not available. Definitive maneuvers for these ships were therefore simulated at HYDRONAUTICS using a mathematical model for the 80,000 DWT tanker incorporated in the Coast Guard Ship Maneuvering Simulator, Barr, et. al., (1980), which was similar to the CAORF model used by Atkins and Bertsche (1980). Based on the known similarities of the two simulation models, the results obtained with the HYDRONAUTICS and CAORF simulators should be very similar. The mathematical model for the degraded ship was created in the same way as the degrated ship model used at CAORF; the magnitudes of all rudder coefficients in the original ship model were reduced by 50 percent to reflect the 50 percent reduction in rudder area. The degraded ship is not really the same ship with reduced rudder size, but a somewhat different ship, as no account has been taken in the model of the effect of reduced rudder size on other hydrodynamic coefficients.

The following definitive maneuvers were carried out for the original and degraded ships

20 degree starboard turn 35 degree port and starboard turns 10-10 zig-zag 20-20 zig-zag

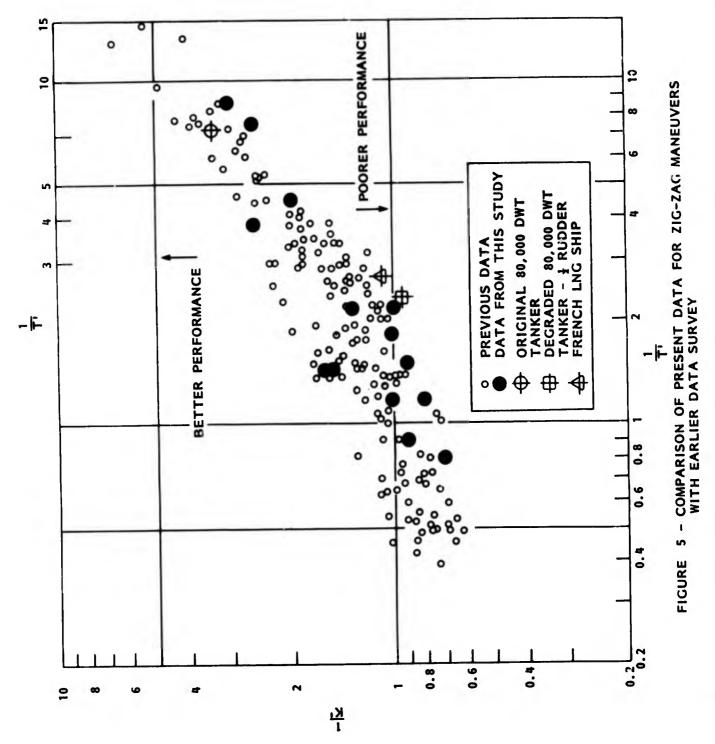
No stopping maneuvers were simulated as the change in rudder size has no direct effect on stopping and the maneuvers simulated at CAORF did not include stopping.

The results of these simulations are summarized in Table 3 and Figure 5. Table 3 compares maneuvering ability, tactical diameter and 20-20 zig-zag overshoot angles for both ships. Figure 5 compares the K'-T' value sets for the original and "degraded" 80,000 DWT tanker with results for other ships. TABLE 3

# Comparision of Maneuvering Performance of 80,000 DWT Tanker With Original and Reduced Rudder Effectivenesses

	Percent o	Percent of Successful Passages		
Rudder Size	All Turns	All Corner Buoy Turns	Tactical Diameter	<b>Overshoot</b> Angle
100%	53	63	2150	9.5°
50%	37	30	3390	12.0°
Percent Change	-30	52	+ 58%	+26%

\* \* \* }



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The "degraded" ship has a 26 percent larger overshoot angle and a 58 percent larger tactical diameter. The ability of the degraded ship to successfully negotiate required turns in the passage is 42 percent less (success rate reduced from 52 to 30 percent). In the CAORF experiments, success rates were measured in simulated passages by experienced pilots after those pilots had familiarized themselves with both vessels and the results reflect the ability of the pilots to partially compensate for the poorer controllability of the "degraded" ship.

Figure 5 shows the K'-T' values for the original ship and ship with reduced rudder size, superimposed on the plot of all available K'-T' data. The original ship falls almost on the mean curve of the data, average behavior; this 80,000 DWT tanker is known to have typical maneuvering ability. The ship with reduced rudder area, on the other hand, falls at the extreme lower limit of all data, indicating unusually poor handling characteristics.

3.4.3 <u>Observed Ship Handling Behavior</u> - In the absence of other quantitative data on ship maneuverability under realistic conditions, qualitative observational data for ships with unusually good or poor maneuverability or handling characteristics can be very useful. One of the goals of this study, which was not realized, was to identify ships in the data base which were generally known to have unusually good or poor maneuvering or handling behavior. One ship known to have particularly poor handling characteristics, a French 125,000 m<sup>3</sup> LNG ship, was identified. K'-T' values for this ship were plotted on Figure 5; they fall very near the half-rudder 80,000 DWT tanker, at the lower extremity of all K'-T' data. It thus seems reasonable to assume that ships in the range of values should be considered marginal, since both of these ships are considered marginal.

# 3.5 Collection and Analyses of Available Trials Data

Early in the study it was concluded that a collection and analysis of available ship trials data would be an important and necessary step in the development of maneuvering performance standards, even though experience indicated that such standards could not be based solely on an analysis of trials data alone. In order to insure statistical validity of any conclusions based on analysis of trials data it was considered essential to collect data for as many ships as possible. In all data for 603 ships was collected, placed in the Ship Maneuvering Data Base described in Section 3.5.1, and used in the data analyses described in Sections 3.5.2 through 3.5.4.

Appendix E provides a listing of the ships and the data for each ship contained in the Data Base. These data were collected from trade jounals and publications, ship owners, shipyards and reports of various nations to the Inter-Governmental Maritime Consultative Organization (IMCO). More data were obtained from the maneuvering summary sheets submitted to IMCO than from all other sources combined. Tankers are by far the largest group of ships in the data base, followed by bulk carriers. The distribution of data base ships, by type, is given in Table 4. In the listing given in Appendix E ships are identifed by a ship number; ship names are not used because some of the data used are proprietary and could be used only if the data were not identified by ship name.

3.5.1 <u>Development of Ship Maneuvering Data Base and Format</u> - An important effort in this study was the development of a ship maneuvering trials data base program and the use of this program to analyze available trials data for standard maneuvers. The development and use of the data base is described in this section.

Based on an initial review of a large body of ship trials data, an initial format for a ship maneuvering data base was developed. Two versions of the data base format were submitted to the Coast Guard for review. Based on comments received from the Coast Guard and from members of SNAME Panel H-10, Ship Controllability, a final format was defined.

The general structure of the data format is described in Table 5, and includes data for the ship and for three types of maneuvers; stops, turns and zig-zags. These three maneuvers were selected as the only ship trials maneuvers for which a significant body of data were available; the data base program can be modified in the future to include other maneuvers if sufficient data for

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### TABLE 4

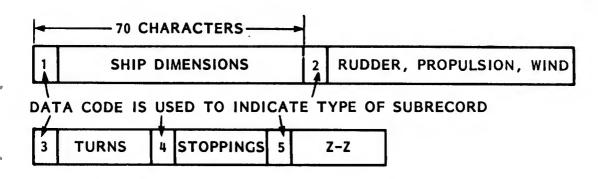
# Distribution of Ship by Type in Maneuvering Data Base

Ship Type	No. of Ships
Tankers	364
Bulk Carriers	90
Cargo Ships	4
Container Ships	4
Others	4
Not Identified *	137

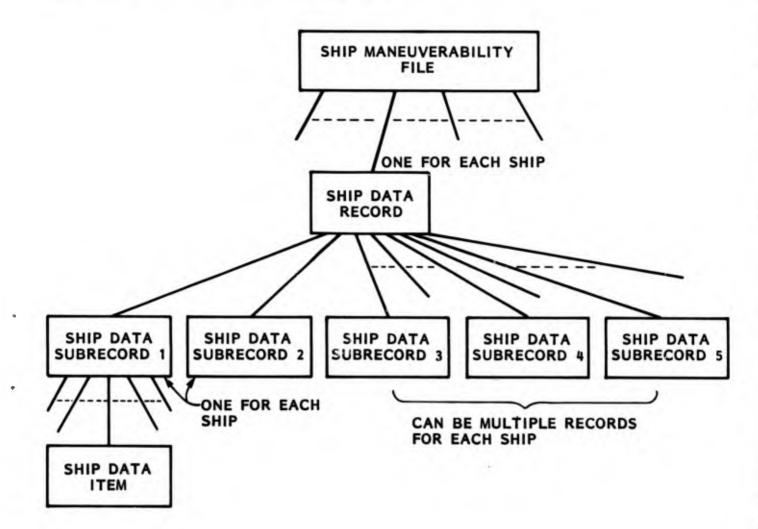
\*For these ships, which were primarily from data provided to IMCO, all necessary ship characteristics and maneuvering performance data were provided, but the ship type was not identified. These data have been determined to be suitable for inclusion in the data base, despite the fact that the ship types were not identified.







Each subrecord contains 70 characters



these maneuvers are available.

The specific data included in the data base are outlined in Table 5 and described in more detail in Table 6. Provision is made for indicating that any given data item is unknown. Two ship data records must be provided for any ship entry. Data for at least one maneuvering record must also be provided for any ship entry. A maximum of 50 data records (two ship records plus up to 48 maneuvering records) can be included for any ship.

The data base and data base computer programs are described in more detail in Appendix F, which also contains the User's Manuals and listings for the computer programs.

3.5.2 <u>Approach to Data Analyses</u> - A primary purpose for creating the maneuvering performance data file was to provide a means for analyzing and assessing maneuvering performance. The data file has been used to make three types of analyses:

- Variation of direct measures of maneuvering performance (tactical diameter, head reach, etc.) with basic ship design parameters (length, displacement, etc.)
- Variation of non-dimensional maneuvering performance parameters with non-dimensional ship design parameters.
- Statistical variations of maneuvering performance data about observed mean behavior.

An extensive analysis of the trials data for all 603 ships contained in the maneuvering data file has been carried out. Various analyses have been carried out for stopping, turning and zig-zag maneuvers. For each of these maneuvers a number of dimensional and non-dimensional maneuvering performance and ship parameters were considered in various combinations to determine how well results could be correlated.

Initially this effort was not restricted to parameters which were judged to be potentially good measures of performance. As examples, crash stopping data were analyzed using a parameter involving astern horsepower and propeller

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### TABLE 6 SHIP MANEUVERING PERFORMANCE DATA FORMAT

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10	) (11)	(12)	) (	13)	(14)
Item	Data Code	Ship Nationali	Ship Lty No.	Type of Ship	Disp	. LBP	LOA	Beam	Draft	Tri	lm Bult	Desi Dis		vice SNP	Service RPN
	(15)	(16)	(17)	(18)	(19)	(20)		(21)	(22	)	(23)	(24)	(25)	(26)	
Item	Data Code	Service Speed	Rudder Area	Prop. Diam.	Ast. SHP	Rudde Ster Code	m	Engine Code	Pro Rudd Cod	er	Lateral Wind Area	Wind LCA	Wind/ Wave Cod3	Tria Code	
Maneuver					Turn	ing Ci									
Item	(27) Data Code	Approach	(29) Final Speed	(30) Rudder Angle	(31 Advan	•	(32) rans	Ta	(33) ctical Diam.	(34 Fin RP	<b>a</b> 1				
ilaneuver					St	oppin	2								
naneuver	(35)	(36)	(37)	(38	)	(39)	(	(40)	(41)	(42		(43)			
Item	Data Code	Approach Speed	% Astern SHP	Rudd		Track Istanc			Side Reach	Time Sto		to t = 0			
Haneuver					Z	ig-Zag				)) (S	1) (5)				

	(44) Data	(45) Approach	(46) Rudder	(47) First Overshoot	(48) Final	(49) Overshoot	• •		
Item	Code	Speed	Angle	Overshoot	Oversnoot	widen	<b>`</b>	•	

\* These are the Motora/Norrbin zig-zag parameters

diameter, Clarke (1970), and zig-zag overshoot data were analyzed using a parameter involving rudder area, Della Logia, et. al., (1975), to determine how well the data in the data set fit these well established parametric relationships. Figures 6 and 7 indicate that these data generally followed these relationships quite closely. However, these parameters are really measures of ship maneuvering efficiency, or performance relative to what would be expected from a ship with this astern power, propeller diameter or rudder area. They are not good absolute measures of maneuvering performance, as required by maneuvering standards.

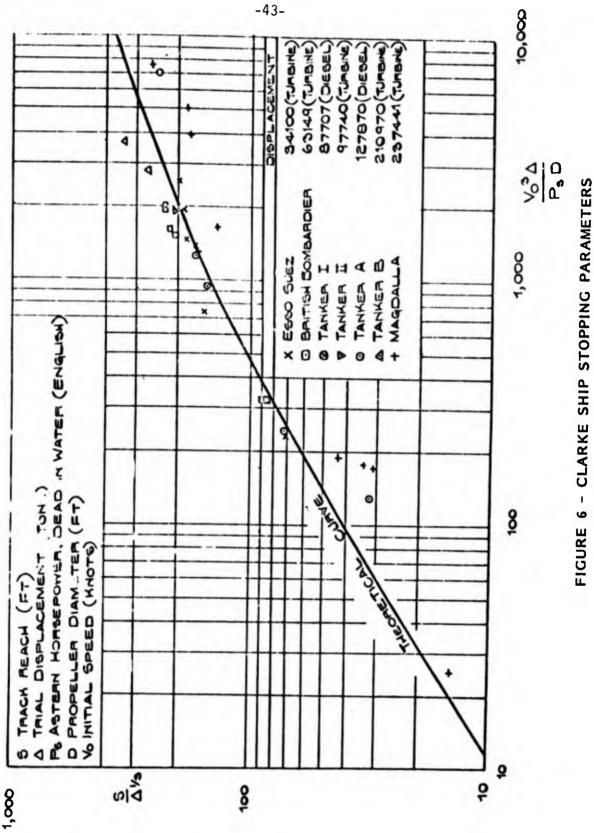
Once the significant performance measures were selected, data for each maneuver were analyzed by ship type. In general, sufficient data for analysis were available only for tankers and bulk carrier. However, available data were also analyzed for cargo and container ships and for all other ship types.

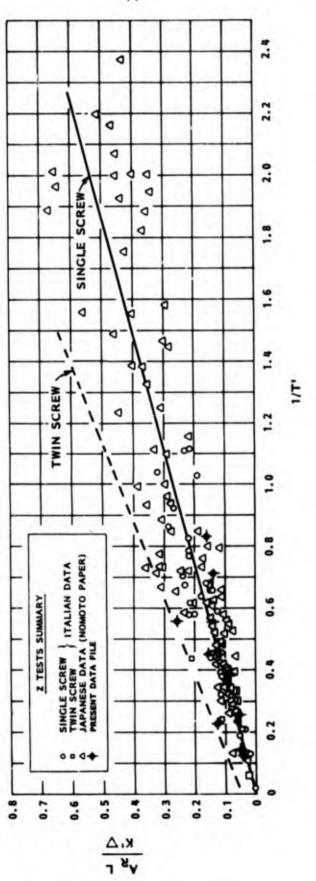
Results of initial data analysis as well as previous analyses have shown that important measures of maneuvering performance determined in trials, such as tactical diameter and head reach in turns and head reach in crash stops are generally proportional to ship size or length, and/or speed while other measures, such as overshoot angle in zig-zag maneuver are generally independent of ship size and speed. In developing maneuvering performance standards of general applicability it is therefore essential that selected measures reflect performance that is realistic for a given ship size and reflect trials speeds and rudder angles for which data were obtained.

Initial data analysis has been generally carried out by creating plots of the desired data or non-dimensional parameters derived from the data in the data file. The utility of the relationship embodied in the plot can generally be readily observed from the distribution of data. Figure 8 presents two examples of such plots, one where a clearly useful relationship exists and one where no useful relationship appears to exist. The actual process used to generate plots is described in Appendix F.

Statistical analyses were carried out for the data in those plots which indicate a relationship between the data or parameters in the plot which appeared

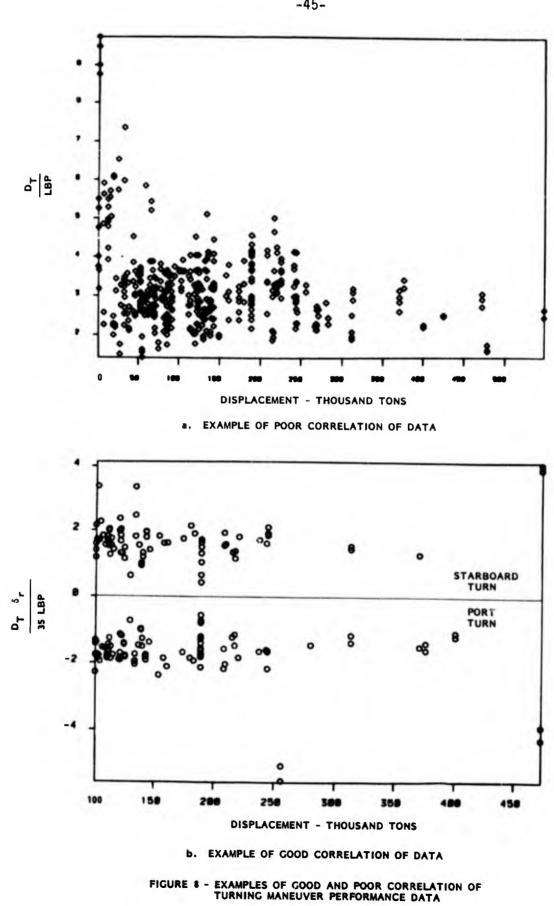
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to be useful in understanding ship maneuvering performance. In the statistical analyses, the polynomial which best describes the mean of the data was generally determined, and the resulting root mean square or RMS<sup>\*</sup> variation of the data about this mean was determined.

A large number of plots were generated for various combinations of data and derived parameters for turning, stopping and zig-zag maneuvers. The purpose in creating these plots was to determine functional relationships between maneuvering performance and ship characteristics. The results of the more useful analyses are discussed in this section.

See Nomenclature for definition of statistical terms such as RMS.

3.5.3 <u>Turning Maneuvers</u> - Plots were made for various combinations of dimensional and non-dimensional parameters which include advance, transfer and tactical diameters. Some of the parameters used in the non-dimensionalization included LBP,  $\nabla^{1/3}$ ,  $(LT)^{\frac{1}{2}}$ , rudder angle and rudder area. In some initial plots data for port and starboard turns were segregated, but the results indicate no significant difference in results for these cases. Table 7 describes all cf the parametric relationships considered for turns.

The best collapse of all turning data was obtained using displacement in tons and the non-dimensional turning parameters:

$$A' = \frac{A\delta_{r}}{35 \text{ LBP}}$$
$$T_{r}^{+} = \frac{T_{T}\delta_{r}}{35 \text{ LBP}}$$
$$D' = \frac{D_{T}\delta_{r}}{35 \text{ LBP}}$$

where  $A,T_T$ ,  $D_T$  and LBP are advance, transfer, tactical diameter and length between perpendiculars, in meters, and  $\delta r$  is rudder angle in degrees. Because of the large number of turning data, it was first necessary to separately treat data for ships with displacements less than and greater than 100,000 tons.

Figures 9,10 and 11 show the non-dimensional turning parameters plotted versus ship displacement. A modest scatter of the data is evident in all figures. Statistical analysis of these data indicate that a linear curve fit (a + bx) gives the fit for all turning data. Advance is nearly independent of displacement and can be suitably approximated by

$$A' = 3.1$$

Transfer and tactical diameter, on the other hand, show a modest dependence on displacement.

There are various possible reasons for the data scatter, including

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# TABLE 7 Parametric Relationships Considered for Ship Turning Maneuvers

where

A is advance - meters  $T_T$  is transfer - meters  $D_T$  is tactical diameter - meters L is ship LBP - meters  $\Delta$  is displacement (trials) - tons  $\delta_r$  is rudder angle - degrees T is draft - meters  $A_R$  is total rudder area - meters<sup>2</sup>

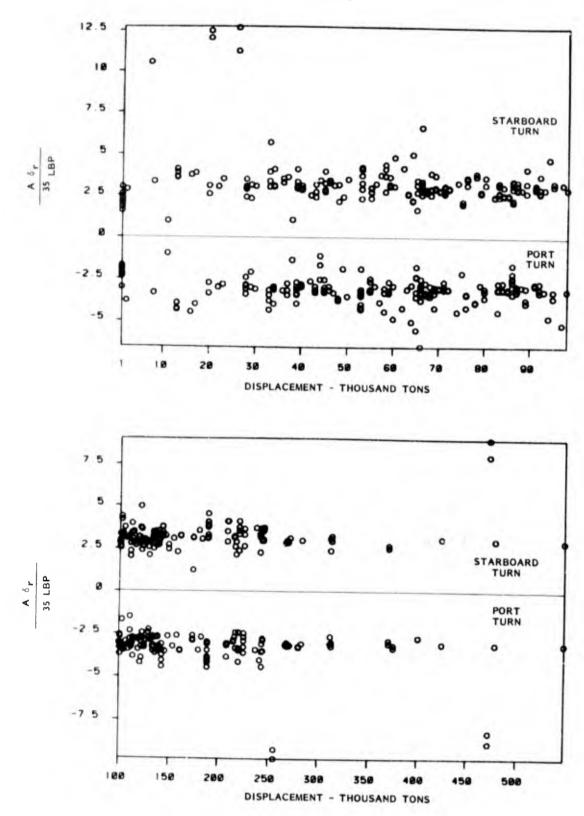


FIGURE 9 - NON-DIMENSIONAL ADVANCE FROM TURNING MANEUVERS FOR ALL VESSELS

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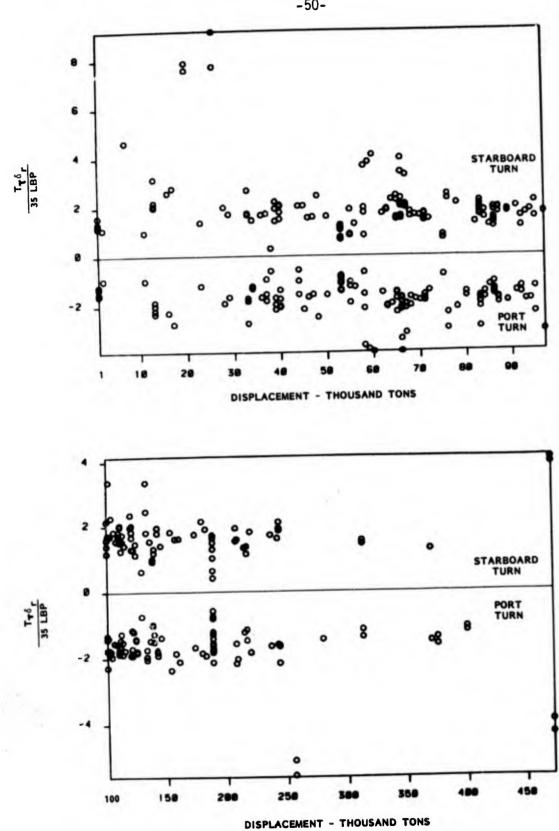


FIGURE 10 - NON-DIMENSIONAL TRANSFER FROM TURNING MANEUVERS FOR ALL VESSELS

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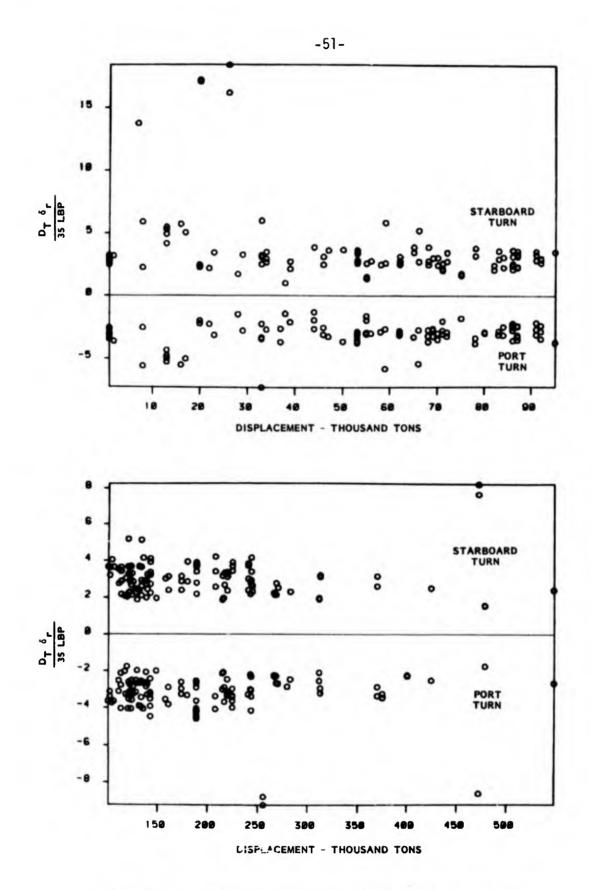


FIGURE 11 - NON-DIMENSIONAL TACTICAL DIAMETER FROM TURNING MANEUVERS

1

the possible impact of the environment during the trials. While individual results may reflect environmental influences, the net effect of environment on results should be minimized by the averaging effect of port and starboard turns and the randomness of such effects in such a large body of data. The curves for T' and D' have a negative slope, a result that is in agreement with the known fact that the proportions and design of smaller ships are generally different than larger ships, such as tankers, and these differences generally make smaller ships more stable and hence harder to turn.

It is clear from the figures and statistical analysis that advance, transfer and tactical diameter are closely related and that only one of these measures is needed to characterize turning performance. Tactical diameter has been selected since it is the most widely used and familiar measure of turning performance. Advance would be an equally good alternative.

Figures 12-14 present non-dimensional tactical diameter, D', for tankers, bulk carriers, and for cargo and container ship, respectively. These are adequate data for statistical analysis only for the first three ship types. Figure 15 and Table 8 compares the least-squares fit mean curves to the data of Figures 11-14. The results for all ships, for, tankers, which are primarily larger than 100,000 tons, and for bulk carriers, which are primarily smaller than 100,000 tons, are quite similar. The results for cargo ships are generally higher but the differences are only about 15 percent. It is therefore concluded that the results for "all ships" are typical and it is appropriate to use these results as a basic for proposed standards for all ships.

These results provide a good benchmark for assessing the turning ability of any ship. However the relationship between turning capability and inherent ship maneuverability cannot be established from these figures alone, since turning ability is only one factor which determine ship maneuverability or controllability.

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<sup>&</sup>quot; See Nomenclature for definition

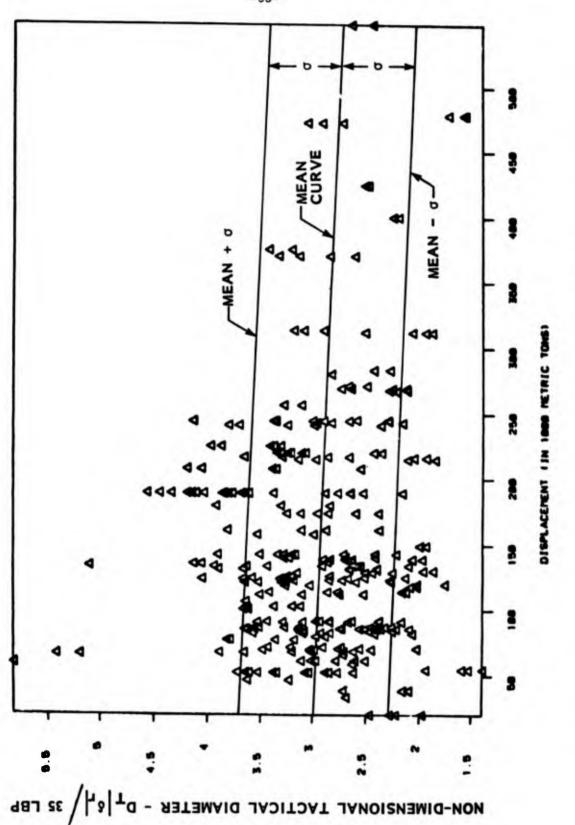


FIGURE 12 - TACTICAL DIAMETER DATA AND ANALYSIS FOR ALL TANKERS

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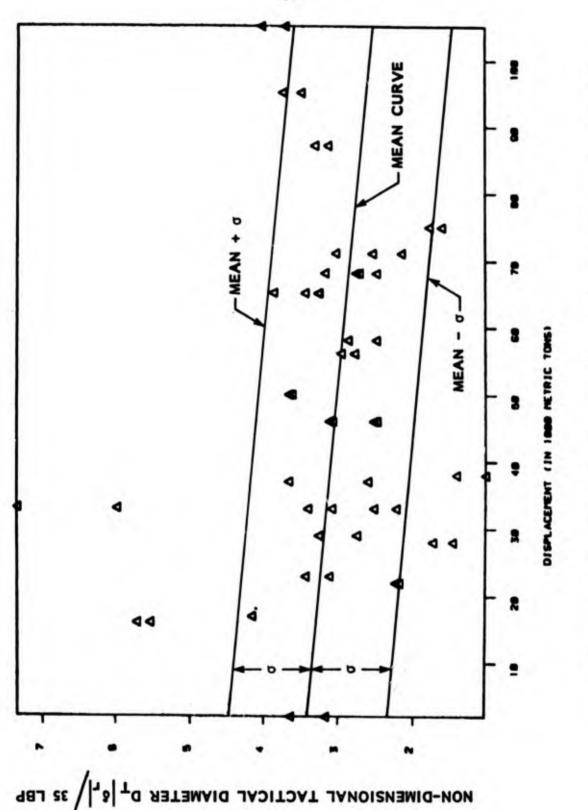
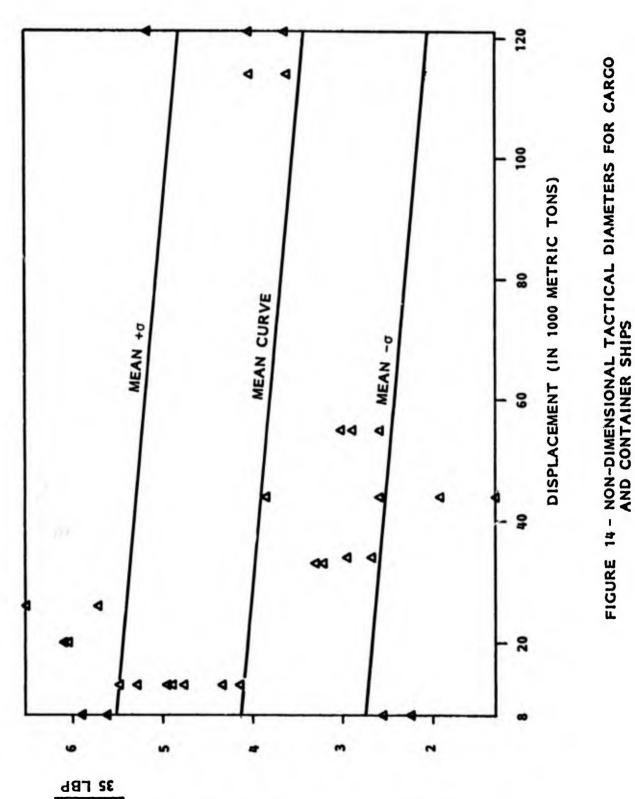


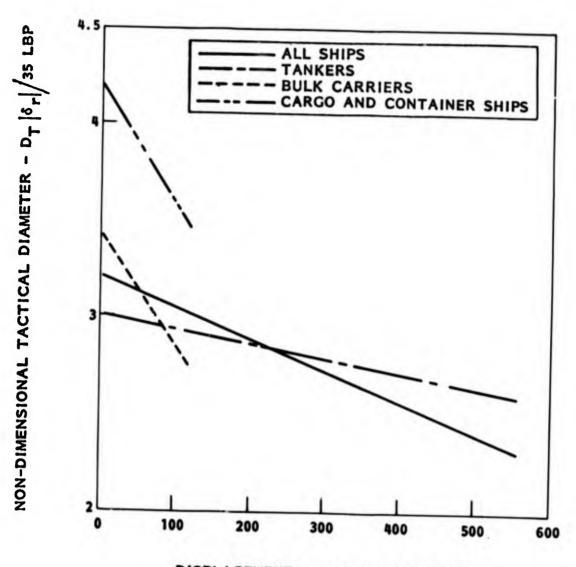
FIGURE 13 - TACTICAL DIAMETER DATA AND ANALYSIS FOR BULK CARRIERS

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NON-DIMENSIONAL TACTICAL DIAMETER - DT | 8 | 1

-55-



DISPLACEMENT - 1000 METRIC TONS

FIGURE 15 - FIRST ORDER, LEAST SQUARES FITS TO TACTICAL DIAMETER TRIALS DATA

3. 5 5 H

TABLE 8 Summary of Statistics for Tactical Diameter

All Ships Tankers	483 373 56 29	3.21 - 1.62 × 10 <sup>-6</sup> A <sup>4*</sup> 3.03 - 0.87 × 10 <sup>-6</sup> A 3.32 - 4.61 × 10 <sup>-6</sup> A 3.72 - 2.05 × 10 <sup>-6</sup> A	0.84 0.67 1.12 1.25
Tankers	373 56 29	3.03 - 0.87 × 10 <sup>-6</sup> 3.32 - 4.61 × 10 <sup>-6</sup> 3.72 - 2.05 × 10 <sup>-6</sup>	0.67 1.12 1.25
	56 29	3.32 - 4.61 × 10 <sup>-6</sup> Δ 3.72 - 2.05 × 10 <sup>-6</sup> Δ	1.12
Bulk Carriers	29	3.72 - 2.05 × 10 <sup>-6</sup> A	1.25
Cargo Ships			
Container Ships	9	2.58 + 148 × 10 <sup>-6</sup> Å	0.45
Other Ships	19	2.65 + 31.4 × 10 <sup>-6</sup> ∆ <sup>*</sup>	0.27
△ is ship displacement in metric tons	in metri	ic tons	
* These results are not considered meaningful	ot based o	These results are not based on sufficient data to be considered meaningful.	
<pre>** This relationship is combined effect of a parison only.</pre>	s not par all ships	This relationship is not particularly meaningful since combined effect of all ships should be used for com- parison only.	uce

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Figure 16 indicates that approximately 12 percent of all data points for 483 ships fall above the mean curve <u>plus</u> one standard deviation and approximately 10 percent of data points fall below the mean curve <u>minus</u> one standard deviation. Approximately nine percent of data points fall above the mean curve plus 1.25 standard deviations and approximately five percent of data points fall below the mean curve minus 1.25 standard deviations. Based on these distributions and the results for the 80,000 DWT tanker, as described in Section 3.4, turning performance ratings have been selected as follows:

RatingUpper'LimitLower Limit% of DataSuperior $D_m'-1.25 \sigma_D$ -5Above Average $D_m'-0.5 \sigma_D$  $D_m'-1.25 \sigma_D$ 25Average $D_m'+0.5 \sigma_D$  $D_m'-0.5 \sigma_D$ 41Below Average $D_m'+1.25 \sigma_D$  $D_m'+0.5 \sigma_D$ 20Marginal- $D_m'+1.25$ 9

Where  $D_m$ ' is the mean value of D' at the given ship displacement and  $\sigma_D$  is the significant value of D'.

The original 80,000 DWT tanker discussed in Section 3.4 has an average rating while the degraded ship of reduced rudder effectiveness has a marginal rating, one which seems appropriate to its relatively low probability of success.

3.5.4 <u>Crash Stopping Maneuvers</u> - Stopping data are available for 360 ships or for about 60 percent of the ships in the data base. Available data typically include head reach and stopping time. In some cases transfer or side reach and final heading are also available, but these were considered to be of lesser interest.

Based on various analyses of the dynamics of ship stopping, a number of non-dimensional parameters were considered for analysis of stopping data. Both non-dimensional head reach and time and non-dimensional speed-power parameters were considered, including:

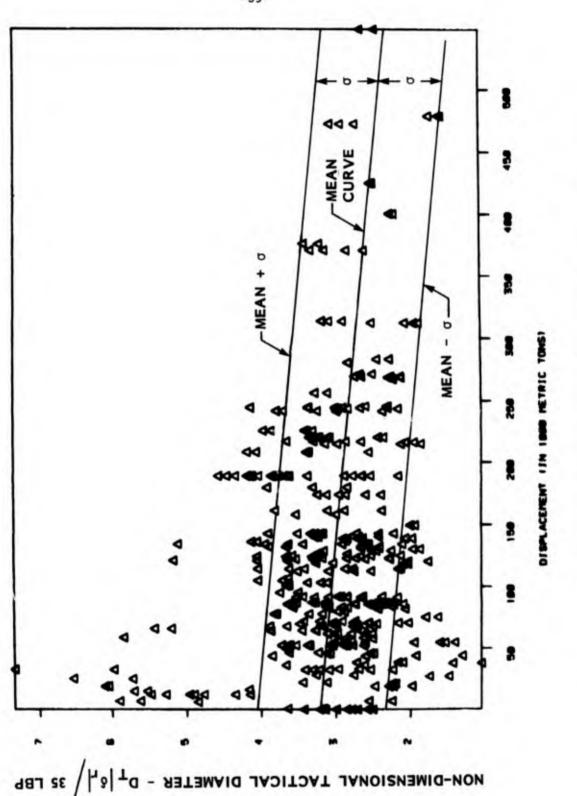


FIGURE 16 - TACTICAL DIAMETER DATA AND ANALYSIS FOR ALL SHIPS

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$$\frac{S}{\Delta^{1/3}}$$
,  $\frac{t}{\Delta^{1/3}}$ ,  $\frac{Vo^{3}\Delta}{HP_{a}D_{p}}$ ,  $\frac{Vo^{3}\Delta^{2/3}}{HP_{a}}$ 

where S is head reach, t is time to stop, Vo is initial speed,  $HP_a$  is maximum astern horsepower and  $D_p$  is propeller diameter. The third parameter is based on the work of Clarke (1970), while the last parameter is similar except that propeller diameter, which is not known for many ships in the data base, was eliminated. Table 9 describes all of the parametric relationships considered for crash stops. Analysis of crash stop trials data currently provides the only practical basis for evaluating and rating the stopping performance of a ship. Crash stopping data for all ships in the data base have been analyzed and, in addition, data have been analyzed for the individual ship types and primary machinery/propeller types (steam turbine/fixed pitch propeller and diesel/fixed pitch propeller). Inadequate data exist in the data base for useful statistical analysis of other machinery/propeller types.

Various approaches were considered for analyzing crash stop data as described in Table 9. Most of these approaches used non-dimensional or dimensional head reach parameters which included propeller diameter and/or astern power as well as initial ship speed. Parameters which incorporate power or propeller diameter more correctly represent a stopping efficiency (relative to design capability) rather than an absolute stopping ability. After considering various head reach parameters, it was found that the nondimensional parameter

$$\frac{R_h}{LBP} \times \frac{1}{F} = R'$$

where  $R_h$ , LBP and F are head reach (meters), length between perpendiculars (meters) and initial speed Froude number ( $V/\sqrt{g}$  LBP), provided a good collapse of the complete set of data when plotted versus ship displacement.

Table 10 presents results of the statistical analysis of crash stopping data for all ships and for tankers and bulk carriers, and cargo ships. This

g = 9.80665 m per sec per sec, and divide speed (in knots) by 1.94 to obtain speed in m/sec.

# TABLE 9

Parametric Relationships Considered for Ship Crash Stopping Maneuvers

$$\frac{\frac{R_{h}}{\Delta^{1/3}}, \frac{t_{s}}{\Delta} \frac{V_{a}}{1/3} \text{ versus } \Delta}{\frac{R_{h}}{\Delta^{1/3}}, \frac{t_{s}}{\Delta} \frac{V_{a}}{\Delta^{1/3}} \text{ versus } \frac{\frac{V_{a}}{a} \Delta}{\frac{HP_{a}}{D_{p}} \frac{D_{p}}{D_{p}}}$$
$$\frac{\frac{R_{h}}{\Delta^{1/3}}, \frac{t_{s}}{\Delta} \frac{V_{a}}{\Delta^{1/3}} \text{ versus } \frac{\frac{V_{a}}{a} \Delta^{2/3}}{\frac{HP_{a}}{HP_{a}}}$$
$$\frac{\frac{R_{h}}{V_{a}} \frac{HP_{a}}{D_{p}}, \frac{t_{s}}{V_{a}} \frac{HP_{a}}{D_{p}} \text{ versus } \Delta$$
$$\frac{V_{a}}{L_{s}} \frac{V_{a}}{D_{p}} \text{ versus } \Delta$$
$$\frac{R_{h}}{\frac{R_{h}}{E_{1}}} \text{ versus } A$$

where

R<sub>h</sub> is head reach - meters t<sub>s</sub> is stopping time - seconds V<sub>a</sub> is approach speed - knots D<sub>p</sub> is propeller diameter - meters HP<sub>a</sub> is astern maximum horsepower △ is displacement in metric tons L is ship LBP F is Froude number TABLE 10

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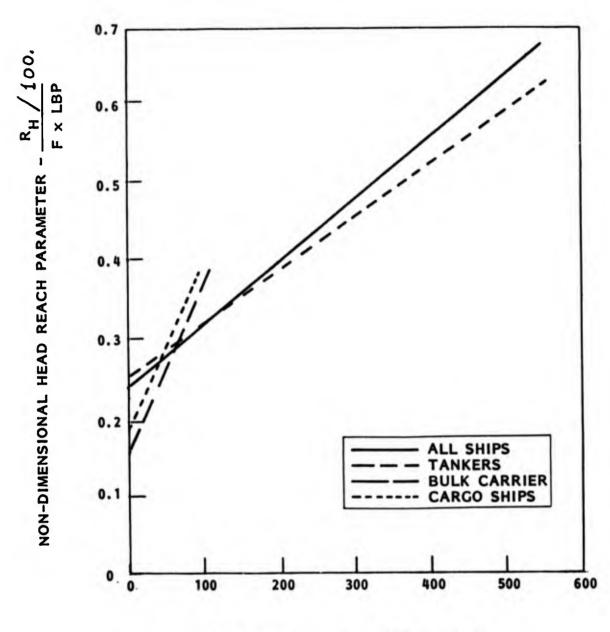
	Type	Maneuvers	Į	
	All Ships	342	$0.24 + 0.077 \times 10^{-5} \Delta^{*}$	0.146
By Ship Type	Tankers	268	0.26 + 0.065 × 10 <sup>-5</sup> Δ	0.158
	Bulk Carriers	68	$0.15 + 0.20 \times 10^{-5}$	0.083
	Cargo Ships	9	0.18 + 0.20 × 10 <sup>-5</sup> Å	0.052
	Steam Turbine	213	0.23 + 0.087 × 10 <sup>-5</sup> Å	0.160
By		134	0.21 + 0.119 × 10 <sup>-5</sup>	960.0
Machinery Type		13	0.17 + 0.124 × 10 <sup>-5</sup> Δ	0.096

table shows the linear curve fits obtained from a least squares fit to the data and the standard (RMS) deviation of all data from this mean curve. Insufficient data were available for making any statisitcal analysis for other ship types.

It can be seen from Table 10 and from Figure 17 that there are no large differences in the results for different ship types and sizes. Although the data for ships of less than 100,000 tons displacement indicate a slight tendency of the curve to bend downward at low displacement. The mean curve for "all ships" is considered representative and it was therefore decided to use deviations from this mean curve to define stopping performance ratings for all ship types.

Table 10 presents results of the statistical analysis of crash stopping for all ships and for ships with steam turbine/fixed pitch propeller and diesel/fixed pitch propeller propulsion systems. Results for the two machinery/ propeller types and for "all ships" are similar, although head reaches for the largest diesel powered ships are as much as 25 percent larger than the values for "all ships." This large difference undoubtedly reflects the limited number of very large ships identified as having diesel power. It should be noted that the statistical analysis by ship type does not indicate any of the ships for which the machinery type is unknown. Based on the results shown in Table 10 and Figure 18 it is concluded that the curve fit for "all ship" is typical of all results for all ship types and propulsion types, except, perhaps, for large diesel powered ships. It is therefore proposed to use the result for "all ships" as a basis for the proposed standards for any ship/machinery type.

Figure 19 shows the mean curve for all data and this mean curve plus and minus one standard deviation superimposed on the data plot. This figure indicates that approximately three percent of all data points lie above the mean <u>plus</u> one standard deviation curve, 10 percent of points lie above the mean <u>plus</u> 0.75 standard deviation curve, and approximately <u>five</u> percent of points lie below the mean <u>minus</u> one standard deviation curve. It therefore seems appropriate to define stopping performance ratings as follows:

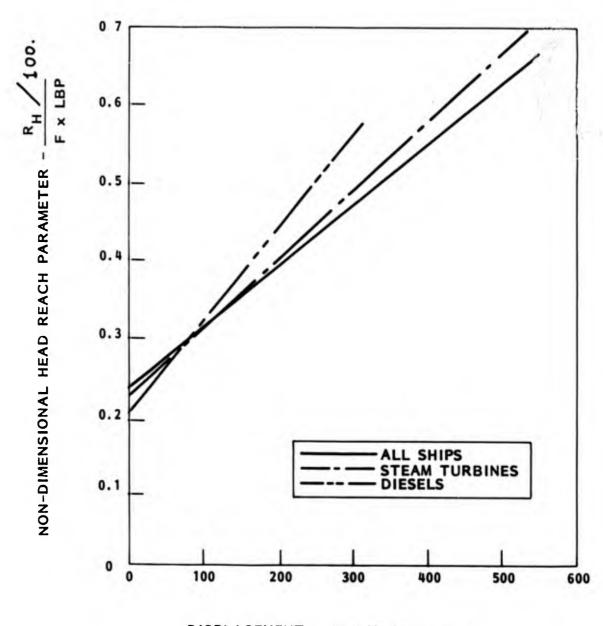


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DISPLACEMENT - 1000 METRIC TONS

FIGURE 17 - FIRST ORDER, LEAST SQUARES FITS TO TRIALS HEAD REACH DATA FOR VARYING SHIP TYPE

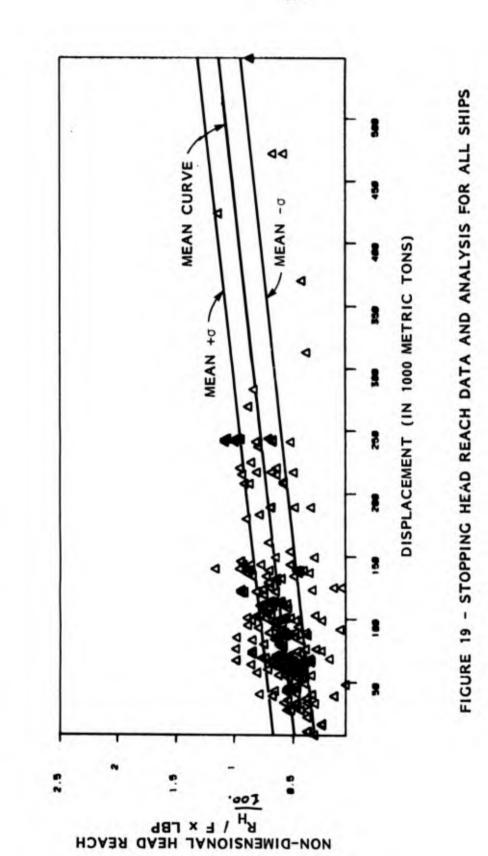
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DISPLACEMENT - 1000 METRIC TONS

FIGURE 18 - FIRST ORDER, LEAST SQUARES FITS TO TRIALS HEAD REACH DATA FOR VARYING MACHINERY TYPE



-66-

Level	Upper Limit	Lower Limit	% of Data
Superior	$R_m' - \sigma_R'$	-	7
Above Average	R <sub>m</sub> '-0.5 σ <sub>R</sub>	Rm'-OR'	20
.Average	R <sub>m</sub> '+0.5 σ <sub>R</sub> '	Rm'-0.5 0R	50
Below Average	R <sup>m</sup> + o <sub>R</sub>	R, +0.5 0R	18
Marginal	-	Rm'+oR'	5

Where  $R_m'$  is the mean value of the non-dimensional head reach parameter, R', and  $\sigma_R'$  is the significant or RMS value of R'. The distribution of data by performance level is similar to that for other measures of performance discussed in this section.

3.5.5 <u>Zig-Zag Maneuvers</u> - Information on zig-zag maneuvers is much more limited than data on turning and stopping. Zig-zag data were available for about 100 ships in the data base. Attempts were made, as outlined in Table 11, to correlate overshoot angle with ship displacement, block coefficient and the parameter:

$$\frac{\Delta}{LBP T^2}$$

where T is ship draft. Results are shown in Figures 20-22. Overshoot angles were non-dimensionalized by rudder angle to permit comparison of results for different zig-zag maneuvers (20-20 and 10-10 zig-zags, for example):

$$\delta' = \frac{\text{overshoot angle}}{\text{rudder angle}} = \frac{\delta_0}{\delta_r}$$

No clear trend of overshoot angle with ship displacement is evident from Figure <sup>20</sup>, although there appears to be a clear increase in overshoot angle for displacements less than 150,000 tons. Figure <sup>21</sup> indicates that there is no definable trend of overshoot angle with the parameter  $\Delta/LBT \times T^2$  which was taken from previous analyses of zig-zag data, Della Logia, et al., (1975).

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TABLE 11

Parametric Relationships Considered for Ship Zig-Zag Maneuvers

 $\frac{\delta_{1}}{\delta_{r}} \cdot \frac{\delta_{2}}{\delta_{r}} \text{ versus } \Delta$   $\frac{\delta_{1}}{\delta_{r}} \cdot \frac{\delta_{2}}{\delta_{r}} \text{ versus } C_{B}$   $\frac{\delta_{1}}{\delta_{r}} \cdot \frac{\delta_{2}}{\delta_{r}} \text{ versus } F$   $\frac{20 \ \delta_{1}}{F \ \delta_{r}} \cdot \frac{20 \ \delta_{2}}{F \ \delta_{r}} \text{ versus } C_{B}$   $\frac{20 \ \delta_{1}}{\delta_{r}} \cdot \frac{20 \ \delta_{2}}{F \ \delta_{r}} \text{ versus } C_{B}$   $\frac{20 \ \delta_{1}}{\delta_{r}} \cdot \frac{20 \ \delta_{2}}{F \ \delta_{r}} \text{ versus } C_{B}$   $\frac{1}{K} \text{ versus } \frac{1}{T}$ 

$$\frac{A_R L}{K' \nabla} \text{ versus } \frac{1}{T'}$$

where

 $\boldsymbol{\delta}_1$  is first overshoot angle - degrees

 $\boldsymbol{\delta_2}$  is final overshoot angle - degrees

 $\delta_{\mu}$  is rudder angle - degrees

F is Froude Number

C<sub>B</sub> is block coefficient

Ap is rudder area

K' and T' are Nomoto-Norrbin parameters (see Appendix G)

 $\Delta$  is displacement – tons

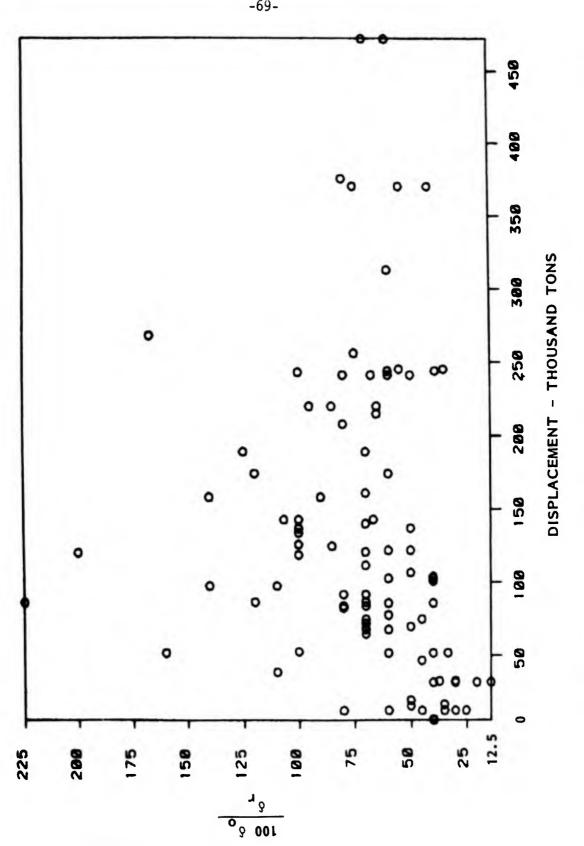


FIGURE 20 - NON-DIMENSIONAL OVERSHOOT ANGLES FROM ZIG-ZAG MANEUVERS

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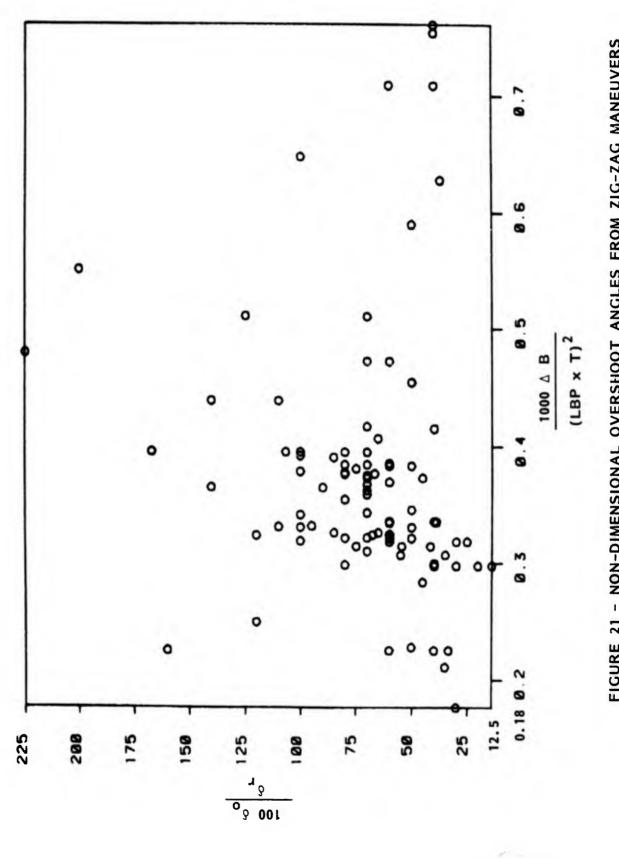


FIGURE 21 - NON-DIMENSIONAL OVERSHOOT ANGLES FROM ZIG-ZAG MANEUVERS

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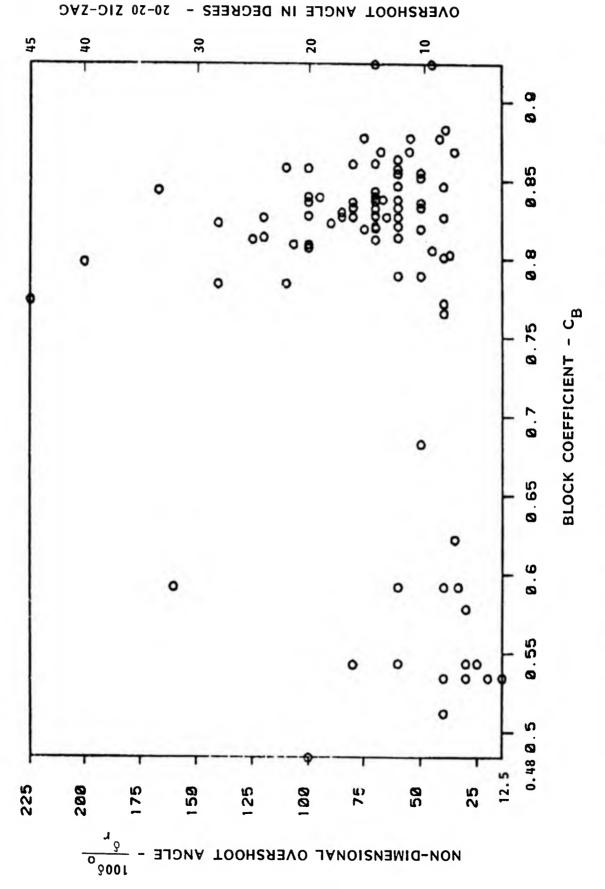


FIGURE 22 - NON-DIMENSIONAL OVERSHOOT ANGLES FROM ZIG-ZAG MANEUVERS

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The results of Figure 22, where overshoot angle is plotted as a function of block coefficient, indicate existence of correlation if the results for finer ships ( $C_B < 0.7$ ) and fuller ships ( $C_B > 0.7$ ) are considered separately. It appears that a characteristic or mean non-dimensional overshoot angle,  $\delta'$ , can be separately defined for these two groups of ships. The mean values and standard deviations for these ship may be useful for evaluating zig-zag performance and ship maneuvering performance. It should be noted, however, that available data for  $C_B < 0.7$  are quite limited.

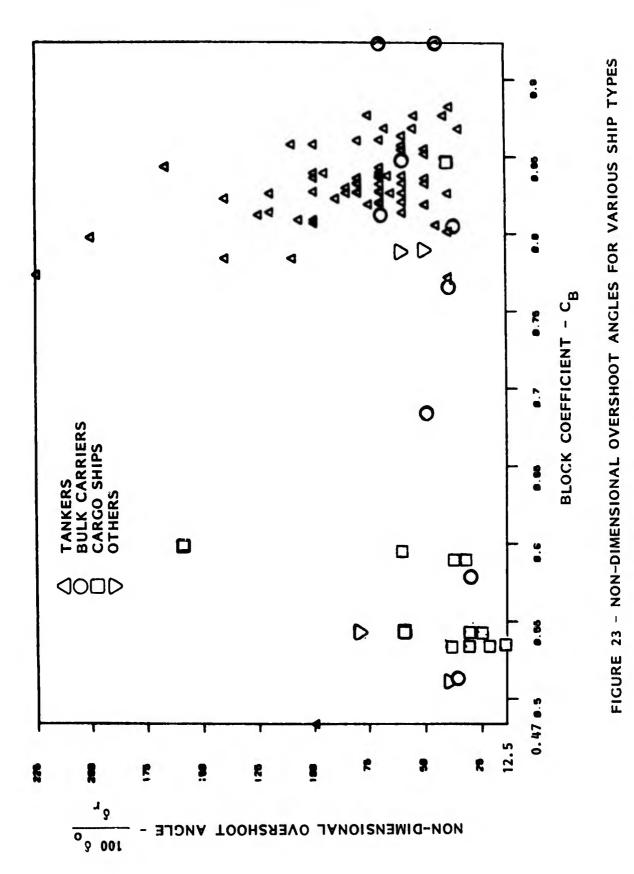
It is not surprising that the fuller ships, which are primarily tankers and bulk carriers, have larger overshoot angles than the finer ships. The largest overshoot angle is for an LNG ship which is well known for its poor handling characteristics.

Figure 23 shows  $\delta'$  plotted versus  $C_B$  for individual ship types. Different symbols are used for tankers, bulk carriers, cargo ships, container ships and all other ships. The mean RMS values of  $\delta'$  for tankers and bulk carriers are given in Table 12. In calculating these mean values, results were not segregated by  $C_B$  since all ships of a given type should have  $C_B'$ s greater than or less than 0.70. Sufficient data do not exist for calculation of meaningful statistics for ship types other than tankers and bulk carriers.

Figure 24 indicates that the probabilities of an overshoot angle lying more than one standard deviation from the mean values are:

Block Coefficient	Probability of Value Greater Than	Probability of Value Less Than
с <sub>в</sub>	δ <sub>m</sub> ' + σ <sub>δ</sub>	δ <sub>m</sub> ' - σ <sub>δ</sub>
<0.7	0.12	0.15
≥0.70	0.12	0.18

The probability that overshoot angle will be within one standard deviation,  $\sigma_{\delta}$ , of the mean value,  $\delta_{\rm m}$ , is thus approximately 70 percent in both cases.



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TABLE 12	Summary of Statistics of Overshoot Angles from Zig-Zag Maneuvers
----------	---

Ship Type	Mean Curve - $\delta_{ m m}$ ' Standard Deviation - $\sigma_{ m A}$	iation - $\sigma_{\delta}$
LIA	$0.567 + 0.222 c_{B}^{*}$ 0.35	,
Tankers	1.86 - 1.26 C <sub>8</sub> 0.37	
Bulk Carriers	Bulk Carriers -0.03 + 0.68 C <sub>B</sub> 0.11	
Cargo Ships	-0.73 + 2.08 c <sub>B</sub> <sup>**</sup> 0.09	
Other Ships	-1.28 + 3.13 C <sub>B</sub> ** 0.12	
	* C <sub>B</sub> is block coefficient	

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\*\* These results are not based on sufficient data

to be considered meaningful.

This result is useful in formulating levels of performance. Figure 24 indicates that there is, as would be expected, a much larger range of values for overshoot angles greater than the mean value than for those angles less than the mean value.

The use of two sets of measures, with discontinuties at an arbitrary block coefficient of 0.70 (or 0.75) is, from a practical standpoint, undesirable, and might encourage "rule-beating" designs in which a small increase in block coefficient was used to achieve a significant reduction in required controllability (increase in allowable overshoot angle). It was therefore decided to replace the two sets of value of  $\delta_m$ ' and  $\sigma_\delta$ ' by the following relationships:

 $\delta_{m}' = 106.28 C_{B} - 14.53$  $\sigma_{\delta}' = 33.76$ 

These relationships give the same values of  $\delta_m$ ' and  $\sigma_{\delta}$ ' as the two sets of values for block coefficients of 0.60 and 0.825, and, are plotted in Figure 25.

Available results provide little basis, other than a purely statistical one, for selecting levels of performance and ratings for overshoot angle. The following ratings have been selected:

Rating	Upper Level	Lower Level	% of Data
Superior	ο <sub>m</sub> - σ <sub>m</sub>	-	8
Above Average	δ <sub>m</sub> '-0.5 σ <sub>m</sub>	ο <sub>m</sub> - σ <sub>m</sub>	27
Average	δ <sub>m</sub> '+0.5 σ <sub>m</sub>	δ <sub>m</sub> '-0.5 σ <sub>m</sub>	40
Below Average	δ <sub>m</sub> '+1.25 σ <sub>m</sub>	δ <sub>m</sub> '+0.5 σ <sub>m</sub>	15
Marginal		δ <sup>"</sup> +1.25 σ	10

The results presented in Section 3.4 indicate that the French LNG ship, which is known to have poor handling performance, has a "marginal" rating. The original 80,000 DWT tanker of the CAORF studies has an "above average" rating

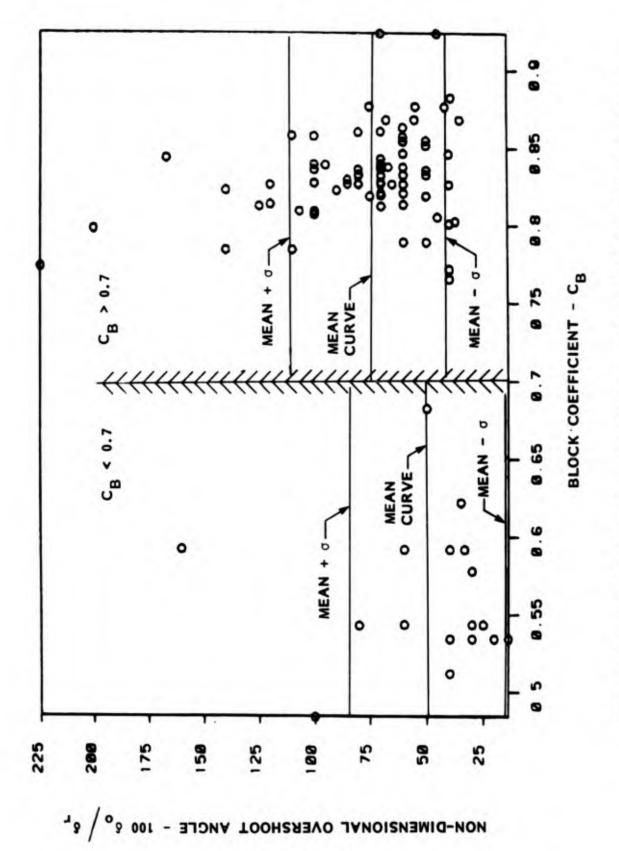
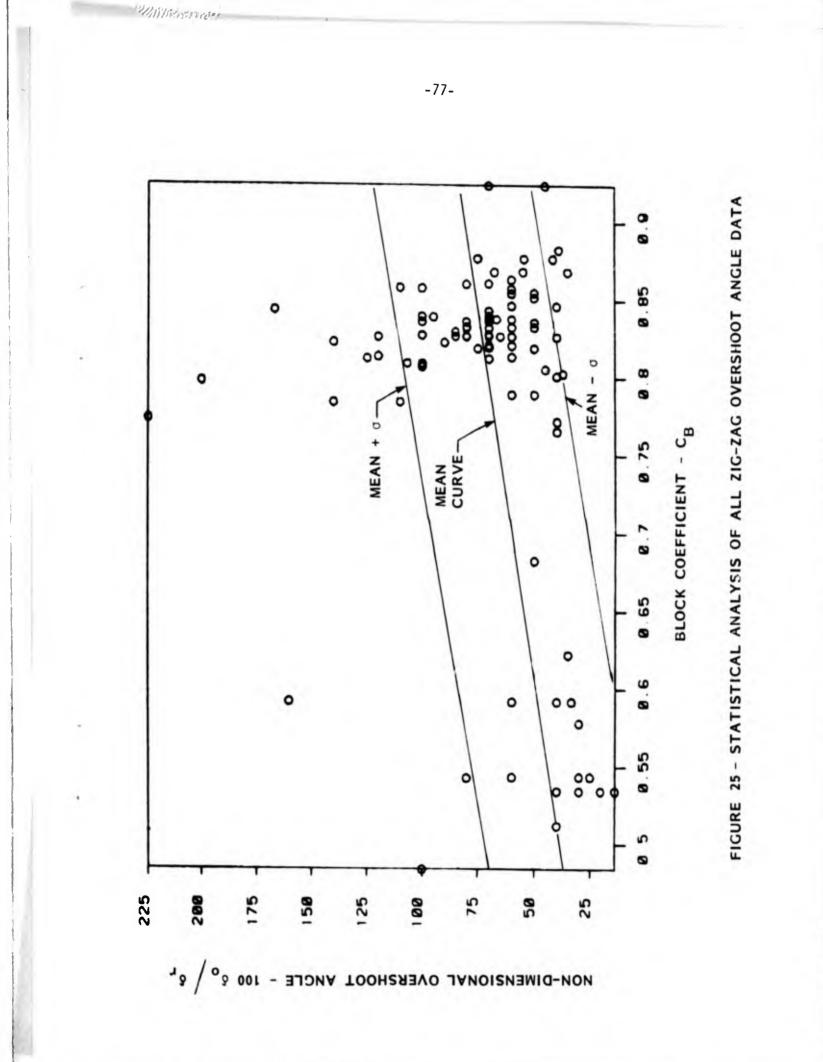


FIGURE 24- ZIG-ZAG OVERSHOOT ANGLE DATA AND ANALYSIS FOR ALL SHIPS

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while the degraded ship has an "average" rating, a reflection of the reduced rudder area and controllability.

There is considerable evidence that non-dimensional parameters K' and T', which are often called the Nomoto-Norbin parameters, can provide a good indication of ship controllability. It was felt that these parameters, which are described in detail in Appendix G, could be used to characterize zig-zag performance and ship maneuvering performance. Figures 7 and 26 present a very large body of existing data in this format and clearly indicate that these parameters, when used together, do provide a useful means for characterizing results of zig-zag maneuvers. Both figures indicate that the results for ships in the data base where K' and T' were available are in generally good agreement with results form other sources.

Figure 7 shows a better correlation of data than does Figure  $^{26}$  but the ordinate of Figure 7 is a function of rudder area,  $A_R$ , and hence the parameter

is a measure of maneuvering efficienty rather than absolute maneuvering performance. It is therefore decided to use the basic 1/K' - 1/T' relationship as a measure of maneuvering performance.

The mean curve for all K' - T' data has been estimated to be:

$$K_{\rm m}^{*} = 0.625 + 0.375 \, {\rm T}^{*}$$

where

$$K^* = \frac{1}{K^*}$$
$$T^* = \frac{1}{T}$$

and the subscript m denotes the mean value. Because of the large range of values of K' and T' (two orders of magnitude) the standard deviation does not provide a good basis for defining performance ratings. It is proposed that performance ratings be defined as follows:

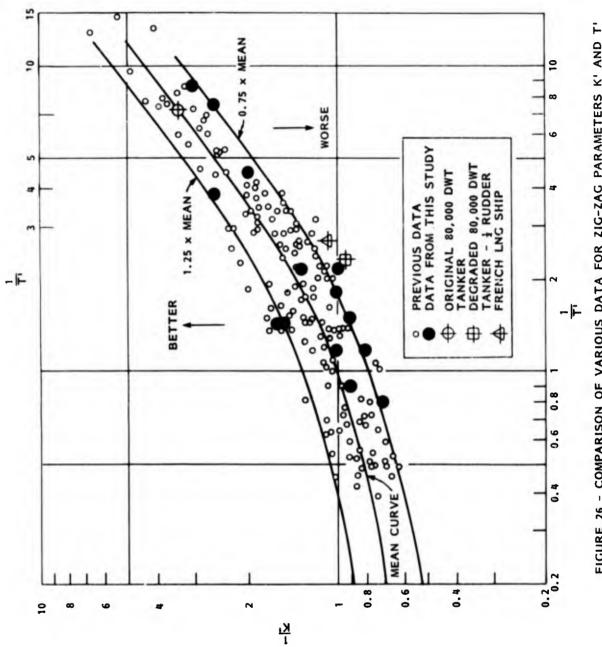


FIGURE 26 - COMPARISON OF VARIOUS DATA FOR ZIG-ZAG PARAMETERS K' AND T'

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Rating	Upper Level	Lower Level	% of Data
Superior	-	1.25 K <sub>m</sub> *	6
Above Average	1.25 K <sub>m</sub> *	1.10 K <sub>m</sub> *	18
Average	1.10 K <sub>m</sub> *	0.90 Km*	40
Below Average	0.90 K <sub>m</sub> *	0.75 K <sub>m</sub> *	30
Marginal	0.75 K_m*		6

These ratings are shown on Figure 30. Based on these ratings, the 80,000 DWT tanker and French LNG ship have the following ratings

Original 80,000 DWT tanker	-	Average
Degraded 80,000 DWT tanker		Marginal
French LNG ship .	-	Marginal

These ratings seem more consistent with observed or simulated maneuvering ability of these ships than do the ratings based on overshoot angle. This may be an indication that K' and T' provide a better basis for assessing maneuvering performance than does overshoot angle. In view of this fact, and the conclusion that behavior in zig-zags is especially important for assessing maneuvering performance, it is proposed to use <u>both</u> approaches in standards.

3.5.6 <u>Limitation on Use of Trials Data in Establishing Performance</u> <u>Standards</u> - Several factors potentially limit the value of using trials data as a basis for determining performance limits and establishing performance standards. These factors include:

- o To date, only a few types of trials maneuvers have been regularly conducted. Economic pressures have tended to minimize trials agendas, as noted earlier, but it should be possible to conduct important additional trials maneuvers at modest cost.
- o Trials are generally conducted at a single draft which is often significantly less than the loaded operating draft. Ship behavior at this trials draft can be different than behavior at the normal operating draft, particularly if trials trim is significantly different than operating trim. The trials of the ESSO OSAKA, Crane (1980) provide a useful illustration of the variation of performance with trial draft.

- Trials do not provide any means for assessing the effect of environment (wind, waves and current) on maneuvering and controllability.
- Trials are generally conducted in deep water and thus do not provide any means for assessing maneuvering performance in shallow water. The ESSO OSAKA trials, Crane (1979), are an exception.

Dispite these limitiations, trials data must at present be used as the primary basis for defining maneuvering performance levels and standards. Sections 3.4 and 3.5 describe other means used, in conjunction with trials data, to define such standards.

It has been previously noted that the maneuvering performance standards described in this report are intended for use only in deep water. It is not currently possible to define such standards for maneuvering in shallow water or water of restricted channel width, although such conditions frequently exist in important maneuvering situations such as docking, transit of harbor entrances, etc. At present it must be assumed that ships having a given level of performance in deep water will probably have a comparable level of performance in shallow water or restricted channels.

It has been assumed that trials for most or all ships of a given type (tanker, container ship, etc.) are conducted at some representative draft and trim condition and that levels of maneuvering performance at this trials draft/trim condition will be comparable to levels of performance at the normal operating draft/trim condition. This assumption needs verification.

# 3.6 Assessment of Environmental Effects

Environment (wind, waves and current) can have an important influence on ship maneuvering performance (see, for example, Barr, et al., (1980) and on CRG casualties (Section 3.3 of this report)). Trials data do not provide a basis for assessing the influence of wind, waves and current on maneuvering performance since care is taken in trials to minimize environmental effects.

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In the open ncean, wind and waves will generally have a much greater influence than current. In restricted waters, such as harbors and rivers, current can have an effect equal to or greater than wind; waves are generally not an important factor in such waters. Overall, it appears that wind probably has the greatest effect on ship maneuvering and should probably receive primary attention in formulating maneuvering performance standards. Previous studies (see, for example, Martin (1980), Eda, et al., (1979), and Barr, et al., (1980)) have clearly demonstrated the significant effect of wind on ship maneuverability. It was therefore concluded that ship maneuvering performance standards should include some measure of the potential ability of the ship to satisfactorily maneuver in wind.

Computer simulations, using a well validated ship model, provide a means for assessing the effect of wind on maneuvering. It was concluded that results of previous work plus simulation studies for a single tanker in light ballast and full load conditions could be used to provide a measure of wind effect. The 80,000 DWT tanker used in various previous studies, and described by Barr, et al., (1980) was selected. A well validated ship maneuvering model (hydrodynamic/aerodynamic model) exists for this ship. Simulations were carried out for the full load and light ballast conditions. For each of these load conditions, a passage of the ship around the "U"shaped course shown in Figure 27 was simulated for a range of wind speeds, given in Table 13 to find the wind speed at which the ship became uncontrolable. This course subjects the ship to head, stern and beam winds as well as two moderately tight turns. In all cases the propeller RPM was adjusted for each segment of the course to keep ship speed within ±10 percent of the specified 6.5 knot ship speed.

It was found from the simulation studies that the ship was able to negotiate the course when:

Vwind Vship ≤ 8.7	- light ballast
$\frac{V_{wind}}{V_{ship}} \le 15.6$	- full load.

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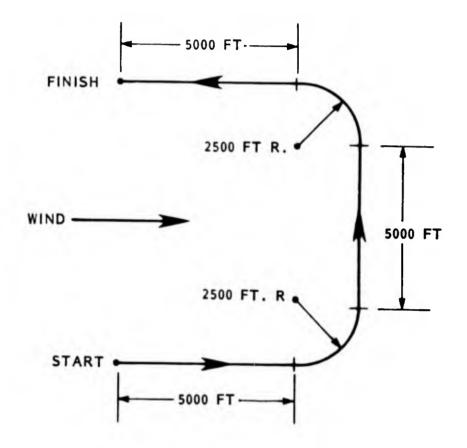


FIGURE 27 - COURSE USED FOR STUDYING EFFECT OF WIND ON SHIP MANEUVERING

HYDRONAUTICS, Incorporated

## TABLE 13

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WIND SPEEDS CONSIDERED IN STUDY OF THE EFFECT OF SHIP AERODYNAMICS ON SHIP MANEUVERING

Full Load Condition:

V<sub>wind</sub> = 12, 21, 27, 34, 40 meters per second

Light Ballast Condition:

 $V_{wind} = 12, 18, 24, 27, 31$  meters per second

(Ship failed to negotiate course at 31 meters per second) Ship Speed: 3.35 meters per second (6.5 knots) in all cases For this ship,

$$\begin{pmatrix} A_w \\ \overline{A_s} \end{pmatrix}_{\text{Full Load}} = 0.572$$

 $\begin{pmatrix} A_w \\ \overline{A_s} \end{pmatrix}$ Light Ballast = 1.683,

where  $A_w$  and  $A_s$  are, respectively, the above-water (windage) profile area and the submerged profile area.

LBP, m	232	.6
B, m	36	1.1
T, m	12.2	6.7
$A_w$ , m <sup>2</sup>	1622.	2622.

The first result is in agreement with the results of Atkins and Bertsche (1980) which indicate that course deviation for ships in light ballast condition become large for  $V_{wind}/V_{ship} > 10$ . The results of the simulations further indicate the it is probably feasible to develop an expression which defines the limiting speed ratio and lateral area ratio for which the ship can be controlled in winds. Based on these results, the following expression for an upper limit on allowable operating condition in wind is proposed:

 $\left(\frac{V_{wind}}{V_{ship}}\right)^2 \times \frac{A_w}{A_s} \cong 125$ 

where  $A_s$  and  $A_w$  are the submerged profile and above-water (windage) profile areas, which can be readily calculated from an outboard profile drawing.

For most ships and maneuvering problems, the effect of wind is likely to be crucial only in ballast condition. Notable exceptions would include car carriers and LNG ships. For the 80,000 DWT ship, the full load ship can retain maneuverability with wind speeds up to 80 knots, but with no waves; with a ship speed of five knots. It should be noted that for all but the most restricted water conditions, the influence of waves, which tends to be additive with wind effects, will become large with such large wind velocities.

It is recommended that new ship designs be evaluated on the basis of their ratio of windage profile area to submerged profile area. If this ratio exceeds the critical value from the previous expression, or if

$$\begin{pmatrix} A_w \\ \overline{A_s} \end{pmatrix}$$
 light ballast > 125  $\begin{pmatrix} v_{ship} \\ v_{wind} \end{pmatrix}^2$ 

the ship designer or owner should be required to demonstrate, through suitable maneuvering simulations and/or model tests, that the ship can be controlled or maneuvered in the appropriate wind velocity. Appropriate ratios of  $V_W/V_s$ , which may reflect local port conditions or ship types, can be specified by

the Coast Guard.

In order to provide an interim basis for evaluating potential aerodynamic effects, a representative ratio of wind speed to ship speed has been assumed. The maximum wind speeds expected during ship maneuvering will occur during severe line squalls; in such squalls maximum wind speeds of 55 to 60 knots and sustained wind speeds of up to 40 to 45 knots can occur. Assuming that the maximum wind speed which can be sustained for a long enough period to significantly affect ship behavior is 45 knots and that the ship speed is seven knots, the condition for requiring demonstration of ship handling in wind is

$$\begin{pmatrix} A_w \\ \overline{A_s} \end{pmatrix}$$
 light ballast > 3.0

This value is considered realistic when compared with existing ship design values. Table 13 gives typical area ratios for the 80,000 ton tanker.

## 3.7 Summary of Findings

It was felt, at the beginning of this study, that the measures of maneuvering performance which would be most important in developing standards were:

o Head reach in crash stop

o Overshoot angle in normal zig-zag

o Overshoot angle in coasting zig-zag

o Tactical diameter or head reach in accelerating turn from zero speed

Collection and review of available maneuvering data confirmed the initial conclusion that data adequate for developing standards existed only for crash stops and normal (constant RPM) zig-zag maneuvers. It was therefore not possible to make the latter two measures part of any proposed standards.

During the course of the study it was concluded that, in addition to head reach in crash stops and overshoot angles in normal zig-zags, the following measures of maneuvering performance should be incorporated into the proposed standards:

o Tactical diameter in normal turn

o Relative values of zig-zag parameters K' and T' (see Appendix G )

For the reasons noted earlier in this section, the particular non-dimensional forms of these measures incorporated in the performance standards are:

o Tactical diameter/ship length ratio from normal turn

- Head reach/ship length times Froude number ratio from crash stop
- o Overshoot angle/rudder angle ratio from normal zig-zag

o K' and T' values from normal zig-zag

For each of these measures, levels of performance have been defined based on available data. The corresponding levels of performance for these four measures can be readily determined for a new ship from trials or can be determined during the ship design by suitable model tests and/or simulations.

A ship can have, in theory, a different performance rating (superior, average, etc.) for each of the four measures selected. Safe ship operation requires adequate performance in <u>all</u> aspects of maneuvering and hence each. of these measures is important. The use of an overall ship rating, based on an average of the four individual ratings, is thus not considered desirable. With an average rating, marginal performance in one aspect (say, stopping) will not be apparent if other measures (turning and overshoot angle) are average or above average. It is therefore proposed that the overall rating be the same as the lowest or worst individual rating. With this approach, ship performance should always be as good as or better than the performance indicated by the overall rating.

For a given ship, ratings will be determined from results of three basic or standard maneuvers. The conduct of these maneuvers to insure validity of the results is discussed in the next section.

## 3.8 Trials Maneuvers

In developing a maneuvering trials agenda to be used for establishing vessel performance ratings, it is necessary to select both the types of maneuvers to be conducted and the specific operating conditions associated with each maneuver. The three basic maneuvers required are discussed in the previous section (3.7). The relevant operating conditions include

initial ship speed, rudder angle and trials draft or displacement.

Tankers are usually ballasted to design or near design draft for trials, and maneuvering trials for tankers should be conducted at design, full load draft whenever possible. Trials of other ship types are generally conducted at full or partial ballast and fuel conditions, no cargo and thus at a smaller draft and displacement than full load values. Such trials are frequently conducted with significant trim by the stern to insure complete propeller submergence. In order to make trial results most representative of average ship operating conditions, it is proposed that trials for non-tankers be conducted at draft (displacement) and trim as close as possible to the full load values.

Ship maneuvering performance, and head reach and overshoot angle in particular, are dependent on ship speed. In the past, maneuvering trials were usually conducted at or near ship design speed. With some recent, high power ships, such as LNG ships, it has been necessary to conduct turns and zig-zags at significantly lower speeds to avoid severe vibration and machinery damage. Ship maneuvering performance is most important in restricted water conditions where operating speeds are, typically, significantly less than design speed. It is therefore proposed that maneuvering trials used to determine performance rating be conducted as a representation "maneuvering" speed. If desired, supplementary trials at design speed can also be conducted.

No single "maneuvering" speed exists, although 4 to 10 knots appears to be representative of operating speeds for normal maneuvering. For many ships, and particularly for steam turbine powered ships, operators and/or designers establish a maximum "maneuvering" speed. It is proposed that the trials be conducted at various speeds depending on the specific trial. The use of an eight knot maneuvering speed is particularly important for stopping performance, due to the large influence of machinery on performance.

The proposed standards reflect ship operating speed only in the case of stopping performance. Many of the trials data on which the standards are based were obtained at or near ship design speed, rather than at a representative "maneuvering" speed. The selected performance levels may therefore be somewhat biased by speed effects, and it may be necessary to adjust the proposed levels when a significant body of data at "maneuvering" speed are available. It is not anticipated that large adjustments will be required.

Typically, turning maneuvers are conducted with full port and starboard rudder (usually 35 degrees) angles, although with some high speed or high powered ships it has been necessary to use smaller rudder angles, even at reduced trials speeds. The maximum possible rudder angle should be used in turning maneuvers which are used to define maneuvering performance.

The  $20^{\circ}-20^{\circ}$  zig-zag maneuvers is by far the most widely used, and it is proposed that this zig-zag maneuver be used in defining performance level. The proposed standards are based on equal rudder and heading angles and trials must be zig-zag maneuvers of this type  $(20^{\circ}-20^{\circ}, 10^{\circ}-10^{\circ}, \text{ etc.})$ 

Various crash stopping maneuvers, some using the rudder, are conducted. The proposed standards are based on data for crash stops without use of rudder and it is proposed that all crash stopping maneuvers be conducted with zero rudder angle. Supplemental crash stops with rudder may be useful for defining ship capability, but results should not be used to determine performance rating.

### 4.0 PROPOSED MANEUVERING STANDARDS AND ALTERNATIVES

A set of proposed standards and a proposed ship trials agenda have been developed. These standards and the trials agenda are based on the factors discussed in Sections 2 and 3 of this report and on an analysis of available ship trials data and maneuvering performance studies, as described in Section 3.

# 4.1 Proposed Maneuvering Performance Standards

Maneuvering performance standards are intended to provide guidance to ship designers, owners and operators with respect to the maneuvering capabilities of a vessel under normal conditions. These standards should therefore reflect the performance of a vessel relative to other vessels of similar size and type as well as consideration of performance characteristics a vessel should have for safe operations in restricted waters.

Maneuvering performance ratings for a given ship will be assigned on the basis of measured performance in selected trial maneuvers supplemented by special investigations for vessels which fail to meet certain criteria. The standards will be expressed in terms of a relative performance ranking i.e., superior, above average, average, below average and marginal. The performance standards will be applied to a vessel's turning, course changing and course keeping ability, a vessel's stopping ability and a vessel's ability to operate at a moderate speed suitable to a restricted water situation. The maneuvering trials agenda proposed for use in determining performance ranking of a vessel must include as a minimum:

- o Turning maneuver from full maneuvering speed with maximum rudder angle.
- o 20-20 zig-zag maneuver from full maneuvering speed.
- o Stopping maneuver from reduced maneuvering speed.
- Demonstrated ability to operate at a continuous speed between four and six knots.

Rankings or rating of turning, course changing and course keeping ability have been assigned on the basis of performance in the turning and zig-zag maneuvers. The lowest of the resulting ratings will be the rating applied

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to the vessel in the turning/course keeping area. The numerical measures used to establish the ratings are:

- The tactical diameter/length ratio from a full rudder angle turn at full maneuver speed. (eight to 10 knots.)
- 2. The overshoot angle from a 20-20 zig-zag maneuver performed at full maneuvering speed.
- 3. The K'-T' relationship from a 20-20 zig-zag maneuver performed at full maneuvering speed.

The relationships between the numerical measures and ratings for each of the maneuvers are defined in Figures 28 through 32 as a function of ship displacement and, for tactical diameter, ship type.

Rankings or Rating of stopping ability will be made on the basis of performance in a crash stopping maneuver carried out from a sustained speed of eight knots. The relationship between the numerical measure and the performance ranking is defined in Figures 33 and 34 for tankers and all other ship types.

The ability of a vessel to maintain a course at a speed suitable to a restricted water situation will be demonstrated on trial by operators at a continuous speed between four and six knots for a period of one-half hour. In addition, for vessels meeting one of the following criteria, acceptable maneuvering performance shall be demonstrated to United States Coast Guard satisfaction during the "design phase" by means of special investigations. These criteria include:

- The ratio of above water profile area to below water profile area exceeds three in the minimum operating draft condition.\*
- o No rudders are located in the ship stream of a propeller.
- Propeller direction of rotation (or direction of propeller thrust) cannot be changed four times in one minute (interim values).

The ratio three is based on a wind speed of 45 knots, which is a value that can be expected to exist for a significant period of time during a sudden squall, and a typical ship speed of seven knots. Other limiting ratios of above water to below water profile area will be defined for other assumed values of ship and wind speed.

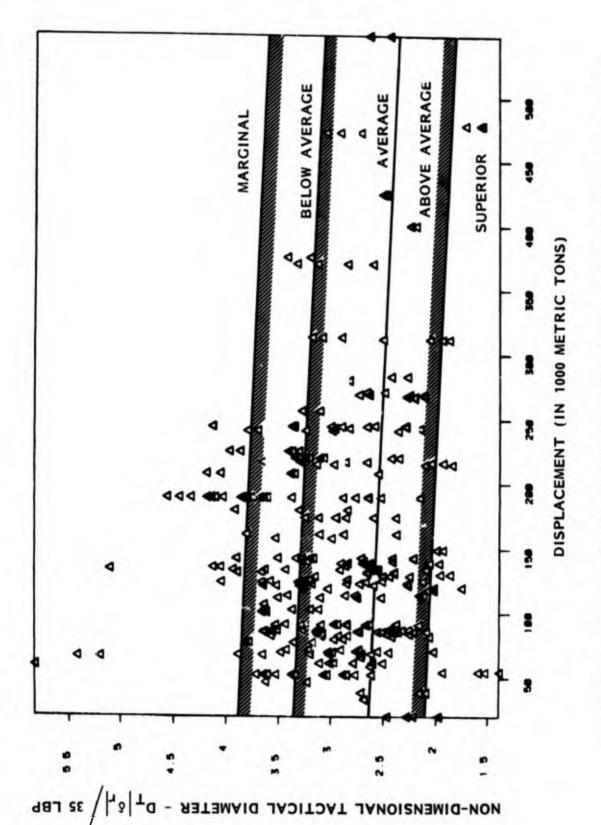


FIGURE 28 - PERFORMANCE RATINGS BASED ON TANKER TACTICAL DIAMETER

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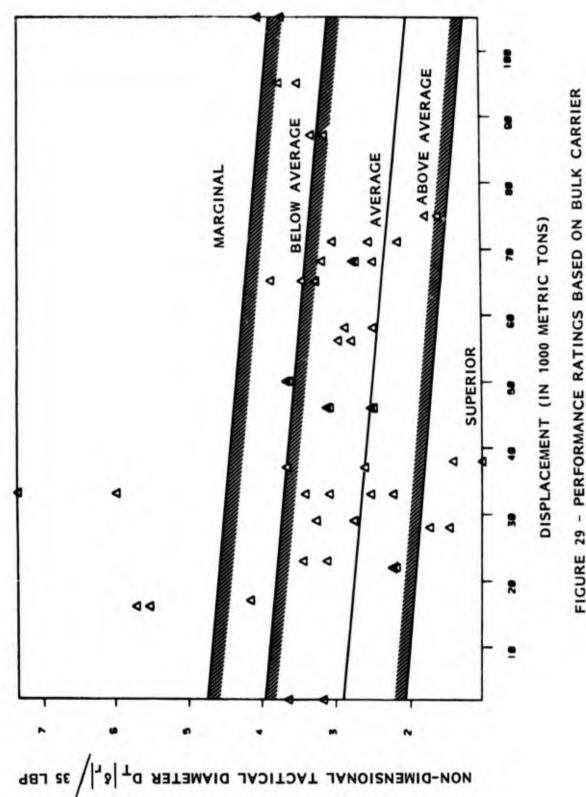
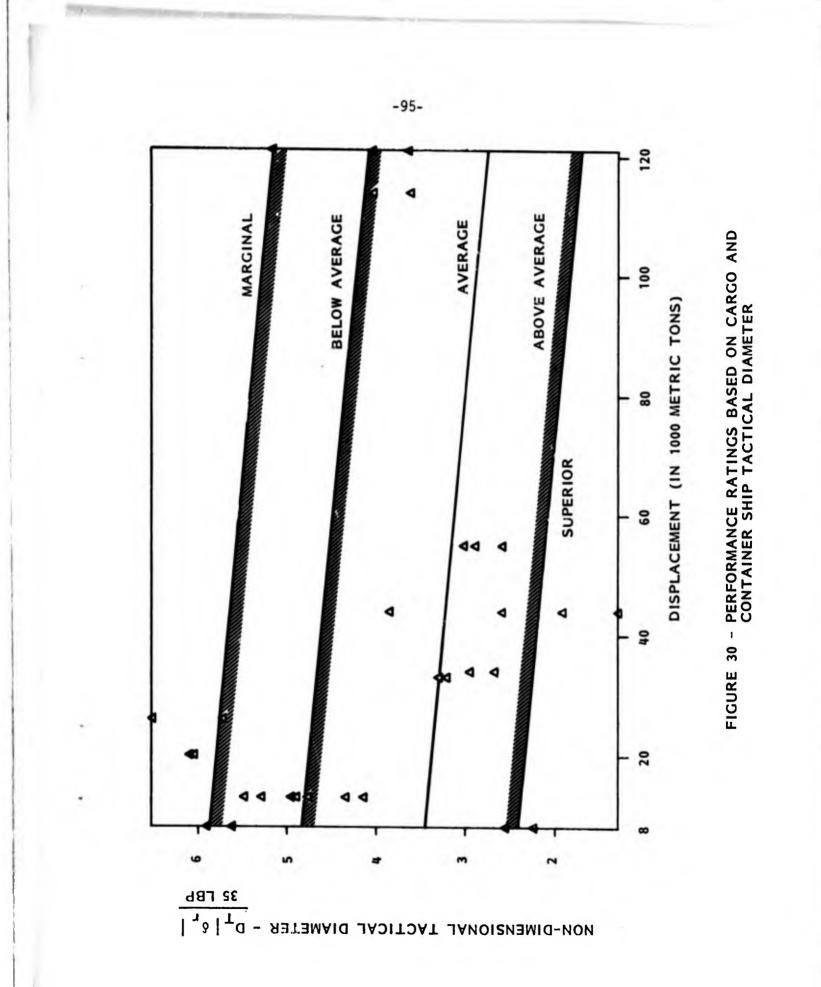


FIGURE 29 - PERFORMANCE RATINGS BASED ON BULK CARRIER TACTICAL DIAMETER

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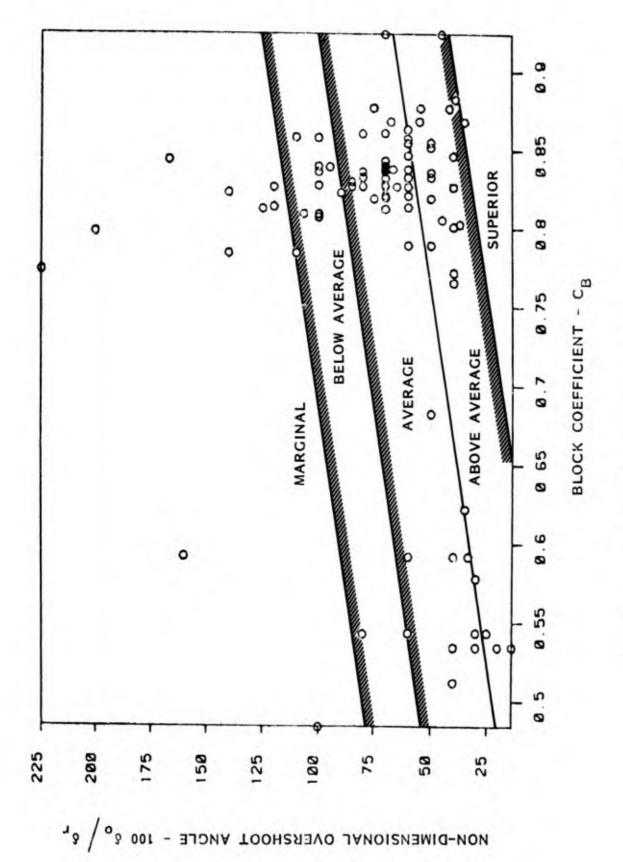
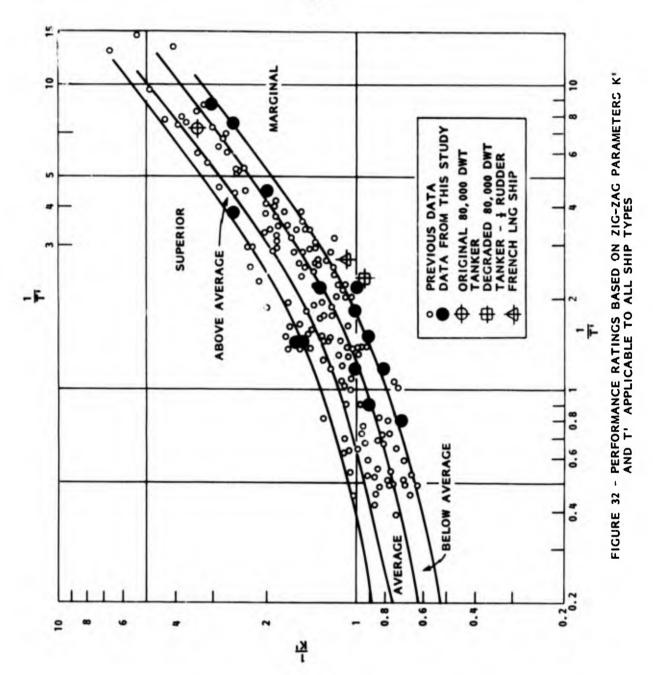
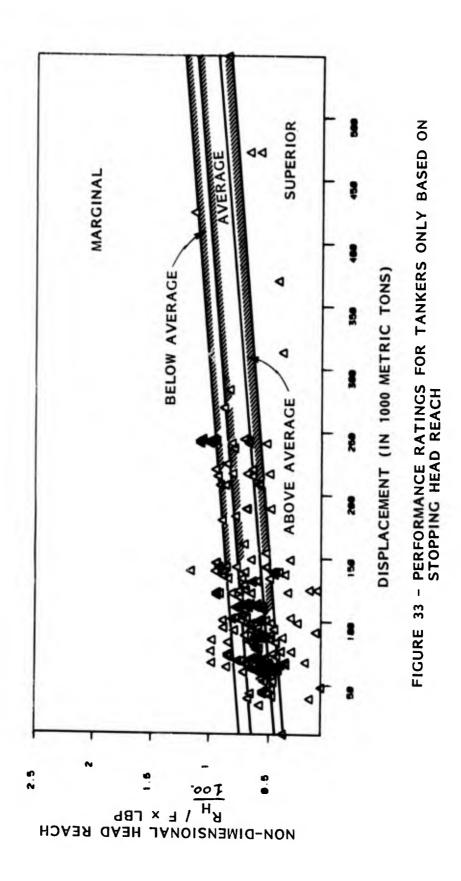


FIGURE 31 - PERFORMANCE RATINGS BASED ON OVERSHOOT ANGLE

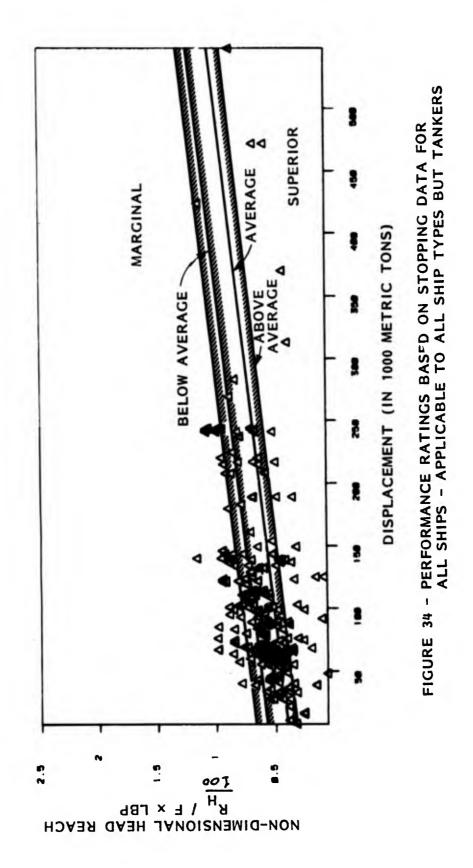
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### 4.2 Proposed Trial Agenda

Maneuvering performance standard of a vessel will be assigned on the **basis** of numerical measures from trial maneuvers. The trial maneuvers to be **carried** out, as discussed in Section 3.8, include:

- o Turning maneuver from full maneuvering speed with maximum rudder angle.
- o 20-20 zig-zag maneuvers from full maneuvering speed.
- Crash stopping maneuvers from reduced maneuvering speed.
- Demonstration of ability to operate at a continuous speed between four and six knots.

With the exception of the maneuver which demonstrates the ability to operate continuously at low speed, these maneuvers are similar to those usually carried out during a complete new ship trial. The trial procedures to be used for the turn, 20-20 zig-zag maneuvers and crash stop maneuver are defined in the SNAME Research Bulletin (1975). As a test of the ships machinery, it is likely that a crash stopping maneuver will be carried out from design speed. For the purpose of the maneuvering performance ranking, an additional stopping maneuver carried out with the vessel operating at a continuous speed of about eight knots ahead is required. It is suggested that this stopping maneuver be carried out at the conclusion of the one-half hour continuous low speed run.

For ships which have diesel powerplants, and may not be able to operate continuously at low power levels, and for which trials are conducted at or near full load condition, as is typical for bulk carriers, the designer or builder must demonstrate to the Coast Guard, using approved computational procedures, that the ship can maintain steady-state operation at a speed between four and six knots for the minimum operating load condition.

# 4.3 Additional Trials Agenda

The proposed standards and trials agenda of Sections 4.1 and 4.2 reflect the limits of available trials data. It was not possible to indicate other potentially important maneuvers and performance measures due to the lack of performance data for such maneuvers.

Based on our understanding of ship maneuvering and controllability, two additional maneuvers are considered highly desirable and should be strongly recommended, but not required. These are:

- Coasting zig-zag in which the propeller is stopped at the initiation of the maneuver.
- Standing turn in which the propeller is started and the rudder is put over simultaneously, with the ship at zero speed.

The performance measures for these maneuvers are the same as those for the standard zig-zag and turn. It would be highly desirable to include performance measures from one or both of these measures in future standards, if some representative body of trials data could be obtained. It might be feasible to supplement limited trials data with model test and/or simulation results.

It is proposed to conduct all trials maneuvers at various "maneuvering" speeds rather than ship design speed. It is considered useful, but not essential, to conduct supplement trials for some or all maneuvers at or near design speed, when feasible. If such trials are conducted, the same measures of performance should be determined and compared with "maneuvering" speed values to determine speed sensitivity but should not be used to determine ship performance rating.

# 5.0 CONCLUSIONS AND RECOMMENDATIONS

The important conclusions of this study of maneuvering performance under non-emergency conditions are perhaps best reflected by the proposed performance standards and trials agenda. The most important of the conclusions include:

1. It is currently not feasible or desirable to establish absolute (go/no go) performance standards in which some ships are rated unacceptable. A relative rating system of the type recommended in this study provides the best means for assessing expected ship maneuvering ability both during ship design and following trials. This approach is considered the feasible one.

2. It was possible to rely heavily on a straightforward statistical analysis of trials data in formulating the proposed standards.

3. Ship performance in normal turns, crash stops and zig-zag maneuvers are all important for rating performance. Relative importances cannot be assigned to these maneuvers, although the proposed standards do give somewhat greater weight to the zig-zag.

4. Large differences in maneuvering performance between different ship and machinery types exist, particularly variations of curning with ship type. Where required and feasible different ratings have been provided for different ship types.

5. If an overall ship performance rating is needed, this rating should be based on the lowest of the individual ratings rather than an average rating.

6. Trials used to determine maneuvering performance ratings should be conducted at a typical maneuvering speed rather than ship design speed.

7. The proposed rating system is considered a significant first step and the proposed standards are considered suitable for immediate use in rating ship maneuvering performance. However, additional work and refinements, as described below are needed to develop an improved rating system.

The most important recommendations for additional work arising from this study include:

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- Determine, through interviews of pilots, masters and Coast Guard port office personnel, ships which have particularly good or bad maneuvering performance and, if these ships are not in the data base, attempt to obtain trials data for these ships. Use these results to refine the proposed standards.
- 2. Continue and complete current efforts to interview pilots and masters to determine what standard maneuvers would best characterize ship maneuverability in restricted waters and what special ship characteristics, such as diesel restarts, are particularly important.
- 3. Conduct additional simulation studies, such as the CAORF restricted waterways studies, to better establish relationships between ship controllability and ship performance in standard or trials maneuvers. These results can then be used to refine the proposed ratings.
- 4. Attempt to validate the proposed standards by conducting a more detailed study of the relationship between ship CRG casualties and ship maneuvering performance, as determined from the data base.
- 5. Consider the impact on standards, perhaps through simulation studies, of ship trials that are conducted at draft and trim much different than those which occur under normal operation and determine if different trials procedures are required.
- 6. If possible collect additional data, particularly for cargo and container ships so that individual ratings by ship type can be determined for performance measures other than tactical diameter.

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# APPENDIX A

Fourteenth ITTC Discussion of Recommendations for an ITTC 1975 Maneuvering Trial Code

From Volume 2 of Proceedings of the Fourteenth International Towing Tank Conference

## 14TH INTERNATIONAL TOWING TANK CONFERENCE 1975 REPORT OF MANOEUVRABILITY COMMITTEE APPENDIX I

DISCUSSION AND RECOMMENDATIONS FOR AN ITTC 1975 MANOEUVRING TRIAL CODE

by Bernard Nizery

#### 1. INTRODUCTION

In 1963, the 10th ITTC had proposed standard manoeuvres for sea trials, namely :

- Turning circles over a range of ship speeds on approach and rudder angles, the minimum requirements for rudder angle being 15 degrees and the maximum angle.

- Zigzag manoeuvres executed at different approach speeds. Manoeuvres could include various rudder angles and changes of heading, the standard one being with a rudder angle of 20 degrees and a change of heading of 20 degrees too.

- <u>Spiral manoeuvres</u> over a range of rudder angle from 25 degrees on one side to 25 degrees on the other one, and back again.

- Change of headings test to establish the time for 5 degrees change of heading using 5 degrees of rudder angle, for a range of approach speeds.

From this time, ship's sizes have increased in a large way, new ship types appeared, the use of special manoeuvring devices happened more often; in the theoretical way, computation methods using more and more elaborated mathematical models have been brought out so that ship manoeuvring features can be computed.

So, it was obviously necessary to review the ITTC recommendations, and, in 1972, the 13th ITTC recommended to the manoeuvrability committee to formulate a new manoeuvring trial code as a guide line for trial trip and research programs.

## 2. EXISTING CODES AND RECOMMENDATIONS

In fact, since 1963, besides recommendations given by

the 10th ITTC or the manoeuvring trial code previously published by the Society of Naval Architects and Marine Engineers (SNAME), other new codes or recommendations have been issued by different societies. The different existing trial codes that the manoeuvrability committee had in hand were studied and analysed, viz :

- SNAME : Society of Naval Architects and Marine Engineers -Code on Manoouvring and Special Trials and Test, published in July 1950 and Code for Sea Trials 1973, published in January 1974.

- BSRA : British Ship Research Association - Code of Procedure for Steering and Manœuvring Trials - Report n° 353 published in 1972.

- DnV : Det Norske Veritas - Navigational Aids and Bridge System - Section 8.D. -'Testing on Board-Manoeuvrability, published in January 1974.

So, new tests have been introduced or proposed; main of them are coasting stop test, stopping test by use of rudder, turning test with propulsion stopped, turning test from zero speed, pull-out manoeuvre, reverse spiral, and different tests for ships fitted with lateral thruster. For complete information on procedures of these trials, original codes have to be consulted.

Lately new manoeuvring tests have been proposed by K. Nomoto and H. Fujii; two of them are intended to study the handling characteristics of a ship in the vicinity of a straight course when small helm is applied : the zigzag manoeuvre test for small rudder angle, and the modified zigzag manoeuvre test; the first one is similar to the standard zigzag test but is carried out for the rudder angle of  $\pm 5^{\circ}$ only; in the second one the heading angle for the switching of the rudder is made as small as 1°, the rudder angle being  $\pm 5^{\circ}$  or  $\pm 10^{\circ}$ .

The "new course test" has been proposed too by K. Nomoto and H. Fujii; when running at normal speed execute of the rudder to 15° starboard is made; when the heading deviates 10° from the initial heading course, the rudder is executed to 15° part; turning motion gradually subsides until it arrives at complete rest; in this instant the rudder is brought back to amidships. Similar process is repeated for another test beginning with 15° part helm. It is recommended to make test also for 20° and 30° heading other than for 10° heading.

Also a test for rudder effectiveness at low speed is proposed by K. Nomoto and H. Fujii; the purpose of the test is to obtain the lower limit of the ship's inertia-speed below which the effectiveness of the rudder fades away. When the ship is running at prescribed speed, order is given to stop engine; the rudder is executed to 35° starboard and when the response heading reached 1° starboard the rudder is turned to 35° port.

The Committee also investigated the recommendations of the Inter-Governmental Maritime Consultative Organization (IMCO) formulated in a resolution adopted on 12th October 1971, concerning information to be included in the manoeuvring booklet available on boards, particularly in large ships and ships carrying dangerous chemical in bulk. In a safety purpose, the following information are required : the lowest constant engine revolutions per minute at which the ship case safely steer under normal ballast condition and normal loaded condition; change of heading diagrams and turning circles to port and starboard giving advance and transfer time and distance, using maximum rudder angle from an initial full speed and slow speed with constant engine control setting; turning circle information from initial full speed with maximum rudder angle and engines stopped; approximate time and distance a vessel will travel with a minimum application of rudder if it retains approximately its initial heading in both loaded and ballast conditions from initial full speed after stopping engines, and initial full speed by the application of astern power at various levels (should the ship turn, the track reach until the ship is almost still in water -one knot- should be given). It is pointed out by IMCO that all data provided should be for calm weather, no current and deep water conditions with clean hull and these facts should be clearly noted on the data displayed with warning that the vessel's response may significantly change under different conditions, including shallow water.

# 3. RECOMMENDATIONS FOR AN ITTC 1975 MANOEUVRING TRIAL CODE

To make out new draft recommendations for the 14th ITTC the following topics have been considered :

- Tests have to provide owners and builders with information on ship handling characteristics for operation purpose; for this reason, beyond tests at maximum speed, tests at medium and low speed, used in the channels and the harbours vicinity, have been recommended too.

- For operation purpose tests must concern course-

keeping qualities, course changing qualities and qualities for emergency manoeuvres.

For course-keeping qualities the suitable tests methods proposed are the spiral test, the reverse spiral test and the zigzag manoeuvre test with small rudder angle.

For course changing qualities, the zigzag manoeuvre test and the 15 degrees helm turning test and change of heading test have been considered.

For emergency manoeuvres qualities the suitable tests methods proposed are the maximum helm turning test and the crash-stop astern test.

- Tests have to supply with ship handling data on the field of ship design and scientific purpose.

- Only tests regarded as reliable after a long enough experience have been considered; for that reason some new tests have not been included in the recommendations, in spite of their possible interest.

- The total duration of manoeuvring tests should be acceptable for owners and builders during sea-trials.

Detailed information about tests procedures, trials conditions and recording requirements are given hereafter.

The annexed table compares the list of manoeuvring tests recommended or proposed by the codes of BSRA, SNAME, DnV, 10th ITTC and by the present proposal to ITTC 1975.

Furthermore, it should be noted that complete information for investigation and analysis of zigzag tests by an elaborated method are given in a contribution of Nomoto and Kose "Analogue Zigzag Test Analyser" included as an appendix to the Committee Report.

A contribution of Brix "Some Characteristics Ship Steering Values in Dimensionless Form" gives a lot of values to which results of ship manoeuvrability trials can be compared. That paper is included too as an appendix to the Committee Report.

## 4. TESTS PROCEDURES

## 1. Turning circles

Performed to both port and starboard at maximum speed with a maximum rudder angle and with a rudder angle of 15 degrees (it is necessary to do a turning circle of 540° at least to determine the main parameters of this trial).

The essential information to be obtained from this manoeuvre consists of tactical diameter, advance, transfer loss of speed on steady turn, and times to change heading 90 degrees and 180 degrees respectively (See fig. 1). The first three of these may be presented in non dimensional form by dividing their values by ship's wetted length. Maximum advance and maximum transfer can be measured too.

When it is possible turning circle at medium speed and low speed should be considered.

### 2. Pull-out

The pull-out manoeuvre is a simple test to give a quick indication of a ship's course stability. A rudder angle of approximately 20 degrees is applied and the ship allowed to achieve a steady rate of turn; at this point, the rudder is returned to midship. If the ship is stable, the rate of turn will decay to zero for turns to both port and starboard. If the ship is unstable, then the rate of turn will reduce to some residual rate of turn. The pull-out manoeuvres have to be performed to both port and starboard to show a possible asymmetry (See fig. 2). Normally, pull-out manoeuvres are to be associated with the 15 degrees turning trials.

# 3. Turning trials from zero speed

Performed to both port and starboard from zero speed with maximum rudder angle and engine ½ ahead ordered. The trial is ended when the heading has changed by 180 degrees.

From the turning circle advance (90 degrees change of heading), transfer (90 degrees change of heading), tactical diameter (180 degrees change of heading) and maximum transfer and advance are measured. (For definitions of these quantities refer to fig. 1).

## 4. Zigzag manoeuvre

The zigzag manoeuvre is obtained by reversing the rudder alternately by  $\int$  degrees to either side at a deviation  $\Psi$  from the initial course. After a steady approach the rudder is put over to right (first execute). When the heading is  $\Psi$  degrees off the initial course, the rudder is reversed to the same position to left (second execute). After counter rudder has been applied, the ship continues turning in the original direction with decreasing turning speed until the movement decayed. Then, in response to the rudder

. . .

the ship turns to left. When the heading is  $\Psi$  degrees off the course left, the rudder is reversed again to right (third execute). This process continues until a total of 5 rudder executes have been completed.

The standard value of change of heading  $\Psi$  is 10 degrees. A modified test with a change of heading of 20 degrees can be considered too.

• The manoeuvres are to be executed at maximum approach speed and if possible at medium speed also.

Judging the steerability as a function of the turning direction, it is to be pointed out that from the nautical point of view, i.e. the interpretation of the international rules of navigation at sea, the turning and the yaw checking ability using starboard rudder angles  $\delta$  are of special interest, since emergency turns should be carried out to starboard. For this reason, the standard zigzag manoeuvre test starts with starboard rudder angle application.

For a first simple analysis of the results, characteristic steering values defined in fig. 3 can be used; the values are plotted as a function of the rudder angle  $\mathcal{J}$ .

Further investigation and analysis of the results can be made by more elaborated methods using mathematical models as described by different authors.

#### 5. Direct and reverse spiral tests

The manoeuvres provide a qualitative measurement of the course stability of the ship (See fig. 4). For ships which show stable characteristics either the Dieudonné direct or Bech reverse spiral methods can be used to obtain response at low rudder angles. For unstable ships, the Bech reverse spiral is recommended within the limits indicated by the results of the pull-out manoeuvres.

#### 5.1 Direct spiral manoeuvre

With the ship on an initial straight course, the rudder is put to about 25 degrees starboard and held until the rate of change of heading is constant. The rudder angle is then decreased by 5 degrees and again held until steady conditions of turning have been obtained. This procedure is repeated until the rudder has covered the range from 25 degrees on one side to 25 degrees on the other side and back again. Over the range of rudder angles of 5 degrees on either side of zero or neutral rudder angle these intervals should be reduced. The rate of turn is noted for each rudder angle.

This manoeuvre should be carried out in still air and calm water conditions.

### 5.2 <u>Reverse</u> spiral manoeuvre

In the Bech reverse spiral the ship is steered at a constant rate of turn and the mean rudder angle required to produce this yaw rate is measured.

The necessary equipment is a rate-gyro (alternatively the gyro-compass course  $\psi$  may be differentiated to provide  $\psi$ ), and an accurate rudder angle indicator. Experience has shown that accuracy can be improved if continuous recording of rate of turn and rudder angle are available for the analysis.

If manual steering is used, the instantaneous rate of turn must be visually displayed for the helmsman, either on a recorder or on a rate of turn indicator.

Using the reverse spiral test, points on the curve rate of turn versus rudder angle may be taken in any order.

Procedure originally proposed by Bech for obtaining a point of the curve can be recommended; it is as follows :

The ship is made to approach the desired rate of turn,  $\Psi_0$ , by applying a moderate rudder angle. As soon as the desired rate of turn is obtained, the rudder is actuated such as to maintain this rate of turn as precisely as possible. The helmsman should now aim to maintain the desired rate of turn using progressively decreasing rudder motions until steady values of speed and rate of turn have been obtained. Steady rate of turn will usually be obtained very rapidly, since rate-steering is easier to perform than normal compass steering.

However, a slight drift of the apparent mean rudder angle may occur due to change of speed, and in order that the speed may become steady it is necessary to allow some time before the time average values of  $\psi$  and S are evaluated.

The rudder fluctuations around the mean value should not exceed  $\pm$  4 degrees and in practice it is normally possible to stay within  $\pm$  2 degrees.

Somewhat different procedure can be used for the reverse spiral test according to Nomoto, Fujino and others.

When several spiral tests are to be made, an auto-pilot can be used to perform the reverse spiral.

## 6. Change of heading

Change of heading for a range of approach speeds and rudder angles are useful for navigation purposes. A part of information can be obtained from turning trials and zigzag initial transients.

# 7. Stopping trials

#### 7.1 Crash-stop

The most common manoeuvre in stopping trials is the crash-stop from the full ahead speed. The ship unfortunately is usually directionally uncontrollable during this manoeuvre and the path of the ship is, to a large extent, determined by the ambient conditions.

#### 7.2 Stopping trial at low speed

The opportunity of stopping trial at low speed is recommended because of the practical interest of this manoeuvre for navigation purpose. The engine is reversed at full astern. The track of the ship can be obtained using a suitable tracking system.

The parameters measured for crash-stop and stopping trial are (See fig. 5) :

- the head reach which is defined as distance travelled in the direction of the ship's initial course;

- the track reach which is the total distance travelled along the ship's path;

- the lateral deviation which is the distance to port or starboard measured normal to the ship's initial course.

For crash-stop and stopping trial at low speed, the rudder is kept amidship.

#### 8. Lateral thruster tests

For a ship fitted with a lateral thruster the following tests are recommended.

#### 8.1 Turning manoeuvre

Turning manoeuvres on port and starboard with full output of the thruster and main rudders amidship, in a range of speed comprised between zero and 8 knots. The manoeuvre should be continued until 90 degrees change of heading has been completed. Initial condition is the ship bow directly into the wind.

#### 8.2 Zigzag manoeuvre

Zigzag manoeuvre with full output of the thruster and main rudders amidship are recommended with 10 degrees change of heading. Initial condition is ahead speed of 3 - 6 knots with heading directly into the wind.

It is recommended for special types of ships such as ferries to carry out zigzag manoeuvres as above with a speed of approximately 3 knots astern.

#### 5. TESTS CONDITIONS

#### 1. Ship load conditions

Test should be carried out on full load conditions and besides, for tankers and bulcarriers, on ballast conditions.

#### 2. Water depth

Trials have to be performed with a sufficient depth of water in order that the effect of shallow water should be insignificant.

#### 3. Weather conditions

Trials should be made with a wind and a sca as still as possible.

For direct spiral manoeuvre still air and calm water conditions are required.

For reverse spiral test, zigzag test, pull-out test and bow thruster test, it is recommended that wind does not excced Beaufort 2-

For other trials it is recommended that sea does not exceed 3 and wind Beaufort 4.

#### 6. RECORDING REQUIREMENTS

During the different trials, the following data have to

be recorded :

- 1. Turning circle, turning circle from zero speed, crashstop and low speeds stopping
  - Successive positions of the ship
  - Speed of the ship
  - Speed of the propeller (r.p.m.)
  - Heading
  - Rudder angle
  - Torque on rudder main piece (for turning circle only)
  - Possibly torque and thrust on the propeller shaft

# 2. Pull-out

- Speed of the ship
- Speed of the propeller (r.p.m.)
- Rate of turn and, if not available, heading as function of time
- Rudder angle

# 3. Zigzag

- Successive positions of the ship
- Speed of the ship
- Speed of the propeller (r.p.m.)
- Heading as function of time
- Rudder angle as function of time
- Rudder speed

4. Direct and reverse spiral

- Speed of the ship

- Heading

- or Rate of turn
  - Rudder angle
- 5. Change of heading
  - Speed of the ship
  - Heading
  - Rudder angle

# 6. Bow thruster tests

- Speed of the ship

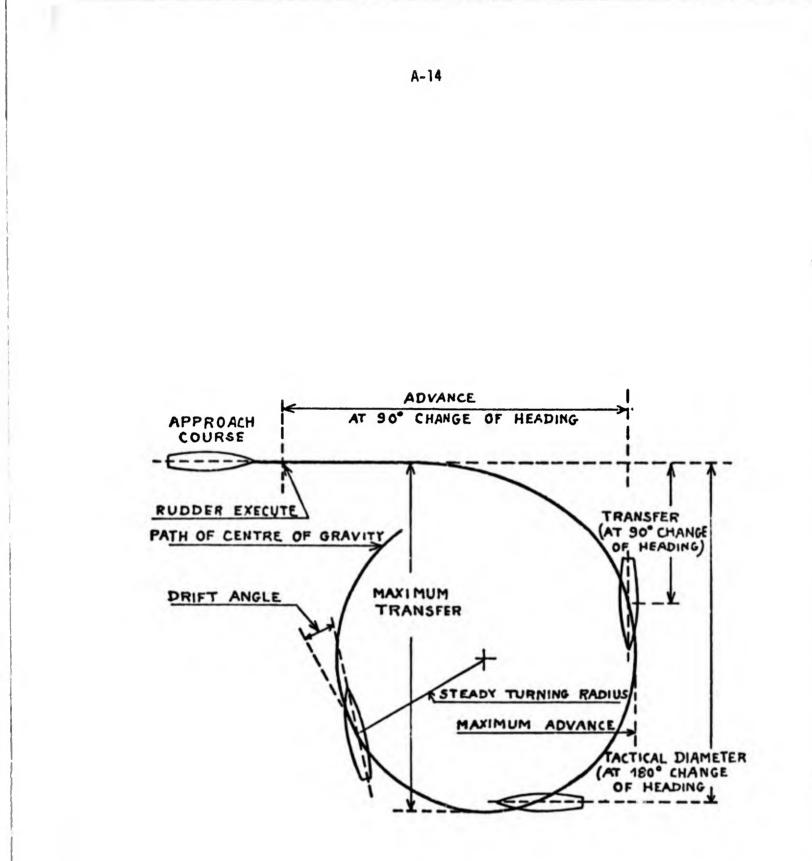
- Speed of the propeller (r.p.m.)
- Heading

For all the tests measurements will be started two or three minutes before the first execute, and in any case the approach should be recorded.

For all the tests, weather conditions, viz. : wind direction and velocity, and sea should be noted. Stream direction and velocity should be noted too.

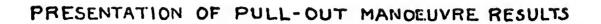
	BSRA	SNAME	DnV	10th ITTC	14th ITTC
Crash-stop (AV) at full speed	x	x	x		x
Stopping trial at low speed	Í				x
Coasting stop test			x		
Crash-stop (AR)	ł	x			
Stopping by use of rudder			x		
Turning test at full speed	x	x	x	x	x
Turning test at medium speed					x
Turning test at slow speed	x		x		x
Turning test with propulsion stopped			x		
Turning test from zero speed	x				×
Pull-out	x				x
Weave manoeuvre	x				
7.igzag	x	×	x	x	x
Direct spiral	x			x	x
Reverse spiral	x		x		x
Statistical method	x				
Change of heading				×	x
Lateral thruster :					
- Turning test	1		x		×
- Zigzag test, ahead			x		x
- Zigzag test, astern			x		×
- Course-keep test, astern			x		

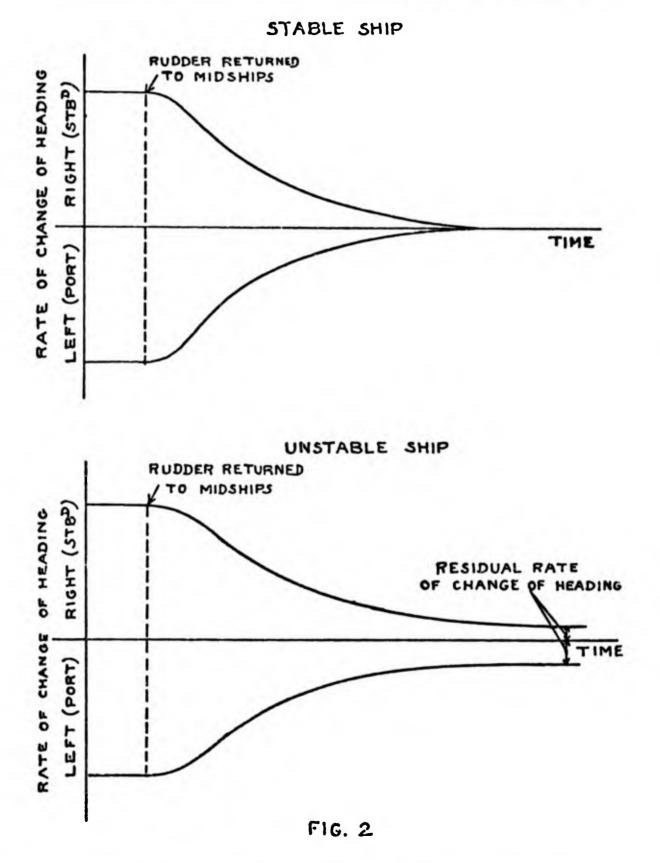
# MANOEUVRING TRIALS CODES





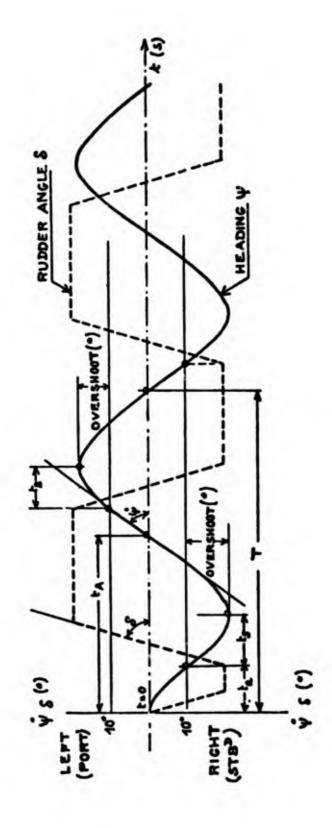
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F1G. 3 (a)

### Definitions for zigzag manoeuvre test

# 1. Initial turning time t (sec)

The time from the instant the rudder is put at the outet of the manoeuvre (first execute) until the heading is  $\Psi$  deg. off the initial course. At this instant the rudder is reversed to the opposite side (second execute).

## 2. Execute heading angle

Heading  $\Psi$  at which the rudder is reversed, in these tests  $\Psi = 10$  deg. (or eventually 20 deg.)

# 3. Yaw (overshoot) (deg.)

The angle through which the ship continues to turn in the original direction after the application of counter rudder.

# 4. Time to check yaw ts, tB (sec)

The time from the instant counter rudder is applied to the standstill of the turning movement in the original direction.

# 5. <u>Heading</u> $\Psi$ (deg.)

The deviation in deg. from the straight initial course.

# 6. Reach t<sub>1</sub> (sec)

The time from the outset of the manoeuvre (first execute) until the ship, after having completed the starboard turn, passes the initial course.

## 7. Time of a complete cycle T (sec)

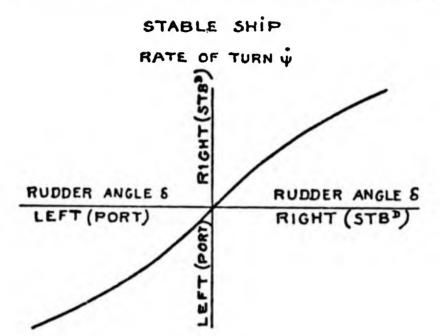
The time from the outset of the manocuvrc until one total cycle (yaw to starboard and port) has been completed.

# 8. Angular speed $\Psi$ (deg/sec)

The angle through which the vessel turns in one second at constant turning speed to port. In this phase the ship model travels in a semi-turning circle motion.

# 9. Unit time

The time required for the vessel to travel her own length at approach speed. The time for a complete cycle is expressed in unit times.



PRESENTATION OF SPIRAL MANDEUVRE RESULTS

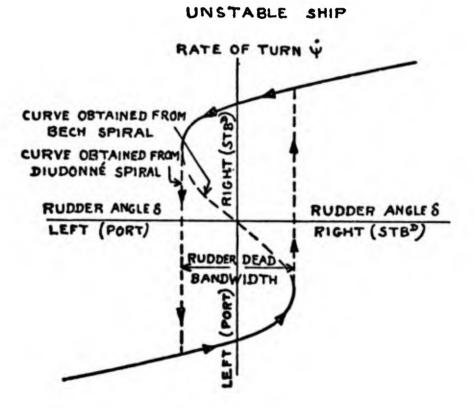


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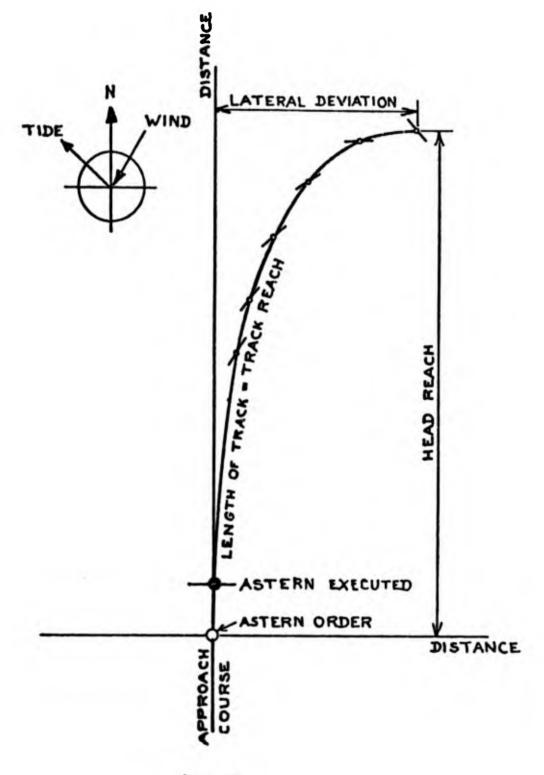


FIG. 5

A-19

## APPENDIX B

SNAME Paper by Miller, Ankudinov and Ternes on "Evaluation of Concepts for Improved Controllability of Tank Vessels."

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# Evaluation of Concepts for Improved Controllability of Tank Vessels

## E. Miller,<sup>1</sup> V. Ankudinov,<sup>1</sup> and T. Ternes<sup>1</sup>

There is interest in the potential for reducing tank vessel collision, ramming and grounding (CRG) casualties by improving the inherent controllability of the vessel. This paper reports on studies conducted for the Maritime Administration in which various concepts for improving the controllability of tank vessels were investigated. A detailed study of U.S. Coast Guard tanker CRG casualty data and reports covering a five-year period was carried out to determine typical casualty situations and to make an initial assessment of the potential effects of improved controllability. From this effort, various measures of controllability were identified. In order to determine the performance of various concepts, studies with a baseline ship of about 84 000 dwt were carried out. The mathematical models used were based on model tests and analysis of information in the literature. The concepts investigated included a conventional single propeller/rudder configuration as a baseline and modifications to this baseline, including twin propeller/rudders, increased astern power, thrusters, high-litt rudders and thrust vectoring devices. The maneuvering performance was determined from evaluation maneuvers in shallow water, including turns, accelerating turns, coasting turns and stops. Some of the high-litt rudder and thrust vectoring devices were identified as having significant benefits. Sugoestions for future efforts are presented.

### Introduction

THE changing patterns of oil supply and demand in the United States are resulting in increases in the volume of oil moving in tank vessels in U.S. waters. This has led to both a larger number of vessel movements and an increase in vessel size relative to the waterway dimensions. This growth in tanker traffic and related accidents resulting in oil spills has caused increased concern, culminating in the President's message on tanker safety and various other proposed national and local regulations relating to tanker safety.

A major source of concern is tanker accidents which are classed as collisions, rammings and groundings (CRG) and which almost always occur in restricted waters. Although many of these casualties do not result in oil pollution, CRG-type casualties still do contribute significantly to oil pollution. One study of oil outflow due to tanker accidents indicated that, for a five-year period, about 40 percent of the outflow was due to CRG casualties. Because of the greater probability of total loss of the vessel, groundings accounted for slightly more than half of the outflow due to CRG casualties. In addition, ship speeds are reduced in restricted waters and outside assistance such as tugs is sometimes required. Thus, operations in restricted waters result in both safety problems and direct economic penalties.

There are many factors which affect the safety and economics of tanker operations in restricted waters, including operator skill, navigation systems, vessel traffic services (VTS) and the inherent maneuvering capabilities of the vessel. In many cases CRG casualties are attributed to human error and, as a result, the major research efforts to date have been directed at improving operator skill or providing the operator with more information (for example, collision avoidance radars, and VTS) to reduce the chance of error. Also, considerable study and effort have been devoted to minimizing the effects of such casualties after they occur by structural or arrangement changes to the vessel such as reduction of absolute tank size or the addition of double bottoms.

To date, almost no effort has been devoted to improving the

margin for error or reducing casualties by improving the inherent maneuvering capabilities of the vessel. Indeed, little effort has been devoted to determining the influence of inherent maneuvering capabilities on CRG casualties. The potential for benefits from improvements in the inherent maneuvering capabilities of tankers has been recognized in proposed legislation and in the President's message on tanker safety. Research is required to determine the potential benefits from improved inherent maneuvering capabilities and how to best obtain these improvements. This paper presents results from studies directed at these problems. The objectives of the work were to develop a preliminary assessment of the benefits of improved inherent maneuverability of tankers, to develop initial data on the improvements in inherent maneuverability which could be obtained with various concepts and, as a result, to identify the most promising concepts for improving the inherent maneuverability of tankers for additional research and development efforts.

The paper presents the results of an analysis of CRG casualties, a discussion of various concepts for improved controllability, the maneuvering performance of a baseline ship equipped with various concepts based on simulation studies, and a preliminary evaluation of the various concepts.

## Analysis of tanker collision, ramming and grounding casualties

There are a number of possible ways in which information on the importance of ship controllability in CRG casualties could be developed. The method chosen was the detailed study of a large number of CRG casualty reports. The objectives of the analysis were to develop an understanding of the importance of casualties which could have been influenced by improved controllability, to identify recurring casualty situations and the kind of maneuvering performance which would effect these situations, and the costs associated with these casualties.

Data sources and method of analysis. Although a number of sources exist for tanker casualty statistics, the U.S. Coast Guard vessel casualty data bank was used as the source of data for the casualty analysis. This data source was selected because it contains the necessary detailed information on a large number of cases. All casualties which occur in U.S. waters or to U.S.-flag vessels in foreign waters are included in this data bank.

<sup>&</sup>lt;sup>1</sup> Hydronautics, Inc., Laurel, Maryland. Coauthor Ternes is now with Guralnick Associates, San Francisco. Presented at the February 17, 1981 meeting of the Chesapeake Section

Presented at the February 17, 1981 meeting of the Chesapeake Section of THE SOCIETY OF NAVAL ARCHITECTS AND MARINE ENGINEERS.

### Table 1 Types of Controllability needed to reduce CRG-type casuallies

- The ability to maintain control of the vessel after losing one steering/propulsion unit.
- The ability to slow down while maintaining steerageway in Y knots of wind speed and Z-knots of current speed.
- The ability to maintain the heading of the ship as it is affected by ship/bank/bottom suction/sheer at X knots of ship speed and in Y knots of wind speed and Z knots of current speed.
- The ability to control the heading of the vessel at X knots of ship speed and in Y knots of wind speed and Z knots of current speed.
- The ability to turn the vessel more sharply with X knots of ship speed and in Y knots of wind speed and Z knots of current speed.
- The ability of the master to obtain additional tug power in Y knots of wind speed and Z knots of current speed with W number of tugs already assisting.
- tugs already assisting.
  7. The ability to control the heading of the vessel while backing at X knots of ship speed and in Y knots of wind speed and Z knots of current speed.
- The ability to stop the vessel from X knots of ship speed and in Y knots of wind speed and Z knots of current speed in W minutes.
- In addition, two other classifications were defined:
- 9. No type of controllability would help as casualty was due to operator error.
- No type of controllability would help as casualty was due to reasons beyond operator or vessel control.

The analysis was carried out by obtaining from the Coast Guard's data bank of vessel accidents a listing of all tanker trasualties that occurred as a result of a collision, ramming, or grounding for a five-year period. For the purposes of this study, a tanker is defined as a vessel built or converted to carry large quantities of liquid cargo. This can, and does, include liquid chemical carriers, petroleum products carriers and, in some cases, tankers carrying grain. Tankers with a rated gross tonnage of less than 10 000 tons were not considered. Additionally, a collision is defined as any casualty that occurred between two or more vessels underway. A ramming is defined as any casualty that occurred between a vessel anchored or underway and a dock. buoy, moored or anchored vessel, or any other non-self-propelled object or vehicle. A grounding is defined as any casualty that occurred when a vessel touched the channel bank, bottom or a submerged object. A five-year period of interest was chosen to provide a large data sample upon which to base the analysis. Specifically, the listing included casualties from late 1971 through early 1976. The number of cases that met the above criteria is 835.

The listing was initially reviewed to separate casualties where vessel controllability may have played a major role (Category I) from those where it obviously did not (Category II). Category II included unavoidable casualties, such as groundings due to actual depth being less than charted depth, vessels intentionally grounded, anchors failing to hold, and miscellaneous casualties that occurred for reasons other than vessel controllability. This category also included obvious cases of personnel error.

After the initial review, a more comprehensive study was made of Category I casualties. This involved reading each casualty report and its appended information. During this research, special attention was given to identifying those cases where increased vessel controllability would have, or would most likely have, prevented the casualty. The cases that met this criterion were reproduced for further evaluation. Moreover, those cases which met the criterion but did not contain enough information to warrant further investigation were tabulated.

The final step of the process was a detailed, in-depth study of the selected cases. The major thrust of this phase was to identify typical casualty situations which might have been prevented if improved control capability had been available to the vessel's operator at the time of the casualty. These means of controllability, once discovered, were termed "Required Types of Controllability."

Required Types of Controllability. An important result of the detailed study of the casualty reports was the finding that there are a limited number of types of controllability which apply to almost all CRG casualties in which the vessels' performance capabilities could have influenced the result. These are listed in Table 1.

Before considering each of the types of controllability in Table 1. it is important to define the assumptions made about the role of operator error. In a high percentage of the CRG casualties in the U.S. Coast Guard (USCG) data bank, operator error is given as the primary cause. In this analysis, consideration was given to the stage in the accident sequence at which the operator error occurred. For example, a significant number of the CRG casualties were placed in Classification 9, "No Type of Controllability would help as casualty was due to operator error." This classification includes all of the cases in which operator error continued until so late in the sequence of events that no practical improvement in controllability could have prevented the casualty. Typical examples include navigational errors resulting in groundings, collision in which the operators misinterpreted the situation and thus took incorrect action, and failure to maintain proper lookout.

There are also a significant number of CRG casualties in which an operator error occurs early in the sequence of events, is subsequently recognized, and corrective action taken. Unfortunately, the controllability of the vessel is not sufficient to prevent the casualty. In such cases, in the analysis, the casualty is assigned against one of the eight types of controllability listed in Table 1.

Thus, the potential effects of improvements in vessel controllability in cases in which operator error is the primary cause depend on how soon the error is recognized and the corrective action taken. In general, it was considered that if corrective action were not taken at least two minutes before the casualty, no practical improvement in controllability could have prevented the casualty and it was placed in Classification 9, "No Type of Controllability would help as casualty was due to operator error."

Figure 1 provides an indication of the relative frequency of occurrence of CRG-type casualties when classified in accordance with the types of controllability listed in Table 1. A number of important observations can be made about the results presented in Fig. 1, including:

1. There are a significant number of tanker CRG casualties which could potentially be affected by improved vessel controllability.

2. Casualties in which a human error continues until so late in the sequences of events that no practical improvement in controllability would be useful are fewer in number than cases in which improved controllability could have some effect.

3. Casualties which are not related to human error or vessel control are significant in numbers.

There are typical recurring sequences of events which further clarify and define the types of controllability listed in Table 1. These sequences are obtained from the detailed casualty studies and are shown in Figs. 2–7. Typical sequences could not be defined for Type 1 "Ability to maintain control after losing one steering/propulsion unit" and Type 6 "Ability of the master to obtain additional tug power." Environmental conditions (that is, wind and current) have a significant effect on the occurrence of CRG casualties during the typical sequences shown in Figs. 2–7. In general, moderate or strong currents or winds in excess of 10 knots or both are involved in about two thirds of the casualties. Additional details are provided in reference [1].<sup>2</sup>

<sup>2</sup> Numbers in brackets designate References at end of paper.

Cost of CRG casualties. In order to determine the approximate cost effectiveness of concepts for improved controllability of tank vessels, it is necessary to develop some idea of the cost of CRG casualties. For this paper the major concern is the casualties which might be influenced by improvements in controllability. The source of data is the approximately 280 CRG casualties studied in detail. Of these, approximately 200 were classed as ones in which improved controllability might have some influence.

There are several problems associated with determining the costs of CRG casualties. The major one is that some consequences of a casualty, such as loss of life or damage to the environment from spilled oil, cannot be adequately expressed in terms of money. For the purpose of this study such consequences will not be considered specifically and only direct costs to the owner will be investigated. This is done with the understanding that, when benefit/cost ratios are calculated, concepts which are only marginal have in fact a positive benefit/cost ratio.

Another problem is that data on the extent of loss reported in the USCG casualty reports are often incomplete. This happens because in many cases the dollar value of the loss is estimated by the person directly involved in the casualty at the time of the casualty. As a result, true estimates of the cost of repairs are not available. Also, in many cases, it is in the interest of the person reporting the cost of damage to minimize the costs.

A further problem is that all of the costs are not reported. Many casualties involve groundings without damage. In such cases the damage reported is zero by definition. However, the vessel is delayed until it is refloated, tugs may be required, inspections are made to determine if damage occurred, etc. There are very real costs associated with these activities but they are not reported.

Given the problems described in the preceding, only an approximate analysis of the costs of CRG casualties could be carried out. The casualty reports sometimes describe damage in terms of the estimated cost to repair or as slight, moderate or severe. To calculate direct costs it was assumed that slight implied \$10 000, moderate \$50 000 and severe \$200 000 dollars in damage. Based on these assumptions Table 2 was prepared, listing the average direct cost for the casualties assigned to each measure of controllability. In this table it was assumed that the true direct costs of a casualty averaged three times the costs reported. Further, it was assumed that an hour of delay time was worth \$1000.

Table 2 does not include the costs of the four total losses in the 204 cases considered in detail. These losses add from \$40 million to \$80 million to the loss totals and add to the average cost per casualty from \$200 000 to \$400 000. Thus, the overall average cost of a tanker CRG casualty which could be affected by vessel controllability is between \$400 000 and \$600 000. It is important to note, when considering the average cost of a casualty, that the variation about the average is very large. This is shown by Figs. 8 and 9.

It is also necessary to determine the probability that a vessel will be involved in a CRG casualty. A first approximation to this can be obtained from the ca\_ualty occurrences. A total of 835 casualties in a five-year period was considered and 490 of those involved U.S.-flag tankers. During this period there were about 250 U.S.-flag tankers in the size range considered. Thus in a 20-year life a U.S.-flag tanker would, on the average, be involved in about eight CRG casualties. Both for the full sample and the U.S.-flag-only cases, CRG casualties which could be influenced by improved controllability make up about one third of the total (that is, Types of Controllability 1 through 8). For U.S.-flag vessels this amounts to 2.88 such casualties in a 20-year life and, at an average cost of from \$400 000 to \$600 000 per casualty, this amounts to between \$1.15 million and \$1.73 million in a 20-year

It is of interest to compare the frequency of-occurrence data presented in the foregoing for U.S.-flag tankers with worldwide



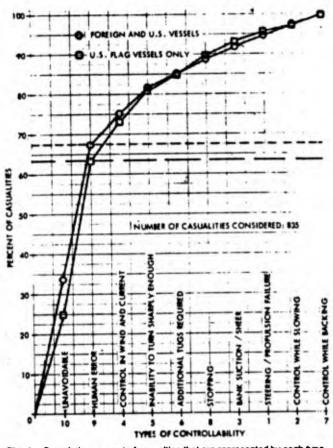


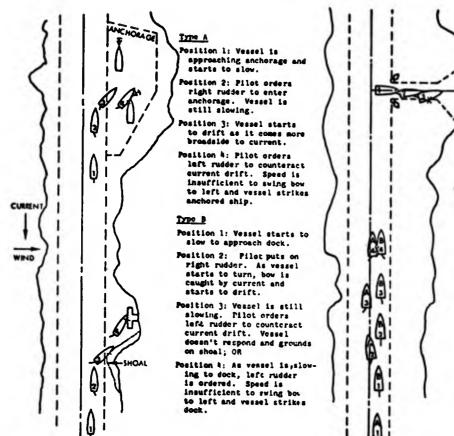
Fig. 1 Cumulative percent of casualties that are represented by each type of controllability

averages. Reference [2] reports that in 1969–1970 there were 1416 tanker casualties in a fleet of about 6000 vessels. CRG casualties accounted for about two thirds of the total. Assuming that one third of these could have been affected by vessel controllability, in the worldwide fleet the average vessel would suffer about 1.0 such CRG casualty in a 20-year life. Thus, the average U.S.-flag tanker is involved in about three times as many controllabilityrelated CRG casualties as the world average. This is because the typical U.S.-flag tanker is involved in short voyages with a high percentage of time spent in restricted waters where CRG casualties are likely to occur. This also implies that it would be three times more cost effective to improve the controllability of a U.S.-flag average tanker than a world average tanker because of the way in which they are employed.

# Hydrodynamic conditions for improved controllability

The analysis of CRG casualties presented in the first section of this paper resulted in the definition of eight types of controllability which could effect CRG casualties. Most of these types require the control of ship heading under adverse environmental conditions at slow speeds or during transient conditions such as stopping. A conventional ship with a single propeller and rudder has inherent limitations under such conditions which must be overcome to effect significant improvements in controllability. These limitations can be understood by considering four of the modes of operation a ship undergoes when maneuvering in restricted waters. These are:

1. Going ahead at slow speed with propeller rotating ahead.



### Fig. 2 Typical casualties that occurred when a vessel was unable to maintain its steerageway while slowing

- 2. Going ahead by inertia with propeller stopped.
- 3. Going ahead by inertia with propeller rotating astern.
- 4. Going astern with propeller rotating astern.

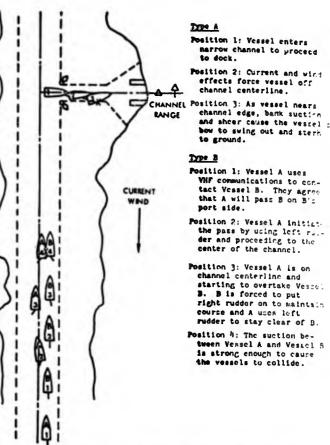
In the first mode, the ship has measurable control over heading since the forward speed and the propeller race contribute to the flow over the rudder. The effectiveness of the rudder can be significantly increased by increasing the propeller rpm and thus the race velocity. This has the disadvantage that speed is also increased, which may be undesirable. Conversely, as the propeller rpm is decreased, the rudder effectiveness is reduced and control over heading is reduced.

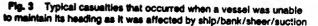
In the second mode, flow over the rudder is due only to the ship's forward speed and at the rudder the flow is reduced by the hull's viscous wake and the sheltering effect of the stopped propeller. In this mode the rudder can control the heading down to very low speeds as long as the environmental forces due to wind and current are small. However, since the hydrodynamic lift forces on the hull and rudde: decrease as speed squared, environmental forces eventually become important.

In the third mode, the race effect of the propeller counters the forward speed of the ship and there is no flow over the rudder. The rudder thus cannot control the heading and there is a turning moment due to the propeller. For a normal right-handed propeller this moment acts to starboard and is particularly significant in shallow water.

In the fourth mode the flow over the rudder is also very small. Most single-screw ships cannot be controlled by the rudder when going astern.

Thus, if significant improvements are to be made in controllability, it will be necessary to develop control forces and moments regardless of the direction of propeller rotation.





## Concepts for improved controllability

Method of approach. Over the years a large number of ideas have been proposed to improve the controllability of ships. The available literature was reviewed and the basic concepts which would be practical and applicable to tankers were identified for further analysis. Some of the concepts selected are given in Table 3.

The approach adopted to define the performance of these concepts was to conduct simulation studies of maneuvers of a baseline ship equipped with each concept and to compare the results with the conventional single-propeller/single-rudder arrangement. The simulations were carried out using a computer program developed by Hydronautics, Inc. This program is based on the equations of motion described in reference [1]. In order to implement this approach it was necessary to develop a mathematical model for a baseline ship equipped with each of the concepts. Because of the availability of data, one of the hulls from the Maritime Administration (MarAd) full-form hull series was selected for the baseline ship. The series is described in references [3,4]. The specific hull selected was Model E, which has the characteristics given in Table 4.

This hull form was considered reasonable for the purposes of the study since its proportions were suitable for a design intended to carry maximum deadweight in restricted-depth water. For most of the simulation studies, a nominal displacement of 100 000 tons was selected for the baseline ship. This size was selected since it is representative of the size of new tankers which may be constructed for service to U.S. ports, which, in general, have relatively shallow water.

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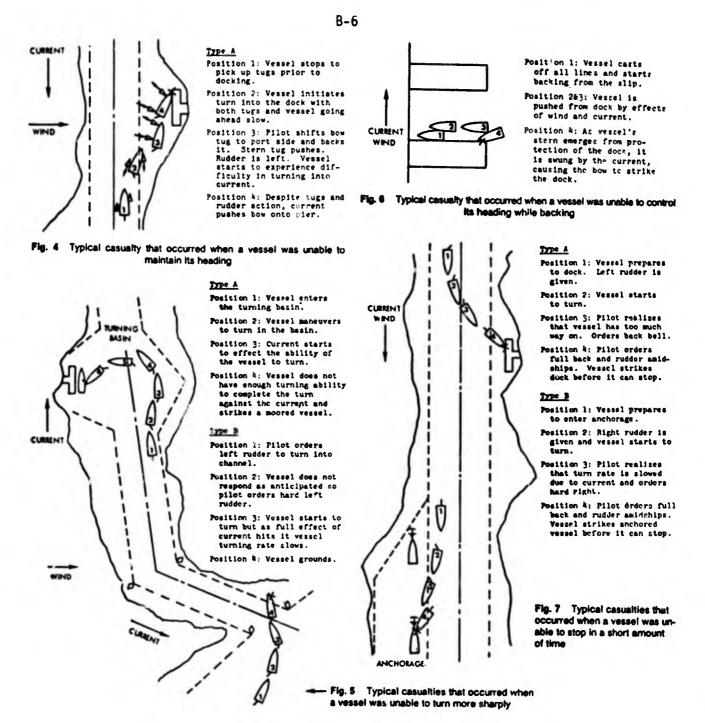
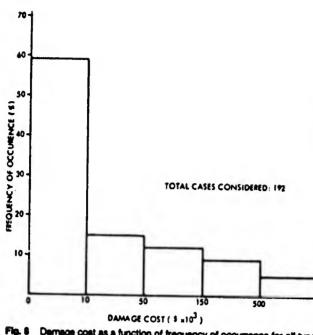


Table 2 Costs of CRG tanker casualties

	Average Direct Reported Cost	Probable Average Direct Cost	Average Delay Time, hr	Overall Average Cost to Owner per Casualty
1. Control after steering of propulsion failure	18 500	55 500	56	111 500
2. Ability to slow down and maintain control	44 000	132 000	64	196 000
3. Ability to maintain control bank suction/sheer	18 000	54 000	67	121 000
Ability to maintain control in wind and current	31 000	93 000	86	179 000
Ability to turn more sharply in wind and current	35 000	105 000	36	141 000
8. Ability to obtain additional tug power	41 000	123 000	34	157 000
7. Ability to maintain control when backing	36 000	108 000	70	178 000
8. Ability to stop more quickly	202 000	606 000		957 000
Overall average for CRG casualties which could be affected by vessel controllability	47 700	143 000	351 88	231 000

NOTE: This table does not include the four total losses in 204 casualties. The four total losses were assigned to the following measures of controllability: <sup>8</sup>



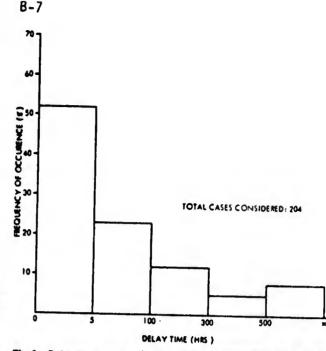


Fig. 8 Damage cost as a function of frequency of occurrence for all types of controllability

Fig. 9 Delay time as a function of frequency of occurrence for all types of controllability

The hydrodynamic data used in the analysis of the baseline ship, the twin-screw/twin-rudder, steering Kort nozzle, and kitchen-rudder concepts were obtained from model tests. These tests included a complete series of captive model tests in shallow water (H/T = 1.2) at the Hydronautics Ship Model Basin using a Large Amplitude Horizontal Planar Motion Mechanism (LAHPMM). Figure 10 shows the test setup. Resistance and propulsion tests were carried out in deep water. The details of the model tests and the complete results are given in references [1,3,4,5]. The hydrodynamic data used in the analysis of the other concepts were based on published data.

As indicated in Table 3, a number of concepts were evaluated to determine their potential effects on tank vessel controllability. This section provides a brief description of each of these concepts. The details relating to the hydrodynamic performance and mathematical modeling of each of the concepts are presented in references [1,5].

Twin rudders, twin propellers. A short feasibility study was carried out to define a twin-screw configuration based on the single-screw baseline form. The resulting conversion of the single-screw Model "E" to a twin-screw/twin-rudder arrangement is shown in Fig. 11.

The propulsion test data indicated that this twin-screw concept is at a significant disadvantage relative to the single-screw configuration. The ratio of power required at a nominal 16-knot speed is 1.25. This is significantly higher than expected and is due

## Table 3 Concepts evaluated for improved controllability

1.	Conventional si	ngle propeller and	rudder,	baseline	ship

Twin propellers and rudders ź.

- Increased astern power
- Maneuvering propulsion devices, including
  - tunnel thrusters
- active rudder 5 High-lift rudders, including
  - · flapped rudders rotating cylinder rudder
- Thrust vectoring devices, including steering Kort nozzle
  - - kitchen rudder

to the larger thrust deduction (small 1-t) and higher wake fraction (smaller  $1 - w_t$ ) than expected. Although the hull efficiency is about as expected (approximately 0.95) the propeller loading is significantly higher and thus propeller efficiency is low. This indicates the need for a larger propeller diameter and a relocation of the propeller or modification to the lines to reduce the thrust deduction. If this were done, it might be possible to reduce the ratio of power required by a twin-screw arrangement relative to a single-screw arrangement to about 1.16. A completely different arrangement based on twin skegs may do better relative to the single-screw baseline. Assuming a power ratio of 1.16, the relative capital cost of a twin-screw arrangement was estimated to be 1.03 times the single-screw baseline and the required freight ratio (RFR) would be about 1.07.

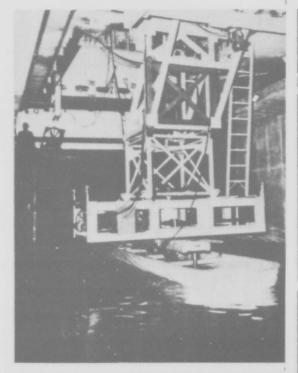
Increased astern power. The concept of increased astern power may be useful in that stopping distance and time would be reduced. In typical steam turbine plants, the astern turbine is capable of generating about 35 percent of ahead power at about 70 percent of ahead rpm. For the purpose of this study it was assumed, as an upper limit, that the astern power would be in-

## Table 4 Characteristics selected for baseline ship \*

NONDIMENSIONAL	
length/beam ratio	L/B = 5
beam/draft ratio	B/T = 3
block coefficient	$C_{R} = 0.85$
midship area coefficient	$C_X = 0.994$
location of center of buoyancy	LCB = 2.5% fwd
rudder area/profile area	
propeller diameter/draft ratio	$A_R/A_p = 0.0246$ D/T = 0.593
	D/1 = 0.393
DIMENSIONAL	
length between perpendiculars	675.9 ft (206.0 m)
breath	135.2 ft (41.2 m)
draft	45.1 ft (13.7 m)
approximate deadweight displacement	84 000 tons*
full-load displacement	100 000 tons
shp at 16-knots service speed	18 000

Based on MarAd full-form series Model "E"

1 dwt = 1.016047 metric tons.



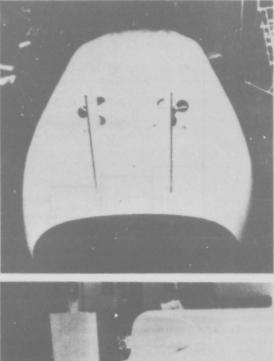


Fig. 10 Photograph of model during LAHPMM tests in shallow water

creased to approximately equal the ahead power. This has the potential benefit of increasing astern thrust and, therefore, reducing stopping time. The impact of increased astern power on the propulsion machinery was not studied in any detail. The size of the turbine would have to be increased and additional boiler capacity would be required. Based on these considerations it was estimated that the capital cost would be increased to 1.07 and the RFR to 1.03 relative to the 100 000-ton displacement baseline ship. The technical implications of increased astern power are discussed in reference [6].

Maneuvering propulsion devices. A wide range of maneuvering propulsion devices have been proposed and installed on ships. The two types considered in this study were the conventional tunnel thruster, which is widely used, and the active rudder.

The active rudder consists of a submerged electric motor mounted on the rudder and driving a small propeller in a Kort nozzle. This concept is well known but not widely used. The advantage of maneuvering propulsion devices is that their effectiveness does not depend directly on the direction and speed of the main propeller rotation. It is true, however, that their effectiveness does depend on forward speed with effectiveness decreasing with increasing speed. It was estimated that a tunnel thruster system installed on the baseline ship would increase the capital cost 1.004 and the RFR 1.0017 relative to the baseline ship. The costs for an active rudder were assumed to be similar.

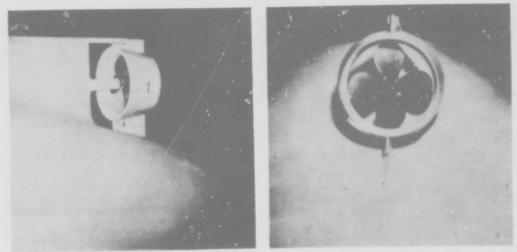
**High-lift rudders**. Control over the heading of a vessel can be improved by increasing the forces and moments generated by the rudder. This results in the consideration of various types of high-lift rudders. The concepts considered in this study included flapped rudders using both mechanical flaps and jet flaps and

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Fig. 11 Photographs of twin-screw model stern configuration

a rotating cylinder at the leading edge of the rudder. The rotating-cylinder concept, which was extensively studied in England, allows the flow over the rudder to remain attached at very high angles of attack so that large forces are developed. A disadvantage of high-lift rudders is that they depend on flow over the rudder and thus their effectiveness is reduced when flow velocities are small (that is, when the propeller is stopped or going astern). For the purposes of this study it was assumed that all of the high-lift rudder concepts would involve about the same amount of complexity and cost. The estimated capital cost ratio was 1.003 and the RFR ratio 1.0013 relative to the baseline ship.

Thrust vectoring devices. Thrust vectoring devices are intended to control the heading of a vessel by directing the propulsion thrust. The concepts considered included a steerable Kort nozzle and the so-called kitchen rudder. The steerable Kort nozzle is a cross between a high-lift rudder and a thrust vectoring device. It is effective when the propeller is rotating ahead or astern and retains limited effectiveness when the propeller is stopped. The steerable Kort nozzle has the further advantage that the propulsive efficiency is slightly improved. Based on the



#### PROFILE VIEW

### STERN VIEW

Fig. 12 Photographs of HSMB Model 7905-1 fitted with steering Kort nozzle

model tests, this improvement in propulsive efficiency reduces the average required power (full load and ballast) about 2.4 percent. Figure 12 shows the conversion of the single-screw model to the steering Kort nozzle configuration.

The kitchen rudder is an unusual device in that it is a cross between a steerable nozzle and a bucket-type thrust reverser. The modes of operation are shown in Fig. 13 along with photos of the model. In concept, the propeller rotates ahead at all times and zero or reverse thrust is obtained by closing the rudder. Since the rudder can be rotated, control of heading can be maintained independent of net thrust or its direction. The major disadvantage of this concept is the unknown structural problems associated with an installation of a size suitable for the baseline vessel. The model tests showed an average 1.6 percent savings in power.

In order to further understand the performance of the thrust vectoring device concepts it is useful to compare the basic control forces generated. Figures 14–16 present the yawing moment, Ngenerated by the baseline rudder, the steering Kort nozzle and kitchen rudder as a function of rudder angle for three operational conditions. Figure 14 is for normal ahead operation. The baseline rudder is most effective at small angles because of its larger area. Due to its large angle at stall, the steering Kort nozzle can generate about 10 percent greater turning moments at maximum rudder angle. Figure 15 applies to the condition of low ship speed and high propeller rpm such as exist during an accelerating or kick turn. Both of the thrust vectoring devices are significantly more effective than the baseline rudder. Figure 16 applies to the condition of ahead ship speed and high astern rpm's or, for the kitchen rudder, a closed condition and ahead rpm's. The conventional rudder generates almost no control force. Both of the thrust vectoring devices are effective with the kitchen rudder giving about twice the moment of the steering Kort nozzle.

The net thrust available to stop the vessel is also of significance. The model tests show that at an  $\eta$  of -3 (say 3 knots ahead speed and full astern rpm) the steering Kort nozzle generates almost 30 percent more stopping force then the conventional arrangement. The closed kitchen rudder at  $\eta$  of -3 generates about 50 percent more stopping force than the conventional arrangement. This is most significant since with the kitchen rudder the full ahead power is available because the direction of propeller rotation is not changed. A ship equipped with a kitchen rudder will have greatly improved stopping performance. Estimates were made of the effects of the thrust vectoring concepts on capital cost and RFR of the baseline vessel. The results were:

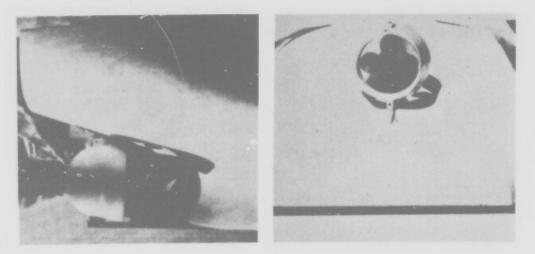
	Kitchen Rudder	Steerable Kort Nozzle
Capital cost ratio	1.008	1.004
RFR ratio	0.996	0.993

### Maneuvering performance with concepts for improved controllability

**Evaluation maneuvers.** In order to illustrate the effectiveness of various concepts for improved controllability, it is useful to define maneuvers which demonstrate performance and which are related to the types of controllability identified from the casualty analysis. On this basis, a number of controllability evaluation maneuvers were defined; see Table 5. The relationship between these controllability evaluation maneuvers and the types of controllability identified in the CRG casualty analysis is defined by the matrix presented in Table 6.

Maneuvering performance. As indicated in previous sections, the effect of each of the concepts for improved controllability on maneuvering performance was quantified by simulation studies. A series of controllability evaluation maneuvers was defined, as listed in Table 5, and the baseline ship equipped with each concept was run in these maneuvers. All maneuvers were based on shallow water with a depth-to-draft ratio of 1.2. The resulting trajectories are presented in Figs. 17 through 23. There is one figure for each maneuver and the results for all concepts of interest are presented. The performance of the baseline ship is presented for reference in each figure. The results of the steady turning maneuvers are presented in Fig. 17. The rotating cylinder rudder has the best performance followed by the steerable Kort nozzle, kitchen rudder, and jet flap rudders. The ability of the twin-screw configuration to maneuver with only one rudder and propeller operational is also illustrated. Figure 18 presents the results of the accelerating turns. Again, the rotating cylinder rudder, steerable Kort nozzle, and kitchen rudder have the best performance. The use of a bow thruster significantly reduces the headreach during the portion of the turn when speed is low. It has much less effect on the tactical diameter. The results of the coasting turning maneuver are presented in Figure 19. Relative

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Photographs of Model 7905-1 fitted with kitchen rudder

#### Fig. 13 Kitchen rudder arrangement

to other turning maneuvers, performance is greatly reduced. Figure 20 presents the results of the stopping turning maneuvers for an approach speed of 8 knots. In general, the thrust vectorconcepts, that is, the steerable Kort nozzle and the kitchen rudder, have the best performance. The results of the normal 20–20 zigzag maneuvers are presented in Fig. 21. Figure 22 presents the results of the coasting zigzag maneuvers.

Figure 23 presents the results of the stopping maneuvers. The results for stopping maneuvers from speeds of 8 and 4 knots are shown. The kitchen rudder significantly reduces the headreach during a stop.

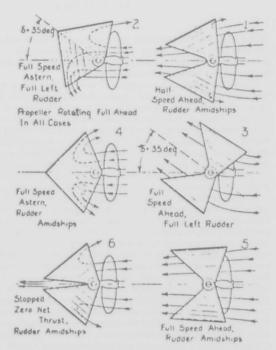
#### **Evaluation of concepts**

At this time it is not possible to make a definitive prediction of the effect of an improvement in ship controllability on the CRG casualty rate. It is useful, however, to make some first-order estimates which can give some feel for which concepts for improved controllability are most likely to be cost effective.

Based on the information presented in the first section of this paper, it was shown that an average U.S.-flag tanker could be expected to be involved in about three CRG casualties in a 20year life in which improved controllability might be helpful. Table 2 shows that the average total cost of these casualties will be about \$0.6 million, neglecting inflation and not discounting to present worth. This does not include the costs associated with the major catastrophies, which for the time period covered occurred once in each 50 incidents. Assuming an average of three CRG casualties in a 20-year life, the costs of these major catastrophies add an additional average total cost of about \$3.5 million for the baseline 84 000-dwt ship (that is,  $3 \times 1_{50}^{\prime} \times$  value of ship). This gives an average total cost of about \$4.1 million for a ship lifetime for CRG casualties in which improved controllability might be helpful. This is about 6 percent of the initial cost of the ship and about 1 percent of the total life-cycle costs.

Thus, based on a rather narrow benefit/cost ratio concept, improvements in controllability that increase ship cost 6 percent or life-cycle costs 1 percent are not justified, but improvements that increase ship cost 1 or 2 percent and life-cycle costs  $\frac{2}{10}$  or  $\frac{3}{10}$  of a percent may be justified. Using these groundrules, the concepts considered in this study could be evaluated as follows:

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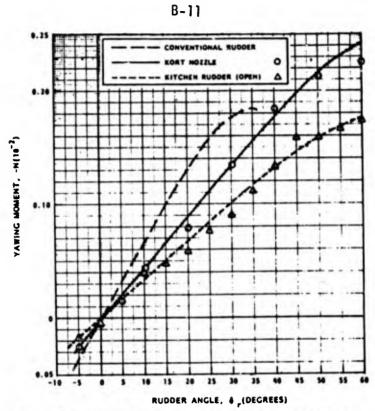


Schematic flow and operating diagrams for a kitchen rudder

#### Positive benefit/cost ratio:

- Thrust vectoring devices including steering Kort nozzles and kitchen rudder.
- High-lift rudders.

Once developed, the thrust vectoring devices will have acceptable initial costs and will reduce life-cycle costs due to their favorable effects on propulsion performance. They will also have the greatest effect on the CRG casualty rate because of significant improvements provided in low-speed control, control while slowing down and, for the kitchen rudder, reduction in stopping distance. High-lift rudders have very small impact on initial and life-cycle costs. They will have a much smaller effect on the CRG





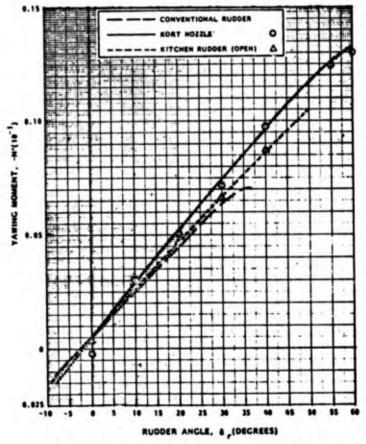


Fig. 15 Rudder yawing moment comparison at a propulation ratio = 4

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rate than thrust vectoring devices since they improve only lowspeed control and not control while stopping or stopping distance.

- Marginal benefit/cost ratio:
- Maneuvering propulsion devices, including tunnel thrusters and active rudders.

These devices are well developed and have incremental costs which should be acceptable. However, their effect on the CRG casualty rate will be small since they are effective only at low forward speeds. Such devices may well be justified for operational reasons for vessels which have to maneuver unassisted around piers or up to moorings.

Negative benefit/cost ratio:

- Twin propellers and rudders.
- Increased astern power.

The twin-propeller and rudder concept will unacceptably increase the initial and life-cycle costs of the vessel relative to the impact on the CRG casualty rate. With proper design, this concept is effective in the event of a propulsion or steering system failure. For other maneuvering situations, however, there is little improvement compared with the single-screw baseline. Significantly increased astern power for a steam turbine-driven vessel would have too high an initial cost relative to the number of CRG casualties in which increased astern power alone would be useful. Some consideration should be given to lov-cost control systems and hardware changes which would minimize the response time to an astern command.

## **Concluding comments**

The importance of tanker accidents classed as collisions,

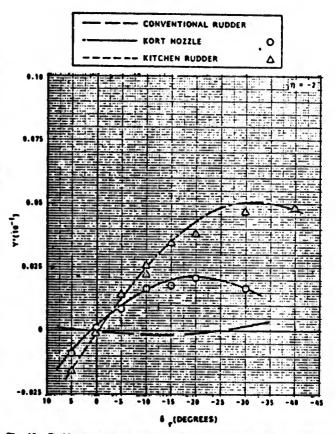
## Table 5 Controllability evaluation maneuvers

Turn at approach speed of 8 knots with maximum control forces. Accelerating turn with maximum control forces at approach speed

- of 2 knots and rpm's for 12 knots.
- Coasting turn with maximum control forces at approach speed of 8 knots and zero propeller rpm. Stopping turn with maximum control forces at approach speed of 8
- knots and normal astern rpm's.
- Normal 20-20 zigzag maneuver at approach speed of 8 knots.
- Coating zigzag maneuver with maximum control forces and 10-deg course change at approach speed of 8 knots.
- Stopping zigzag maneuver with maximum control forces and 10-deg course change at approach speed of 8 knots Crash-stop maneuvers at approach speeds of 8, 4, and 2 knots.
- Turning maneuvers after loss of steering gear.

rammings and groundings has been recognized for some time. A number of research programs and studies have been directed the reduction of the casualty rate, or at reducing the consequences of a casualty. In the course of these efforts, almost no consideration has been given to reducing the casualty rate by improvement in the inherent ship controllability. The rationale is that human error is responsible for most of these casualties. The casualty analysis described in this paper showed that human error is a factor in many cases but that - " -n corrective actions are taken soon enough that improve the s in controllability





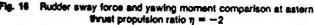
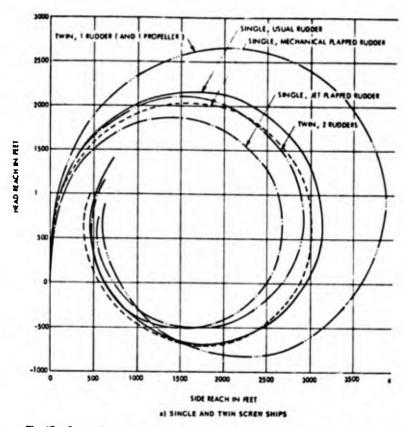


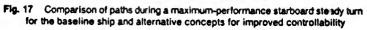
Table 6	<b>Relationship between controllabil</b>	ty evaluation maneuvers an	d types of controllability
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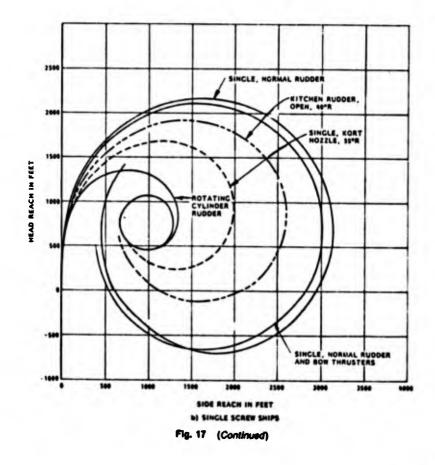
		Controllability Evaluation Maneuvers								
	Type of Controllability	Normal Turn	Accelerating Turn	Coasting Turn	Stopping Turn	Normal Zigzag	Coasting Zigzag	Stopping Zigzag	Crash Stop	Turning After Loss Steering
_	Figure No.	19	20	21	22	23	24	25	26	27
1.	Ability to maintain control after a. steering failure b. propulsion failure Ability to slow down and maintain	•••	•••	X X	 x	•••	x x	 .x		<b>x</b>
3.	Ability to maintain control when affected by bank suction/sheer	x	x			x		···	• • •	•••
4. 5.	Ability to maintain heading control in wind and current Ability to turn more sharply in	x x	x x	x	X	х	X	X	•••	•••
6.	wind and current Ability to obtain additional			•••	•••	•••	•••	•••	•••	•••
7.	tug power Ability to maintain control while backing	•••	•••	•••	x	•••	-	x	•••	•••
8.	Ability to stop more quickly		•••	•••	•••	•••		• • •	X	

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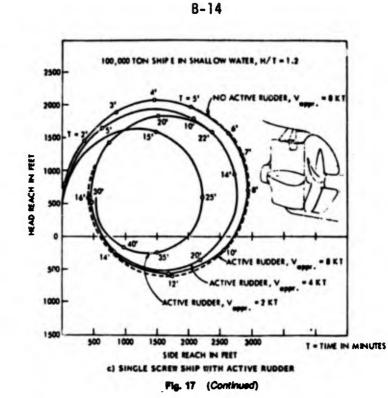


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100,000 TON SHIF E IN SHALLOW WATER & = 35° DEPTH/ DRAFT RATIO, H/T = 1.2, RPM CHANGES FROM RPM FOR U = 2 KTS TO RPM AT U = 12 KTS TWIN SCREW, ONLY ONE PROPELLER BASELINE, SINGLE SCREW TWIN SCREW ACTIVE PUDDER, SINGLE STEERING KORT HOZZLE SS'R SINGLE ROTATING CYLINDER, SINGLE, 6, \* 70\*R KITCHEN RUDDER, OPEN, 14\*R 1500 1000 1334 N 500 NOV I HEAD -500 -1000 500 1000 1500 ٠ 2000 2500 SIDE REACH IN PEET COMPARATIVE TURNING CIRCLES Fig. 18 Accelerating turn maneuvers for selected devices

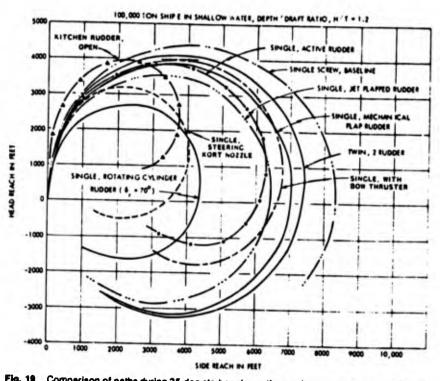
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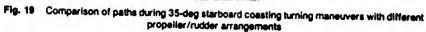
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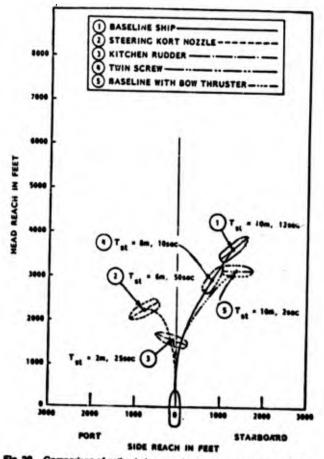
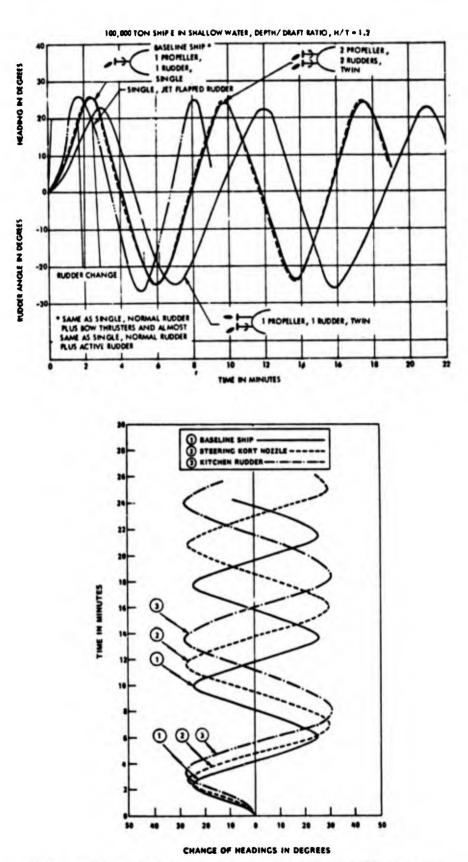
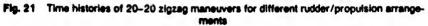


Fig. 29 Comparison of paths during stopping turning maneuvers in shallow, water: depth/draft ratio = 1.2; epproach speed = 8 knots; maximum rudder angle

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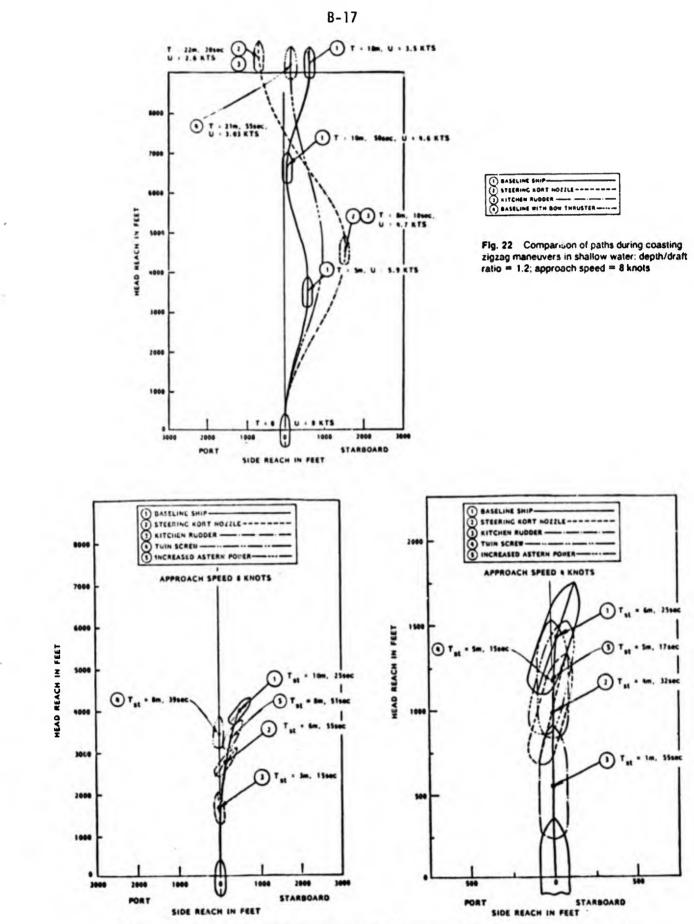
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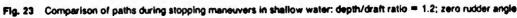




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would be of value. The casualty analysis also showed that there are typical casualty sequences that tend to occur and that these involve ship control at low speeds in restricted waters with wind and current acting. Based on this, various types of controllability were identified.

The effect of various devices and concepts on the inherent controllability of a baseline vessel was also determined. Simulation studies of various evaluation maneuvers were carried out using data from model tests and analysis. The evaluation maneuvers were developed based on the various types of controllability identified in the casualty analysis. The results of the simulation studies showed that significant improvements in the low-speed controllability of the baseline vessel could be made. Concepts involving thrust vector control and high-lift rudders were most effective.

A preliminary evaluation of the concepts considered on a cost-effectiveness basis indicated that some concepts for improved controllability deserve serious consideration for tankers which often operate in restricted water. Thrust vector control concepts and certain high-lift rudder concepts are most cost effective since they significantly improve controllability and have a relatively small impact on the ship design.

Additional efforts are required to develop a rigorous evaluation of the effects of improved controllability on the CRG casualty rate. Efforts are also required to further improve and confirm the performance and practicality of the concepts that have been identified as the most cost effective. This effort should be directed at a prototype installation for evaluation.

### Acknowledgments

The authors would like to acknowledge the support of projects by MarAd's Office of Commercial Development and the U.S. Coast Guard upon which this paper is based. They would also like to acknowledge the support and comments of Mr. R. Falls of MarAd during the course of this work.

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## APPENDIX C

SNAME Paper by Landsberg, Card, Eda, von Breitenfeld and Kneirim on -

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"Proposed Shipboard Maneuvering Data"

Published in the Proceedings of the Fifth STAR Symposium, 1980

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THE SOCIETY OF NAVAL ARCHITECTS AND MARINE ENGINEERS One World Trade Center, Suite 1369, New York, N.Y. 10048 Spring Meeting/STAR Symposium, Coronado, California June 4-6, 1980

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# **Proposed Shipboard Maneuvering Data**

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### ABSTRACT

This paper proposes standardized shipboard formats for presenting information on a ship's maneuvering capabilities. The information is intended for practical use by the ship's officers and pilots in handling their vessel. Three standardized formats are presented: 1) Pilot Information Card, 2) Posted Bridge Diagram, and 3) Ship-board Maneuvering Booklet Outline. SNAME T&R Panel H-10 (Controllability) has developed these concepts with the assistance of a broad segment of the marine industry. This paper is intended to provide the opportunity for extensive review by all interested parties in order to promote widespread consensus so that future national and international regulations will be useful and consistant.

### INTRODUCTION

"...RECOMMENDS to Governments that they ensure that the master and officers have readily available on the bridge all necessary data concerning the maneuvering capabilities of the ship and stopping distances under various conditions of draught and speed"

This paper addresses the concepts for providing information on a ship's maneuvering capabilities as developed by SNAME T&R Panel H-10 (Cortrol-lability).<sup>2</sup> The information included for practical use by the officers and pilots in handling the vessel. While the concepts presented here have already been exposed to a broad segment of the marine industry and have received favorable reaction, the Panel has developed this paper to provide the opportunity for all interested parties to review the concepts. A widespread consensus on these standardized formats is desirable so that future national and international regulations will be useful and consistant.

The International Maritime Consultative Organization (IMCO) adopted Resolution A. 160 on 27 November 1968, in response to international concern for the increased risk of collision because of the trend toward larger and faster ships. The increase in ship traffic and potential for collisions with subsequent spillage of oil and dangerous chemicals provide strong incentives to minimize the possibility of accidents. The collision accident involving the 37,100 DWT SS EDGAR M. QUEENY and the 54,100 DWT S/T CORINTHOS appears to be a classic example of maneuvering error (Fig. 1). The collision of these relatively small oil



Fig. 1 S/T CORINTHOS/SS EDGAR M. QUEENY collision (2).

Resolution A. 160 of the International Maritime Consultative Organization (IMCO) (1).

<sup>2</sup> The opinions expressed in this paper are those of the authors and do not necessarily reflect those of their employers.

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tankers resulted in 26 persons killed, 11 persons injured, complete destruction of the CORINTHOS, oil pollution of the Delaware River and a total of \$20 million in property damage. A better under-standing of maneuvering capabilities and more pilot-master communication could have eliminated this tragedy.

A later IMCO recommendation Resolution A. 209 specified that a maneuvering booklet be supplied to all ships and detailed the data to be presented. The United States Coast Guard implemented these ideas in 1975, requiring maneuvoring information to be mounted on a bulkhead on the bridge of all ships entering U.S. waters. This attempt to provide the master and pilot with useful maneuvering information was met with industry concern over the utility of the information.

Another event emphasizing the need for such information was the International Convention on Standards of Training, Certification, and Watch-keeping for Seafarers held in 1978. Knowledge of shiphandling techniques was among the required skills where training and competence were specified.

SNAME Panel H-10 (Controllability) is concerned with the whole of vessel controllability from ship design to underway navigation. While there has been much analysis of ship capabilities, little emphasis has been put on development of this analysis and trial information for practical use by the master. The Panel decided to examine the types of maneuvering information that would be most useful, and to determine the best methods for obtaining and presenting it.

The Panel began the project in 1976 by requesting comments on the needs for information from 135 organizations in the marine industry. Of the one third that responded, nearly all strongly endorsed the need for such information and sent comments and suggestions. The Panel analyzed the responses and drafted proposed informational formats to accomplish the indicated needs. These proposals were then sent back to those who had responded to the first request. The information formats presented in this paper are the consolidation of those comments.

The exphasis during development has been to step back and determine what data really should be presented and in what form it should be. The formats generated were not limited to just meeting current regulations and in some cases they don't even comply. Basic assumptions are that the concepts and presentations should be:

1. Useful

2. Standardized

3. Lasting (But adaptable to tech-

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nological changes)

4. Simple

5. Inexpensive 6.

Complete

NEEDS FOR MANEUVERING INFORMATION ABOARD SHIP

> "The art of ship handling involves the effective use of forces under control to overcome the effect of forces not under control."3

The principal objective for providing shipboard information on the maneuvering capabilities of a ship is to reduce maneuvering errors and thus increase operational ship safety through preplanning.

Ship's officers and pilots have traditionally acquired shiphandling skills on-the-job under the tuteledge of experienced shiphandlers. While learning the skill took time, the apprentice had plenty of opportunity for experience as most ships possessed similar handling characteristics. the 1950's the situation changed In dramatically as ships of increasing size and speed were built. Ship forms and their general characteristics have also undergone radical changes within the last two decades to the point where maneuvering capabilities are quite different from one vessel to the next.

Specific objectives of maneuvering information should depend directly on personnel needs and abilities to use the data supplied. The following questions must be considered:

1. Who needs the maneuvering informa-tion and what benefits can be expected in terms of increased safety or effectiveness of vessel operations?

2. What information is needed by the pilot, the master and deck officers?

What are the different users' information priorities?

4. How can information be used in the process of ship handling?

What is the best way to make this information available to different users, and what must be available for "quick reference"? Where will the information be needed, i.e., in the person's pocket, posted at some convenient spot, lying on the table close at hand, in a cabin for study, in the chartroom bookcase, etc.?

3 Quote from the SOGREAH ship handling facilities near Grenoble, France.

6. What information is "vital" and what is only "interesting"?

7. How can the information be developed? (Tests, calculations, etc.)

8. What degree of accuracy is required?

9. What cost is reasonable per ship class?

Shipboard maneuvering information is primarily for use by the conning officer. It should help him in guiding the ship in the following general situations:

1. Open Seas - Sailing, at ordered speed in moderate weather or at reduced speed in extreme weather.

2. Port Approach/Departure - Proceeding through straits, entrance channels and interior channels at appropriate speeds, and being prepared to choose the best emergency maneuver if needed.

3. Berthing and Anchoring - Making the final slow-speed maneuvers when maneuvering at moorings or anchorage, often with the aid of tugboats and thrusters.

4. Systems Failure - Maneuvering during any of the above situations with certain machinery systems failures.

Ship handling, however, is truly an art where the "feel of the wheel" or feeling of oneness with the ship is all important. Measurement of the forces under one's control is nearly as difficult as those not under control. Often this control must be within the confines of channels, rocks, reefs, and shoals, which constitute an ever present danger and require expertise in the art of ship handling, backed by an intimate knowledge of the pilotage area and the peculiarities of the particular vessel.

Table 1 classifies ship maneuvering forces into three categories according to the potential for their effective control by the conning officer. The following paragraphs describe these forces and information about them that would be useful.

### Forces Directly Controlleble

Certain forces are available to the conning officer to influence the movement of a vessel. During the 1979 New York Harbor Tug Boat Strike, for instance, one of the authors had occasion to turn 4 509' Spanish motor ship with a bulbous bow in Port Newark Channel where it is 685' wide-The vessel's dead slow ahead was  $7\frac{1}{2}-8$ knots, and by the beginning of the

Table 1	

Forces Affecting Vessel Trajectory

Forces Directly Controllable
. Propulsion . Steering . Ground Tackle . Lines
Forces Under Indirect Control
. Inertia & Momentum . Shallow Water Effects . Cushion & Suction from Banks
Forces Not Under Control
. Environmental Forces of Wind,

Waves, Current, etc.

turn she had only about 6 or 7 engine starts left. Two anchors, each with a shot well in the water weren't enough to hold the ship's forward surge. The several remaining engine starts (stop and go) on dead slow ahead were used to turn the vessel, the anchors providing the braking forces. By the time the vessel had a 30° angle to the pier the engine was down to one start. It was then only used after the compressor had built up pressure for two starts. The final landing and positioning was done with lines.

In another situation one of the authors piloted a Russian tanker 680' long with a draft of 36' from the Bay Ridge Achorage to Stapleton Anchorage in New York Harbor on the ebb tide during the spring freshets. The ship had fetched up for about 15 to 20 minutes (amount of chain is not remembered but was probably 6 shots). It had no barges alongside and the pilot was about to disembark when the ship began to drag down between the Staten Island shore and other ships. It was at least a mile before the anchor again fetched up and we were able to heave anchor and return to our original anchorage. The author is probably well remembered for his opinions about the matching of Russian vessels to their anchors.

The point of these sea stories is that a lot of ship particulars must be precisely known by the conning officer. The following are comments on forces that are under the direct control of the conning officer:

<u>Propulsion</u>. a) Engine Type; Steam reciprocating, diesel, steam turbine, gas turbine, turbo or diesel electric, nuclear, etc., with their various limitations, i.e., diesel limited by compressor capacity stated possibly in the number of engine starts; excessive power at dead slow ahead or astern; steam turbine limited by the duration of the maximum number of turns astern, number of boilers and in close quarters enchanced if the engine can go from the ahead to the astern mode and back without signaling stop on the engine order telegraph, gas turbines by blow outs, etc.

b) Shaft Horsepower;

c) Shafting and Rudder Configuration; these characteristics are important for the mariner: Twin screw inboard or outboard turning, in conjunction with the distance between the screws affects the vessel's twisting abilities as well as affecting the propeller wash on a single rudder arrangement; Single screw right or left hand turning indicates tendencies for backing to port or starboard respectively; Reversible pitch propeller is unable to steer when making way through the water if the propeller is at 0° pitch.

Steering (Change of Heading). The effectiveness of the rudder can be demonstrated by turning circle diagrams, Z maneuvers, and spiral turns from deep water tests. A vessel's demonstrated ability to perform these maneuvers in conjunction with its size and draft can often indicate a good or poor handling vessel, as does one that can steer and be controlled at slow speeds or with the engine stopped. In this regard, it is important to know if a twin screw vessel has a single or twin rudder configuration. A thruster's horsepower is important information, and should an extended overload endanger its usefulness, the mariner should be so advised.

<u>Ground Tackle</u>. This subject is not often included in nautical studies. Many times anchors fail to hold a tanker being lightered into barges. Anchors are also most important in emergencies, and when docking unassisted by external forces (tugs). Presumably the anchor chain of the AMOCO CADIZ broke while she was being towed thus contributing to that disaster. Because a failure or inadequate design can leave the mariner in a lurch, the vessel's ground tackle limitations must be recognized and data developed.

Lines. Ships' officers know the numbers, types, and lengths of lines. A line breaking under tension is a real danger to personnel. Fortunately, tests have been made and strength data of lines is available. Allowance for aging and damage to lines must also be made.

## Forces Under Indirect Control

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As the ship moves through the water there are known effects that, while not under direct control, can and must Inertia and Momentum. A graph should be devised to alert the mariner to the vessel's kinetic energy in foot pounds, or metric equivalent, at various speeds, and to further show how quickly it can be reduced through friction alone or by different maneuvers.

Curves to indicate the force necessary to overcome the effects of wind, current and swell when ahead or abeam are needed. They can be estimated from model tests and mathematical models. Methods to reduce a ship's momentum should be addressed comparing crash stops, turning circles, and rudder cycling from deep water tests of the individual ship.

Shallow Water Effect. This phenomenon reduces a ship's speed and rpm, causes squat, changes trim, and reduces steering ability. Full scale shallow water tests of some ship types has helped validate the use of model tests to predict steering and turning ability. Extensive model tests have been performed to study squat and trim effects, but full scale correlation has been difficult to achieve because of measurement problems. These phenomena seem to be affected by the vessel's mean draft. Also, vessels with unusual trim at high speeds have been known to hit bottom sustaining hull damage. (See Reference 3) Presently, squat is left to the mariner to resolve. A ship must carefully reduce speed when passing over shoals, when developing large ship waves upon entering shallow water, or when losing steering ability. Hopefully, better information about squat will be developed. Until then, available information should be presented.

Bank Effect and Vessel Interactions in Restricted Water. The phenomena of bank cushion and suction can be helpful when approaching a turn in a channel. Upon meeting another vessel in a narrow channel, however, cushion, suction and interactions from banks and other ships can be very difficult to handle. When overtaking in a channel, these interactions can have disastrous effects!

## Forces Not Under Control

Forces of the environment such as wind, waves, currents, etc., are beyond the control of the conning officer. However, when encountered their effects on the ship need to be known.

Wind will affect the entire freeboard of the vessel. However, the inequality of resistance because of the distribution of the exposed wind area, i.e., location of the ship's house or trimmed condition, will often cause a turning moment. This is because of the

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static wind forces and the dynamic lift effect of the surfaces acting as sails. Under certain circumstances this turning moment may be reduced by shifting ballast. Required rudder angles are thus reduced yielding more rudder available in an emergency and less resistance to forward motion. The speed necessary to maintain the course is also reduced allowing additional safety margins. Although not critical, a table indicating the optimum forward draft for each after draft of a vessel as derived from model testing or mathematical models would be welcome.

A large amount of information is thus useful and needed but is, of course, difficult to quantify and display effectively. The Appendix to this paper provides a brief historical review of maneuvering data presentations that have been utilized. It also looks to future possibilities and trends toward onboard electronic maneuvering prediction devices.

PROPOSED FORMATS FOR MANEUVERING INFORMATION

"...we can build the safest vessels...but, if the people that operate the vessels don't know what they're doing, or what the equipment is for or can't use it, or are sloppy on the job, you've got problems!"

This section presents the proposed standardized maneuvering information formats developed by Panel H-10. These formats are based on the many responses from industry and numerous panel member deliberations that took place since 1976.

Nearly everyone involved, endorsed the need for such information, but consensus on what and how it should be presented was difficult to achieve. The variety of presentations currently being used to meet U.S. Coast Guard regulations was extensive and the need for standardization obvious. Many responses provided substantive contributions. Reference 4 for instance, was forwarded and analyzes the utility of ship trials and proposes a maneuvering data booklet. A historical review of maneuvering data presentations including future possibilities is presented in the Appendix to this paper.

There is obviously an important compromise to be reached between providing enough useful information in such a way so that sifting the pertinent data from the interesting is not too big a job to be worthwhile. Therefore, only items important to shiphandling should be considered. Also, future use of onboard computer aids, maneuvering predictors and other devices should prove effective in providing the needed information in useful forms.

The Panel concluded that the concept of three standardized formats is the best way to provide useful information. The formats are as follows:

1. Pilot Information Card (Fig. 2) -A small pocket card  $(3\frac{1}{2} \text{ m } 5\frac{1}{2} \text{ m})$  that would contain ship's maneuvering information of prime importance to the pilot. It provides a minimum of needed information noting unusual vessel particulars. It would be filled out with any additional partinent data and given to each pilot as he boards.

2. Posted Bridge Diagram (Fig. 3&4) - A compact diagram in two parts(Each 11"x 14") mounted in a conspicuous and convenient place on the bridge. It would contain principal maneuvoring information of a permanent nature for ready reference by both pilots and shipboard personnel.

Shipboard Maneuvering Booklet - A detailed manual containing information and instruction on the ship's maneuvering capabilities. Although it would be kept available on the bridge ready for quick reference, it is intended primarily for longer term study. The standardized section outline as shown in Figure 5 and use of a looseleaf binder would provide a convenient easily referenced catalogue of useful maneuvering information. A section for added notes by the master on the vessel's capabilities would also be helpful. Form fill-ins could be provided for pertinent informa-tion such as best headings for a Williamson turn. Such standardization will also make the booklet useful to pilots for augmenting the brief, readily available information provided on the pilot card and bridge diagram.

The standardized design of the pilot information card and posted bridge diagram were drawn from some presentations currently in use. The general design of the bridge format was taken from a standardized diagram (Fig. 12 in the Appendix), developed by the Oil Companies International Marine Forum (OCIMF). The OCIMF form satisfied both the IMCO resolution and present U.S. Coast Guard regulations. Looking to the future, Panel H-10's proposed format goes beyond present requirements in some areas, while omitting some specifics in other areas (for this reason the proposed diagram cannot be used to satisfy the present Coast Guard requirements).

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4 RAdm. William M. Benkert at the Maritime Industry Symposium "Collision Avoidance Through Modern Electric Technology and Vessel Maneuvering Characteristics" (5).

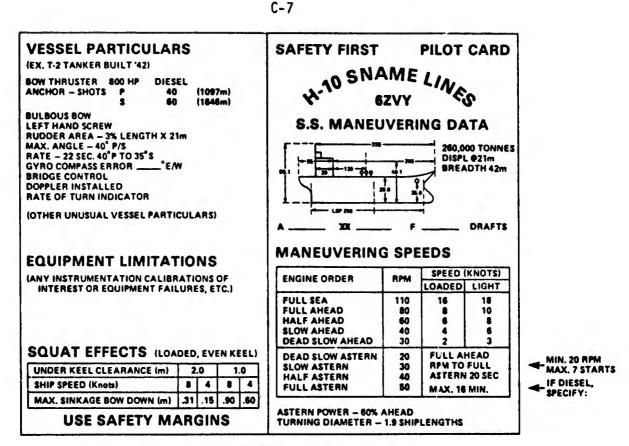


Fig.2 Pilot Information Card

The principal differences between the Panel H-10 proposal for the "bridge maneuvering diagram" and the present U.S. Coast Guard (USCG) requirements are given below:

1. The JSCG presently requires turning circles to both port and starboard. Panel H-10's proposal shows only a turning circle to starboard, with a note stating that there is no appreciable difference between port and starboard circle under the specified calm weather, no current conditions.

While USCG regulations do not 2. require turning circle data for any shallow water condition, Panel H-10 recognized that, in general, turning in shallow water results in substantially increased turning circle dimensions. Approximated shallow water ship response should provide an important basis for comparison of deep to shallow water capabilities and among different vessels. Panel H-10 proposes a standard 20 per-cent of draft under-keel clearance for the shallow water data because with this clearance the turning circle diameters on some vessels have been known to increase almost two fold. In full scale trials this is about as close as a company will commit its vessel in tests.

3. While USCG requires time and distance of advance and transfer required to alter the course 90 degrees, with maximum rudder angle (and constant power settings), Panel H-10 has proposed that "swept path" dimensions showing maximum advance and maximum diameter in a turning circle be given; these beingoperationally more significant.

4. In addition, Panel H-10 proposes turning circle data be for a standard 35 degrees rudder, for direct comparison among different ship's inherent characteristics. If the vessel is equipped with greater rudder angle capability, these turning characteristics would be additionally superimposed on the graph.

Although the turning circle diagrams are not intended to be drawn to scale, the shallow water diagrams are shown significantly larger to indicate their greater magnitude.

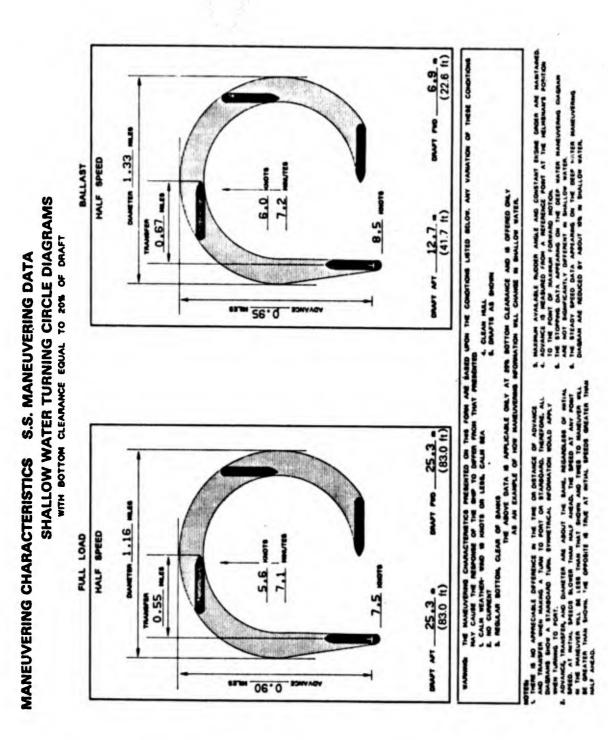
Metric conventions have been adopted with English equivalents provided on the posted bridge diagram. Dual unit presentations on the pilot card were considered, but rejected because of excessive clutter. The pilot also has the opportunity to write his own equivalents directly on the card when desired.

The use of colors in printing the standardized presentations is thought helpful in making them easy to use.

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25.25 METERS U2.8 FEET)	UNIL MEND	22.4	1.85	12.2	1.14		45	9.6	9.8
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Fig. 4 Bridge Mounted Maneuvering Characteristics Diagram-Shallow Water Turning

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Fig. 5 Shipboard Maneuvering Booklet Outline

1.	INTRODUCTION	
1	INTRODUCTION	pitch, diameter, number of blades, direction of turn,
111.	GENERAL DESCRIPTION - For iden-	etc.
	tification including such items	
	as ship name, type, call letters, nationality, class (if one of a	C. Stopping and Starting
	number of vessels), date built,	Characteristics -
	owners, past owners, past vessel	1. Crash Stop Data - Full and
	names, etc.	half speed stopping projec-
111.	DIMENSIONS, VISIBILITY, AND	tions from light and loaded
8	UNUSUAL FEATURES - Provides	conditions compared with turning circle projections
1	general and unusual characteristics	for the same conditions.
	of the ship and visibility diagrams.	
	aragrams.	2. Coasting Stop Data -
	A. <u>Dimensions</u> - Length, breadth,	<b>Projections of speed re- duction versus distance and</b>
	depth, drafts, GRT, DWT, cubic, keel to top of mast or highest	time when propeller stopped
	projection, mast position re-	I Irom full speed in light
	lative to ship's length, keel	and loaded conditions.
1	to bridge, bridge to bow.	3. Rudder Cycling Stop Data -
	bridge to stern, etc.	Stopping projections and
1	B. Visibility - Limitations when	swept path when a program
	light or loaded, at different	of rudder cycling is per- formed.
1	trims, etc.	
	C. <u>Unusual Features</u> - Characteris-	4. Accelerating Data - Tables
	tics of bulbous bow, changes	of time and distance to accelerate.
	to vessel since original	
	construction (increase in hull	VI. STEERING SYSTEM AND TURNING IN
	length, etc.), other items related to shape, size, and	DEEP WATER - Describes steering
1	maneuvering capability.	system and turning characteristics of the vessel in calm, deep water
+		situations.
IV.	NAVIGATIONAL AND ELECTRONIC	
	EQUIPMENT - For indicating type of equipment, location, spares	A. <u>Rudder and Steering Machinery</u> - Rudder type, position and
	required, storage of spares	shape, area relative to under-
	because of equipment bias or	water cross-section of the
	errors.	hull, rudder rate, steering
	A. Gyro Compass and Repeaters	machinery characteristics and operational alternatives.
	B. Magnetic Compass	
		B. <u>Turning Circles</u> -
	C. <u>Radars, Collision Avoidance</u> Systems and Transponder Systems	1. Turning circle test data -
		Plotted for full and half speed in light and loaded
	D. <u>Electronic Positioning Devices</u>	conditions showing steady
	E. Fathometer	state circle, advance, and transfer, etc.
}	F. Radius	2. Kick Turns - Projections
v.	PROPULSION SYSTEM AND STOPPING/	from stopped and low speed
	STARTING IN DEEP WATER - Describes	conditions.
1	propulsion and stopping charac-	3. Course Change Maneuvers -
	teristics of the vessel in calm, deep water situations.	Projections at full and
1	sop water Stuations.	half speed telling when to
	A. Propulsion Plant Description -	start and stop a turn to achieve a described heading
I	Manufacturer, date of con-	change.
1	struction, number of cylinders, number of boilers, etc., with	C 740 Prov
	known limitations.	C. <u>Zig Zag Maneuvers</u> - Plotted data from zig zag trials
		showing overshoot and other
	B. <u>Propellers</u> - Manufacturer, material composition, blade	parameter relationships.
L	milling composition, blade	

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piral Maneuvers - Data from	IX. TUCS, THRUSTERS, GROUND TACKLE &
piral tests plotted to show	OTHER AUXILIARY MANEUVERING
steresis effect, etc.	DEVICES
inimum Ship Speed - Minimum	A. Tug Usage - Tugs needed under
peed at which the vessel can	different situations, positions
operated on a straight	to avoid hull damage, accelera-
ourse with no wind or current.	tion and turning moments
Propulsion plant minimum speed	expected, thrust required to
imitations should be noted	offset the effects of wind,
ere.)	
ere.)	current and swell, etc.
LOW AND RESTRICTED WATER	B Thrustone - Vanufacturer date
UVERING - Develops effects of	B. <u>Thrusters</u> - Manufacturer, date, type horsepower, position(s),
	type norsepower, position(s),
low and restricted water on	limitations, pivot point when
uvering characteristics with	thrusting from stopped in
rence to calm, deep water	water, effect on forward or
riptions in sections V and VI.	astern motion, etc. Maximum
	speed for operational effec-
peed and Power Loss - Concepts	tiveness of the thrusters
f speed loss and additionally	indicated.
vailable rudder forces	
escribed.	C. Specifications of Equipment -
	Characteristics and limitations
ottom Clearance and Trim - Re-	in different bottom conditions,
ationship (general and	water depth, wind, or current
pecific) of squat and trim	situations.
ith speed, water depth, and	
ottom type.	1. Ground Tackle
topping and Starting	a. Anchors
haracteristics - Effects on	b. Chain
alm, deep water characteristics	é. Windlass
lescribed, and projections pre-	
ented.	2. Mooring Lines
urning Characteristics -	X. EMERGENCY PROCEDURES - Procedures
Effects on calm, deep water	to follow or alternative actions
characteristics described,	to perform described for various
and projections presented.	identifiable emergency situations.
and projections presenced.	(Many of these system failures
EUVERING IN WIND, CURRENT, AND	should come from case records of
S - Develops effects of wind,	past difficulties and disasters
	with the proposed recommendations
cent, and waves on maneuvering acteristics.	tested as to their effect).
racteristics.	tested as to their errecty.
finimum Steering Speed in Wind-	A. Williamson Turn - Procedure
finimum speed at which the	described and diagram provided.
	described and dragram provided.
vessel can be steered on a	D. Chaosing Machinger Failung
straight course as a function	B. Steering Machinery Failure -
of wind speed and direction.	1. Wahidi aabi an maaadumaa
	1. Notification procedures
Speed and Power Loss - Effects	2. Alternate steering avail-
from different directions and	able
projections provided.	3. Use of tugs, propellers,
and the second	and ground tackle
Bottom Clearance and Trim -	4. Proposals for repairs
wave/swell effects on bottom	
clearance projected for	C. Engine Failure
guidance.	
	1. Notification procedures
Stopping and Steering	2. Use of ground tackle, etc.
Characteristics - Effects and	3. Proposals for repairs
magnitude of wind, current,	
and waves projected.	D. Vessel Drift Patterns-Probable
frightener	unpowered or unsteered ship
Turning Characteristics - Table	drifting patterns.
of effect of wind and current	
on turning with rudder angles	E. Others
necessary.	XI. MISCELLANEOUS
necessary.	
Backing Characteristics	REFERENCES
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## APPENDICES -

A. Pilot Card

B. Bridge Maneuvering Diagram

USE OF MANEUVERING DATA

"...And all I ask is a tall ship and a star to steer her by" - John Masefield.

This section shows how the shipboard maneuvering information can be used. The proposed data formats are reviewed for their usefulness, accessibility, and simplicity.

## Data Users

The vessel's master and mates control vessel movement most often in the open sea and port approach scenarios while pilots conn during the port approach and berthing scenarios. The needs of these two groups are different.

The master and mates are often more familiar with the particular ship than the pilots. They are aboard for longer periods of time, with more time available to study manuals, etc. The pilot has more-immediate needs. He may be experienced in handling vessels in restricted water maneuvering situations, but not be familiar with each ship and its capabilities. He may come aboard and start immediately to work, perhaps at night. There is thus little time to locate booklets, to study them and extract the information desired, or to decipher complex diagrams posted in a remote corner of the bridge.

Ship's officers are generally less knowledgeable about the maneuvering situation. They are ultimately responsible, however, for the ship. They must pass pertinent information to the pilot and be aware of techniques and potential problems. The officers will also have occasion to perform maneuvering tasks when pilots are not available. They have long periods at sea where they can study more extensive documents regarding the ship's capabilities and the principles involved.

In addition to ship officers and pilots, shipowners, charterers and port regulatory officers can benefit from vessel maneuvering information. It can be used to determine if a certain ship can effectively operate in a particular trade and harbor/waterway situation. During the sale of a vessel this information would conceivably be of value to insurance underwriters in determining any inherent faults of a vessel. The need for definitive information for a vessel's inherent capabilities should also awake a concern by prospective

## Pilot Information Card

The "Pilot Information Card" in Figure 2 contains only specific ship information that would be of immediate use to the pilot in quickly understanding the maneuvering capabilities of the ship in its light or loaded conditions.

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The standardized format on both sides of the small card provides a hand holdable reference to the needed data during his work aboard and for later study and comparison to improve his skills. A few descriptive facts of the vessel's characteristics and its maneuvering abilities give the pilot most of what he immediately needs. Drafts are, of course critical. Displacement at full draft is an indication of vessel inertia. Propulsion plant type is also important since it determines available backing thrust, time to reverse thrust and number of engine starts. Maneuvering RPM's and their estimated speeds are also handy especially since they vary widely from vessel to vessel.

Unusual vessel particulars such as left hand screw, 40° rudder capability, etc., would be listed on the pilot card to alert the pilot to their presence. Reversible pitch or left handed propellers, for instance, demand piloting techniques different from those on the normal right hand turning wheel. A Kort nozzle may affect slow speed maneuvers. A bulbous bow must be considered when maneuvering in close waters because of possible damage to both vessel and dock.

Under some circumstances exact height or vertical clearance is important. Dimensions are needed so that the effects of trim and draft on clearance can be calculated. General dimensions also help the pilot accurately estimate distances.

Knowing the class of vessel, the year built, and any past names, gives the pilot a reference point to distinguish the vessel's characteristics. It may be a vessel or type that he has had prior experience on and could recall. Age might be an indicator of propulsion equipment dependability.

Noting temporary equipment defects and limits is particularly useful and helps the master fulfill his need of informing the pilot of any equipment problems that limit capabilities.

Reasonably accurate squat effect data of the vessel in shallow water could be critical information to the pilot. Currently pilots rely on "rule of thumb" formulas. The information to be provided would still be approximate, but would give a better relative guide to the squat of the particular vessel when compared with similar data from other ships with which he is experienced.

The full speed, deep water turning diameter in ship lengths gives the pilot a quick index to the turning capabilities of the vessel. The relationship of a vessel's length to its turning diameter provides an easily recognized "rule of thumb" on the vessel's maneuvering capabilities. For further detail he can refer to the posted bridge diagram.

### Posted Bridge Diagram

The posted bridge diagram in Fig. 3 and 4 provides additional, but less immediate, information for the pilot. The standardized format allows the visiting pilot or new ship's officer to quickly understand the primary maneuvering capabilities, and compare them to characteristics of other ships. It also provides a document to constantly alert masters and mates to maneuvering capabilities of their vessel.

Ship particulars and engine order (RPM) speed information is used in a similar manner as described for the pilot card. Also available is maximum rudder angle.

Bow and stern thruster horsepower and ship turning rates in calm undisturbed conditions provide a relative measure of the thrusters' effectiveness. Time and distance for crash stops similarly provide relative guides to vessel stopping ability. These time and distance estimates can further provide useful tools for the mariner in performing efficient and safe port approach maneuvers.

Deep water turning circle diagrams indicate maneuvering space and provide, through the standardized format, a quick reference for planning against emergency situations. Comparing the turning circle with the crash stop gives the mariner an understanding of the relative distance required. The swept path presentation is used because it shows the greatest collision distance and this can vary considerably from traditional advance and tranfer definitions. Only right turn diagrams are shown because the differences between left and right turns on most ships is negligible.

A separate presentation of shallow water turning circle information provides the mariner with some appreciation of shallow water effects. The presentation of the swept path, although of standard size, is roughly in proportion to the dimensional differences to be expected in going from deep to shallow water. The 1.2 water depth to ship draft ratio was chosen as standard, primarily because of the ESSO OSAKA shallow water trials held in 1978 (See reference 6). This ratio was the minimum prudent under-keel clearance for testing. As more is known of the effects of shallow water, the mariner can .3 provided with information on behavior at different water-depth-todraft ratios.

### Shipboard Maneuvering Booklet

The "Shipboard Maneuvering Booklet" is more of a manual of maneuvering data on the particular ship. The booklet would permit operating personnel to study their ship's capabilities in depth over an extended time frame. The booklet would always be kept available on the bridge for study by watchstanders and cadets. Standardizing the outline should make the needed data easy to find and will also make the booklet useful to transient pilots. In the wheelhouse or chart room it will be available for immediate reference when on-the-spot information is required to augment the brief information provided on the pilot card and bridge diagram.

In addition to material found on the pilot card and the bridge posted diagrams, the manual would give a thorough description of the capabilities and limitations of the steering, propulsion, and ground tackle systems as well as methods to be used following a system failure. Possible accident scenarios could be posed with suggested options. This would promote advanced planning for emergency situations. For example, will a VLCC such as the AMOCO CADIZ back into a wind and sea on the port or starboard side, and how effective and what elements of danger might be contained in such a maneuver?

The booklet at this stage requires some further thought and much development. The outline proposed is intended to be all inclusive. Standards for material to be included will vary according to ship type and service. A standardized outline with looseleaf pages appears to be an attractive and practical approach to developing and providing booklets that will be useful.

# MANEUVERING DATA ACQUISITION AND PRESENTATION COSTS

Costs of providing shipboard maneuvering data must be considered and balanced with the benefits to be achieved. Even with the current state of the art of analytical ship model testing and full scale trials analysis, it is not possible to provide information that will precisely say what trajectory will

occur under all conditions. Indeed, ship handling margins will always be necessary since even a small current has a tremendous effect which overshadows even moderate prediction inaccuracies. It is possible to inexpensively provide a reasonably accurate "relative" measure of a vessel's inherent maneuvering capabilities. This section discusses how various data can be developed and the relative costs involved. Consistency of the data in showing relative capabilities between vessels is required, however, if the information is to be valuable.

## Data Acquisition Techniques

Shipboard maneuvering data can be obtained through the following technical procedures:

- 1. Full-scale maneuvering trials,
- 2. Free-running model tests with suitable scale effect corrections,
- 3. Computer simulations utilizing
- captive model test results, and
- 4. Computer-aided estimates utilizing standardized series test results.

• The following general descriptions of these techniques outline their characteristics:

<u>Full-scale maneuvering trials</u>. While actual maneuvering data can be obtained in ship trials, the accuracy of this data is frequently affected by sea conditions (e.g., wind and current) and instrumentation. Figure 6 shows an example of a turning trajectory obtained from recent full-scale trials of the ESSO OSAKA carried out in deep and shallow water. Although careful full-scale trials are highly desirable in acquiring accurate maneuvering data, they can be quite expensive and dependent on the availability of ship-time and instrumentation.

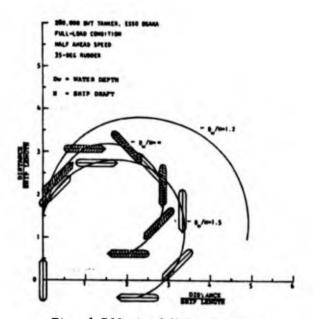
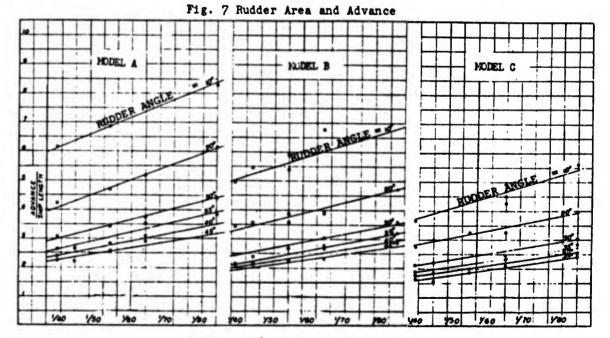


Fig. 6 Effect of Water Depth on Turning Performance (ESSO OSAKA trial results in deep and shallow water) (6)



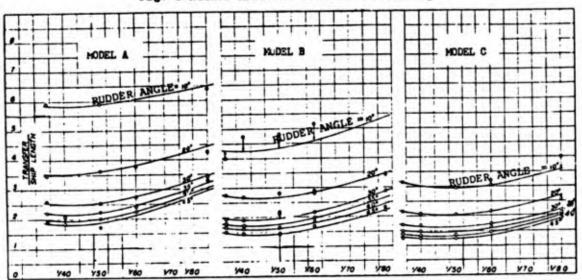
RUDDER AREA/(SHIP LENGTH x DRAFT)

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1,18.2







RUDDER AREA/(SHIP LENGTH x DRAFT)

<u>Free-running models</u>. Free-running self-propelled models have been used for years to assess the maneuvering characteristics of various ships. Figure 7 and 8 show examples of advance and transfer determined from a series of free-running model tests (7). Freerunning tests are convenient and relatively inexpensive; however, they have certain limitations including scale effect. Since a greater-than-scaled thrust is required in free-running model tests, the rudder behind a propeller produces a greater-than-scaled force. If a rudder is not behind a propeller, the rudder generates smaller-than-scaled force due to the greater wake fraction for the scaled model.

<u>Computer simulations based on</u> <u>captive model tests</u>. During captive model tests, a ship model is restrained to a dynamometer on a "rotating arm" or a "planar-motion-mechanism" and is forced to follow a prescribed path (circular or sinusoidal). The hydrodynamic forces acting on the model are measured as functions of path curvature, drift angle rudder angle, and propeller RPM. Hydrodynamic data (in coefficient form) obtained from a series of captive model tests are included in a mathematical model, which represents the ship maneuvering characteristics by the use of yaw-sway-surge-rudder equations of motion (8). By exercising the mathematical model on a digital computer, ship maneuvering characteristics can be predicted.

Figure 9 shows an example of a turning trajectory obtained from a computer simulation run which was based on a series of rotating-arm test results (8). For comparison, the full-scale trial result is also shown. Computer simulation runs can be made using estimated hydrodynamic coefficients on the basis of previous work on similar hull forms. For example, much hydrodynamic data has been measured on model tests of large tankers. This allows realistic estimates of the hydrodynamic coefficients to be made using a semi-empirical approach. This approach is probably the most promising and inexpensive procedure available for predicting maneuvering characteristics at this time.

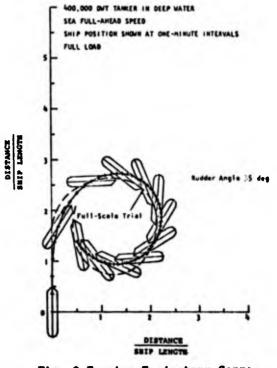


Fig. 9 Turning Trajectory Correlation between Model and Ship <u>Computer-aided predictions utiliz-</u> <u>ing previous tests</u>. Computer-aided estimates of maneuvering characteristics can be made using the results obtained in a standard series of model tests (e. g., data shown in Figures 10 and 11). Equations are determined through the least-square fit of these data points.

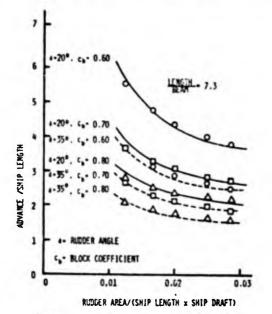
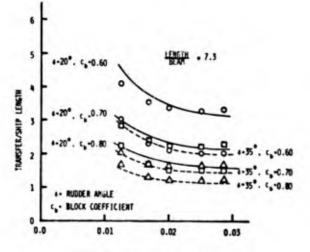


Fig. 10 Comparison Between Estimated and Model Test Predicted Advance



RUCDER AREA/(SHIP LENGTH & SHIP DRAFT)

Fig. 11 Comparison Between Estimated and Model Test Predicted Transfer

Estimations of maneuvering characteristics can then be made by utilizing major hull parameters such as:

- Rudder angle and relative rudder size
- Block coefficient (Cb)

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o Ship length-beam ratic.

Forms of these equations are determined on the basis of the following factors:

- 1. Theoretical consideration of the hydrodynamic forces acting on ships under various conditions and
- Examination of test results of free-running models, captive models, and full-scale ships.

Finally, polynomial equations have been developed (7) to achieve realistic motion predictions using only a small number of parameters. Figures 10 and 11 show results of estimated advance and transfer, respectively using these empirical polynominals.

This approach may be effective to make minor modifications of existing maneuvering data to a new design.

### <u>Development of Maneuvering Information</u> and Cost

Development of the maneuvering information for the proposed formats would usually be the result of combining a number of the techniques mentioned above. A series of full-scale trials will normally be available on the first of a ship class. In some instances ship maneuvering model tests will have been performed on the design, often resulting in a mathematical model for the prediction of ship maneuvers. Where such information is not available, computer-aided estimates using standardized series or similar ship test results could be used to develop the data presented in the pilot information card and the posted bridge diagram.

Tables 2 and 3 summarize the data to be prepared and its normal source for the posted bridge diagram and the pilot information card, respectively.

Data development costs will vary according to data sources and unusual characteristics of the ship involved. Normal analysis and preparation costs range from \$400 to \$1200 per ship for either the single posted bridge diagram or 1,000 copies of the pilot information card.

The Shipboard Maneuvering Booklet is proposed primarily as a standardized outline into which the operator would provide information in the amount and the level of detail considered useful. Costs are thus difficult to project. The booklet should, however, provide a convenient format to report available information on the ship and should not be considered an expensive item.

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# Table 2Data development forposted bridge diagram

SHIP PARTICULARS - Available in ship construction specifications
TIME AND DISTANCE TO CRASH STOP - Measured from builder's trials or from full-scale trials during normal operation.
ENGINE ORDER/RPM/SPEED - Partially available from ship acceptance trials and developed from model test resistance data and machinery constraints.
THRUSTERS - Normally available from acceptance trials.
MAXIMUM AVAILABLE RUDDER ANGLE - Defined in steering gear specification.
DEEP AND SHALLOW WATER TURNING CIRCLE DIAGRAMS - Partially available from full-scale acceptance trials with adjustments for conditions based on similar vessel's demonstrated

đ

capabilities.

### CONCLUSIONS AND RECOMMENDATIONS

1. Information on a vessel's maneuvering capabilities is needed by masters, mates, and pilots to minimize the increasingly severe consequences of vessel accidents. Panel H-10 (Controllability) of SNAHE has developed concepts for the standard presentation of this information. These concepts are described in this paper to develop a consensus on requirements and to set presentation format standards.

2. The major requirement is to develop standardized formats for data presentation from which pilots and mariners can quickly learn about a ship's maneuvering characteristics, and compare one ship to another. Existing presentations of maneuvering data are not all standard which makes quick reference difficult.

3. Absolute accuracy of the data is less important than its relative indication of how well the ship can be expected to maneuver compared to how well other vessels have performed. The effects of current, wind, and other factors are often very significant and overshadow the inaccuracies in maneuvering data prediction.

4. Standardized presentations of data should be both lasting and adaptable to technological improvements while remaining inexpensive to develop. Recent shallow water ship trials and model tests, for instance, provide the basis for relatively accurate estimation of shallow water behavior. Such predictions should be included for the use of the Table 3 Data development for pilot information card

VESSEL PARTICULARS - Available in ship construction specifications and on plans and equipment specifications

MANEUVERING SPEEDS - Same information as Engine Order/RPM/Speed on Posted Bridge Diagram

EQUIPMENT LIMITATIONS - This section to be written on by master for various temporary equipment problems

SQUAT EFFECTS - Developed using similar ship model tests and empirical data on squat effects.

### mariner.

5. Information to be presented must be carefully selected to ensure that the mariner is not overloaded with data. Three types of data formats are proposed to provide a balanced, easy transfer of information:

> o Pilot Information Card o Posted Bridge Diagram o Shipboard Maneuvering Booklet

6. Use of the data acquisition techniques proposed results in preparation costs of \$400 to \$1200 each for the single posted bridge diagram and the pilot information card. These costs are considered to be quite reasonable for the potential benefits to be derived.

7. The shipboard maneuvering booklet requires further analysis to determine needed standards. Its use as an outline for data presentation should provide a convenient format for reporting useful information. Standardization of this outline makes it simple for mariners to reference this data when information beyond the pilot information card and posted bridge diagram is desired.

### ACKNOWLEDGMENTS

Sincere appreciation is extended to the many organizations and individuals who contributed during the development of the data formats. Concepts and ideas along with current maneuvering data presentations being used were submitted and extensive comments provided on the Panel's preliminary draft formats.

The proposed shipboard maneuvering data formats and the development of this paper are the result of the joint deliberations and efforts of the members of Panel H-10 (Controllability):

C.L. Crane, Jr., (Chairman), Exxon International Co. J.W. Boylston, III, El Paso Marine CDR J.C. Card, U.S. Coast Guard Dr. H. Eda, Stevens Institute of Technology

R. Falls, Maritime Administration

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C.J. Huval, Army Corps of Engineers, Waterways Experiment Station

V.F. Keith, ECO, Inc.

Capt. T. Knierim, Sandy Hook Pilots Association

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E.R. Miller, Jr., Hydronautics, Inc. Dr. M.G. Parsons, University of Michigan

P. Paymans, Netherlands Ship Model Basin

D. Price, National Oceanic and Atmospheric Administration

A. Taplin, Consulting Naval Architect Capt. H.C. von Breitenfeld, Sandy Hook Pilots Association

Dr. W.C. Webster, University of California.

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APPENDIX - HISTORICAL REVIEW OF MANEUVER-ING DATA PRESENTATIONS

> "The NTSB<sup>5</sup> and the Coast Guard believe that the lack of maneuvering information in the pilothouse has been at least partially responsible for errors of judgement that have led to collisions. The need for maneuvering information is particularly critical for transient mates and pilots on supertankers. It is also needed by a pilot or mate on any class of vessel with which he is not familiar. The purpose of these regulations is to provide this information for use in the pilothouse to reduce errors in maneuvering" (9).

The danger and undersirability of spilling cargoes such as oil and chemicals have become more important with the relatively recent basic changes in ship types and public sensitivity toward preservation of the environment. Worldwide concern was heightened in 1967 when the TORREY CANYON stranded off the British Coast. Shipboard and land-based personnel safety from accident caused explosions are also of increased popular concern for both the newer LNG and LPG carriers. Ship controllability is one of the areas where attention has been focussed in order to reduce chances of pollution and increase safety.

#### IMCO Recommendations

N,

In 1968 IMCO officially recognized the need for maneuvering and stopping information. A resolution was passed which recommended that governments "ensure that the master and officers have readily available on the bridge all necessary data concerning the maneuvering capabilities of the ship and stopping distance under various conditions of draught and speed" (1). In 1971 IMCO offered more specific recommendations aimed at "ensuring uniformity in the information to be included in the maneuvering booklets available on board, particularly in large ships carrying dangerous chemicals in bulk " (10). They also recommended that individual countries require on board maneuvering booklets, containing specified information, and that they be available to the masters of large ships. Reference 11 describes the IMCO recommendations in detail. The booklet's content is to consist of two parts:

Part 1 - Maneuvering data and/or diagrams including lowest constant engine rpm at which ship can steer, change of heading and turning circle diagrams, stopping distance from full speed with engines stopped and from full speed with applications of astern power at various levels. Copies of the appropriate diagrams should be posted on the tridge.

Part 2 - Supplementary information drawing the attention of masters to several points to be considered in relation to the safe handling of the ship: effects of squat, extent of "blind zone" forward created by the forward part of the vessel, effective increase in draught due to ship motion in a seaway, and a note that the quickest method of reducing headway is to turn under the influence of full rudder, with cr without the use of engine astern power.

A number of countries have already adopted these recommendations. There has also been discussion within the IMCO Subcommittee on Safety of Navigation of the need to include these recommendations in SOLAS 1974 which would make them mandatory for new vessels.

#### U.S. Coast Guard Requirements

While the United States was pursuing a Resolution of maneuvering information at IMCO, activity was also taking place at home. In 1968 the U.S. National Transportation Safety Board conducted a "Study of Collisions of Radar-Equipped Merchant Ships and Preventative Recommendations " (12). In the study NTSB analyzed collisions involving U.S. vessels during the 5 year period 1963-1967 where radar was involved - 48 collisions involving 96 ships. Following completion of these analyses, NTSB sponsored a Marine Radar Seminar attended by representatives of industry (marine and electronics), CG, MarAd, FAA, MSTS. The purpose of the seminar was to obtain ideas which could be applied or developed for collision avoidance relative to radar-equipped vessels.

Recommendation D. 1 of the study is the first national initiative suggesting maneuvering information te posted in the pilothouse or bridge on a "fact sheet." The recommendation states:

> "The Safety Board also makes the following recommendations derived from the many worthwhile recommendations made at the seminar"

"The Coast Guard consider amending the vessel inspection recommendations to require vessels to have stopping and turning capability data at different loading conditions posted on the bridge."

National Transportation Safety Board The IMCO resolutions, the NTSB study and U.S. Coast Guard assessments of vessel accidents led the Coast Guard to publish a notice of proposed rulemaking in August 1972 which proposed that the operations regulations for several classes of U.S. vessels of 1,600 gross tons or more be amended requiring maneuvering information to be posted in the pilothouse. After many comments a second notice of proposed rulemaking was published in July 1973.

The requirements, that information on the maneuvering characteristics of certain vessels be "prominently displayed in the pilothouse on a "fact sheet" were made applicable to U.S. vessels of 1,600 gross tons or over in February 1975. These same requirements were made applicable to foreign vessels of 1,600 gross tons or more when operating on the navigable waters of the United States in June 1977.

These U.S. Coast Guard regulations (13) require that vessels of 1,600 gross tons and over have the following maneuvering information prominently displaced on a "fact sheet" in the wheelhouse:

a. Turning circle diagrams showing time and distance of advance and transfer required to alter course 90 degrees to port and starboard for full and half speed using maximum rudder angle and constant power settings.

b. Time and distance to stop the vessel from full and half speed while mantaining approximately the initial heading with minimum application of rudder.

c. Information on vessel speed as a function of propeller shaft revolutions per minute for a representative range of speeds (or pitch control settings for ships with controllable pitch propellers.

d. Information on the effectiveness of any auxiliary maneuvering devices with which the ship is equipped as a function of ship's speed. Auxiliary maneuvering devices include bow thrusters. The regulations actually call for "a table of vessel speeds at which the auxiliary device is effective in maneuvering the vessel."

Maneuvering information is required to be provided for both normal load and normal ballast conditions. The information should reflect the vessel's erpected performance in calm weather (wind 10 knots or less, calm sea), no current, deep water conditions (water depth twice the vessel's draft or greater), and with a clean hull. The "fact sheet" must include a warning statement indicating that the vessel's response may be different if weather, water depth, hull fouling, draft, or trim are different from those to which maneuvering data correspond.

The information on the "fact sheet" for U.S. vessels must be verified within six months after the vessel is placed in service, or, if corrections are found necessary, modified six months after the vessel is placed into service and verified within three months after it has been modified. Vessels of unusual design, such as semi-submersible mobile drilling units, hydrofoils and hovercraft are considered on a case-by-case basis.

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#### OCMIF Maneuvering Fact Sheet

In anticipation of the USCG rules requiring vessels entering U.S. waters to have shipboard maneuvering information, the Oil Companies International Marine Forum (OCIMF) developed a standard format for member companies to use. This format is shown in Fig. 12. Prior to this effort "fact sheet's from each operating company were developed and presented in widely varying formats.

#### Implementation of IMCO Resolution by Other Countries

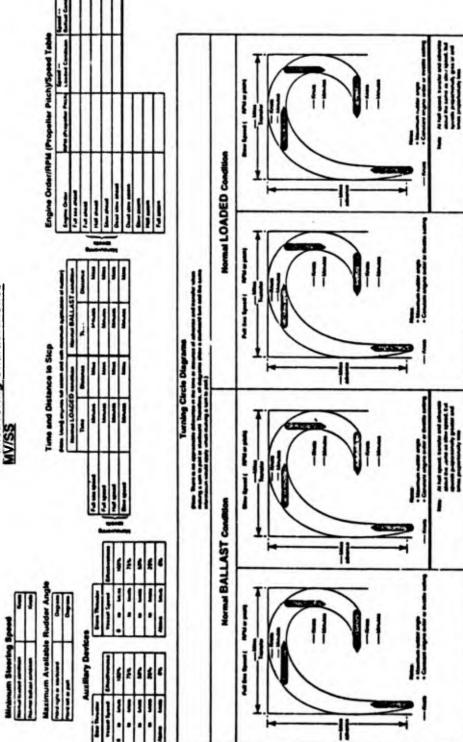
Implementation of IMCO Resolutions 160 (ES. iv) (1) and A. 209 (VII) (10) has varied from country to country and some nations have not adopted the resolutions. The Federal Republic of Germany applied the entire resolution to all ships greater than 100 meters in length and to all gas and chemical tankers. In addition, they added the following paragraphs to Part 2 of the Resolution (14):

> (v) "The stopping distance of large vessels may be reduced to a considerable extent by putting the rudder hard-over alternatively to port and starboard. Reductions of stopping distance by 30 to 50 percent have been recorded.

(vi) It is recommended that ahead data be compiled, using an approved method, for the stopping distances of a given ship for various loaded and/or ballast conditions based on general information furnished already prior to the vessel's coming into service, in order to obtain information and details on the vessl's maneuvering and stopping behaviour at different engine revolutions. The predetermined figures should be tested by practical methods, as outlined in Part 1, paragraph (iii) of the Recommendation."

Norway has also implemented the resolutions, but with a different size

Maneuvering Characteristics



Mg. 12 011 Companies International Marine Forum Standard Format

or local, call

WARNING SUN N C-21

range for application. All ships greater than 50,000 gross tons and all chemical tankers, LFG/LNG ships and passenger ships of 10,000 gross tons and above were included.

Apparently both Norway and the Federal Republic of Germany were comfortable with the provisions of the Resolution dealing with minimum maneuvering speed. The United States did not adopt this portion of IMCO's recommendation because of the lack of an agreed speed criteria for maneuverability.

When comparing approaches to implementating the Resolutions, it is noteworthy that only the United States requires maneuvering information of foreign flag ships when in U.S. waters. The authors know of no other country where the IMCO recommendations are required for other than their own ships.

#### Pilot-Master Information Exchange Programs

Traditional communication between master and pilot has consisted of minimal verbal information exchange. At least one company also provides a "Pilot Card" that the master gives to the pilot as shown in Fig. 13. Becaus navigation and control of vessels are Because most critical in pilotage waters several companies have developed an even more detailed scheme for formalized exchange of information between the master and pilot. The form not only provides in-formation about the vessel but also features information transfer from the pilot. Eight questions about the port and proposed passage provide the masters with insight into the pilot's actions and allow the pilot and master to reach agreement before important maneuvers are initiated. This form is then filled out and signed by both pilot and master. These formal information exchange programs seem to have been well received by the companies, masters, and pilots involved, when conditions allow for such exchanges.

In addition to the questions on Fig. 14, the pilot could also pass to the master: speeds he will require; any navigation restrictions; status of navigational aids; expected traffic conditions; any other information critical to the safe passage; and any special requirements he may have.

#### Maneuvering Predictors

Electronic computers hold great promise for the future of onboard use of maneuvering data. Automatic Radar Plotting Aids (ARPAs) or collision avoidance systems already incorporate some trajectory prediction capabilities. One great strength of tommorow's maneuvering predictors is in the training area

	SAPETY FIRST
WERINE TRA	NSPORT LINES
OSWEGO	HARMONY
CALL LETTERS - 42VI LENGTH 811' BREAD ENGINE NINE CYLINDE DRAFT F	Y OFFICIAL NO. 4381 OTH 128' DEPTH 59' ER DIESEL - BULBOUS BOW

Maneuvering Speed			70
Harbor Speed	10 Knots	R.P.M.	
Half Speed	8 Knots	R.P.M.	60
Slow Speed	6 Knots	R.P.M.	40
Deod Slow Speed	4 Knots	R.P.M.	30
Astern Power 60	s of Ahead Pow	er	
Time Lopse Full	Ahead to Full A	stern 35 SEC	cś.
Turning Rodius F	II Canad / E.II D.	-Har 16	00'
Turning Rodius F	un speed/ run n		
Distonce Bridge	To Sten MA		

#### Fig. 13 Marine Transport Lines "Pilot Card"

when not in actual operations. Master, mate, and pilot ship handling skills could be significantly boosted through practice in the variety of situations that can be provided by on board simulators. The master, as the one with ultimate responsibility, will also be able to use the device to project the effects of pilot commands and thus help make decisions necessary for the safety of the ship.

Dependability and accuracy are still problems in the development of maneuvering predictors, but they are coming and their applications are many. Reference 15 has already began to look into standardization problems with advanced maneuvering predictor displays. The certainty that these devices will be heavily used is evidenced by the general popularity of today's computer games.

#### C-22

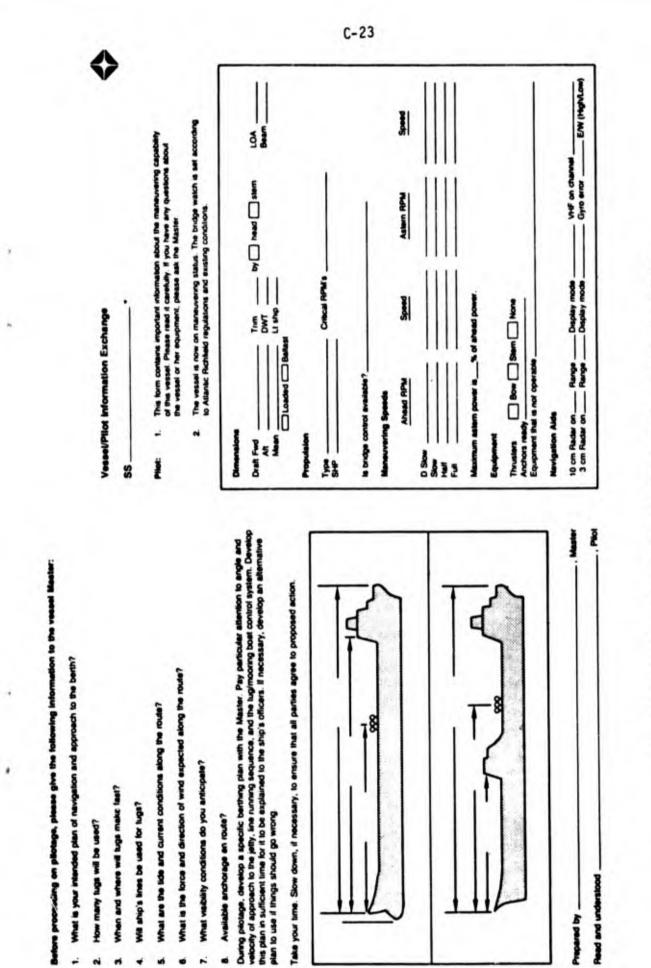


Fig. 14 Atlantic Richfield "Vessel/Pilot Information Exchange" Form

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D-1 APPENDIX D ANALYSIS OF CASULATY DATA POTENTIALLY RELATED TO SHIP MANEUVERING PERFORMANCE e

#### APPENDIX D

## D-1 Identification of Relevant Casualty Data

In order to determine if a correlation existed between casualty and maneuvering performance data, a listing of all collisions, rammings and groundings which occurred for the five year period from 1975-1979 was provided by the Coast Guard. This listing was obtained for the ship and operating conditions listed in Table D-1 from the Coast Guard Casualty Data Base, which is briefly described in Reference D-1. Only ships with four or more entries were considered further. Table D-2 indicates the distribution of number of casualties with number of ships; the generally normal distribution of these data is encouraging.

It is clear from the listing of "primary causes" in Reference D-1, that many collisions, rammings and groundings are due to mechanical failures or. other factors which are not related to ship maneuvering performance. Those primary causes which might be related in part or in whole to ship maneuverability were identified. These are given in Table D-3. A new, reduced casualty list, which was restricted to ships with four or more total casualties and two or more maneuverability related primary causes, was developed. This list, including ship name, type and principal characteristics, is given in Table D-4. Table D-5 indicates the distribution of number of casualties with number of ships.

The ships listed in Table D-4 were sorted to identify ships with identical or similar principal dimensions. A total of 13 groups or classes of ships, with similar dimensions, were identified. These dimensions were used as input to program SMDB to identify corresponding ships in the maneuvering performance data file. Only one correspondence of dimensions was found. Seven groups had dimensions similar to ships in the maneuvering file, but closer examination indicated that there were no other direct correspondences.

## D-2 Applicability of Casualty Data

The results of this phase of the study were thus rather disappointing. It was not possible to establish any correlation between the casualty data

and the maneuvering data for particular ships or ship classes. Some comments on the casualty data analysis are given below.

The results indicate that few large tanker casualties appear to result from poor ship maneuverability. Only one tanker larger than 100,000 DWT had more than one accident which might be related to ship maneuverability.

At least one class of U.S. flag LNG ships is known to have poor handling characteristics and to have experienced several casualties, but no LNG ship casualties were identified in the data base. This is undoubtedly due to the fact that most U.S. flag LNG ship operations have occurred during the past two years and casualty data for this period had not entered the casualty data base at the time the printout was obtained.

A review of the casualty data indicated that casualties had occurred with multiple ships of the same class. Any valid comparison of casualty and maneuvering data would therefore require determining the total number of ships in a class and the total number of casualties for ships in this class, as well as knowing the maneuvering characteristics of a ship in this class. Identification of ship data by ship class was beyond the scope of this study.

Finally, direct correspondence was found for only one ship or ship class which appeared in both the relevant casualty data and the maneuvering performance data. This was for a class of Lykes cargo ships, the C3-5-37 class. No other direct correspondences were found, although some correspondences may have been masked by changes in ship name.

Despite these discouraging results, it is felt that correlation of casualty and maneuvering data for given ships and ship classes could provide a useful basis for establishing maneuvering performance standards. It would be desirable to broaden the examination of the casualty data base, particularly by increasing the period of interest from five to ten or fifteen years.

D-3

SPECIFIED LIMITS FOR SEARCH OF U. S. COAST GUARD SHIP CASUALTY DATA BASE

Period -

Last five years of available data (1975-1979)

Types of Vessels -

```
Cargo (02)<sup>*</sup>, Passenger over 100 gross tons (10), Tankships (17),
Public-passenger (19), Public-cargo (20), Public-tanker (21),
Public-other (22)
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Flag -

U.S. Flag only

Vessel Gross Tonnage -

Over 1000 tons

Nature of Casualty -

- 01 Collision with vessel, meeting situation
- 02 Collision with vessel, crossing situation
- 03 Collision with vessel, overtaking situation
- 04 Collision with vessel anchored or moored (use only if not docking/undocking)
- 05 Collision with vessel while docking or undocking
- 09 Collision with Fixed Objects, piers, bridges, locks and dam
- 11 Collision with aids to navigation, fixed or floating
- 12 Collision, other than with vessel, NOC (Offshore Rigs Seaplanes)
- 21 Groundings with damage
- 22 Groundings, no damage (cannot have monetary damage to vessel listed)

Number refers to codes in Reference 1

## STATISTICS OF ALL COLLISIONS, RAMMINGS, AND GROUNDINGS FOR FIVE YEAR PERIOD FOR SPECIFIED SHIP TYPES AND SIZES

Number of Casualties	Number of Ships
14	1
13	1
12	0
11	3
10	3
9	5
8	15
7	13
6	24
5	49
4	201
	Total 315

### PRIMARY CAUSES OF CASUALTIES ASSUMED TO BE POTENTIALLY RELATED TO SHIP MANEUVERING PERFORMANCE

- 1. Personnel Fault (01-08, 11)
- 2. Storms, Heavy Weather, Adverse Weather (12, 13)
- 3. Unusual Currents (14)
- 4. Shear, Suction, Bank Cushion (15)
- 5. Restricted Maneuvering Room (17)
- 6. Insufficient Horsepower/Inadequate Tug Assistance (36)

- o Misjudged effects
- Maneuvering without proper assistance
- o Gale force winds
- o Small craft warnings
- o Large swell
- o Erratic current
- o Strong/narrow channel
- o Strong surge
- o Agreement reached
- o Narrow channel
- o Navigating too close to shore
- o No tugs available
- o Not enough tugs ordered
- o Unable to control tow
- o Other

## LISTING OF SHIPS HAVING TWO OR MORE CASUALTIES POTENTIALLY RELATED TO SHIP MANEUVERING PERFORMANCE

							Number
Ship Official Number	Ship Name	Displacement (full load) Tons	LBP (m)	Beam (m)	Draft (m)	Type Ship	Related Faults
550520	Roger M. Kyes	21391	202	23.8	8.5	BLK	8
536671	Almeria Lykes	57370	220	32.3	11.9	CNT	7
243405	Richard J. Reiss	19263	184	18.3	7.3	BLK	7
222512	John A. Kling	-	167	17.1	6.3	BLK	7
201842	Triumph, Convoy Russell	3					6
529399	Marine Chemist	45906	194	27.1	11.0	TNK	6
278853	Adam E. Corneli	us -	198	22.0	8.3	BLK	6
203978	Unknown						6
202542	Wiliam G. Mathe Nicolet	er, -	159	18.3	6.6	BLK	5
289873	Marjorie Lykes	22880	173	21.0	9.2	CAR	5
264391	Sparrows Point	30200	208	21.3	8.0	BLK	5
557149	El Taino, Caguas						5
516600	Delta Uraguay, Del Valle	19285	148	21.3	9.5	CAR	5
297384	Mormacrigel						5
247490	Marine Angle, McKee Sons	-	190	21.8	8.2	BLK	4
561453	Green Harbor, William Hoop	er					4
203582	Henry A. Hawgo W.W. Hollowa	od,62314 y	243	30.5	12.4	BLK	4
242426	Monmouth	36925	196	22.6	10.15	TNK	4
559623	Green Valley, Button Gwin- nett	62314	243	30.5	12.4	BLK	4
243412	Clarence B. Randall, Ash land	21810	184	18.3	7.6	BLK	4

BLK: Bulk Carrier, CNT: Container, TNK: Tanker, CAR: General Cargo, PASS: Passenger Ship, TW: Twin Screw, STW: Stern Wheel, TUG: Tug Ship

1

# TABLE D-4 (Continued)

Ship	ם	isplacement					Number of
Official Number		(full load) Tons	LBP (m)	Beam (m)	Draft (m)	Type Ship	<b>Rela</b> ted Faults
280946	Arthur B. Homer	41800	246	22.9	8.6	BLK	4
295249	Gulf Banker	11367	143	21.0	9.8	CAR	4
528567	Edger M. Queeny	46243	192	27.4	11.2	TNK	4
536500	Doctor Lykes	55660	220	32.3	11.9	CNT	4
226276	George M. Humphrey, Consumers Power	-	179	18.3	6.6	BLK	3
248326	Archers Hope, Sharon	-	200	20.7	8.2	BLK	3
287103	Jean Lykes	22880	173	21.0	9.2	CAR	3
266534	Wolvering Mariner George Walton	22636	161	23.2	9.6	CAR	3
556139	Saturn	-	114	16.6	5.9	TNK	3
243911	J.H. Hillman,Jr. Crispin Oglebay		184	18.3	24.8	BLK	3
249354	Scott E. Land, Thomas F. Patton	ī	178	21.8	7.6	BLK	3
214747	Eugene W. Pargny	-	177	18.3	-	BLK	3
243685	John T. Hutchinson	20925	184	18.3	7.3	BLK	3
269028	Golden Bear, Lyman Hall	30927	161	23.2	9.6	CAR	3
276270	Esso Lexington, Exxon Lexington	51549	209	28.4	11.8	TNK	3
517217	Robesca						3
530141	China Bear Austral Rainbow	44606	221	30.5	10.7	CNT	3
242260	Benjamin F. Fairless	24975	190	20.4	7.6	BLK	3
261423	Atlantic Navi- gator, Cove Navigator	41507	191	25.9	10.9	TNK	3

# TABLE D-4 (Continued)

Ship Official Number	Ship Name	Displacement (full load) Tons	LBP (m)	Beam (m)	Draft (m)	Type Ship	Number of Related Faults
266181	Cotton Mariner, American Argosy	26500	191	23.2	9.0	CNT	3
283897	Texas Sun	67131	216	31.1	15.5	TNK	3
285171	Del Sol	18999	147	21.3	9.5	TNK	3
287381	Export Builder, Builder	19400	143	22.2	9.3	CAR	3
287683	Philipine Bear Thomas Nelson	22630	161	23.2	9.6	CAR	.3
291020	American Chief- tain	21053	161	22.9	9.6	CAR	3
517186	Overseas Audrey Overseas Valde	, 46243 z	192	27.4	11.2	TNK	3
520839	Eagle Leader Ogden Leader	46243	192	27.4	11.2	TNK	3
569400	Maine, Tyson Lykes						3
207272	Leonard B. Miller, Buck- eye	•	156	16.5	6.3	BLK	3
247576	Winter Hill Leon Falk Jr.	-	216	22.9	8.5	BLK	3
290262	C.E. Dant Santa Ana	22629	161	23.2	9.6	CAR	3
500702	Elizabeth Lykes	21840	157	23.2	10.0	CAR	3
541563	Chevron California	85090	240	32	13.3	TNK	3
535000	Puerto Rican	46243	192	27.4	11.2	TNK	2
246103	Esso Roanoke Baltimore	19690	144	21.8	9.2	CNT	2
268216	Flying A Cali- fornia, Lion of California	21815	149	20.7	9.3	TNK	2
296404	Gulf Trader	17210	143	21.0	9.2	CAR	2

1

D-10

# TABLE D-4 (Continued)

Ship Official Number		full load) Tons	LBP (m)	Beam (m)	Draft (m)	Type Ship	Number of Related Faults
529795	Overseas Alaska	74401	216	32	13.2	TNK	2
550954	Hans-Hel						2
559035	San Houston	57082	243	30.5	11.6	BLK	2
207981	William B. Dick- son, Merle M. McCurdy	-	179	17.7	6.4	BLK	2
257381	Esso Suez San Marcos	35200	183	25.2	10.2	TNK	2
276121	Socony 50 Mobil Champlain	<b>-</b>	91	13.2	-	TW TN	K 2
521866	American Mail President Cleveland	31995	178	25.0	10.7	CAR	2
244855	Fisher's Hill American Trader	33946	184	22.6	10.0	TNK	2
247757	Camp Charlotte Louisiana Brim- stone		;178	24.4	10.2	TNK	2
289699	American Challenger	21053	161	22.9	9.6	CAR	2
577636	Neveda Charles Lykes	33900	195	31.1	9.8	CNT	2
202770	Frank C. Ball J.R. Sensibar	-	182	17.1	6.4	BLK	2
24446 <b>D</b>	Chancellorsville	31522	172	24.4	10.2	TNK	2
2482 <b>39</b>	Marine Falcon Borinquen	32080	200	23.8	9.2	TW TU	G 2
2646 <b>52</b>	Tar Heel Marinen John B. Water- man	: 13409	161	23.2	9.6	CAR	2
2657 <b>48</b>	New Jersey Sun	-	187	25.6	10.8	TNK	2
2657 <b>62</b>	Chicago Socony Mobil Chicago	5010	89	13.2	4.8	TW TN	K 2

Arrive March

# D-11

# TABLE D-4 (Continued)

Ship Official Number	Ship Name	Displacement (full load) Tons	LBP (m)	Beam (m)	Draft (m)	Type B	Number of telated Faults
266910	California Texaco Cali- fornia	48401	209	27.4	11.4	TNK	2
270025	Eastern Sun	-	187	25.6	10.8	TNK	2
282772	John Lykes	22880	173	21.0	9.2	CAR	2
287416	Leslie Lykes	22892	173	21.0	9.2	CAR	2
291026	African Sun Cape Avinof	20110	165	22.9	9.4	CAR	2
530145	Lash Atlantico	44606	221	30.5	12.4	CNT	2
532410	SL-181 Sea-Land Econo	34628 my	206	29.0	10.4	CNT	2
552395	Paul Thayer	25746	186	20.7	7.8	BLK	2
564002	Sam Laud	28770	188	20.7	8.3	BLK	2
209185	Col. James M. Schoonmaker, Wiilis B. Boye	- er	183	19.5	6.8	BLK	2
225875	Delta Queen	-	76	17.7	-	STWPAS	S 2
241390	Geo. Whitelock	II -	74	11.3	3.8	TNK	2
245025	Hanging Rock Seattle	19690	144	21.8	9.2	CNT	2
245225	Newberg Delta Coneyor						2
248702	Marine Lynx Transcolumbia	21987	151	21.8	9.9	CAR	2
257395	(For: LST-1063) Polaris						2
264136	John G. Munson	34700	229	22.0	8.1	BLK	2
264207	Arthur M. Anderson	34000	228	21.3	8.0	CAR	2
269187	Detroit Edison	29555	202	22.0	8.0	BLK	2
270179	P.W. Thirtle Baltimore Trader	70553	235	31.1	12.2	TNK	2

# TABLE D-4 (Concluded)

Ship	r	Displacement					Number
Official Number	Ship Name	(full load) Tons	LBP (m)	Beam (m)	Draft (m)	Type Ship	Related Faults
276034	Gulfprince	44840	192	27.4	10.9	TNK	2
277805	Kings Point Texaco Wiscons:	43125 in	192	27.4	10.9	TNK	2
277935	Saroula Sargula						2
280564	James Lykes	22892	173	21.0	9.2	CAR	2
281702	Achilles	52302	208	28.4	11.5	TNK	2
287875	Oregon Mormactide	22629	161	23.2	9.6	CAR	2
504982	Stella Lykes	21840	157	23.2	10.0	CAR	2
516542	Chicago San Juan	32900	201	23.8	9.2	CNT	2
522650	Mormacstar Jacket						2
530138	Golden Bear President Grant	44606 t	221	30.5	12.1	CNT	2
530142	Philippine Bear Austral Moon	44606	221	30.5	10.7	CNT	2
552818	Sea-Land Consumer	38742	206	29.0	10.4	CNT	2
556460	H. Lee White	40810	210	23.8	9.1	BLK	2
567835	Great Land	31762	224	28.0	-	CNT	2
571049	Zapata Patriot Patriot	44150	209	25.6	10.5	TNK	2
573093	Antona USNS Jupiter	33900	195	31.1	9.8	CNT	2
588001	Overseas New York	106496	261	32.2	15.0	TNK	2

+5 + + 10 + + 5 M

### STATISTICS OF CASUALTIES WHICH ARE POTENTIALLY RELATED TO SHIP MANEUVERABILITY

Number of Casualties	N	umber of	Ships
8		1	
7		3	
6		4	
5		6	
4		10	
3		30	
2		58	
	Total	112	

### REFERENCES

D-1 "Coding Instructions for Commercial Vessel Casualties," U.S. Coast Guard (G-MA) Headquarters, 1976, Washington, D. C. APPENDIX E LISTING OF SHIPS AND DATA CURRENTLY IN THE SHIP MANEUVERING DATA BASE

### APPENDIX E

All data for all ships currently contained in the ship maneuvering data base are listed in the following table. As noted in the text, each ship is identified by its code number rather than by the name. The coding for these data are described in Table F-3 of Appendix F.

#### ORDER OF SHIPS IN DATA BASE

Ships	001 - 299:	<b>Pages E-3 - E-76</b>	
Ships	300 - 325:	<b>Fages E-108 - E-114</b>	
Ships	326 - 375:	<b>Pages E-76 - E-88</b>	
Ships	376 - 425:	<b>Pages E-114 - E-123</b>	
Ships	426 - 500:	<b>Pages E-88 - E-1</b> 05	
Ships	501 - 590:	<b>Pages E-123 - E-140</b>	
Ships	591 - 603:	<b>Pages E-106 - E-108</b>	

DINENSIO			TYPE	DISP	LBPX	LOAX	REAN	PRFT	TRIH	BULD	DDIS	SSHP	SRPH
	19.0	1.0	2.0	375.0	330.0	347.0	53.3	24.8	0.0	0.0	381.0	34.0	90.0
RUDDER. PRO	SSPD	RDAR	PDIA	ASHP	RDST	ENGH	PROP	LATA	LCAX	UNNV	TRLC		
	15.0	160.0	9.2	9999.0	2.0	1.0	4.0	42.5	-24.0	1.0	2.0		
TURKIN	S SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
		9999.0	-35.0	10.3	5.3		9999.0						
	14.5	9999.0	-32:0	10.8	4.6	10.6	4444.0						
STOPPIN	G SPDS	SHPS	RUDS	TDIS	HRCH	SACH	TINS	TIMR					
	14.2	9999.0	0.0	30.2	9999.0	9919.0	20.2	30.0					
ZIG-ZA	G SPDZ	RUDZ	OVS1	OVSE	OVSN	KPRH	TPRH	PERD					
	14.2		8.0				9999.0	8.8					
***** SHIP	2 88	***											
									-	-			
DIMENSIO	N NATH		TYPE	DISP 139.0	130.0	10AX		DRFT 9.8	TRJH 2.0	BULB	-DDIS 381.0	\$5HP	SRPH
	17.0	210	2.0	137.0	330.0	34/10	2212		614		301.0	3414	
RUDDER, PRO			PDIA	ASHP	RDST	ENGN	PROP	LATA		UNUV	TRLC		
	15.0	160.0	9.2	9999.0	2.0	1.0	4.0	89.1	-9.0	1.0	2.0		
TURNIN	B SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
	17.0	9999.0	35.0	9.2	3.1	9.6	9999.0						
	16.8	9999.0	-35.0	11.6	3.2	9.4	9999.0						
								_					
SSEE SHIP	. 3	***											
DIMENSIO	N NATH	NHER	TYPE	DISP	LBPX	LOAX		DRFT	TRIN	BUCB	DRIS	SSHP	SRPW
	11.0	3.0	2.0	130.0	330.0	346.0	53.3	9.4	12.0	0.1	345.0	34.0	90.0
RUDDER. PRO	P SSPD	RDAR	PDIA	ASHP	RUST	ENGN	PRUP	LATA	LCAX	UNNO	TRLC		
	14.3			9999.0	2.0	1.0	4.0	90.5	-12.0	1.0	2.0		
TURNIN	G SPOT	CPDF	RUDT	ABUT	TRNT	PIAT	FRPR			<u> </u>			
		9999.0	35.0		2.1		9999.0						
	17.7	9999.0	-35.0	7.5	2.4	6.5	9999.0	_					
STOPPIN	G SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TIMR					
alorrin		9999.0	0.0		9999.0	7.9		54.0					
SHIP													
					-	1.7.		-			1.1.1.1		1001
DIMENSIO			TYPE		LBPX	LOAX		DRFT	TRIM	BULB	DDIS	SSHP	SRPM
	99.0	4.0	2.0	84.0	286.0	304.0	43.3	8.4	17.0	0.1	175.0	24.0	100.0
RUDDER. PRO	P SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLC	1.	
	15.2	69.0	7.6	9999.0	1.0	1.0	1.0	49.0	-5.0	4.0	2.0		
TURNIN	G SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
		9999.0	35.0	9.7	4.1	10.4	91.0						
		9999.0	-35.0		4.2	10.2					_		_

18.2 7777.0 0.0 34.6 7777.0 7777.0 11.1 48.0

\*\*\*\* SHIP 4 5 \*\*\*\*\*

									2021	man m	nnte	SSHP	SRPN
DIMENSION	NATH	NMBR	TYPE	DISP	LEPX		BEAK	DRFT		9999.0	7015 209.0	30.0	82.0
	99.0	5.0	2.0	208.0	313.0	9999.0	48.2	14.4	1.0	,,,,,,			
	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	WHWV	TRLC		
RUDDER, PROP	15.4	91.0			9999.0	1.0		9999.0		4.0	2.0		
	13.4												
TURNING	SPDT	SPDE	RUDT	ADVT	TRNT	DIAT							
		7777.0	35.0	10.7	. 4.8	13.1	7999.0						
	15.4	7777.0	-35.0	12.0	4.9	12.7	9999.0						
STOPPING	CPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
STOPPING		7777.0	0.0		7777.0	9999.0	24.9	217.0					
***** SHIP *	6 \$\$1								1.11				
DIMENSION	NATH	NHBR	TYPE	DISP	LBPX	LOAX	BEAH	DRFT	TRIM	FULS	NDIS	SSHP	SRPH
a a state of a with	4.0	4.0	5.0	44.0	261.0	246.0	32.5	8.4	1.0	0.4	41.0	22.0	114.0
					RDST	ENGH	PROP	LATA	LCAX	UNUV	TRUC		
RUDDER, PROP	SSPD	RDAR	PDIA	ASHP 7777.0		ENGH 3.0	1,0		7777.0	1.0	2.0		
	19.1	38.0		7777.V	4.14	310					•		
TURNING	SPDT	SPDF	RUDT	ADUT	TRNT	DIAT	FRPH						
		9999.0	-35.0	4.5	4.0		7777.0						
	9999.0	9999.0	-20.0	7.4			7999.0				-		
	9999.0	7777.0	-10.0	7.8	5.0	11.8	7777.0						
***** SHIP *													
***** SHIP * Dimension	7 88 NATN	¥¥¥ NHBR	TYPE	DISP		LOAX		DRFT	TRIM	BULB	DU15	SSHP	SRPH
	7 88	¥¥¥ NHBR	14PE 3.0						TRIM 55.0	BULB 0.4	DU15 90.0		
DIMENSION	7 ## NATN 20.0	¥¥¥ <u>Nиbr</u> 7.0			242.0 RDST	244.0 ENGN	32.3 PROP	4.0 LATA	55.0 LCAX	0.4 WNWV	90.0 TRLC		
	7 ## NATN 20.0	NHBR 7.0 RDAR	3.0 PDIA	38.0	242.0 RDST	244.0 ENGN	32.3 PROP	4.0 LATA	55.0 LCAX	0.4 WNWV	90.0		
DINENSION Rudder, prop	7 88 NATH 20.0 SSPD 16.2	*** <u>NHBR</u> 7.0 RDAR 45.0	3.0 PDIA 4.4	38.0 ASHP 9799.0	242.0 RDST 3.0	244.0 ENGN 3.0	32.3 PROP 1.0	4.0 LATA 50.2	55.0 LCAX	0.4 WNWV	90.0 TRLC		
DIMENSION	7 88 NATH 20.0 SSPD 14.2	*** <u>NHBR</u> 7.0 RDAR 45.0 SPDF	3.0 PDIA 6.4 RUDT	36.0 ASHP 9999.0 ADUT	242.0 	244.0 ENGN 3.0 DIAT	32.3 PROP 1.0	6.0 LATA 50.2	55.0 LCAX	0.4 WNWV	90.0 TRLC		
DINENSION Rudder, prop	7 88 NATH 20.0 SSPD 16.2 SPDT 17.1	*** NHBR 7.0 RDAR 45.0 SPDF 7999.0	3.0 PDIA 4.4	36.0 ASHP 9797.0 ADUT 6.3	242.0 RDST 3.0 TRNT 2.0	244.0 ENGN 3.0 DIAT 4.2	32.3 PROP 1.0	6.0 LATA 50.2	55.0 LCAX	0.4 WNWV	90.0 TRLC		
DINENSION Rudder, prop	7 88 NATN 20.0 SSPD 16.2 SPDT 17.1 17.1	*** NHBR 7.0 RDAR 45.0 SPDF 9999.0 9999.0	3.0 PDIA 4.4 RUDT 15.0 -15.0	36.0 ASHP 9777.0 ADUT 6.5 8.1	242.0 <u>RDST</u> 3.0 <u>TRNT</u> 2.0 3.4	244.0 ENGN J.0 DIAT 6.2 8.7	32.3 PROP 1.0 • FRPH 9999.0 9999.0	4.0 LATA 50.2	55.0 LCAX -8.0	0.4 WNWV	90.0 TRLC		
DINENSION Rudder, prop	7 88 NATN 20.0 SSPD 16.2 SPDT 17.1 17.1 3 SPD9	*** NHBR 7.0 RDAR 45.0 SPDF 9999.0 9999.0 9999.0	3.0 PDIA 6.4 RUDT 15.0 -15.0 RUDS	36.0 ASHP 9999.0 ADUT 6.3 8.1 TDIS	242.0 RDST 3.0 TRNT 2.0 3.4	244.0 ENGN 3.0 DIAT 6.2 8.7 SRCH	32.3 PROP 1.0 • FRPH ++99.0 9999.0	4.0 LATA 50.2	55.0 LCAX -8.0	0.4 WNWV	90.0 TRLC		
DIMENSION Rudder, prop Turning	7 88 NATN 20.0 SSPD 16.2 SPDT 17.1 17.1 3 SPD9 17.1	NHBR 7.0 RDAR 45.0 SPDF 7999.0 9999.0 9999.0	3.0 PDIA 6.4 RUDT 15.0 -15.0 RUDS 0.0	36.0 ASHP 9999.0 ADUT 6.5 8.1 TDIS 19.7	242.0 	244.6 ENGN 3.0 DIAT 6.2 8.7 SRCH 9999.0	32.3 PROP 1.0 FRPH \$999.0 9999.0 TIHS 7.1	4.0 LATA 50.2 TIHR 103.0	55.0 LCAX -8.0	0.4 WNWV	90.0 TRLC		
DIMENSION Rudder, prop Turning	7 88 NATN 20.0 SSPD 16.2 SPDT 17.1 17.1 3 SPD9 17.1	*** NHBR 7.0 RDAR 45.0 SPDF 9999.0 9999.0 9999.0	3.0 PDIA 6.4 RUDT 15.0 -15.0 RUDS 0.0	36.0 ASHP 9999.0 ADUT 6.5 8.1 TDIS 19.7	242.0 RDST 3.0 TRNT 2.0 3.4	244.6 ENGN 3.0 DIAT 6.2 8.7 SRCH 9999.0	32.3 PROP 1.0 FRPH \$999.0 9999.0 TIHS 7.1	4.0 LATA 50.2 TIHR 103.0	55.0 LCAX -8.0	0.4 WNWV	90.0 TRLC		
DIMENSION RUDDER, PROP TURNING STOPPING	7 88 NATN 20.0 SSPD 16.2 SPDT 17.1 17.1 3 SPD9 17.1 16.9	NHBR 7.0 RDAR 45.0 SPDF 7999.0 7999.0 SHPS 9999.0	3.0 PDIA 6.4 RUDT 15.0 -15.0 RUDS 0.0	36.0 ASHP 9999.0 ADUT 6.5 8.1 TDIS 19.7	242.0 	244.6 ENGN 3.0 DIAT 6.2 8.7 SRCH 9999.0	32.3 PROP 1.0 FRPH \$999.0 9999.0 TIHS 7.1	4.0 LATA 50.2 TIHR 103.0	55.0 LCAX -8.0	0.4 WNWV	90.0 TRLC		
DIMENSION Rudder, prop Turning	7 88 NATN 20.0 SSPD 16.2 SPDT 17.1 17.1 3 SPD9 17.1 16.9	NHBR 7.0 RDAR 45.0 SPDF 7999.0 7999.0 SHPS 9999.0	3.0 PDIA 6.4 RUDT 15.0 -15.0 RUDS 0.0	36.0 ASHP 9999.0 ADUT 6.5 8.1 TDIS 19.7	242.0 	244.6 ENGN 3.0 DIAT 6.2 8.7 SRCH 9999.0	32.3 PROP 1.0 FRPH \$999.0 9999.0 TIHS 7.1	4.0 LATA 50.2 TIHR 103.0	55.0 LCAX -8.0	0.4 WNWV	90.0 TRLC	<u> </u>	-117.0
DIMENSION RUDDER, PROP TURNING STOPPING	7 88 NATN 20.0 SSPD 16.2 SPDT 17.1 17.1 17.1 17.1 16.7 8 8 8 8	NHBR 7.0 RDAR 45.0 SPDF 9999.0 7999.0 SIIPS 9999.0	3.0 PDIA 4.4 RUDT 15.0 -15.0 RUDS 0.0 9999.0	36.0 ASHP 9799.0 <u>ADUT</u> 6.5 8.1 TDIS 19.1 45.0	242.0 	244.6 ENGN 3.0 DIAT 6.2 8.7 \$RCH 9999.0 9999.0	32.3 PROP 1.0 • FRPH \$999.0 9999.0 TIHS 7.1 9999.0	6.0 LATA 50.2 TIMR 103.0 311.0	55.0 LCAX -8.0	0.4 UNUU 1.0	90.0 TRLC 2.0	19:0	-117.0
DIMENSION RUDDER, PROP TURNING STOPPING	7 88 NATN 20.0 SSPD 14.2 SPDT 17.1 17.1 3 SPD9 17.1 16.9 0 8 80	NHBR           7.0           RDAR           45.0           SPDF           9999.0           SHPS           9999.0           \$222           NKBR	3.0 PDIA 4.4 RUDT 15.0 -15.0 RUDS 0.0 9999.0	36.0 ASHP \$799.0 ADUT 6.5 6.1 TDIS 19.7 45.0	242.0 	244.6 ENGM 3.0 DIAT 6.2 8.7 SRCH 9799.0 9799.0	32.3 PROP 1.0 FRPH \$999.0 \$799.0 TIHS 7.1 \$799.0 BEAM	6.0 LATA 50.2 TIMR 103.0 311.0	55.0 	0.4 UNUU 1.0	90.0 TRLC 2.0	19:0	-117.0
DIMENSION RUDDER, PROP TURNING STOPPING	7 88 NATH 20.0 SSPD 16.2 SPDT 17.1 17.1 17.1 17.1 17.1 17.1 17.1 17.	NHBR 7.0 RDAR 45.0 SPDF 7797.0 7777.0 SIIPS 7979.0 7979.0 9777.0	3.0 PDIA 6.4 RUDT 13.0 -15.0 -15.0 9799.0 TTYPE 2.0	36.0 ASHP 4799.0 ADUT 6.5 6.1 7015 1915 1915 1915 139.0	242.0 	244.6 ENGM 3.0 DIAT 6.2 8.7 SRCH 9999.0 9999.0	32.3 PROP 1.0 • FRPH 9999.0 9999.0 11HS 11HS 9999.0 9999.0 BEAM 38.9	6.0 LATA 30.2 TIMR 103.0 311.0 DRFT 16.3	55.0 LCAX -8.0	0.4 UNUU 1.0	90.0 <u>TRLC</u> 2.0 DDIS 143.0	19:0	-117.0
DIMENSION RUDDER, PROP TURNING STOPPING	7 88 NATH 20.0 SSPD 16.2 SPDT 17.1 17.1 17.1 17.1 16.7 8 810 NATH 18.0 SSPD	NHBR 7.0 RDAR 45.0 SPDF 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0	3.0 PDIA 6.4 RUDT 15.0 -15.0 RUDS 0.0 9999.0 TYPE 2.0 PDIA	36.0 ASHP 9999.0 ADUT 6.5 8.1 TDIS 19.5 45.0 DISF 139.0 ASHF	242.0 	244.6 ENGM 3.0 DIAT 6.2 8.7 SRCH 9999.0 9999.0 LOAX 272.0 ENGM	32.3 PROP 1.0 • FRPH \$999.0 9999.0 TIHS 7.1 9999.0 BEAH 38.9 PROP	6.0 LATA 30.2 TIMR 103.0 311.0 DRFT 16.3 LATA	55.0 LCAX -8.0 TRIM 7779.0 LCAX	90L9 1.0	90.0 TRLC 2.0 DDIS 143.0 TRLC	19:0	-117.0
DIMENSION RUDDER, PROP TURNING STOPPING STOPPING DIMENSION	7 88 NATN 20.0 SSPD 16.2 SPDT 17.1 17.1 17.1 17.1 16.9 0 8 10 NATH 18.0	NHBR 7.0 RDAR 45.0 SPDF 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0	3.0 PDIA 6.4 RUDT 15.0 -15.0 RUDS 0.0 9999.0 TYPE 2.0 PDIA	36.0 ASHP 4799.0 ADUT 6.5 6.1 7015 1915 1915 1915 139.0	242.0 	244.6 ENGM 3.0 DIAT 6.2 8.7 SRCH 9999.0 9999.0 LOAX 272.0 ENGM	32.3 PROP 1.0 • FRPH \$999.0 9999.0 TIHS 7.1 9999.0 BEAH 38.9 PROP	6.0 LATA 30.2 TIMR 103.0 311.0 DRFT 16.3 LATA	55.0 LCAX -8.0	90L9 1.0	90.0 <u>TRLC</u> 2.0 DDIS 143.0	19:0	-117.0
DIMENSION RUDDER, PROP TURNING STOPPING STOPPING STOPPING BIMENSION RUDDER, PROF	7 88 NATN 20.0 SSPD 16.2 SPDT 17.1 17.1 3 SPD5 17.1 16.9 8 21 NATH 18.0 SSPL	NHBR           7.0           RDAR           45.0           SPDF           9999.0           9999.0           SHPS           9999.0           SHPS           9999.0           SHPS           9999.0           SHPS           9999.0           SHPS           9999.0           SHPS           PRDAR           42.0	3.0 PDIA 6.4 RUDT 15.0 -15.0 RUDS 0.0 9999.0 TVPE 2.0 PDIA 6.4	36.0 ASHP 4799.0 ADUT 6.3 6.1 19.1 45.0 D15F 139.0 ASHF 9797.1	242.0 RDST 3.0 TRNT 2.0 3.6 HRCH 9799.0 9799.0 LBPX 258.0 RDST 1.9	244.6 ENGM 3.0 DIAT 6.2 8.7 \$RCH 9799.0 7799.0 7799.0 9709.0 9709.0 9709.0 9709.0 9709.0 9709.0 9709.0 9709.0 9709.0 9709.0 9709.0 9709.0 9709.0 9709.0 9709.0 9709.0 9709.0 97000.0 97000.0 970000000000	32.3 PROP 1.0 * FRPH \$\$99.0 9999.0 TIHS 7.1 9999.0 BEAH 38.9 PROP 1.0	6.0 LATA 50.2 TIMR 103.0 311.0 DRFT 16.3 LATA 26.9	55.0 LCAX -8.0 TRIM 7779.0 LCAX	90L9 1.0	90.0 TRLC 2.0 DDIS 143.0 TRLC	19:0	-117.0
DIMENSION RUDDER, PROP TURNING STOPPING STOPPING DIMENSION	7 88 NATN 20.0 SSPD 16.2 SPDT 17.1 17.1 17.1 17.1 17.1 17.1 17.1 17.	NHBR 7.0 RDAR 45.0 SPDF 7797.0 7777.0 7777.0 7777.0 7777.0 7777.0 7777.0 7777.0 7777.0 7777.0 7777.0 7777.0 7777.0 7777.0 7777.0 7777.0	3.0 PDIA 6.4 RUDT 13.0 -15.0 -15.0 RUDS 0.0 9499.0 TYPE 2.0 PDIA 6.4 RUDT	36.0 ASHP 4799.0 ADUT 6.5 6.5 7015 1915 1915 1955 139.5 ASHF 9999.5	242.0 	244.6 ENGM 3.0 DIAT 6.2 8.7 SRCH 9999.0 9999.0 9999.0 LOAX 272.0 ENGM 3.0	32.3 PROP 1.0 • FRPH \$999.0 9999.0 TIHS 1.1 9999.0 BEAM 38.9 PROP 1.0 FRPH	6.0 LATA 30.2 TIMR 103.0 311.0 DRFT 16.3 LATA 24.0	55.0 LCAX -8.0 TRIM 7779.0 LCAX	90L9 1.0	90.0 TRLC 2.0 DDIS 143.0 TRLC	19:0	-117.0
DIMENSION RUDDER, PROP TURNING STOPPING STOPPING STOPPING BIMENSION RUDDER, PROF	7 88 NATH 20.0 SSPD 16.2 SPDT 17.1 17.1 17.1 17.1 17.1 16.7 SPD5 17.1 16.7 SPD5 16.5 SPD1 6.5 SPD1 6.5	NHBR           7.0           RDAR           45.0           SPDF           9999.0           800           800           800           800           800           800           800           800           800           <	3.0 PDIA 6.4 RUDT 15.0 -15.0 RUDS 0.0 9999.0 TYPE 2.0 PDIA 6.4 RUDT 35.0	36.0 ASHP 9799.0 ADUT 6.5 8.1 7015 19.5 45.0 D15F 139.0 ASHF 9777.0 ADUT	242.0 	244.6 ENGM 3.0 DIAT 6.2 8.7 SRCH 9999.0 9999.0 LOAX 272.0 ENGM 3.0 DIAT	32.3 PROP 1.0 FRPH \$999.0 9999.0 TIHS 7.1 9999.0 BEAH 30.9 PROP 1.9 FRPH	6.0 LATA 30.2 TIHR 103.0 311.0 DRFT 16.3 LATA 26.9	55.0 LCAX -8.0 TRIM 7779.0 LCAX	90L9 1.0	90.0 TRLC 2.0 DDIS 143.0 TRLC	19:0	-117.0
DIMENSION RUDDER, PROP TURNING STOPPING STOPPING BIMENSION RUDDER, PROF	7 88 NATN 20.0 SSPD 16.2 SPDT 17.1 17.1 17.1 3 SPD5 17.1 16.9 8 81 16.9 5 SPD1 16.0 5 SPD1 16.0	NHBR           NHBR           7.0           RDAR           45.0           SPDF           9999.0           9999.0           SHPS           9999.0           SHPS           9999.0           SHPS           NKBR           B.0           RDAR           42.0           SPDF           43.0	3.0 PDIA 6.4 RUDT 15.0 -15.0 RUDS 0.0 9999.0 TYPE 2.0 PDIA RUDT 35.0 -33.0	36.0 ASHP 4799.0 ADUT 6.3 6.1 19.7 45.0 D15F 139.0 ASHF 9797.0 ADUT 9797.0	242.0 RDST 3.0 TRNT 2.0 3.6 HRCH 9799.0 9799.0 LBPX 258.0 RDST 1.9 TRNT 2.4	244.6 ENGM 3.0 DIAT 6.2 8.7 SRCH 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0	32.3 PROP 1.0 • FRPH ++99.0 9999.0 • TIHS 7.1 9999.0 • EAH 38.9 • PROP • FRPH • • • • • • • • • • • • • • • • • • •	6.0 LATA 50.2 TIMR 103.0 311.0 DRFT 16.3 LATA 26.9	55.0 LCAX -8.0 TRIM 9999.0 LCAX -13.0	90L9 1.0	90.0 TRLC 2.0 DDIS 143.0 TRLC	19:0	-117.0
DIMENSION RUDDER, PROP TURNING STOPPING STOPPING STOPPING BIMENSION RUDDER, PROF	7 88 NATH 20.0 SSPD 16.2 SPDT 17.1 17.1 17.1 17.1 17.1 17.1 17.1 17.	NHBR           NHBR           7.0           RDAR           45.0           SPDF           9999.0           9999.0           SHPS           9999.0           SHPS           9999.0           SHPS           NKBR           B.0           RDAR           42.0           SPDF           43.0	3.0 PDIA 6.4 RUDT 15.0 -15.0 RUDS 0.0 9999.0 9999.0 TYPE 2.0 PDIA 6.4 RUDT 35.0 -33.0 RUDS	36.0 ASHP 4799.0 ADUT 6.5 8.1 TDIS 19.5 45.0 DISF 139.5 ASHF 9797.1 ADV1 9.1 S.1	242.0 RDST 3.0 TRNT 2.0 3.4 HRCH 9999.0 LBPX 258.0 RDST 1.0 TRNT 2.4 A	244.6 ENGM 3.0 DIAT 6.2 8.7 SRCH 9999.0 9999.0 9999.0 272.0 ENGA 3.0 DIAT 7.6 6.1	32.3 PROP 1.0 • FRPH 9999.0 9999.0 11HS 9999.0 BEAH 38.9 PROP 1.0 FRPH 94.0 1.0 FRPH	6.0 LATA 30.2 TIHR 103.0 311.0 DRFT 16.3 LATA 26.9	55.0 LCAX -8.0 TRIM 7799.0 LCAX -15.0	90L9 1.0	90.0 TRLC 2.0 DDIS 143.0 TRLC	19:0	-117.0

200 P 10 10

\*\*\*\*\* SHIP \* 9 #####

	DIMENSION	NATH 7.0							DRFT 5.1	TRIM		DDIS 11.0	SSHP 14.0	SRPN 9999.0
-	RUDDER, PROP	SSPD 23.1			ASHP 9999.0		ENGN 4.0		1ATA	104999.0				
	particula.													
	TURNING	SPDT				TRNT	DIAT							
		23.1	15.0	35.0	5.0	2.2	4.5	9999.0						
	210-2A8	SPDZ	RUDZ	OVS1	OVSF	OVSU	KPRH	TPRM	PERD					
		23.7						9999.0						
-	TIMESHIPT	10 11	111			-						_		
_	DIMENSION	NATH	and the second se						DRFT	TRIM		DDIS	SSHP	SRPH
		14.0	10.0	5.0	8.0	144.0	132.0	20.4	4.4	91.0	0.0	17.0	11.0	118.0
	RUDDER. PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	-	TRLC		
	NUPPERT PROP	20.5	and the second se		9999.0						9999.0			
				1.1.2.57										
	TURNING	SPDT				TRNT	DIAT	FRPM					_	
		20.5			9999.0		8.5	90.0	1					
				-33.0	9999.0		8.1	81.0	-					
-	STOPPING	SPDS			TDIS	HRCH	SACH	TTHS	TINR					
		20.2	100.0	0.0	14.0	9999.0	9999.0	5.5	120.0					
-										_				
	SASES SHIP .	11 **	***											
_	DIMENSION				TTSP				DRFT		BULB		SSHP	SRPH
		12.0	11.0	1.0	101.0	240.0	254.0	37.8	13.2	0.0	9999.0	100.0	18.0	115.0
-	RUDDER. PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA		UNDO			
	RODDERT FROM	15.5		9999.0			3.0			1777.0	1.0	TRLC 2.0		
1	TURNING	SPDT				TRNT	DIAT							
			9999.0					9999.0						
-		13.0	****.0	-30.0	8.0	3.4	/	9999.0						
	STOPPING	SPDS			TDIS	HRCH	SRCH	TINS	TINR					
-		15.0	9999.0	0.0	21.5	21.0	7.5	8.2	7.0				_	
	SHIP .	12 ##	***											
-					1000		· · · · · · · ·		-					
	DIMENSION	NATH				LBPX	LOAX	BEAN	DRFT		BULD	DDIS	SSHP	SRPH
-		20.0	12.0	3.0	105.0	163.0	171.0	24.8	7.1	9999.0	0.7	34.0	34.0	115.0
	RUDDER. PROP	SSPD	RDAR	PDIA	ASHP	RUST	ENGN	PROP	LATA	LCAX	UNNA	TRLC		
		14.0			9999.0	2.0	3.0	1.0	10.8	-14.0	5.0	2.0		
													141100	
	TURNING	SPOT				TRNT	DIAT	FRPH						
-		15.6				3.4	5.9	90.0		_				
				-3010										
_														_
	SARAS SHIP &	13 48												
	DIMENSION	NATH	NMBR	TYPE	PISP	LAPX	LOAX	BEAN	DRFT	TRIM	BULD	DPIS	SSHP	SRPH
-		1.0					204.0	27.4	7.0	29.0	0.0	31.0		103.0
							1 5 6 5 5	1000						1.
	RUDDER. PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLC		

										1.	10.00		
	22.6	42.0	7.2	****.0	2.0	1.0	1.0	39.1	-11.0	1.0	4.0		
TURNING	SPDT	SPDF	RUDT	ADUT	TRNT	DIAT	FRPM						
IONATHO		9999.0	35.0	8.1			9999.0						
	****.0	9999.0	35.0	8.4	5.1	11.4	9999.0						
STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TIMR					
	9999.0	9999.0	0.0	9999.0	11.2	****.0	2.8	18.0					
statt Sult .		1					_						
DIMENSION	NATN 1.0		TYPE 4.0		LRPX 234.0			DRFT 4.8	TRIM 55.0	BULB 0.0	DD15 43.0	SSHP 24.0	SRPH 103.0
			PDIA	ASHP	RDST	ENGN		LATA	LCAX	UNIN	TRLC	0.000	
RUDDER. PROP	SSPD 22.0			\$999.0	2.0	1.0		48.7	-13.0	1.0	2.0		
TURNING	SPDT	SPDF	RUDT	ADUT	TRNT	PIAT	FRPH						
		9999.0	35.0		4.4	13.4	9999.0						
	2999.0	9999.0	35.0	10.5	7.6		\$999.0			-		-	-
STOPPING			RUDS		HRCH			TINR					
	7999.0	9999.0	0.0	9999.0	17.9	\$999.0	6.0	18.0					
	15												
					-								
DIMENSION			TYPE		LBPX			DRFT 5.7	TRIM	BULB 0.0	DAIS	SSHP	SRPH 400.0
	13.0	15.0	6.0	13.0	148.0	182.0	25.0	3./	36.0	4.9	22.0		400.0
RUDDER. PROP			PDIA		RDST	ENGN		LATA	LCAX	WHWV	TRLC		
	21.0	23.0	5.7	9999.0	2.0	4.0	1.0	27.5	-9.0	1.0	2.0		
TURNING			RUDT	ADUT	TRNT	DIAT							
		9999.0	37.0		3.2	6.6	92.0						
	24.8	****.0	-34.0	6.4	3.6	7.1	92.0	1					
STOPPING		SHPS	RUDS					TINR		_			
	10.5	9999.0	0.0	3.1	9999.0	\$999.0	2.5	5.0					
ZIG-ZAG	SPDZ	RUDZ	OVS1	OVSF				PERD					
	23.5	10.9	8.0	9.0	7999.0	9999.0	9999.0	2.0					
	14 10			_									
			-	1.2.1	1.50								
DIMENSION	20.0		1YPE				BEAH 15.3	DRFT 2.6	TRIM 0.0	PULP 0.0	PDIS 4.0	0.7	S2PP
		1.1549	3.0	2.0									
RUDDER, PROP	SSPD		PDIA	ASHP	RDST 5.0	ENGN 3.0		LATA 3.5	LCAX -5.0	5.0	TRLC 2.0		
	9.0	/				1.1213			-010				
TURNING	SPDT	8PDF 9999.0	RUDT		TRNT		FRPH 9997.0		_				
	10.5	7777.0	-35.0				++++.0						
		1.1.1.1.1.1.1											
FISSE SHIP .	17 88												
DIMENSION	NATH	NNBR	TYPE		LIPX			DRFT	TRIN	BULD	DDIS	SSHP	SRP
	10.0	17.0	3.0	4.0	88.0	+1.0	14.2	5.5	0.0	0.4	4.0	2.6	212.0
RUDDER . PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUU	TRIC	_	_

ZIB-ZAS SPDZ RUDZ OVS1 OVSF OVSW KPRH TPRH PERD 7.0 10.0 4.0 4.0 7779.0 7999.0 7999.0 7999.0

\*\*\*\*\* SHIP # 18 \*\*\*\*\*

DIHENSIDH	NATH	NREE	TYPE	DISY	LUPX	LUAX	BEAH	DRET	TRIN	BULB	DDIS	SSHP	SRPH
	20.0		3.0		186.0		26.5	4.2		1.0			118.0
RUDDER, PROP	SSPD	RDAR	PDIA	ASHE	RDST	ENGH	PROP	LATA	LCAX	UNUV	TRLC		
ROOPERT TROP	17.7			9999.0	5.0	3.0		25.7		1.0			
TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
		9999.0	35.0		2.6	6.4							
	9999.0	9999.0	-35.0	5.2	2.2	5.8	100.0						
##### SHIP #	19 88	***											
DIMENSION	NATH	NHBR	TYPE	DISP	LBPX	LOAX	DEAH	DRFT	TRIN	BULB	DDIS	SSHP	SRPH
9111EN 9104	1.0		2.0				9999.0						86.0
RUDDER, PROP		RDAR 9999.0	PDIA		RDST	EHGN	PR0/ 7777.0	LATA					
	13./	****	7777.0	*****	7777.0	3.0	777710	****			2.0		
STOPPING		SHPS			HRCH								
		9999.0				9991.0		9997.0					
	15.9	9999.0	0.0	26.9	9999.0	9999.0	11.1	9999.0					
BRANN SHIP	20 ##	***								•			
DIMENSION	NATH	NHER 20.0	TYPE	285.0	0000.0	LOAX	BEAH	9999.0	TRIN	0999.0	9999.0		SRPH R6.0
RUDDER, PROP					RDST				LCAX				
	14.3	9999.0	9999.0	9999.0	4444.0	1.0	4444.0	9999.0	9999.0	9999.0	2.0		
STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TIMR					
	14.3	9999.0	0.0	48.9	9999.0	9999.0	20.3	9999.0					
SESSE SHIP .	21 ##	***				-	-						
DIMENSION	-	HABR	TYPE	DISP	LBPX	LOAX	REAK	DRFT	TRIM	BULB	DDIS	SSHP	SRPH
PINENDIUM	1.0			220.0					9999.0				80.0
RUDDER, PROP		RDAR 9999.0		ASHP			PROP		LCAX		1.0		
TURNING							FRPH						
		9999.0			9999.0		9999.0						
		9999.0			9999.0		9999.0						
		\$999.0			9999.0		9999.0			_			
ates at						1000		1.44.1					
210-ZA0		RUDZ					TPRM				_		
	16.0	20.0	13.0	14.0	0.0	****.0	9999.0	7.8					
BBBBB SHIP	22 38												
DIMENSION	1.0				LBPX	10AX		DRFT	TRIM			55HP	SRPM BO.D
RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	MNMA	TRLC		

	14.0	9999.0	8.7	9999.0	9999.0	****.0	1.0	7777.0	7977.0	1.0	2.0		
TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT							
		9999.0	35.0		7779.0		7777.0						
		9999.0	35.0		777.0		7777.0						
		9997.0	-35.0		9999.0		7777.0				-		
ZIG-ZAQ			0451	OVSF	OVSU		TPRH	PERD					
	16.0	20.0	17.0	16.0	0.0	<b>4444.0</b>	7777.0	7.8					
**** SHIP *	23 88	***									···		
BINENCION	NATH	NHDR	TYPE			LOAY	DEAH	DRFT	TRIN	BULB	PDIS	SSHP	SRPH
DINENSION	4.0		2.0	DISP 245.0	312.0	1997.0	44.4					9999.0	
RUDDER, FROP	SSPD	RDAR	PDIA	ASHP	RDST	EHGN	PROP	LATA	LCAX		TRLC		
	16.0	105.0	8.8	9999.0	2.0	9999.0	1.0	9999.0	7979.0	7777.0	2.0		
TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	PLAT	FRPH						
T WINTS ITO	15.0		35.0		9999.0		7777.0						
_													
<u>ZIG-ZAG</u>	SPDZ		OVSI	OVSF	OVSN	KPRH	TPRK	PERD					
	15.4	20.0	11.0	15.0	5.9	0.5	-3.0	7.5					
***** SHIP *	24 38	***											
DINENCION	-	NKBR	TYPE	DISP		LOAX	PEAN	DRFT	TRIN	PULP	DDIS	SSHP	SRPH
DINENSION	<u>NATN</u>	and the second second	2.0			9999.0			0.0	the second s		9999.0	80.0
			••••						••••				
RUDDER, PROP	SSPD		PDIA		RDST		PROP		LCAX		TRLC	·	
	16.0	105.0	8.8	9999.0	2.0	7797.0	1.0	7777.0	7777.0	9999.0	5.0		
TURNING	SPDT	SPDF	RUDT	ADVT	TRHT	DIAT	FRPH						
	15.0		35.0		9999.0		9999.0						
ZIG-ZAG	SPD2 15.4	RUDZ 20.0	0VS1 7.0	OVSF B.O	0VSW		TPRH 1.8	PERD 10.6					
	1310	2010	/		514								
##### SHIP #	25 ##	***								<u> </u>			
DIMENSION	NATH	NHPR	TYPE	DISP	LBPX	LOAX	DEAN	DRFT	TRIN	BUL.B	DDIS	SSHP	SRPH
	5.0	and a loss of the statement of the	2.0	Statements in the second second		274.0			0.0		225.0		112.0
RUDDER, PROP	SSPD 17.2		PDIA 7.0	ASHP 18.0	RDST	ENGH 3.0	PR0P	LATA 34.0	LCAX		TRLC 9999.0		
	17.2	02.0	/.0	10.0	310	3.0	110	3010	-0.0	4.0			
TURNING	SPDT		RUDT	ADUT	TRNT	DIAT							
		9999.0	35.3	8.3			7999.0						
	0	9999.0	-36.0	8.8	3.2	9999.0	7777.0						
STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
	15.8	100.0	0.0	48.8	48.8	10.0	14.4	7777.0					
***** SHIP *	26 \$\$	***											
DIMENSION	NATH	NMBR	TYPE	DISP	LDPX	LOAX	DEAR	DRFT	TRIN	DUL	DDIS	e cus	SRPH
PINCHOLUM			2.0						0.0		144.0		112.0
	5.0												

D-3

TURNING	SPDT	SPDF 7777.0	RUDT 35.0	ADVT	TRNT	BIAT	FRPH						
		7777.0	-35.0	4.7		7777.0							
			-										
STOPPING	5PDS 14.4	SHPS 100.0	RU05	TD18 40.3	HRCH	SRCH 14.7	TINS 13.4	TINR 7797.0					
	27 ##												
DIMENSION	HATH	NHOR	TYPE	DISP	LBPX	LOAX	VEAK	DRFT	TRIN	DULD	DDIS	SSHP	SRPH
	5.0	27.0	2.0	146.0	255.0		42.0		0.0	0.3			115.0
RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX		TRLC		
NOODENT THO	14.7	62.0	4.7	17.0	5.0	3.0	1.0		-7.0		9999.0		
TURNING	SPDT	SPDF	RUBT	ADVT	TRNT	DIAT	FRPH						
	16.6	7999.0	35.1	8.2		9999.0							
	16.6	9999.0	-35.1	9.0	3.5	++++.0	++++.0						
STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
	14.5	100.0	0.0	34.0	36.0	6.6	14.6	7999.0					
***** SHIP *	28 11	111											
DIMENSION	NATH	NHDR	TYPE	DISP	LBPX	LOAX	REAK	DRFT	TRIN	BULD	DDIS	SSHP	SRPH
	5.0		1.0	\$5.0		and a subscription of the local division of	the second s		0.0	0.1		20.0	115.0
	SSPD	EDAR	FDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLC		
RUDDER, PROP	17.1		6.4	14.0	5.0				-4.0		9999.0		
													•
TURNING	SPDT	SPDF 7777.0	RUDT 35.5	ADUT	TRHT	NIAT	FRPM						
		7777.0	-34.0	7.4		7777.0							
STOPPING	SPUS	SHPT	RUDE	TPIS	HRCH	SECH	TINS	TINK					
	16.4	100.0	0.0	40.4	40.6	5.4	14.5	7777.0					
***** SHIP *	27 \$\$	***											
DIMENSION	NATH		TTPE	DISP	LBPX				TRIN		PDIS	SSHP	5RPH 104.0
	5.0	29.0	2.0	125.0	262.0	274.0	41.4	13.9	0.0		263.0	24.4	10410
RUDDER, PROP	SSPD		Pala	ASHF	RUST	ENGN	PROP		LCAX	VIIII			
	17.5	40.0	7.0	8.3	1.0	1.0	1.0	34.0	-12.0	2.0	9999.0		
TURNING	SPDT		RUDT	ABUY	TRNY					•			
		9999.0	35.7	7.7		7777.0 7777.0							
	1/12												
STOPPING	SPDS		RUDS 0.0	TD18 3.5	HRCH			TINR 7777.0					
	17.2	100.0	0.0	3.3	3.3	0.0		1111.0					
SESSE SHIP &	30 \$\$	***											
DIMENSION	NATH		TYPE	DISP	LBPX				TRIM	BULB	DPIS	SSHP	SRPH
	5.0	30.0	2.0	102.0	239.0	248.0	37.2	12.0	0.0	0.3	133.0	21.0	118.0
RUDDER, PROP	SSPD		PDIA	ASHP	RDST		PROP		LCAX	UNWY			
	17.0	47.0	6.4	16.0	5.0	3.0	1.0	34.0	-11.0	2.0	9999.0		
TURNING	SPDT	SPDF	RUDT	ADUT	TRNT								
	14.0	7777.0	36.0	10.1	4.0	9999.0	7777.0	1					

16.0 9999.0 -36.0 7.6 3.2 9999.0 9999.0 STOPPINE SPDS SHPS RUDS TDIS HRCH SRCH TINS TINR 16.9 100.0 0.0 34.7 34.7 19.5 12.7 9999.0

SHIP .	31 88												
DIMENSION	NATH	NHRR	TYPE	DISP	IRPY	LOAX	REAM	DRFT	TRIM	BULB	DDIS	SSHP	SRPH
- AAUSTON M	5.0	31.0	1.0			243.0	35.8	12.1	0.0		112.0		114.0
	1.22.2												
UDDER, PROP	SSPD		PPIA	ASHP 10.4	RAST 5.0				-10.0		TRLC 9999.0		
	17.0	43.0	4.7	10.4	5.0	3.0	1.0	33.0	-10.0	2.0			
TURNING	SPDT	SPDF	RUDT	ADUT	TRNT		FRPH	_		_			
		9999.0	35.0	7.4		9999.0							
and the second	15.2	9999.0	-35.0	7.1	4.7	\$999.0	****.0	_					
	32	***											
DIMENSION	NATN	NHPR	TYPE	DISP	LBPX	LOAX	BEAN	DRFT	TRIM	PULD	DDIS	SSHP	SRPM
DINENSION	5.0		2.0	103.0	234.0		37.0	14.4	0.0	1.0	137.0	21.0	
RUDDER. PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLC		
areas and	17.2		4.4	10.4	5.0	3.0	1.0	29.0	-9.0		7997.0		
TURNING	SPDT	SPDF	RUDT	ADUT	TRNT	DIAT	FRPM						
		9999.0	35.0	7.7	4.0	9999.0	9999.0						
	17.0	9999.0	-35.0	7.5	4.4	9999.0	\$999.0						
STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
BIOPPING		100.0	0.0	29.4	29.4			7999.0					
EREES SHIP 4	33 ##	111											
DINENSION	NATH	NHER	TYPE	DISP	LBPX	LOAX	BEAN	DRFT	TRIN	BHIL B	0015	SSHP	SRPH
DIMENSION	NATN 5.0		TYPE 2.0	DISP 122.0	LBPX 246.0		BEAN 40.2	DRFT 14.9	TRIM 0.0	BUL B 1.0	DD15 173.0	\$5HP 23.0	SRPH 114.0
	5.0	33.0	2.0	122.0	246.0	258.0	40.2	14.9	0.0	1.0	173.0		
DIMENSION RUDDER, PROP	5.0 SSPD	33.0 RDAR	2.0 PDIA	122.0 ASHP	246.0 RUST	258.0 EHGN	40.2 PROP	14.9 LATA	0.0 LCAX	1.0 UNUV	173.0 TRLC		
	5.0	33.0 RDAR	2.0	122.0	246.0	258.0 EHGN	40.2	14.9	0.0	1.0 UNUV	173.0		
	5.0 SSPD	33.0 RDAR 55.0	2.0 PDIA	122.0 ASHP	246.0 RUST	258.0 Ehgh 3.0	40.2 PROP 1.0	14.9 LATA	0.0 LCAX	1.0 UNUV	173.0 TRLC		
RUDDER, PROP	5.0 SSPD 14.8 SPDT 16.2	33.0 RDAR 55.0 SPDF 9999.0	2.0 PDIA 6.8 RUDT 35.0	122.0 ASHP 7.4 ABUT 7.2	246.0 RUST 5.0 TRHT 5.0	238.0 Ehgn 3.0 Biat *999.0	40.2 PROP 1.0 FRPM 9599.0	14.9 LATA	0.0 LCAX	1.0 UNUV	173.0 TRLC		
RUDDER, PROP	5.0 SSPD 14.8 SPDT 16.2	33.0 RDAR 55.0 SPDF	2.0 PDIA 6.8 RUDT	122.0 ASHP 7.4 ADUT	246.0 RUST 5.0 TRHT 5.0	238.0 Ehgn 3.0 Biat *999.0	40.2 PROP 1.0 FRPH	14.9 LATA	0.0 LCAX	1.0 UNUV	173.0 TRLC		
RUDDER, PROP Turning	5.0 SSPD 14.8 SPDT 14.2 14.2	33.0 RDAR 55.0 SPDF 9999.0	2.0 PDIA 6.8 RUDT 35.0 -35.0	122.0 ASHP 7.4 ABUT 7.2 7.3	244.0 RUST 5.0 TRHT 5.0 4.7	238.0 EHGN 3.0 BIAT *999.0	40.2 PROP 1.0 FRPM 9999.0 9999.0	14.9 LATA 28.0	0.0 LCAX	1.0 UNUV	173.0 TRLC		
RUDDER, PROP	5.0 SSPD 16.8 SPDT 16.2 16.2 SPDS	33.0 RDAR 55.0 SPDF 9999.0	2.0 PDIA 6.8 RUDT 35.0	122.0 ASHP 7.4 ABUT 7.2	246.0 RUST 5.0 TRHT 5.0	258.0 EHGN 3.0 DIAT *999.0 9999.0 SRCH	40.2 PROP 1.0 FRPM 9999.0 9999.0 TIHS	14.9 LATA	0.0 LCAX	1.0 UNUV	173.0 TRLC		
RUDDER, PROP Turning	5.0 SSPD 16.8 SPDT 16.2 16.2 SPDS	33.0 RDAR 55.0 SPDF 9999.0 9999.0 SHPS	2.0 PDIA 6.8 RUDT 35.0 -35.0 RUDS	122.0 ASHP 7.4 ABUT 7.2 7.3 TDIS	246.0 RUST 5.0 TRHT 5.0 4.7 HRCH	258.0 EHGN 3.0 DIAT *999.0 9999.0 SRCH	40.2 PROP 1.0 FRPM 9999.0 9999.0 TIHS	14.9 LATA 28.0	0.0 LCAX	1.0 UNUV	173.0 TRLC		
RUDDER, PROP Turning	5.0 SSPD 16.8 SPDT 16.2 16.2 SPDS 16.2	33.0 RDAR 55.0 SPDF 9999.0 9999.0 SHPS 100.0	2.0 PDIA 6.8 RUDT 35.0 -35.0 RUDS	122.0 ASHP 7.4 ABUT 7.2 7.3 TDIS	246.0 RUST 5.0 TRHT 5.0 4.7 HRCH	258.0 EHGN 3.0 DIAT *999.0 9999.0 SRCH	40.2 PROP 1.0 FRPM 9999.0 9999.0 TIHS	14.9 LATA 28.0	0.0 LCAX	1.0 UNUV	173.0 TRLC		
RUDDER, PROP TURNING Stopping	5.0 SSPD 14.8 SPDT 14.2 SPDS 14.2 SPDS 14.2	33.0 RDAR 55.0 SPDF 9999.0 9999.0 SHPS 100.0	2.0 PDIA 6.8 RUDT 35.0 -35.0 RUDS 0.0	122.0 ASHP 7.4 ABUT 7.2 7.3 TDIS 27.0	244.0 RUST 5.0 TRHT 5.0 4.7 HRCH 27.0	258.0 EHGN 3.0 BIAT *999.0 9999.0 SRCH 12.0	40.2 PROP 1.0 FRPM 7979.0 7979.0 TIHS 13.0	14.9 LATA 28.0 TIHR 9999.0	0.0 LCAX -7.0	1.0 UNUV 3.0	173.0 TRLC 7777.0	23.0	114.0
RUDDER, PROP TURNING Stopping	5.0 SSPD 14.8 SPDT 14.2 14.2 SPDS 14.2 34 33 NATH	33.0 RDAR 55.0 SPDF 9999.0 9999.0 SHPS 100.0	2.0 PDIA 6.8 RUDT 35.0 -35.0 RUDS 0.0 TYPE	122.0 ASHP 7.4 ABUT 7.2 7.3 TD15 27.0	244.0 RUST 5.0 TRHT 5.0 4.7 HRCH 27.0	258.0 EHGM 3.0 BIAT *999.0 9399.0 SRCH 12.0	40.2 PROP 1.0 FRPM 7979.0 7979.0 TIMS 13.0	14.9 LATA 28.0 TIHR 9999.0	0.0 LCAX -9.0	1.0 UNUV 3.0	173.0 TRLC 9999.0	23.0 23.0	114.0
RUDDER, PROP TURNING Stopping	5.0 SSPD 14.8 SPDT 14.2 SPDS 14.2 SPDS 14.2	33.0 RDAR 55.0 SPDF 9999.0 9999.0 SHPS 100.0	2.0 PDIA 6.8 RUDT 35.0 -35.0 RUDS 0.0	122.0 ASHP 7.4 ABUT 7.2 7.3 TD15 27.0	244.0 RUST 5.0 TRHT 5.0 4.7 HRCH 27.0	258.0 EHGM 3.0 BIAT *999.0 9399.0 SRCH 12.0	40.2 PROP 1.0 FRPM 7979.0 7979.0 TIMS 13.0	14.9 LATA 28.0 TIHR 9999.0	0.0 LCAX -7.0	1.0 UNUV 3.0	173.0 TRLC 7777.0	23.0 23.0	114.0
RUDDER, PROP TURNING Stopping	5.0 SSPD 14.8 SPDT 16.2 14.2 SPDS 14.2 SPDS 14.2 SPDS 14.2 SPDS 14.2 SPDS 14.2 SPDS 14.2 SPDS	33.0 RDAR 55.0 SPDF 9999.0 SHPS 100.0 SHPS 100.0 SHPS 34.0	2.0 PDIA 6.8 RUDT 35.0 -35.0 RUDS 0.0 TYPE	122.0 ASHP 7.4 ABUT 7.2 7.3 TD15 27.0	244.0 RUST 5.0 TRHT 5.0 4.7 HRCH 27.0	238.0 EHGN 3.0 DIAT *999.0 9799.0 SRCH 12.0 LOAX 270.0	40.2 PROP 1.0 FRPH 9999.0 TIHS 13.0 PEAM 44.2	14.9 LATA 28.0 TIMR 9999.0 <u>PRFT</u> 15.1	0.0 LCAX -9.0	1.0 UNUV 3.0 BULR 0.6	173.0 TRLC 9999.0 Pbjs 199.0 TRLC	23.0 23.0	114.0
RUDDER, PROP TURNING STOPPING ##### Ship # Dimemsion	5.0 SSPD 14.8 SPDT 16.2 14.2 SPDS 14.2 SPDS 14.2 SPDS 14.2 SPDS 14.2 SPDS 14.2 SPDS 14.2 SPDS	33.0 RDAR 55.0 SPDF 9797.0 77997.0 SHPS 100.0 SHPS 100.0	2.0 PDIA 6.8 RUDT 35.0 -35.0 RUDS 0.0 TYPE 2.0	122.0 ASHP 7.4 ABUT 7.2 7.3 TDIS 27.0 DISP 143.0	244.0 RUST 5.0 TRHT 5.0 4.7 HRCH 27.0 LPPX 245.0	258.0 EHGM 3.0 DIAT *999.0 9799.0 9799.0 SRCH 12.0 LOAX 276.0 EHGM	40.2 PROP 1.0 FRPM 9799.0 9799.0 71HS 13.0 PEAM 44.2 PROP	14.9 LATA 28.0 TIMR 9999.0 DRFT 15.1 LATA	0.0 LCAX -9.0 TRIM 0.0 LCAX	1.0 UNUV 3.0 BULR 0.6	173.0 TRLC 7977.0 PDIS 177.0	23.0 23.0	114.0
RUDDER, PROP TURNING STOPPING STOPPING DIMENSION RUDDER, PROP	5.0 SSPD 14.9 SPDT 14.2 14.2 14.2 SPDS 14.2 34 83 MATH 5.0 SSPD 17.3	33.0 RDAR 55.0 SPDF 9999.0 9999.0 SHPS 100.0 888 MMBR 34.0 RDAR 58.0	2.0 PDIA 6.8 RUDT 35.0 -35.0 RUDS 0.0 TYPE 2.0 PDIA 7.0	122.0 ASHP 7.4 ABUT 7.2 7.3 TD1S 27.0 D1SP 143.0 ASHP 11.4	244.0 RUST 5.0 TRNT 5.0 TRNT 5.0 4.7 HRCH 27.0 LRPX 245.0 RDST 5.0	238.0 EHGM 3.0 PIAT *999.0 9797.0 SRCH 12.0 LOAX 278.0 EHGM 3.0	40.2 PROP 1.0 FRPH 9999.0 TIHS 13.0 PEAM 44.2 PROP 1.0	14.9 LATA 28.0 TIHR 9999.0 PRFT 15.1 LATA 32.0	0.0 LCAX -9.0 TRIM 0.0 LCAX	1.0 UNUV 3.0 BULR 0.6	173.0 TRLC 9999.0 Pbjs 199.0 TRLC	23.0 23.0	114.0
RUDDER, PROP TURNING STOPPING ##### Ship # Dimemsion	5.0 SSPD 16.8 SPDT 16.2 16.2 SPDS 16.2 34 33 MATM 5.0 SSPD 17.5 SPDT	33.0 RDAR 55.0 SPDF 9999.0 9999.0 SHPS 100.0 888 MMBR 34.0 RDAR 58.0	2.0 PDIA 6.8 RUDT 35.0 -35.0 RUDS 0.0 TYPE 2.0 PDIA	122.0 ASHP 7.4 ABUT 7.2 7.3 TD15 27.0 D1SP 143.0 ASHP	244.0 RDST 5.0 TRHT 5.0 4.7 HRCH 27.0 LPPX 245.0 RDST 5.0 TRHT	238.0 EHGN 3.0 DIAT *999.0 9999.0 SRCH 12.0 SR	40.2 PROP 1.0 FRPH 9999.0 TIHS 13.0 PEAM 44.2 PROP 1.0	14.9 LATA 28.0 TIHR 9999.0 PRFT 15.1 LATA 32.0	0.0 LCAX -9.0 TRIM 0.0 LCAX	1.0 UNUV 3.0 BULR 0.6	173.0 TRLC 9999.0 Pbjs 199.0 TRLC	23.0 23.0	114.0

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\*\*\*\* SHIP 4 35 \*\*\*\*\*

DIMENSION	NATH 5.0	NHDR 35.0	TYPE. 2.0	DISP 154.0	L MPX 274.0	L.OAX	BEAN 45.4	DRFT 14.8	TRIN 0.0	BUL 8 0.7	DRIS 218.0	55HP 28.0	SRPM 114.0
RUDDER, PROP	SSPD 17.0	RDAR 44.0	PDIA 7.0	ASHP	RDST 5.0	ENGN 3.0	PROP 1.0	LATA 34.0	LCAX	UHUV 3.0	TRLC 7777.0		
TURNING	SPDT 14.8	SPDF 9999.0	RUDT 35.0	ADUY B.4									
	16.8	9999.0	-35.0	8.9	6.5	\$999.0	9999.0						
STOPPING	SPDS 16.8	SHPS 100.0	RUDS 0.0	TDIS 24.0	HRCH 24.0	SRCH 22.0	TINS 13.2	TINR 7777.0					
**** SHIP *	36 221	***											
DINENSION	NATH 5.0	NMBR 36.0	TYPE 3.0	DISP 28.0	L BPX	LOAX 223.0	BEAH 31.1	DRFT 4.0	TRIN 36.0	BULB 7777.0	DDIS 92.0	SSHP 14.0	SRPH 105.0
RUDDER, PROP	SSPD - 17.6	RDAR 32.0	PDIA 6.6	ASHP 4.0	RDST 5.0	ENGN 1.0	PROP 1.0	LATA 3.3	LCAX	UNUV 5.0	TRLC 9999.0		
TURNING		SPDF 9999.0	RUDT 35.0	ADV 1 6.5		DIAT 9999.0							
	17.1	9999.0	-35.0	6.1	4.0	4444.0	9999.0						
STOPPING	SPDS	SHPS 100.0	RUDS	TDIS	HRCH 18.4	SRCH 2.7		TINR 9999.0					
RUDDER, PROP	SSPD		TYPE 1.0 PDIA	-TI.O	215.0 RDST	225.0	32.2	LATA	LCAX	-	TRLC	55HP 18.0	SRPH
RUDDERT PROP	17.3		4.6	8.0	5.0				-10.0		9999.0		
TURNING	SPDT	SPDF	RUDT	ADUT	TRNT	DIAT	FRPN						
		9999.0	-35.0	5.8		9999.0	9999.0				-		
STOPPING	SP05 17.2	SHP5 100.0	RUDS 0.0	22.0	HRCH 22.0		7.9	9999.0					
	38 88						-						
DINENSION	NATN 5.0		17PE 3.0	DISP 34.0	214.0			6.3	TRIN 25.0	BUL 8	PD18 97.0	18.0	SRPA 117.0
RUDDER. PROP	\$\$PD 17.3		PDIA 6.2	ASHF 7.0	RDST 5.0	ENGN 3.0		31.0	-8.0	4.0	TRLC		
TURNING		SPDF 9999.0 9999.0	RUDT 35.0 -35.0	ADUT 6.6			FRPH 9979.0 9999.0						
STOPPING	SPDS 17.2	SHPS	RUDS 0.0	TDIS 15.7	HRCH 15.7			TINR					
	39 18												
DIMENSION	-		TYPE 2.0	DISP 244.0					TRIM 0.0	BUL.8		SSHP	SRPH 101.0

LATA VUNU TRLC PROP LCAX PDIA ASHP RDST FNGN RUDDER, PROP SSPD RDAR 4.0 9999.0 25.0 -9.0 1.0 . 7.8 9999.0 1.0 14.4 91.0 5.0 ADVT SPDT SPDF RUDT TRNT DIAT FRPH TURNINE 9.8 4.0 9999.0 9999.0 5.3 9999.0 9999.0 35.0 4.5 14.4 15.5 4.3 -35.0 9.3 . HRCH SRCH TIHS TINR SPDS SHPS RUDS TDIS STOPPING 35.1 24.4 20.9 9999.0 100.0 -16.6 0.0 35.1 ۱. ١. ##### SHIP # 40 ##### 2.0 DRFT 16.4 TRIM 0.0 BULB DDIS \$5HP SRPH 0.0 304.0 20.0 65.0 NATH 5.0 NHBR 40.0 1YPE DISP LBPX LOAX 2.0 209.0 310.0 325.0 BEAH 47.2 DIMENSION ... UNNA TRLC RIST ENGN PROP 1ATA 32.0 LCAX -8.0 SSPD RDAR PDIA ASHP RUDDER, PROP 4.0 9999.0 1.0 1.0 12 8.8 9999.0 5.0 14.0 75.0 TURNING . SPDT ADUT TRNT DIAT FRPH SPDF RUDT 4.5 9999.0 9999.0 12.6 4.9 14.0 35.0 -35.0 4.3 9999.0 9999.0 1. HRCH TINS TINR 19 STOPPING SPUS SHPS RUDS TDIS SRCH 19.4 9999.0 12.9 15.7 100.0 0.0 24.0 24.8 11 \*\*\*\*\* SHIP \* 41 \*\*\*\*\* 21 ... DDIS SSHP SRPH DRFT TRIM BULB DISP BEAM 25 DIMENSION NATH NMBR TYPE LEPY LOAX 183.0 290.0 307.0 45.5 16.1 0.0 0.0 266.0 30.0 97.0 2.0 24 5.0 41.0 121 PROP LCAX UNUV TRUC ENGN ATA SSPD FDIA ASHP RUST RUDDER, PROF RDAR 7. 5.0 7777.0 7.8 9999.0 5.0 1.0 1.0 31.0 -8.0 14.8 71.0 12 10 ADVT TENT DIAT FRPH SPDT SPDF RUDT TURNING 5.5 9999.0 9999.0 8.9 14.0 3.9 35.0 .. 5.4 9999.0 9999.0 31 14.2 5.1 -35.0 34 STOPPING SPDS SHPS RUDS TDIS HRCH SRCH TINS TIMR 100.0 0.0 36.8 36.8 10.1 15.7 9999.0 14.8 57 ##### SHIP # 42 ##### 40 DDIS SSHP SRPH TRIN DULD DIMENSION NATH NKBR TYPE DISP LBPX LOAX BEAN DRET 0.0 141.0 22.0 82.0 2.0 112.0 245.0 274.0 38.9 13.0 2.0 5.0 42.0 40 14.1 PROP LATA LCAX WHW TRLC RDAR PDIA ASHP RDST ENGN RUDDER. FROP SSPD 111 3.0 9999.0 1.0 1.0 1.0 22.0 -7.0 -16.5 49.0 8.0 99.0 -SPDT SPDF RUDT ADUT TRNT DIAT FRPM TURNING 35.0 9.0 5.4 799.0 9999.0 SE 21 2 2 1 2 3 1 14.3 \$.7 16.5 TINS RUDS. 24.5 HRCH 26.5 SRCH TIMR STOPPING 13.0 9999.0 9.7 ##### SHIP # 43 ##### 30.0 35HP SRPH 24.0 108.0 DISP 101.0 1 8PX 1.0AX BEAH 37.2 DRFT 13.1 TRIM. BULP NATH S.O NHBR TYPE 2.0 DIMENSION 43.0 TRLC LINUU LCAX RUDDER, PROP SSPD RDAR PDIA ASHP RDST ENGN PROP LATA

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	17.0	44.0	7.0	****.0	5.0	1.0	1.0	21.0	-7.0	1.0 9999.0
TURNING	SPDT 17.0	SPDF 5.3	RUDT 35.0				FRPH 9999.0			
	17.0	5.4	-35.0	7.4	4.3	9999.0	9999.0			

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TINS TINR 12.5 9999.0 STOPPING SPOS SHPS TDIS SRCH RUDS HRCH 6 14.4 100.0 0.0 24.6 24.6 10.0 \*\*\*\*\* SHIP \* 44 \*\*\*\*\* DIMENSION NATH MADR TYPE DISP TAPY LOAX BEAK DRFT TRTH BULK SSHP SRPA 15.0 122.0 DDIS 5.0 44.0 3.0 34.0 213.0 223.0 31.7 3.3 17.0 0.0 98.0 RUDDER, PROP SSPD RDAR PDIA ASRA EDST ENGR PROP TATA DUDU LCAX TRUC 4.0 9999.0 34.0 4.0 9999.0 16.4 5.0 3.0 1.0 30.0 -4.0 TURNING SFOT SPDF RUDI ADUI TENT PIAT FRPH 3.4 9999.0 9999.0 16.4 5.3 35.0 7.0 16.4 -35.0 4.7 3.5 9999.0 9999.0 4.3 ...... STOPPING SPDS SHPS RUDS TDIS HRCH SRCH TIMS TIME 8.2 9999.0 100.0 16.4 0.0 21.5 21.5 3.4 \$5888 SHIP & 45 88888 DIMENSION NATN NMBR TYPE DISP BULR LBPX LOAX BEAM DRFT TRIM ODIS SSHP SRPN 5.0 45.0 0.0 2.0 143.0 254.0 270.0 42.5 15.7 194.0 0.0 24.0 105.0 SSPD RUDDER, PROP RDAR PDIA ASHP RDST ENGN PROP LATA LCAX UNUV TRLC 15.5 63.0 7.2 8.8 1.0 1.0 1.0 26.0 -7.0 5.0 9999.0 TURNING SPDT SPDF RUDT ADVT TRNT DIAT FRPH 15.5 35.0 4.2 8.2 4.6 9999.0 9999.0 4.9 STOPPING SPDS SHPS RUDS TDIS HRCH SRCH TINS TIMR 14.5 9999.0 15.5 100.0 0.0 21.3 21.3 17.2 11111 SHIP & 46 11111

1 2 2 2 2 3 3 3 3 3 3 3 3 3 3 TYPE NATH MABR LOAX DIMENSION DISP LBPX BEAN DRFT TRIM BULB DDIS SSHP SRPM 0.0 194.0 24.0 105.0 3.0 46.0 71.0 256.0 270.0 42.5 1.3 13.0 ENGN RUDDER, PROP SSPD RDAR PDIA ASHP RDST PROP LATA TRLC 17.8 1.0 45.0 7.7 1.1 1.0 1.0 41.0 TURNING SPDT SPDF RUDT ADVT TRNT DIAT FRPM 35.0 17.8 5.2 8.0 4.4 9999.0 9999.0 STOPPING SPOS TDIS 28.1 BHPS RUDS HRCH SKCA TINS TINR 17.7 100.0 11.2 9999.0 0.0 28.1 5.0 RRAFE SHIP & 47 ..... DIRENSION NA: N 5.0 DRFT 6.5 TRIN SRPN NABR TYPE DISP LOAX BULL LIPX FEAN TELE DDIS 47.0 3.0 37.0 224.0 235.0 31.8 0.0 18.0 122.0 12.0 109.0

ENGN

3.0

PROP

1.0

LATA

30.0

LCAX

-4.0

UNUV

TRLC 1.0 9999.0

RDAR 38.0

SSPD

17.2

RUDDER, PROP

PDIA ASHP 4.2 9999.0

RDST

1.0

	TURNING	SPDT 17.2	SPDF 4.2	RUDT 35.0	B.1	TRNT	DIAT 9999.0	FRPH						
		17.2	4.3	-35.0	7.0		9999.0							
	STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TIME					
_	51077140	17.0	100.0	0.0	14.3	16.3	2.0		9999.0				-	
	BERRE SHIP .	48 111	**									1.1.1.1		
	DIMENSION	NATH	NMBR	TYPE	DISP	LBPX	LOAX	BEAN	DRFT	TRIM	BULB	DDIS	SSHP	SRPH
_		5.0	48.0	1.0	66.0	220.0	231.0	31.1	11.6	0.0	0.0	90.0	13.0	105.0
	RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	EHGN	PROP	LATA	LCAX	UNUV	TRLC		
_		15.4	33.0	6.6	5.4	1.0	1.0	1.0	19.0	-6.0	1.0	9999.0		
	TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
_		15.2	5.2	35.0	6.5		9999.0							
		15.4	5.3	-35.0	7.3	3.8	9999.0	9999.0						
	STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH								
		14.5	100.0	0.0	14.1	14.1	11.3	9.0	9999.0					
	and the second						_					_		
	SEESE SHIP .	49 #88	**											
	DIMENSION	NATH	NABR	TYPE	DISP	LEPX	LOAX	REAM	DRFT	TRIM	BULD	DDIS	SSHP	SRPM
-		5.0	49.0	2.0	244.0			47.2	18.9	0.0	0.0	304.0	28.0	85.0
	RUDDEN, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX		TRLC		
-	ENVERI LAV	15.9	75.0	8.8	13.4	5.0				-7.0	4.0			
	TURNING	SPDT	SPDF	RUDT	ADUT	TRNT	DIAT	FRPM					-	-
-		15.4	5.8	35.0	10.8	6.5	9979.0	9999.0						
		15.4	5.8	-35.0	10.8	6.7	9999.0	9999.0						
-	STOPPING	SPDS	SHPS	RUDS	TOTS	HRCH		TINS						
		15.9	100.0	0.0	44.7	44.7	6.9	22.5	9999.0					
-								_						
	SESSE SHIP .	50 ##	***											
-	DIMENSION	NATH	NHER	TYPE	DISP	LBPX				TRIM	BULS	DDIS	SSHP	SRPM
		5.0	50.0	1.0	83.0	226.0	238.0	36.0	12.3	0.0	0.0	110.0	20.0	105.0
-	RUDDER. PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNWV	TRLC		
		14.6	40.0	7.0	8.0	5.0	1.0	1.0	1.4	-9.0	2.0	0.0		
-	TURNING	SPDT	SPDF	RUDT	ABUT	TRNT	DIAT	FRPH						
		14.6	5.4	35.0	4.2	3.8	9999.0	9999.0						
_		14.6	5.9	-35.0	7.0	4.0	9999.0	9999.0						
	STOPPING	SPDS		RUDS	TDIS	HRCH								
		14.6	100.0	0.0	15.9	15.9	11.1	10.3	9999.0					
_	SEETS SHIP .	51 88	***		_									
	DIMENSION	NATH	NMBR	TYPE	DISP	LBPX	LOAX	BEAN	DRFT	TRIM	BULB	DDIS	SSHP	SRPH
	DINENSION	5.0		2.0	370.0	330.0				0.0	0.0		37.0	93.0
		SSPD	RDAR	PDIA	ASHP	RUST	ENGN	PROP	LATA	LCAX	WNWU	TRLC		
	RUDDER, PROP	14.0		7.2	12.8	1.0				-9.0	5.0			
-	TURNING	SPDT		RUDT	ADUT	TRNT	DIAT	FRPM						

		14.7	* ****.0	-37.0	9.4	4.7	10.4							
	STOPPING	SPDS 14.0		RUDS	TDIS 7777.0									
							17.1	17.0	7777.0					
-	<u>ZIG-ZAG</u>	SPD2 14.4		0451					PERD					
		14.4		4.0		9999.0	9999.0	9999.0						
_		14.5		15.0		9999.0	9999.0	9999.0	8.4					
		14.4	20.0	15.0	11.0	9999.0	9999.0	9999.0	8.3					
	**** SHIP *	52 ##	***											_
	DIMENSION	NATH	NHBR					100.00	Carlos.					
	UTILITATON	3.0		TYPE 2.0					DRFT 13.3	TRIM	DULD		SSHP	SRPH
							20310	3717	13.3	0.0	0.0	7999.0	7777.0	- 9999:0
	RUDDER, PROP	SSPD		PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLC		
		14.0	63.0	7.5	7.0	2.0	1.0	1.0		-8.0		7777.0		
	TURNING	SPDT	SPDF	RUDT										
-	- UNHENG		9999.0	35.0	ADVT 7.7	TRHT	DIAT	FRPH 9999.0						
			9999.0	-35.0	7.9			7777.0						
	A 7 4 4 1 1 1								1. Sec.					
	STOPPING	SPDS	SHP\$	RUDS		HRCH	SRCH							
_			100.0	0.0	9999.0	30.5	14.9	12.4	9999.0					
	***** SHIP *	53 ##	***									-		
-	DIHENSION	NATH	NHER	TYPE	DISP	LIFX	LOAX	BEAK	DRFT					
		3.0		1.0	87.0	237.0	244.0	36.6	12.5	TRIN 5.0		NBIS 7777.0		
	RUDDER. PROP	SSPD		PDIA	ASHP	ROST	ENGN	PROP	LATA	LEAX	DUNG	TRLC	-	
	and the second s	17.0	45.0	4.6	9.0	2.0	3.0	1.0	2.5	-9.0		9999.0		
	TURNING	SPDT	SPDF	RUDT	ADUT	TRHT	DIAT	FRPH						
			9999.0	35.0	9.9		9999.0	9999.0						
-		13.9	9999.0	-35.0	9.2	4.5	9999.0	9999.0						
	STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS			100			
		14.2			9999.0	20.4	5.9		TIMR 9999.0					
	Section 2													
_	STEES SHIP .	54 881	***					-						
	DIMENSION	NATH	-	-					5232	100.00		1000		
	DIMENSION	8.0	MMBR 54.0	TYPE 2.0	DISP 111.0	250.0	LOAX	BEAN	DRFT	TRIM	BULB	PRIS	SSHP	SRPH
-				2.0		230.0	243.0	30.1	14.3	0.0	0.5	9999.0	24.0	105.0
	RUDDER. PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGH	PROP	LATA	LCAX	WNWV	TRLC		
_		17.1	62.0	7.5	12.0	2.0	1.0	1.0	5.2	-10.0		7999.0		
	TURNING	SPDT	SPDF	RUDT									_	
	. OR HIND		9999.0		ADUT 9999.0	TRNT	DIAT	FRPH						
-			9999.0	-35.0	7.8		9999.0					_		
	- /2/2010/00													1
-	STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
		16.5	100.0	0.0	9999.0	33.4	9999.0	12.0	9999.0				-	
		35 111												_
	DIMENSION	NATH	-											
-	DINERSION	8.0	MMBR 55.0	TYPE	B4.0	LBPX	LOAX	BEAN		TRIM	BULB	PDIS	SSHP	SRPH
						232.0	244.0	33.5	13.2	0.0	0.5	9999.0	17.0	110.0

				1.00	100	1.00				and the second		
	15.7		4.4	12.0	5.0	3.0	1.0	3.4	-8.0	2.0 9999.0		
TURNING	SPDT		RUDT	ADVT	TRNT							
	14.3	9999.0 9999.0	-35.0	7.2	3.5	\$\$\$\$.0	9999.0					
STOPPING	SPDS		RUDS	TDIS	HRCH			TIME				
	16.3	100.0	0.0	9999.0	24.6	\$999.0	11.5	9999.0			-	-
	56 88	***										
DIMENSION	NATH		TYPE	DISP	LBPX		REAM	DRFT	TRIM	BULB DOIS	SSHP	SRPH
	8.0		2.0		257.0	273.0		15.3	0.0	0.5 9999.0	29.0	103.0
RUDDER, PROP	SSPD 17.0		PDIA 7.2	ASHP 20.0	RBST 5.0	ENGN 1.0	PROP 1.0	LATA 1.8	-12.0	1.0 9999.0		
TURNING	SPDT		RUDT	ADUT	TRNT	DIAT						
		9999.0	35.0	8.2		9999.0						
	20.02							1.1.1				
STOPPING	SPDS	SHPS 100.0	RUDS	TDIS	HRCH 33.9	SRCH 5.5		TIMR 9999.0				
	1/.0	100.0	0.0	1111.0	20.1	3.3	1219	1111.0				
	57 11											
DIMENSION	NATH	NMBR	TYPE	DISP	LBPX	LOAX	BEAN	DRFT	TRIM	BULD DDIS	SSHP	SRPH
	8.0		2.0		253.0			15.0	0.0	0.5 9999.0	18.0	
	SSPD	RDAR	PDIA	ASHP	RUST	ENGN	PROP	LATA	LCAX	UNUV TRLC		
NUDDERT FROM	14.5		4.7		5.0	3.0	1.0	2.0	-11.6	4.0 9999.0		
TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH					
Tennine		9999.0	35.0	8.7		9999.0						
	13.6	9999.0	-35.0	8.4	4.4	9999.0	9999.0					
STOPPING	SPDS	SHPS	RUDS	TOIS	HRCH	SRCH	TINS	TINR				
		100.0		9999.0		9999.0		9999.0				
	58 11											
DIMENSION	NATH	NMBR	TYPE	DISP	LBPX	LOAX	BEAN	DRFT	TRIM	BULB DEIS	SSHP	SRPM
	8.0	and the second second	2.0			325.0			0.0	0.5 9999.0	28.0	85.0
RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV TRLC		
	14.0				5.0				-10.0	4.0 9999.0		
TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH					
, generation	15.5	9999.0	35.0	-11.4	5.3	9999.0	9999.0					
	15.5	\$999.0	-35.0	10.6	5.1	9999.0	9999.0					
STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR				
	15.5	100.0		9999.0		9999.0		****.0				
	59 88	***										
DIMENSION	NATH	MMPR	TYPE	DISP	LBPX	LOAX	PEAN	DRFT	TRIM	BULD DDIS	SSHP	SRPH
	8.0		2.0	79.0	243.0	251.0	31.7	12.2	0.0	0.5 7777.0	21.0	114.0
RUDDER. PROP	SSPD	RDAR	PDIA	ASHP	ROST	ENGN		LATA	-			

	TURNING		SPDF 9999.0	RUD1 35.0				FRPH 9999.0						
			9999.0	-35.0				9999.0						
	STOPPING	SPDS 15.9		RUDS 0.0	5 TDIS 9999.0		SRCH		TIMR 9999.0					
	STEEL SHIP .	60 \$3	***										_	
	DINENSION	NATH	NMBR	TYPE	DISP	LBPX	LOAX	BEAK	DRFT	TRIM	BULD	PUIS	SSHP	SRPH
+		8.0	40.0	1.0	64.0	206.0	226.0			0.0		9999.0		111.0
	RUDDER, PROP			PDIA			ENGN	PROF	LATA	LCAX	NNHA	TRLC		
• ·		15.0	35.0	6.7	9.8	2.0	1.0	1.0	9.0	-4.0	1.0	9999.0		
	TURNING			RUDT										
141			9999.0	35.0				9999.0						
د   •	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1			-3310	J.0	4.0	****.0	****.0						
9 <u>.</u> al	STOPPING		SHPS	RUDS	TDIS									
*		1413	100.0	0.0	****.0	3.5 . 4	9999.0	12.0	9999.0					
	##### SHIP #	61 ##	***											
	DIMENSION	NATH	NMBR	TYPE	DISP	LBPX	LOAX	BEAH	DRFT	TRIM	BULB	DDIS	SSHP	SRPH
2		8.0	61.0	1.0			243.0					9999.0		108.0
	RUDDER. PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX		TRLC		
3		17.0	45.0	7.0						-5.0		9999.0		
,	TURNING	SPDT	SFDF	RUDT	ADVT	TRNT	DIAT	FRPH						
•,			9999:0	35.0	6.9	3.9	9999.0	9999.0						
1		****.0	9999.0	-35.0	7.4	4.3	9999.0	9999.0						
•.	STOPPING				TDIS		SRCH		TINR					
5		16.3	100.0	0.0	9999.0	24.6	9999.0	11.5	9999.0					
•									_					
	SASS SHIP .	62 88												
	DIMENSION			TYPE		LBPX	LOAX	PEAH	DRFT	TRIN	BULB	DDIS	SSRP	SRPN
		8.0	62.0	2.0	220.0	305.0	324.0	47.2	18.4	0.0	0.5	9999.0	29.0	85.0
1	RUDDER, PROP	SSPD		PDIA		RDST	ENGN	PROP	LATA	LCAX	UNUU	TREC		
1		16.2	109.0	8.9	14.0	2.0	1.0	1.0	21.0	-6.0	3.0	9999.0		
1	TURNING			RUDT	ADUT	TRNT	TAT	FRPR						
			9999.0	35.0			9999.0							
1						2.0	****.0	****.0						
	STOPPING	SPDS	SHPS 100.0	RUDS		HRCH	SRCH	TINS	TIMR					
-			100.0	0.0	9999.0	33.0	5.5	12.5	9999.0	_				
		63 881												
	DIMENSION													
	DIMENSION	NATH B.O	MMBR 63.0	TYPE 1.0	DISP 67.0	LAPX 226.0	236.0	BEAH 32.2	DRFT 11.6	TRIM 0.0	BULP	DDIS 9999.0	SSHP	SRPH
		SSPD											17.0	104.0
	HODDERT PROP	14.0	RDAR 45.0	PDIA 6.6	ASHP 17.0	RDST 5.0	ENGN 2.0	PROP 1.0	LATA 16.0	LCAX	WRWU	TRLC 9999.0		
	TURNING													
	I OKHING	SPDT	SPDF	RUDT 35.0	ADVT	TRNT	DIAT	FRPM						

9959.0 9999.0 -35.0 9.4 9999.0 9999.0 9999.0

STOPPI	STOPPING	SFDS	SHFS	RUDS	TOIS	HRCH	SRCH	TINS	TINS	
		13.6	100.0	0.0	9999.0	25.8 1	7999.0	11.5	9999.0	

DIMENSION	NATH	NMBS	TYPE	DISP		1.04.							
STICKSTON	8.0		2.0	the second se		263.0			TRIH 0.0	BULR	DDIS 9999.0	SSHP	SRPH
				10110	4.30.10	40.310	3413	14.3	0.0	4.0	****.0	26.0	108.0
RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	FROP	LATA	LCAX	UNUV	TRLC		
	17.3	62.0	7.5	12.0	2.0	1.0	1.0		-5.0		9999.0		
TURNING	SPDT	SPDF	RUDT	ADUT	TRHT	DIAT	-						
		9999.0	35.0				FRFH 9999.0						
		9599.0	-35.0	9.2			9999.0						
			33.0		3.7	*****	*****						
STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCI	TIHS	TINR					
	15.5	100.0	0.0	9999.0	35.9	9999.0	15.6	9999.0					
	_		_										
***** SHIP *	45 **												
***** SHIP *	03 44	***											
DIMENSION	NATH	NHER	TYPE	DISP	LBFX	LOAX	PEAN	DRFT	TRIH	BULB	DDIS	SSHP	SRPM
	8.0	65.0	1.0	62.0				11.4	0.0		9999.0		103.0
													10310
RUDDER, FROP	SSPD	RUAR	PDIA	ASHF	RDST		PROP	LATA	LCAX	NKNA	TRLC		
	17.0	44 - 0	7.0	8.0	2.0	1.0	1.9	14.0	-5.0		9999.0		
TURNING	SPDT	SPDF	RUDT	ADUT	TRNT	PIAT	FRPH						
		9999.0	35.0	9.0			9999.0						
		9999.0	-35.0	9.0			9999.0						
			-3310	7.0	3.2	9799.0	9999.0						
STOPPING	SPDS	SHAS	RUDS	TDIS	HRCH	SRCH	TINS	TIMR					
				9999.0		9999.0		9999.0					
								1111.0					
***** SHIP *	66 \$\$	***											
DIMENSION	NATN	NMBR	TYPE	DISP	LBPX	LOAX	BEAH	DRFT					
	14.0	66.0	3.0	66.0	220.0			12.1	TRIH	BULB	DDIS	SSHP	SRPH
			5.0	00.0		23110	3010	12.1	0.0	0.0	9999.0	13.0	135.0
RUDDER, PROP	SSFD	RDAR	FDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNNU	TRLC		
	14.0	31.0	5.7	12.6	3.0			13.0	0.0		9999.0		
TURNING	SPDT	SFDF	RUDT	ADVT	TRHT	PIAT							
		9997.0	35.0	9997.0	9999.0	9999.0	9999.0						
	14.0	9999.0	-35.0	9999.0	9999.0	9999.0	9999.0						
STOPPING	SPRS	SHPS	RIIDS	TDIS	UPCH		. TIMS	TINR					
		100.0				0000 A	11.5	0000 0					
	• • • •						11.3	,,,,,,					
##### SHIP #	57 \$\$	111											
BINENSTON	NATH	NMBR	TYOP		1.86.4							22.5	1.5
DIMENSION	14.0	67.0	14FE 3.0	DISP		LOAX	the second design of the secon	DRFT	TRIH	BULB		SSHP	
	14.0	0/.0	3.0	39.0	220.0	231 0	30.0	7.4	7.0	0.0	9999.0	13.0	135.0
RUDDER, PROP	SSPD	RDAR	FDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	NHW	TRLC		
	15.0	23.0	5.9	12.4	3.0	3.0	1.0	22.0	0.0		9999.0		
TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT							
	15.0	9999.0	35.0	9.0	4.0	9999.0	0000 0						_

STOPPING SPDS SHPS RUDS TDIS HRCH SRCH TINS TIME 14.0 100.0 0.0 9999.0 9999.0 9999.0 4.6 9999.0

\*\*\*\*\* SHIP & 68 \*\*\*\*\*

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	DIHENSTON	NATH	NHER	TYPE	TRA	LBPX	LOAX	BEAH	DRFT	TRIN	EIII C	DOIS		SKPN
	BINCHOICH	14.0	68.0	3.0		222.0				0.0		9999.0		119.0
	RUDBER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROF	LATA	LCAX	UNUV	TRUC		
		16.0	44.0	4.2	12.0	2.0	3.0	1.0	14.0	0.0	2.0	9999.0		
	TURNING	SPDT	SPDF	RUDT	ADUT	TRNT	DIAT							
		15.0	4.0	35.0				9999.0						
_		15.0	9999.0	-35.0	7.5	3.2	7777.0	9999.0						
	STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
		15.0	100.0	0.0	9999.0	11.1	9999.0	13.5	9999.0					
							·							
	***** SHIP *	. 69 ##	***											
-														
	DIMENSION	NATN	NMBR	TYPE		LBPX		-		TRIM	BUL.B	DDIS	SSHP	SRPH
		14.0	69.0	3.0	39.0	222.0	237.0	32,0	7.2	3.0	0.5	9999.0	14.0	118.0
		SSPD	-	PDIA	ASHP	RDST	FHEN	PROP	LATA	I CAY	UNUV	TRLC		
	RUDDER, PROP	17.0	RDAR 35.0	6.2		2.0	ENGN 3.0			LCAX 0.0		9999.0		
		17.0	33.0	012	12.0	2.0	3.0	1.0	23.0	0.0	2.0	1111.0		
	TURNING	SPDT	SPDF	RUDT	ADVT	TENT	DIAT	FRPH						
		15.0		35.0				9999.0						
		15.0	9999.0	-35.0	6.5	4.3	9999.0	9999.0						
_	STOPPING	SPDS		RUDS	TDIS 9999.0	HRCH			TIMR 9999.0					
		10.0	100.0	0.0	****.0	2.0	9999.0	7.8	****.0					
	STERS SHIP .	75 11	***											
			N	1.1.1.1.1	12.1.0	1.5	1.000	1.000	2.22	- C. S.	200	1.2.1	10000	
_	DIMENSION	NATH	AMBR	TYPE		LBPX				TRIM	BULR	DDIS	SSHP	SRPM
1		14.0	70.0	1.0	45.0	214.0	224.0	32.0	11.9	1.0	0.0	9999.0	19.0	110.0
	RUDDER, PROP	SSPP	RDAR	PDIA	ASHP	ROST	ENGN	PROP	LATA	LCAX	UNHU	TRLC		
	RODDERT PROP	16.2			9999.0	2.0				-8.0		9999.0		
	TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPM						
			9999.0	35.0				9999.0						
		14.8	9999.0	-35.0	11.8	4.9	9999.0	9999.0						
_		SPDS	SHPS	-			-				_		_	-
	STOPPING		100.0	RUDS	1015		SRCH 9999.0		7799.0					
-														
	SESSE SHIP .	71 ##	***											
		-		-					-	- 6.7				
	DINENSION	HATH		TYPE		L BPX				TRIN		PDIS	EaHb	SRPH
		14.0	71.0	1.0	67.0	220.0	230.0	32.0	11.4	0.0	0.5	9999.0	16.0	100.0
-	RUDDER. PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	FROP	LATA	LCAX	UNDER	TRLC		
1	AUDDERT FROM	14.3		7.1		2.0				-8.0		\$999.0		
1	Sector Sector Sector													
	TURNING	SPDT	SPDF	RUDT	ADUT	TRNT	DIAT	FRPH			-			
1		14.0	9999.0	35.0	6.3		9999.0	9999.0						
		16.0	9999.0	-35.0	7.4	6.9	9999.0	9999.0						
	STOPPING	SPDS 14.0		RUDS	TDIS 7777.0	HRCH			TINR 7777.0					
		10.0	100.0	0.0	7777.0	27.0	9999.0	7.0	7777.0					

## \*\*\*\*\* SHIP # 72 \*\*\*\*\*

DIMENSION	NATH 14.0		TYPE 1.0	D15F 48.0	L 3PX 270.0			DRFT 8.7	TRIN 5.0	BULR	PDIS 7777.0		SRPN 100.0
				40.0	4/010	6.9019		9.7			111110	19.0	100.0
RUDDER: PROP	SSPD		PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	RHAA			
	12.3	36.0	7.1	8.2	2,0	1,0		23.0	-7.0	2.0	9999.0		
TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
		9997.0	35.0	4.8			9999.0						
		9999.0	-35.0	8.2			9999.0						
1.1.22.4	1.1		10.00					1.1.1.1					
STOPPING	SPDS	SHPS_100.0	RUDS	TDIS	HRCH	SRCH	TINS	11HR 9999.0					
	10.0	100.0	0.0	****.0	****.0	****.0	7.0	****.9					
1111 SHIP .	73 ##	***											
DIMENSION	NATH	the second second second	TYPE	DISP					TRIK	BULD			And the set of the second second
	14.0	73.0	3.0	97.0	240.0	252.0	35.0	13.7	0.0	0.0	7777.0	10.0	122.0
RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	L CAX	<b>NNN</b>	TRLC		
and the second se	14.0	and the second s	6.1	16.1	3.0	3.0			0.0		9999.0		
TURNING			RUDT	ADVT	TRHT								
		9999.0. 9999.0	35.0	7.8		9999.0							
	10.0	,,,,,	-3310	14.3	/14	,,,,,	*****						
STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TIMS	TINR					
	13.0	100.0	0.0	\$999.0	9999.0	9999.0	13.0	9999.0					
**** SHIP #	74 \$\$	***							Billoud- ta				
DIMENSION	NATH	NHBR	TYPE	DISP	LAPX	LOAX	BEAK	DRFT	TRIN	BULB	DDIS	SSHP	SRPH
	14.0		3.0	58.0	240.0			8.4	10.0		9999.0		122.0
RUDDER, FROP	SSPD		PDIA	ASHP	RDST		PROP	LATA	LCAX		TRLC		
	15.0	40.0	4.1	14.1	3.0	3.0	1.0	21.0	0.0	3.0	7997.0		
TURNING	SPDI	SEDE	RUDT	ADVT	TENT	DIAT	FRPH						
	13.0	9999.0	35.0	9.9	4.2	9999.0	9999.0						
	13.0	9999.0	-35.0	7.2	3.7	9997.0	1999.0						
STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH		TIMS						
a UPP ING		100.0		9999.0				TIMR 9999.0					
	2010						0.0						
##### SHIP #	75 ##	***											
DIMENSION	NATH	NMER	TYPE	DISP	LBPX	LOAX	BEAN	DRFT	TRIM	BUL B	PPIS	SSHP	SRPH
PINENDIUM	14.0		3.0	76.0				12.9	1.0		7999.0		
RUDDER. PROP	SSPD		PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	MHW	TRLC		
	15.5	44.0	6.2	12.0	2.0	3.0	1.0	14.0	0.0	1.0	9999.0		
THENTHE			RUDT	ADUT	-			CCC I					
TURNING	SPDT	5PDF 9999.0	35.0	8.1	TRNT	DIAT 9999.0							
		9999.0	-35.0	9.2			9999.0			-			
STOPPING	SPDS		RUDS				TINS		_	_			
	17.0	100.0	0.0	9999.0	41.0		14.8	9999.0					

are a pr

\*\*\*\*\* SHIP \* 76 #####

	DIMENSION	NAT	-	TYPE	DISP	LAP	LOAD	PEAR						
		14.	0 76.0	3.0									SSHP	SRPI
	RUDDER. PROP	SSP									0.5	9999.0	9999.0	9999.
-	HOUPERT FROM		D RDAR 5 9999.0			RDST					UNUV	TRLC		
				• • • •	12.0	2.0	3.0	1.0	23.0	0.0	1.0	9999.0		
_	TURNING	SPD	T SPDF	RUDI	ADUT	TRNT	DIAT	FRPH						
			9999.0		7.4	3.2	9999.0	9999.0					_	
		17.0	0 9999.0	-35.0	7.5	3.7	9999.0	9999.0						-
	STOPPING	SPOS	S SHPS	RUDS	TOIS	HRCH	-			_				
			100.0		9999.0		SRCH 9999.0							_
_		_						10.0	9999.0					
		77						_						
	····· ····													
_	DIMENSION	NATH	NMBR	TYPE	DISP	LBFR	LOAX	BEAH	-					
		9.0					9999.0		DRFT	TRIN	BULR 9999.0	DDIS	SSAP	
	NUMBER OF TRAN	-								****.0	****.0	62.0	18.0	9999.
	RUDDER, PROP					RDST		PROP	LATA	LCAX	UNUU	TREC		
		16.6	34.0	9999.0	7.5	2.0	1.0	1.0	12.0	-10.0		7999.0		
-	TURNING	SPOT	SPDF	RUDT	ADUT	TRNT	DIAT	THEN						
		16.6	9999.0				9999.0							
_		16.6	9999.0	-35.0		4.6	9999.0	9999.0						
												_		_
	STOPPING	SPDS				HRCH		TINS	TIMR					
		10.0	100.0	0.0	9999.0	22.7	9999.0	9999.0	9999.0					
	SESSE SHIP .	78 ##												
	DIMENSION	NATH			DISP	I.BPX		BEAK	DRFT	TRIN	BULB	DDIS	SSHP	SRPH
-		9.0	78.0	1.0	63.0	228.0	9999.0	31.0	11.9	0.0	0.9	64.0		9999.0
	RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP						
_		17.4	29.0	9999.0	9.4	5.0	1.0	1.0	LATA 14.0	LCAX -4.0	UNNU	TRLC		
	THEMTHE									-4.0	1.0	9999.0	_	
	TURNING	SPDT	SPDF 9999.0	RUDT	ADVT	TRNT	DIAT	FRPM						
-			9999.0	-35.0	6.1		9999.0							
				-33.0	7.0	4.7	9999.0	9999.0						
_	STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SPCH	TIMS	TINR					
		17.5	100.0	0.0	9999.0	24.0	5.0	9999.0	0000.0			_	_	
						2017								
-	BRAR SHIP &	79		-		_		_						
_	DIMENSION	NATH	NMBR	TYPE	DISP	LBPX	LOAX	BEAN	DRFT	TRIM				
		9.0	79.0	1.0	40.0		9999.0	31.1	-11.0-	1.0	BULB	DDIS 60.0	SSHP	SRPH
	RUDDER, PROP												10.0	9999.0
-	RODDERT PROP	17.4	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	WHWV	TRLC		
			38.0	9999.0	7.3	3.0	1.0	1.0	13.0	-4.0	1.0	9999.0		
	TURNING	SPDT	SPDF	RUDT	ADUT	TRNT	DIAT	-				1.00		
		16.5	9999.0	35.0	11.0		9999.0	FRPH			-			
			9999.0	-35.0	11.0	8.9	9999.0	9999.0						
-				-										
	STOPPING		SHPS 100.0	RUDS	TD15	HRCH	SRCH	TINS	YINR	_		-		
							9999.0							

##### SHIP # 80 #####

DIMENSION	NATH 9.0		TYPE 1.0	DISP 58.0	L BPX 228.0	L 0AX 9999.0		DRFT 11.0	TRIM 0.0	BUL.B 0.7	DDIS 58.0	SSHP 18.0	SRPN 7777.0
				ASHP	RDST			LATA	LCAX	UNUV	TRLC		
RUDDER, PR <b>DP</b>	SSPD 14.8		PDIA 9999.0	7.5	2.0				-9.0		7997.0		
TURNING	SPDT		RUDT	ADVT		DIAT							
		9999.0		10.0		9999.0							
	16.8	9999.0	-35.0	10.0	8.3	9999.0	9999.0						
STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TIMR					
		100.0		9999.0	22.2	9999.0	9999.0	9999.0					
##### SHIP #	81 24	***											
DIMENSION	NATN	NMBR		DISP	-	L.OAX			TRIN	BULB		SSHP	
	9.0	81.0	1.0	58.0	230.0	9999.0	30.3	10.9	0.0	0.9	58.0	81.0	9999.0
RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	WHWV	TRLC		
	16.5		9999.0		2.0				-4.0	1.0	9999.0		
							TODH						
TURNING		SPDF		ADVT	TRNT	DIAT							
		9999.0 9999.0				9999.0							
STOPPING	SPDS	SHPS	RUDS	TDIS	HACH	SRCH	TIMS	TIMR					
	16.5	100.0	0.0	9999.0	21+j	9777.0	****	****					
\$\$\$\$ SHIP \$	82 88												
DINENCION	NATH		TYPE	DISP	I BPY	LOAX	BEAH	DRFT	TRIM	PULB	DDIS	SSHP	SRPH
DIMENSION	9.0	82.0	1.0	67.0	and the second s	9999.0	adding age of a sure suggested and		0.0		and the state of t	the second second second	9999.0
1.1.2.2.2.27													
RUDDER, PROP					RIST				and the second division of the second divisio		TRLC 9999.0		
	17.5	37.0	9999.0	7.3	2.0	1.0	2	10.4	-914		*****		
TURNING	SPDT	SPOF	RUDT	ABUT			FRPM						
	16.0	9999.0	35.0	6.4	4.5	9999.0	9999.0						
	16.0	9999.0	-35.0	7.5	4.7	9999.0	9999.0	12.1.1					
STOPPING	SPDS	S SHPS	RUDS	TDIS	HRCH	SRCH	TIMS	TINR				,	
		100.0		9999.0	21.1	5.8	9999.0	9999.0					
***** SHIP *	83 #1	****		andire de la Ballion de									
							WEAR	DRFT	TRIM	BULB	DDIS		SRPA
DIMENSION	NATN 9.0					10AX			0.0				9999.0
			•••				****-						
RUDDER. PROP			POIA								TRLC		
	17.4	40.0	9999.0	10.4	2.0	1.0	0 1.0	) 14.0	-9.0	2.0	9999.0		
TURNING												were the start of	
		0 9999.0					9999.0						
	12.9	0 9999.0	) -35.0	6.6		1010	7999.0						
STOPPING	SPDS	S SHPS	RUDS	TDIS	HRCH	SRCP	H TINS	TINR					
		0 100.0		7777.0			9999.0						
***** SHIP *	84 12	/\$22											
DIMENSION	NATN	N NHBR	TYPE						TRIM			SSHP	SRP
	9.0					9999.0	0 30.3	12.3	0.0	9999.0	38.0	21.0	7777.0

RUDDER. PROF SSPD RDAR PDIA ASHP RDST ENGN PROP LATA LCAX WHWY TRUC 17.9 32.0 9999.0 10.0 5.0 -4.0 1.0 1.0 11.0 2.0 7797.0 TURNING SPDT SPDF RUDT ADVT TRNT DIAT FRPH 17.0 9999.0 4.6 9999.0 9999.0 35.0 6.5 -35.0 SPDS SHPS 17.3 100.0 1. STOPPING RUDS TDIS HRCH SRCH TINS TINR . 0.0 9999.0 13.4 9999.0 9999.0 9999.0 . ##### SHIP # 85 ##### • NHBR DIMENSION NATN TYPE DISP LBPX LOAX TRIM BULR DDIS SSHP SRPH 0.0 9999.0 41.0 19.0 9999.0 BEAK DRFT 9.0 85.0 3.0 66.0 235.0 9999.0 30.6 12.1 .. RUDDER, PROP SSPD RDAR PDIA ASHP RDST LATA ENGN PROP LCAX UNNU 70.0 9999.0 TRLC 16.5 10.0 3.0 3.0 2.0 10.0 4.0 9999.0 ... TURNING SPDT SPDF RUDT ADVT TRNT DIAT FRPM 17.0 9999.0 4.7 4.9 9999.0 9999.0 35.0 17.0 9999.0 -35.0 5.1 9999.0 9999.0 SPDS STOPPING SHES RUDS TDIS HRCH SRCH TINS TINK 16.1 100.0 0.0 9999.0 18.0 9999.0 9999.0 9999.0 SEESS SHIP . 84 11111 ----DINENSION NATH NHER L3PX LOAX 233.0 9999.0 YYPE" DISP BUEB NDIS REAK DRFT TETH SSHP SRPN 24 9.0 86.0 3.0 66.0 30.6 12.0 0.0 9999.0 41.0 21.0 9999.0 RUDDER, FROF SSPD RUAR POTA ASHP RUST ENGN 1039 WHWY TRLC LATA LCAX 17.9 70.0 9999.0 10.0 3.0 3.0 2.0 4.0 9999.0 10.0 -5.0 1.0 SPOT SPOF 311 TURNING FUDT ADUT TENT DIAT FRPH 17.0 9999.0 38 35.0 6.6 4.7 9999.0 9999.0 17.0 9999.0 -35.0 4.9 9999.0 9999.0 6.7 24 25 STOPPING SPDS SHPS RUDS TDIS HRCH SRCH TTHS TIMP 34 17.0 100.0 17.5 9999.0 9999.0 9999.0 0.0 9999.0 31 3.0 \*\*\*\*\* SHIP + 87 \*\*\*\*\* 4 DIMENSION NATN NMBR TYPE DISP LBPX LOAX BEAH DRFT -TRIM BULR DDIS SSHP SRPH 9.0 87.0 3.0 236.0 9999.0 67.0 32.1 12.0 0.0 9999.0 50.0 21.0 9999.0 RUDDER. PROP SSPD RDAR PDIA ASHP RIGT EHGN PROP LATA LCAX UNNU TRLC 17.8 38.0 9999.0 10.0 5.0 3.0 1.0 12.0 -5.0 3.0 9999.0 TURNING SPDT SFDF RUDT ADVT TRNT DIAT FRPM 17.0 9999.0 4.9 9999.0 9999.0 35.0 6.9 -35.0 6.4 STOPPING SEDS SHPS RUDS HRCH TDIS SRCH TINS TINR 100.0 0.0 9999.0 42.8 9999.0 9999.0 9999.0 17.2 210 ##### SHIP # 88 ##### DINENSION NATN NHBR TYPE DISP LBPX LOAX REAN DRFT TRIN BULR DDIS SSHP SRPH 9.0 88.0 3.0 67.0 210.0 9999.0 0.0 9999.0 9999.0 15.0 9999.0 31.0 12.0 RUDDER. PROP SSPD RDAR PDIA ASHP RDST ENGN PROP LATA

LCAX

UNNY

TELC

	15.0	34.0	9999.0	5.4	5.0	3.0	1.0	12.0	-5.0	3.0	****.0	
TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPM					
		9999.0 9999.0		4.8		9999.0 9999.0						
STOPPING	SP05 17.1	SHPS 100.0		TDIS 9999.0			TINS 9999.0	TIMR 9999.0				
	89 88											
DIMENSION	NATN 9.0			D15P 40.0		L.DAX 9999.0			TRIM 0.0	BULB 9999.0		SSHP SRPM 15.0 9999.0
RUDDER. PROP	SSPD 15.0		PDIA 9999.0	ASHP 5.6	RDST 1.0		PROP 1.0		LCAX		TRLC 9999.0	
TURNING		SFDF 9979.0 9999.0				9999.0						
STOPPING	SPDS		RUDS		HRCH	SRCH	TIMS	1.5.5.5	-	4.		
DIMENSION	NATH 9.0				L.PPX 240.0	L DAX 9999.0			TRIM 0.0	BUL		SSHP SRPH 15.0 9999.0
RUDDER, PROP	SSP0_15.0		PDIA 9999.0		RDST		PROP		LCAX		TRLC	
TURNING		9997.0	35.0			9999.0	9999.0	1	192			
STOPPING	SPDS		RUDS		HRCH	SRCH						
	_	100.0	0.0		14.0	******	*****					
***** SHIP *												And Second
DIMENSION						10AX			TRIM 0.0		PD15 9999.0	SRHP SRPH 15.0 9999.0
RUDDER, PROP	55PD 16.0		PDIA 9999.0		RDST 1.0		and the second of the second se		LCAX	and the second s	TRLC 9999.0	
TURNING	SPDT	SPDF	PUDT	ADVT	TRNT	DIAT	FRPH					
	17.0	9999.0	35.0	7.0	5.0	9999.0	9999.0					
STOPPING		SHPS 100.0		TDIS 9999.0			TIHS 9999.0	TIMR 9999.0				
***** SHIP *	92 88								5.7			
DIMENSION	NATN 9.0				L BPX 240.0	LOAX			TRIM 0.0	BUL		SSHP SRPH 15.0 9999.0
RUDDER, PROP	SSPD 14.0		PDIA 9999.0		RDST 1.0				LCAX		TRLC	

	TURNING	SPDT 17.0	SPDF 9999.0	RUDT 35.0	ADUT	TRNT 5.0	DIAT 9999.0							
			9999.0		6.8	4.9	9999.0	\$999.0						
	STOPPING	SPDS 14.0	SHP5		TDIS 9999.0	HRCH 14.0			TINR 9999.0					
	BEETE SHIP #	93 ##	***											
	DIMENSION	NATN	NMBR	TYPE	DISP	LPPX	LOAX	BEAN	DRFT	TRIM	BULB	DRIS	SSHF	SRPH
		9.0	93.0	3.0	40.0	244.0	9999.0		12.3		9999.0			9999.0
	RUDDER, PROP	SSPD	RDAR	FDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	NHHA	TRLC		
		16.0	46.0	9999.0	7.1	1.0	1.0	1.0	14.0	-12.0	3.0	9999.0		
	TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
			9997.0	35.0	7.6		9999.0							
		17.0	9999.0	-35.0	6.6	3.3	9999.0	9999.0						
	STOPPING			RUDS	TDIS	HRCH	SRCH	TINS	TIMR					
		16.0	100.0	0.0	9999.0	32.3	9999.0	9999.0	9999.0					
	.***** SHIP #	94 81	***			يبعيه مرعية متعادمات								
	DIMENSION	NATH	NMBR	TYPE	DISP	LBPX	LOAX	BEAN	DRFT	TRIM	BULR	hois	SSHP	SRPH
		7.0		where we want the same spectrum	and the second s		9999.0	and the second s	and the statement of the state	and the second second	9999.0			9999.0
	RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROF	LATA	LCAY	9660	TRUC		
		16.0		9999.0		2.0						9999.0		
	TURNING													
-	TUKNING		SPDF	RUDT	ADVT	TRNT	9999.0	FRFM						
		15.0	9999.0	-35.0	7.2		9999.0							
-	STOPPING	SPDS	SHPS	RUDS	TOIS	HRCH	SRCH	TINS	TINR					
		15.0	100.0	0.0	9999.0		9999.0							
		95 11												
						32.5								
	DIMENSION	NATH 9.0		TYPE 3.0	DISP 55.0		LDAX 9999.0			TRIN				SRPH
		7.0	+3.0	3.0	55.0	244.0	****.0	35.0	12.5	0.0	9999.0	83.0	23.0	9999.0
-	RUDDER, PROP	SSPD		PDIA		RDST	ENGN	PROP			- ABAA			
		17.4	45.0	9999.0	11.0	1.0	3.0	1.0	16.0	-14.0	3.0	9997.0		
	TURNING		SPDF	RUOT	ADUT	TRNT	TAT	FRPH						
			9999.0	35.0			9999.0							
-		14.0	9999.0	-35.0	7.7	4.0	9999.0	****.0						
	STOPPING	SPDS		RUDS	TDIS	HRCH								
-		14.0	100.0	0.0	9999.0	12.5	8.3	9999.0	9999.0			-		
	SASSS SHIP .	96 11	***			-								
	DIMENSION	MATN	NMBR	TYPE	DISP	LBPX	LOAX	BEAK	DRFT	TRIM	BULB	DDIS	SSHP	SRPH
_		9.0	96.0	3.0	83.0		9999.0	35.0	12.5		9999.0	83.0		9999.0
	RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLC		
	AUPPEAT THUT	16.7		9999.0	10.0	5.0	1.0	1.0	14.5	-12.0		9999.0		
	TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPM						

## 14.0 9999.0 -35.0 6.6 4.7 9999.0 9999.0

STOPPING SEDS SHPS RUDS TDIS HRCH SRCH TINS TINR 15.0 9999.0 9999.0 9999.0 24.5 10.7 9999.0 9999.0

	##### SHIP #	97 111	**											
		MATH	NHBR	TYPE	DISP	LBPX	LOAX	REAN	DRFT		BULB	DDIS	SSHP	SRPH
	DINCHSION	NATH 9.0	97.0	3.0		244.0	9999.0	35.0	12.5	0.0	9999.0	83.0	23.0	7999.0
							CHON.	PROP	LATA	LCAX	UNUV	TRLC		
	RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RAST	ENGN 1.0	1.0		-12.0		9999.0		
		17.1	45.0	9999.0	10.0	5.0	1.0							
			SPUF	RUDT	ADVT	TENT	DIAT	FRPH			_			
	TUKNING	SPDT	9999.0	35.0	6.6	4.7	9999.0							
		14.0	9999.0	-35.0	6.6	4.7	9999.0	9999.0						
							-	TINS	TINR					
	STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH 24.0		9999.0						
		15.0	9999.0	****.0	*****	2410								
	##### SHIP #													
	sasse Surr A								DRFT	TRIN	BULD	DDIS	SSHP	SRPH
	DIMENSION	NATN	NHBR	TYPE	DISP	LBPX		BEAH 35.0	13.0		9999.0	87.0		9999.0
		9.0	98.0	3.0	87.0	254.0	9999.0	33.0	1314					_
					ASHP	RDST	ENGN	PROP	LATA	LCAX	UNWV			
	RUDDER. PROP	SSP0 17.2	RDAR	PDIA 9999.0	10.0	5.0		1.0	16.5	-5.0	1.0	9999.0		
		17.2	43.0											
	TURNING	SPDT	SPDF	RUUT	ADVT	TRNT	DIAT	FRPH						
	TORNANO		9999.0	35.0	7.0		9999.0							
		17.1	9999.0	-35.0	7.6	4.8	9999.0	4444.0						
								TIME	TIMR					
			CUPC	20119	TDIS	HRCH	SRCH	TINS						
	STOPPING		9999.0	RUDS 9599.0	TDIS 9999.0	HRCH 17.1	58CH 9999.0	9999.0						
	***** SHIP #	<u>16.7</u> 99 23	9999.0 ***	9599.0	7997.0	17.1	9999.0	9999.0	<u> 9999.0</u>	TRIM				
		<u>16.7</u> 99 11 NATH	9999.0 *** NNBR	9599.0 TYPE	9999.0 DISP	17.1	9999.0	9999.0 BEAN	9999.0 DRFT			DI5		
	***** SHIP #	<u>16.7</u> 99 23	9999.0 *** NNBR	9599.0 TYPE 3.0	9999.0 DISP 99.0	17.1 LRPX 259.0	9999.0 LOAX 9999.0	9999.0 REAM 34.8	9999.0 DRFT 13.0	0.0	9999.0	9999.0		
-	***** SHIP #	16.7 99 \$3 NATH 9.0 SSPI	9999.0 *** NMBR 99.0 RDAR	9999,0 TYPE 3.0 PDIA	9999.0 DISP 97.0 ASHP	17.1 LRPX 259.0 RBS1	9999.0 LOAX 9999.0 ENGN	9999.0 BEAM 34.8 PROP	9999.0 DRFT 13.0 LATA	0.0 LCAX	9999.0	9999.0 TRLC		
	***** SHIP # DIMENSION	16.7 99 \$1 NATH 9.0	9999.0 *** NMBR 99.0 RDAR	9599,0 TYPE 3.0	9999.0 DISP 97.0 ASHP	17.1 LRPX 259.0	9999.0 LOAX 9999.0 ENGN	9999.0 BEAM 34.8 PROP	9999.0 DRFT 13.0 LATA	0.0	9999.0	9999.0		
-	THE SHIP & DIMENSION RUDDER, PROP	16.7 99 11 NATH 9.0 SSPI 16.5	99999.0 **** NMBR 99.0 RDAR 5 47.0	9999,0 TYPE 3.0 PDIA 9999.0	9999.0 DISP 99.0 ASHP 10.0	17.1 LRPX 259.0 RBS1	9999.0 LOAX 9999.0 ENGN 1.0	9999.0 BEAM 34.8 PROP 1.0	9999.0 DRFT 13.0 LATA 16.5	0.0 LCAX	9999.0	9999.0 TRLC		
-	***** SHIP # DIMENSION	16.7 99 11 NATH 9.0 SSPE 16.5 SPD1	99999.0 *** NMBR 99.0 RDAR 5 47.0 T SPDF	9999.0 TYPE 3.0 PDIA 9999.0 RUDT	9999.0 DISP 99.0 ASHP 10.0 ADVT 8.2	17.1 LRPX 259.0 RUST 1.0 TRN1 5.0	9999.0 LOAX 9999.0 ENGN 1.0 DIAT 9999.0	9999.0 BEAH 34.8 PROP 1.0 FRPH 9999.0	9999.0 DRFT 13.0 LATA 16.5	0.0 LCAX	9999.0	9999.0 TRLC		
	THE SHIP & DIMENSION RUDDER, PROP	16.7 99 11 NATH 9.0 SSPI 16.5 SPD1 15.1	99999.0 **** NMBR 99.0 RDAR 5 47.0	9999.0 TYPE 3.0 PDIA 9999.0 RUDI 35.0	99999.0 DISP 99.0 ASHP 10.0 ADVT 8.2	17.1 LRPX 259.0 RUST 1.0 TRN1 5.0	9999.0 LOAX 9999.0 ENGN 1.0	9999.0 BEAH 34.8 PROP 1.0 FRPH 9999.0	9999.0 DRFT 13.0 LATA 16.5	0.0 LCAX	9999.0	9999.0 TRLC		
	THE SHIP & DIMENSION RUDDER, PROP	16.7 99 11 NATH 9.0 SSPE 16.5 SPD 15.4 15.4	99999.0 **** NMBR 99.0 RDAR 5 47.0 7 SPDF 9999.0 8 9999.0	9999.0 TYPE 3.0 PDIA 9999.0 RUDT 35.0 -33.0	99999.0           DISP           99.0           ASHP           10.0           ASHP           30.0           8.2           8.3	17.1 LRPX 259.0 RD51 1.0 TRN1 5.0	9999.0 LOAX 9999.0 ENGN 1.0 DIAT 9999.0	9999.0 BEAM 34.8 PROP 1.0 FRPM 9999.0 9799.0	9999.0 DRFT 13.0 LATA 16.5	0.0 LCAX -5.0	9999.0	9999.0 TRLC		
	THE SHIP & DIMENSION RUDDER, PROP	16.7 99 13 NATH 9.0 SSPI 16.5 SPDI 15.4	99999.0 **** NHBR 99.0 RDAR 5.47.0 7.590F 9999.0 8.9999.0 8.9999.0	9999.0 TYPE 3.0 PDIA 9999.0 RUDT 35.0 -35.0 8 RUDS	99999.0 DISP 99.0 ASHP 10.0 ASHP 10.0 B.2 B.3 S TDIS	17.1 LRPX 259.0 RJJST 1.0 TRN1 5.1 6.1 HRCI	9999.0 LOAX 9999.0 ENGN 1.0 1.0 1.0 1.0 1.0 1.9999.0 1.9999.0	9999.0 BEAM 34.8 PROP 1.0 FRPM 9999.0 9799.0	9999.0 DRFT 13.0 LATA 16.5	0.0 LCAX -5.0	9999.0	9999.0 TRLC		
-	TURNING	16.7 99 13 NATH 9.0 SSPI 16.5 SPDI 15.4	99999.0 **** NHBR 99.0 RDAR 5.47.0 7.590F 9999.0 8.9999.0 8.9999.0	9999.0 TYPE 3.0 PDIA 9999.0 RUDT 35.0 -35.0 8 RUDS	99999.0           DISP           99.0           ASHP           10.0           ASHP           30.0           8.2           8.3	17.1 LRPX 259.0 RJJST 1.0 TRN1 5.1 6.1 HRCI	9999.0 LOAX 9999.0 ENGN 1.0 1.0 1.0 1.0 1.0 1.9999.0 1.9999.0	9999.0 BEAM 34.8 PROP 1.0 FRPM 9999.0 9799.0	9999.0 DRFT 13.0 LATA 16.5	0.0 LCAX -5.0	9999.0	9999.0 TRLC		
	TURNING	16.7 99 11 NATH 9.0 SSPI 16.5 SPD 15.4 SPD 16.5	99999.0 **** NMBR 99.0 RDAR 547.0 75909.0 89999.0 59999.0 59999.0	9999.0 TYPE 3.0 PDIA 9999.0 RUDT 35.0 -35.0 8 RUDS	99999.0 DISP 99.0 ASHP 10.0 ASHP 10.0 B.2 B.3 S TDIS	17.1 LRPX 259.0 RJJST 1.0 TRN1 5.1 6.1 HRCI	9999.0 LOAX 9999.0 ENGN 1.0 1.0 1.0 1.0 1.0 1.9999.0 1.9999.0	9999.0 BEAM 34.8 PROP 1.0 FRPM 9999.0 9799.0	9999.0 DRFT 13.0 LATA 16.5	0.0 LCAX -5.0	9999.0	9999.0 TRLC		<u>9999.(</u>
	*****       SHIP #         DIMENSION         RUDDER, PROP         TURNING         STOPPING         *****         SHIP #	16.7 99 23 NATH 9.0 SSPE 16.5 SPD 15.1 15.1 SPD 16.1 100 8	99999.0 **** NMBR 99.0 RDAR 99.0 RDAR 99.0 S SPF 5 9999.0 ****	9999.0           TYPE           3.0           PDIA           9999.0           RUDT           35.0           -35.0           B           RUDS           9999.0	9999.0 DISP 99.0 ASHP 10.0 ADUT 8.2 9 8.3 5 TDIS 9999.0	17.1 LRPX 259.0 RUST 1.0 TRNT 5.1 6.1 HRCC 37.0	9999.0 LOAX 9999.0 ENGN 1.0 JIAT 9999.0 19999.0 H SRCH	9999.0 BEAM 34.8 PROP 1.0 FRPM 9999.0 9799.0 TIMS 9999.0	9999.0 DRFT 13.0 LATA 16.5	0.0 LCAX -5.0	9999.0 UNUU 3.0	9 9999.0 9 TRLC 9999.0 9999.0 9000	24.0	9999.(
	***** SHIP #         DIMENSION         RUDDER, PROP         TURNING         STOPPING	16.7 99 11 NATN 9.0 SSPI 16.5 SPD1 15.1 15.1 15.1 15.1 100 8 NAT	99999.0 **** NHBR 99.0 RDAR 5.47.0 F SPDF 9999.0 5.9999.0 **** NMB	9999.0           TYPE           3.0           PDIA           9999.0           RUDT           35.0           -35.0           -35.0           -35.0           -9999.0           RUDT           -35.0           -35.0           -35.0           -35.0           -35.0           -37.0           RUDT           -37.0	99999.0 DISP 99.0 ASHP 10.0 ADVT 8.2 8.3 5 TDIS 9999.0 E DISP	17.1 LRPX 259.0 RIJ51 1.0 TRN1 5.1 6.1 HRC[ 37.0	9999.0 LOAX 9999.0 ENGN 1.0 5999.0 1.9999.0 4 SRCH 9999.0 4 SRCH	9999.0 REAM 34.8 PROP 1.0 FRPM 9999.0 9799.0 TIMS 9999.0	9999.0 DRFT 13.0 LATA 16.5 TIMR 9999.0	0.0 LCAX -5.0 TRI	9999.0 UNUU 3.0	99999.0 TRLC 99999.0	24.0	9999.(
	*****       SHIP #         DIMENSION         RUDDER, PROP         TURNING         STOPPING         *****         SHIP #	16.7 99 11 NATN 9.0 SSPI 16.5 SPD1 15.1 15.1 15.1 15.1 100 8 NAT	99999.0 **** NMBR 99.0 RDAR 99.0 RDAR 99.0 S SPF 5 9999.0 ****	9999.0           TYPE           3.0           PDIA           9999.0           RUDT           35.0           -35.0           -35.0           -35.0           -9999.0           RUDT           -35.0           -35.0           -35.0           -35.0           -35.0           -37.0           RUDT           -37.0	99999.0           DISP           99999.0           ASHP           10.0           ASHP           10.0           ADUT           8.2           STDIS           99999.0           E           DISP           0           75.0	17.1 LRPX 259.0 RIDST 1.0 TRN1 5.1 4.1 HRCI 37.0 LBP 302.	9999.0 LOAX 9999.0 ENGN 1.0 DIAT 9999.0 H SRCH 9999.0 H SRCH 0 9999.0 X LOAX 0 305.0	9999.0 BEAM 34.8 PROP 1.0 FRPM 9999.0 TIMS 9999.0 EXAMPLE 9999.0 EXAMPLE 9999.0	9999.0 DRFT 13.0 LATA 16.5 TIMR 9999.0 DRFT 8.4	0.0 LCAX -5.0 TRII	9999.0 UNUU 3.0 9 9 9 9 9 9 0 0.0	B DDIS 0 76.0	24.0 55HP 14.0	9999.(
	###### SHIP #         DIMENSION         RUDDER, PROP         TURNING         STOPPING         ###### SHIP #         DIMENSION	16.7 99 11 NATH 9, C SSPE 16.5 SPD 15.1	99999.0 **** NMBR 99.0 RDAR 5 47.0 0 RDAR 5 9999.0 S SHPS 5 9999.0 **** N NMBI 0 100.0	9999.0           TYPE           3.0           PDIA           9999.0           RUDT           35.0           9999.0           RUDT           9999.0           RUDT           35.0           9999.0           RUDT           35.0           99999.0           R           TYPE           R           PDIA           R           PDIA	99999.0           DISP           99.0           ASHP           10.0           ASHP           10.0           ADUT           8.2           B.3           TDIS           9999.0           E           DISP           0           ASHP           0           8.3           5           9999.0           E           DISP           0           ASHP	17.1 LRPX 259.0 RD51 1.0 TRN1 5.0 4.1 HRCI 37.0 LBP 302. RD5	9999.0 LOAX 9999.0 ENGN 1.0 F DIAT 9999.0 SRCH 9999.0 H SRCH 9999.0 X LOAX 0 305.4 T ENGI	9999.0 BEAM 34.8 PROP 1.0 FRPM 9999.0 9799.0 TIHS 9999.0 TIHS 9999.0 TIHS 9999.0	9999.0 DRFT 13.0 LATA 16.5 TIMR 9999.0 DRFT D 8.4	0.0 LCAX -5.0 TRII 0.1	9999.0 UNUU 3.0 5 5 6 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	B DDIS 0 76.0 0 76.0	24.0 	9999.(
	*****       SHIP #         DIMENSION         RUDDER, PROP         TURNING         STOPPING         *****         SHIP #	16.7 99 ±± NATN 9.0 SSPE 16.5 SPD 15.4 15.4 SPD 16.5 100 \$ NAT 1.	99999.0 **** NMBR 99.0 RDAR 5 47.0 0 RDAR 5 9999.0 S SHPS 5 9999.0 **** N NMBI 0 100.0	9999.0           TYPE           3.0           PDIA           9999.0           RUDT           35.0           9999.0           RUDT           9999.0           RUDT           35.0           9999.0           RUDT           35.0           99999.0           R           TYPE           R           PDIA           R           PDIA	99999.0           DISP           99999.0           ASHP           10.0           ASHP           10.0           8.2           8.3           5           70999.0           8.3           99999.0           99999.0           2           8.3           5           75.0	17.1 LRPX 259.0 RD51 1.0 TRN1 5.0 4.1 HRCI 37.0 LBP 302. RD5	9999.0 LOAX 9999.0 ENGN 1.0 F DIAT 9999.0 SRCH 9999.0 H SRCH 9999.0 X LOAX 0 305.4 T ENGI	9999.0 BEAM 34.8 PROP 1.0 FRPM 9999.0 9799.0 TIHS 9999.0 TIHS 9999.0 TIHS 9999.0	9999.0 DRFT 13.0 LATA 16.5 TIMR 9999.0 DRFT D 8.4	0.0 LCAX -5.0 TRII	9999.0 UNUU 3.0 5 5 6 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	B DDIS 0 76.0 0 76.0	24.0 	9999.(
	***** SHIP 4 DIMENSION RUDDER, PROP TURNING STOPPING ***** SHIP 4 DIMENSION RUDDER, PROP	16.7 99 11 NATN 9.0 SSPI 16.5 SPD 15.1 15.1 15.1 15.1 15.1 100 8 <u>NAT</u> 1. <u>SSP</u> 13.	99999.0           ****           NMBR           97.0           RDAR           97.0           RDAR           9799.0           89999.0           89999.0           89999.0           84***           NMBR           9999.0           *****           NMBR           0           100.1           D           RDAR           0           45.1	9599.0           TYPE           3.0           PDIA           9999.0           RUDT           35.0           9999.0           RUDT           35.0           9999.0           RUDT           35.0           9999.0           RUDT           3.0           9999.0           R           TYPE           3.10           R           PDI           0           5.0	99999.0           DISP           9999.0           ASHP           10.0           ASHP           10.0           ASHP           98.3           5           TDIS           9999.0	17.1 LRPX 259.0 RIJST 1.0 TRNT 5 6.1 HRCC 37.0 LBP 302. RDS	9999.0 LOAX 9999.0 ENGN 1.0 DIAT 9999.0 4 SRCH 0 9999.0 X LOAX 0 305.0 T ENGI 0 4.0	9999.0 BEAH 34.8 PROP 1.0 FRPH 9999.0 1.0 FRPH 9099.0 1.0 FRPH 9099.0 1.0 FRPH 9099.0 1.0 FRPH 9099.0 1.0 FRPH 9099.0 1.0 FRPH 9099.0 1.0 FRPH 9099.0 1.0 FRPH 9099.0 1.0 FRPH 9099.0 1.0 FRPH 9099.0 1.0 FRPH 9099.0 1.0 FRPH 9099.0 1.0 FRPH 1.0	9999.0 DRFT 13.0 LATA 16.5 TIMR 9999.0 A DRFT D 8.4 D 28.3	0.0 LCAX -5.0 TRII 0.1	9999.0 UNUU 3.0 5 5 6 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	B DDIS 0 76.0 0 76.0	24.0 	9999.(
	###### SHIP #         DIMENSION         RUDDER, PROP         TURNING         STOPPING         ###### SHIP #         DIMENSION	16.7 99 ±± NATH 9.0 SSPE 16.5 SPD 15.4 1	99999.0 1888 NMBR 99.0 RDAR 99.0 RDAR 5 9999.0 5 9999.0 5 9999.0 8888 N NMBI 0 100.0 RDAI 0 45.0 T SPDI	9999,0           TYPE           3.0           PDIA           9999.0           RUDT           35.0           9999.0           RUDT           35.0           9999.0           RUDT           35.0           9999.0           R           TYPE           3.0           PDIA           9999.0           R           PDIA           R           PDIA           S           R           PDIA           S	99999.0           DISP           99999.0           ASHP           10.0           ASHP           10.0           ASHP           99999.0           ASHP           0           3           TDIS           99999.0           ASHP           2           9999.0           T	17.1 LRPX 259.0 RIDST 1.0 TRN1 5.1 4.1 HRCI 37.0 LBP 302. RDS 1. TRN	99999.0           LOAX           99999.0           ENGN           1.0           DIAT           9999.0           I.0           I.0           I.0           I.0           I.0           SRCH           9999.0           H           SRCH           SRCH	9999.0 BEAM 34.8 PROP 1.0 FRPM 9999.0 9799.0 1 TIHS 9999.0 1 TIHS 9999.0 1 TIHS 9999.0 1 TIHS 9999.0 1 TIHS 9999.0 1 .0 1 .0 FRPM 9999.0 1 .0 1 .0 FRPM 9999.0 1 .0 1 .0 FRPM 9999.0 1 .0 1 .0 FRPM 9999.0 1 .0 1 .0	9999.0 DRFT 13.0 LATA 16.5 TIMR 9999.0 DRFT 8.4 DRFT 8.4 DRFT 8.4	0.0 LCAX -5.0 TRII 0.1	9999.0 UNUU 3.0 5 5 6 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	B DDIS 0 76.0 0 76.0	24.0 	9999.(
	***** SHIP 4 DIMENSION RUDDER, PROP TURNING STOPPING ***** SHIP 4 DIMENSION RUDDER, PROP	16.7 99 ±1 NATH 9.0 SSPI 16.5 SPD 15.4 15.4 15.4 15.4 15.4 SPD 16.5 15.4 15.4 15.4 SPD 15.4 15.4 15.4 SPD 15.4	99999.0           ****           NMBR           97.0           RDAR           97.0           RDAR           9799.0           89999.0           89999.0           89999.0           84***           NMBR           9999.0           *****           NMBR           0           100.1           D           RDAR           0           45.1	9599.0           TYPE           3.0           PDIA           9999.0           RUDT           35.0           9999.0           RUDT           9999.0           RUDT           35.0           9999.0           R           TYPE           35.0           9999.0           R           PDIA           0           3.0           R           PDI           0           5.0           F           RUD           0           3.1	99999.0           DISP           9999.0           ASHP           10.0           ASHP           10.0           ASHP           10.0           ASHP           10.0           B.3           TDIS           99999.0           ASHP           ASHP           99999.0           ASHP           29999.0           T           ADUT           ASHP	17.1 LRPX 259.0 RIJST 1.0 TRNI 5.1 4.1 HRCI 37.0 LBP 302. RDS 1. TRNI 2.2	9999.0           LOAX           9999.0           ENGN           1.0           DIAT           9999.0           SRCH           9999.0           9999.0           SRCH           9999.0           9999.0           SRCH           9999.0           9999.0           SRCH           9999.0           SSCH           T           DIA           T           DIA           S	9999.0 BEAM 34.8 PROP 1.0 FRPM 9999.0 9799.0 TIMS 9999.0 1.1 FRPM 9999.0 1.1 FRPM 9999.0 1.2 1.0 FRPM 9999.0 1.0 FRPM 9999.0 1.0 FRPM 9999.0 1.0 FRPM 9999.0 1.0 FRPM 9999.0 1.0 FRPM 9999.0 1.0 FRPM 9999.0 1.0 FRPM 9999.0 1.0 FRPM 9999.0 1.0 FRPM 9999.0 1.0 FRPM 9999.0 1.0 FRPM 9999.0 1.0 FRPM 9999.0 1.0 FRPM 9999.0 1.0 FRPM 9999.0 1.0 FRPM 9999.0 1.0 FRPM 9999.0 FRPM 9999.0 FRPM 9999.0 FRPM 9999.0 FRPM 9999.0 FRPM FRPM 9999.0 FRPM FRPM 9999.0 FRPM	9999.0 DRFT 13.0 LATA 16.5 TIMR 9999.0 DRFT 0 8.4 P LATA 0 28.3	0.0 LCAX -5.0 TRII 0.1	9999.0 UNUU 3.0 5 5 6 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	B DDIS 0 76.0 0 76.0	24.0 	

ten p P

HRCH SRCH TINS 9.6 9999.0 4.3 STOPPING SPDS SHPS 13.0 100.0 TIME RUDS TDIS HRCH 4.3 9999.0 0.0 9999.0 OVSF TPRH PERD KPRM OVSU ZIG-ZAG SPDZ RUDZ OVS1 13.0 9999.0 9999.0 9999.0 13.0 20.0 14.0 13.0 9999.0 9999.0 9999.0 9999.0 20.0 9.0 12.0 9999.0 9999.0 7.3 9.4 ##### SHIP # 101 ##### NATH NHBR TYPE DISP LEPX LOAX BEAM DRFT TRIM BULB DDIS SSHP SRPM 1.0 101.0 1.0 80.0 232.0 9999.0 38.1 12.2 9999.0 2.0 9999.0 9999.0 9999.0 DIMENSION NATH RUDDER, FROP SSFD RDAR PDIA ASHP RDST ENGN PROP LATA LCAX WHWY TRLC 9999.0 9999.0 9999.0 9999.0 1.0 9999.0 1.0 9999.0 9999.0 4.0 TURNING SEDT SEDE RUDT ADVT TRNT DIAT FRPH 9999.0 9999.0 -35.0 7.4 3.9 4.9 9999.0 .. ##### SHIP # 102 ##### ATN NHER TYPE DISP LEPX LOAX REAN DEFT TRIN BULE DDIS SSHP SEPH 1.0 102.0 2.0 250.0 331.0 9999.0 31.5 20.0 9999.0 2.0 9999.0 9999.0 9999.0 NATN DIMENSION 10 TRL.C ROP LATA LCAX UNUU RUDDER, PROP SSPD RDAR PDIA ASHP RDST ENGN PROP 9999.0 9999.0 9999.0 9999.0 2.0 9999.0 1.0 4.0 22 13 TURNING SPDT SPDF RUDT ADVT TRNT DIAT FRPM 9999.0 9999.0 -35.0 9999.0 9999.0 9999.0 9999.0 25 24 87 ##### SHIF # 103 ##### 20 DRFT TRIN BULR DDIS SSHP SRPM 22.0 9999.0 1.0 9999.0 9999.0 9999.0 DIHENSION NATH NHBR TYPE DISP LAPX LOAX BEAN DRFT TRIM 5. RUDDER, PROP S3PD RDAR PDIA ASHP RDST ENGN PROP LATA LCAX UNUU TRLC 9999.0 9979.0 9979.0 9999.0 5.0 9999.0 1.0 9999.0 9999.0 4.0 32 3. 34 38 36 TURNING SPDT SPDF RUDT ADVT TRNT DIAT FRPM 9999.0 9999.0 -35.0 10.5 4.7 9.2 9999.0 37 21 \$\$\$\$\$ SHIP & 104 \$\$\$\$ 4 4 2 LBPX LDAX REAN DRFT TRIN BULB DDIS SSHP SRPM 330.0 9979.0 53.4 24.8 9999.0 0.3 9999.0 9997.0 9999.0 DISP NMBR TYPE NATN DIMENSION 1.0 104.0 2.0 310.0 330.0 9979.0 . PROF LATA LCAX WHWY TRLC 4.0 9999.0 9999.0 9999.0 4.0 RUDDER, FROP SSFD RDAR PDIA ASHP RDST ENGN 1 PROF TURNING SEDT SPDF RUDT ADVT TRNT DIAT FRPM 9999.0 9999.0 -35.0 9999.0 9999.0 9799.0 9799.0 \$\$\$\$\$ SHIP \$ 105 \$\$\$\$ SSHP NHBR TYPE DISP LBPX LOAX 105.0 2.0 400.0 350.0 9999.0 DRFT TRIN BULB DAIS SRPH DEAH NATH DIMENSION 0.0 9999.0 9999.0 9999.0 70.1 22.2 9999.0 1.0 105.0 PROP LATA LCAX UNUU TRLC 1.0 9999.0 9999.0 9999.0 4.0 PDIA RDST ENGN ASHP RUDDER+ PROP SSPD RDAR PDIA ASHP RUSI ENUM 9999.0 9999.0 9999.0 9999.0 1.0 9999.0 FRPH ADVT TURNING SPDT SPDF RUDT TRNT DIAT

**\*\*\***.0 **\*\***\*\*.0 -35.0 9.3 3.8 7.9 9999.0

\*\*\*\*\* SHIP # 106 \*\*\*\*\*

	DIMENSION	NATH	NHBR	TYPE	DISP		1.047	-	Dect	-				
		1.0	104.0	6.0	9999.0	248.0	9999.0	32.0	9.2	9999.0	0.9	9999.0	9999.0	9999.0
	RUDDER, PROP		-					1000						
	ADDUENT PROP	9949.0	9999.0	9999.0	9999 A	RDST	ENGN 9999.0			19999.0		TRLC		_
										****.0	****.0	4.0		
-	TURNING	SPOT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPM	-			-		
		****.0	9999.0	-35.0	9999.0	9999.0	9999.0	9999.0						
	SESSE SHIP .	107 11	***											
-	DIMENSION		107.0				1.0AX			TRIM 9999.0	BULB	DUIS	SSHP	SRPM
		10.019				232.10	*****	30.1	12.2	****.0	1.0	****.0	9999.0	9999.0
_	RUDDER, PROP	SSPD	RDAR				ENGN	PROP	LATA	LCAX	UNNU	TRLC		
		9999.0	9999.0	7999.0	9999.0	1.0	9999.0	1.0	9999.0	9997.0	9999.0	2.0		
	TURNING	SPDT	SPDF	RUDT	ADUT	TONT	-	FRPM						
1				-35.0				9999.0						
-	***** SHIP *	108 24										_	_	
_	DIMENSION	NATH	NMBR		DISP		LOAX	BEAN	DRFT	TRIN	BUL B	DDIS	SSHP	SRPH
		1.0	108.0	1.0	9999.0	232.0	9999.0	38.1		9999.0				7999.0
	RUDDER, PROP	SSPD	RDAR	PRIA	ASHP	RDST	ENGN							
				9999.0			9999.0	and the second se		1.CAX 9999.0				
											,,,,,,	4.0		
-	TURNING			-35.0		TRNT	DIAT							
			,,,,,	-3310	0.3	3.7	1.3	9999.0						
_														
	***** SHIP *	107 **	122											
	DIMENSION	NATH	NHER	TYPE	DISP	LBPX	LOAX	BEAN	DRFT	TRIM	BULB	DDIS	coup	
		1.0	109.0	2.0	280.0		9999.0			9999.0		9999.0		
	RUDDER, PROP	SSPD												
-	RODDERT FROF			PDIA 9999.0	ASHP	RDST		PROP				TRLC		
						3.0	9799.0	1.0	7777.0	9999.0	7777.0	2.0		
_	TURNING			RUDT	ADVT	TRNT	DIAT	FRPH						
		7777.0	7777.0	-35.0	10.6	4.7	9.2	9999.0						
		1.1.1.1												
	SEERE SHIP &	110 \$**	**											
	DIMENSION	NATH		THEF										
	PTHE ROLON		NMBR 110.0	2.0	400.0	150.0	10AX	8FAH 70.1		TRIM			SSHP	
								/0.1	22.2	\$999.0	0.0	\$999.0	4444.0	4444.0
-	RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST				LCAX			14.20	
		7799.0	9999.0	9999.0	9999.0	1.0	9999.0	1.0	9999.0	9999.0	9999.0			
_	TURNING			RUDT	ADVT	TRNT	DIAT	FRPH						
		9999.0			9.4	4.2		9999.0						_
-	SEESS SHIP &	111 11					_		_					
	DIMENSION	NATH	NMBR	TYPE	DISP	LBPX	LOAX	RAI	DRFT	TRIM		DDIS	-	-

DEAM

DRFT

TRIM

DDIS

SSHP

SRPM

	1.0	111.0	9.0	1.0	40.0	43.0	11.4	3.7	0.0	0.0	1.0		200.0
RUDDER, PROP	SSPD 12.0	RDAR 9999.0	PDIA 2.6	ASHP	RDST 9999.0	ENGN 3.0	PROP 1.0	LATA 1.4	LCAX 0.0	UNUV 1.0	TRLC 3.0		
TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
	5.0	4.4	-10.0		-								
	5.5	3.4		-									
	the second se												
	the second s		the second se	2.5	1.9								
	9.9	7.6	-20.0	1.5	0.9								
	9.9					1.6	9999.0						
	and the second second			2.5									
		12.8	-20.0	1.4	0.9								
	14.7	11.2	-30.0	1.4	0.7								
	14.6	14.2	10.0										
	14.7		-										
	14.8	10.6	28.0	1.3	V.0	1.5							
ETOPOTNO	CPAS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
alorring						9999.0							
	7.8	100.0	0.0										
	10.0	100.0	.0.0										
	12.8	100.0		1.6	9777.0	7799.0							
			0.0	2.1	9999.0	9999.0							•
	112 **	***											
DINENSION	NATH	NHBR	TYPE	DISP									
			2.0	1.111									
RUDDER, PROP	SSPD	RDAR											
	4444.0	100.0	10.5										
710-740	SPD7	RUNT	OVST	OVSF				PERD					
210-240			12.0	15.0	9999.0	9999.0	9999.0	9.0					
	113 ##	2.0.1			-					-	DATE	teur	SRPI
DIMENSION			2.0	472.0			49.2	23.1	0.0	1.0	475.0	9999.0	
RUDDER. PROP	TSFD	RDAR											
	9999.0	144.0			+	9.69.64			7777.0	1.0	3.0		
TURNING													
			3010										
STOPPING	SPDS	SHPS	RUDS	TDIS									
		100.0	0.0	50.3	29.7	23.6	22.8	50.0					
			OVSI	OVSF	OVSN	KPRI	TPRM	PERD					
ZIG-ZAG	SPD	Z RUDZ											
	TURNING STOPPING STOP	12.0 TURNING SPDT 5.0 5.5 5.5 5.5 5.5 5.0 5.0 5.0	12.0 9999.0 TURNING SPDT SPDF S.0 4.4 S.5 3.6 S.5 2.9 S.0 4.3 S.0 3.4 S.3 2.9 9.9 9.2 9.9 9.2 9.9 9.2 9.9 9.2 9.9 6.3 10.0 7.5 9.9 6.1 14.6 14.3 14.8 17.1 14.8 14.8 14.2 14.7 11.2 14.8 10.6 STOPPING SPDS SHPS S.0 100.0 7.8 100.0 14.8 10.0 STOPPING SPDS SHPS S.0 112.0 RUDDER, PROP SSFD RDAR 9999.0 166.0 216-2AG SPDZ RUDZ 9999.0 166.0 5.0 113.0 RUDDER, PRUP SSFD RDAR 9999.0 166.0 STOPPING SPDS SHPS	IZ.0         9999.0         2.4           TURNING         SPDT         SPDF         RUDT           5.0         4.4         -10.0         5.5         3.4         -20.0           5.5         3.4         -20.0         5.5         3.4         -20.0           5.0         4.3         10.0         5.0         3.4         20.0           5.0         3.4         20.0         5.3         2.9         28.0           9.9         9.2         10.0         9.9         4.3         30.0           10.0         7.5         20.0         9.9         6.1         30.0           10.0         7.5         20.0         9.9         6.1         30.0           14.4         14.3         -16.0         14.7         11.2         -30.0           14.4         14.2         16.0         14.7         11.2         -30.0           14.7         11.2         -30.0         14.7         11.2         -30.0           14.7         10.6         28.0         -30.0         -4.7         18.0         -30.0           14.8         100.0         0.0         -0.0         -30.0         -30.0         -30.0	NUMBER         12.0         9799.0         2.4         9799.0           TURNING         SPDT         SPDF         RUDT         ADUT           S.0         4.4         -10.0         2.7           S.5         3.4         -20.0         1.5           S.5         3.4         -20.0         1.5           S.0         4.3         10.0         2.2           S.0         4.3         10.0         2.2           S.0         3.4         20.0         1.5           S.3         2.9         28.0         1.2           9.9         7.4         -20.0         1.5           9.9         7.4         -20.0         1.4           10.0         7.5         20.0         1.4           10.0         7.5         20.0         1.4           10.0         7.5         20.0         1.4           14.6         14.2         10.0         2.5           14.7         12.8         -20.0         1.4           14.7         12.7         19.0         1.5           14.7         12.7         19.0         1.5           14.7         10.0         0.0         0.0	NUMBER         12.0         9799.0         2.4         9799.0         7799.0           TURNING         SPDT         SPDF         RUDT         ADUT         TRNT           5.5         3.4         -20.0         1.5         1.1           5.5         3.4         -20.0         1.5         1.1           5.5         2.4         -30.0         1.1         0.7           5.0         4.3         10.0         2.2         1.7           5.0         3.4         20.0         1.5         0.4           9.9         9.2         10.0         2.5         1.9           9.9         7.4         -20.0         1.4         0.7           10.0         9.2         -10.0         2.4         1.7           10.0         7.5         20.0         1.4         0.4           14.4         14.3         -10.0         1.4         0.4           14.7         11.2         -30.0         1.4         0.7           14.8         10.4         28.0         1.3         0.8           STOPPINO         SPDS         SHPS         RUDS         1.4         0.7           14.8         100.0 <t< td=""><td>NUMBERF FACE         12.0         9999.0         2.4         9999.0         3.0           TURNING         SPDT         SPDF         RUDT         ADUT         TRNT         DIAT           S.0         4.4         -10.0         2.7         1.7         3.6           S.5         3.4         -20.0         1.5         1.1         2.2           S.5         3.4         -20.0         1.5         1.1         2.2           S.0         3.4         20.0         1.5         1.1         2.4           S.0         3.4         20.0         1.5         1.7         3.6           S.0         3.4         20.0         1.5         1.7         3.6           S.0         3.4         20.0         1.5         0.7         1.9           S.0         7.9         7.4         -20.0         1.4         0.7         1.4           10.0         7.5         20.0         1.4         0.7         3.6           10.0         7.5         20.0         1.4         0.7         3.6           14.4         14.2         10.0         2.4         1.7         3.6           14.7         11.2.7         19.0&lt;</td><td>NUMBER PROF         SALE         SALE</td><td>NUME         SPDT         SPDF         RUDT         ADUT         TRNT         DIAT         FRPH           TURNING         SPDT         SPDF         RUDT         ADUT         TRNT         DIAT         FRPH           TURNING         SPDT         SPDF         RUDT         ADUT         TRNT         DIAT         FRPH           S.0         4.4         -10.0         2.7         1.7         3.5         9999.0           S.3         2.4         20.0         1.1         0.7         1.4         9999.0           S.3         2.4         20.0         1.5         0.1         2.7         3.5         9999.0           S.3         2.7         28.0         1.2         0.4         1.5         9999.0           9.9         5.2         10.0         2.5         1.7         3.6         9999.0           9.9         6.1         30.0         1.4         0.7         1.4         9999.0           10.0         7.2         710.0         1.4         0.7         1.4         9999.0           14.4         14.2         10.0         2.6         1.9         9999.0         0.3         9999.0           14.4</td><td>RUDULK, FAUR         SPD F         RUDT         ADVT         TENT         DIAT         FRPM           12.0         9799.0         2.4         9799.0         3.0         1.0.         1.4         0.0           TURNING         SPDT         SPDF         RUDT         ADVT         TENT         DIAT         FRPM           5.0         4.4         -10.0         2.5         1.7         2.6         9797.0           5.3         3.4         20.0         1.1         0.7         1.6         9797.0           5.0         3.4         20.0         1.5         0.7         1.5         9797.0           7.9         7.2         20.0         1.5         0.7         2.7         7.9         979.0           9.7         7.4         30.0         1.4         0.7         1.6         9797.0           10.0         7.5         20.0         1.4         0.7         1.4         9797.0           14.4         14.3         -10.0         2.3         1.7         3.8         9797.0           14.4         14.2         10.0         1.5         0.7         1.4         9.7         9.7           14.7         12.7         <td< td=""><td>RUDDER, PROF         SSPD         RUDR         PDLR         Mark         Construction         Tool         <thtool< th="">         Tool         <thtool< t<="" td=""><td>RUDDER.         PROP         BSPD         RUDT         ADUT         TRNT         DIAT         FRM           12.0         9797.0         2.1         9797.0         2.1         9797.0         3.0         1.0         1.4         9.0         1.0         3.0           TURNING         SPD         RUDT         ADUT         TRNT         DIAT         FRM           S.5         3.4         20.0         1.5         1.1         2.2         9797.0         3.5         9797.0           S.0         4.3         10.0         2.2         1.7         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.6         1.0         1.5         1.7         3.6         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.6         1.6         9.7         1.6         1.6         1.6         1.6         1.7         3.6         9797.0</td><td>RUDDER, PROP         BSPD         RUDK         PTUR         PTUR</td></thtool<></thtool<></td></td<></td></t<>	NUMBERF FACE         12.0         9999.0         2.4         9999.0         3.0           TURNING         SPDT         SPDF         RUDT         ADUT         TRNT         DIAT           S.0         4.4         -10.0         2.7         1.7         3.6           S.5         3.4         -20.0         1.5         1.1         2.2           S.5         3.4         -20.0         1.5         1.1         2.2           S.0         3.4         20.0         1.5         1.1         2.4           S.0         3.4         20.0         1.5         1.7         3.6           S.0         3.4         20.0         1.5         1.7         3.6           S.0         3.4         20.0         1.5         0.7         1.9           S.0         7.9         7.4         -20.0         1.4         0.7         1.4           10.0         7.5         20.0         1.4         0.7         3.6           10.0         7.5         20.0         1.4         0.7         3.6           14.4         14.2         10.0         2.4         1.7         3.6           14.7         11.2.7         19.0<	NUMBER PROF         SALE         SALE	NUME         SPDT         SPDF         RUDT         ADUT         TRNT         DIAT         FRPH           TURNING         SPDT         SPDF         RUDT         ADUT         TRNT         DIAT         FRPH           TURNING         SPDT         SPDF         RUDT         ADUT         TRNT         DIAT         FRPH           S.0         4.4         -10.0         2.7         1.7         3.5         9999.0           S.3         2.4         20.0         1.1         0.7         1.4         9999.0           S.3         2.4         20.0         1.5         0.1         2.7         3.5         9999.0           S.3         2.7         28.0         1.2         0.4         1.5         9999.0           9.9         5.2         10.0         2.5         1.7         3.6         9999.0           9.9         6.1         30.0         1.4         0.7         1.4         9999.0           10.0         7.2         710.0         1.4         0.7         1.4         9999.0           14.4         14.2         10.0         2.6         1.9         9999.0         0.3         9999.0           14.4	RUDULK, FAUR         SPD F         RUDT         ADVT         TENT         DIAT         FRPM           12.0         9799.0         2.4         9799.0         3.0         1.0.         1.4         0.0           TURNING         SPDT         SPDF         RUDT         ADVT         TENT         DIAT         FRPM           5.0         4.4         -10.0         2.5         1.7         2.6         9797.0           5.3         3.4         20.0         1.1         0.7         1.6         9797.0           5.0         3.4         20.0         1.5         0.7         1.5         9797.0           7.9         7.2         20.0         1.5         0.7         2.7         7.9         979.0           9.7         7.4         30.0         1.4         0.7         1.6         9797.0           10.0         7.5         20.0         1.4         0.7         1.4         9797.0           14.4         14.3         -10.0         2.3         1.7         3.8         9797.0           14.4         14.2         10.0         1.5         0.7         1.4         9.7         9.7           14.7         12.7 <td< td=""><td>RUDDER, PROF         SSPD         RUDR         PDLR         Mark         Construction         Tool         <thtool< th="">         Tool         <thtool< t<="" td=""><td>RUDDER.         PROP         BSPD         RUDT         ADUT         TRNT         DIAT         FRM           12.0         9797.0         2.1         9797.0         2.1         9797.0         3.0         1.0         1.4         9.0         1.0         3.0           TURNING         SPD         RUDT         ADUT         TRNT         DIAT         FRM           S.5         3.4         20.0         1.5         1.1         2.2         9797.0         3.5         9797.0           S.0         4.3         10.0         2.2         1.7         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.6         1.0         1.5         1.7         3.6         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.6         1.6         9.7         1.6         1.6         1.6         1.6         1.7         3.6         9797.0</td><td>RUDDER, PROP         BSPD         RUDK         PTUR         PTUR</td></thtool<></thtool<></td></td<>	RUDDER, PROF         SSPD         RUDR         PDLR         Mark         Construction         Tool         Tool <thtool< th="">         Tool         <thtool< t<="" td=""><td>RUDDER.         PROP         BSPD         RUDT         ADUT         TRNT         DIAT         FRM           12.0         9797.0         2.1         9797.0         2.1         9797.0         3.0         1.0         1.4         9.0         1.0         3.0           TURNING         SPD         RUDT         ADUT         TRNT         DIAT         FRM           S.5         3.4         20.0         1.5         1.1         2.2         9797.0         3.5         9797.0           S.0         4.3         10.0         2.2         1.7         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.6         1.0         1.5         1.7         3.6         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.6         1.6         9.7         1.6         1.6         1.6         1.6         1.7         3.6         9797.0</td><td>RUDDER, PROP         BSPD         RUDK         PTUR         PTUR</td></thtool<></thtool<>	RUDDER.         PROP         BSPD         RUDT         ADUT         TRNT         DIAT         FRM           12.0         9797.0         2.1         9797.0         2.1         9797.0         3.0         1.0         1.4         9.0         1.0         3.0           TURNING         SPD         RUDT         ADUT         TRNT         DIAT         FRM           S.5         3.4         20.0         1.5         1.1         2.2         9797.0         3.5         9797.0           S.0         4.3         10.0         2.2         1.7         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.6         1.0         1.5         1.7         3.6         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.5         9797.0         3.6         1.6         9.7         1.6         1.6         1.6         1.6         1.7         3.6         9797.0	RUDDER, PROP         BSPD         RUDK         PTUR         PTUR

\*\*\*\*\* SHIP # 114 \*\*\*\*\*

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999 TURNING 51 999 999 SIDPPING 51 10 11 11 11 11 11 11 11 11 1	PDT 9.9 9.0 PDS 6.3 414 ATN 5.0 SFD 9.0 FUZ 9.0 9.0 FUZ 5.0 SFD 9.0 FUS 5.4	9999.0 9999.0 <u>SHP9</u> 100.0 1115.0 <u>RDAR</u> 97.0 <u>RUD7</u> 20.0 10.0 10.0	RUDT 35.0 -35.0 RUDS 0.0 12.0 7.0 12.0 5.0 12.0 5.0 12.0 5.0 12.0 5.0	11.3 1UIS 47.4 DISP 241.0 ASHP 9999.0 0VSF 17.0 15.0 DISP 241.0 ASHP 9999.0	TRNT 5.2 5.5 HRCH 34.3 LBFX 313.0 RDST 5.0 DUSH 9999.0 9999.0 SPP0.0 SPP0	9779.0 DIAT 10.5 11.0 SRCH 14.0 LOAX 9999.0 ENGH 9999.0 KFRH	1.0 FRPM 9999.0 7999.0 TIMS 20.4 BEAM 48.2 FROP 1.0 TPRM 9999.0 9999.0 BEAM 48.2 FROP	9999.0           TIMR           9999.0           DRFT           19.2           LATA           9999.0           PERD           11.5           11.0           DRFT           19.2	7999.0 TRIM 0.0 LCAX 9999.0 TRIM 0.0 LCAX	BUL R 1.0 BUL R 1.0 UNUU 1.0 BUL B 1.0 UNUU	TRLC 5.0 DDIS 243.0 TRLC	55HP 9999.0 \$\$HP 9999.0	9999.0
TURNING         SI           279'         999'           SIOPPING         SI           14         115           DIMENSION         NI           RUDDER, FROP         SI           799'         999'           ZIG-ZAG         SI           999'         21G-ZAG           999'         STOPFING           \$STOPFING         SI           2IG-ZAG         SI           999'         STOPFING           \$STOPFING         SI           2IG-ZAG         SI           999'         STOPFING           11         2IG-ZAG           999'         STOPFING           11         DIMENSION           999'         STOPFING	PDT 9.9 9.0 PDS 6.3 414 ATN 5.0 SFD 9.0 FUZ 9.0 9.0 FUZ 5.0 SFD 9.0 FUS 5.4	SPDF 9999.0 9999.0 SHPS 100.0 IXX NMBR 115.0 RUAR 97.0 RUD7 20.0 10.0 IXX NMBR 116.0 RUAR 97.0 SHFS	RUDT 35.0 -35.0 RUDS 0.0 TYPE 2.0 PDIA 9.2 OVS1 12.0 5.0 TYPE 2.0 PDIA 9.2	ADUT 11.5 11.3 1.UIS 47.4 DISF 241.0 ASHP 9999.0 0VSF 19.0 15.0 DISF 241.0 ASHF 9999.0	TRNT 5.2 5.5 HRCH 34.3 LBFX 313.0 RDST 5.0 DUSH 9999.0 9999.0 SPP0.0 SPP0	DIAT 10.5 11.0 SRCH 16.0 LOAX 9999.0 ENGH 9999.0 KPRH 9999.0 KPRH 9999.0 ENGAX 9999.0	FRPH 9999.0 9999.0 TIMS 20.4 BEAM 48.2 PROP 1.0 TPRM 9979.0 9999.0 BEAM 48.2 FROP	TIMR 9999.0 DRFT 19.2 LATA 9999.0 PERD 11.5 11.0 DRFT 19.2 LATA	7999.0 TRIM 0.0 LCAX 9999.0 TRIM 0.0 LCAX	BUL P 1.0 UNUU 1.0 BUL B 1.0 UNUU		9999.0 	9999.0
2199 210PPING SI 210PPING SI 210 211 211 211 211 211 211 211	9.0 9.0 PDS 6.3 #3# ATN 5.0 SFD 9.0 9.0 9.0 *** *** *** *** *** *** *** *** *** *	9999.0 9999.0 SHPS 100.0 IIII NMBR 115.0 RUAR 97.0 RUR7 20.0 10.0 IIII 16.0 RUAR 97.0 SHFS	35.0 -33.0 RUDS 0.0 TYPE 2.0 PDIA 9.2 DUS1 12.0 5.0 TYPE 2.0 PDIA 9.2	11.5 11.3 1UIS 49.4 DISF 241.0 ASHP 9999.0 0VSF 19.0 13.0 DISF 241.0 ASHF 9999.0	5.2 5.5 HRCH 34.3 LBFX 313.0 RDST 5.0 DUSU 9999.0 9999.0 9999.0 LBFX 313.0 RDST	LOAX 9999.0 ENGH 9999.0 KFRH 9999.0 KFRH 9999.0 LOAX 9999.0 ENGAX	9999.0 9999.0 <u>TIMS</u> 20.4 <u>BEAM</u> 48.2 <u>PROP</u> 1.0 <u>TPRM</u> 9999.0 9999.0 <u>BEAM</u> 48.2 <u>PROP</u>	TIMR 9999.0 DRFT 19.2 LATA 9999.0 PERD 11.5 11.0 DRFT 19.2 LATA	TRIM           0.0           LCAX           9999.0           TRIM           0.0           LCAX	1.0 <u>UNUU</u> 1.0 BUL B 1.0 <u>UNUU</u>	243.0 TRLC 5.0 DDIS 243.0 TRLC	9999.0 	9999.0
999           SIOPPING         SI           10         115           DIMENSION         NI           RUDDER, PROP         SI           999         ZIG-ZAG           21G-ZAG         SI           999         SIOPFING           \$	9.0 PDS 6.3 488 ATN 5.0 SFD 9.0 FDZ 9.0 888 ATN 5.0 SFD 9.0 FDS 5.4	9999.0 <u>SHP3</u> 100.0 141 115.0 <u>RUAR</u> 97.0 <u>RUR7</u> 20.0 10.0 10.0 141 <u>RUR7</u> 20.0 10.0 <u>RUR7</u> 20.0 10.0 <u>SHP3</u> SHFS	-35.0 <u>RUDS</u> 0.0 <u>TYPE</u> 2.0 <u>PDIA</u> 9.2 <u>DUS1</u> 12.0 5.0 <u>TYPE</u> 2.0 <u>FDIA</u> 9.2	11.3 1UIS 47.4 DISP 241.0 ASHP 9999.0 0VSF 17.0 15.0 DISP 241.0 ASHP 9999.0	5.5 <u>HRCH</u> 34.3 13.0 <u>RDST</u> 5.0 <u>DUSU</u> 9999.0 9999.0 9999.0 1.8FX 313.0 RDST	11.0 <u>SRCH</u> 14.0 <u>LOAX</u> 9999.0 <u>ENGH</u> 9999.0 <u>KFRH</u> 9999.0 <u>KFRH</u> 9999.0 <u>ENGAX</u> 9999.0	9999.0 <u>TIMS</u> 20.4 <u>BEAM</u> 48.2 <u>PROP</u> 1.0 <u>TPRM</u> 9979.0 9999.0 <u>BEAM</u> 48.2 <u>PROP</u>	TIMR 9999.0 DRFT 19.2 LATA 9999.0 PERD 11.5 11.0 DRFT 19.2 LATA	TRIM           0.0           LCAX           9999.0           TRIM           0.0           LCAX	1.0 <u>UNUU</u> 1.0 BUL B 1.0 <u>UNUU</u>	243.0 TRLC 5.0 DDIS 243.0 TRLC	9999.0 	9999.0
SIDEPING         SI           11         11           11	PDS 6.3 FRT ATN 5.0 FDZ 9.0 9.0 FDZ 9.0 FDZ 5.0 FDS 5.4	SHP5 100.0 141 115.0 RDAR 97.0 RUD7 20.0 10.0 10.0 141 14.0 RDAR 97.0 SHFS	RUDS           0.0           TYPE           2.0           PDIA           9.2           OUS1           12.0           5.0           TYPE           2.0           PDIA           9.2           OUS1           12.0           5.0	1015 47.4 BISF 241.0 ASHP 9999.0 OVSF 19.0 15.0 DISF 241.0 ASHF 9999.0	HRCH 34.3 13.0 RDST 5.0 0059 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0	SRCH 14.0 LOAX 9999.0 ENGH 9999.0 KFRH 9999.0 9999.0 LOAX 9999.0 ENGN	TIMS           20.4           BEAM           48.2           PROP           1.0           IPRM           9979.0           SEAM           48.2           PROP	TIMR 9999.0 DRFT 19.2 LATA 9999.0 PERD 11.5 11.0 DRFT 19.2 LATA	TRIM           0.0           LCAX           9999.0           TRIM           0.0           LCAX	1.0 <u>UNUU</u> 1.0 BUL B 1.0 <u>UNUU</u>	243.0 TRLC 5.0 DDIS 243.0 TRLC	9999.0 	9999.0
14 ***** SHIP * 115 <u>DIMENSION</u> <u>RUDDER, PROP</u> <u>999</u> <u>21G-ZAG</u> <u>999</u> ***** SHIP * 116 <u>DIMENSION</u> <u>RUDDER, PROP</u> <u>999</u> STOPFING <u>51</u> <u>999</u> <u>510PFING</u> <u>51</u> <u>999</u> <u>510PFING</u> <u>51</u> <u>999</u> <u>510PFING</u> <u>51</u> <u>999</u> <u>510PFING</u> <u>51</u> <u>999</u> <u>510PFING</u> <u>51</u> <u>999</u> <u>510PFING</u> <u>51</u> <u>999</u> <u>510PFING</u> <u>51</u> <u>999</u> <u>510PFING</u> <u>510</u> <u>999</u> <u>510PFING</u> <u>510</u> <u>999</u> <u>510PFING</u> <u>510</u> <u>999</u> <u>510PFING</u> <u>510</u> <u>999</u> <u>510PFING</u> <u>510</u> <u>999</u> <u>510PFING</u> <u>510</u> <u>999</u> <u>510</u> <u>510</u> <u>999</u> <u>510</u> <u>510</u> <u>999</u> <u>999</u> <u>999</u> <u>910</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u>911</u> <u></u>	6.3 #84 ATN 5.0 SFD 9.0 FUZ 9.0 9.0 8.8 8.7 9.0 9.0 5.0 SFD 9.0 FUZ 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	100.0 1115.0 RDAR 97.0 RUD7 20.0 10.0 10.0 116.0 RUBR 116.0 RUAR 97.0 SHFS	0.0 <u>TYPE</u> 2.0 <u>PDIA</u> 9.2 <u>DUS1</u> 12.0 5.0 <u>TYPE</u> 2.0 <u>PDIA</u> 9.2	49.4 DISF 241.0 ASHP 9999.0 0VSF 19.0 15.0 DISF 241.0 ASHF 9999.0	34.3 LBFX 313.0 RDST 5.0 0 9999.0 9999.0 9999.0 LBFX 313.0 RDST	14.0 LOAX 9999.0 ENGH 9999.0 KFRH 9999.0 P999.0 LOAX 9999.0 ENGN	20.4 BEAM 48.2 PROP 1.0 TPRM 9979.0 9999.0 BEAM 48.2 FROP	9999.0 DRFT 19.2 LATA 9999.0 PERD 11.5 11.0 DRFT 19.2 LATA	TRIM           0.0           LCAX           9999.0           TRIM           0.0           LCAX	1.0 <u>UNUU</u> 1.0 BUL B 1.0 <u>UNUU</u>	243.0 TRLC 5.0 DDIS 243.0 TRLC	9999.0 	9999.0
##### SHIP # 115         DIMENSION         RUDDER, PROP         999         ZIG-ZAG         999         2IG-ZAG         999         ##### SHIP # 116         DIMENSION         RUDDER, PROP         999         ##### SHIP # 116         DIMENSION         RUDDER, PROP         STOPFING         STOPFING         11         ZIG-ZAG         999         ##### SHIP # 117         DIMENSION         ##### SHIP # 117         DIMENSION	434 ATN 5.0 SFD 7.0 FNZ 9.0 7.0 888 ATN 5.0 SFD 9.0 FDS 5.4	NMBR         115.0         RUAR         97.0         RUR7         20.0         10.0         ****         NMBR         116.0         RUAR         97.0         SHFS	TYPE           2:0           PDIA           9:2           OU\$1           12:0           5:0	DISF 241.0 ASHP 9999.0 OVSF 19.0 13.0 DISF 241.0 ASHF 9999.0	LBFX 313.0 RDST 5.0 0054 9999.0 9999.0 9999.0 LBFX 313.0 RDST	LOAX 9999.0 ENGN 9999.0 KFRH 9999.0 9999.0 LOAX 9999.0 ENGN	BEAM 48.2 PROP 1.0 TPRM 9979.0 9999.0 9999.0 BEAM 48.2 FROP	DRFT 19.2 LATA 9999.0 PERD 11.5 11.0 DRFT 19.2 LATA	TRIM           0.0           LCAX           9999.0           TRIM           0.0           LCAX	1.0 <u>UNUU</u> 1.0 BUL B 1.0 <u>UNUU</u>	243.0 TRLC 5.0 DDIS 243.0 TRLC	9999.0 	9999.0
DIMENSION N RUDDER, PROP 5 999 ZIG-ZAG 5 999 ***** SHIP 0 116 DIMENSION N RUDDER, PROP 5 999 STOPFING 51 12 ZIG-ZAG 51 999 ***** SHIP 0 117 DIMENSION N	ATN 5.0 SFD 9.0 F.N.2 9.0 9.0 8.0 8.0 8.0 SPD 9.0 FDS 5.4	NMBR 115.0 RUAR 97.0 RUD7 20.0 10.0 10.0 SHFS	2.0 PDIA 9.2 OUS1 12.0 5.0 TYPE 2.0 PDIA 9.2	241.0 <u>ASHP</u> 9999.0 <u>OVSF</u> 19.0 15.0 DISF 241.0 <u>ASHF</u> 9999.0	313.0 RDST 5.0 DUSU 9999.0 9999.0 9999.0 STREET	9999.0 ENGH 9999.0 KFRH 9979.0 9999.0 LOAX 9999.0 ENGN	48.2 <u>PROP</u> 1.0 <u>TPRM</u> 9979.0 9999.0 <u>BEAM</u> 48.2 <u>PROP</u>	19.2 LATA 9999.0 PERD 11.5 11.0 DRFT 19.2 LATA	0.0 <u>LCAX</u> 9999.0 TRIM 0.0 <u>LCAX</u>	1.0 <u>UNUU</u> 1.0 BUL B 1.0 <u>UNUU</u>	243.0 TRLC 5.0 DDIS 243.0 TRLC	9999.0 	9999.0
RUDDER, PROP         S           999         999           ZIG-ZAG         SI           999         999           ##### SHIP # 116         916           DIMENSION         N           RUDDER, PROP         SI           RUDDER, PROP         SI           STOPFING         SI           2IG-ZAG         SI           999         STOPFING           2IG-ZAG         SI           999         STOPFING           2IG-ZAG         SI           999         STOPFING           DIMENSION         NO	5.0 <u>SFD</u> 7.0 <u>FDZ</u> 7.0 7.0 7.0 7.0 7.0 7.0 5.0 SFD 7.0 FDS 5.4	115.0 <u>RDAR</u> 97.0 <u>RUD7</u> 20.0 10.0 10.0 14# NHDR 116.0 <u>RDAR</u> 97.0 SHFS	2.0 PDIA 9.2 OUS1 12.0 5.0 TYPE 2.0 PDIA 9.2	241.0 <u>ASHP</u> 9999.0 <u>OVSF</u> 19.0 15.0 DISF 241.0 <u>ASHF</u> 9999.0	313.0 RDST 5.0 DUSU 9999.0 9999.0 9999.0 STREET	9999.0 ENGH 9999.0 KFRH 9979.0 9999.0 LOAX 9999.0 ENGN	48.2 <u>PROP</u> 1.0 <u>TPRM</u> 9979.0 9999.0 <u>BEAM</u> 48.2 <u>PROP</u>	19.2 LATA 9999.0 PERD 11.5 11.0 DRFT 19.2 LATA	0.0 <u>LCAX</u> 9999.0 TRIM 0.0 <u>LCAX</u>	1.0 <u>UNUU</u> 1.0 BUL B 1.0 <u>UNUU</u>	243.0 TRLC 5.0 DDIS 243.0 TRLC	9999.0 	9999.0
RUDDER, PROP         S           999         999           ZIG-ZAG         SI           999         999           ##### SHIP # 116         916           DIMENSION         N           RUDDER, PROP         SI           RUDDER, PROP         SI           STOPFING         SI           2IG-ZAG         SI           999         STOPFING           2IG-ZAG         SI           999         STOPFING           2IG-ZAG         SI           999         STOPFING           DIMENSION         NO	SFD 7.0 7.0 7.0 7.0 7.0 7.0 7.0 8 8 8 7.0 8 7.0 8 7.0 8 7.0 8 7.0 8 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0	RUAR 97.0 RUD7 20.0 10.0 *** NHDR 116.0 RUAR 97.0 SHFS	2.0 PDIA 9.2 OUS1 12.0 5.0 TYPE 2.0 PDIA 9.2	241.0 <u>ASHP</u> 9999.0 <u>OVSF</u> 19.0 15.0 DISF 241.0 <u>ASHF</u> 9999.0	313.0 RDST 5.0 DUSU 9999.0 9999.0 9999.0 STREET	9999.0 ENGH 9999.0 KFRH 9979.0 9999.0 LOAX 9999.0 ENGN	48.2 <u>PROP</u> 1.0 <u>TPRM</u> 9979.0 9999.0 <u>BEAM</u> 48.2 <u>PROP</u>	19.2 LATA 9999.0 PERD 11.5 11.0 DRFT 19.2 LATA	0.0 <u>LCAX</u> 9999.0 TRIM 0.0 <u>LCAX</u>	1.0 <u>UNUU</u> 1.0 BUL B 1.0 <u>UNUU</u>	243.0 TRLC 5.0 DDIS 243.0 TRLC	9999.0 	9999.0
999 ZIG-ZAG SI 999 999 ##### SHIP # 116 DIMENSION N RUDDER, FROF S: 999 STOPFING SI 11 ZIG-ZAG SI 999 ##### SHIP # 117 DIMENSION N	9.0 FRZ 9.0 9.0 *** ATN 5.0 SPD 9.0 FDS 5.4	97.0 <u>RUD7</u> 20.0 10.0 10.0 11.0 RUAR 97.0 SHFS	9.2 <u>DUS1</u> 12.0 5.0 TYPE 2.0 PDIA 9.2	9999.0 0VSF 19.0 13.0 DISP 241.0 ASHF 9999.0	5.0 <u>nusu</u> 9999.0 9999.0 <u>9999.0</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>50</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u>	9999.0 <u>KPRH</u> 9979.0 9999.0 LOAX 9999.0 ENGN	1.0 <u>TPRM</u> 9977.0 9999.0 BEAN 48.2 PROP	99999.0 PERD 11.5 11.0 DRFT 19.2 LATA	9999.0 TRIM 0.0 LCAX	1.0 BULB 1.0 WHWU	5.0 ND15 243.0 TRLC		
999 ZIG-ZAG SI 999 999 ##### SHIP # 116 DIMENSION N RUDDER, FROF S: 999 STOPFING SI 11 ZIG-ZAG SI 999 ##### SHIP # 117 DIMENSION N	9.0 FRZ 9.0 9.0 *** ATN 5.0 SPD 9.0 FDS 5.4	97.0 <u>RUD7</u> 20.0 10.0 10.0 11.0 RUAR 97.0 SHFS	9.2 <u>DUS1</u> 12.0 5.0 TYPE 2.0 PDIA 9.2	9999.0 0VSF 19.0 13.0 DISP 241.0 ASHF 9999.0	5.0 <u>nusu</u> 9999.0 9999.0 <u>9999.0</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>50</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u> <u>500</u>	9999.0 <u>KPRH</u> 9979.0 9999.0 LOAX 9999.0 ENGN	1.0 <u>TPRM</u> 9977.0 9999.0 BEAN 48.2 PROP	99999.0 PERD 11.5 11.0 DRFT 19.2 LATA	9999.0 TRIM 0.0 LCAX	1.0 BULB 1.0 WHWU	5.0 ND15 243.0 TRLC		
ZIG-ZAG SI 999 ***** SHIP # 116 DIMENSION N RUDDER, PROF SI 999 STOPFING SI 11 ZIG-ZAG SI 999 ***** SHIP # 117 DIMENSION N	FDZ 9.0 9.0 *** ATN 5.0 SPD 9.0 FDS 5.4	RUD7 20.0 10.0 *** NHBR 116.0 RUAR 97.0 SHFS	0US1 12.0 5.0 Type 2.0 PDIA 9.2	0VSF 19.0 15.0 DISP 241.0 ASHF 9999.0	0054 9999.0 9999.0 1999.0 1999.0 1999.0 1999.0 1999.0 1999.0 1999.0 1999.0 1999.0 1999.0 1999.0 1999.0 1999.0 1999.0	KPRH 9979.0 9999.0 LOAX 9999.0 ENGN	<u>TPRM</u> 9979.0 9999.0 SEAM 48.2 PROP	PERD 11.5 11.0 DRFT 19.2	TRÌN 0.0 LCAX	BUL B 1.0 WHWV	1015 243.0 TRLC		
999 979 ***** SHIP # 116 DIMENSION N RUDDER, FROP 999 STOPFING SI 11 ZIG-ZAG SI 999 999 ***** SHIP # 117 DIMENSION N	9.0 9.0 *** ATN 5.0 SFD 9.0 FUS 5.4	20.0 10.0 *** NHBR 116.0 RUAR 97.0 SHFS	12.0 5.0 Type 2.0 PDIA 9.2	19.0 15.0 DISP 241.0 ASHF 9999.0	9999.0 9999.0 LBFX 313.0 RDST	9979.0 9999.0 LOAX 9999.0 ENGN	9979.0 9999.0 BEAM 48.2 FROP	11.5 11.0 DRFT 19.2	TRÌM 0.0 LCAX	1.0 WRWV	243.0 TRLC		
999 ##### SHIP # 116 DIMENSION N RUDDER, PROF S: 999 STOPFING SI 11 2IG-ZAG SI 999 999 ##### Ship # 117 DIMENSION N	9.0 *** ATN 5.0 SFD 9.0 FUS 5.4	10.0 *** NHBR 116.0 RUAR 97.0 SHFS	5.0 TYPE 2.0 PDIA 9.2	13.0 DISP 241.0 ASHF 9999.0	9999.0 LBFX 313.0 RDST	9999.0 LOAX 9999.0 ENGN	9999.0 BEAN 48.2 FROP	11.0 DRFT 19.2	TRIM 0.0 LCAX	1.0 WRWV	243.0 TRLC		
###### SHIP # 116         DIMENSION         RUDDER, PROF         STOPFING         STOPFING         2IG-ZAG         999         ###### SHIP # 117         DIMENSION         DIMENSION	*** ATN 5.0 SFD 9.0 FDS 5.4	NHBR 116.0 RUAR 97.0 SHFS	TYPE 2.0 PDIA 9.2	DISP 241.0 ASHF 9799.0	LBFX 313.0 RDST	LOAX 9999.0 Engn	BEAH 48.2 FROP	DRFT 19.2	TRÌN 0.0 LCAX	1.0 WRWV	243.0 TRLC		
DIMENSION N RUDDER, PROF S 999 STOPFING SI 1 ZIG-ZAG SI 999 999 ***** Ship 0 117 Dimension N	ATN 5.0 SPD 9.0 FDS 5.4	NHBR 116.0 RUAR 97.0 SHFS	2.0 PDIA 9.2	241.0 ASHF 9799.0	313.0 RDST	9999.0 ENGN	48.2 FROP	19.2	0.0	1.0 WRWV	243.0 TRLC		
RUDDER, FROF S: 999 STOPFING SI 11 ZIG-ZAG SI 999 999 ***** Ship 0 117 Dimension N	5.0 SPD 9.0 PDS 5.4	116.0 RUAR 97.0 SHFS	2.0 PDIA 9.2	241.0 ASHF 9799.0	313.0 RDST	9999.0 ENGN	48.2 FROP	19.2	0.0	1.0 WRWV	243.0 TRLC		
RUDDER, FROP         S:           STOPFING         Si           2IG-ZAG         Si           999         999           *****         Ship           DIMENSION         Ni	SPD 9.0 PDS 5.4	RUAR 97.0 SHFS	PDIA 9.2	ASHF 9799.0	RDST	ENGN	PROP	LATA	LCAX	WHW	TRLC	9999.0	9999.C
999 STOPFING 51 11 2IG-ZAG 51 999 999 ***** Ship # 117 Dimension No	9.0 FUS 5.4	97.0 SHFS	9.2	9999.0									19 da ang ang ang ang ang ang ang ang ang an
999 STOPFING 51 11 2IG-ZAG 51 999 999 ***** Ship # 117 Dimension No	9.0 FUS 5.4	97.0 SHFS	9.2	9999.0									
1: ZIG-ZAG SI 999 999 ***** Ship 0 117 Dimension No	5.4		RUDS						yyy9.0	1.0	3.0		
1: ZIG-ZAG SI 999 999 ***** Ship 0 117 Dimension No	5.4			TDIS	HRCH	SRCH	TIMS	TINR					
999 999 ***** Ship # 117 Dimension N			0.0	47.0									
999 ***** Ship 0 117 Dimension N		RUDZ	OVSI	OVSF	OVSW	KFRK	TPRH	PERD	<u></u>			*	
**** SHIP # 117 Dimension N		20.0	16.0				9999.0						
DIMENSION N	9.0	10.0	8.0	15.0	9999.0	9999.0	9999.0	10.0					
	***	**											
	ATN	NMBR	TYPE	DISP	LBPX	LOAX	REAM	DRFT	TOTH				-
		117.0	2.0			9999.0				BULR 1.0	DD15 243.0	S5HP 9999.0	
	SFD 9.0	RDAR 97.0	PDIA 9.2	ASHF 9999.0	RDST 5.0	ENGN 9999.0		LATA 9999.0		UNUV 1.0	TRLC 4.0		
			Aune										
	PDS 5.4	SHFS 100.0	RUDS 0.0					TINR 9999.0					
	<u></u>					<u>6</u>		777714					
#####_SHIP_#_118	***	**											
DIMENSION N	ATN	NMBR	TYPE	DISP	LIPPX	LOAX	BEAK	DRFT	TRIN	BULB	DDIS	SSHP	SRPH
		118.0	2.0			9999.0				1.0		9999.0	
			-										
RUDDER, PROP 51		RDAR 99.0	PDIA B.O	ASHF 9999.0		ENGN 9999.0		LATA 9999.0	LCAX	UNUV 1.0	TRLC		
						*****		¥777.4¥	111114	1.0	3.0		
TURNING' SI 999													

	218-240	15.6	20.0	15.0	14.0	9999.0	0.9	1.5	8.0					
_	***** SHIP *	119 #13	**											
	DIMENSION	NATH	NMBR	TYPE	DISP	LBPX	LOAX	BEAK	DRFT	TRIN	BULB	DDIS	SSHP	SRPH
	DIMENSION	5.0	119.0	2.0	256.0		9999.0	52.6	19.5	0.0	1.0	258.0	9999.0	9999.0
										LCAX	UNEV	TRUC		
	RUDDER, PROP		RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA 9999.0		1.0	4.0		
		9999.0	99.0	8.0	9999.0	5.0	9999.0	110						
	TURNING	SPOT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
	IONNING		9999.0	-35.0	10.6	6.0	10.0	9999.0						
-														
_	##### SHIP #	120 11												SRPH
	DIMENSION	NATH	NNER	TYPE	DISP	LBFX		BEAH	DRFT	TRIN	BULR	DDIS	SSHP 9999.0	
		5.0	120.0	2.0	463.0	350.0	9999.0	70.0	22.2	0.0	9999.0	463.0	****.0	*****
					ASHE	RDST	ENGN	PROP	LATA	LCAX	WHWV	TRLC		
	RUDDER, PROP	SSPD	RDAR	PDIA			9999.0		9999.0		1.0	3.0		
_		12.0	185.0											
	SESES SHIP \$	121 ##	***											
					DISP	LBPX	LOAX	BEAH	DRET	TRIM	BUL.B	DDIS		
	DIMENSION	NATH		TYFE	0000.0		9999.0		11.0	0.0	9999.0	7999.0	9999.0	9999.0
		1.0	121.0	/.0										
	RUDDER, PROP	SSPD	RUAR	PDIA	ASHF	RDST	ENGN	PROP	LATA	LCAX		TRLC 2.0		
		9999.0	9999.0	9999.0	9999.0	9999.0	9997.0	9999.0	9779.0	9999.0	4.0	2.0		
				RUDT	ADUT	TENT	DIAT	FRPH						
	TURNING		SPDF 9999.0					82.0					2	
_		9999.0	4444.0	33.0										
	ZIG-ZAG	SPDZ	RUDZ	OVS1	OVSF	OVSW		TPRM	PERD					
		9999.0	20.0	28.0	21.0	9999.0	9999.0	9999.0	10.2	and the second se				
-		9999.0	22.0	20.0	14.0	9999.0	9999.0	*****						
-	SEESS SHIP	122 88												
									DRFT	TRIM	BULB	DDIS	SSHP	SRPH
	DIMENSION									the second se			and the second sec	112.0
		1.0	122.0	1.0	87.0	230.0	20210							
	RUDDER. PROP	SSPI	RDAR	PDI	A ASHF	RDST	ENGN	PROP	LATA					_
-	RUDDERT TROP	9999.0			9999.0	2.0	1.0	1.0	14.7	9999.0	9999.0	2.0		
							DIAT	FRPH						
	TURNING	SPD1			a second s			9999.0						
		9999.0	9999.0	35.				9999.0						
												_		
-	STOPPING	SPO	S SHPS		-	-			TINR					
									9999.0					
		16.1	100.0	0.	0 24.	3 16.	7 11.2	10.3	111110					
		-	Z RUCZ	ovs	1 OVSI	F OVSI	W KPRH	TPRM						
	ZIG-ZA	9999.	-			0 9999.	0 9999.0	7799.0	9999.0	)				
-														
		1.15	1.1											
_	SESSE SHIP	123 #	****											
	DIMENSIO	-	-	TTP	E DIS	P LBP	X LOAN	BEAP					-	
	DINENSIO		0 123.0				0 287.0	40.3	15.0	0.0	0 0.0	137.	0 39.	0 112.

PERD OVSF OVSW KPRH TPRM RUDZ OVS1

ZIB-ZAG SPDZ

RUDDER, FROP	SSFD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNWV	TRLC		
	9999.0			9999.0	2.0	1.0	4.0		9999.0		2.0		
TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
		9997.0	-35.0		4.0		9999.0						
	9999.0	9999.0	35.0	7.3	4.2	7.8	9999.0						
STOPPING			RUDS		HRCH	SRCH	TINS	TINR					
	19.0		0.0		18.6	7.5		9999.0					
	10.9	100.0	0.0	13.6	13.4	1.4	8.0	9999.0					
ZIG-ZAG	SFDZ	RUDZ	OVS1	OVSF	OVSW	KPRM	TPRH	PERD					
210-240	9979.0		10.0				9999.0						
	9999.0		8.0				9999.0						
##### SHIP	124 44	***											
DIMENSION	. NATN	NMBR	TYPE	DISP	LBPX	LOAX	BEAM	DRFT	TRIM	BULB	DRIS	SSHP	SRPH
	1.0	-	5.0	13.0	155.0	166.0	24.1	6.4	33.0	0.0	20.0	18.0	115.0
				- S.									
RUDDER. PROP	SSPD	RDAR	FDIA	ASHP	RUST	ENGN	PROP	LATA			TRLC		
	9999.0	22.0	6.6	9999.0	2.0	1.0	1.0	16.4	9999.0	9999.0	2.0		
TURNING			RUDT		TRNT	DIAT							
		9999.0			3.6		9999.0						
		\$\$99.0	35.0		4.9		9999.0						
		9997.0	-35.0		3.1		9999.0						
		9997.0	-35.0	spinop distantiant	3.4		9999.0						
		9999.0	35.0		3.2		9999.0						
STOFFING	SPDS	SHES	RUDS	TDIS	HRCH	SACH	TIMS	TINR					
	9999.0	100.0	0.0	10.3	9.8	1.1	3.1	9999.0					
ZIG-ZAC	SPDZ	RUOZ	OVS1		OVSU								
	9999.0		5.0				9999.0						
	9999.0	a company of the second	6.0			9999.0		2.6					
	9999.0	20.0	12.0	9.0	7.1	9999.0	9999.0	2.4					
##### SHIP	125 **	***											
DIMENSION	NATH	NMBR	TYPE	DISP	LBPX	LOAX	BEAH	DRFT	TRIN	BULB	DDIS	SSHP	SRPH
	1.0	and an and a second second	2.0	189.0	263.0	275.0	52.7	17.5	0.0	0.1	189.0	27.0	85.0
						F11011			1.044	UNUU	TRLC		
RUDDER, FROP		and share and share maninesses	PDIA		RUST	ENGN		LATA 19.0			2.0		
	15.0	94.0	8.6	9999.0	2.0	1.0	110	17.0	0.0	1.0	2.0		
TURNING	SPDT	SPDF	RUDT	ADUT	TRNT	DIAT	FRPH						
	15.3		-37.0				9999.0						
	7.2		-37.0		3.2		9999.0						
STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TIMR					
	15.3		0.0	27.4	9999.0	9999.0	15.3	9999.0					
		100.0		16.1				9999.0					
	7.2	100.0	0.0	8.0	9999.0	9999.0	8.3	9999.0					
	3.6	100.0	0.0	3.2	9979.0	9999.0	5.9	9999.0					
**** SHIP	126 ##	***											
***** SHIP	NATN	*** NHER 126.0	TYPE 2.0		L1PX 263.0						DD15 189.0	55HP 27.0	SRPN 85.0

TURNING	SPDT 17.3 8.1 SPDS	SPDF 7.7 5.7	RUDT - 37.0	ADVT									
 	17.3 8.1 SPDS	7.7			TRNT	DIAT	FRPH						
STOPPING	8.1 SPDS	5.7		8.2	3.5		9999.0						
STOPPING			-37.0	8.0	3.4	7.1	9999.0						
 510FP146		SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TIMR					
								9999.0					
	states appendix to a state	100.0	0.0		9999.0	9999.0	and the state of the	9999.0					
	12.2	100.0	0.0			9999.0		9999.0					
	4.1	100.0	0.0			9979.0		9999.0					
##### SHIP #	127 ***	**											
DIMENSION	NATH	NMBR	TYPE	DISP	LBPX	LOAX	BEAM	DRFT	TRIN	BULB	DDIS	SSHP	SRPI
 	1.0	127.0	1.0	47.0	201.0	210.0	27.4	10.6	0.0	0.1	47.0	15.0	90.0
RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAN	WNWV	TRLC		
	9999.0	35.0		9999.0	2.0	1.0	1.0	9.4	0.0	1.0	2.0		
TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
	12.7	9999.0	-35.0	6.6	3.1	6.5	9999.0						
	16.2	9999.0	35.0	6.3	3.2	7.3	9999.0						
 STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
	10.8	100.0	0.0	22.9	18.6	3.0	8.2	38.0					
ZIG-ZAG	SPDZ	RUDZ	OVS1	OVSF	OVSU	KPRH	TPRH	PERD					
	11.9			8.0		9999.0							
 \$\$\$\$ SHEP \$	128 ***	**						<u></u>					
DIMENSION	NATH	NHER	TYPE	DISP	LEPX	LOAX	BEAN	DRFT	TRIN	BULB	DDIS	SSHP	SRPI
	1.0	128.0	1.0	107.0	261.0	273.0	32.2	14.9	0.0	0.1	106.0	24.0	90.0
			1.0	1.00									
 RUDDER, PROP		RDAR	PDIA		RDST	ENGN	PROP	LATA	LCAX	UNWV	TRLC		
	7999.0	58.0	7.9	9999.0	2.0	1.0	1.0	23.4	0.0	1.0	2.0		
THENTHE	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPM						
 TURNING		9799.0	-35.0		4.8		9999.0						
		9999.0	-35.0	7.8	4.0		9999.0						
 STOPPING	SPDS	SRPS	RUDS	TDIS	HRCH	SRCH	TIRS	TINR					
	9999.0	100.0	0.0	29.3	27.4	10.7	13.0	21.0					
ZIG-ZAG	SPDZ	RUDZ	OVSI	OVSF									
	9999.0	20.0	10.0	5.0	9.0	9999.0	9999.0	4.9					
***** SHIP *	129 ##	***											
 DIMENSION	NATH	NMBR	TYPE		TERU	LOAX	BEAH	DRFT	TRIH	BULK	DDIS	SSHP	
DINERSION	1.0	129.0	2.0						0.0	0.0	217.0	28.0	90.
 RUDDER, PROP	SSPU	RDAR	FDIA	ASHP	RDST	EHGN	PROF	LATA	TCAX	- VANU-	TREC		
	14.5			9999.0					0.0	1.0	2.0		
 TURNING	SPDT	SPDF	RUDT	Abuy			FRPH						
	15.5	9999.0	-35.0				9999.0						
		9999.0	35.0				9999.0						
		9999.0	-20.0				9999.0						

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	STOPPING	SPDS							TINR					
			100.0						9999.0					
			9999.0						9999.0					
			9999.0						9999.0					
			9999.0			69.3			9999.0					
1			9999.0		the second division in			the second se	9999.0		_	_	_	
		4.8	9999.0						9999.0					
_														
		130 ##												
	DIMENSION	NATH	NMBR	TYPE	DISP	LBPX	1044							
		1.0		2.0					DRFT	TRIM	BULB	DAIS	SSHP	SRPM
_		1.11						30.0	8.5	44.0	0.0	217.0	28.0	90.0
	RUDDER, PROP	SSPD		PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNNU	TRLC		
		15.4	81.0	8.4	9999.0	2.0	1.0			9999.0	1.0			
-														
	TURNING	SPDT		RUDT		TRNT	DIAT	FRPM						
			9999.0	-35.0				9909.0						
-		10.2	9999.0	35.0	8.3	3.2	8.2	9999.0						
								1.1.1.1						
	SISSE SHIP .	131	***											
	DIMENSION	NATH	NMBR	TYPE	DISP	LBPX	LOAX	PEAN	-					
_			131.0	3.0			262.0		DRFT	TRIM	BULB	DDIS	SSHP	SRPH
11							29210	32.3	6.0	59.0	0.7	9999.0	19.0	115.0
	RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP						
_		9999.0	45.0		9999.0	5.0	3.0		15.2	LCAX	UNHU	TRLC		
	Contraction of the second			and the second sec				1.0	33.2	-19.0	1.0	2.0		
	TURNING	SPDT	SPDF	RUDT	ADUT	TRNT	DIAT	FRPH						
_		_17.1	9999.0	-36.0	8.1	3.6	8.7	90.0						
		17.1	9999.0	-36.0		2.2	6.2	98.0						
		1222												
	STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TIMS	TIMR					
			100.0	0.0	22.6	9999.0	9999.0	7.5	31.0					
		18.2	9997.0	0.0	46.4	9999.0	9799.0	38.6	323.0					
-									1.1.1.1		-			
	SEESS SHIP .	132 111												
	DIMENSION	NATH	NNER	TYPE	DISP	LBPX	1047				-	_	-	-
		1.0	132.0	3.0	50.0	230.0	LOAX 242.0	PEAM	DRFT	TRIM	BULR	DDIS	SSHP	SRPM
_								32.3	13.9	3.0	0.8	87.0	17.0	110.0
	RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RIST	ENGN	PROP	LATA	1044	Many		_	
		16.2	50.0		9999.0	5.0	3.0	1.0		LCAX	NHUU	TRLC		
		_							15.6	-11.0	1.0	2.0		
	TURNING	SPDT	SPDF	KUDT	ADUT	TRNT	DIAT	FRPH						_
			9999.0	36.0	7.8	3.6		9999.0						
-		16.4	9999.0	-36.0	7.8	3.5		9999.0						
								-						
	STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TIMR					
-		16.4	100.0	0.0	32.7	9999.0	9999.0	11.9	82.0					
-	Trate and													
	DIMENSION	NATH	-				i in	1						
	STURNOT ON		NMBR	TYPE	DISP	LBPX	LOAX	BEAM	DRFT	TRIM	BULE	PDIS	SSHP	SRPM
-		1.0	133.0	3.0	56.0	216.0	227.0	30.4	10.3	1.0	0.0	54.0	18.0	104.0
	RUDDER, PROP	SSPD	RDAR				-							
				PDIA	ASHP	RUST	ENGN	PROP	LATA	LCAX	UNNU	TRL.C		
			32.0		9999.0	5.0	1.0	1.0	13.8	-13.0	1.0	2.0		
							10000	2.1.2.						
	TURNING	SPDT	SPDE	PUDT										
	TURNING	SPDT	SPDF 9999.0	RUDT -35.0	ADVT 6.2	TRNT 2.7	DIAT 6.4	FRPM 93.0						

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 16.9
 9999.0
 34.0
 7.2
 2.9
 4.2
 90.0

 STOFFING
 SPDS
 SHPS
 RUDS
 TDIS
 HRCH
 SRCH
 TIHS
 TIHR

 17.5
 100.0
 0.0
 28.7
 18.9
 14.3
 11.3
 60.0

4.

	##### SHIP #	134 ##	***											
	DIMENSION	NATH	NMBR	TYPE	DISP	LBPX	LOAX	BEAN	DRFT	TRIN	BULB	DDIS	SSHP	SRPH
_			134.0	3.0	65.0	220.0	232.0	31.1	11.6	-3.0	0.0	66.0	22.0	
		SSPD	RDAR	PDIA	ACUD	RDST	eueu				UNUV	-		
	RUDDER, PROP	17.5	the second second second second		ASHP 9999.0	5.0	EHGN 1.0	FR0P	LATA 15.2		Street Street Street Street			
	TURNING	SPDT	SFDF 9999.0	RUDT	ADUT	TRNT	DIAT	FRPM B7.0						
			9999.0	-35.0	7.7	3.3	7.6	68.0						
	STOPPING		SHPS	RUDS	TDIS		SECH	TINS	TINR					
		17.3	100.0	0.0	24.5	9999.0	9999.0	7.6	85.0					
	ZIG-ZAG	SPDZ	RUDZ	OVSI	OUSE	OVSU	KPRN	TPRH	PERD					
		17.2		14.0		9999.0			5.3					
	***** SHIP #	135 **	***											
_	DIMENSION	NATH	NHED			LBFX	1.074	BEAM	DOFT	TEIN	Butt	DDIS		
	DINENSION	1.0			9999.0		9999.0	32.0			9999.0			
	The second second													
	RUDDER . PROP								LATA					
		19.2	9999.0	9999.0	9999.0	9999.0	1.0	1.0	9999.0	9999.0	1.0	1.0		
~	TURNING	SPOT	SPDF	RUDT	ADUT	TRNT	TAT	FRFH			•		•	
			9997.0	-35.0	7.9	4.0		9999.0						
			9999.0	35.0	7.7	2.7		9999.0						
			7779.0 7779.0	-35.0	7.7		9999.0							
-	STOPPING			RUDS					TIHR					
		19.2	60.0	0.0		9999.0			9999.0					
		10.4	60.0	0.0	3.7	9999.0	4999.0	2.1	9977.0					
	***** SHIP *	136 **	***											
	DIMENSION	NATN	NMBR	TYPE	DISP	LBPX	LOAX	BEAH	DRFT	TRIM	BULB	DDIS	SSHP	SRPI
	DINENSION	1.0			9999.0		9999.0	32.0			9999.0			
	RUDDER, FROP			PDIA	ASHF	RDST	ENGN	FROP	LATA		WHWV	TRLC		
		9977.0	9999.0	9999.0	9997.0	7777.0	1.0	1.0	9999.0	9999.0	1.0	1.0		
	TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
			7997.0	-35.0	5.5		9999.0							
			9999.0	35.0	6.0		9999.0							
			9977.0	-35.0	5.0		9999.0							
			9599.0	33.0	3.8	2.8	9999.0	7777.0						
	STOPPING		SHES	RUDS	TDIS									
		9999.0	60.0	0.0	-	9999.0		and the second s	9999.0					
		9999.0	40.0	0.0	4.7	9999.0	7799.0	2.7	9999.0					
_	82888 SHIP 8	1.57 ##	122											
	THAT GUT A													
	DIMENSION	NATN	NHDR	TYPE	DISP	LBPX	LOAX	DEAN	DRFT	TRIM	BULB	DDIS	SSHP	SRPH

1.0 137.0 7.0 98.0 274.0 9999.0 41.2 11.0 12.0 9999.0 97.0 9999.0 9999.0 RUDDER, FROF SSFD RDAR FDIA ASHP RDST ENGN PROP LATA LCAX 9999.0 53.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 UNUV TRLC 1.0 1.0

ZIG-ZAG	SPDZ		OVS1	OVSF				PFRD					
	19.0		28.0			9979.0		6.0					
***** SHIP * 1	138 ###	183											
DIMENSION	NATH		TYPE					DRFT	TRIN	BULB	DDIS	SSHP	SRPH
	14.0	138.0	3.0	65.0	214.0	229.0	28.5	12.6	0.0	9999.0	45.0	13.8	118.0
RUDDER. PROP	SSPD		FDIA					LATA	LCAX		TRLC		
	15.4	40.0	6.1	13.8	2.0	3.0	1.0	15.9	0.0	1.0	7997.0		
TURNING	SPOT		RUDT			DIAT							
		9797.0	35.0				9999.0						
	14.8	9999.0	-35.0	5.0	3.7	7.0	9999.0						
***** SHIP # 1	139 ##	488											
DIMENSION	NATN	NMBR	TYPE	DISP	LBPX	LOAX	BEAH	DRFT	TRIM	BULB	DAIS	SGHP	SRPH
		139.0	3.0					5.7		9999.0	65.0		118.0
RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNNY	TRLC		
	17.5		6.1	13.8				30.5	0.0		9999.0		
TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
		9999.0	35.0				9999.0						
		9999.0	-35.0	4.4			9999.0						
STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
and the second of the second se		100.0		9999.0				9999.0					
***** SHIP * :	140 **:												
DIMENSION	NATN	NMBR	TYPE	DISP	LIPX	LOAX	BEAN	DRFT	TRIN	BULB	DDIS	SSHP	SRPH
	1.0			189.0				14.8	0.0		9999.0		
RUDDER. FROP	SSPD	RDAR	PDIA	ASHP	RUST	ENGN	PROP	LATA	LCAX	WNWV	TRLC		
NYPERI	15.0	descention over the second second	the state of the second second second	9999.0	and the second se	Statement of the second statement of the second		THE OWNER ADDRESS OF	9999.0	the second s			
TURNING	SPDT	SFDF	RUDT	ADVT	TRNT	DIAT	FRPH						
		9797.0	35.0		and the second se	and the second se							
		9999.0	-35.0										
		9979.0	35.0			5.7							
	5.9	9999.0	-35.0	7.8	1.5	7.0	100.0						
STOPPING	SPDS		RUDS					TINR					
		100.0		9999.0		9999.0		5.0					
	15.0			9999.0		9999.0		8.0					
	15.0			9999.0		9999.0		10.0					
							/.3	5.0					
ZIG-ZAG	SPDZ		OVS1	OVSF				PERD	_				
	15.0	20.0	25.0	20.0	9999.0	9999.0	9999.0	9999.0					
**** SHIP *	141 111	***				<del></del>							

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		1.0	141.0	1.0	53.0	263.0	276.0	52.7	7.9	25.0	0.2	****.0	9999.0	9999.0
	RUDDER, PROP	SSPD 14.8	RDAR 94.0	PDIA 8.6	ASHP 7777.0	RDST 2.0	EH6N 1.0	PROP 1.0	LATA 37.0	LCAX 0.0	UNUV 3.0	TRLC 2.0		
	TURNING	SPDT	SPDF	RUDT	ADUT	TRNT	DIAT	FRPH						
		17.0	9999.0	35.0	8.6	1.8	7.5	89.0						
			9999.0	-35.0	9.0	2.3	8.8	91.0						
			9999.0	35.0	7.7	1.8	7.3	100.0						
		/	****	-33.0		2.1	•.•	10010						
	STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TIHS	TIMR					
		17.0			9999.0		9999.6	11.7	10.0					
		8.2	30.0		\$999.0	10.2	9999.0	3.0	3.0					
	**** SHIP *	142 **	***											
-	DIMENSION	NATN	NHER	TYPE	DISP	LIFX	I.UAX	BEAK	DRFT	TRIA	FULT	DIS	SSHP	
		1.0		3.0	13.0	9999.0	9999.0	9999.0	4.6	25.0	0.0	13.0	22.0	110.
	RUDDER, PROP	SSPD	RDAR	PDIA	ASHF	RDST	ENGN	PROP	LATA	LCAX	ANNA			
		9999.0	9999.0	9999.0	<b>7777.</b> 0	99^9.0	9999.0	9999.0	\$999.0	9999.0	3.0	2.0		
1	TURNING		SPDF	RUPT		TENT	DIAT	FRPH						
			9999.0	35.0	5.0	2.9	9.1	<b>91.0</b> <b>91.0</b>						
_			9999.0	-35.0		3.6	8.8	94.0						
			9999.0	35.0	5.4	3.2	6.7	88.0						
			9999.0	-35.0		3.2	6.1	93.0						
			9999.0	35.0	2.9	4.4	4.7 5.1	93.0						
			9999.0		5.3	4.3	9.2							
			9999.0				8.7	80.0						
	ZIG-ZAG	SPDZ		a second second second	OVSF	045W	KPRH	TPRH	PERD					
		15.0				9999.0								
_		15.0				9999.0								
		143-88												
	DIMENSION	NATH		TYPE	DISP	LBPX	LOAX	BEAN	DRFT	TRIM	BULB			SRP
_		1.0		2.0	189.0	243.0	276.0	52.7	16.8	0.0	0.2	9999.0	9999.0	9999.
	RUDDER. PROP	SSPD					ENGN	PROP		LCAX	UNUU			
		15.0	94.0	8.4	9999.0	2.0	1.0	1.0	19.0	0.0	3.0	2.0		
	TURNING						DIAT	FRPM						
			9999.0						and the second s					
		/.2	9999.0					95.0						
		8.3											-	
			9999.0			4.6	10.4							
		8.2	9999.0	-35.0	10.3									
		9.0	9999.0 9999.0 9999.0	-35.0	10.3	4.1	12.0	91.0						
		8.2 9.0 13.8 14.0	9999.0 9999.0 9999.0 9999.0	-35.0 -35.0 45.0 -45.0	10.3	4.1 2.1 1.5	12.0	91.0 91.0 84.0						
		9.0	9999.0 9999.0 9999.0 9999.0 9999.0	-35.0 -35.0 45.0 -45.0 35.0	10.3 9.1 9.2 9.1 9.1	4.1 2.1 1.5 4.3	12.0 7.9 9.1 10.1	91.0 91.0 86.0 100.0 94.0		_				
		8.2 9.0 13.0 14.0 13.3 13.3 13.3	9999.0 9999.0 9999.0 9999.0 4.1 4.0 4.8	-35.0 -35.0 45.0 -45.0 35.0 -35.0 35.0	10.3 9.1 9.2 9.1 9.8 10.4	4.1 2.1 1.3 4.3 4.5 3.9	12.0 7.9 9.1 10.1 10.9 10.0	91.0 91.0 86.0 100.0 94.0 85.0						
		8.2 9.0 13.8 14.0 13.3 13.3 13.3 15.1	9999.0 9999.0 9999.0 9999.0 4.1 4.0 4.8 5.0	-35.0 -35.0 -45.0 -45.0 -35.0 -35.0 -35.0 -35.0	10.3 9.1 9.2 9.1 9.8 10.4 10.1	4.1 2.1 1.5 4.3 4.5 3.9	12.0 7.9 9.1 10.1 10.9 10.0 11.0	91.0 91.0 86.0 100.0 94.0 85.0 88.0						
		8.2 9.0 13.8 14.0 13.3 13.3 15.1 15.2 15.2	9999.0 9999.0 9999.0 9999.0 9999.0 4.1 4.0 4.8 5.0 6.0	-35.0 -35.0 45.0 -45.0 -35.0 -35.0 -35.0 -35.0 -35.0	10.3 9.1 9.2 9.1 10.4 10.4 10.1	4.1 2.1 1.5 4.3 4.5 3.9 4.7 4.7	12.0 7.9 9.1 10.1 10.9 10.0 11.0 10.8	91.0 91.0 86.0 100.0 94.0 85.0 88.0 91.0						
		8.2 9.0 13.8 14.0 13.3 13.3 13.3 15.1	9999.0 9999.0 9999.0 9999.0 4.1 4.0 4.8 5.0 5.0 5.0	-35.0 -35.0 45.0 -35.0 -35.0 -35.0 -35.0 -35.0 -35.0 -35.0	10.3 9.1 9.2 9.1 9.8 10.4 10.1 10.6 10.6 10.6	4.1 2.1 1.3 4.3 4.5 3.9 4.7 4.8 3.9 5.4	12.0 7.9 9.1 10.1 10.9 10.0 11.0 10.8 9.6	91.0 91.0 84.0 94.0 85.0 88.0 91.0 95.0 93.0						

	STOPPING	SPDS	SHPS	RUDS	TDIS	HACH								
		16.0		35.0		9999.0								
		16.0		0.0		9997.0								
		16.0		35.0		9999.0								
		16.0	100.0	0.0		9997.0								
		16.0	100.0	0.0	56.1	\$999.0	9999.0							
		6.5		0.0		9999.0								
		5.0	**** 1	0.0		9999.0								
		15.8		0.0		9779.0			150.0					
		8.5	100.0	0.0	40.0	9999.0	9999.0	19.0	110.0					
	ZIG-ZAG	SPDZ	RUDZ	OVSI	OVSF	OVSW	KPRM	TPRH	PERD					
		14.8		7.0				9999.0						
****	SHIP .	144 ##	***											
D1	MENSION	NATH	NMBR	TYPE	DISP	1.664								
		1.0		1.0						TRIM				SRPH
					3310	103.0	2/0.0	52.7	7.9	25.0	0.2	9999.0	9999.0	9999.0
RUDDI	R. PROP	SSPD	RDAR	PULA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLC		
		16.8		8.6					39.0	0.0				
						_								
	TURNING	SPDT		RUDT		TRNT	DIAT	FRPH	-					
		13.5		35.0		3.1	8.9							
		16.0		-35.0		- 2.9	9.5				_		-	
		15.0		-35.0		3.3	9.6							
		14.1		35.0		2.9	9.8	92.0						
		14.1		-35.0		2.7	9.3	93.0					-	
		14.2		35.0		2.0	6.9	89.0						
		10.5		-35.0		2.1	7.5	95.0						
5	TOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TIMR					
		16.1	100.0	0.0		9999.0		14.0	90.0					
		15.8		0.0		9999.0		17.0	120.0					
		17.1		0.0	42.0	9999.0	9999.0	15.0	120.0					
		14.2	100.0	0.0	28.8	9999.0	9999.0	13.0	75.0					
	710.740													
	ZIG-ZAG	SPDZ	RUDZ	OVS1	OVSF	OVSU	KPRM	TPRH	PERD					
		12.8	20.0	20.0	20.0	4.1	9797.0	9999.0	10.0					
****	SHIP #	145 ##	***											
	MENSION	NATH	HHAD											
		7.0	NHBR 145.0	TYPE 2.0	DISP	LBPX	LOAX	BEAN	DRFT		. BUL R	DDIS	SSHP	SRPH
		/.0	.43.0	2.0	134.0	238.0	7977.0	39.0	15.4	3.0	9999.0	134.0	26.0	122.0
RUDDE	R. FROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRUC		
			9999.0		7999.0		4.0		15.7		9999.0	TRLC 9999.0		
	THENTHE													
	TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPM						
			9999.0	35.0		9979.0		9999.0						
		13.3	,,,,,	-35.0	0.7	9999.0	0.6	9999.0						
9	TOPPING	SPDS	SHPS	RUDS	TOTS	HRCH	SECH	TIMS	TIMR					
			100.0	CONTRACTOR OF TAXABLE PARTY.		20.1		10.0						
*****	SHIP .	146 881												
		MATH	NMBR	TYPE	DISP	LBPX	LOAX	DEAN	DRFT.	TRTH	BULB	DRIS	ceue	SRPH
DI	MENSION	NATH												
DI	MENSION		146.0	2.0	123.0	258.0	9997.0	39.0						
	MENSION			2.0	123.0	258.0	9997.0		14.2		9999.0			122.0

9999.0 9999.0 4.7 9999.0 4.0 1.0 18.8 0.0 9999.0 9999.0 STOPPING SFDS SHPS RUDS TDIS HRCH SKCH TIMS TIMR 15.2 100.0 0.0 9999.0 13.3 4.7 7.2 9999.0

¥

T	STATE SHIP .	147 888												
	DIMENSION	NATH	NMBR	TYPE	DISP	LBPX	LOAX	REAN	DRFT	TRIM	BULB	DRIS	SSHP	SRPH
-	DINENSION		147.0	3.0			9999.0	30.8	12.3	0.0	9999.0	\$5.0	13.8	118.0
	and a start							PROP	LATA	LCAX	UNUU	TRLC		
-	RUDDER, PROP	SSPD	RDAR 9999.0	PDIA 6.4	ASHP	RAST 9999.0	ENGN 3.0	1.0	11.3		9999.0			
_	TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	9999.0	FRPM						
			9999.0	35.0	3.5	9999.0	9999.0	9999.0						
														_
	STOPPING		SHPS 100.0		TDIS 9999.0		SRCH 9999.0		TINR 9799.0					
		10.0	100.0	0.0	******	20.0								
1		149 **	***											
-	DINENSION	NATH	NHBR	TYPE	DISP		LOAX				BULD			SEPH
2		14.0		3.0	11.0	204.0	9999.0	30.8	2.4	135.0	9999.0	65.0	13.8	118.0
-	RUDDER. PROP	Cent	RDAR	PDIA	ASHP	RUST	ENGN	PROP	LATA	LCAX	UNUO	TRUC		
	KUDDERT PROP		9999.0	6.4		9999.0					9999.0			
_						-	DIAT	FRPH						
	TURNING		SPDF 9999.0	RUDT 35.0		TRNT 9999.0	9999.0							
			9999.0	-35.0			9999.0							
	STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TIMR					
	STOPPING		100.0		9999.0		9999.0		9999.0					
	S. 1. 1. 1. 1.													
-	***** SHIP *	149 ##	***											
1	DIMENSION	NATH	NMBR	TYPE	DISP					TRIM			SSHP	SRPM
		14.0	149.0	2.0	116.0	261.0	\$999.0	38,9	13.4	0.0	9999.0	116.0	18.9	114.0
	RUDDER. PROP	SSPD	FDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX				
		9999.0		6.7	9999.0	9999.0	3.0	1.0	16.1	0.0	9999.0	9999.0		
	TURNING	SPDT	SPDF	RUDT	ADUT	TRNT	DIAT	FRPH						
	TURNING		9999.0	35.0	7.0	9999.0	9999.0	9999.0				_		-
-			9997.0	-35.0	7.4	9999.0	9999.0	9999.0						
1	STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
-	31077140	14.2	100.0	-0.0	9999.0				9999.0					
	····· antr ·							100						
	DIMENSION			TYPE			LOAX			TRIM		PPIS 9999.0		
1		9.0	150.0	1.0	95.0	259.0	9999.0	35.5	13.1	0.0	*****.0	*****.0		
-	RUDDER, PROP	SSPD	RDAR	PDIA	ASHF	RASI	ENGN	PROP	LATA	LCAN				_
1		14.5		9999.0			1.0	1.0	16.5	-4.0	5.0	9999.0		
	TURNING	SPDT	SPDF	RUDT	ADUT	TRN	DIAT	FRPH	1					1.00
1	TURNING		9999.0			5.0	9999.0	9999.0			_			
			9999.0			6.1	9999.0	9999.0						

STOPPING SPDS SHPS RUDS TDIS HRCH SRCH TINS TIME 14.8 9999.0 9999.0 9999.0 23.0 9999.0 9999.0 9999.0

\*\*\*\*\* SHIP \* 151 \*\*\*\*\*

-	DINENSION	NATH	NMDR	TYPE	DISP	LBPX	LOAX	BEAN	DRFT	TRIM				SRPH
	Patrante et.	9.0		2.0	111.0	280.0	9999.0	37.1	13.2	0.0	9999.0	111.0		9999.0
						- DOT	ENGN	FROP	LATA	LCAX	WNWV	TRLC		
	RUDDER, PROP	SSFD		PDIA 0	ASHP 10.0	RDST 3.0	1.0	1.0		-13.0		9999.0		
		17.4	34.0	9999.0	10.0	3.4	***							
	TURNING	SPDT	SPDF	RUDT	ADVT	TRHT	DIAT							
	IUNHING	17.4	9999.0		7.8	5.1	9999.0							
			9999.0		7.9	5.2	9999.0	9999.0						
		صنمة تح												J
	STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH			TIMR					
		17.4	9999.0	9999.0	9999.0	34.0	9999.0	9999.0	9999.0					
	##### SHIP # 1	152 **	***											
		HATN	AMOD	TYPE	DISP	LBPX	LOAX	BEAM	DRFT	TRIM	BULB			
	DIMENSION	NATN		2.0	109.0				-	0.0		109.0	18.0	9999.0
		9.0	152.0	<u>6.</u> Y_		6.1V 1 V	THELE-			Statement of the lot o				
	RUDDER, PROP	SSPD	RDAR	PDIA	ASHF	RDST	ENGN	PROP	LATA	LCAX		TRLC		
		15.0		9999.0		5.0			18.0	-14.0	7.0	9999.0		
	TURNING	SPDT	SPDF	RUDT	ADVT	TENT	DJAT							
		14.0	9999.0	35.0	7.8	3.9	9999.0	9979.0						
			9999.0		7.9	3.9	9999.0	9999.0						
			1.11.12.1											
	STOPPING	SPDS	SHPS	RUDS	TDIS		SRCH	TINS	TINK					
		12.5	9799.0	9799.0	9999.0	17.6	9999.0	9999.0	9999.0					
	##### SHIP #	153 ##												
	DIMENSION	NATE		TYPE	NTSP	1 BPX	LOAX	BEAN	DRFT	TRIM	BULT	DDIS	SSHP	SRPH
_	DIMENSIUM	NAIN 9.7	0 153.0	1.0		255.0	9999.0	31.4			9999.0	9999.0	18.0	9999.0
		7.0	1 103.4			6.44								
	RUDDER, PROP	SSPD	A RDAF	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	WNWV			
	RUDDERT FROM	15.0		9999.0			and the second se		16.0	-13.0	1 4.0	0 9999.0		
							1.1.1.1							
	TURNING	SPDT	T SPDF	RUDT	ADVT	TRNT			the second s					
			8 9999.0		6.8		9999.0							
			\$ 9999.0			5.2	9999.0	9999.0	1.1					
-	STOPPING	SPDF	5 SHPS	RUDS	TDIS	HRCH		TINS						
		15.8	\$ 9999.0	1 9999.0	9999.0	17.7	6.3	9777.V	9999.0					
	• •													
	***** SHIP *	134 #7	1\$**											
_		NAT	N NMBR	R TYPE	DISP	I REY	LUAX	BEAN	DRFT	TRIM		B DOIS		P SRFI
	DIMENSION	NATH 9.0					9999.0					0 9999.0		0 9999.0
		7	1 10410	/										
	RUDDER, PROP	SSPI	D RDAR	R PDIA	ASHP	RIIST	T ENGN	PROP	LATA	LCAX		V TRLC		
	RUDDER! PROP	15.0		0 9999.0						-13.0	3 5.1	0 9999.0		
			/	/										
	TURNING	SPD	T SPDF	F RUDT	ADUT	TENT	T DIAT	FRFM						
	I WINIE NO		0 9999.0		0 4.7		2 9999.0	1 9999.0	1					
			0 9999.0			5.7	5 9999.0	0 9999.0						
						A								
								-						
	STOPPING	SPD	S SHPS		5 TDIS			H TINS						

## ##### SHIP # 155 #####

	DIMENSION	NATN	NMBR 155.0	TYPE 1.0	DISP 66.0	LBPX 237.0	LOAX 9999.0	BEAN 31.0	DRFT 11.4	TRIM 1.0	BULB 9999.0	DDIS 66.0	SSHP 15.0	SRP# 9999.0
	RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROF	LATA	LCAX	WINNA	TRLC		
		15.0	36.0	9999.0	10.0	2.0	1.0	1.0	11.0	-12.0	3.0	9999.0		
	TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
	•	16.0	9999.0	35.0	8.0		9999.0							
		16.0	9999.0	-35.0	8.8	4.4	9999.0	9999.0						
	STOPPING	SPD3	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
					9999.0									
	***** SHIP *	156 ##	***											
	DIMENSION .	NATH	NHBR	TYPE	DISP	LBPX		BEAH	DRFT	TRIN	BULB	DDIS	SSHP	SRPA
		9.0	156.0	1.0	66.0	237.0	9999.0	31.0	11.4	1.0	9999.0	66.0	15.0	9999.0
	RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	WNWV	TRLC		
		15.2		9999.0		2.0		1.0		-11.0		9999.0		
	TURNING	SPOT	SP DF 9999.0	RUDT	ADVT	TRNT		FRPM						•
			9999.0		5.8		9999.0							
-	***** SHIP *	157 **	***											
	DINENSION			TYPE	DISF	CRFX	LOAX	BEAN	DRFT			DNIS		
		9.0	157.0	510	112.0	263.0	9999.0	37.1	14.2	1.0	9999.0	112.0	22.0	9999.0
-	RUDDER. PROP	SSFD	RDAR	FDIA	ASHP	RUST	ENGN	FROF	LATA		UNUT			
		16.3	54.0	9999.0	22.4	2.0	3.0	1.0	14.0	-11.0	5.0	9999.0		
	TURNING	SPOT	SPDF	RUDT	ADUT	TRNT	DIAT	FRFM						
		16.0	9999.0	35.0	10.4	4.0	9999.0	9999.0						
		16.0	9999.0	-35.0	8.2	3.8	9999.0	9999.0						
	STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
			9999.0					9999.0						-
	**** SHIP *	158 **	***											
	DIMENSION	NATN	NMBR	TYPE	DISP	LBPX	LOAX	BEAH	DRFT	TRIM	BUL.B	DDIS	SSHP	SRF
		1.0			16.0	177.0	185.0	25.0	5.3	20.0	9999.0	32.0	22.0	105.
	RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLE		
	RUPPERF FRUP	20.0		9999.0	24.0	3.0	3.0		21.0	-5.0		2.0		
	TURNING	SPDT		RUDT	ADVT	TRHT	DIAT							
			9999.0		7.9	4.0		9999.0						
		13.0		3310										
	STOPPING	SPDS		which the second result where		HRCH		the second s	TINR					
		23.0	100.0	0.0	13.0	12.9	1.0	4.1	40.0					
	Z10-246	SPDZ	RUDZ	OVS1	OVSF	OVSW	KPRH	TPRM	PERD					

\*\*\*\*\* SHIP # 157 \*\*\*\*\*

DIMENSION	NATN 1.0	NMBR				LOAX 151.0			TRIM 0.0	BULB 0.0	DDIS 23.0	SSHP 9.0	SRPH 87.0
RUDDER, PROP	SSPD	RDAR	FDIA				1.00			UNUU			4714
Nortent rur	18.0	Contraction of the local data	9999.0						-4.0	4.0	1RLC 2.0		
TURNING	CONT	. SENE	RUDT	ABUT	TENT	DTAT	FRRM						
		7999.0		and the second s	statement of the local division of the local		FRPH 9999.0						
		9999.0					9999.0						
STOPFING													
	19.5				10.8	0.0	4.0	40.0					
	20.5	100.0	0.0	11.3	11.1	1.0	4.0	40.0					
ZIG-ZAG													
	20.0	20.0	7.0	10.0	9999.0	9999.0	9999.0	2.9	P				
##### SHIP # .	.160 ##	***											
DIMENSION	NATN	NMBR	TYPE	DISP	LBPX	LOAX	BEAH	DRFT	TRIM	PULB	DDIS	SSHP	SRPH
		160.0				213.0			0.0	0.0	33.0		120.0
RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	7.01.0		
			9999.0						-10.0				
													~
TURNING		SFDF 9979.0		ADVT 11.6	TRNT 5.5								
		9999.0					9999.0					-	
07000 TNO													
STOPPING	- 23.0	5 SHPS		TDIS 16.9			TINS 4.3				<del></del>		
and the second second								4414					
ZIG-ZAG	SPDZ												
	23.0	20.0	6.0	9.0	9999.0	9999.0	9999.0	2.4					
***** SHIP *	161 **	***											
DIMENSION	NATH	NABR	TYPE	DISP	IRPX	IDAX	*FAN	DRFT	TRIM	BULS	DDIS	SSHP	SRPH
		161.0		313.0					0.0	0.9			114.0
RUDDER; PROP	666 D	PDAP	PDIA	ACUD	PART	FNEM	-					1000	
RUDDENT THU		148.0		ASHF 9999.0	RDST 5.0				-12.0				
											6		
TURNING	SPDT 15.4	SPDF 5.0			TRNT 4.4		FRPH 9999.0						
		9999.0					9999.0						
	14.2	9997.0	-35.0	10.2	3.7	9.3	. 9999.0						
	13.7	9999.0	35.0	10.3	4.9	10.2	9999.0			****			
STOPPING	SPDS	SHPS	RUDS	TRIS	HRCH	SRCH	TINS	TINR					
		100.0						9999.0					)
ZIG-ZAG						KPRH	TPRM	PERD	-				
			9999.0			1.2	9999.0	9999.0					
			9999.0				9999.0						
	13.7	9999.0	9799.0	9999.0	9999.0	1.2	9999.0			-			
				10.0	8.0								

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\$\$\$\$\$ SHIP \$ 162 \$\$\$\$

DIMENSION	NATN 9.0		TYPE 1.0	DISP 84.0	L.BPX 266+0	LOAX 9999.0		DRFT 10.2	TRIM 1.0		DUIS 9999.0	SSHP 9999.0	SRPH 9999.0
RUDDER. PROP	SSPD	RDAR	PDIA	ASHP	RUST	ENGN	PROP	LATA					
	21.5			9999.0		1.0		17.5	-7.0		TRLC 2.0		
TURMING	SPDT	SPDF	RUDT	AUUT	TRNT	DIAT	FRPH						
	15.0	9999.0	-35.0	6.3		6.7							
	15.0	9999.0	35.0	5.8	3.0	5.6							
		9999.0	45.0	4.7	3.1	5.3	83.0						
		9999.0	-45.0	5.1	2.3	4.6							
		9999.0	-35.0	4.3	4.0	6.3							
		9999.0 9999.0	35.0	9.2		6.5							
		9999.0	45.0	6.2	3.3	5.7							
		-9977.0-	-35.0	7.0		7.3							
		9999.0	35.0	6.2		4.4							
STOPPING	SPDS		RUDS	TDIS	HRCH	SECH	TINS	TINR					
	21.0	100.0	0.0	27.8	27.8	0.0	7.8	9999.0					
21G-ZAG	SFOZ	RUDZ	OVSI	OVSF	OVSU	KPRH	TPRH	PERD	·				
	21.0	20.0	45.0	30.0	9999.0	9999.0	9999.0	4.3					
\$##\$# SHIP #	163 ##	***											
DIACHSTON		NASE	TYPE	TOTO	LAPX		BEAH	DRFT	TRIH	BUCK	DDIS	SSHP	
	14.0		2.0	111.0		9997.0		14.3		9999.0	111.0		SRPH 108.0
RUDDER. FROP	Sep 5	ROAR	POTA	Acut	RDST	ERGN	PROF	LATA	VAST	UNUT			
	9977.0	60.0	7.5		7797.0	1.0		14.3		9999.0			
TURNING	SFOT	SFDF	RUDT	ADUT	TRNT	TATI	FRFN						
		9999.0	35.0	5.1	9999.0	9999.0	9999.0						
-	17.7	9999.0	-35.0	3.8	9999.0	9999.0	9999.0						
STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH								
31077140	17.8			9999.0	30.9	SRCH 6.0		TIMR 9999.0			-		
***** SHIP *	164 883	***											
DIMENSION	NATN	NMBR	TYPE	DISP	LWPX	LOAX	DEAN	DRFT	TRIN	BULB	DDIS	SSHP	SRFH
	14.0	164.0	2.0	111.0	250.0	9999.0	38.1	14.3	0.0	9999.0	111.0	26.5	108.0
	SSPD	RDAR	PDIA	ASHP	RDST	EHGN	FROP	LATA	LCAX	WNWV	TRLC		
RUDDER, PROP	- aar u								P P P V	A MALE			
RUDDER, PROP	9999.0	60.0	7.5	12.0	9999.0	1.0	1.0	14.3	0.0	9999.0	9999.0		
RUDDER, PROP				12.0	9999.0	1.0	1.0	14.3	0.0	9999.0	9999.0		
RUDDER, PROP TURNING	9999.0 SPDT	60.0 SPDF	7.5 RUDT	ADVT	TRNT	DIAT	FRPH	14.3	0.0	9999.0	9999.0		
	9999.0 SPDT 17.7	40.0 SPDF 9999.0	7.5 RUDT 35.0	ADVT 5.8	TRNT 9999.0	DIAT 9999.0	FRPH 9999.0	14.3	0.0	9999.0	9999.0		
	9999.0 SPDT 17.7	60.0 SPDF	7.5 RUDT	ADVT 5.8	TRNT	DIAT 9999.0	FRPH 9999.0	14.3	0.0	9999.0	9999.0		
TURNING	9999.0 SPDT 17.7 17.7	60.0 SPDF 9999.0 9999.0	7.5 RUDT 35.0 -35.0	ADVT 5.8 5.9	TRNT 9999.0 9999.0	TAIG 0.9999 0.9999	FRPH 9999.0 9999.0		0.0	9999.0	9999.0		
	9999.0 SPDT 17.7 17.7 SPDS	60.0 SPDF 9999.0 9999.0 SHPS	7.5 RUDT 35.0 -35.0 RUDS	ADVT 5.8 5.9 TDIS	TRNT 9999.0 9999.0 HRCH	DIAT 9999.0 9999.0 SRCH	FRPH 9999.0 9999.0 7999.0 Tims	TIMR	0.0	9999.0	9999.0		
TURNING	9999.0 SPDT 17.7 17.7 SPDS	60.0 SPDF 9999.0 9999.0	7.5 RUDT 35.0 -35.0 RUDS	ADVT 5.8 5.9	TRNT 9999.0 9999.0	TAIG 0.9999 0.9999	FRPH 9999.0 9999.0 7999.0 Tims		0.0	9999.0	<b>9999.0</b>		
TURNING	9999.0 SPDT 17.7 17.7 SPDS 17.8	40.0 SPDF 9999.0 9999.0 SHPS 100.3	7.5 RUDT 35.0 -35.0 RUDS	ADVT 5.8 5.9 TDIS	TRNT 9999.0 9999.0 HRCH	DIAT 9999.0 9999.0 SRCH	FRPH 9999.0 9999.0 7999.0 Tims	TIMR	0.0	9999.0	9999.0		
TURNING STOPPING	9999.0 SPDT 17.7 17.7 SPDS 17.8	60.0 SPDF 9999.0 9999.0 SHPS 100.5	7.5 RUDT 35.0 -35.0 RUDS 0.0	ADVT 5.8 5.9 TDIS 9999.0	TRNT 9999.0 9999.0 4999.0 Hrch 27.0	DIAT 9999.0 9999.0 SRCH	FRPH 9999.0 9999.0 7999.0 Tims	TIMR	0.0	9999.0	9999.0		
TURNING Stopping	9999.0 SPDT 17.7 17.7 SPDS 17.8 145 \$\$1 NATN	60.0 SPDF 9999.0 9999.0 SHPS 100.0	7.5 RUDT 35.0 -35.0 RUDS 0.0	ADVT 5.8 5.9 TDIS 7979.0	TRNT 9999.0 9999.0 HRCH 27.0	DIAT 9999.0 9999.0 SRCH 5.6	FRPH 9999.0 9999.0 7999.0 TINS 11.7 BEAN	TIMR 9999.0 DRFT	TRIM	BULD	PBIS	SSHP	
TURNING STOPPING	9999.0 SPDT 17.7 17.7 SPDS 17.8	60.0 SPDF 9999.0 9999.0 SHPS 100.5	7.5 RUDT 35.0 -35.0 RUDS 0.0	ADVT 5.8 5.9 TDIS 7979.0	TRNT 9999.0 9999.0 4999.0 Hrch 27.0	DIAT 9999.0 9999.0 SRCH 5.6	FRPH 9999.0 9999.0 7999.0 TINS 11.7 BEAN	TINR 9999.0	TRIM				SRPM 103.0
TURNING <u>Stopping</u> ##### Ship # Dimension	9999.0 SPDT 17.7 17.7 SPDS 17.8 145 \$11 NATN 14.0	60.0 SPDF 9999.0 9999.0 SHPS 100.3 I 00.3	7.5 RUDT 35.0 -35.0 RUDS 0.0 TYPE 1.0	ADUT 5.8 5.9 TDIS 7999.0 DISP 42.0	TRNT 9999.0 9999.0 HRCH 27.0 LBPX 215.0	DIAT 9999.0 9999.0 SRCH 5.6	FRPH 9999.0 9999.0 Tins 11.7 BEAM 31.1	TIHR 9999.0 DRFT 11.3	TRIM 0.0	BUL B 9999.0	PBIS 42.0		
TURNING STOPPING	9999.0 SPDT 17.7 17.7 SPDS 17.8 145 \$\$1 NATN	60.0 SPDF 9999.0 9999.0 SHPS 100.0	7.5 RUDT 35.0 -35.0 RUDS 0.0	ADUT 5.8 5.9 TDIS 9999.0 DISP 42.0 ASHP	TRNT 9999.0 9999.0 HRCH 27.0	DIAT 9999.0 9999.0 SRCH 5.6	FRPH 9999.0 9999.0 7999.0 TINS 11.7 BEAN	TIMR 9999.0 DRFT	TRIM G.O LCAX	BUL B 9999.0	DDIS 52.0 TRLC		

17.2 9999.0 35.0 9999.0 9979.0 6.0 9999.0 17.2 9999.0 -35.0 9999.0 9999.0 6.0 9999.0

 STOPPING
 SPDS
 SHPS
 RUDS
 TDIS
 HRCH
 SRCH
 TINS
 TINR

 17.2
 100.0
 0.0
 9999.0
 23.0
 9999.0
 10.3
 9999.0

	**** SHIP *	166 ##	***												
-	DIMENSION		NMBR 166.0	TYPE 1.0		LBPX 215.0				TRIM 0.0	BUL B 9999.0			SRP# 103.0	
	RUDDER, PROP	55PD 9999.0		PDIA 7.0		RDST 9999.0	ENGN 1.0			LCAX 0.0		TRL.C 7797.0			
-	TURNING	SPDT	SPDF	RUDY	ADUT	TRNT	DIAT	FRPH							
			9999.0			9999.0		9999.0							
		16.9	9999.0	-35.0	9999.0	9999.0	6.4	9999.0							
	STOPPING	SEDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR						
			100.0		9979.0		9999.0		9999.0						
	**** SHIP *	167 ##	***												-
	DIMENSION	HATN	NHBR	TYPE	DISP	LBPX	LOAX	BEAN	DRFT	-					
			167.0	1.0		215.0				TRIN	BULB 9999.0		SSHP	SRPM 103.0	
								28.19.						100.0	
	RUDDER+ PROP			PDIA			ENGN			LCAX					
		9999.0	44.0	7.0	9.0	9999.0	1.0	1.0	10.6	0.0	9999.0	9999.0			
	TURNING	SPDT	SPDF	RUDT	Abut	TRNT		FRPH							
						9999.0		9999.0							
		17.5	9999.0			7999.0		9999.0							
	STOPPING		SHPS 100.0			HRCH			TIMR						
		17.5	100.0	0.0	¥ŸŸŸ.0	9999.0	9999.0	9.7	9999.0						
	SEESS SHIP .	168 **	***												
	DIMENSION	NATH	NMER	TYPE	DISP	LBPX	1 DAX	BEAN	DRFT	TRIM	BULB	DDIS	CCUD	SRPH	
			168.0	1.0		215.0					9999.0			103.0	
	Sector Sector	1.1.1													
	RUDDER, PROP			PDIA		RIST						TRLC			
		9999.0	44.0	7.0	9.0	9999.0	1.0	1.0	10.6	0.0	9999.0	9999.0			
	TURNING	SPDT	SFDF	RUDT	ADVT	TRNT	DIAT	FRPH							
		17.2	9999.0			9999.0		9999.0							
		17.2	9999.0			9999.0		9999.0							
	STOPPING		Cup .	ATTER											_
	STUFFING		100.0		9999.0			TINS 9.3							
						1/10	,,,,,,	7.3	****.•						
	**** SHIP *	167 ##	***								•		-	1	
	DIMENSION			TYPE	DISP	LBPX	LOAX	HAJE	DRFT	TRIM	BUIL B	DDIS	SSHP	SRPH	-
		14.0	169.0	1.0	74.0	222.0	\$\$99.0	33.5	11.8	0.0	9999.0	9999.0	21.9	116.0	
-	RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAY	UNWV	TRUC			-
		7779.0		6.7		9999.0	3.0	1.0	14.0			9999.0			
	TURNING	SPDT	SPDF	RUDT	ADUT	TRNT	DIAT	FRPM							_
	T WRITE NU		9999.0	35.0		9999.0									
			7999.0				\$999.0								

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STOPPING 3PDS 3HPS RUDS TDIS 17.6 100.0 0.0 9999.0 HRCH 36.5 SRCH 3.0 TINS TINR 3.5 9999.0

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	DIMENSIO			TYP			LOAX	BEA	N DRFT	TRI	H BULI			-
		14.0	170.0	1.	0 64.0	239.	9999.0					PDIS 9999.0	SSHP 20.1	SRP
	RUDDER. PROP			PDI	A ASH	RDS	T ENGN	PRO						114.
-		9997.0	52.0	7.		9999.				LCA		TRLC 9999.0		
	TURNING	SPDI	SPDF	RUD	ADVI	TRN						7777.0		
_		14.7	9999.0	35.0			PIAT	FRF						
		15.5	9999.0	-35.0	12.0	9999.0	9999.0	9999.			_			_
	STOPPING	SPDS	SHPS	RUDS										
			100.0		9999.0		9777.0		TIMR 9999.0		-			
								••••						
-	BRENS SHIP	171 11	***			_			_		-		-	
													_	
-	DIMENSION	NATN 14.0		TYPE						TRIP	BULB	DDIS	SSHP	SRP
	distant of the		1/1.0	1.0	45.0	214.0	9999.0	28.5	12.6		9999.0			118.
	RUDDER, PROP		time in the state	PDIA		RUST	ENGN	PROP	LATA	LCAN	-			
		9999.0	40.0	6.1	13.8	9979.0	3.0				9999.0			
	TURNING	SPDT	SPDF	RUDT	ADUT	TRNT	PIAT		6-0797					
		14.8	9999.0	35.0	7.4	9999.0	9999.0	FRPH			_		_	
		14.8	9999.5	-35.0	4.9	9999.0	9999.0	9999.0						
	**** SHIF *	172 **	122											
	E THE HAT A													
	DIMENSION	NATN 14.0		TYPE 3.0			LOAX	DEAN		TRIN	BUES	DDIS	- SSHP	SRPH
_				3.0	29.0	214.0	7999.0	28.5	5.8	34.0	9999.0	65.0	13.0	
	RUDDER, PROF	SSPO		POIT			ENGN	PROP	LATA	TRAV	- DANG			
		9999.0	40.0	6.1	13.8	9999.0	3.0	1.0		0.0	9999.0	7797.0		
	TURNING	SPDT	SPOF	RUDT	ANUT	TRAT	DIAT	EDEE						
			9999.0	35.0	5.0	9999.0	9999.0	7779.0						
		17.5	9999.0	-35.0	4.4	9999.0	9999.0	9999.0						
	***** SHIP *	177												
		1/0 444												
	DIMENSION	NATH	NMBR	TYPE	DISP	LBPX	LOAX	. BEAN	DRFT	TRIM	DULR	DDIS		
		14.0	173.0	3.0	44.0	220.0	9999.0	30.0	12.1		7777.0	64.0	55HP 12.6	SRPH 135.0
	RUDDER. PROP	SSPD	RDAR	PDIA	ASHP	RDST	EHGN	-						
		9999.0	31.0	5.7		9999.0	3.0	PROP 1.0	LATA 11.6	LCAX	WHW	TRLC		
	TURNING	SPDT	-						11.9	0.0	9999.0	7777.0		
		9999.0	SPDF 9999.0	RUDT 35.0	ADUT	TRNT	DIAT	FRPH						
		9999.0		-35.0	14.4	9999.0	9999.0	7777.0			-	-		
	STOPPING													
	01077140	SPDS 14.0	SHPS 100.0	RUDS	TDIS	KRCH	SRCH	TIMS	TINR					
				0.0	9999.0	****.0	7779.0	11.5	9999.0					
	**** SHIF -	74 888	11		-									

		14.0	174.0	3.0	39.0	220.0	9999.0	30.0	7.4	15.0	9999.0	46.0	12.6	135.0
	RUDDER. PROP	SSPD	RDAR	PDIA		RDST	ENGN	PROP	LATA	LCAX	UNUV			
		9999.0	31.0	5.7	12.6	9999.0	3.0	1.0	19.8	0.0	9999.0	9999.0		
_	TURMING		SPDF	RUDT	ADVT		DIAT							
			9999.0	35.0			9999.0							
		****.0	9999.0	-35.0	8.0	****.0	9999.0	****.0						
-	STOPPING			RUDS					TINR					
		9999.0	100.0	0.0	9999.0	9999.0	9999.0	4.6	9999.0					
		175 ***	***											
-	DIMENSION	NATH	NMBR	TYPE	DISP	LAPX	LOAX	BEAM	DRFT	TRIM	BULB	DDIS	SSHP	SRPH
		14.0		3.0	76.0	222.0	9999.0	32.0	12.9	1.0	9999.0	76.0	14.4	118.0
-	RUDDER, PROP	SSPD	RDAR	PDIA				PROP	LATA	LCAX				
		9999.0	44.0	6.2	14.4	9999.0	3.0	1.0	12.6	0.0	9999.0	9999.0		
-	TURNING		SPDF	RUDT										
			9999.0	35.0			9999.0							
-		13.0	1114.0	-33.0		1111.0	1111.0	1111.0						
	STOPPING	SPDS		RUDS					TIMR					
		15.0	100.0	0.0	9979.0	11.1	9999.0	13.5	9999.0					
_		176				_								
	DIMENSION	NATH	NMBR	TYPE	DISP	LPPX	LOAX	PEAN	DRFT	TRIM	BULB	DDIS	SSHP	SRPH
	PINENGIUM		176.0	3.0			9999.0		7.2		9999.0			118.0
		SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLC		
	NUDDERT FRUF	9997.0		6.2		9999.0						9999.0		
							-			-				
	TURNING	SPDT	SPDF	RUDT 35.0			PIAT 9999.0							
-			9999.0	-35.0				9999.0						
_	STOPPING	SPDS		RUDS										
		16.0	100.0	0.0	9999.0	5.6	9999.0	7.8	9999.0					
-		177 88												
	DIMENSION	MATH	NMBS	TYPE	DISP	LBPX	LOAX	BEAN	DRFT	TRIM	BULS	PDIS	SSHP	SRPH
-	PANERDION	14.0		1.0			9999.0		11.9		9999.0			110.0
				1.2.2						- 23			2001	
-	RUDDER. PROP	\$5PD 9979.0		PDIA	9999.0				10.3	LCAX		TRLC 9999.0		
							1.4	1.0	10.3	0.0				
_	TURNING			RUDT						_				-
			9999.0	35.0				9999.0						
		13.8	9999.0	-35.0	4.7	1111.0	9999.0	****.0						
-	STOPPING	SPDS		RUDS										
	and the second	16.8		0.0	9999.0		9999.0		9799.0					
1		178			1									
_	DIMENSION	NATN	NMBR	TYPE	DISP	LBPX	LOAX	BEAM	DRFT	TRIM	BULB	DDIS	SSHP	SRPH

S. .

RUDDER, PROF	SSPD 9999.0		PDIA 7.1		R551				LCAX		TRLC		
TURNING	9997.0	9979.0	RUDT 35.0		9999.0	9999.0							
 	9999.0	9999.0	-35.0	7.4	9999.0	9999.0	9999.0						
STOPPING		SHFS 100.0	RUDS 0.0	TDIS 9999.0		SRCH 9999.0		TIMR 9999.0					
 ***** SHIP (	179 ##	***							-				
DINENSION	NATH 14.0		TYPE 1.0	DISP 48.0	L.BPX 220.0	1.0AX 9999.0	DE/ 1 32.2		TRIM	BUL 8 9999.0		SSHP 14.0	SRPH 100.0
RUDDER, PROP	SSFD 9997.0		PDIA 7.1	ASHP 8.2	RDST 9999.0		PROP 1.0	LATA 23.0	LCAX		TRLC		
TURNING		SPDF 9999.0	RUDT 35.0	ADUT	TRN1	DJAT 9999.0	FRFM						
		9999.0	-35.0			9999.0							
 STOPPING	and the second sec	SHPS	FUDS	TDIS 9999.0	HRCH	SRCH 9999.0	TINS 7.0	TINR 9999.0					
***** SHIP >	180 11	***											
DIMENSION	-	MMER									*		
 DIREWSION	14.0		14PE	97.0	240.0	10AX	BEAM 35.0	DRFT 13.7	TRIM 0.0		DD15 97.0	SSHP 14.1	SRPM 122.0
RUDDER, PROP	55FD		PDIA 6.1	ASHP	RDST 7999.0	ENGN	FROF	LATA	LCAX		TRLC		
TURNING							1.9	13.7	0.0	9999.0	7999.0		
 TURNING	SPDT	SPDF 9999.0	RUDT	ADVT		01AT	FRFM						
		9999.0	-35.0			9999.0							
STOPPING		SHFS 100.0	KUDS 0.0		HRCA 9999.0	SRCH 9999.0		TINK 9999.0					
 **** SHIP *	181 ***	***											
DIMENSION	NATN 14.0	NABR 181.0	TYPE 3.0	015F 38.0		LUAX 9999.0	BEAK 35.0	DRFT 8.4		BUCB 9999.0	DDIS 97.0		SRPN 122.0
 RUDDER	55PD 9999.0	RDAF 40.0	PDIA 6.1	ASHF 14.1	RDST 9999.0	ENGN 3.0	FROP 1.0	LATA 26.3		WHWV 9979.0			
TURNING	12.0	SPIIF 9979.0 9999.0	RUDT 35.0	9.9		9999.0							
 STOPPING	SPDS	SHPS		TDIS	HRCH	9999.0 SRCH	TIMS			<del></del>			•
**** SHIP *		100.0	0.0	7777.0	9999.0	<u> </u>	8.5_	9999.0	······································				
 DIMENSION	NATN 14.0	NMBR 182.0	TYPE 3.0	DISP 74.0	1.8PX 222.0	LOAX 9999.0	BEAN 32.0	DRFT 12.3	TRIM 1.0	BULB 9999.0	DRIS 76.0	SSHP 14.4	SRPH 118.0
RUDDER, PROP	SSPD 9999.0	RDAR 42.0	PDIA 6.2	ASHP 12.0	RDST 9999.0	ENGN 3.0	FROP 1.0	LATA 14.0	LCAX	UNWV 9999.0	TRLC 9997.0		

17.0 <u>SPDS</u> 17.0 33 <b>***</b> NATN 14.0 SSPE	NMBR	0.0	9.3	9999.0 HRCH	9999.0 9999.0 <u>SRCH</u> 9999.0	9999.0 TIHS	TIMR					
SPDS 17.0 33 ### NATN 14.3 SSPD	SHPS 100.0 ### NMBR	0.0										
17.0 33 ### NATN 14.0 SSPE	100.0 *** NMBR	0.0										
NATN 14.J	*** NMBR		·····	41.0	****.0	14.8						
NATN 14.J SSPB	NMBR	·····					7777.0					
14.) SSPB												
14.) SSPB		TYPE	DISP	LRPX	LOAX	BEAH	DRFT	TRIM	BULD	PDIS	SSHP	SRPI
SSPR	192.0	3.0		222.0	9999.0	32.0			9999.0		the second s	118.0
											-	
- O O		PDIA 6.2		RDST 9999.0				LCAX		TRLC 9999.0		
999.0	42.0	014	12.0	****	3.0	114	23.3	0.0	****	9777.V		
SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
17.0	9999.0	35.0	7.4	9997.0	9999.0	9999.0						
17.0	9979.0	-35.0	7.4	9999.0	9999.0	9999.0						
SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
17.0	100.0											
34 **:						******						
												-
20.0	134.0	3.0	30.0	203.0	9777.0	31.0	2.0	83.4	¥777.V	****	14+#	122.
SSPD	RDAR	FDIA	ASHP	ROST	ENGN	PROP	LATA	LCAX	UNWV	TRLC		
797.0		6.0										
SPDT	SFDF	TOUR	ADUT	TENT	PIAT	FRPM						
		35.0										
16.4	9999.0	-35.0	6.3	9999.0	9999.0	9999.0						
SPDS	SHES	RUDS	TOIS	HRCH	SRCH	TINS	TINR					
15 881	***				<u></u>							
NATH	NMBR	TYPE	DISP	LBFX	LOAX	BEAN	DRFT	TRIM	BULD	DDIS	SSHP	SRP
20.0	185.0	3.0	29.0				5.5					
												** *****
11.0			1010	777710			20.7		111114	1111.0		
SPDT		RUDT										
		35.0								-		
17.4	9999.0	-35.0	6.4	9999.0	9999.0	9999.0						
16 ##1	***		<u></u>		<u> </u>	<del></del>						
NATH	NHRR	TYPE	DISP	I BPY	1 DAX	BEAK	DRET	TRIM	-	DATE	SCHP	SRP
		3.0										the state of the state of the
SSFD	RDAR	FDIA					LATA	LCAX				
99.0	35.0	6.8	\$999.0	9999.0	1.0	1.9	10.6	0.0	9999.0	\$999.0		
SPDT	SPDF	RUDT	ADUT	TRNT	DIAT	FRPH						
	17.0 4 *** NATN 20.0 SCFD 97.0 SCFD 97.0 SCFD 16.4 16.4 16.4 SFDS 16.4 17.4 17.4 17.4 17.4 SSFD SSFD SSFD 17.4 17.4 17.0 SSFD SSFD 17.4 17.4 17.0 SSFD SSFD 17.4 17.4 17.4 17.0 SSFD SSFD 17.4 17.4 17.4 17.0 SSFD	97.0       35.0         SFDT       SFDF         16.4       9797.0         3FDS       SHF3         16.4       9797.0         3FDS       SHF3         16.4       100.0         5       #####         NATN       NHBR         20.0       135.0         SSFD       RDAR         97.0       26.0         SPDT       SPDF         17.4       9797.0         6       #####         NATN       NHBR         20.0       186.0         SSFD       RDAR         97.0       35.0         SPDT       SPDF         15.0       9797.0	17.0       100.0       0.0         4       #####         NATN       NHER       TYFE         20.0       134.0       3.0         SCPD       RDAR       FDIA         97.0       35.0       6.0         SFDT       SFDF       RUDT         16.4       9797.0       35.0         GPDS       SHFS       RUDS         16.4       9797.0       -35.0         SPDS       SHFS       RUDS         16.4       100.0       0.0         5       #####       NHBR       TYFE         20.0       195.0       3.0         SSFD       RDAR       FDIA         97.0       26.0       4.2         SFDT       SFDF       RUDT         17.4       9797.0       35.0         6       #####         NATN       NHBR       TYPE         20.0       186.0       3.0         SSFD       RDAR       FDIA         97.0       35.0       4.8         SFDT       SPDF       RUDT         15.0       9797.0       35.0	17.0       100.0       0.0       9999.0         4       #####         NATN       NHER       TYPE       DISP         20.0       134.0       3.0       30.0         SCPD       RDAR       FDIA       ASHP         97.0       35.0       4.0       10.9         SFDT       SFDF       RUDT       ADUT         16.4       9799.0       35.0       6.3         3FDS       SHPS       RUDS       TDIS         16.4       9799.0       -35.0       6.3         SFDS       SHPS       RUDS       TDIS         16.4       100.0       0.0       9999.0         5       #####	17.0       100.0       0.0       9999.0       28.0         4       #####         NATN       NMBR       TYPE       DISF       LNPX         20.0       134.0       3.0       30.0       205.0         SCPD       RDAR       FDIA       ASHP       RDST         97.0       35.0       6.0       10.9       9999.0         SFDT       SFDF       RUDT       ADUT       TRNT         16.4       9999.0       -35.0       6.3       9999.0         16.4       9999.0       -35.0       6.3       9999.0         SPDS       SHPS       RUDS       TDIS       HRCH         16.4       100.0       0.0       9999.0       18.1         S       #####	17.0       100.0       0.0       9999.0       28.0       9999.0         4       #####         NATN       NHER       TYFE       DISF       LMFX       LOAX         20.0       134.0       3.0       30.0       205.0       9999.0         SCPD       RDAR       FDIA       ASHF       RDST       ENGN         97.0       35.0       6.0       10.9       9999.0       3.0         SFDT       SFDF       RUDT       ABUT       FRNT       DIAT         16.4       9999.0       35.0       6.3       9999.0       999.0         16.4       9999.0       -35.0       6.3       9999.0       999.0         SFDT       SHPS       RUDS       TDIS       HRCH       BRCH         16.4       100.0       0.0       9999.0       18.1       1.5         SFDS       SHPS       RUDS       TDIS       HRCH       BRCH         16.4       100.0       3.0       27.0       214.0       9797.0         SFDT       RDAR       PDIA       ASHP       RDST       ENGN         99.0       26.0       A.2       15.3       9797.0       3.0	17.0       100.0       0.0       9999.0       28.0       9999.0       10.0         4       #####         NATN       NHER       TYPE       DISP       LNPX       LOAX       REAH         20.0       134.0       3.0       30.0       205.0       9999.0       31.0         SCPD       RDAR       FDIA       ASHP       RDST       ENDN       PRDP         97.0       35.0       4.0       10.9       9999.0       3.0       1.0         SFDT       SPDF       RUDT       ADUT       TRNT       DIAT       FRPH         16.4       9999.0       35.0       4.3       9999.0       9999.0       9999.0         16.4       9999.0       -35.0       6.3       9999.0       9999.0       9999.0         16.4       9999.0       -35.0       6.3       9999.0       9999.0       9999.0         SPDS       SHPS       RUDS       TDIS       HRCH       SRCH       TIHS         16.4       100.0       0.0       9999.0       18.1       1.5       7.6         SPDS       SHPS       RUDS       TDIS       HRCH       SRCH       TIHS         16.4       1	17.0       100.0       0.0       9999.0       28.0       9999.0       10.0       9999.0         4       \$	17.0       100.0       0.0       9999.0       28.0       9999.0       10.0       9999.0         4       #####         NATH       HMBR       TYFE       DISF       LMPX       LOAX       REAH       DRFT       TRIH         20.0       134.0       3.0       30.0       205.0       9999.0       31.0       5.4       83.0         SCFD       RDAR       FDIA       ASHP       RDST       ENDN       FROP       LATA       LCAX         97.0       35.0       4.0       10.9       9999.0       9990.0       9990.0       10.0       27.5       0.0         SFDT       SPDF       RUDT       ABUT       TRNT       DIAT       FRPM       16.4       9999.0       999.0       9999.0       10.0       27.5       0.0         SFDT       SPDF       RUDT       ABUT       TRNT       DIAT       FRPM       16.4       9999.0       3999.0       9999.0       10.1       1.5       7.4       9999.0       16.4       100.0       0.0       9999.0       18.1       1.5       7.4       9999.0       1.0       5.5       73.0         SEFD       RDAR       PDIA       ASHP       RDST       ENG	17.0       100.0       0.0       9999.0       28.0       9999.0       10.0       9999.0         4 #####         NATN       NHBR       TYPE       DISP       LNPX       LOAX       BEAH       DRFT       TRIH       BULB         20.0       134.0       3.0       30.0       205.0       9999.0       31.0       5.6       B3.0       9999.0         SCPD       RDAR       FDIA       ASHP       RDST       ENDN       PROP       LATA       LCAX       UNWU         97.0       35.0       6.0       10.9       9999.0       3.0       1.0       27.5       0.0       9999.0         SFDT       SPDF       RUDT       ADUT       TRNT       DIAT       FRPM         16.4       9999.0       35.0       6.3       9999.0       9999.0       10.1       1.5       7.6       9999.0         5       #####	17.0       100.0       0.0       9999.0       28.0       9999.0       10.0       9999.0         4 \$\$\$\$\$\$       NATN       NHER       TYFE       DISF       LMPX       LOAX       BEAM       DRFT       TRIM       BULB       DDIS         20.0       134.0       3.0       30.0       205.0       9997.0       31.0       5.4       B3.0       9997.0       9997.0         SCFD       RDAR       FDIA       ASHF       RDST       EMON       FROP       LATA       LCAX       UNUU       TRUC         97.0       35.0       6.0       10.9       9999.0       30.0       1.0       27.5       0.0       9999.0       9999.0         SFDT       SFDF       RUDT       ABUT       TRNT       BIAT       FRPM       16.4       999.0       -35.0       6.3       9999.0       9999.0       10.1       1.5       7.4       999.0       10.1       1.5       7.4       9999.0       9999.0       1999.0       10.0       5.5       73.0       9999.0       9999.0       1999.0       10.0       10.0       10.0       10.0       10.0       10.0       10.0       10.0       10.0       10.0       10.0       10.0       10.0 <td>17.0       100.0       0.0       9999.0       28.0       9999.0       10.0       9999.0         4 \$\$\$\$\$\$       NATN       NIMER       TYPE       DISP       LAPX       LOAX       BEAM       DRFT       TRIN       BULB       DDIS       SSHP         20.0       134.0       3.0       30.0       205.0       9999.0       31.0       5.4       B3.0       9999.0       12.8         SCPD       RDAR       FDIA       ASHF       RBST       ENGN       PROP       LATA       LCAX       UNUV       TRLC         97.0       35.0       4.0       10.9       9999.0       3999.0       9999.0       10.0       27.5       0.0       9999.0       10.1       27.5       0.0       9999.0       10.1       10.4       9999.0       35.0       4.3       9999.0       9999.0       10.1       27.5       0.0       9999.0       10.1       14.4       999.0       35.0       4.3       9999.0       9999.0       10.1       15.5       10.0       9999.0       10.1       14.4       9999.0       10.1       1.5       7.4       9999.0       17.4         14.4       190.0       0.0       29.0       214.0       9999.0       3</td>	17.0       100.0       0.0       9999.0       28.0       9999.0       10.0       9999.0         4 \$\$\$\$\$\$       NATN       NIMER       TYPE       DISP       LAPX       LOAX       BEAM       DRFT       TRIN       BULB       DDIS       SSHP         20.0       134.0       3.0       30.0       205.0       9999.0       31.0       5.4       B3.0       9999.0       12.8         SCPD       RDAR       FDIA       ASHF       RBST       ENGN       PROP       LATA       LCAX       UNUV       TRLC         97.0       35.0       4.0       10.9       9999.0       3999.0       9999.0       10.0       27.5       0.0       9999.0       10.1       27.5       0.0       9999.0       10.1       10.4       9999.0       35.0       4.3       9999.0       9999.0       10.1       27.5       0.0       9999.0       10.1       14.4       999.0       35.0       4.3       9999.0       9999.0       10.1       15.5       10.0       9999.0       10.1       14.4       9999.0       10.1       1.5       7.4       9999.0       17.4         14.4       190.0       0.0       29.0       214.0       9999.0       3

TENT

DIAT

FRPH

TURNING

SPDT SPDF

RUDT

ADUT

**STOPPING BPDS SHPS RUDS TDIS HRCH SRCH TINS TINR** 16.4 100.0 0.0 9999.0 30.2 9999.0 11.2 9999.0

##### SHIP # 187 #####

ų,

DISP LEPX LOAX NATH WHER TYPE BEAN DINCHSTON DRFT TATA SUCT SSHP SRPN DBIS 43.0 224.0 9999.0 17.0 105.0 20.0 187.0 1.0 35.4 6.8 54.0 9999.0 80.0 5 RUDDER, PROP SEPD RDAR PDIA ASHP RDST ENGN PROP TAYA LCAX WRWY TREC . 9999.0 35.0 4.8 9999.0 9999.0 0.0 9999.0 9999.0 1.0 1.0 24.8 . SPDT SPDF RUDT ADVT DVT TRNT DIAT FRPM 7.1 9999.0 9999.0 9999.0 TURNING FRPH 17.0 9999.0 35.0 17.0 9999.0 -35.0 7.3 9999.0 9999.0 9999.0 . STOPPING SPDS SHPS RUDS TDIS HRCH SRCH TINS TIMR 1.. 17.7 100.0 0.0 9999.0 22.3 9999.0 8.3 9999.0 14 ##### SHIP # 188 ##### 17 TYPE DIMENSION NATH MMBR DISP LEPX LOAX DEAN DRFT TRIM BULB DDIS SRPH SSHP 20.0 188.0 1.0 48.0 239.0 9999.0 37.2 6.9 87.0 9999.0 9999.0 20.0 105.0 SSPD RUDDER , PROP RDAR PDIA ASHP RDST ENGN PROP LATA LCAX UNBV TRLC 9999.0 7.0 9999.0 9999.0 0.0 9999.0 9999.0 42.0 1.0 1.0 28.7 ,88, 83 84 TURNING SPDT SPDF RUNT ADVT TENT DIAT FRPH 17.1 9999.0 35.0 7.6 9999.0 9999.0 9999.0 -35.0 8.6 9999.0 9999.0 9999.0 ... 24 RUDS TDIS HRCH SRCH 0.0 9999.0 1.9 9999.0 STOPPING SPDS 3HPS 17.1 100.0 RUDS SRCH TINS TIMR 27 8.0 9999.0 10 %. | 29 | 30 \*\*\*\*\* SHIP . 187 33873 21 DIMENSION NATH NHBR 20.0 187.0 TYPE DISP LBPX LOAX BEAM DRFT TRIN TRIN BULN DDIS SSHP SRPH NATH BEAH RUDDER, PROP SSPD North PFF9.0 9999.0 ENGN SHP RDST 8.0 9999.0 PROP LATA LCAX WNWV TRLC 1.0 9999.0 9999.0 9999.0 9999.0 RDAR 'PDIA ASHP 7.0 1.0 TURNING SPDT SPDF 9999.0 9999.0 ADVT TANT DIAT FRPH 8.2 9999.0 9999.0 9999.0 RUDT 35.0 7777.0 7777.0 -35.0 7.1 9999.0 9999.0 9999.0 SPDS SHPS 17.4 100.0 RUDE TOIS HECH SECH TINS TINR 24.0 9999.0 STOPPING 0.0 9999.0 3.8 11.5 ##### SHIP # 190 ##### DIHENSION NATH NHER TYPE UPFX SSHP SRPH DISP TDAY BEAR DRFT TETH BULL DDIS 0.0 9999.0 140.0 26.0 112.0 5.0 190.0 140.0 240.0 9999.0 2.0 42.0 15.5 LCAX UNUU TRLC 0.0 7777.0 7777.0 SSPD ASHP RUDDER. PROP RDAR PDIA ROST ENGN PROP LATA 18.0 9999.0 1119.0 1.0 43.0 7.0 3.0 25.3 TURNING SPDT SPDF RUDT ADUT TRNT DIAT FRPH 14.6 9999.0 8.3 7977.0 7997.0 7997.0 35.0 16.0 9999.0 8.8 7777.0 7777.0 7777.0 -35.0 STOPPING SPDS SHPS RUDS TDIS HRCH SRCH TINS TIME 15.8 100.0 0.0 7777.0 48.8 14.7 9999.0 10.0

## \*\*\*\*\* SHIP # 191 \*\*\*\*\*

DINENSION													
DTUEM#####	NATN	NMBR	TYPE	DISP	LBPX	LOAX	BEAN	DRFT	TRIN	BULB	DDIS	SSHP	SRPH
	5.0	171.0	2.0	121.0	245.0	9979.0	40.0	15.1	0.0	9999.0	121.0	24.0	110.0
RUDDER. PROP	SSPD		PDIA	ASHP	RDST	ENGN	PROP	LATA		NHAA			
	9999.0	53.0	6.9	8.7	9799.0	1.0	1.0	15.9	0.0	9999.0	9999.0		
TURNING	SPDT		RUDT	ADVT			FRPH						
		9979.0	35.0			9999.0							
	14.0	9999.0	-35.0	6.7	9999.0	9999.0	9999.0						
STOPPING	SPDS	5HPS 100.0	RUDS	1015	HRCH	SRCH		I I MR					
	10.0	100.0	0.0	****	40.3	10./	13.7	****.0					
***** SHIP .	192 **	111											
***** autr *		***											
DIMENSION	NATH	NABR	TYPE	DISP	IRPY	LOAX	BEAM	DRFT	TRIM	BULD	DDIS	SSHP	SRFF
DINCHSION		192.0				7999.0					146.0		115.0
	310	172.00	2.0	14010	1.33+0	,,,,,,	4410	10.3			14010	49.0	
RUDDER. PROP	SSPD	RDAP	PUTA	ASHP	6057	ENGN	PROP	LATA	LCAY	UNUU	TRILC		
TARAPLY TUAL	9999.0	63.0	A.A	9999.0	9999.0	3.0	1.0	22.2	0.0	9999.0	9999.0		
TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
		9999.0	35.0	8.2	9999.0	9999.0	9999.0						
		9999.0	-35.0			9999.0							
10 State 10													
STOPPING				TDIS				TINR					
	14.5	100.0	0.0	9999.0	35.9	6.6	14.6	9999.0					
**** SHIP *	193 **	***											
DIMENSION			TYPE	DISP		LOAX		DRFT	TRIN				SRPI
	5.0	193.0	1.0	85.0	235.0	9999.0	36.5	12.0	0.0	9999.0	85.0	19.5	115.0
						ENGN					TRLC		
	6666	PRAD	Dh . A	ACUE			ppnn						
RUDDER, PROP			FDIA		RDST		FROF	LATA					
RUDDER, PROP	SSPD 9999.0		FDIA 6.4		9999.0		FROF 1.0	19.3			9999.0		
	9999.0	44.0	6.4	14.0	9999.0	3.0	1.0						
RUDDER, PROF	9999.0 SPDT	44.0 SPDF	6.4 RUDT	14.0 ADVT	9999.0 TRNT	J.O DIAT	1.0 FRFM						
	9999.0 SPDT 14.6	44.0 SPDF 9979.0	6.4 RUDT 35.0	14.0 ADUT 6.0	9999.0 TRNT 9999.0	3.0 BIAT 9999.0	1.0 FRFM 9999.0						
	9999.0 SPDT 14.6	44.0 SPDF	6.4 RUDT	14.0 ADUT 6.0	9999.0 TRNT 9999.0	J.O DIAT	1.0 FRFM 9999.0						
	9999.0 SPDT 16.6 12.8	44.0 SPDF 9979.0 9999.0	6.4 RUDT 35.0	14.0 ADUT 6.0 7.4	9999.0 TRNT 9999.0 9999.0	3.0 DIAT 9999.0 9999.0	1.0 FRFM 9999.0 9999.0						
TURNING	9999.0 SPDT 16.6 12.8 SPDS	44.0 SPDF 9979.0 9999.0	6.4 RUDT 35.0 -35.0 RUDS	14.0 ADUT 6.0 7.4	9999.0 TENT 9999.0 9999.0 Hrch	3.0 DIAT 9999.0 9999.0 SRCH	1.0 FRFM 9999.0 9999.0 TIMS	19.3					
TURNING	9999.0 SPDT 16.6 12.8 SPDS	44.0 SPDF 9979.0 9799.0 SHPS	6.4 RUDT 35.0 -35.0 RUDS	14.0 ADVT 6.0 7.4 TDIS	9999.0 TENT 9999.0 9999.0 Hrch	3.0 DIAT 9999.0 9999.0 SRCH	1.0 FRFM 9999.0 9999.0 TIMS	19.3 TIMR					
TURNING	9999.0 SPDT 16.6 12.8 SPDS 16.4	44.0 SPDF 9979.0 9799.0 SHPS 100.0	6.4 RUDT 35.0 -35.0 RUDS	14.0 ADVT 6.0 7.4 TDIS	9999.0 TENT 9999.0 9999.0 Hrch	3.0 DIAT 9999.0 9999.0 SRCH	1.0 FRFM 9999.0 9999.0 TIMS	19.3 TIMR					
TURNING	9999.0 SPDT 16.6 12.8 SPDS 16.4	44.0 SPDF 9979.0 9799.0 SHPS 100.0	6.4 RUDT 35.0 -35.0 RUDS	14.0 ADVT 6.0 7.4 TDIS	9999.0 TENT 9999.0 9999.0 Hrch	3.0 DIAT 9999.0 9999.0 SRCH	1.0 FRFM 9999.0 9999.0 TIMS	19.3 TIMR					
TURNING Stopping ***** Ship *	9999.0 SPDT 16.6 12.8 SFDS 16.4 194 ##	44.0 SPDF 9979.0 9999.0 SHPS 100.0	6.4 RUDT 35.0 -35.0 RUDS 0.0	14.0 ADUT 6.0 7.4 TDIS 9999.0	9999.0 TENT 9999.0 9999.0 HRCH 40.6	3.0 DIAT 9999.0 9999.0 SRCH 5.4	1.0 FRFM 9999.0 9999.0 TIMS 14.5	19.3 TINR 9999.0	0.0	9999.0	9999.0		
TURNING	9999.0 SPDT 16.6 12.8 SFDS 16.4 194 ** NATN	44.0 SPDF 9979.0 SHPS 100.0 ***	6.4 RUDT 35.0 -35.0 RUDS 0.0 TYPE	14.0 ADUT 6.0 7.4 TDIS 9999.0 DISP	9999.0 TRNT 9999.0 9999.0 HRCH 40.6	3.0 DIAT 9999.0 9999.0 SRCH 5.4	1.0 FRPM 9999.0 9999.0 TIMS 14.5 BEAM	19.3 TIMR 9999.0 DRFT	0.0 TRIM	9999.0 BULB	9999.0 DDIS	SSHP	
TURNING Stopping ***** Ship *	9999.0 SPDT 16.6 12.8 SFDS 16.4 194 ** NATN	44.0 SPDF 9979.0 9999.0 SHPS 100.0	6.4 RUDT 35.0 -35.0 RUDS 0.0	14.0 ADUT 6.0 7.4 TDIS 9999.0 DISP	9999.0 TRNT 9999.0 9999.0 HRCH 40.6	3.0 DIAT 9999.0 9999.0 SRCH 5.4	1.0 FRPM 9999.0 9999.0 TIMS 14.5 BEAM	19.3 TINR 9999.0	0.0 TRIM	9999.0 BULB	9999.0		
TURNING STOPPING ##### Ship # Dimension	9999.0 SPDT 16.6 12.8 SFDS 16.4 194 ** NATN 5.0	44.0 SPDF 9979.0 9779.0 SHPS 100.0 **** NMBR 194.0	4.4 RUDT 33.0 -35.0 RUDS 0.0 TYPE 2.0	14.0 ADUT 4.0 7.4 TDIS 9999.0 DISP 125.0	9999.0 TRNT 9999.0 HRCH 40.6 LRPX 262.0	3.0 DIAT 9999.0 9799.0 SRCH 5.4 LOAX 9997.0	1.0 FRFN 9999.0 7999.0 TINS 14.5 BEAM 41.4	19.3 TINR 9999.0 DRFT 13.9	0.0 TRIN 0.0	9799.0 BULB 9999.0	9999.0 DDIS 123.0		
TURNING Stopping ***** Ship *	9999.0 SPDT 16.6 12.8 SPDS 16.4 194 ** NATN 5.0 SSPD	44.0 SPDF 9979.0 9799.0 SHPS 100.0 **** NMBR 194.0 RDAR	4.4 RUDT 33.0 -35.0 RUDS 0.0 TYPE 2.0 PDIA	14.0 ADUT 6.0 7.4 TDIS 9999.0 DISP 125.0 ASHP	9999.0 TRNT 9999.0 HRCH 40.6 LBPX 262.0 RDST	3.0 DIAT 9999.0 9799.0 SRCH 5.4 LOAX 9997.0 ENGN	1.0 FRFN 9999.0 7999.0 TINS 14.5 BEAM 41.4 PROP	19.3 TINR 9999.0 DRFT 13.9 LATA	0.0 TRIM 0.0 LCAX	9999.0 BULB 9999.0 WHWV	9999.0 DDIS 125.0 TRLC		
TURNING STOPPING ##### Ship # Dimension	9999.0 SPDT 16.6 12.8 SFDS 16.4 194 ** NATN 5.0	44.0 SPDF 9979.0 9799.0 SHPS 100.0 **** NMBR 194.0 RDAR	4.4 RUDT 33.0 -35.0 RUDS 0.0 TYPE 2.0	14.0 ADUT 6.0 7.4 TDIS 9999.0 DISP 125.0 ASHP	9999.0 TRNT 9999.0 HRCH 40.6 LRPX 262.0	3.0 DIAT 9999.0 9799.0 SRCH 5.4 LOAX 9997.0 ENGN	1.0 FRFN 9999.0 7999.0 TINS 14.5 BEAM 41.4 PROP	19.3 TINR 9999.0 DRFT 13.9	0.0 TRIM 0.0 LCAX	9999.0 BULB 9999.0 WHWV	9999.0 DDIS 123.0		
TURNING STOPPING ***** SHIP & DIMENSION RUDDER, PROP	9999.0 SPDT 16.6 12.8 SPDS 16.4 194 ** NATN 5.0 SSPD 9999.0	44.0 SPDF 9979.0 99799.0 SHPS 100.0 **** NMBR 194.0 RDAR 59.0	4.4 RUDT 35.0 -35.0 RUDS 0.0 TYPE 2.0 PDIA 7.0	14.0 ADUT 6.0 7.4 TDIS 9999.0 DISP 125.0 ASHP 8.3	9999.0 TRNT 9999.0 9999.0 HRCH 40.6 LRPX 262.0 RDST 9999.0	3.0 DIAT 9999.0 9999.0 SRCH 5.4 LOAX 9997.0 ENGN 1.0	1.0 FRFM 9999.0 9999.0 TIMS 14.5 BEAM 41.4 PROP 1.0	19.3 TINR 9999.0 DRFT 13.9 LATA	0.0 TRIM 0.0 LCAX	9999.0 BULB 9999.0 WHWV	9999.0 DDIS 125.0 TRLC		
TURNING STOPPING ##### Ship # Dimension	9999.0 SPDT 16.6 12.8 SPDS 16.4 194 ** NATN 5.0 SSPD 9999.0 SPDT	44.0 SPDF 9979.0 9779.0 SHPS 100.0 **** NMBR 194.0 RDAR 59.0 SPDF	4.4 RUDT 35.0 -35.0 RUDS 0.0 TYPE 2.0 FDIA 7.0 RUDT	14.0 ADUT 6.0 7.4 TDIS 9999.0 DISP 125.0 ASHP 8.3 ADUT	9999.0 TRNT 9999.0 HRCH 40.6 LRPX 262.0 RDST 9999.0 TRNT	3.0 DIAT 9999.0 9799.0 SRCH 5.4 LOAX 9997.0 ENGN 1.0 DIAT	1.0 FRFH 9999.0 9999.0 TIHS 14.5 BEAM 41.4 PROP 1.0 FRPM	19.3 TINR 9999.0 DRFT 13.9 LATA	0.0 TRIM 0.0 LCAX	9999.0 BULB 9999.0 WHWV	9999.0 DDIS 125.0 TRLC		
TURNING STOPPING ***** SHIP & DIMENSION RUDDER, PROP	9999.0 SPDT 16.6 12.8 SPDS 16.4 194 ** NATN 5.0 SSPD 9999.0 SPDT 17.1	44.0 SPDF 9979.0 9799.0 SHPS 100.0 **** NMBR 194.0 RDAR 59.0 SPDF 9999.0	4.4 RUDT 35.0 -35.0 RUDS 0.0 TYPE 2.0 PDIA 7.0 RUDT 35.0	14.0 ADUT 4.0 7.4 TDIS 9999.0 DISP 125.0 ASHP 8.3 ABUT 7.7	9999.0 TRNT 9999.0 9999.0 HRCH 40.6 LRPX 262.0 RDST 9999.0 TRNT 9999.0	3.0 DIAT 9999.0 9799.0 SRCH 5.4 LOAX 9997.0 ENGN 1.0 DIAT 9999.0	1.0 FRFN 9999.0 7999.0 TINS 14.5 BFAN 41.4 PROP 1.0 FRPM 9999.0	19.3 TINR 9999.0 DRFT 13.9 LATA	0.0 TRIM 0.0 LCAX	9999.0 BULB 9999.0 WHWV	9999.0 DDIS 125.0 TRLC		SRP# 104.0
TURNING STOPPING ***** SHIP & DIMENSION RUDDER, PROP	9999.0 SPDT 16.6 12.8 SPDS 16.4 194 ** NATN 5.0 SSPD 9999.0 SPDT 17.1	44.0 SPDF 9979.0 9779.0 SHPS 100.0 **** NMBR 194.0 RDAR 59.0 SPDF	4.4 RUDT 35.0 -35.0 RUDS 0.0 TYPE 2.0 FDIA 7.0 RUDT	14.0 ADUT 4.0 7.4 TDIS 9999.0 DISP 125.0 ASHP 8.3 ABUT 7.7	9999.0 TRNT 9999.0 9999.0 HRCH 40.6 LRPX 262.0 RDST 9999.0 TRNT 9999.0	3.0 DIAT 9999.0 9799.0 SRCH 5.4 LOAX 9997.0 ENGN 1.0 DIAT	1.0 FRFN 9999.0 7999.0 TINS 14.5 BFAN 41.4 PROP 1.0 FRPM 9999.0	19.3 TINR 9999.0 DRFT 13.9 LATA	0.0 TRIM 0.0 LCAX	9999.0 BULB 9999.0 WHWV	9999.0 DDIS 125.0 TRLC		
TURNING STOPPING ***** SHIP & DIMENSION RUDDER, PROP	99999.0 SPDT 14.4 12.8 SPDS 16.4 194 ## NATN 5.0 SSPD 9999.0 SPDT 17.1 17.2	44.0 SPDF 9979.0 9979.0 SHPS 100.0 **** NMBR 194.0 RDAR S9.0 SPDF 9979.0 9979.0	4.4 RUDT 35.0 -35.0 RUDS 0.0 TYPE 2.0 PDIA 7.0 RUDT 35.0	14.0 ADUT 6.0 7.4 TDIS 9999.0 DISP 125.0 ASHP 8.3 ADUT 7.7 8.6	9999.0 TRNT 9999.0 9999.0 HRCH 40.6 LBPX 262.0 RDST 9999.0 TRNT 9999.0 9999.0	3.0 DIAT 9999.0 9799.0 SRCH 5.4 LOAX 9997.0 ENGN 1.0 DIAT 9999.0	1.0 FRPM 9999.0 9999.0 TIMS 14.5 BEAM 41.4 PROP 1.0 FRPM 9999.0 9999.0	19.3 TIMR 9999.0 DRFT 13.9 LATA 16.5	0.0 TRIM 0.0 LCAX	9999.0 BULB 9999.0 WHWV	9999.0 DDIS 125.0 TRLC		

\*\*\*\*\* SHIP # 195 \*\*\*\*\*

	DIMENSION	NATH		TYPE						TRIM			SSHP	SRPH
		5.0	195.0	2.0	102.0	239.0	9999.0	37.2	12.0	1.0	7779.0	102.0	20.7	118.0
	RUDDER, PROP			PDIA						LCAX				
		9999.0	47.0	6.4	9999.0	9999.0	3.0	1.0	17.0	0.0	9999.0	9997.0		
	TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
1			9999.0	35.0				9999.0						
		16.1	9999.0	-35.0	7.6	4444.0	9999.0	9999.0						
-	STOPPING			RUDS								_		
		16.9	100.0	0.0	9999.0	34.7	19.4	12.7	9999.0					
-			- C.											
	SASS SHIP .	196 18	***											
-	DINENSION	NATH	NHER	TYPE	DISP	LIFX	LOAX	DEAH	DRFT	TRIN	BULB	DDIS	SSHP	SRP
		5.0	196.0	1.0	83.0	232.0	9999.0	35.8	12.1	0.0	9999.0	83.0	20.7	114.0
-	RUDDER, PROP	SSPD	RDAR	PDIA	ASRP	RDST	ENGN	PROP	LATA	LCAX	UNRU	TRUC		
		9999.0		6.7	10.4	9999.0	3.0	1.0	13.3	0.0	9999.0	9999.0		
-	TURNING	SPOT	SPDF	RUDT	ABCT	TRNT	DIAT	FRPR						
			9999.0	35.0	7.4	9999.0	9999.0	9999.0						
		15.2	9999.0	-35.0	7.1	9999.0	9999.0	9999.0						
		197 11												
-														
	DIMENSION			TYPE						TRIM			SSHP	SRPP
-		5.0	197.0	2.0	103.0	234.0	9999.0	37.0	14.4	0.0	9999.0	103.0	20.7	114.0
	RUDDER. FROP			PDIA						LCAX				
_		9999.0	45.0	6.6	10.4	9999.0	3.0	1.0	15.0	0.0	9999.0	9999.0		
	TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPM						
			9799.0	35.0				9999.0						
		17.0	9999.0	-35.0	7.5	9999.0	9999.0	9999.0						
	STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TIMR					
		17.0	100.0	0.0	9999.0	29.4	6.0	11.3	9999.0					
-	SESSE SHIP .	198 18												
	DIMENSION	NATH	NMBR	TYPE	DISP	LBPX	LOAX	BEAM	DRFT	TRIM	SULB	PDIS	SSHP	SRPH
-	PINCHOICH		198.0		122.0						9999.0			112.0
-	RUDDER, PROP	SSPD 9999.0		PDIA		RDST 9999.0						TRLC		
1														
_	TURNING		SPDF	RUDT				FRPH						
			9999.0	-35.0				9999.0						
_			-	-							_			
	STOPPING		SHPS 100.0		TD13				11HR 9999.0					
				-										-
	STERS SHIP .	199 88	***	240			_	-			100	2.0.2		
	DIMENSION									TRIN			SSHP	SRP
		5.0	199.0	2.0	143.0	285.0	7777.0	44.2	15.1	0.0	7777.0	143.0	27.4	114.4

						F14014			. PAV		-		
RUDDER+ PRO	P \$\$PD 9999.0		PDIA 7.0	A5HP 11.4	RDST 7777.0			LATA 17.6	LCAX 0.0		TRLC 7777.0		
TURNIN	16.7	SPDF 9997.0	RUDT 35.0	8.7	7777.0	9777.0							
	16.7	9999.0	-35.0	9.2	9999.0	9999.0	9999.0						
***** SHIP	. 200 **												
DIMENSIO			TYPE			LOAX			TRIM			SSHP	SRPH
		200.0	2.0			7999.0					154.0	27.6	114.0
RUDDER, PRO		RDAR 66.0	PDIA 7.0		RDST 9999.0			LATA 21.4	LCAX 0.0		TRLC 9999.0		
TURNIN	G SPDT	SPDF	RUDT										
		9999.0	35.0			9999.0							
STOPPIN		SHPS	RUDS					TINR					
		100.0	and the second second second	9999.0	the second second second second	and the second se		7777.0			****		
**** SHIP	\$ 201 ##	***									****		
DIMENSIO	NATN	NMBR	TYPE	DISP	LBPX	LOAX	BEAN	DRFT	TRIM	BULB	-DDIS	SSHP	SRPH
		201.0				9999.0		Statement of the local division of the local			9999.0		105.0
RUDDER. PRO			PDIA								TRLC		
	9999.0	32.0	4.6		7999.0				0.0	9997.0	9999.0		
TURNIN	G SPDT	SPDF 9999.0	RUDT			DIAT 9999.0		the second s		<del></del>			
		9999.0	35.0 -35.0			7999.0							
STOFFIN	G. SPDS	SHPS 100.0			HACH 18.4			TIMR 7777.0					
***	ar						••••						
**** SHIP	. 202 **	***											
DIMENSIO	N NATH 5.0		TYPE 1.0			LOAX 7777.0				BUL.B 9999.0		SSHP 19.4	SRPM 114.0
RUDDER, PRO			PDIA						LCAX		TRLC		
	<b>797</b> 9.0			****.0					0.0	9997.0	9999.0		
TURNIN		SPDF 5 9999.0	RUDT 35.0		TRNY	DIAT							
		9999.0	-35.0			9999.0							
STOPPIN		S SHPS	RUDS	TDI5				TINR 7777.0					
		10010		7777	64.14			******					
	1 203 #*												
DIMENSIO		NHBR 203.0	TYPE 3.0			LOAX	-	DRFT 6.2	TRIN 54.0		DRIS 9999.0	SSHP	SRPH
RUDDER, PRO			PDIA	ASHP	RDST	ENGN			LCAX				
	7777.0			9999.0							7777.0		
						_							

17.3 9999.0 -35.0 4.7 9999.0 9999.0 9999.0

STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TIMR
	17.2	100.0	0.0	9999.0	15.7	2.3	5.7	9999.0

	DIMENSION	NATH	NMBR	TYPE	DISP	IDPY	LOAX	BEAM	DRFT	TRIM	BULB	DDIS	SSHP	
1	DINCHSION	CONTRACTOR OF A DESCRIPTION OF	204.0		244.0		9979.0		17.4			244.0	and the second sec	SRPM 101.0
									0		0.000			
+	RUDDER, PROP	SSPD 9999.0		PDIA		80ST 9999.0			11.7		UNUV	TRLC 9999.0		
							1.0	1.0	21.7	0.0	****.0	****.0		
	TURNING	SPDT		RUDT	ADVT								0.000	
:			9999.0	35.0				9999.0						
		13.3	******	-33.0			****.0	****.0						
	STOPPING	SPDS	SHPS		TDIS			TINS	TINR					
•		16.6	100.0	0.0	9999.0	35.1	26.4	20.9	9999.0					
-											_			
	sassa SHIP .	205 ##	***											
•						-		-		-		0.013		
	DIMENSION	NATH 5.0			DISP		LOAX		DRFT		BULN		SSHP	SRPH
		5.0	205.0	2.0	208.0	310.0	9999.0	47.2	14.4	0.0	9999.0	208.0	28.0	85.0
	RUDDER, PROP	SSPD	RDAR	FOTA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUT	TREC		
n,		9999.0	75.0	8,8	9999.0	9999.0	1.0	1.0	28.2	0.0	9999.0	9999.0		
-	TURNING	SPDT	SPDF	RUDT	ADUT	TRNT	DIAT	FRPH					_	
	TURNING		9999.0	35.0				9999.0						
			9999.0	-35.0				9999.0						
•														
	STOPPING	SPDS 15.9		RUDS	TDIS 9999.0									
		15.7	100.0	0.0	7777.0	26.8	12.9	17.0	9999.0	_				
	***** SHIP .	206 \$8	***											
	DIMENSION	NATH	NMBR	TYPE	DISP	LBPX	LOAX	BEAN	DRFT	TRIM	BULB	DDIS	SSHP	SRPH
1		5.0	206.0	2.0	183.0	290.0	9999.0	47.5	16.0	-2.0	9999.0		30.0	97.0
1	RUDDER. PROP	SSPD	RDAR	PDIA	ASHP	RDST		PROP						
	NUDDERT PROF	9999.0				9999.0			24.0	LCAX	9999.0			
-														
•	TURNING	SPDT	SPDF	RUDT	ADVT									
			9999.0	-35.0				9999.0		_				
1		10.2	4444.0	-35.0	/.8	****.0	****.0	****.0						
	STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TIMS	TIMR					
•		16.8	100.0	0.0	9999.0	36.8	10.1	15.7	9999.0					
-	Bassa SHIP &	207 11												
					1.000									
	DIMENSION	NATH		TYPE					DRFT	TRIM			SSHP	SRPH
-		5.0	207.0	2.0	112.0	265.0	9999.0	38.9	13.0	3.0	4444.0	112.0	22.0	82.0
	RUDDER, PROP	SSPD	RDAR	FDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	NRW	TRLC		
		9799.0				9999.0						9999.0		
-														
9	TURNING	SPDT	SPDF 9999.0	RUDT 35.0	ADUT			FRPH 9999.0						
			9999.0			9999.0								

STOPPING SPDS SHPS RUDS TDIS HRCH SRCH TINS TIME 16.2 100.0 0.0 9999.0 26.5 9.7 13.0 9999.0

\*\*\*\*\* SHIP . 208 \*\*\*\*\*

DIMENSIO	N NATH	NMBR	TYPE	DISP		LOAX	BEAK	KAPT		-			
	5.0					9999.0				BULB 9999.0		55HP 24.0	SRPH 108.0
RUDDER. PRO	P SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUU	TRUC		
	9999.0				9999.0						7777.0		
TURNIN				ADUT	TRNT	DIAT	FRPM						
		9999.0			9999.0								
	17.0	9999.0	-35.0	7.4	9999.0	9999.0	7999.0	_					
STOPPIN	G SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
	16.4	102.0	0.0	9999.0	24.6	10.0	12.6	9999.0					
SEESE SHIP	1 209 11	***											
DIMENSIO	N NATH					LOAX			TRIM			SSHP	SRPH
	5.0	204.0	3.0	3010	213.0	4444.0	31.7	6.6	34.0	9999.0	9999.0	15.0	122.0
RUDDER, PRO					. ROST		PROP	LATA	LCAX	UNUV	TRLC		
	9999.0	34.0	4.0	9999.0	9999.0	3.0	1.0				9999.0		
TURNIN	G SPDT	SPDF	RUDT	ADUT	TRNT	DIAT	FRPM	-		-			
· ·····		9999.0			9999.0								
		9999.0			9999.0								
STOPPTH	G SPNS	eune	-	****									
alorrin	14.4	100.0	KUUS	TEIS 9999.0			TIMS	TIMR					
BBBBB SHIP	210 ##												
DIMENSIO	-	NMBR		DISP							1.1.1	1.1.1.1	
		210.0			256.0	LOAX 9997.0	8EAH	DRFT 15.7	TRIM		PDIS 143.0	SSHP	SRPM
Sugar State												24.0	105.0
RUDDER, PRO			PDIA				PROP	LATA		UNNU			
	9999.0	63.0	7.2	8.8	9999.0	1.0	1.0	18.4	0.0	9979.0	9999.0		
TURNIN	SPDT	SPDF	RUDT	ADVT	TRNT	PIAT	FRPM				10.00		
		9999.0	35.0	8.2	9999.0	9999.0	7999.0	_					
	15.5	9999.0	-35.0	8.0	9999.0	9999.0	9999.0						
STOPPIN	G SPOS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINE					_
	15.5	100.0	0.0	9999.0	21.2	17.2		9999.0					
SHIP													
DIMENSIO			TYPE	DISP	LIPX	LOAX	BEAN	DRFT	TRIN	FOLT	BDIS	SSHP	SEPH
	5.0	211.0	2.0	71.0		9999.0	42.5	8.3		7999.0	143.0	24.0	
RUDDER, PRO	SSPD	RDAR	PDIA	ASHP	RAST	ENGN	PROP	1492		-	-		-
	9999.0		7.2	8.8		1.0	1.0	14TA 37.7	LCAX 0.0	1999.0	TRLC		
TURNING	SPDT	SPDF	RUDT	ADUT	TRNT	DIAT	FRPH		100		210.0		
		9999.0	35.0		7777.0					1.1			
	17.8	9999.0	-35.0	7.9	9999.0	\$999.0	7777.0	_		-			
			1.0.0	22.2			1.72.62					_	
STOPPING	SPDS	SHPS	RUDS	TRIS	HRCH	SRCH	TINS	TIME					

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\*\*\*\*\* SHIP \* 212 \*\*\*\*\*

	DIMENSIQN	NATH 5.0	NHDR 212.0	TYPE 3.0			LOAX 9999.0		DRFT 6.5	TRIN		DD15	SSHP 18.4	SRPH
													10.4	122.0
	RUDDER, PROP	SSPD 9999.0	RDAR 37.0	PDIA	ASHP	RDST 9999.0	ENGN 3.0	PROP 1.0	14TA	LCAX		TRLC 9999.0		
-		and a share of the		-										
	TURNING	SPDT	SPDF	RUDT	ADUT									
_			9999.0	35.0				7999.0	-		_			-
		17.2	9999.0	-35.0	7.0	9999.0	9999.0	9999.0						
	STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH		TINS						
-	STOFFING	17.0	-100.0	0.0	9999.6	16.3	2.0		9999.0					
-	and the second sec		Con a second				_	_						
	BARRE SHIP .	512 44												
	DIMENSION	NATH	NMBR	TYPE			LOAX		DRFT	TRIM		DDIS	SSHP	SRPI
		5.0	213.0	3.0		220.0	****.0	31.1	11.6	0.0	9999.0	66.0	13.4	105.0
	RUDDER. PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	-	TRLC		
-		9999.0		4.6		9999.0						9999.0		
	TURNING	SPDT		RUDT	ADUT	TRNT	DIAT	FRPH						
			9999.0	35.0		9999.0			-					and a star hoat
		15.4	9999.0	-35.0	7.3	9999.0	9999.0	9999.0						
-	STOPFING	- debe		BIRA		HRCH				_	-			
	STUPPTINU		100.0		9999.0		11.3	TIRS	7977.0					
					,,,,,,		11.3	7.0	*****					
į.,	sssss SHIP .	214 ##												
-	DINENSION	NATH	NHER	TYPE	DIES	LBPX	INAV	BEAR	DRFT	TRIN	-	DDIS	SSHP	SRPH
1		5.0		2.0			9999.0	47.2	18.9		9999.0		28.0	85.0
	RUDDER. PROP			FDIA	ASHP	RDST	ENGN	PROP	LATA		UNUV			
		9999.0	75.0	8.8	13.4	9999.0	1.0	1.0	20.4	0.0	9999.0	9999.0		
_														
	TURNING		SPDF 9999.0	RUDY J5.0		TRNT 9999.0								
			9999.0	-35.0		9979.0								
-										_			-	-
	STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TIMR					
	1.17.1.1.1	15.9	100.0	0.0	9999.0	44.6	4.8	22.5	9999.0					
-	SESSE SHIP &	215 11	***		_									
	DIMENSION	NATH	NMBR	TYPE	DISP	LBPX	LOAX	BEAN	DRFT	TRIM	BUL B	DDIS	SSHP	SRPP
	PINEMOLON	5.0	215.0	1.0	83.0		9999.0	34.0	12.3		9999.0	83.0	20.0	105.0
-					00.0			30.0			*****	03.0	20.0	103.0
	RUDDER. PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNNU	TRLC		
		9999.0	37.0	7.0	8.0	9999.0	1.0	1.0	11.8		9999.0			
	TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
			9999.0	35.0		9999.0				_	_			
		14.6	9999.0	-35.0	7.0	4444.0	4444.0	9999.0						
	STOPPING	SPOS	SHPS	RUDS	TRIS	HRCH	SRCH	TINS	TIMR					
	910FF1M0	91 93	341.3	RUPS	1013	HACH	akch	1145	1106					

***** SHIP *	216 ***	**											
DIMENSION	NATH	NHBR	TYPE	DISP	LIPX	LOAX	BEAN	DRFT	TRIM	BULB	ppis	SSHP	SRPH
	5.0	216.0	3.0	68.0	220.0	\$999.0	31.1	11.6	0.0	9999.0	68.0	13.4	105.0
RUDDER, PROP	SSPD	RDAR	FDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLC		
	9999.0		6.6	5.4	9999.0	1.0	1.0	12.0	0.0	9999.0	9999.0		
TURNING	SPOT	SPOF	RUDT	ADVT	TRNT	DIAT	FRPH						
Township		9999.0	35.0		9999.0		9999.0						
	15.4	9999.0	-35.0		9999.0		9999.0						
STOPPING	SPAS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TIMR					
		100.0		7777.0			9.0	9999.0					
							<u> </u>						
***** SHIP *	217 ##1												
DIMENSION	NATH	NMBR	TYPE	DISP	LBFX	LOAX	BEAH	DRFT		BULB	DDIS		SRPH
		217.0	1.0	87.0	223.0	\$999.0	37.2	12.5	0.0	9999.0	87.0	20.7	117.0
RUDDER, FROP	SSPD	RDAR	FDIA	ASHP	RDST		PROP	LATA	LCAX				
	9999.0	44.0	6.4	9999.0	9999.0	3.0	1.0	14.0	0.0	****.0	7997.0		
TURNING		SPDF	RUDT		TRNT								
		9999.0	35.0		9999.0		9999.0						
	16.0	9999.0	35.0	7.1	\$999.0	5.5	9999.0						
STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
	16.1	100.0	0.0	9999.0	22.5	11.2	9.2	9999.0					
***** SHIP *	218 ##	***											
DIMENSION	NATH	NMBR	TYPE	DISP	LBPX	LOAX	BEAM	DRFT	TRIM	BUL.B	DDIS	SSHP	SRPH
	5.0		2.0	134.0	256.0	9999.0	42.5	14.9	0.0	9999.0	134.0	24.0	105.0
RUDDER. PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLC		
NODDER: TRO	9999.0		7.2		9999.0	1.0	1.0	17.2	0.0	9999.0	9999.0		
TURNING	SPAT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPN						
· ·····		9999.0	35.0		9999.0		9999.0						
		9999.0	-35.0		9999.0		9999.0						
STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
	16.1	100.0		9999.0			12.6	9999.0					
##### SHIP #	218 +-												
***** SHIP #	217 48					1.10	12.11						
DIMENSION			TYPE			LOAX			TRIN		DRIS	SSHP	SRPI
	5.0	219.0	2.0	145.0	200.0	9999.0	42.5	1911	0.0				10010
RUDDER, PROP			PD'A						_CAX				
	9999.0	43.0	.2	6.9	9999.0	1.0	1.0	18.6	0.0	¥¥¥¥.0	9999.0		
TURNING			RUDT										
		9999.0	35.0		9999.0		9999.0						
STOPFING		SHPS 100.0	RUDS	TDIS 9999.0				TINR 7797.0					

\*\*\*\*\* SHIP # 220 \*\*\*\*\*

DIMENSION	NATH	NHER	TYPE	DISP	LBPX	LOAX	BEAH	DRFT 8.3	TRIH	BULB 9777.0	9015 (43.0	SSHP 24.0	SRPN 105.0
	5.0	220.0	2.0	71.0	208.9	7777.0	42.5	a. 3	2314	*****	143.0		10310
RUDDER, PROP	SSPD 9999.0	RDAR 54.0	PBIA 7.2	ASHP 8.8	RDST 7975.0	EHGN 1.0	PROP 1.0	LATA 37.7	LCAX 0.0	UNUV 1777.0	TRLC 7777.0		
TURNING	SFDT	SFDF	RUST	ABUT	TRNT	DIAT	FRPR						
		9999.0 9999.0	35.0		9979.0		<b>7777.0</b> <b>7777.0</b>						
	1/.0	*****											_
STOPPING	SPDS 17.7	SHPS 100.0	RUDS 0.0	TDIS 9999.0	HRCH 29.7	SRCH 5.0	TINS 11.0	TINR 9999.0					
**** SHIP *	221 883	***											
					1.884		DEAN	DRFT	TRIN	BULD	DDIS	SSHP	SRPH
DIMENSION	NATH 5.0	NMBR 271.0	14FE 2.0	DISP 243.0	L.BPX 300.0	LOAX 9999.0	50.0	18.9		9999.0	243.0	34.0	90.0
						CHAN	PROP	LATA	LCAX	UNUV	TRLC		
RUDDER, PROP	SSFD 9999.0	RDAR 92.0	PDIA 8.4	ASHP 13.0	RDST 9999.0	ENGN 1.0	1.0	27.2		7779.0			
TURNING		SPDF 9999.0	RUDT 35.0	ADVT	TRNT 9999.0	DIAT	FRPH 9777.0						
		9999.0	-35.0		9999.0		9999.0						
		CUDC	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
STOPPING		SHPS 100.0		9999.0		22.4		9999.0					
	222 **	***											
						LOAX	BEAK	DRFT	TRIM	PULD	DDIS	SSHP	SRPI
DIMENSICY		222.0	11PE	DISP 114.0	-300.0			9.4	-51.0		243.0		
	1.1.2	29.3					1.5.12				TRLC		
RUDDER. PROP	9999.0	RDAR 84.0	PDIA 8.6	ASHP	RDST 9999.0	ENGN 1.0		14TA	LCAX		7777.0		
TURNING			RUDT 35.0	ADVT	9999.0	DIAT	P999.0		_				
		9999.0	-35.0	8.4			++++.0						
STOPPING		SHP5 100.0	RUDS	TBIS 7999.0		SRCH 1.2		11HR 9999.0					
	10.3												
***** SHIP .	223 **				C. L.							-	
DIMENSION	NATH 5.0		2.0			\$999.0		DRFT 18.9	0.0	7777.0		28.0	85.
RUDDER, PROP			PDIA					LATA 20.4			TRLC		-
	9999.0		8.8		9999.0								
TURNING	SPDT	SPDF 9979.0	RUDT 35.0	10.8	TRNT 9999.0	BIAT 7.0	FRPN 9999.0						
		9999.0	-35.0	10.8	9999.0	10.4	\$999.0		_		_		
STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TIMS	TINR					
STOPPING		100.0		9999.0				****.0					-
	224 1												
stere surt							_	_	_				_
DIMENSION	-	NMBR	TYPE	DISP	LBPX	LOAX	PEAN	DRFT	TRIM	BUL	PDIS	SSHP	SRP

SSPD RUDDER. PROP RDAR PDIA ASHP RDST ENGH PROP LATA LCAX WHWY TRLC 0.0 7777.0 7997.0 9999.0 42.0 4.8 10.4 9977.0 3.0 1.0 13.2 TURNENG SPDT PPDF RUNT ADVT TRNT DIAT FRPH 6.8 7777.0 4.4 7777.0 9999.0 9999.0 14.0 35.0 15.2 9999.0 -35.0 7.1 9999.0 STOPPING SPDS SHPS RUDS TDIS HRCH SRCH TINS TIME 17.4 100.0 0.0 0999.0 27.7 9999.0 10.1 9999.0 ...... \$\$\$\$\$ SHIP \$ 225 \$\$\$\$ DINENSION NATH NHDR 5.0 225.0 TYPE DISP LBPX LOAX BEAN 2.0 122.0 246.0 9999.0 42.2 DRFT 14.9 TRIM BULB DDIS SSHP SRPM 0.0 9999.0 122.0 23.0 114.0 PROP LCAX UNUV TRLC 0.0 9999.0 9999.0 RUDDER, PROF SSPD RDAR 9999.0 35.0 ASHP RD.IT LATA PDIA ENGN 1.0 3.0 4.8 19.4 TURNING \* SPDT SPDF 16.2 9999.0 DUT TRNT 7.2 9999.0 ADVT RUDT FRPH DIAT 5.4 9999.0 35.0 14.0 7797.0 -35.0 7.3 9999.0 SPDS SHPS 14.4 100.0 RUDS TDIS HRCH 0.0 9999.0 34.7 STOPPING SRCH TINS TINR 13.0 9999.0 12.0 n 88888 SHIP # 226 88888 24 NATN NHBR 5.0 224.0 DINENSION TYPE DISP LBPX LOAX TRIM BULB DDIS 0.0 9999.0 143.0 85HP SRPH 27.6 114.0 23 REAM DRFT 2.0 143.0 263.0 9999.0 26 44.2 15.1 121 RUDDER. PROF SSPD RDAR LATA 19.7 20 PDIA ASHP ROST ENGN PROP LCAX UNUV TRLC 2.0 9999.0 11.4 7777.0 7777.0 7777.0 0.0 9999.0 9999.0 61.0 7.0 10 SPDT SPDF TURNING FUDT ADVT TRNT FRPH DIAT 7.2 9999.0 16.6 9999.0 8.7 9999.0 35.0 . 12 12.24 16.6 7999.0 -35.0 9.2 9999.0 8.4 9999.0 . SPDS SHPS STOPPING RUDS TDIS HRCH SRCH TINS TINR 4,1 0.0 9999.0 16.0 100.0 39.5 9999.0 14.0 9999.0 1.10 11 ##### SHIP # 227 ##### 10 41 42 42 43 DIMENSION NATH NMBR TYPE DISP LBPX LOAX BEAN DRFT TRIN PULS DDIS SSHP SRPH 5.0 227.0 2.0 103.0 234.0 9999.0 0.0 9999.0 114.0 37.0 14.4 103.0 20.7 RUDDER, PROP SSPD RDAR PDIA ASHP RDST ENGN 9609 LATA UNHU TRLC LCAX 0.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 45.0 6.6 10.4 12.6 TURNING SPDT SPDF RUDT ADUT TRNT FRPM DIAT 17.0 9979.0 35.0 7.7 9999.0 8.5 9999.0 STOPPING SPDS SHPS RUDS TDIS HRCH SRCH TIMS TIMR 17.0 100.0 0.0 9999.0 33.3 11.5 9999.0 5.9 ##### SHIP # 228 ##### DIMENSION NATH TRIM BULB 1.0 9999.0 NMBR DISP LBPX LOAX 84.0 230.0 9999.0 TYPE DEAN DRFT DDIS SSHP SRPH 5.0 228.0 1.0 34.0 12.2 84.0 18.4 114.0

	RUDDER, PROP	\$5PD 9997.0		PDIA 6.5				PR0P 9999.0	LATA 12.1	LCAX 0.0		TRLC 7777.0		
	TURNING			RUDT										
			9999.0	35.0	-	7999.0		9999.0						
				-3310	•••	9999.0	5.7	9999.0						
	**** SHIP *	229 ##	***											
	DIMENSION	NATH	NMBR	TYPE	DISP	LAPX								
		5.0		1.0			LOAX 7999.0		DRFT 12.4	TRIN	BULB 9999.0	DDIS	SSHP	SRPH
											7777.0	92.0	20.7	114.0
	RUDDER; FROF	SSPD		FDIA	ASHP	RDST	ENGN		LATA	LCAX		TRLC		
		9999.0	42.0		9999.0	9999.0	9999.0	9999.0	15.1	0.0	9999.0	7999.0		
	TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
			9999.0	35.0		9999.0	6.2	9999.0						
		14.6	9999.0	-35.0	6.4	9999.0	5.6	9999.0						
-	**** SHIP *	230 41			·			***						
	DIHENSION	NATH	NHER	TYPE	DISP	LBPX	LOAX		DRFT	TRIN	BULB	DDIS	SSHP	SRPH
		5.0	230.0	2.0	126.0	246.0	9999.0	39.4	15.5	0.0	9999.0	126.0	23.0	114.0
-	RUDDER, PROF	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP						
		9999.0						9999.0	19.3	LCAX	UNUU 9999.0	TRLC		
									17.3	0.0	****.0	9999.0		
	TURNING	SPDT		RUDT	ADVT	TRNT	DIAT	FRPH						
			9999.0 9999.0	35.0		9999.0		9999.0						
				-33.0	/.2	9999.0	/.0	9999.0						
3	**** SHIP *	231 **	***											
	DIKENSION		NKBR	TYPE	DISP	TRPY	LDAX	BEAH	DRFT	TETH	BUCH			SRPH
		5.0	231.0	2.0	174.0		9999.0	44.0	14.0		9999.0	174.0		114.0
-	UDDER . PROF	SSPD	KDAR	PDIA	ASHP	RAST	white	FROP	LATA					
		9999.0	70.0		9999.0				23.7		9999.0			
	TURNING		SPDF	RUGY		TRNT	DIAT	FRPH						
			9999.0	3 0		9999.0		9999.0						
	· · · · · · · · · · · · · · · · · · ·	14.7	****.0	-35.0	1.3	9999.0	9.1	9999.0						
1	TTTT SHIP .	232 ##	***											
	DIMENSION	NATN	NMDR	TYPE	DISP	LBPX	LOAX	BEAH	DRFT	TRIM	BULB	DDIS		
		5.0	232.0	2.0	87.0		9799.0	44.0	8.5		9999.0	174.0	SSHP 27.6	SRPH 114.0
	UDDER, PROP	\$5FD 9999.0	RDAR 70.0	FDIA	ASHP	RDST	ENGN	FROF	LATA	LCAX	UNWV	TRLC		
			/010	/.1	9999.0	7777.0	7777.0	7779.0	44.7	0.0	9999.0			
	TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH				12,1		
		14.6	9999.0	35.0	6.9	9999.0	5.8	9999.0				(1)		
1	**** SHIP *	233 \$\$\$	**											
_					••••••••••									
	DIMENSION	NATH	NMBR	TYPE	DISP	LBPX	LOAX	DEAH	DRFT	TRIN	BULB	DDIS	SSHP	SRPN
_		5.0	233.0	2.0	174.0	304.0	7777.0	44.0	16.0	0.0	9999.0	174.0	27.6	114.0

TURNING	15.	T SPDF 9 9999.0 0 9999.0	35.0	9.4	TRN1 9999.0 9999.0		T FRPH 7 9999.0 9 9999.0	•					
##### SHIP	234 \$												
DIMENCION				0.04									
DIMENSION	NAT	0 234.0	TYPE	DISP	LAPX	LOAD	E BEAN		TRIH	PULI	DRIS	SSHP	SEPI
			2.00	91.0	304.0	7777.0	0 44.0	8.6	43.0	7999.0	174.0	27.6	114.0
RUDDER. PROP	SSPI			ASHP	RDST	ENG	N PROP	LATA	I CAN		TRLC		
	9999.0	70.0	7.1	9999.0	9999.0	9999.0	9999.0		0.0	9999.0	9999.0		
TURNING	SPDI	SPDE	RUDT		TONT								
TURNING	17.4	9999.0	35.0		TRNT 9999.0		FRPN						
	17.3	2 9999.0	-35.0	8.6	9999.0		9999.0						
***** SHIP *	235 #1	***					_						
DIMENSION	NATH	NHER	TYPE	DISP	1.86.9							1000	
	5.0		1.0			LOAX 9999.0			TRIN				SRPH
								12.4	0.0	****.0	91.0	20.7	117.0
RUDDER. PROP	SSF1 9999.0		FDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNNU	TRLC		
			•••	****.0	7777.0	9999.0	9999.0	15.2	0.0	9999.0	7979.0		
TURNING	SPUT	SPDF	RUDT	ADVT	TENT	DIAT	FRPH						
		9799.0	35.0	6.9	9999.0		9999.0						
	10.2	9999.0	-35.0	6.4	9999.0	6.2	9999.0						
STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	****					
	16.5	100.0	0.0	9999.0		3.9		TINR 7777.0					
ARTER SHIP #	236 11	111											
DIMENSION	NATN	NHER	TYPE	DISP	INPY	LOAX	-						
	5.0	236.0	1.0	70.0		9999.0		DRFT 11.5	TRIM		DDIS	SSHP	SRPH
RUDDER, PROP	SSPD						4616	11.3	1.0	7797.0	70.0	17.6	117.0
NODDERT TROP		RDAR . 38.0	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	WNWV	TRUC		
				****.0	9999.0	9999.0	7999.0	12.5	0.0	9999.0	7777.0		
TURNING	SPDT		RUDT	ADVT	TRNT	DIAT	FRPH						
		9979.0	35.0		9999.0		7777.0						
	13.6	1117.0	-35.0	6.7	9999.0	6.7	9999.0						
STOPPING	SPAS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	-					
	15.8	100.0	0.0	9999.0	24.2	9999.0	8.2	9999.0				_	
**** SHIP *													
BERE SHIP B	237 881 NATH	NMBR	TYPE										* ******* · · ·
	237 881 NATH			DISP 33.0	LAPX	LOAX	DFAN	DRFT 5.8	TRIM	BULR	PDIS	SSHP	SRPH
DIMENSION	237 881 NATH 5.0	NHBR 237.0	<u>TYPE</u> 3.0	DISP 33.0	LAPX 237.0	LOAX 9999.0	<b>DFAN</b> 31.8	5.8	41.0	7999.0	7999.0	55HP 14.0	88PH 122.0
DIMENSION	237 ##1 NATN 5.0 SSPD	NHBR 237.0 RDAR	<u>TYPE</u> 3.0 PDIA	DISP 33.0 ASHP	1. RPX 237.0	LOAX 9999.0	DFAN 31.9	5.8 LATA	41.0 LCAX	9999.0 NNW	7797.0 TRLC	55HP 14.0	SRPH 122.0
DIMENSION	237 *** NATN 5.0 SSPD 9999.0	NHBR 237.0 RDAR 30.0	<u>TYPE</u> 3.0 PDIA	DISP 33.0 ASHP	LAPX 237.0	LOAX 9999.0	DFAN 31.9	5.8 LATA	41.0 LCAX	7999.0	7797.0 TRLC	55HP 14.0	SRPH 122.0
DIMENSION	237 *** NATN 5.0 SSPD 9999.0 SPDT	NHBR 237.0 RDAR 30.0 SPDF	<u>TYPE</u> 3.0 <u>PDIA</u> 6.0 RUDT	DISP 33.0 ASHP 9999.0	L RPX 237.0 RUST 7999.0 TRNT	LOAX 9999.0	DFAN 31.9	5.8 LATA	41.0 LCAX	9999.0 NNW	7797.0 TRLC	55HP 14.0	SRPH 122.0
DIMENSION	237 881 NATN 5.0 SSPD 9999.0 SPDT 16.3	NHBR 237.0 RDAR 30.0 SPDF 9999.0	<u>TYPE</u> 3.0 <u>PDIA</u> 6.0 <u>RUDT</u> 35.0	DISP 33.0 ASHP 9999.0 ADUT 7.2	<u>i. RPX</u> 237.0 <u>RUST</u> 7999.0 <u>TRNT</u>	LOAX 9999.0 ENGN 9999.0 DIAT 4.0	BFAN 31.8 PROP 9999.0 FRPM	5.8 LATA	41.0 LCAX	9999.0 NNW	7797.0 TRLC	85HP 14.0	SRPH 122.0
DIMENSION RUDDER, PROP TURNING	237 881 NATN 5.0 SSPD 9999.0 SPDT 16.3	NHBR 237.0 RDAR 30.0 SPDF	<u>TYPE</u> 3.0 <u>PDIA</u> 6.0 RUDT	DISP 33.0 ASHP 9999.0 ADUT 7.2	L RPX 237.0 RUST 7999.0 TRNT	LOAX 9999.0 ENGN 9999.0 DIAT 4.0	<b>BFAH</b> 31.9 <b>PROP</b> 9999.0 <b>FRPH</b>	5.8 LATA	41.0 LCAX	9999.0 NNW	7797.0 TRLC	85HP 14.0	SRPH 122.0
DIMENSION	237 ##1 NATN 5.0 SSPD 9999.0 SPDT 14.3 14.3 14.3	NHBR 237.0 RDAR 30.0 SPDF 9999.0	<u>TYPE</u> 3.0 <u>PDIA</u> 6.0 <u>RUDT</u> 35.0 -35.0	DISP 33.0 ASHP 9999.0 ADUT 7.2	<u>i. RPX</u> 237.0 <u>RUST</u> 7999.0 <u>TRNT</u>	LOAX 9999.0 ENGN 9999.0 DIAT 4.0	BFAM 31.9 PRDP 9999.0 FRPM 9999.0 9999.0	5.8 LATA	41.0 LCAX	9999.0 NNW	7797.0 TRLC	55HP 14.0	58PH 122.0

\$\$\$\$\$ SHIP \$ 238 \$\$\$\$

	DIMENSION	NATI		TYPE 3.0			LOAX			TRIN			SSHP	SRPH
				1.00		23/14	****	38.5	16.4	35.0	7797.0	9999.0	20.7	119.0
	RUDDER, PROP			PDIA						LCAX	UNU	TRUC		
		9999.(	9 42.0	6.4	7999.0	9999.0	3.0	1.0	33.1	0.0		7777.0		
-	TURNING	SPDI	SPOF	RUDT	ABUT	TRNT	DIAY	FRPH						
		17.0	9799.0	35.0		7777.0		\$999.0						
		17.0	9999.0	-35.0	6.9	9999.0		7999.0						
	STOPPING	SPDS	SHPS	RUDE	TDIS	HRCH	SRCH	TINS	TINR					
		17.0	100.0		7777.0		9999.0		9999.0					
	##### SHIP 6	239 81												
	DIMENSION			TYPE					DRFT	TRIN	DULT	DDIS	SSHP	SRPH
-		5.0	239.0	2.0	244.0	324.0	7777.0	47.8	17.4	1.0	9999.0	244.0	33.0	101.0
	RUDDER, PROP	SSPI	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA					
		7997.0			\$999.0					LCAX		TRLC		
	TURNING	SPDI	SPDF											
	TORNE NO		9999.0	RUDT 35.0		• TRNT 9999.0	PIAT	FRPH						
			\$999.0	-35.0		9999.0		9999.0					·····	
	STOPPING			RUDS			SRCH	TINS	TIMR					
		16.4	100.0	0.0	9997.0	35.1	26.4	21.0	****.0					• •• •••
	***** SHIP 6	240 38	***							• • • • • • • • • • • • • • • • • • • •				• ••••••
	DIMENSION	NATH	NHBR	TYPE	DISP	LEPX	LOAX	DEAM	DRET	TRIM	BULS			
		5.0	240.0		161.0			43.5				DAIS 141.0	SSHP	SRPN 122.0
													23.4	162.0
	RUDDER, PROP	SSPD		PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX		TRLC		
		****	70.0		.0.4446	9999.0	3.0	1.0	17.7	0.0	9999.0	7777.0		
	TURNING	SPDT		RUDT	ADVT	TRNT	DIAT	FRPH						
			9999.0	35.0		7777.0	6.2	7999.0						
		15.4	9999.0	-35.0	9.0	\$999.0	7.5	9999.0						
	STOPPING	SPDS	SHPS	RODS	TDIS	TIRCH	SRCH	77 100	TINE					
			100.0		7777.0	29.0	17.0		7797.0					
	**** SHIP .	241 ##	***						·····					
	DIMENSION	HATN	NABR											
	PINCHOLON	5.0		2.0	112.0		LUAX 9999.0	BEAN				DUIS	SSHP	SRPH
						203.0	****.0	38.9	13.0	3.0	7777.0	112.0	22.0	82.0
	RUDDER, PROP	SSPD	RUAR	FUIA	ASHP	ROST	ENGN	FROP	LATA	LUAX	UNUU	TRLC		
		7797.0	47.0	8.0	7777.0	7777.0	1.0	1.0	18.4			7777.0		•
-	TURNING	SPDT	SPDF	RUDT	ANGT	TRAT	DIAT	FREM						
			7777.0	35.0		7777.0		7777.0						
	_		9999.0	-35.0		7777.0		7777.0						
	STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TIMR					
		1012	100.0	0.0	7777.0	26.5	7.1	13.0	7777.0					

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\*\*\*\*\* SHIP # 242 \*\*\*\*\*

DIMENSION	NATH 5.0		TYPE 1.0	DISP 78.0	LBFX 220.0	LOAX 9999.0	BEAN 35.0	DRFT 12.2	TRIH 1.0	BULB 9999.0	<b>NDIS</b> 78.0	SSHP 20.7	SRPN 117.0
RUDDER, PROF			PDIA	ASHP	RDST	ENGN	FROP	LATA	LCAX	UNUV	TRLC		
NUDDERT TRUT	9999.0			9999.0		3.0	1.0	14.2			9999.0		
THENTHE	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPN						
TURNING	17.1		35.0	8.2	9999.0	7.0	9979.0						
	17.1	9999.0	-35.0	8.4	9999.0	7.4	9999.0						
SIGPPING		SHPS 100.0		TUIS 9999.0			TIMS	TIHR .0					
	17.3	100.0	0.0	*****	2314	34.10	10.0						
##### SHIP	243 **	***											
DIMENSION	NATH	ABBRI	TYPE	DISF	LBPX	LOAX	REAN	DRET	TRIM	BULP	DDIS	SSHP	SRPH
	5.0	243.0		208.0				16.5	0.0	9999.0	208.0	28.0	90.0
						6 H 6 H				UNUV	TRLC		
RUDDER, PROF	9999.0		PDIA 8.1	ASHP 9997.0	60ST		FR0P	29.7	LCAX		9999.Q		
	,,,,,,		0.1										
TURNING	SCDT.		RUDT		TRNT		FRPH						
		9999.0	35.0		9997.0	8.0	9999.0						
	16.0	\$999.0	33.0	7.9	7777.0	****•0	7777.0						
STOPPIN	SPDS	SHPS	RUDS										
	15.8	100.0	0.0	9999.0	42.0	9999.0	16.0	9999.0					
***** SHIP	244 ##	***											
PINENSIO	ITAN .	NHER	TYPE		LEFX	LOAX	HEAN	DRFT	TRIN	BULB	Dois	SSHP	SRPI
	5.0	244.0	2.0	180.0	281.0	9997.0	46.2	14.5	0.0	9999.0	180.0	28.0	35.0
RUDDER, PRO	econ	CDAR	PDIA	Acup	ELET	EIIGN	PEOP	LATA	TAY	0000	TRLC		
NUPPERF FROM		9999.0		9999.0			1.0	26.7			9999.0		
TURNIN	SPUT	SPDF	RUDT	ADVT	TENT	DIAT	FRPH						
	16.0	9999.0	35.0		\$999.0		9999.0						
	16.0	9999.0	-35.0	9.7	9999.0	9999.0	9999.0						
STOPPIN	S SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TIHS	TIHR					
		100.0	0.0	9999.0	42.0	9999.0	14.2	9999.0					
***** SHIP	6 245 xX	***											
DIMENSIO			TYPE					DRFT	TRIM			SSHP	SRP#
	5.0	245.0	1.0	119.0	257.0	9999.0	38.9	17.3	-29.0	9999.0	119.0	28.0	107.0
RUDDER, PRO	P SSFD	RDAR	FDIA	ASHF	RDST	EHGN	FROP	LATA	LCAX	UNNU	TRLC		
		9799.0	7.2	9799.0	9999.0	1.0	1.0	8.5	0.0	9999.0	9999.0		
T		SPDF	RUDT	AUVT	TRNT	DIAT	FRPM				•		
TURNIN		SPDF					9999,0						
		9999.0	-35.0				9999.0						
STOPPIN	G <u>SPDS</u> 17.9		RUDS	TDIS 9999.0		SRCH		TINR 9999.0					
	1/.1	100.0	0.0	*****	2013		44.10	,,,,,,					
***** SHIP	0 246 81					****							

			5.0	246.0	9999.0	68.0	216.0	9999.0	33,6	0 11.4	0.0	9797.0	48.0	18.4	119.0
	RUDDER	PROF		RDAR		ASHF 5 9999.0					LCAX				
							, ,,,,,,	, ,,,,,,	1.0	0 12.5	0.0	9999.0	7977.0		
<b>—</b>	<u> </u>	JRMINO		SPDF 9999.0	RUD1 35.0					1					
				9999.0	-35.0	7.5	9999.0	9999.0	9999.0	0					
	STU	)PFINC		SHPS 100.0	RU03 0.0	1015 9999.0	HRCI 9999.0	9999.0		TINR 7777.0	•=				
	***** 5	HIP (	247 11	***			-								·····
	DINE	NSION	NATH	- "NHER"	TYPE	Thisp	LAPY	TOAY	BEAH	DRFT	TATK				
			5.0	247.0	2.0	123.0	245.0	9999.0	40.0		0.0	9999.0	DD15 123.0		SRPH 110.0
	RUDDER,	FROF			FDIA		RAST		PROP		LCAX	UNUV	TREC		
Í.		RNING	9999.0		6.9		9999.0						7777.0		
		NA ANG		9979.0	35.0		TENT 9999.0		FRFM 9999.0						
				9999.0	-35.0		9999.0		9999.0						
	STO	FEING	SPDS	CUDO	0.100			The second s							
1	510	1.0140		SHP5 100.0	RUDS	TDIS 0.9999	HRCH 40.3		TINS						
1					0.0	7777.0	40.3	16.3	13.9	9999.0	_				
	***** 5	HIP .	248 11	***											
	DIME	HSION			TYPE		LBFX		BEAN	DRFT	TRIN	PULE	DDIS	SSHP	SRPM
			5.0	248.0	2.0	125.0	262.0	7999.0	41.4	13.9	0.0	9999.0			104.0
ļ	RUDDER	FROF		RDAR	PDIA	ASHP	ADST	ENGN	FROP	LATA	LCAX	NNWV	701.0		a back
1			7777.0	50.0	7.0	11.6	9999.0	1.0	1.0			9999.0			
	TU	RNING	SPDT	SPDF	RUDT	ADUT	TRNT				-				
i				7999.0	35.0		9999.0	DIAT	FRPH 9999.0						
			17.2	9999.0	-35.0		9999.0		9999.0						
	STO	PPING	SPDS	SHPS											
	310	1 110		100.0	RUDS	TDIS 7997.0	HACH	SRCH	TINS	TINR					
							5110	,,,,,	13./	9999.0					
			728 45	T.											
			647 14	***											
	DIMEI	SION	NATH	NMBR	TYPE	DISP	LBPX	LOAX	BEAH	DRFT	TRIN	PUL D			
			5.0	247.0	1.0	72.0	230.0	9999.0	32.2	n.3		7977.0	DDIS 72.0	SSHP	SRPM 115.0
	RUDDER,	2605	SSPD	RDAR	PDIA	Acur									113.0
		1 NOP		40.0		ASHF 9999.0	RDST	ENGN	PROP	LATA	LCAX	UNNU	TRLC		
								3.0	1.0	21.1	0.0	7999.0	4444.0		
	TUP	RNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
				9999.0 9999.0	35.0 -35.0		7997.0 9999.0		9999.0						
	STOP	PTNG	Sens	SHPS	- MIRC	TDIS	HREN								
				100.0		9999.0	33.3	3RCH 2+2		TIHR 9999.0					
	\$#\$## SH	IIP .	250 ###	**											
	DINEN	IS TON	NATH	-											
	PINCE	910N		NMBR 250.0	2.0	DISP 140.0		LOAX 7999.0	\$EAH 42.0	DRFT 15.5	TRIN 0.0	BULB	PDIS-	35HP	SRPN- 115.0

RUDDER, FROP SSPD 7979.0 PDIA ASHP RDST 4.7 7999.0 9999.0 RDAR FNGM PROP LATA LCAX UNUV TRLC 43.0 3.0 1.0 22.8 0.0 7777.0 7777.0 TURNING SPDT SPDF 15.0 9999.0 RUDT ADUT TRNT 7.7 9999.0 DIAT FRPH 35.0 4.3 9999.0 15.5 9999.0 -35.0 8.4 9999.0 7.0 9999.0 STOPPING SPDS SHPS RUDS TDIS HRCH SRCH TINS TIME 14.3 100.0 0.0 9999.0 41.2 12.8 9797.0 7.0 4 • ##### SHIP # 251 ##### DIMENSION NATH NMDR : TYPE DISP LPPX LOAX PEAN DRET TRIN BULB DDIS SSHP SEPH 5.0 251.0 2.0 215.0 302.0 9999.0 50.4 0.0 9999.0 215.0 17.1 34.0 94.0 \*\* RUDDER, PROP SSPD RDAR PDIA ASHP RDST ENGN PROP LATA LCAX UNWV TRLC 9999.0 96.0 8.2 13.6 9999.0 1.0 1.0 22.5 0.0 7777.0 7777.0 0 TURNING SPDT SPDF RUDT ADVT TENT DIAT FRPH .... 17.2 9999.0 7.4 9999.0 35.0 12.2.3 5.6 9999.0 17.3 9999.0 -35.0 8.7 9999.0 6.4 9999.0 STOPPING SPAS SHPS UNS TDIS 0.0 9999.0 RUNS HRCH SRCH TINS TINR 15.4 9999.0 17.3 100.0 46.1 20.0 33 ##### SHIP # 252 ##### 'n DIMENSION NATH MAR 5.0 252.0 84 <u>TYPE DISP LBPX LOAX BEAM DRFT TRIM DULB DDIS SSHP SRCM</u> 2.0 101.0 304.0 9999.0 50.4 8.4 45.0 9999.0 9999.0 34.0 94.0 ----24 RUDDER, PROP 55PD RDAR 9999.0 86.0 <u>.</u>; PDIA ASHP RDST ENGN PROP LATA LCAX WHUY TRLC 8.2 13.6 9999.0 1.0 1.0 48.1 0.0 9999.0 9999.0 29, TURNING SPDT SPDF 5.1 9999.0 11 ADUT TRNT DIAT FRPM 7.7 9979.0 9999.0 7999.0 7.9 9999.0 9999.0 9999.0 RUDT ... 35.0 10 5.2 9999.0 -35.0 les! STOPFING RUDS TD13 HRCH 0.0 9999.0 8.8 31 SPDS SHES SRCH TIMS TIMR 5.5 100.0 0.4 12.8 7777.0 77 **'**11 ##### SHIP # 253 ##### 10 DIMENSION NATH NHAR 5.0 253.0 TYPE DISP LEPX LOAX BEAN TRIN BULB DDIS SSHP SRPM 0.0 9999.0 71.0 18.4 122.0 DRFT 71.0 217.0 9999.0 3.0 31.4 13.1 41 RUDDER, FROP SSPD RDAR 9999.0 38.0 -DIA ASHP RDST 4.1 9999. 9999.0 PDIA ENGN LCAX UNUU TRLC 0.0 7977.0 7997.0 PROP LATA ... 3.0 1.0 12.8 ۰ TURNING SPOT SPOF ABUY TRNT DIAT FRFN 5.9 9999.0 4.7 9999.0 RUDT 16.3 9999.0 35.0 16.3 9999.0 6.3 7777.0 7777.0 7797.0 -35.0 STOPPING SPDS SHPS RUDS TDIS HRCH SRCH TINS TTHE 0.0 9999.0 23.5 9999.0 16.3 100.0 8.5 7777.0 ##### SHIP # 254 ##### ----DIMENSION NATH NHBR TYPE DISP LBPX LOAX BFAH BRET TRIN BULB DDIS SSHP SRPH 5.0 254.0 2.0 114.0 240.0 9999.0 38.0 15.1 0.0 9999.0 114.0 20.7 119.0 RUDDER, PROP SSPD RDAR 53.0 RDAR PDIA ASHP RDST ENGN PROP LATA LCAX UNUU 7777.0 TRUC 4.5 7797.0 9999.0 3.0 1.0 17.3 0.0 9999.0 9999.0

TURN	ENG	SPDT	SPDF	RUDT	ADVT	TRNT 9999.0	DIAT	FRPH 7777.0.						
			<b>***</b> *.0	35.0 -35.0			9999.0							
STOP	THG	SPAS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
		15.7	100.0	0.0	9999.0	23.8	1.8	15.3	9999.0					
***** SH	IP I	255 84					<u></u>							
DIMENS	-	NATH	NHBR	TYPE	DISP	LBPX	LOAX	BEAN	DRFT	TRIM	BULD	DDIS	SSHP	SRPH
DINER	5104	5.0		1.0	survey of the local division in which the local division in the lo		++++.0	31.1	4.3	48.0	9999.0	9999.0	17.6	119.0
		SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNWV			
RUDDER	PROP	9999.0		6.2	9999.0	9999.0				0.0	9799.0	9999.0		
		SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
TUR	NING		9999.0	35.0		9997.0		7997.0						
			9999.0	-35.0	6.3	9999.0	9999.0	9999.0						
STOP	PING	SPOS	SHPS	RUDS	TDIS	HRCH	SRCH		TINR					
3107			100.0		7999.0		0.5	9.6	9999.0					
***** SH	IP .	256 **	***											
DINEN	SION	NATH	NHER	TYPE	DISP		LOAX		DRFT	TRIN	C JUS	DDIS	SSHP	SRPH
		5.0		9999.0	34.0	236.0	9999.0	31.9	5.7	101.0	9999.0	9999.0	15.0	122.0
RUDDER.	FROF	SSPD	ROAR		ASHP				LATA			TRLC		
		9999.0	40.0	6.0	9999.0	9997.0	3.0	1.0	33.2	0.0	9999.0	9999.0		
TUR	NING		SPDF			TRNT		FRPH						
			9999.0 9999.0			9999.0	8.2	9999.0						
		10.5	*****											
**** SH	IIP 0	257 \$\$	***											
DINEN	-	NATH	NHER	TYPE	DISP	LINPX	LOAX	BEAN	DRFT	TRIM	BULB	DDIS	SSHP	SRPH
DINCH	12104	5.0					9999.0		15.0	0.0	9999.0	121.0	27.3	100.0
RUDDER,		SSFI	RDAR	PDIA	ASHF	RDSI	ENGN	PROP	LATA	LCAX	MINA	TRLC		
RODDERT	FROF	9999.0			9999.0			1.0	19.6	0.0	9999.0	9999.0		
			SPDF	RUDI	ADVI	TRNI	DIAT	FRPM						
TUR	RNING		9999.0			9999.0		9999.0						
			9999.0			9799.0	7797.0	9799.0						
						HRCI	SRCH	TINS	TINR					
STOP	PFING		5 SHP9	RUDS		- 41.	9999.0	-15.1						
***** 5	ITP 0	258 #												,
						LBP	LOAX	BEAH	DRFT	TRIN	BUL D	DDIS	SSHP	SRPI
DINE	NSION	NATI 5.					9999.0					9999.0		114.0
		344										TRLC		
RUDDER.	FROP							and the second second second		LCAX		9999.0		
		9999.0	55.0	6.	7 9999.	· • • • • • •	9 3.0		3014					
TU	RNING	SPD	T SPDF	RUD										
	-	16.	7 9999.7		• • •	\$ \$999.		\$999.0						
			7 9999.0		-	5 9999.		9999.0						
		12.	2 9999.0	35.	0 6.	9 9999.	0 4.4	9999.0						

 12.2
 9999.0
 -35.0
 7.0
 9999.0
 4.4
 9999.0

 STOPPING
 SPUS
 SHFS
 RUDS
 TDIS
 HRCH
 SRCH
 TIMS.
 TIMR

 16.7
 100.0
 0.0
 9999.0
 26.2
 9999.0
 10.5
 9999.0

DINENCION.													
DINENSIUN		NMBR			LBPX			The second se		BULB	DDIS	SSHP	SRP
	5.0	259.0	2.0	370.0	330.0	9999.0	53.3	24.1	1.0	9999.0	370.0	37.4	93.0
RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLC		
	9999.0	157.0	7.2	12.8	9999.0						9999.0		
THENTHE	-												
TURNING		9999.0	RUDT35.0		7999.0	COLUMN TWO IS NOT THE OWNER.							
		9999.0	-35.0		9999.0		9999.0						
STOPPING		SHPS		TDIS									
	14.8	100.0	0.0	9999.0	18.9	17.0	17.0	9999.0					
##### SHIP #	260 **	***											
DIMENSION	HATN	NHBR	TYPE	DISP	LBPX	LOAX	BEAK	DRFT	TRIM	BULS	DDIS	SSHP	SRP
	3.0	240.0	4.0		254.0					7797.0		19.0	70.0
RUDDER, PROP	55PD 9999.0		PDIA 7.5	ASHF	RDST 9999.0	ENGN 1.0			LCAX				
		4310	/ • 5	/	,,,,,,	1.0	1.0	22.0	0.0	9999.0	****		
TURNING			RUDT		TRNT								
		9999.0	35.0		9999.0	7777.0	9999.0						
	16.7	9999.0	-35.0	7.9	9999.0	9999.0	9999.0						
STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
		100.0		9999.0				9999.0					
***** SHIP #													
***** SHIP # DIMENSION	NATN	NMBR	TYPE	DISP	LBPX				TRIM			SSHP	
		NMBR	TYPE 2.0			LOAX 9999.0				BUL B 9999.0		SSHP 36.0	
	NATN 5.0	NHBR 261.0	. –				56.0	20.6	9999.0	9999.0	312.0		
DIMENSION	HATN 5.0 SSFD	NHBR 261.0	2.0 PDIA	312.0	318.0 RPST	9999.0	56.0 PROP	20.6	9999.0	9999.0 NNUV	312.0 TRLC		
DIMENSION RUDDER, FROP	NATN 5.0 SSFD 9977.0	NHBR 261.0 RDAR 111.0	2.0 PDIA 8.9	312.0 ASHP 9999.0	318.0 RDST 7999.0	9999.0 Engn 1.0	54.0 PROP 1.0	20.6	9999.0	9999.0	312.0 TRLC		
DIMENSION	HATN 5.0 SSFD 9979.0 SFDT	NHBR 261.0 RDAR 111.0 SPDF	2.0 PDIA 8.9 RUDT	312.0 ASHP 9999.0 ADVT	318.0 RDST 7999.0 TRNT	9999.0 Engn 1.0 Diat	56.0 PROP 1.0 FRPH	20.6	9999.0	9999.0 NNUV	312.0 TRLC		
DIMENSION RUDDER, FROP	HATN 5.0 SSFD 9977.0 SPDT 16.0	NHBR 261.0 RDAR 111.0	2.0 PDIA 8.9 RUDT 35.0	312.0 ASHP 9999.0 ADVT 9.8	318.0 RDST 7999.0 TRNT 9999.0	9999.0 EHGN 1.0 DIAT 6.0	56.0 PROP 1.0 FRPM 9799.0	20.6 LATA 21.7	9999.0	9999.0 NNUV	312.0 TRLC		
DIMENSION RUDDER, FROP	HATN 5.0 SSFD 9977.0 SPDT 16.0	NMBR 261.0 RDAR 111.0 SPDF 9997.0	2.0 PDIA 8.9 RUDT 35.0	312.0 ASHP 9999.0 ADVT 9.8	318.0 RDST 7999.0 TRNT	9999.0 EHGN 1.0 DIAT 6.0	56.0 PROP 1.0 FRPH	20.6 LATA 21.7	9999.0	9999.0 NNUV	312.0 TRLC		
DIMENSION RUDDER, FROP TURNING	HATN 5.0 SSFD 9977.0 SFDT 16.0 14.0	NHER 261.0 RDAR 111.0 SPDF 9997.0 9999.0	2.0 PDIA 8.9 RUDT 35.0	312.0 ASHP 9999.0 ADVT 9.8	318.0 RDST 7999.0 TRNT 9999.0	9999.0 EHGN 1.0 DIAT 6.0	56.0 PROP 1.0 FRPM 9799.0	20.6 LATA 21.7	9999.0	9999.0 NNUV	312.0 TRLC		
DIMENSION RUDDER, FROP	HATN 5.0 SSFD 9977.0 SFDT 16.0 14.0	NHER 261.0 RDAR 111.0 SPDF 9997.0 9999.0	2.0 PDIA 8.9 RUDT 35.0	312.0 ASHP 9999.0 ADVT 9.8	318.0 RDST 7999.0 TRNT 9999.0	9999.0 EHGN 1.0 DIAT 6.0	56.0 PROP 1.0 FRPM 9799.0	20.6 LATA 21.7	9999.0	9999.0 NNUV	312.0 TRLC		
DIMENSION RUDDER, FROP TURNING	HATN 5.0 SSFD 9979.0 SFDT 16.0 16.0 262 ## NATN	NHBR 261.0 RDAR 111.0 SPDF 9997.0 9999.0 888 NHBR	2.0 PDIA 8.9 RUDT 35.0 -35.0	312.0 ASHP 9999.0 ADUT 9.8 9.7	318.0 RDST 7797.0 TRNT 7999.0 7999.0	9999.0 Engn 1.0 Diat 6.0 4.6	56.0 PROP 1.0 FRPM 9799.0	20.6 LATA 21.7	9999.0	9999.0 WHUV 9999.0	312.0 TRLC 7799.0	36.0	85.0
DIMENSION RUDDER, FROP TURNING	HATN 5.0 SSFD 9979.0 SFDT 16.0 16.0 16.0	NHBR 261.0 RDAR 111.0 SPDF 9997.0 9999.0 888 NHBR	2.0 PDIA 8.9 RUDT 35.0 -35.0	312.0 ASHP 9999.0 ADUT 9.8 9.7	318.0 RDST 9999.0 TRNT 9999.0 9999.0	9999.0 Engn 1.0 Diat 6.0 4.6	34.0 PROP 1.0 FRPM 9999.0 9999.0	20.6 LATA 21.7	9999.0 LCAX 0.0 TRIN	9999.0 UNUU 9999.0 BIJL B	312.0 TRLC		85.0
DIMENSION RUDDER, FROP TURNING ***** SHIF & DIMENSION	HATN 5.0 SSFD 9979.0 SFDT 16.0 16.0 262 ## NATN 5.0	NHBR 261.0 RDAR 111.0 SPDF 9997.0 9999.0 **** NHBR 262.0	2.0 PDIA 8.9 RUDT 35.0 -35.0 TYPE 2.0	312.0 ASHP 9999.0 ADVT 9.8 9.7 DISF 139.0	318.0 RDST 7999.0 TRNT 7999.0 9999.0 9999.0 LBPX 318.0	9999.0 Engn 1.0 Piat 6.0 6.4 4.4 2092.0	56.0 PRDP 1.0 FRPM 9799.0 9799.0 9799.0 BEAH 56.0	20.6 LATA 21.7 DRFT 9.6	9999.0 LCAX 0.0 7RIN 41.0	9997.0 WNWV 7977.0 BULB 9999.0	312.0 TRLC 7999.0 DD15 312.0	34.0 SSHP	85.0
DIMENSION RUDDER, FROP TURNING	HATN 5.0 SSFD 9979.0 SFDT 16.0 16.0 262 ## NATN 5.0	NHBR 261.0 RDAR 111.0 SPDF 9997.0 9999.0 *** NHBR 262.0 RDAR	2.0 PDIA 8.9 RUDT 35.0 -35.0 TYPE 2.0 PDIA	312.0 ASHP 9999.0 ADUT 9.8 9.7 DISF 139.0 ASHP	318.0 RDST 9999.0 TRNT 9999.0 9999.0 LBPX 318.0 RDST	99999.0 EHGN 1.0 BIAT 6.0 6.6 LDAX 9999.0 EHGN	34.0 PROP 1.0 FRPM 9799.0 9999.0 BEAH 36.0 PROP	20.6 LATA 21.7 DRFT 9.6 LATA	9999.0 LCAX 0.0 TRIN 41.0 LCAX	9999.0 WNUV 9999.0 Bill B 9999.0 UNUU	312.0 TRLC 7777.0 DRIS 312.0 TRLC	34.0 SSHP	85.0
DIMENSION RUDDER, FROP TURNING ***** Shif & <u>Dimension</u> <u>RUDDER, PROP</u>	HATN 5.0 SSFD 9979.0 SFDT 16.0 16.0 262 ## NATN 5.0 SSPD 9979.0	NHBR 261.0 RDAR 111.0 SPDF 9997.0 9999.0 9999.0 888 NHBR 262.0 RDAR 89.0	2.0 PDIA 8.9 RUDT 35.0 -35.0 TYPE 2.0 FDIA 8.9	312.0 ASHP 9999.0 ADUT 9.8 9.7 DISF 139.0 ASHP 9999.0	318.0 RDST 9999.0 TRNT 9999.0 9999.0 UBPX 318.0 RDST 9999.0	99999.0 ENGN 1.0 DIAT 6.0 6.6 4.6 9999.0 ENGN 1.0	54.0 PROP 1.0 FRPM 9999.0 9999.0 BEAN 54.0 PROP 1.0	20.6 LATA 21.7 DRFT 9.6 LATA	9999.0 LCAX 0.0 TRIN 41.0 LCAX	9999.0 WNWV 7999.0 BULB 9999.0	312.0 TRLC 7777.0 DRIS 312.0 TRLC	34.0 SSHP	85.0
DIMENSION RUDDER, FROP TURNING ***** SHIF & DIMENSION	HATN 5.0 SSFD 9979.0 SFDT 16.0 16.0 262 ## NATN 5.0 SSFD 9979.0 SPDT	NHBR 261.0 RDAR 111.0 SPDF 9999.0 9999.0 9999.0 8488 NHBR 262.0 RDAR 89.0 SPDF	2.0 PDIA 8.9 RUDT 35.0 -35.0 TYPE 2.0 PDIA 8.9 RUDT	312.0 ASHP 9999.0 ADUT 9.8 9.7 DISF 139.0 ASHP 9999.0 ABUT	318.0 RDST 7979.0 TRNT 9799.0 LBPX 318.0 RDST 7979.0 TRNT	99999.0 EHGN 1.0 DIAT 6.0 6.6 5.6 9999.0 EHGN 1.0 DIAT	54.0 PROP 1.0 FRPN 9799.0 9799.0 BEAH 56.0 PROP 1.0 FRPH	20.6 LATA 21.7 DRFT 9.6 LATA	9999.0 LCAX 0.0 TRIN 41.0 LCAX	9999.0 WNUV 9999.0 Bill B 9999.0 UNUU	312.0 TRLC 7777.0 DRIS 312.0 TRLC	34.0 SSHP	85.0
DIMENSION RUDDER, FROP TURNING ***** Shif & <u>Dimension</u> <u>RUDDER, PROP</u>	HATN 5.0 SSPD 9979.0 SPDT 16.0 16.0 262 ## NATN 5.0 SSPD 9999.0 SPDT 17.7	NHBR 261.0 RDAR 111.0 SPDF 9997.0 9999.0 9999.0 888 NHBR 262.0 RDAR 89.0	2.0 PDIA 8.9 RUDT 35.0 -35.0 TYPE 2.0 FDIA 8.9	312.0 ASHP 9999.0 ADUT 9.8 9.7 DISP 139.0 ASHP 9999.0 ADUT 8.4	318.0 RDST 9999.0 TRNT 9999.0 9999.0 LBPX 318.0 RDST 9999.0	99999.0 EHGN 1.0 BIAT 6.0 6.6 5.6 9999.0 EHGN 1.0 BIAT 6.3	54.0 PROP 1.0 FRPM 9999.0 9999.0 BEAN 54.0 PROP 1.0	20.6 LATA 21.7 DRFT 9.6 LATA	9999.0 LCAX 0.0 TRIN 41.0 LCAX	9999.0 WNUV 9999.0 Bill B 9999.0 UNUU	312.0 TRLC 7777.0 DRIS 312.0 TRLC	34.0 SSHP	85.0
DIMENSION RUDDER, FROP TURNING ***** Shif & <u>Dimension</u> <u>RUDDER, PROP</u>	HATN 5.0 SSPD 9979.0 SPDT 16.0 16.0 262 ## NATN 5.0 SSPD 9999.0 SPDT 17.7	NHBR 261.0 FDAR 111.0 SPDF 9999.0 9999.0 9999.0 888 NHBR 262.0 FDAR 89.0 SPDF 9999.0 9999.0	2.0 PDIA 8.9 RUDT 35.0 -35.0 TYPE 2.0 PDIA 8.9 RUDT 35.0 -35.0	312.0 ASHP 9999.0 ADUT 9.8 9.7 DISF 139.0 ASHP 9999.0 ABUT 8.4 8.5	318.0 RDST 9999.0 TRNT 9999.0 9999.0 9999.0 LBPX 318.0 RDST 9999.0 TRNT 7999.0 9999.0	99999.0 ENGN 1.0 DIAT 6.0 6.6 9999.0 ENGN 1.0 DIAT 6.6	54.0 PROP 1.0 FRPM 9797.0 9997.0 9997.0 BEAH 54.0 PROP 1.0 FRPM 9997.0	20.6 LATA 21.7 DRFT 9.6 LATA 36.5	9999.0 LCAX 0.0 TRIN 41.0 LCAX	9999.0 WNUV 9999.0 Bill B 9999.0 UNUU	312.0 TRLC 7777.0 DRIS 312.0 TRLC	34.0 SSHP	85.0
DIMENSION RUDDER, FROP TURNING ***** SHIF & DIMENSION RUDDER, PROP TURNING	HATN 5.0 SSFD 9979.0 SFDT 16.0 16.0 262 ## NATN 5.0 SSFD 9999.0 SPDT 17.7 17.7	NHBR 261.0 RDAR 111.0 SPDF 9999.0 9999.0 9999.0 RDAR 89.0 SPDF 9999.0 9999.0 SHPS	2.0 PDIA 8.9 RUDT 35.0 -35.0 TYPE 2.0 PDIA 8.9 RUDT 35.0 -35.0 RUDT RUDT	312.0 ASHP 9999.0 ADUT 9.8 9.7 DISP 139.0 ASHP 9999.0 ADUT 8.4	318.0 RDST 9999.0 TRNT 9999.0 9999.0 9999.0 LBPX 318.0 RDST 9999.0 TRNT 7979.0 9999.0	99999.0 EHGN 1.0 BIAT 6.0 6.6 5.6 9999.0 EHGN 1.0 BIAT 6.3	34.0 PROP 1.0 FRPN 9799.0 9799.0 9799.0 BEAH 54.0 PROP 1.0 FRPH 9799.0 9799.0	20.6 LATA 21.7 DRFT 9.6 LATA	9999.0 LCAX 0.0 TRIN 41.0 LCAX	9999.0 WNUV 9999.0 Bill B 9999.0 UNUU	312.0 TRLC 7777.0 DRIS 312.0 TRLC	34.0 SSHP	SRPM 85.0 SRPM 95.0

#### \$\$\$\$\$ SHIP # 263 \$\$\$\$

	DIMENSION	NATN 5.0	NHBR 263.0	TYPE 2.0	DISP 269.0	L.BPX 310.0	LDAX 9799.0	BEAN 54.0	DRFT 19.4	TRIN 9999.0	BULB 9999.0	DDIS 249.0	85HP 34.0	SRPH 85.0
	RUDDER. PROP	SSPD 9999.0	RDAR 98.0	PDIA 8.8	ASHF	RDST 9999.0	ENGN 1.0	PROP 1.0	LATA 24.7	LCAX	UNUU 7777.0	TRLC 7777.0		
	TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
	TORNING		9999.0	35.0		9999.0		7979.0						
			9999.0	-35.0		9999.0		9999.0						
	SANNA SHIP N	264 **	141			·····			·					<u>·</u>
	DIMENSION	NATH	NNBR	TYPE	DISP	LBPX	LOAX	DEAK	DRFT	TRIN	DUL D	DDIS	SSHP	SRPH
		5.0		2.0			9999.0		10.0		9999.0		36.0	
		SSFD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRUC		
	RUDDER, PROP	9999.0			9999.0				54.0		7799.0			
	TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRFH 9999.0						
			9999.0 9999.0	35.0 -35.0		9999.0		7997.0						
	##### SHIP #	245	***				_							
	•••••							1000	1000					1.7.74
	DIMENSION	NATH 5.0	NHER 265.0	TYPE 1.0			10AX		DRFT 10.8		9777.0			SRPH 117.0
	KUDDER, FROP		RDAR		ASHP		ENGN	PROP	TATA	TAY	UNUT	TRICT		
	NUDDENT FROM	9999.0	28.0		9999.0				7.7		9999.0			
-	TURNING	SPOT	SPOF	RUDT	ADUT	TRAT	DIAT	FRPA		<u></u>				
			9799.0	35.0		\$999.0		9999.0						
_		14.4	9999.0	-35.0	5.0	9999.0	3.4	9999.0						
	210-ZA0	SPDZ	RUDZ	OVS1	OVSF	OVSU	KPRM	TPRM	PERD					
-		11.2	10.0	11.0	9999.0	\$999.0	2.6	3.8	9999.0					
		266 ##												
-														SRPH
	DIMENSION	NATH 5.0		TYPE 1.0		LBPX 142.0	10AX		DRFT 5.8	TRIM 43.0	BULB .0	DAIS 39.0	11.2	
-														
	RUDDER. PROP	SSPD	RDAR	PDIA		RDST			LATA	LCAX				
-		9999.0	23.0	5.8	9999.0	9999.0	2.0	1.0	15.8	0.0	9999.0	****.0		
	TURNING	SPDT	SPDF	RUDT	ADUT	TRNT	DIAT	FRPM						
_			9999.0	35.6		9999.0		9999.0	-		_			
		16.2	9999.0	-35.0	5.4	9999.0	3.2	\$999.0	5					
	ZIG-ZAG	SPDZ	RUDZ	OVS1	OVSF	OVSW	KPRH	TPRM	PERD					
		10.8			9999.0				9999.0					
-	BARRE SHIP .	267 88												
									DRFT			-	SSHP	SRPI
-	DIMENSION	NATH 5.0		TYPE 2.0		a second loss dates and				TRIM	and the second second		45.0	
	RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENON	PROP	LATA	LCAX	UNWO	TRLC		

TURNING SPDT SPDF RUDT ADUT TRNT DIAT FRPH 14.0 9999.0 35.0 10.8 9999.0 5.7 9999.0 \*\*\*\*\* SHIP . 268 \*\*\*\*\* DIMENSION NATH NHER 5.0 268.0 TRIM BULB DDIS 35.0 9999.0 478.0 TYPE DISP LBPX LOAX BEAM DRFT SSHP SRPH . : 2.0 214.0 340.0 9999.0 49.0 11.0 45.0 80.0 SSPD RDAR PDIA ASHP +DST 9.8 9999.0 9999.0 PROP LCAX UNWY TRLC 0.0 9999.0 9999.0 : ENGN LATA RUDDER, PRCP 9999.0 142.0 1.0 1.0 ١. TURNING SPDT SPOF RUDT ADUY TRAT DIAT FRPH ---9.3 9999.0 7.0 9999.0 17.5 9799.0 35.0 ļ, 9.7 9999.0 17.8 9999.0 -35.0 7.4 9999.0 -. \$\$\$\$\$ SHIP # 269 \$\$### F DIMENSION NATH MMBR TYPE DISP LBPX LOAX BEAM DRFT TRIM BULD DDIS SSHP SRPM 5.0 269.0 2.0 267.0 306.0 9999.0 19.5 0.0 9999.0 267.0 34.0 90.0 ..... 53.0 UNUU .TRLC RUDDER. PROP SSPD RDAR PDIA ASHP PDST ENGN PROP LATA LCAX .8.4 9999.0 9999.0 0.0 9999.0 9999.0 9999.0 99.0 1.0 1.0 20.8 TURNING SPDT SPDF RUDT ADVT TRNT DIAT FRPM 28 16.5 9999.0 35.0 8.6 9999.0 4.8 9999.0 24 -24 \*\* 14111 SHIP # 270 88848 29 NATH NHBR TYPE DISP LBPX LOAX BEAM 5.0 270.0 2.0 120.0 304.0 9999.0 53.0 \*\* TRIN BULE DDIS SSHP SRPH 35.0 9999.0 247.0 34.0 90.0 DIMENSION DRFT 9.4 RUDDER, PROF SSPD RDAR 9999.0 99.0 PDIA ASHP RDST 8.6 9999.0 9999.0 ENGN 1.0 PROP LATA 51.5 LCAX UNUV TRLC 1 SPDT SPDF RUDT 17.2 9999.0 35.0 17.2 9999.0 -35.0 A.2 9999.0 5.4 9999.0 TURNING ADVT TRNT 9.4 9999.0 8.4 9999.0 100 -##### SHIP # 271 ##### DIMENSION MATH MARR 5.0 271.0 TRIM BULB DDIS 0.0 9999.0 248.0 SSHP DISP SRPH TYPE LBPX LOAX BEAM DRFT 2.1 268.0 306.0 9999.0 44 53.0 17.6 34.0 90.0 RUDDER. PROP 55PD RDAR 9999.0 99.0 FOIA ASHP RDST 8.6 9999.0 9999.0 LATA 20.4 LCAX UNUU TRLC 0.0 9999.0 9999.0 ENGN PROP . 1.0 1.0 01AT FRPH 4.5 9999.0 TURNING SPDT SPDF 17.0 9999.0 RUDT 35.0 17.0 9999.0 -35.0 9.2 9999.0 7.0 9999.0 OVS1 OVSF OVSW ZIG-ZAG SPDZ RUDZ KPRM TPRM PERD 25.0 9999.0 9999.0 25.0 9999.0 9999.0 2.6 16.6 15.0 7.7 9999.0 \*\*\*\*\* SHIP + 272 \*\*\*\*\* DIMENSION NATH NER TYPE DISP LOPX LOAX BEAM DRFT TRIM BULD DDIS SSHP SRPH

25.48-----

1.0

9.8 9999.0 9999.0

9999.0 162.0

1.0 24.9 0.0 9999.0 9999.0

5.0 272.0 2.0 118.0 304.0 9999.0 53.0 9.4 35.0 7777.0 248.0 34.0 94.0 RUDDER, PROP SSPD RDAR 99.0 . DIA 8.4 ASHP LATA 51.5 LCAX UNUV TRLC 0.0 7777.0 7777.0 RDST ENGN PROP 9999.0 9999.0 9999.0 1.0 1.0 TURNING SPDT SPDF RUDT ADVT TRNT DIAT FRPH 18.6 7999.0 8.4 9999.0 9999.0 35.0 6.4 -35.0 4.2 9999.0 • \*\*\*\*\* SHIP # 273 ##### NATH NHBR 5.0 273.0 DIMENSION 32.2 TYPE DISP LEPX LOAX DRFT TRIN BULB 0.0 9999.0 DP15 52.0 SSHP SRPH ; 5.0 52.0 248.0 9999.0 11.0 80.0 110.0 FDIA ASHF RDST 7.0 9999.0 9999.0 RUDDER, PROP SSPD RDAR FURN Felle 0.0 9979.0 9999.0 LATA . 9999.0 58.0 3.0 3.0 24.5 (a) 216-246 SPDZ 9999.0 RUDY ... DUG1 DUCE DUSC KPRN TPER PERD 8.0 7999.0 9999.0 ....... 4.5 9979.0 5.0 2.0 9999.0 4.0 9999.0 9999.0 5.0 9999.0 9999.0 5.0 9999.0 9999.0 10.0 2.2 9999.0 1.3 15.0 1.8 9999.0 1.0 9999.0 1.0 ##### SHIP # 274 ##### DIMENSION NATH MMBR TYPE DISP LBPX LOAX BEAM DRFT TRIM BULB JDIS SSHP SRPN 5.0 274.0 32.0 248.0 9999.0 5.0 32.2 30.0 9999.0 80.0 110.0 7.5 52.0 PDIA RUDDER. PROP SSPD DIA ASHF KOST 7.0 9999.0 9999.0 PDAR 133.3 LCAX URWU TRLC 0.0 9999.0 9999.0 ENGN PROP 9999.0 14 58.0 3.0 3.0 27 ZIG-ZAG SPUZ OVSI OVSF . RUDZ KFRH TOUSE TPRA PERD 1.2 9999.0 -9999.0 2.0 7999.0 9999.0 5.0 1.0 7999.0 5.0 2.0 9999.0 9999.0 1.5 9999.0 10.0 3.0 9999.0 9999.0 0.8 1.2 9999.0 2.0 9999.0 9999.0 2.0 9999.0 9999.0 3.0 9999.0 9999.0 0.9 7777.0 9999.0 10.0 0.9 15.0 9999.0 0.7 0.7 0.8 9999.0 \$\$\$\$\$ GHIP \$ 275 \$\$\$\$\$ NATH MMBR 5.0 275.0 TYPE DIMENSION DISP LAPX LOAX 129.0 9999.0 TRIM BULB DDIS 41.0 9999.0 9997.0 85HP SRPH 8.8 (55.0 BEAN DRFT 5.0 8.0 22.4 4.3 SSPD TTTT RUDDER, PROP RDAR PDIA ASHP RDST ENGN LCAX MNUV TRLC PROP LATA 9.4 9999.0 14.0 4.9 3.7 3.0 1.0 TURNING SPDT SPDF RUDT ADUT TRNT DIAT FRPH 10.5 9999.0 35.0 4.3 9999.0 2.9 9999.0 -35.0 4.3 9999.0 STOPPING SPDS SRPS RUDS TRIS HECH SECH TINS TIME 17.2 100.0 0.0 9999.0 3.6 9999.0 10.4 0.4 ##### SHIP # 276 ##### NATH HHER 5.0 276.0 DIMENSION TYPE DISP LIPX TRIM BULS BDIS 57.0 9999.0 9999.0 LOAX BEAR DRFT SSHP SEPH 3.0 22.0 178.0 9999.0 28.4 5.4 9.9 150.0 55PD RDAR 30.0 ASHP RAST 4.2 9999.0 RUDDER, PROP LCAX UNUU TRLC 0.0 7979.0 9799.0 PDIA ENGN PROP 17.1 5.2 3.0 1.0

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SPUT	SPUP				DINI	FRFR						
15.8	****.0	-35.0	5.3	9999.0	4.0	9999.0						
SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
15.8	100.0	0.0	\$999.0	13.2	0.2	5.5	9999.0					
277 11												
NATH	NHER	TYPE	DISP	LIPX	LOAX	BEAN	DRET	TRIM	BUIL B	DRIS	SSHP	SRPH
5.0						34.5	19.2	0.0	9999.0	283.0	40.0	83.0
	DDAD	-	Acup		ENCH		1.474	I CAY		TRUC		
					1.0							
		_	and the owner when the second se	the state of the s	and the second se		and the second s					
17.4	100.0	0.0	7777.0	44.0	20.8	18.0	7777.0					
270 +**	***											
2/0 48												
NATH		TYPE									SSHP	SRP
5.0	278.0	2.0	132.0	320.0	9999.0	54.5	9.6	74.0	9999.0	283.0	45.0	70.0
SSPD	FDAR	FDIA	ASHP	FDST	EHGN	PROP	LATA	LCAX	UNNU	TRLC		
9999.0	108.0	7.4	16.9	9999.0	1.0	1.0	55.8	0.0	7799.0	9999.0		
SPOT	SPOF	RUDT	ADUT	TRAT	DIAT	FROM						
18.2	9997.0											
18.2	9999.0	-35.0	9.2	9999.0	8.5	9999.0						
SPUS	SHPS	RUDS	This	HRCH	SRCH	TIHS	TINR					
18.8	100.0	0.0		35.1	4.5	12.4	9999.0					
2/7 44	•••											1.
		TYPE				BEAM	DRFT				SSHP	SRPH
5.0	2/9.0	2.0	548.0	340.0	****.0	34.3	28.1	0.0	9777.0	348.0	43.0	70.0
SSPD	RDAR	PBIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRUC		
7777.0	148.0	9-2	19.0	9999.0	1.0	1.0	32.0	0.0	9999.0	7799.0		
SPDT	SPOF	RUDT	Abur	TRNT	DIAT	FRPN						
15.0	9999.0	35.0	10.6	9999.0	8.8	9999.0						
15.2	9999.0	-35.0	11.1	9999.0	9.5	9999.0						
SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
280 88	***				-							
											45.0	SRPP 90.0
	140.0	7.14	17.00	17774V	110	110	6714		777700			
	15.8 15.8 15.8 8PDS 15.9 227 33: NATN 5.0 SSPD 9799.0 SPDT 17.1 17.1 17.1 278 33 NATN 5.0 SSPD 9799.0 SPDT 18.2 18.2 18.2 18.2 SPDS 18.8 279 33 NATN 5.0 SSPD 9799.0 SPDT 18.2 18.2 18.2 SPDS 18.2 18.2 SPDS 17.4 SSPD 9797.0 SSPD 9797.0 SSPD 9797.0 SSPD 17.1 18.2 18.2 18.2 18.2 18.2 18.2 19.5 19.5 17.4 17.4 17.5 18.2 19.5 19.5 19.5 17.4 SPDS 17.4 15.0 SSPD 9797.0 SSPD 9797.0 SSPD 17.5 17.4 SSPD 17.4 17.4 18.2 19.2 18.2 19.5 17.6 SSPD 979.0 SSPD 979.0 SSPD 17.6 SSPD SSPD 17.6 SSPD SSPD 17.6 SSPD 17.6 SSPD 17.6 SSPD 17.6 SSPD 17.6 SSPD	15.8 9999.0 15.8 9999.0 15.8 1999.0 8PDS SHPS 15.8 100.0 227 111.0 SSPD RDAR 9999.0 110.0 SSPD RDAR 9999.0 110.0 SPDT SPDF 17.1 9999.0 17.1 9999.0 17.1 9999.0 SPDS SHPS 17.9 100.0 SSPD FDAR 9999.0 108.0 SSPD FDAR 9999.0 108.0 SPDS SHPS 18.2 9999.0 SPDS SHPS 18.8 100.0 279 1111 NATH HHBR 5.0 279.0 SSPD RDAR 9999.0 148.0 SPDS SHPS 15.0 9999.0 15.2 9999.0 15.2 9999.0 SSPD RDAR 9999.0 148.0 SPDS SHPS 17.4 100.0 240 1111 240 11111 240 1111 240 11111 240 1111 240 11111 240 11111 240 11111 240 11111 240 11111 240 11111 240 11111 240 11111 240 111111 240 111111 240 11111 240 111111 240 1111111	15.8       9999.0       35.0         15.8       9999.0       -35.0         8PDS       SHPS       RUDS         15.8       100.0       0.0         227       33333	15.8       9999.0       35.0       5.4         15.8       9999.0       -35.0       5.3         8PDS       SHPS       RUDS       TDIS         15.8       100.0       0.0       999.0         227       33333       27.0       2.0       283.0         SSPD       RDAR       PDIA       ASHP         979.0       110.0       9.4       14.9         SPDT       SPDF       RUDT       ADUT         17.1       999.0       -35.0       7.5         17.1       999.0       -35.0       9.8         SPDS       SHPS       RUDS       TDIS         17.1       999.0       -35.0       9.8         SPDS       SHPS       RUDS       TDIS         17.9       100.0       0.0       999.0         278       33333       7.2       132.0         SSPD       FDAR       PDIA       ASHP         999.0       108.0       7.4       14.9         SPDT       SPDF       RUDT       ADUT         18.2       9999.0       -35.0       9.2         SPDT       SHPS       RUDS       THIS         18.	15.8       9999.0       35.0       5.4       9999.0         15.8       9999.0       -35.0       5.3       9999.0         8PDS       SHPS       RUDS       TBIS       HRCH         15.8       100.0       0.0       9999.0       13.7         227       88888	15.8       9999.0       35.0       5.4       9999.0       3.9         15.8       9999.0       -35.0       5.3       9999.0       4.0         BPDS       SMPS       RUDS       TDIS       HRCH       SRCH         15.8       100.0       0.0       9999.0       13.7       0.2         227       35388	15.8       9999.0       35.0       5.4       9999.0       3.9       9999.0         15.8       9999.0       -35.0       5.3       9999.0       4.0       9999.0         SPDS       SHPS       RUDS       TDIS       HRCH       SRCH       TINS         15.8       100.0       0.0       9999.0       13.7       0.2       5.5         227       \$	15.8 9999.0       35.0       5.4 9999.0       3.9 9999.0         15.8 9999.0       -35.0       5.3 9999.0       4.0 9999.0         15.8 100.0       0.0 9999.0       13.7       0.2       5.5 9997.0         227 332343	15.8 9999.0       35.0       5.4 9999.0       1.9 9999.0         15.8 9999.0       -35.0       5.3 9999.0       4.0 9999.0         15.8 100.0       0.0 9999.0       13.7       0.2       5.5 9999.0         227       28388	15.8 9997.0       3.6 9997.0       3.6 9997.0       4.0 9997.0         15.8 9997.0       -35.0       5.3 9997.0       4.0 9997.0         8PD8 SUPS RUDS TBIS HACH SACH TINE TINE         15.8 100.0       0.0 9999.0       13.2       0.2         227 88888         MATH NHBR TYPE DISP LBPX LOAX BEAM DRFT TRIH BULB         3.0 27.0       2.0 283.0       320.0 9997.0       34.5       19.2         SSPD RDAR PDIA ASHP RUST ENGN PROP LATA LCAX WHUU         979.0       110.0       9.4 14.9 9997.0       1.0       1.0 24.8       0.0 9997.0         SPDT SPDF RUDT ADVT TRNT DIAT FRPH       1.1 0 24.8       0.0 9997.0       17.1 9999.0       35.0       7.3 9999.0         17.1 9999.0       -35.0       9.8 9997.0       7.8 9999.0       17.1 9997.0       18.0 9999.0         17.1 9999.0       2.0 132.0 320.0 9999.0       34.5       9.4 74.0 9997.0         17.7 100.0       0.0 9999.0       44.0 20.8       18.0 9997.0       1.0 24.8       0.0 7999.0         5.0 270.0       2.0 132.0 320.0 9999.0       54.5       7.4 999.0       1.0 55.8       0.0 7999.0         53PD FDAR PDIA ASHP PDST ENGM PROP LATA LCAX WHUU       9997.0       1.0 1.0 55.8       0.0 7999.0         54997.0       3.0 7999.0       3.1 4.5 12.4 9999.	15.8 9997.0       33.0       3.4 9997.0       3.0 9997.0         15.8 9997.0       -35.0       5.3 9997.0       4.0 9997.0         15.8 100.0       0.0 9997.0       13.2       0.2       5.5 9997.0         227       5388*	15.8 9797.0       33.0       5.4 9797.0       4.0 9797.0         15.8 9797.0       -33.0       5.3 9797.0       4.0 9797.0         15.9 100.0       0.0 9797.0       13.7       0.2       5.5 9797.0         227 232874

TRNT

DIAT

FRPM

5

TURNING

SPDT

SPDF

RUDT

ADVT

 15.7
 7999.0
 -35.0
 10.1
 9999.0
 8.2
 9999.0

 STOPPING
 SPRS
 SHPS
 RUDS
 TDIS
 HRCH
 SRCH
 TIMS
 TIMR

 15.6
 100.0
 0.0
 9959.0
 52.9
 16.8
 27.7
 9999.0

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	DIMENSION	NATH	NHER	TYPE	DISP	LBPX	LOAX	DEAN	DRFT	TRIN	BULR	DDIS	SSHP	SRP
		5.0	281.0	2.0	149.0	330.0	9999.0	54.5	10.4	53.0	9999.0	424.0	45.0	90.
RI	UDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLC		
		9999.0	131.0	9.0	19.0	9999.0	1.0	1.0	84.5	0.0	9999.0	9999.0		
	TURNING	SPDT	SPDF	RUDT	ADUT	TRNT	DIAT	FRPN						
		17.7	9999.0	35.0	8.9	9999.0	6.4	9979.0	*******					
		17.7	9999.0	-35.0	8.8	9999.0	6.6	9999.0						
	STOPPING	SPIIS	SHES	RUDS	rb13-	HRCH	SECH	TINS	TIRE					
		17.7	100.0	0.0	9999.0	34.3	0.2	13.2	\$999.0					
	**** SHIP *	202 44										•• <del></del>		
•	erer putt e	202 444	•••											
	DIRENSION					LAFX						PDIS		
		3.0	232.0	2.0	134.0	274.0	280.0	39.0	15.4	2.0		134.0		105.
÷.	UDDERT PROP	SOPD	RDAR	POTA	ASHF	RhST	EHON	FROF	LATA	TCAX	- UNOV	TRLC		• • • •
		15.5	53.0	7.4	13.8	1.0	1.0	1.0	9999.0	9999.0	4.0	9999.0		
	THENING	SPOT	SPDF	RUDT	ADVT	TRAT	DIAT	FRPH						
			9797.0	35.0	8.9	9.2		9999.0						
		9999.0	5999.0	-35.0	8.7	5.6	.10.8	9999.0						
	STOPPING		SHPS	RUDS	TUIS	HRCH	SRCH		TIMR					
		9799.0	100.0	0.0	9999.0	34.4	9.6	19.0	60.0					
	**** SHIP +													
	DIMENSION		NMBR 283.0	TYPE 2.0	DISP 59.0	L.RFX 274.0	- LOAX	39.0	DRFT 7.3	TRIM 22.0	NULB 0.0	DD15 134.0	SSHP 25.0	SRP
-											UNWV	TRLC		
R	UDDER, FROP		RDAR 37.0	PDIA 7.4	ASHP 13.8	RDST 1.0	EHGN 1.0	PR0P	LATA 9999.0	LCAX 9999.0		1791.0		
R		17.0	39.0	7.4	13.8	1.0	1.0	1.0	9999.0			9999.0		
RI	UDDER, FROP	17.0 SFDT	39.0 SFDF	7.4 RUDT	13.8 ADVT	1.0 TRNT	1.0 DIAT	1.0 FRPN				1991.0		
RI		17.0 SFDT 9797.0	39.0	7.4	13.8	1.0	1.0 DIAT 16.0	1.0				<u> 7797.0</u>		
R	TUPNING	17.0 SFDT 9777.0 7999.0	39.0 SFDF 9979.0 9999.0	7.4 RUDT 35.0 -35.0	13.8 ADVT 10.0 9.0	1.0 TRNT 10.4 10.4	1.0 DIAT 16.0 16.0	1.0 FRPM 9999.0 9999.0	9999.0			7777.0		
RI		17.0 SFDT 9797.0 7999.0 SPDS	39.0 SFDF 9979.0 9999.0	7.4 RUDT 35.0 -35.0 RUDS	13.8 ADVT 10.0 9.0 TDIS	1.0 TRNT 10.4 10.4 HRCH	1.0 DIAT 14.0 16.0 SRCH	1.0 FRPM 9999.0 9999.0	9999.0 TINR	9999.0		7777.0		
RI	TUPNING	17.0 SFDT 9797.0 7999.0 SPDS	39.0 SFDF 9979.0 9999.0 SHP3	7.4 RUDT 35.0 -35.0 RUDS	13.8 ADVT 10.0 9.0 TDIS	1.0 TRNT 10.4 10.4 HRCH	1.0 DIAT 14.0 16.0 SRCH	1.0 FRPM 9999.0 9999.0 TINS	9999.0 TINR	9999.0		1777.0		
	TUPNING	17.0 SFDT 9777.0 7999.0 SPDS 9999.0	39.0 SFDF 9979.0 9999.0 SHP3 100.0	7.4 RUDT 35.0 -35.0 RUDS	13.8 ADVT 10.0 9.0 TDIS	1.0 TRNT 10.4 10.4 HRCH	1.0 DIAT 14.0 16.0 SRCH	1.0 FRPM 9999.0 9999.0 TINS	9999.0 TINR	9999.0		<u> </u>		
	TUPNING Stopping	17.0 SPDT 9799.0 7999.0 SPRS 7999.0 284 34	39.0 SFDF 9979.0 9999.0 SHP3 100.0	7.4 RUDT 35.0 -35.0 RUDS 0.0	13.8 ADVT 10.0 9.6 TDIS 9999.0	1.0 TRNT 10.4 10.4 HRCH 30.8	1.0 DIAT 16.0 16.0 SRCH 4.0	1.0 FRPM 9999.0 9999.0 7999.0 TIMS 15.5	9999.0 TIMR 60.0	9999.0	1.0			
	TUFNING Stopping	17.0 SFBT 9797.0 7999.0 SPBS 9999.0 284 33	39.0 SFDF 9979.0 9999.0 SHP3 100.0	7.4 RUDT 35.0 -35.0 RUDS 0.0	13.8 ADUT 10.0 9.0 TDIS 999.0	1.0 TRNT 10.4 10.4 HRCH 30.8	1.0 DIAT 16.0 16.0 SRCH 4.0	1.0 FRPM 9999.0 9999.0 TIMS 15.5	9999.0 TINR 60.0 DRFT	9999.0 TRIM	1.0 BULD	DDIS	SSHP 14-78	
	TUPNING Stopping **** Ship * Dimension	17.0 SFDT 9797.0 7999.0 SPDS 7999.0 284 99.0 284 99.0 284 99.0	39.0 SFDF 9979.0 9999.0 SHP3 100.0 FFS 284.0	7.4 RUDT 35.0 -35.0 RUDS 0.0 TYPE 1.0	13.8 ADVT 10.0 9:0 TDIS 9999:0 BISP 66:0	1.0 TRNT 10.4 JO.4 HRCH 30.8 LBPX 221.0	1.0 DIAT 16.0 16.0 SRCH 4.0 LDAX 232.0	1.0 FRPM 9999.0 9999.0 TIHS 15:5 PFAH 30.4	9999.0 TIMR 60.0 DRFT 12.4	9999.0 TRIM	1.0 BULD			
	TUPNING Stopping	17.0 SFDT 9799.0 7999.0 SPDS 7999.0 284 \$\$ NATN 8.0 ESFD	39.0 SFDF 9979.0 9999.0 SHP3 100.0 FFT NHBR 284.0 RDAR	7.4 RUDT 35.0 -35:0 RUDS -0.0 TYPE 1.0 PDIA	13.8 ADUT 10.0 9.0 TDIS 9999.0 BISP 66.0 ASHP	1.0 TRNT 10.4 10.4 HRCH 30.8 LBPX 221.0 RDST	1.0 DIAT 16.0 I6.0 SRCH 4.0 LDAX 232.0 EHGN	1.0 FRPM 9999.0 9999.0 TIMS 15.5 NEAH 30.6	9999.0 TIMR 40:0 DRFT 12.4 LATA	1814 0.0 LCAX	1.0 BULB 0.0 UNNV	DDJS 56.0 TRLC		
	TUPNING Stopping **** Ship * Dimension	17.0 SFDT 9797.0 7999.0 SPDS 7999.0 284 99.0 284 99.0 284 99.0	39.0 SFDF 9979.0 9999.0 SHP3 100.0 FFT NHBR 284.0 RDAR	7.4 RUDT 35.0 -35.0 RUDS 0.0 TYPE 1.0	13.8 ADVT 10.0 9:0 TDIS 9999:0 BISP 66:0	1.0 TRNT 10.4 JO.4 HRCH 30.8 LBPX 221.0	1.0 DIAT 16.0 16.0 SRCH 4.0 LDAX 232.0	1.0 FRPM 9999.0 9999.0 TIMS 15.5 NEAH 30.6	9999.0 TIMR 40:0 DRFT 12.4 LATA	9999.0 	1.0 BULB 0.0 UNNV	BD18		
	TUPNING Stopping **** Ship * Dimension	17.0 SFBT 9797.0 7999.0 SPDS 7999.0 284 34 NATN 8.0 ESFB 14.5 SFDT	39.0 SPDF 9979.0 9999.0 SHP3 100.0 TEE 284.0 RDAR 38.0	7.4 RUDT 35.0 -35.0 RUDS 0.0 TYPE 1.0 PNIA 4.4 RUDT	13.8 ADUT 10.0 9.0 TDIS 9999.0 BISP 66.0 ASHP	1.0 TRNT 10.4 10.4 HRCH 30.8 LBPX 221.0 RDST	1.0 DIAT 16.0 16.0 SRCH 4.0 LDAX 232.0 EHGH 1.0 DJAT	1.0 FRPM 9999.0 9999.0 TINS 15.5 BEAH 30.6 PROP 1.0	9999.0 TIMR 40:0 DRFT 12.4 LATA	1814 0.0 LCAX	1.0 BULB 0.0 UNNV	DDJS 56.0 TRLC		

## STOPPING SFDS SHPS RUDS TDIS HRCH SRCH TINS TINR 15.5 100.0 0.0 9999.0 19.8 3.2 10.5 10.0

\*\*\*\*\* SHIP # 285 #####

DIMENSION	NATH	NHER	TYPE	DISP	LBPX	LOAX	REAN	DRFT	TRIM	PULP	DDIS	SCHP	SRPH
DINENSION	8.0	285.0	1.0	69.0	225.0	236.0	32.2	11.4	0.0	0.0	69.0	18.2	121.5
RUDDER. PROP	SSPD	RDAR	PDIA	ASHP	RDST	EHGN	PROP	LATA	LCAX	UNUV	TRLC		
	16.0	41.0	4.4	7.2	1.0	3.0	1.0	\$999.0	9999.0	1.0	9999.0		
TURNING	SFDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
		9999.0	35.0	6.6	3.7		9979.0 9999.0						
	12.4	9999.0	-35.0	0.7									
STOPPING	SPOS	SHPS	RUDS	TDIS	HRCH	SRCH	TIMS	TINR					
	15.8	100.0	0.0	9999.0	28.6	13.7	11.3	11.0					
##### SHIP #	289 11	***											
DIMENSION	NATH	NNBR	TYPE	DISP	LBPX	LOAX	BEAH	DRFT	TRIM	BULD	DDIS	SSHP	SRPH
Principation	8.0		3.0	87.0	229.0	240.0	36.0	12.8	0.0	9999.0	87.0	19.0	124.2
						-			LCAX	UNW	TRLC		
RUDDER, PROP	SSPD		PDIA	ASHP	RDST	ENGN 3.0	PROP	LATA					
	15.0	47.0	0.4.	9999,0				111104			ati titi"		
TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
	15.5	9999.0	35.0	6.8	4.3		9999.0						
	15.5	9999.0	-35.0	6.7	4.0	7.2	\$999.0						
		eupe	RUDS	TOIS	HRCH	SRCH	TINS	TIMR					
STOPPING	15.8	100.0		9999.0	22.0	10.4							
***** SHIP *						LOAX	DEAN	DRFT	TRIM	BULD	DDIS	SSHP	SRPN
DIMENSION		287.0	1YPE 3.0	DISP 48.0	220.0	9999.0		11.6	0.0	0.0			105.0
	3.0	20/14	3.4										
RUDDER, PROP	SSPD	RDAR	FDIA	ASHP	RDST		FROP	LATA	LCAX		TRLC		
	15.0	33.0	6.6	5.4	9999.0	1.0	1.0	12.0	0.0	4.0	9999.0		
TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT					1		
		9999.0	35.0		3.5	6.1	7999.0						
	15.4	9999.0	-35.0	7.3	3.7	7.0	9999.0						
STOPPING	SPDS	SHPS	RUDS	TOIS	HORN	SRCH	TINS	TINR					
310/11/10	14.5			9999.0	22.4	11.5	. 9.0	9999.0					
110. 120	SPDZ	RUDZ	0051	AUSE		KPEN	TPRH	PERD					
210-ZAG	15.4		6.0					7997.0					
***** SHIP +	288 11	***										SSHP	SRPM
DIMENSION	NATH		TYPE							BULR 9999.0			117.0
	5.0	288.0	1.0	87.0	223.0	236.0	37.2	14.3	0.0	,,,,,,			
RUDDER, PROP	SSPD	RDAR	PDIA		RDST	ENGH							
	15.4		6.4	9999.0	9999.0	3.0	1.0	14.0	. 0.0	4.0	9999.0		
TURNING	GEDI	SPDF	RUDT	ADVT	TRNT	DIA	FRPH						
I UNH I HU		7999.0	35.0				9999.0						
	18.6	1 777744	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		3.0								

STOPPSHE	SHFS 100.0	RUDS 0.0	TDIS 9999.0	HRCH 22.5	SRCH	TIHS 9.2	TINR 9999.0	
218- <b>248</b> -		0VS1					PERD 9999.0	

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		15.0	10.0	7.0	22.0	9999.0	9999.0	9999.0	9999.0					
	SEESS SHIP .	289 111	**											
	DIMENSION	NATH	NHER	TYPE	DISP	LBPX	LOAX	BEAN	DRFT	TRIN	BULB	DDIS	SSHP	SRPH
	pinchalow	5.0	289.0	2.0	134.0	256.0	270.0	42.5	14.9	0.0	9999.0	134.0	24.0	105.0
			RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	WNWV	TRLC		
	RUDDER, PROP	SSFD 14.4	57.0	7.2		\$999.0	1.0	1.0	17.2	0.0		9999.0		
-														
	TURNING	SPDT	SFDF	RUDT	ADVT 8.1	TRNT 6.3	DIAT	FRPH 9999.0						
			9999.0	35.0	9.0	5.0		9999.0						
	STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH 4.0	TINS	TINR 9999.0					
		16.1	100.0	0.0	9999.0	30.0	4.0	1210	,,,,,,,					
	ZIG-ZAG	SPDZ	RUDZ	OVS1	OVSF	OVSW	KPRH	TPRH	PERD					
-		16.1	15.0	15.0	21.0	9999.0	9999.0	9999.0	9999.0					
	BERRA SHIP .	290												
										TRIM	BULB	DDIS	SSHP	SRPH
	DIMENSION	NATH	NMER - 290.0	TYPE	DISP		270.0	8FAH	DRFT 15.7			143.0		105.0
		5.0	240.0	2.0	143.0	2.30.14	27010	4210						
	RUDDER, PROP	SEPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX		TRLC		
		16.0	63.0	7.2	8.8	9999.0	1.0	1.0	18.7	0.0	4.0	****.0		
	TUPNING	SPDT	SPUF	RUDT	ADVT	TRNT	DIAT	FRPM						
	IUFNING		9999.0	35.0	8.2	4.8	8.2	7999.0						
		15.5	9999.0	-35.0	8.0	4.5	8.4	9999.0						
	STOPPING	SPDS	SHPS		TOIS	HART	SRCH	TINS	TTHR					
	STUPPING	15.5			9999.0	31.4	15.4	14.1	9999.0					
							KPRR	TROW	PERD					
	ZIG-ZAG	5PDZ 13.0		6.0	OVSF			9999.0						
		13.0	7.0	0.0										
	***** SHIP *	291 \$\$	122											
	DIRENSION	NATH	NHER	TYPE	DISP	LEPX	LOAX	BFAN	DEFT			DDIS	SSHP	SEPT
	DINCHUSION	5.0		2.0	71.0	300.0	270.0	42.5	8.3	24.0	9999.0	143.0	24.0	105.0
						ROST	ENGN	PROF	LATA	TEAY		TRUC		
	RUDDER, PROP	55PD 9979.0		F01A 7.2		9999.0			37.4	0.0		9999.0		
-	TURNING	SFDT		RUDT	ADUT	TENT 4.5		FRPH 9777.0						
			9999.0	35.0	8.0	4.8		9999.0						
		1/.0		-33.0										
	STOPPING	SPDS		RUDS	TDIS									
		17.7	100.0	0.0	9999.0	29.7	5.0	11.0	9999.0					
	BEARE SHIP .	292 88	***											
_	DIMENSION			TYPE	DISP	LIPPX	LOAX	DEAN	DRFT	TRIM	PULI	DRIS	SSHP	SRPI

RUDDER. PROP SSPD RDAR PDIA ASHP RDST EHGN PROP LATA LCAX UNUU TRLC 14.2 72.0 8.6 13.0 9999.0 1.0 1.0 27.3 1.0 9999.0 0.0 TURNING SPDT SPDF RUDT ADVT TRNT DIAT FRPH 16.7 9997.0 35.0 8.9 7997.0 4.8 8.5 7997.0 -35.0 4.8 STOPPING SFDS SHPS RUDS TDIS HRCH SRCH TINS TINR 16.7 100.0 0.0 9999.0 19.0 9999.0 45.0 22.6 ZIG-ZAG SPDZ RUDZ 0451 OVSF OVSW KPRH 0VSF 0USH KPRN TPRN PERD 24.0 9999.0 9999.0 9999.0 9999.0 7 . . 15.7 10.0 10.0 41111 SHIP # 293 14141 1. UIMENSION NATH NHBR 5.0 293.0 TYPE DISP LBPX LOAX 2.0 114.0 310.0 314.0 **`**11 BEAN DRET TRIM BULR DDIS SSHP SRPH 1.9 51.0 9999.0 243.0 50.0 9.4 36.0 90.0 ... RDAR ... RUDDER, PROP - SSPD PDIA ASHP RAST ENGN PROP LATA WHWV LCAX TRLC 14 9999.0 92.0 8.6 13.0 9999.0 0.0 1.0 9999.0 1.0 1.0 55.8 TURNING SPDT SPDF RUDT AUT TRNT DIAT 1AT FRPH 8.9 9999.0 18.3 9999.0 18.3 9999.0 .... 4.8 35.0 8.9 8.4 -35.0 8.6 9999.0 SPDS SHPS 18.3 100.0 22 STOPPING RUDS TDIS HRCH SRCH TIHS TIMR 23 0.0 9999.0 12.0 9999.0 36.4 1.2 24 -25 \$4578 SHIP \$ 294 11188 ... NATH DIMENSION 27 NABR TYPE DISP I SPY TRIN BULB DDIS SSHP SRPH 0.0 9999.0 244.0 28.0 85.0 LOAX REAN DRFT 5.0 274.0 19 2.0 244.0 310.0 325.0 47.2 18.9 ... \*\*; RUDDER, PROP SSPU RUAR PUIA ASHE RDST ENGN FROF UNUV TREE LATA LEAS v, 16.0 75.0 8.8 13.0 1.0 1.0 1.0 20.5 0.0 1.0 9999.0 23 TURNING SPDT SPDF 11 RUDT ADVT TENT FRPH DIAT 15.4 9799.0 35.0 12.8 9999.0 10.8 6.5 15.4 9999.0 -35.0 10.8 6.7 12.8 9999.0 ,, ,, STOPPING SPDS SHPS RUDS TDIS HRCH SRCH TINS TIMR 10 15.9 100.0 0.0 9999.0 49.1 6.8 22.1 9999.0 40 ZIG-ZAG SF DZ RUDZ OVS1 OVSF OVSH KPEH TPRN PERD 15.8 36.0 14.0 8.0 9999.0 9999.0 9999.0 9999.0 18.87 ##### SHIP # 295 ##### DIMENSION NATH NMBR TYPE DISP LBPX LOAX BEAM DRFT TRIM BULB DDIS SSHP SRPM 295.0 5.0 1.0 83.0 232.0 244.0 35.8 12.1 0.0 0.0 83.0 20.7 114.0 RUDDER, PROP SSPD RDAR PDIA ASHP RDST ENGN PROP LATA LCAX UNUU TRLC 16.1 43.0 6.8 10.4 1.0 3.0 1.0 0.0 9999.0 9999.0 13.3 TURNING SPDT SPDF RUDT ADVT TRNT DIAT FRPM 14.0 9909.0 7.4 35.0 4.8 8.3 9999.0 STOPPING SPD5 TDIS 9999.0 SHPS RUDS HRCH SRCH TIMS 10.1 TIMR 0.0 27.7 9999.0 14.0 ZIG-ZAG SPDZ RUDZ OVS1 OVSF OVSU KPRM TPRM PERD

and the state

# 9999.0 20.0 16.0 17.0 9999.0 9999.0 9999.0 9999.0 9999.0 20.0 16.0 15.0 9997.0 9999.0 9997.0 9999.0

##### SHIP # 296 #####

	DIMENSION	NATH	NHER	TYPE	DISP	LIPX	LOAX	BEAN	DRFT	TRIM	BULA	DDIS	SSHP	SRPH
		5.0	296.0	2.0	122.0	246.0	258.0	42.2	14.9	0.0	7777.0	122.0	23.0	114.0
-	RUDDER, PROP	SSPD	RUAR	PDIA	ASHP	RDST	EHGN	PROP	LATA	LCAX		TRLC		
	NUDDENT TRUT	15.4	35.0	6.8	7.4	1.0	3.0	1.0	17.4	0.0	1.0	7797.0		
	TURNING	SPDT	SFDF	RUDT	ADVT	TRNT	DIAT	FRPM 9999.0						
			9999.0	35.0	7.2	4.4		9999.0						
			9979.0	31.0	- 5.7	4.0		9999.0						
			9999.0	-35.0	6.7	4.2	8.1	9999.0						
	THE AREA IN		- CUBR		TOTS	HRCH	SECH	TINS	TINK					
	STOPPING	16.6	100.0		9999.0	34.7	12.0	13.0	74.0					
	210-2AG	SPDZ	RUDZ	OVSI	OVSF	OVSU	KPRH	TPRH	PERD					
	210-240	16.8	10.0	5.0	12.0	9999.0	9999.0	9999.0	9999.0					
		16.8	10.0	6.0	17.0	9999.0	9999.0	9999.0	9999.0					
	BERE SHIP .	297 \$8	***											
	DINENSION	NATH	NMBR	TYPE	DISP	LBFX	LOAX	BEAK	DRFT	TRIN	BULD	DRIS	SSHP	SRPH
	DINENSION	5.0		2.0	143.0	265.0	278.0	44.2	15.1	0.0	9999.0	143.0	27.6	114.0
	RUDDER, FROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX		TRLC		
	NOFPERT THE	16.2		7.0	11.4	1.0	3.0	1.0	19.6	0.0	1.0	****.0		
	TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
	· villano		9999.0	36.0	8.9	5.0		9999.0						
			9999.0	-37.0	9.4	4.8	8.8	9999.0						
	STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
	SIUPPINO	16.0			9999.0		9999.0		31.0					
							-	TPRH	PERD					
	ZIG-ZAG	SPDZ		0451	OVSF	OVSW	KPRH		9999.0					
		15.3		18.0	15.0	9999.0	9999.0	7999.0	7779.0					
	**** SHIP *	278 18			······································									
					DISP	LEFX	LUAX	BEAK	DRFT	TRIE	TUCT	DEIS	SSRP	SRP
	DIRENSION	NATN 5.0	298.0	TTPE 2.0							9999.0		20.7	114.0
		3.0												
-	RUDDER, PROP	SSPD	RDAR	FDIA	ASHP		ENGN			LCAX		TRUC		
		15.8		6.4	11.4	1.0	3.0	1.0	15.0	0.0	1.0	9999.0		
								FRPH						
_	TURNING	SPDT	SPDF	RUDT	ADUT									
-	TURNING	SPDT	SPDF 9999.0	35.0	7.9	7.9	7.5	9999.0						
	TURNING	SPD1 17.0			7.9	7.9	7.5							
	TURNING	SPD1 17.0	9999.0 9999.0	35.0	7.9	7.9 4.1 HRCH	7.5 7.9 SRCH	0.77770 977770 PHIT	TINR					
	<u></u>	SPD1 17.0 17.0	9999.0 9999.0 SHPS 100.0	35.0 -35.0 RUNS 0.0	7.9 4.0 TDIS 9999.0	7.9 4.1 HRCH 33.3	7.5 7.9 SRCH 5.9	7777.0 7777.0 TINS 11.5	TINR 43.0					
	<u></u>	SPD1 17.0 17.0 SPD5	9999.0 9999.0 SHPS 100.0	35.0 -35.0 RUNS 0.0	7.9 4.0 TDIS	7.9 4.1 HRCH 33.3	7.5 7.9 SRCH 5.9	7777.0 7777.0 TINS 11.5	TINR 43.0					
	<u></u>	SPD1 17.0 17.0 SPD1 17.0	9999.0 9999.0 5HPS 100.0 100.3	35.0 -35.0 RUNS 0.0	7.9 4.0 TDIS 9999.0 9999.0	7.9 4.1 HRCH 33.3 4.9	7.5 7.9 SRCH 5.9 2.0	7777.0 7777.0 11.5 4.7	TIMR 43.0 12.0					

##### SHIP # 299 #####

DIHENSION	NATN 5.0	NMBR 299.0	TYPE 1.0	D15P 84.0	L.BPX	LOAX 240.0	36.0	DRFT 12.2	TRIN 0.0	BULB 7777.0	DD15 84.0	55HP 18.4	SRPH 114.0
	_	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLC		
RUDDER, PROP	SSPD 15.0	40.0		\$999.0	3.0	3.0	1.0	12.0	0.0	4.0	9999.0		
TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
		9999.0 9999.0	35.0	5.7	4.1		7777.0 7777.0						
	14.3	11111	3314										
ZIG-ZAG	SPDZ	RUDZ	OVS1	OVSF	OVSU	KPRN	TPRH 9999.0	PERD					
	$\frac{14.3}{14.3}$	10.0	7.0	25.0	9999.0	9999.0	9997.0	9999.0					
	10.3												
	326 88	**								,			
DIMENSION	NATH	NMBR	TYPE	DISP	LBPX	LOAX	BEAH	DRFT	TRIM	PULB	DDIS	SSHP	SRPH
VIUCH3104	5.0	326.0	1.0	92.0	Contraction of the local division of the loc	244.0	37.4	12.4		9999.0	92.0	20.7	114.0
					RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLC		
RUDDER, PROP	55FD 15.5	RDAR 42.0	PDIA	45HP	3.0	3.0	1.0	15.0	0.0		9997.0		
TURNING	SPAT	SPDF	RUDT 35.0	ADUT		DIAT	FRPH 9999.0						
		9999.0 9999.0	-35.0	6.4	3.7		++++.0						
ZIG-ZAG	SPDZ	RUDZ	OVS1	OVSF			TPRN 9999.0	PERD					
	14.7	10.0	8.0	23.0	7777.0			9999.0					
**** SHIP *		10.0	7.0		4444.0	,,,,,							
***** SHIP & DINENSION	327 ## NATN	### MMBR	TYPE	DISP	LBPX	LOAX	BEAN	DRFT	TRIM 0.0		DD15 124.0	55HP 23.0	SRPH 114.0
	327 ##	### MMBR			L.BPX 246.0	LOAX 237.0	BEAN 39.4	DRFT 15.5	0.0	9999.0	124.0		
	327 ## NATN 5.0 SSPD	*** MMBR 327.0 RDAR	TYPE 2.0 PDIA	DISP 126.0 ASHP	LBPX 244.0 1:DST	LOAX 237.0 Ehgn	BEAH 37.4 PROP	DRFT 15.5 LATA	0.0 LCAX	9999.0	124.0 TRLC		
DINENSION	327 ## NATN 5.0	*** NMBR 327.0 RDAR	TYPE 2.0 PDIA	DISP 126.0	L.BPX 246.0	LOAX 237.0	BEAH 37.4 PROP	DRFT 15.5 LATA	0.0	9999.0	124.0		
DINENSION	327 ## NATN 5.0 SSPD 15.4 SPDT	*** NHER 327.0 RDAR 54.0 SPDF	TYPE 2.0 PDIA 4.9 RUDT	DISP 124.0 ASHP 7794.0 ADVT	LBPX 246.0 f:DST 3.0 TRNT	LOAX 237.0 Ehgn 3.0 Diat	8EAH 39.4 PROP 1.0 FRPH	DRFT 15.5 LATA	0.0 LCAX	9999.0	124.0 TRLC		
DINENSION RUDDER, PROP	327 ** NATN 5.0 SSPD 15.4 SPDT 16.2	NHBR 327.0 RDAR 54.0 SPDF 9797.0	TYPE 2.0 PDIA 4.9 RUDT -35.0	DISP 124.0 ASHP 7794.0 ADUT 7.1	LBPX 246.0 f:DST 3.0 TRNT 4.4	LOAX 257.0 Ehgn 3.0 Diat 7.9	9EAH 37.4 PROP 1.0 FRPH 977.0	DRFT 15.5 LATA 19.2	0.0 LCAX	9999.0	124.0 TRLC		
DINENSION RUDDER, PROP	327 ** NATN 5.0 SSPD 15.4 SPDT 16.2	*** NHER 327.0 RDAR 54.0 SPDF	TYPE 2.0 PDIA 4.9 RUDT	DISP 124.0 ASHP 7794.0 ADVT	LBPX 246.0 f:DST 3.0 TRNT	LOAX 257.0 Ehgn 3.0 Diat 7.9	8EAH 39.4 PROP 1.0 FRPH	DRFT 15.5 LATA 19.2	0.0 LCAX	9999.0	124.0 TRLC		
DINENSION RUDDER, PROP	327 88 NATN 5.0 SSPD 15.4 SPDT 16.2 16.2 SPDZ	*** MMBR 327.0 RDAR 54.0 SPDF 9799.0 9799.0 RUDZ	TYPE 2.0 PDIA 4.9 RUDT -35.0 -35.0 OVS1	DISP 124.0 ASHP 9994.0 ADVT 7.1 7.2 0VSF	LBPX 246.0 f:DST 3.0 TRNT 4.4 4.5	LOAX 237.0 Engn 3.0 Diat 7.9 8.0 Kprm	BEAN 37.4 PROP 1.0 FRPN 9797.0 7797.0 TPRM	DRFT 15.5 LATA 19.2 PERD	0.0 LCAX	9999.0	124.0 TRLC		
DINENSION RUDDER, PROP TURNING	327 88 NATH 3.0 SSPD 15.4 SPDT 16.2 16.2 SPDZ 14.0	*** NHBR 327.0 RDAR 54.0 SPDF 9799.0 9799.0 RUD7 10.0	TYPE 2.0 PDIA 6.9 RUDT -35.0 -35.0 OVS1 10.0	DISP 124.0 ASHP 7794.0 ADVT 7.1 7.2 0USF 21.0	L. BPX 246.0 f: DST 3.0 TRNT 4.4 4.5 OVSW 9999.0	LOAX 237.0 EHGN 3.0 DIAT 7.9 8.0 KPRM 9979.0	BEAN 39.4 PROP 1.0 FRPN 9799.0 TPRN 9799.0	DRFT 15.5 LATA 19.2 PERD 9797.0	0.0 LCAX	9999.0	124.0 TRLC		
DINENSION RUDDER, PROP TURNING	327 88 NATN 5.0 SSPD 15.4 SPDT 16.2 16.2 SPDZ	*** NHBR 327.0 RDAR 54.0 SPDF 9799.0 9799.0 RUD7 10.0	TYPE 2.0 PDIA 4.9 RUDT -35.0 -35.0 OVS1	DISP 124.0 ASHP 7794.0 ADVT 7.1 7.2 0USF 21.0	L. BPX 246.0 f: DST 3.0 TRNT 4.4 4.5 OVSW 9999.0	LOAX 237.0 EHGN 3.0 DIAT 7.9 8.0 KPRM 9979.0	BEAN 39.4 PROP 1.0 FRPN 9799.0 TPRN 9799.0	DRFT 15.5 LATA 19.2 PERD	0.0 LCAX	9999.0	124.0 TRLC		
DINENSION RUDDER, PROP TURNING	327 88 NATN 5.0 SSPD 15.4 SPDT 16.2 14.2 SPDZ 14.0 15.4	*** MHBR 327.0 RDAR 54.0 SPDF 7797.0 7797.0 RUD7 10.0 10.0	TYPE 2.0 PDIA 6.9 RUDT -35.0 -35.0 OVS1 10.0	DISP 124.0 ASHP 7794.0 ADVT 7.1 7.2 0USF 21.0	L. BPX 246.0 f: DST 3.0 TRNT 4.4 4.5 OVSW 9999.0	LOAX 237.0 EHGN 3.0 DIAT 7.9 8.0 KPRM 9979.0	BEAN 39.4 PROP 1.0 FRPN 9799.0 TPRN 9799.0	DRFT 15.5 LATA 19.2 PERD 9797.0	0.0 LCAX	9999.0	124.0 TRLC		
DINENSION RUDDER, PROP TURNING ZIG-ZAG	327 88 NATH 5.0 SSPD 15.4 SPDT 16.2 16.2 16.2 16.2 15.4 326 88	*** MHBR 327.0 RDAR 54.0 SPDF 9799.0 9799.0 10.0 10.0	TYPE 2.0 PDIA 6.9 RUDT -35.0 -35.0 OVS1 10.0	DISP 126.0 ASHP 9799.0 ADVT 7.1 7.2 0VSF 21.0 19.0	L.BPX 246.0 f:DST 3.0 TRNT 4.4 4.5 0VSU 9999.0	LOAX 237.0 EHGN 3.0 DIAT 7.9 8.0 KPRH 9999.0 9999.0	BEAN 39.4 PROP 1.0 FRPN 9799.0 TPRN 9799.0 7799.0 7799.0	DRFT 15.5 LATA 19.2 PERD 9999.0 9999.0 9999.0	0.0 LCAX 0.0	9999.0 JNUV 1.0	124.0 TRLC 9797.0	23.0	114.0
DINENSION RUDDER, PROP TURNING ZIG-ZAG	327 88 NATN 5.0 SSPD 15.4 SPDT 16.2 14.2 SPDZ 14.0 15.4	*** MMBR 327.0 RDAR 54.0 SPDF 9797.0 7777.0 7777.0 10.0 10.0 10.0 MMDR	TYPE 2.0 PDIA 4.9 RUDT -35.0 -35.0 OVS1 10.0 10.0	DISP 124.0 ASHP 9999.0 ADVT 7.1 7.2 0VSF 21.0 19.0 PISF	LBPX 244.0 f:DST 3.0 TRNT 4.4 4.5 0VSU 9999.0 9999.0	LOAX 237.0 EHGN 3.0 DIAT 7.9 8.0 KPRH 9999.0 9999.0	BEAN 39.4 PROP 1.0 FRPN 9799.0 TPRN 9799.0 7799.0 7799.0	DRFT 15.5 LATA 19.2 PERD 9999.0 9999.0 9999.0	0.0 LCAX 0.0	9999.0 Jnuv 1.0	124.0 TRLC 9797.0	23.0	114.0
DINENSION RUDDER, PROP TURNING ZIG-ZAG BUDDES SHIP & DIMENSION	327 88 NATN 3.0 SSPD 15.4 SPDT 16.2 16.2 16.2 16.2 15.4 SPDZ 14.0 15.4 15.4 NATH 5.0	*** NHBR 327.0 RDAR 54.0 SPDF 9797.0 9797.0 RUD7 10.0 10.0 10.0 NHDR 328.0	TYPE 2.0 PDIA 6.9 RUDT -35.0 -35.0 0 <u>US1</u> 10.0 10.0 TYPE 2.0	DISP 124.0 ASHP 9999.0 ADUT 7.1 7.2 005F 21.0 19.0 19.0	LBPX 244.0 f:DST 3.0 TRNT 4.4 4.5 0VSW 9999.0 9999.0 9999.0	LOAX 237.0 EHGN 3.0 DIAT 7.9 8.0 KPRH 9777.0 9777.0	BEAH 37.4 PROP 1.0 FRPH 9797.0 TPRH 9797.0 7997.0 SEAH 44.0	DRFT 15.5 LATA 19.2 PERD 9999.0 9999.0 9999.0 9999.0	0.0 LCAX 0.0 TRTH 0.0	9999.0	124.0 TRLC 9797.0	23.0	114.0
DINENSION RUDDER, PROP TURNING ZIG-ZAG	327 88 NATH 3.0 SSPD 15.4 SPDT 16.2 14.2 SPDZ 14.0 15.4 320 88 NATH	*** MHBR 327.0 RDAR 54.0 SPDF 7777.0 7777.0 7777.0 7777.0 7777.0 10	TYPE 2.0 PDIA 4.9 RUDT -35.0 0VS1 10.0 10.0 TYPE 2.0 PDIA	DISP 124.0 ASHP 9999.0 ADUT 7.1 7.2 005F 21.0 19.0 19.0	LBPX 244.0 f:DST 3.0 TRNT 4.4 4.5 0VSU 9999.0 9999.0 9999.0 9999.0 RDST	LOAX 237.0 EHGN 3.0 DIAT 7.9 0.0 KPRM 9999.0 9999.0 9999.0 9999.0 200X 293.0 ENGR	BEAN 37.4 PROP 1.0 FRPN 9797.0 TPRN 9797.0 7777.0 BEAN 41.0 PROP	DRFT 13.5 LATA 19.2 PERD 9999.0 9999.0 9999.0 9999.0 9999.0	0.0 LCAX 0.0	9999.0 JHUV 1.0 900.5 9999.0 UNUU	124.0 TRLC 7797.0	23.0	114.0
DINENSION RUDDER, PROP TURNING ZIG-ZAG BUDDER, PROP	327 88 NATN 3.0 SSPD 15.4 SPDT 16.2 14.0 15.4 320 88 NATH 5.0 SSPD 16.0	*** MHER 327.0 RDAR 54.0 SPDF 7797.0 7797.0 7979.0 RUD7 10.0 10.0 *** MHER 328.0 RDAR 45.0	TYPE 2.0 PDIA 4.9 RUDT -35.0 OVS1 10.0 10.0 TYPE 2.0 PDIA 7.1	DISP 124.0 ASHP 9999.0 ADUT 7.1 7.2 0VSF 21.0 19.0 DISP 158.0 ASHP 9999.0	LBPX 244.0 f:DST 3.0 TRNT 4.4 4.5 0VSW 9999.0 9999.0 9999.0 9999.0 9099.0 RDST 3.0	LOAX 237.0 EHGN 3.0 DJAT 7.9 8.0 KPRH 9999.0 9999.0 LDAX 293.0 ENGN 3.0	BEAH 37.4 PROP 1.0 FRPH 7777.0 7777.0 7777.0 7777.0 FRAH 41.0 PROP 1.0	DRFT 15.5 LATA 19.2 PERD 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0	0.0 LCAX 0.0 TRIH 0.0	9999.0 JHUV 1.0 900.5 9999.0 UNUU	124.0 TRLC 9799.0 BDTS 158.0 TRLC	23.0	114.0
DINENSION RUDDER, PROP TURNING ZIG-ZAG BUDDES SHIP & DIMENSION	327 88 NATH 3.0 SSPD 15.4 SPDT 16.2 16.2 16.2 16.2 15.4 SPDT 16.2 16.2 16.2 16.2 16.2 16.2 16.2 16.2	*** NHBR 327.0 RDAR 54.0 SPDF 9999.0 9999.0 RUD7 10.0 10.0 10.0 10.0 10.0 RUD7 10.0 10.0 10.0 SPDF 328.0 RDAR 45.0 SPDF	TYPE 2.0 PDIA 6.9 RUDT -35.0 -35.0 0051 10.0 10.0 TYPE 2.0 PDIA 7.1 RUDT	DISP 124.0 ASHP 9999.0 ADUT 7.1 7.2 005F 21.0 19.0 19.0 FISP 158.0 ASHP 9999.0 ADUT	LBPX 244.0 f:DST 3.0 TRNT 4.4 4.5 0VSW 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 7999.0 7999.0 7999.0 7999.0 7999.0 7000 700	LOAX 237.0 EHGN 3.0 DIAT 7.9 8.0 KPRH 9797.0 9797.0 9797.0 9797.0 293.0 EMGN 3.0	BEAH 37.4 PROP 1.0 FRPH 9777.0 7777.0 7777.0 7777.0 FRPH 64.0 PROP 1.0 FRPH	DRFT 15.5 LATA 19.2 PERD 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0	0.0 LCAX 0.0 TRIH 0.0	9999.0 JHUV 1.0 900.5 9999.0 UNUU	124.0 TRLC 9799.0 BDTS 158.0 TRLC	23.0	114.0
DINENSION RUDDER, PROP TURNING ZIG-ZAG BUDDER, PROP	327 88 NATH 3.0 SSPD 15.4 SPDT 16.2 14.2 SPD7 14.0 15.4 320 80 NATH 5.0 SSPD 14.0 SSPD 14.0 SSPD 14.0 SSPD 14.0 SSPD 12.1	*** MHER 327.0 RDAR 54.0 SPDF 7797.0 7797.0 7979.0 RUD7 10.0 10.0 *** MHER 328.0 RDAR 45.0	TYPE 2.0 PDIA 4.9 RUDT -35.0 OVS1 10.0 10.0 TYPE 2.0 PDIA 7.1	DISP 124.0 ASHP 9999.0 ADUT 7.1 7.2 003F 21.0 19.0 19.0 BISP 150.0 ASHP 9999.0 ADUT 6.4	LBPX 244.0 f:DST 3.0 TRNT 4.4 4.5 0VSU 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 7000 8000 RDST 3.0 TRNT 4.5	LOAX 237.0 EHGN 3.0 DIAT 7.9 8.0 KPRH 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 DIAT 3.0	BEAH 37.4 PROP 1.0 FRPH 7777.0 7777.0 7777.0 7777.0 FRAH 41.0 PROP 1.0	DRFT 15.5 LATA 19.2 PERD 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0	0.0 LCAX 0.0 TRIH 0.0	9999.0 JHUV 1.0 900.5 9999.0 UNUU	124.0 TRLC 9799.0 BDTS 158.0 TRLC	23.0	114.0
DINENSION RUDDER, PROP TURNING ZIG-ZAG BUDDER, PROP	327 88 NATH 3.0 SSPD 15.4 SPDT 16.2 14.2 SPD7 14.0 15.4 320 80 NATH 5.0 SSPD 14.0 SSPD 14.0 SSPD 14.0 SSPD 14.0 SSPD 12.1	*** MHER 327.0 RDAR 54.0 SPDF 7777.0 RUD7 10.0 10.0 *** MHER 328.0 RDAR 45.0 SPDF 7777.0 FTTT.0 FTTT.0	TYPE 2.0 PDIA 6.7 RUDT -35.0 -35.0 0VS1 10.0 10.0 TYPE 2.0 PDIA 7.1 RUDT 35.0	DISP 124.0 ASHP 9999.0 ADUT 7.1 7.2 0VSF 21.0 19.0 DISP 158.0 ASHP 9999.0 ASHP 9999.0 ASHP 9799.0	LBPX 244.0 f:DST 3.0 TRNT 4.4 4.5 OVSW 9999.0 9999.0 9999.0 9999.0 Strate 3.0 TRNT 4.5 3.2	LOAX 237.0 EHGN 3.0 DIAT 7.9 8.0 KPRH 9999.0 9999.0 LDAX 293.0 ENGN 3.0 DIAT 6.4 9,9	BEAH 37.4 PROP 1.0 FRPH 7777.0 7777.0 PROP 1.0 FRPH 7777.0 7777.0	DRFT 15.5 LATA 19.2 PERD 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0	0.0 LCAX 0.0 TRIH 0.0	9999.0 JHUV 1.0 900.5 9999.0 UNUU	124.0 TRLC 9799.0 BDTS 158.0 TRLC	23.0	114.0

## 11.0 10.0 14.0 17.0 9999.0 9999.0 9999.0

\*\*\*\*\* SHIP # 329 \*\*\*\*\*

_	DIMENSION	NATH		TYPE	DISP	LBPX	LOAX	BFAK	DRFT	TRIH	BULB	DDIS	SSHP	SRPM
		5.0	329.0	2.6	82.0	280.0	293.0	44.0	8.5	0.0	9999.0	158.0	27.6	114.0
	RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLC		
		17.1	40.0	7.1	9999.0	3.0	3.0	1.0	44.8	0.0	7.0	9979.0		
-	TURMING	SPDT	SPDF 9999.0	RUDT 35.0	ADUT	TRNT 3.7	PIAT	FRPH 9999.0	-					
		14.0		3314										
-	BEERS SHIP .	335 11	nr			-								
	DIMENSION	NATH	NMBR	TYPE	DISP	LBPX	LOAX	BEAN	DRFT	TRIM	BULB	DDIS	SSHP	SRPH
-	PINENSION		330.0			304.0			18.0		9999.0			114.0
				10.5			-			1.1.1.1	-			
_	RUDDER , PROP	SSPD		PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	NHAN	TRLC		
		14.0	45.0	7.1	9999.0	3.0	3.0	1.0	28.0	0.0	4.0	4999.0		
	TURNING	SPDT	SPDF	RUDT	ADUT	TRNT	DIAT	FRPH						
1		15.8	9999.0	35.0	9.5	5.3	9.5	9999.0	_					
		16.0	9999.0	-35.0	8.8	5.1	9.0	9999.0						
-	210-ZAG	SPDZ	RUDZ	OVSI	OUSF	OVSU	KPRA	TPRN	FERD					
	1000	14.0		12.0				9999.0						
		16.0	10.0	6.0	13.0	9999.0	9999.0	9999.0	9999.0					
-	##### 3HIF 0						1.047		DELT	-		DATE		-
_	DIMENSION	331 HATH 5.0	NHER	TYPE 2.0	D15P 86.0	L.BFX 304.0	L0AX 316.0	8FAR 44.0	DRFT 7.6	TRIM 23.0	BULB	DDIS 174.0	55HP 27.6	SRPH 114.0
-		NATH	NMBR 331.0								9999.0	174.0 TRLC		
	DIMENSION	NATN 5.0	NMBR 331.0 RDAR	2.0 PDIA	86.0	304.0	316.0	44.0	7.6	23.0	9999.0	174.0		
	DIMENSION Rudver, prop	NATH 5.0 SSPD 17.1	NMBR 331.0 RDAR 40.0	2.0 PDIA 7.1	86.0 ASHP 9999.0	304.0 RDST 3.0	314.0 ENGN 3.0	44.0 PROP 1.0	7.6	23.0	9999.0	174.0 TRLC		
	DIMENSION	NATH 5.0 SSPD 17.1	HMBR 331.0 RDAR 40.0 SPDF	2.0 PDIA 7.1 RUDT	86.0 ASHP 9999.0 ADVT	304.0 RDST 3.0 TRNT	316.0 ENGN 3.0 BIAT	44.0 PROP 1.0	7.6	23.0	9999.0	174.0 TRLC		
	DIMENSION Rudver, prop	NATN 5.0 SSPD 17.1 SFDT 17.4	NMBR 331.0 RDAR 40.0	2.0 PDIA 7.1	86.0 ASHP 7777.0 ADVT 9.8	304.0 RDST 3.0 TRNT 5.8	316.0 ENGN 3.0 DIAT 11.1	44.0 PROP 1.0	7.6 LATA 53.6	23.0	9999.0	174.0 TRLC		
	DIMENSION RUDVER, PROP TURNING	NATH 5.0 SSPD 17.1 SFDT 17.4 17.2	NHUR 331.0 RDAR 40.0 SPDF 9999.0	2.0 PDIA 7.1 RUDT 35.0 -35.0	86.0 ASHP 9999.0 ADUT 9.8 8.8	304.0 RDST 3.0 TRNT 5.0 -4.7	316.0 ENGN 3.0 DIAT 11.1 8.3	44.0 PROP 1.0 FRPM 9999.0	7.6 LATA 53.6	23.0	9999.0	174.0 TRLC		
	DIMENSION Rudver, prop	NATH 5.0 SSPD 17.1 SFDT 17.4 17.2 SPDZ	NHUR 331.0 RDAR 40.0 SPDF 7777.0 7777.0 RUDZ	2.0 PDIA 7.1 RUDT 35.0 -35.0 OVS1	86.0 ASHP 9999.0 ADUT 9.8 8.8 OVSF	304.0 RDST 3.0 TRNT 5.8 4.9	316.0 ENGN 3.0 DIAT 11.1 8.3 KPRH	44.0 PROP 1.0 FRPM 9999.0 9999.0 TPRM	7.6 LATA 53.6	23.0	9999.0	174.0 TRLC		
	DIMENSION RUDVER, PROP TURNING	NATN 5.0 SSPD 17.1 SPDT 17.4 SPDZ 17.0	NHUR 331.0 RDAR 40.0 SPDF 9999.0 9999.0 RUDZ 10.0	2.0 PDIA 7.1 RUDT 35.0 -35.0 OVS1 6.0	86.0 ASHP 9999.0 ADUT 9.8 8.8 0VSF 6.0	304.0 RDST 3.0 TRNT 5.8 4.9 OVSU 9999.0	316.0 EMGN 3.0 DIAT 11.1 8.3 KPRH 9999.0	44.0 PROP 1.0 FRPM 9999.0	7.6 LATA 53.6 PERD	23.0	9999.0	174.0 TRLC		
	DIMENSION RUDVER, PROP TURNING	NATH 5.0 SSPD 17.1 SFDT 17.4 17.2 SPDZ	NHUR 331.0 RDAR 40.0 SPDF 9999.0 9999.0 RUDZ 10.0	2.0 PDIA 7.1 RUDT 35.0 -35.0 OVS1	86.0 ASHP 9999.0 ADUT 9.8 8.8 0VSF 6.0	304.0 RDST 3.0 TRNT 5.8 4.9 OVSU 9999.0	316.0 EMGN 3.0 DIAT 11.1 8.3 KPRH 9999.0	44.0 PROP 1.0 FRPM 9999.0 9999.0 TPRM 9999.0	7.6 LATA 53.6 PERD	23.0	9999.0	174.0 TRLC		
	DIMENSION RUDVER, PROP TURNING	NATN 5.0 SSPD 17.1 SPDT 17.4 17.2 SPDZ 17.0 17.0	HHER 331.0 RDAR 40.0 SPDF 9999.0 9999.0 F999.0 RUDZ 10.0	2.0 PDIA 7.1 RUDT 35.0 -35.0 OVS1 6.0	86.0 ASHP 9999.0 ADUT 9.8 8.8 0VSF 6.0	304.0 RDST 3.0 TRNT 5.8 4.9 OVSU 9999.0	316.0 EMGN 3.0 DIAT 11.1 8.3 KPRH 9999.0	44.0 PROP 1.0 FRPM 9999.0 9999.0 TPRM 9999.0	7.6 LATA 53.6 PERD	23.0	9999.0	174.0 TRLC		
	DIMENSION RUDNER, PROP TURNING ZIG-ZAG	NATN 3.0 SSPD 17.1 SFDT 17.4 17.2 SPD2 17.0 17.0	NHER 331.0 RDAR 40.0 SPDF 9799.0 9799.0 9799.0 10.0 10.0	2.0 PDIA 7.1 RUDT 35.0 -35.0 OVS1 4.0	86.0 ASHP 9999.0 ADVT 9.8 8.8 005F 6.0 4.0	304.0 RDST 3.0 TRNT 5.8 4.9 0VSW 9999.0 9999.0	314.0 EMGN 3.0 DIAT 11.1 <b>B.3</b> <b>B.3</b> <b>KPRH</b> <b>P999.0</b> <b>9799.0</b>	44.0 PROP 1.0 FRPM 9999.0 9999.0 TPRM 9999.0 9999.0	7.6 LATA 53.6 PERD 9999.0 9999.0	23.0 LCAX 0.0	9999.0	174.0 TRLC	27.4	114.0
	DIMENSION RUDPER, PROP TURNING ZIG-ZAO	NATN 3.0 SSPD 17.1 SFDT 17.4 17.2 SPD2 17.0 17.0	NMBR 331.0 RDAR 40.0 SPDF 9999.0	2.0 PDIA 7.1 RUDT 35.0 -35.0 OVS1 4.0	86.0 ASHP 9999.0 ADUT 9.8 8.8 005F 6.0 4.0	304.0 RDST 3.0 TRNT 5.8 4.9 OVSU 9999.0	314.0 ENGN 3.0 DIAT 11.1 8.3 KPRH 9999.0 9999.0	44.0 PROP 1.0 FRPM 9999.0 TPRN 9999.0 BEAM	7.6 LATA 53.6 PERD 9999.0 9999.0	23.0 LCAX 0.0	11999.0 UNUU 4.0	174.0 TRLC 9999.0	27.4 	114.0
	DIMENSION RUDNER, PROP TURNING ZIG-ZAG	NATN 5.0 SSPD 17.1 SFDT 17.4 17.2 SPDZ 17.0 17.0 332 *** NATR 5.0 SSFD	NHER 331.0 RDAR 40.0 SPDF 9999.0 9999.0 RUDZ 10.0 10.0 10.0 10.0	2.0 PDIA 7.1 RUDT 35.0 -35.0 0VS1 6.0 4.0 TYPE 1.0 PDIA	86.0 ASHP 9999.0 ADUT 9.8 8.8 005F 6.0 4.0 915P 91.0 ASHP	304.0 RDST 3.0 TRNT 5.8 -4.7 0VSU 9999.0 	314.0 ENGN 3.0 DIAT 11.1 8.3 KPRH 9999.0 9999.0 2000 242.0 ENGN	44.0 PROP 1.0 FRPM 9999.0 9999.0 TPRH 9999.0 9999.0 PPRH 37.1 PROP	7.6 LATA 53.6 PERD 9999.0 9999.0 DRFT 12.4 LATA	23.0 LCAX 0.0 TRIM 0.0	9999.0 UNUU 4.0 BUCB 9999.0 UNUU	174.0 TRLC 9999.0 DBTS 91.0 TRLC	27.4 	114.0
	DIMENSION RUDCER, PROP TURNING ZIO-ZAG ***** SHIP * DIMENSION	NATN 5.0 SSPD 17.1 SFDT 17.4 17.2 SPD2 17.0 17.0 332 ## NATR 5.0	NHER 331.0 RDAR 40.0 SPDF 9999.0 9999.0 RUDZ 10.0 10.0 10.0 10.0	2.0 PDIA 7.1 RUDT 35.0 -35.0 0VS1 6.0 4.0 TYPE 1.0 PDIA	86.0 ASHP 7799.0 ADVT 9.8 8.8 8.8 0VSF 6.0 4.0 91.0	304.0 RDST 3.0 TRNT 5.8 -4.7 0VSW 9999.0 	314.0 ENGN 3.0 DIAT 11.1 8.3 KPRH 9999.0 9999.0 2000 242.0 ENGN	44.0 PROP 1.0 FRPM 9999.0 9999.0 TPRN 9999.0 9999.0	7.6 LATA 53.6 PERD 9997.0 9997.0 DRFT 12.4	23.0 LCAX 0.0	9999.0 UNUU 4.0 BUCB 9999.0 UNUU	174.0 TRLC 9999.0 DPIS 91.0	27.4 	114.0
	DIMENSION RUDNER, PROP TURNING ZIG-ZAG RUDDER, PROP	NATN 5.0 SSPD 17.1 SFDT 17.4 17.2 SPDZ 17.0 17.0 332 *** NATR 5.0 SSFD	HHER 331.0 RDAR 40.0 SPDF 9999.0 9999.0 9999.0 9999.0 10.0 RUBZ 10.0 10.0 RUBZ 10.0 RUB	2.0 PDIA 7.1 RUDT 35.0 -35.0 0VS1 6.0 4.0 TYPE 1.0 PDIA	86.0 ASHP 9999.0 ADUT 9.8 8.8 005F 6.0 4.0 915P 91.0 ASHP 9999.0	304.0 RDST 3.0 TRNT 5.8 -4.9 0VSW 9999.0 -LBPX 232.0 RDST 3.0	314.0 ENGN 3.0 DIAT 11.1 8.3 KPRH 9999.0 9999.0 2000 242.0 ENGN	44.0 PROP 1.0 FRPM 9999.0 TPRH 9999.0 PP99.0 BEAM 37.1 PROP 1.0	7.6 LATA 53.6 PERD 9999.0 9999.0 DRFT 12.4 LATA	23.0 LCAX 0.0 TRIM 0.0	9999.0 UNUU 4.0 BUCB 9999.0 UNUU	174.0 TRLC 9999.0 DBTS 91.0 TRLC	27.4 	114.0
	DIMENSION RUDCER, PROP TURNING ZIO-ZAG ***** SHIP * DIMENSION	NATN 5.0 SSPD 17.1 SFDT 17.4 17.2 SPD2 17.0 17.0 332 ## NATR 5.0 SSPD 15.7 SPD1	HHER 331.0 RDAR 40.0 SPDF 9999.0 9999.0 9999.0 RUBZ 10.0 10.0 8888 MMER 332.0 RDAR 42.0	2.0 PDIA 7.1 RUDT 35.0 -35.0 0VS1 6.0 4.0 TYPE 1.0 PDIA 6.4	86.0 ASHP 9999.0 ADUT 9.8 8.8 0VSF 6.0 4.0 TDISP 91.0 ASHP 9999.0 ADUT	304.0 RDST 3.0 TRNT 5.8 -4.7 0VSW 9999.0 -222.0 RDST 3.0 TRNT	314.0 ENGN 3.0 DIAT 11.1 9799.0 9799.0 9799.0 242.0 ENGN 3.0 DIAT 8.2	44.0 PROP 1.0 FRPM 9999.0 9999.0 TPRM 9999.0 PPPN 37.1 PROP 1.0 FRPM 9799.0	7.6 LATA 53.6 PERD 9999.0 9999.0 DRFT 12.4 LATA	23.0 LCAX 0.0 TRIM 0.0	9999.0 UNUU 4.0 BUCB 9999.0 UNUU	174.0 TRLC 9999.0 DBTS 91.0 TRLC	27.4 	114.0
	DIMENSION RUDNER, PROP TURNING ZIG-ZAG RUDDER, PROP	NATN 5.0 SSPD 17.1 SFDT 17.4 17.2 SPDZ 17.0 17.0 17.0 17.0 332 ## NATR 5.0 SSPD 15.7 SPDT 16.2	NHER 331.0 RDAR 40.0 SPDF 9999.0 9999.0 FUDZ 10.0 10.0 10.0 10.0 STAR 42.0 SPDF	2.0 PDIA 7.1 RUDT 35.0 0VS1 6.0 4.0 TYPE 1.0 PDIA 6.4 RUDT	86.0 ASHP 9999.0 ADUT 9.8 8.8 005F 6.0 4.0 915P 91.0 ASHP 9999.0 ADUT 7.2	304.0 RDST 3.0 TRNT 5.8 -4.7 0VSU 9999.0 -UBFX 232.0 RDST 3.0 TRNT 4.5	314.0 ENGN 3.0 DIAT 11.1 8.3 KPRH 9999.0 9999.0 9999.0 242.0 ENGN 3.0 DIAT 8.2	44.0 PROP 1.0 FRPM 9999.0 9999.0 TPRH 9999.0 9999.0 PROP 1.0 FRPM	7.6 LATA 53.6 PERD 9999.0 9999.0 DRFT 12.4 LATA	23.0 LCAX 0.0 TRIM 0.0	9999.0 UNUU 4.0 BUCB 9999.0 UNUU	174.0 TRLC 9999.0 DBTS 91.0 TRLC	27.4 	114.0
	DIMENSION RUDNER, PROP TURNING ZIG-ZAG RUDDER, PROP	NATN 5.0 SSPD 17.1 SFDT 17.4 17.2 SPDZ 17.0 17.0 17.0 17.0 332 ## NATR 5.0 SSPD 15.7 SPDT 16.2	HHER 331.0 RDAR 40.0 SPDF 9999.0 9999.0 9999.0 RUDZ 10.0 10.0 RUDZ 10.0 RUDZ 10.0 RUDZ 10.0 RUDZ 10.0 9999.0 RUDZ 10.0 10.0 RUDZ 10.0 9999.0 RUDZ 10.0 9999.0 RUDZ 10.0 10.0 10.0 10.0 RUDZ 10.0 10.0 RUDZ 10.0 10.0 RUDZ 10.0 10.0 RUDZ 10.0 10.0 RUDZ 10.0 10.0 RUDZ 10.0	2.0 PDIA 7.1 RUDT 35.0 -35.0 0VS1 6.0 4.0 TYPE 1.0 PDIA 6.4 KUDT 35.0	86.0 ASHP 9799.0 ADUT 9.8 8.8 0VSF 6.0 4.0 *********************************	304.0 RDST 3.0 TRNT 5.9 -4.9 0VSW 9999.0 -1.8PX 232.0 RDST 3.0 TRNT 4.5 3.5	314.0 EHGN 3.0 DIAT 11.1 8.3 KPRH \$999.0 9999.0 COAX 242.0 EHGN 3.0 DIAT 8.2 7.2	44.0 PROP 1.0 FRPM 9997.0 9999.0 TPRM 9999.0 BFAM 37.1 PROP 1.0 FRPM 9999.0 PROP 1.0 PROP	7.6 LATA 53.6 PERD 9999.0 9999.0 DRFT 12.4 LATA	23.0 LCAX 0.0 TRIM 0.0	9999.0 UNUU 4.0 BUCB 9999.0 UNUU	174.0 TRLC 9999.0 DBTS 91.0 TRLC	27.4 	

\*\*\*\*\* SHIP # 333 \*\*\*\*\*

DIMENSION													
DINCHOLON	NATH	NNER	TYPE	DISP	LBPX	LOAX	BEAN	DRFT	TRIN	BULB	DDIS	SSHP	SRPH
	5.0	333.0	1.0	70.0	224.0	236.0	32.2	11.4	1.0	7797.0	70.0	17.6	117.0
	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLC		
RUDDER, PROP	15.8	38.0		9999.0	3.0	3.0	1.0	12.6	0.0	1.0	7999.0		
TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
		9999.0	-35.0		<u> </u>		7999.0						
	16.0	****	-3310										
STOPPING	SPUS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TIHR					
	15.8	100.0	0.0	9999.0	24.2	9999.0	8.2	25.0					
ZIG-ZAG	SFDZ	RUDZ	OVSI	OVSF	OVSW	KPRH	TPRH	PERD					
110-110	16.1	20.0	10.0			9999.0	9999.0	9999.0					
	174 191												
***** 341L A	937 444												
DINENSION	NATH		TYPE	DISP	LBPX		BEAH	DRFT	TRIM		DDIS	SSHP	
	5.0	334.0	3.0	33.0	223.0	235.0	31.8	5.8	41+0	\$999.0	33.0	10.0	122.0
RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV			
AVPALLY CAR	15.6	37.0		9999.0	3.0	3.0	1.0	29.4	0.0	1.0	9999.0		
							FRPH						
TURNING	SPDT	SPDF 9999.0	RUDT 35.0	ADUT 7.5	TRNT 3.9	DIAT	9999.0						
		9999.0	-35.0	7.6	4.0		9999.0						
STOPPING	SPDS		RUDS	TRIS	HRCH	SPCH	TINS	TIMR					
	16.3	100.0	0.0	9999.0	19.1	2.4	7.8	35.0					
ZIG-ZAG	SPDZ	RUDZ	OVS1	OVSF	OVSW	KPRM	TPRN	PERD					
	17.4	35.0	13.0	11.0	9999.0	9999.0	9999.0	9999.0					
AAAAA 01190 8		***								-			
***** SHIP *	335 **:	•••											CONM
DIMENSION	335 ##		TYPE	DISP	LBPX		BEAH		TRIN			SSHP	
		NMBR	TYPE 3.0	DISF 46.0	LBPX 237.0		BE AH 38.5			9999.0			119.0
DIMENSION	NATN 5.0	NMBR 335.0	3.0	46.0	237.0	247.0	38.5	6.4	35.0	9999.0			
	NATN	NMBR 335.0 RDAR	3.0 PDIA	46.0		247.0 ENGN	38.5 PROP	6.4 LATA	35.0	9999.0 UNGU	46.0		
DIMENSION Rudder, Prop	NATN 5.0 SSFD 15.4	NMBR 335.0 RDAR 49.0	3.0 PDIA 4.4	46.0 ASHF 9999.0	237.0 RDST 3.0	247.0 ENGN 3.0	38.5 PROP 1.0	6.4 LATA 32.9	35.0	9999.0 UNGU	46.0 TRLC		
DIMENSION	NATN 5.0 SSFD 15.4 SPDT	NMBR 335.0 RDAR 49.0 SPDF	3.0 PDIA 4.4 RUDT	46.0 ASHF 9999.0 ADUT	237.0 RDST 3.0 TRNT	249.0 ENGN 3.0 DIAT	38.5 PROP 1.0 FRPM	6.4 LATA 32.9	35.0	9999.0 UNGU	46.0 TRLC		
DIMENSION Rudder, Prop	NATN 5.0 SSFD 15.4 SPDT 17.0	NMBR 335.0 RDAR 49.0 SPDF 9999.0	3.0 PDIA 4.4 RUDT 36.0	46.0 ASHF 9999.0 ADUT 7.9	237.0 RDST 3.0 TRNT 3.6	249.0 ENGN 3.0 DIAT 7.2	38.5 PROP 1.0 FRPM 7979.0	6.4 LATA 32.9	35.0	9999.0 UNGU	46.0 TRLC		
DIMENSION Rudder, Prop	NATN 5.0 SSFD 15.4 SPDT 17.0	NMBR 335.0 RDAR 49.0 SPDF	3.0 PDIA 4.4 RUDT	46.0 ASHF 9999.0 ABUT 7.9	237.0 RDST 3.0 TRNT 3.6 3.8	249.0 ENGN 3.0 DIAT 7.2 7.1	38.5 PROP 1.0 FRPM 7777.0 7777.0	6.4 LATA 32.9	35.0	9999.0 UNGU	46.0 TRLC		
DIMENSION Rudder, Prop	NATN 5.0 SSFD 15.4 SPDT 17.0 17.0 SPDS	NNBR 335.0 RDAR 49.0 SPDF 9999.0 9999.0 SHPS	3.0 PDIA 4.4 RUDT 36.0 -36.0 RUDS	46.0 ASHF 9999.0 ABUT 7.9 7.2 TDIS	237.0 RDST 3.0 TRNT 3.6 3.8 HRCH	249.0 ENGN 3.0 DIAT 7.2 7.1 SRCH	38.5 PROP 1.0 FRPM 9999.0 9999.0 TINS	6.4 LATA 32.9 TIMR	35.0	9999.0 UNGU	46.0 TRLC		
DIMENSION RUDDER, PROP TURNING	NATN 5.0 SSFD 15.4 SPDT 17.0 17.0 SPDS	NHBR 335.0 RDAR 49.0 SPDF 9999.0 9994.0	3.0 PDIA 4.4 RUDT 36.0 -36.0 RUDS	46.0 ASHF 9999.0 ABUY 7.9 7.2	237.0 RDST 3.0 TRNT 3.6 3.8 HRCH	249.0 ENGN 3.0 DIAT 7.2 7.1	38.5 PROP 1.0 FRPM 9999.0 9999.0 TINS	6.4 LATA 32.9 TIMR	35.0	9999.0 UNGU	46.0 TRLC		
DIMENSION RUDDER, PROP TURNING	NATN 5.0 SSFD 15.4 SPDT 17.0 17.0 SPDS	NNBR 335.0 RDAR 49.0 SPDF 9999.0 9999.0 SHPS	3.0 PDIA 4.4 RUDT 36.0 -36.0 RUDS	46.0 ASHF 9999.0 ABUT 7.9 7.2 TDIS	237.0 RDST 3.0 TRNT 3.6 3.8 HRCH	249.0 ENGN 3.0 DIAT 7.2 7.1 SRCH	38.5 PROP 1.0 FRPM 9999.0 9999.0 TINS	6.4 LATA 32.9 TIMR	35.0	9999.0 UNGU	46.0 TRLC		
DIMENSION RUDDER, PROP TURNING	NATN 5.0 SSFD 15.4 SPDT 17.0 17.0 SPDS 17.0	NHBR 335.0 RDAR 49.0 SPDF 9999.0 9999.0 SHPS 100.0	3.0 PDIA 4.4 RUDT 36.0 -36.0 RUDS	46.0 ASHF 9999.0 ABUT 7.9 7.2 TDIS	237.0 RDST 3.0 TRNT 3.6 3.8 HRCH	249.0 ENGN 3.0 DIAT 7.2 7.1 SRCH	38.5 PROP 1.0 FRPM 9999.0 9999.0 TINS	6.4 LATA 32.9 TIMR	35.0	9999.0 UNGU	46.0 TRLC		
DIMENSION RUDDER, FROP TURNING STOPFING BBBBBB SHIP 0	NATN 5.0 SSFD 15.4 SFDT 17.0 17.0 SPDS 17.0	NHBR 335.0 RDAR 49.0 SPDF 9999.0 9999.0 SHPS 100.0	3.0 PDIA 4.4 RUDT 36.0 -36.0 RUDS 0.0	46.0 ASHF 9999.0 ABUT 7.9 7.2 TDIS 9999.0	237.0 RDST 3.0 TRNT 3.6 3.8 HRCH 23.1	249.0 ENGN 3.0 DIAT 7.2 7.1 SRCH 9799.0	38.5 PROP 1.0 FRPM 9999.0 9999.0 TINS 8.5	6.4 LATA 32.9 TIMR 30.0	35.0	9999.0 UNGU 1.0	46.0 TRLC 7777.0		
DIMENSION RUDDER, PROP TURNING STOPPING	NATN 5.0 SSFD 15.4 SFDT 17.0 17.0 SPDS 17.0 336 ##	NHBR 335.0 RDAR 49.0 SPDF 9999.0 9999.0 SHPS 100.0	3.0 PDIA 4.4 RUDT 36.0 -36.0 RUDS	46.0 ASHF 9999.0 ADUT 7.9 7.2 TDIS 9999.0 DISP	237.0 RDST 3.0 TRNT 3.6 3.8 HRCH 23.1	249.0 ENGN 3.0 DIAT 7.2 7.1 SRCH 9799.0	38.5 PROP 1.0 FRPM 9999.0 7199.0 TINS 8.5 BEAM	6.4 LATA 32.9 TINR 30.0	35.0 LCAX 0.Q TRIM	9999.0 UNGU 1.0	46.0 TRLC 7777.0	20.7	119.0
DIMENSION RUDDER, PROP TURNING Stopping BIMENSION	NATN 5.0 SSFD 15.4 SPDT 17.0 17.0 SPDS 17.0 336 ## NATH 5.0	NHBR 335.0 RDAR 49.0 SPDF 9999.0 9999.0 9999.0 SHPS 100.0 \$### NMPR 336.0	3.0 PDIA 6.4 RUDT 36.0 -36.0 RUDS 0.0 TYPE 2.0	46.0 ASHF 9999.0 ABUT 7.9 7.2 TDIS 9999.0 DISP 244.0	237.0 RDST 3.0 TRNT 3.6 3.8 HRCH 23.1 LBPX 326.0	249.0 ENGN 3.0 DIAT 7.2 7.1 SRCH 9799.0 LOAX 344.0	38.5 PROP 1.0 FRPM 9999.0 9999.0 71HS 8.5 DEAM 49.8	6.4 LATA 32.9 TINR 30.0 DRFT 17.6	35.0 LCAX 0.Q TRIM 2.0	9779.0 UNGU 1.0 SULB 9999.0	46.0 TRLC 9779.0	20.7	119.0
DIMENSION RUDDER, FROP TURNING STOPFING BBBBBB SHIP 0	NATN 5.0 SSFD 15.4 SFDT 17.0 17.0 SPDS 17.0 336 ## NATN 5.0 SSPD	NHBR 335.0 RDAR 47.0 SPDF 9999.0 9999.0 SHPS 100.0 SHPS 100.0	3.0 PDIA 6.4 RUDT 36.0 -36.0 RUDS 0.0 TYPE 2.0 PDIA	46.0 ASHF 9999.0 ABUT 7.2 TDIS 9999.0 DISP 244.0 ASH	237.0 RDST 3.0 TRNT 3.4 HRCH 23.1 LDPX 326.0 RDST	249.0 EHGN 3.0 DIAT 7.2 7.1 SRCH 9799.0 LOAX 344.0 EHGN	38.5 PROP 1.0 FRPM 9999.0 7199.0 TIMS 8.5 BEAM 49.8 PROP	6.4 LATA 32.9 TINR 30.0 DRFT 17.6 LATA	35.0 LCAX 0.0 TRIM 2.0 LCAX	9979.0 UHUU 1.0 BULB 9999.0 UNUV	46.0 TRLC 9779.0	20.7	119.0
DIMENSION RUDDER, PROP TURNING Stopping BIMENSION	NATN 5.0 SSFD 15.4 SPDT 17.0 17.0 SPDS 17.0 336 ## NATH 5.0	NHBR 335.0 RDAR 47.0 SPDF 9999.0 9999.0 SHPS 100.0 SHPS 100.0	3.0 PDIA 6.4 RUDT 36.0 -36.0 RUDS 0.0 TYPE 2.0 PDIA	46.0 ASHF 9999.0 ABUT 7.9 7.2 TDIS 9999.0 DISP 244.0	237.0 RDST 3.0 TRNT 3.4 HRCH 23.1 LDPX 326.0 RDST	249.0 EHGN 3.0 DIAT 7.2 7.1 SRCH 9799.0 LOAX 344.0 EHGN	38.5 PROP 1.0 FRPM 9999.0 7199.0 TIMS 8.5 BEAM 49.8 PROP	6.4 LATA 32.9 TIMR 30.0 DRFT 17.6 LATA	35.0 LCAX 0.Q TRIM 2.0	9979.0 UHUU 1.0 BULB 9999.0 UNUV	46.0 TRLC 9779.0 DD18 244.0 TRLC	20.7	119.0
DIMENSION RUDDER, PROP TURNING Stopping BIMENSION	NATN 5.0 SSFD 15.4 SPDT 17.0 17.0 SPDS 17.0 336 ## NATN 5.0 SSPD 16.4 SPDT	NHBR 335.0 RDAR 49.0 SPDF 9999.0 9999.0 9999.0 9999.0 SHPS 100.0 SHPS 100.0 XHPR 336.0 RDAR 91.0 SPDF	3.0 PDIA 6.4 RUDT 36.0 -36.0 RUDS 0.0 TYPE 2.0 PDIA 7.8 RUDT	46.0 ASHF 9999.0 ABUT 7.9 7.2 TDIS 9999.0 BISP 244.0 ASH <sup>5</sup> 9999.0	237.0 RDST 3.0 TRNT 3.6 3.8 HRCH 23.1 LBPX 326.0 R9ST 3.0 TRNT	249.0 ENGN 3.0 DIAT 7.2 7.1 SRCH 7799.0 LOAX 344.0 ENGN 1.0	38.5 PROP 1.0 FRPH 9999.0 9999.0 TIHS 8.5 DEAM 49.8 PROP 1.0 FRPH	6.4 LATA 32.9 TINR 30.0 DRFT 17.6 LATA 21.5	35.0 LCAX 0.0 TRIM 2.0 LCAX	9979.0 UHUU 1.0 BULB 9999.0 UNUV	46.0 TRLC 9779.0 DD18 244.0 TRLC	20.7	119.0
DIMENSION RUDDER, PROP TURNING Stopping Baasas Ship & Dimension Rudder, Prop	NATN 5.0 SSFD 15.4 SFDT 17.0 17.0 SPDS 17.0 336 ## NATN 5.0 SSPD 16.4 SPDT 16.4	NHBR 335.0 RDAR 47.0 SPDF 9999.0 9999.0 SHPS 100.0 SHPS 100.0 SHPS 100.0 RDAR 91.0 SPDF 9999.0	3.0 PDIA 6.4 RUDT 36.0 -36.0 RUDS 0.0 TYPE 2.0 PDIA 7.8 RUDT 35.0	46.0 ASHF 9999.0 ABUT 7.9 7.2 TDIS 9999.0 DISP 244.0 ASH <sup>3</sup> 9999.0 ADUT 9.8	237.0 RDST 3.0 TRNT 3.4 HRCH 23.1 LDPX 326.0 RDST 3.0 TRNT 4.2	249.0 EHGN 3.0 DIAT 7.2 7.1 SRCH 9799.0 LOAX 344.0 EHGN 1.0 EHGN 1.0	38.5 PROF 1.0 FRPM 9797.0 TIMS 8.5 TIMS 8.5 DEAM 47.8 PROP 1.0 FRPM	6.4 LATA 32.9 TIMR 30.0 DRFT 17.6 LATA 21.5	35.0 LCAX 0.0 TRIM 2.0 LCAX	9979.0 UHUU 1.0 BULB 9999.0 UNUV	46.0 TRLC 9779.0 DD18 244.0 TRLC	20.7	119.0
DIMENSION RUDDER, PROP TURNING Stopping Baasas Ship & Dimension Rudder, Prop	NATN 5.0 SSFD 15.4 SFDT 17.0 17.0 SPDS 17.0 336 ## NATN 5.0 SSPD 16.4 SPDT 16.4	NHBR 335.0 RDAR 49.0 SPDF 9999.0 9999.0 9999.0 9999.0 SHPS 100.0 SHPS 100.0 XHPR 336.0 RDAR 91.0 SPDF	3.0 PDIA 6.4 RUDT 36.0 -36.0 RUDS 0.0 TYPE 2.0 PDIA 7.8 RUDT	46.0 ASHF 9999.0 ABUT 7.9 7.2 TDIS 9999.0 DISP 244.0 ASH <sup>3</sup> 9999.0 ADUT 9.8	237.0 RDST 3.0 TRNT 3.4 HRCH 23.1 LDPX 326.0 RDST 3.0 TRNT 4.2	249.0 EHGN 3.0 DIAT 7.2 7.1 SRCH 9799.0 LOAX 344.0 EHGN 1.0 EHGN 1.0	38.5 PROP 1.0 FRPH 9999.0 9999.0 TIHS 8.5 DEAM 49.8 PROP 1.0 FRPH	6.4 LATA 32.9 TIMR 30.0 DRFT 17.6 LATA 21.5	35.0 LCAX 0.0 TRIM 2.0 LCAX	9979.0 UHUU 1.0 BULB 9999.0 UNUV	46.0 TRLC 9779.0 DD18 244.0 TRLC	20.7	119.0

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 16.4
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 RUDZ
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 OVSF
 OVSW
 KPRH
 TPRH
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 15.0
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			-	TYPE		1 86.4	1.0			-	-			
	DIMENSION	- NATH	NHBR 337.0	17PE	DISP			8F.6H	DRFT 8.0	TRIH	BUL .	DDIS 244.0	SSHP	SRPI 101.7
													3314	
	RUDDER, PROP	SSCD 9999.0	the second secon	PDIA	ASHP 9999.0	RDST 3.0	EHGN	9039	LATA	LCAX				
		****.0	41.0	1.8	****.0	3.0	1.0	1.0	52.8	0.0	8.0	9999.0		
	ZIG-ZAG	SFDZ		OVSI	OVSF	OUSH		TFRH						
		16.9	10.0	4.0	4.0	9999.0	7777.0	****.0	7999.0					
-		330"IT	T.t.t.					<u> </u>						
	DIMENSION	NATH		TYPE						TRIM	BULA	DRTS	SSHP	SRP
		5.0	338.0	2.0	161.0	240.0	274.0	43.5	17.0	1.0	7977.0	191.0	23.0	122.
	RUDDER. FROP	SSPD	RDAR	PDIA	ASHP	RUST	ENGN	PROP	LATA	LEAX	NNHA	TRLC		
		14.8	70.0	4.4	4449.0	3.0	3.0	1.0	17.7	0.0	1.0	9999.0		
	TURNING	SPDT	SFDF	RUDT	ADUT	TRNT	DIAT	FRPH						
			7999.0	35.0	8.4			9979.0						
		15.4	9999.0	-35.0	7.1	5.5	7.9	9999.0						
-	STOPPING	SPAS			TOIS								بودنة مشتبلة باده	
		15.5	100.0	0.0	7797.0	29.0	17.0	14.4	12.0					
-	Z10-ZA0	SP07	RUDZ	OVSI	OVSF	0734	KPRA	TPRN	FERD					-
		15.5	10.0	7.0	15.0	7597.0	9999.0	****.0	7777.0					
•	AARAA SHIP A	337 ##	***											
-	DIRENSTON	RATH	NAPR	TTPE	DTSF	LIFT	LUAX	TEAN	DEFT	TETH		DDIS		SRPI
		5.0	339.0	2.0	112.0	245.0	274.0	38.9	13.0	3.0	7777.0	112.0	22.0	82.
	RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PRUP	LATA	LUAX	mug	TRUC		
		14.2	49.0	8.0	7977.0	3.0	1.0	1.0	18.3	0.0	4.0	7797.0		
-	TURNING	1042	SFOF	RODT	ADUT	TRAT	BIAT	FRFA						
		16.3	9997.0	35.0	7.0	5.3	. 9.3	7777.0						
_		14.5	9999.0	-34.0	8.5	4.3	8.0	7777.0						
	STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
_		14.2	100.0	0.0	7777.0	26.5	9.1	13.0	50.7					
	ZIG-ZAG	SPDZ	RUDZ	OVS1	OVSF	OVSU	KPRH	TPRN	PERD					
		17.0		14.0				7777.0						
	SARAS SHIP .	340 ##	***											
		and a second												
	DINCHSION	NATH		TYPE	DISP			BEAN	DRFT	TRIM	BULD	DDIS	SSHP	SRPI
		5.0	340.0	1.0	78.0	220.0	232.0	35.0	12.1	1.0	9999.0	78.0	20.7	119.0
	RUDDER. PROP	SSPD		FDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	WNWV	TRLC		
		16.2	40.0	6.5	7977.0	3.0	3.0	1.0	14.3	0.0	1.0	7777.0		
	TURNING	SPDT		RUDT	ADUT	TRNT	DIAT	FRPH						
		17.1	7777.0	34.0	8.3	4.5	8.1	7777.0						

SARE SHIP .	344 88												
	9999.0		10.0	22.0	9999.0	\$\$\$\$.0							
210-2A0	SPDZ	RUDZ	OVS1	OVSF	OVSW	KPRN	TPRM	PERD					
		100.0		9999.0		9999.0	12.4	33.0					
STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TIMS	TIMR					
		9999.0	-35.0		9999.0		9799.0	-					
TURNING	SPDT 17.6	SPDF 9999.0	RUDT 35.0	ADUT 8.1	TRNT 9999.0	DIAT	FRPH 9999.0						
									0.0	4.0			
UDDER. PROP	SSPD 17.1		PDIA 7.2	ASHP 9999.0	RDST 3.0	ENGN 1.0	PROP 1.0	LATA 14.7	LCAX		TRLC 9999.0		
DIMENSION	NATN 5.0	NMBR 343.0	TYPE 2.0	DISP 117.0	1. BPX 257.0		8FAN 38.8	DRFT 14.8	TRIM 0.0	BULB	DPIS 119.0	SSHP 28.0	SRP#
TITE SHIP .	343 11						- 7 -						
	17.0	100.0	0.0	9999.0	42.0	9999.0	14.2	34.0					
STOPPING	SPDS			TDIS	HRCH			TIMR					
	16.0	9999.0	-35.0	9.7	5.2	9.3	9999.0	-					
		9999.0	35.0	9.9	4.0		9999.0						
TURNING	SPOT	SFDF	RUDT	ADUT	TENT	DIAT	FRPA						
	16.1			9999.0	3.0				0.0		9999.0		
UDDER. PROP	SSPD	RDAR	PDIA	ASHP	RAST	ENGN	PROP	LATA	LCAX		TRUC		
	5.0		2.0		281.9		46.2			9999.0		28.0	85.0
DIMENSION	NATH	NHER	TYPE	DISP	LIPX	LOAX	BEAN	DRFT	TRIM	BULB	DDIS	SSHP	SRPR
	342 11	***											
	1114.0	10.0	8.0	24.0	1111.0	9999.0	****.0	****.0		_	_		
ZIG-ZAG	SPDZ 9999.0		OVSI	OVSF	OVSW			PERD					
	15.8	100.0	0.0	9999.0		9999.0	16.0						
STOPPING	SPOS		RUDS	TDIS	HRCH	SRCH	TINS	TIMR					
		9999.0	-35.0	9.9	4.8		9999.0						
TURNING		9999.0	35.0	ADUT 9.0	TRNT 6.0	DIAT	FRPH 9999.0						
	SPDT		RUDT		100								
UDDER. PROP	SSPD 16.0		PDIA B.I	4999.0	RDST 5.0		PROP	27.9	LCAX 0.0	1.0	TRL.C.		
	1.2.2.					0.000							
DIMENSION		NMBR 341.0	11PE			10AX				BUL B	208.0	55HP 28.0	5RPH
	(*****								1.1.1	a artis			2.2.5
	16.0	10.0	6.0	18.0	\$999.0	9999.0	9999.0	9999.0					
216-7A6		and the second se	0451	OVSF	OVSW								
	17.3	100.0	0.0	9999.0	25.4	32.0	10.0	19.0					
STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TIMS	TINR					

		5.0	344.0	1.0	48.0	216.0	227.0	33.4	11.4	2.0	9999.0	49.0	18.4	117.0
RUD	DER PRDP	SSPD 16.2		PDIA 6.5	ASHP 9999.0	RNST 3.0	ENGN 9999.0		LATA 12.5	LCAX 0.0		T&LC 9999.0		
	TURMING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
			9999.0 9999.0	35.0		9999.0		9999.0 9999.0						
	STOPPING	SP05 17.1			1013 9999.0		5RCH 9999.0		11HR 12.0					
	ZIG-ZAG	SPD2 9999.0		0VS1 7.0			KFRH 9999.0	TFRN 9999.0	PERD 9999.0			- 127 - 11 2 - 202 - 10		
**1	** SHIP #	345 **	***											
	DIMENSION	NATN	NHAR	TYPE	DISP	LBFX	LOAX	BEAN	DRFT	TRIN	BULB	DAIS	SSHP	SRPI
		5.0		2.0				40.0	15.1	0.0	9999.0	123.0	24.0	110.0
RUS	DERI PROP			PDIA	ASHP				LATA 15.9	UCAX		TREC		
		16.2	53.0	6.9	9.4		1.0	1.0	13.7	0.0	1.0	*****		
	TURNING		SFDF	RUDT				FRPH						
			9999.0	35.0				9999.0						
				-3310	010									
	STOPPING			RUDS					TINR					
		16.6	100.0	0.0	9999.0	40.3	16.3	13.9	86.0					
**	*** SHIP *	346 ##	***											
	DIMENSION	NATN	NMBR	TYPE	DISP	LBPX	LOAX	BEAH	DRFT	TRIM	BULB	DDIS	SSHP	SRP
		5.0	346.0	2.0	125.0	262.0	276.0	41.4	13.9	0.0	9999.0	125.0	23.8	104.
RUI	DER. PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLC		
		17.0	50.0	7.0	11.6	2.0	1.0	1.0	16.5	0.0	1.0	9999.0		
	TURNING	SPDT	SPDF	RUDT	ADUT	TRNT	DIAT	FRPH						
			9999.0	35.0			8.4	9999.0						
		17.2	9999.0	-35.0	8.7	3.7	9.4	9999.0						
	STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
	01011110	17.2			9999.0		9999.0		58.0	_				
	ZIG-ZAG	SP07		0451				TPRM		-				
		10.4	20.0											
- 31	TAT SATE	347 15											100	
1.5	DIMENSION			TYPE					DRFT	TRIM			SSHP	SRP
-		5.0	347.0	1.0	72.0	230.0	242.0	32.2	11.3	4.0	9999.0	72.0	18.4	115.
RUI	DDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	-	TRLC		
		15.9				9999.0				0.0		9999.0		
	TURNING		SPDF 9999.0	RUDT 35.0				FRPM .0						
			9999.0	-35.0				9999.0						
											_			-
	STOPPING		SHP5 100.0	RU15	1015									

210-240 SPNZ RUNZ 0451 0455 0454 KPRH TPRH PERD 15.7 20.4 14.0 15.0 9999.0 9999.0 9999.0 9999.0

\$\$\$\$\$ SHIP # 343 \$\$\$\$

	DIMENSION			TYPE	DISP	LPPX	LOAX	BEAN	DRFT	TRIM	BULB	DDIS	SSHP	SRPH
		5.0	348.0	2.0	140.0	260.0	273.0	42.0			9999.0		24.2	
_				2.2.4.4										113.0
	RUDDER, PROP	SSPI	RDAR	PDIA	ASHP	RUST	ENGN	PROP	LATA	LCAX	UNUU	TRLC		
		15.4	43.0		9999.0					0.0				
									****	0.0	1.0	9999.0		
	TURNING	SPDT	SPDF	RUDT	ADUT	TRNT	DIAT	FRPM						
			9999.0	35.0	7.9	3.1		9999.0						
			9999.0	-36.0	8.6									
_				-30.0		3.8	8.3	9999.0						_
	STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH							
		16.3												
-		10.0	100.0	0.0	9999.0	41.2	7.0	14.7	264.0					
	ZIG-ZAG	SPDZ	RUDZ	OVS1	OVSF									
						OVSW			PERD					
-		15.4	10.0	7.0	19.0	9999.0	9999.0	9999.0	9999.0					
	And a second of the	1222 22												
_	SISSE SHIP .	349 \$\$												
	DIMENSION	NATH	MMBR	TYPE	DISP	L.BPX	LOAX	BFAR	DRFT	TRIM	BULS		-	
_		5.0	349.0	2.0	215.0				17.1			DDIS	SSHP	SRPM
	N		and the second second			- WARDY		1014	1/.1	0.0	7447.0	215.0	34.0	_94.0
	RUDDER. PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PPOP						
		16.9		8.2					LATA	LCAX	UNUV	TRLC		
-				9.2	13.6	3.0	1.0	1.0	22.3	0.0	4.0	9999.0		
	TURNING	SPDT	SPDF	RUDT	ADVT	-								
			9999.0			TRNT	DIAT	FRPM						
-				35.0		4.0	9.5	9999.0				alexander.		
		17.3	9999.0	-35.0	8.9	3.7	9.0	9999.0						***
	STOPPING	SPDS		RUDS	TDIS	HRCH	SRCH	TINS	TIMR					
		17.3			9999.0	46.1	20.0	16.8	11.0					
		5.4	100.0	0.0	9999.0	7.9	2.4	7.1	39.0					
	ZIG-ZAG	SPDZ	RUDZ	OVS1	OVSF	OVSH	KPRM	TERM	PERD					
		14.0	20.0	13.0				9999.0	9999 A					
									////.v					
	##### SHIP .	350 11	***											
	***** SHIP +	350 11	***											
_		_		TYPE	0107	100	1415	-						
_	DIMENSION	NATH	NMBR	TYPE	PISP	LBPX	LOAX	BEAM	DRFT	TRIM	BUL D	DOIS	SSHP	SRPH
		_		TYPE 2.0	DISP 101.0	LBPX 302.0	LOAX 317.0	BEAN 50.4	DRFT 8.6		kul 8	215.0	SSHP 34.0	5ŘP N 94.0
	DIMENSION	NATH 5.0	NMBR 350.0	2.0	101.0	302.0	317.0	50.4	8.6	45.0	9999.0	215.0		
_		NATH 5.0	NNBR 350.0 RDAR	2.0 PDIA	101.0 ASHP	302.0	317.0	50.4 FROP	B.6	45.0	9999.0	215.0		
	DIMENSION	NATH 5.0	NMBR 350.0	2.0	101.0	302.0	317.0	50.4	8.6	45.0	9999.0	215.0		
	DIMENSION RUDDER, PROP	NATH 5.0 85PD 9999.0	NMBR 350.0 RDAR 74.0	2.0 PDIA 8.2	101.0 ASHF 13.6	302.0 RMST 3.0	317.0 ENGN 1.0	50.4 PROP 1.0	B.6	45.0	9999.0	215.0		
	DIMENSION	NATH 5.0 85PD 9999.0 5PDT	NNBR 350.0 RDAR 74.0 SPDF	2.0 PDIA 8.2 RUDT	101.0 ASHP 13.6	302.0 RDST 3.0 YRNT	317.0 ENGN 1.0 DIAT	50.4 FRUP 1.0	B.6	45.0	9999.0	215.0		
	DIMENSION RUDDER, PROP	NATH 5.0 SSPD 9999.0 SPDT 5.1	NNBR 350.0 RDAR 74.0 SPDF 9999.0	2.0 PDIA 8.2	101.0 ASHF 13.6	302.0 RDST 3.0 YRNT	317.0 ENGN 1.0	50.4 FRUP 1.0	B.6	45.0	9999.0	215.0		
	DIMENSION RUDDER, PROP	NATH 5.0 SSPD 9999.0 SPDT 5.1	NNBR 350.0 RDAR 74.0 SPDF	2.0 PDIA 8.2 RUDT	101.0 ASHP 13.6	302.0 RDST 3.0 YRNT 3.6	317.0 EHGN 1.0 DIAT 9999.0	50.4 FROP 1.0 FRPH 9999.0	B.6	45.0	9999.0	215.0		
	DINENSION RUDDER, PROP TURNING	NATH 5.0 85PD 9999.0 5PD1 5.1 5.2	NNBR 350.0 RDAR 74.0 SPDF 9999.0	2.0 PBIA 8.2 RUDT 35.0	101.0 ASHF 13.6 ADUT 7.9	302.0 RDST 3.0 YRNT 3.6	317.0 ENGN 1.0 DIAT	50.4 FROP 1.0 FRPH 9999.0	B.6	45.0	9999.0	215.0		
	DIMENSION RUDDER, PROP	NATH 5.0 SSPD 9999.0 SPDT 5.1	NNBR 350.0 RDAR 74.0 SPDF 9999.0	2.0 PBIA 8.2 RUDT 35.0	101.0 ASHF 13.6 ADUT 7.9	302.0 RDST 3.0 YRNT 3.6 4.0	317.0 EHGN 1.0 DJAT 7999.0 9999.0	50.4 PRUP 1.0 FRPH 9999.0 9999.0	8.4 LATA 48.0	45.0	9999.0	215.0		
	DINENSION RUDDER, PROP TURNING	NATH 5.0 SSPD 9999.0 SPD1 5.1 5.2 SPD5	NMBR 350.0 RBAR 74.0 SPDF 9999.0 9999.0 SHPS	2.0 PDIA 8.2 RUDT 35.0 -35.0 RUDS	101.0 ASHF 13.6 ADUT 7.9 8.1 TDIS	302.0 RNST 3.0 YRNT 3.6 4.0 HRCH	317.0 EHGN 1.0 DJAT 9999.0 9999.0 SRCH	50.4 FRUP 1.0 FRPH 9999.0 9999.0 TINS	8.6 LATA 48.0	45.0	9999.0	215.0		
	DINENSION RUDDER, PROP TURNING	NATH 5.0 SSPD 9999.0 SPD1 5.1 5.2 SPD5	NMBR 350.0 RDAR 74.0 SPDF 9999.0 9999.0	2.0 PDIA 8.2 RUDT 35.0 -35.0 RUDS	101.0 ASHF 13.6 ADUT 7.9 8.1	302.0 RDST 3.0 YRNT 3.6 4.0	317.0 EHGN 1.0 DJAT 7999.0 9999.0	50.4 PRUP 1.0 FRPH 9999.0 9999.0	8.4 LATA 48.0	45.0	9999.0	215.0		
	DINENSION RUDDER, PROP TURNING STOPPING	NATH 5.0 85PD 9999.0 5PDT 5.1 5.2 5PDS 5.5	NMBR 350.0 RDAR 74.0 SPDF 9999.0 9999.0 SMPS 100.0	2.0 PDIA 8.2 RUDT 35.0 -35.0 RUDS 0.0	101.0 ASHF 13.6 ADUT 7.9 8.1 TOIS 9999.0	302.0 RDST 3.0 YENT 3.4 4.0 HRCH 8.8	317.0 EHGN 1.0 DJAT 9999.0 9999.0 SRCH 0.4	50.4 FRUF 1.0 FRPM 9999.0 9999.0 TIMS 8.5	8.6 LATA 45.0 TIMR 70.0	45.0	9999.0	215.0		
	DINENSION RUDDER, PROP TURNING	NATH 5.0 85PD 9999.0 5FDT 5.1 5.2 8PDS 5.5 8PDS 5.5	NMBR 350.0 RDAR 74.0 SPDF 9999.0 9999.0 SMPS 100.0 RUDZ	2.0 PDIA 8.2 RUDY 35.0 -35.0 RUDS 0.0 OVS1	101.0 ASHF 13.6 ADUT 7.9 8.1 T015 9999.0 OVSF	302.0 Rhst 3.0 YRNT 3.6 4.0 HRCH 8.8 OVSW	317.0 EHGN 1.0 DJAT 7999.0 9999.0 9999.0 SRCH 0.4 KPRM	50.4 FRUF 1.0 FRPH 9999.0 9999.0 TINS 8.5 TPRH	8.6 LATA 48.0 TIMR 70.0 PERD	45.0	9999.0	215.0		
	DINENSION RUDDER, PROP TURNING STOPPING	NATH 5.0 85PD 9999.0 5PDT 5.1 5.2 5PDS 5.5	NMBR 350.0 RDAR 74.0 SPDF 9999.0 9999.0 SMPS 100.0	2.0 PDIA 8.2 RUDT 35.0 -35.0 RUDS 0.0	101.0 ASHF 13.6 ADUT 7.9 8.1 T015 9999.0 OVSF	302.0 Rhst 3.0 YRNT 3.6 4.0 HRCH 8.8 OVSW	317.0 EHGN 1.0 DJAT 9999.0 9999.0 9999.0 SRCH 0.4 KPRM	50.4 FRUF 1.0 FRPM 9999.0 9999.0 TIMS 8.5	8.6 LATA 48.0 TIMR 70.0 PERD	45.0	9999.0	215.0		
	DINENSION RUDDER, PROP TURNING STOPPING	NATH 5.0 85PD 9999.0 5FDT 5.1 5.2 8PDS 5.5 8PDS 5.5	NMBR 350.0 RDAR 74.0 SPDF 9999.0 9999.0 SMPS 100.0 RUDZ	2.0 PDIA 8.2 RUDY 35.0 -35.0 RUDS 0.0 OVS1	101.0 ASHF 13.6 ADUT 7.9 8.1 T015 9999.0 OVSF	302.0 Rhst 3.0 YRNT 3.6 4.0 HRCH 8.8 OVSW	317.0 EHGN 1.0 DJAT 9999.0 9999.0 9999.0 SRCH 0.4 KPRM	50.4 FRUF 1.0 FRPH 9999.0 9999.0 TINS 8.5 TPRH	8.6 LATA 48.0 TIMR 70.0 PERD	45.0	9999.0	215.0		
	DINENCION RUDDER, PROP TURNING STOPPING ZIG-ZAG	NATH 5.0 \$\$PD 9999.0 \$PD7 5.1 5.2 \$PD5 5.5 \$PD5 5.5 \$PD5 17.2	NMBR 350.0 RDAR 74.0 SPDF 9999.0 9999.0 SMPS 100.0 RUDZ 20.0	2.0 PDIA 8.2 RUDY 35.0 -35.0 RUDS 0.0 OVS1	101.0 ASHF 13.6 ADUT 7.9 8.1 T015 9999.0 OVSF	302.0 Rhst 3.0 YRNT 3.6 4.0 HRCH 8.8 OVSW	317.0 EHGN 1.0 DJAT 9999.0 9999.0 9999.0 SRCH 0.4 KPRM	50.4 FRUF 1.0 FRPH 9999.0 9999.0 TINS 8.5 TPRH	8.6 LATA 48.0 TIMR 70.0 PERD	45.0	9999.0	215.0		
	DINENSION RUDDER, PROP TURNING STOPPING	NATH 5.0 \$\$PD 9999.0 \$PD7 5.1 5.2 \$PD5 5.5 \$PD5 5.5 \$PD5 17.2	NMBR 350.0 RDAR 74.0 SPDF 9999.0 9999.0 SMPS 100.0 RUDZ 20.0	2.0 PDIA 8.2 RUDY 35.0 -35.0 RUDS 0.0 OVS1	101.0 ASHF 13.6 ADUT 7.9 8.1 T015 9999.0 OVSF	302.0 Rhst 3.0 YRNT 3.6 4.0 HRCH 8.8 OVSW	317.0 EHGN 1.0 DJAT 9999.0 9999.0 9999.0 SRCH 0.4 KPRM	50.4 FRUF 1.0 FRPH 9999.0 9999.0 TINS 8.5 TPRH	8.6 LATA 48.0 TIMR 70.0 PERD	45.0	9999.0	215.0		
	DIMENSION RUDDER, PROP TURNING STOPPING ZIG-ZAG BREER SHIP 6	NATN 5.0 SSPD 9999.0 SPDT 5.1 5.2 SPDS 5.5 SPDZ 17.2 351 144	NMBR 350.0 RBAR 74.0 SPDF 9999.0 9999.0 SMPS 100.0 RUD2 20.0	2.0 PB1A 8.2 RUDT 35.0 -35.0 RUDS 0.0 0vS1 8.0	101.0 ASHP 13.4 ADUY 7.9 8.1 TOIS 9999.0 OVSF 8.0	302.0 RDST 3.0 YRNT 3.6 4.0 HRCH 8.8 0VSW 9999.0	317.0 EHGN 1.0 DJAT 9999.0 9999.0 9999.0 SRCH 0.4 KPRM	50.4 FRUF 1.0 FRPH 9999.0 9999.0 TINS 8.5 TPRH	8.6 LATA 48.0 TIMR 70.0 PERD	45.0	9999.0	215.0		
	DINENCION RUDDER, PROP TURNING STOPPING ZIG-ZAG	NATH 5.0 \$\$PD 9999.0 \$PD7 5.1 5.2 \$PD5 5.5 \$PD5 5.5 \$PD5 17.2	NMBR 350.0 RDAR 74.0 SPDF 9999.0 9999.0 SMPS 100.0 RUDZ 20.0	2.0 PDIA 8.2 RUDY 35.0 -35.0 RUDS 0.0 OVS1	101.0 ASHF 13.6 ADUT 7.9 8.1 T015 9999.0 OVSF	302.0 Rhst 3.0 YRNT 3.6 4.0 HRCH 8.8 OVSW	317.0 EHGN 1.0 DJAT 9999.0 9999.0 9999.0 SRCH 0.4 KPRM	50.4 FRUF 1.0 FRPH 9999.0 9999.0 TINS 8.5 TPRH	8.6 LATA 48.0 TIMR 70.0 PERD	45.0	9999.0	215.0		

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	RUBDER, PROP	SSPD 16.0	RDAR 38.0	PDIA A.1	A5HP 9999.0	RDST 3.0	ENGN 3.0	PROP 1.0	LATA 17.8	LCAX 0.0	UNUV	TRLC		
	TURNING	SPDT	SPDF 7979.0	RUDT 36.0	ADUT 4.0	TRNT 3.0	DIAT	FRPM 7777.0						
			9999.0	-34.0		3.9		9999.0						
_	STOPPING	SPDS	SHPS	RUDS	TDI5	HRCH	SRCH 9979.0	TIHS 8.5	TIHR 45.0					
		10.3	100.0	0.0	*****	2.0+4	,,,,,,		43.0					
	SASAS SHIP .	352 141	***											
	DIMENSION	NATH	NHDR	TYPE	DISP	LBPX	LOAX	BEAN	DRFT	TRIM	BULB	DDIS	SSHP	SRPH
• •		5.0	352.0	5.0	114.0	240.0	252.0	38.0	15.1	0.0	9999.0	T14.0	20.7	-117.0
	RUDDER. PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLC		
-	RUDDERT PROP	15.2	53.0		9999.0	7.0	3.0		17.3	0.0		9999.0		
						1.246	1.52							
_	TURNING	SPDT	SPDF	RUDT		TRNT	DIAT	FRPM	_	_				
			9999.0	35.0		4.2		9999.0						
									0.5					
	STOPPING	SPDS	SHPS	RUDS		HRCH	SRCH	TINS	TINR					
		15.3	100.0	0.0	9999.0	23.8	1.8	15.3	18.0					_
-		353												
-	DIMENSION	NATH	MARK	TYPE	DISF	LBPX	LOAX	BEAN	DRFT	TRIN	BUCK	DATS	SSHP	SRPH
		5.0	353.0	5.0	34.0	216.0	226.0	31.1	6.3	48.0	0.0	9999.0	17.6	119.0
-	RUDDER, PROP	SSPD	RDAR	FDIA	ASHP	RDST	EHGN	PROP	LATA	-LCAX	UNNUT	TRLC		
		16.1	33.0	6.2	9999.0	3.0	3.0	1.0	26.4	0.0	1.0	9997.0		
•••	TURNING	SPDT	SPDF	RUDT		TRNT	DIAT	FRPH						
			9999.0	35.0		3.2		9999.0						
-		17.4	\$999.0	-35.0	4.5	2.8	2.8	9999.0						
	STOPPING	SPDS	SHPS	RUDS		HRCH	SRCH	TINS	TIMR					
-		17.5	100.0	0.0	9999.0	24.4	0.5	9.6	32.0					
		354 ##							_	2.2	-		-	
	DINCHEICH	NATN	NMBR	TYPE	DISP	LBPX	LOAX	BEAN	DRFT	TRIM	BULB	DRIS	SSHP	SRP
	DIMENSION	5.0		5.0		248.0	236.0		5.7		9999.0		15.0	122.0
											-			
	RUDDER, PROP	SSPD	RDAR	PDIA		RDST	EHGN	PROP	LATA	LCAX	UNUU	TRLC		
		16.0	40.0	0.0	9999.0	3.0	3.0	1.0	33.2	0.0	4.0	9999.0		
	TURNING	SPDT	SPDF	RUDT	ADUT	TRNT	DIAT							
_			9999.0	35.0		4.2		9997.0				_		
		16.5	9999.0	-35.0	9.3	4.2	8.2	9999.0						
-		355 88												
	DIMENSION	NATH	NMBR	TYPE	DISP	LBPX	LOAX	BEAM	DRFT	TRIA	BULB	DDIS	SSHP	SRP
	Printing Tom	5.0		5.0					7.2			7999.0	15.0	
	State Same	100	1.6.5.	1.110										
	RUDDER, PROP	SSPD	RDAR	PDIA		RDST	ENGN	PROP	LATA	LCAX	UNNA			_
-					0000				70 4					
-		16.0	40.0	6.0	9999.0	3.0	3.0	1.0	29.6	0.0	4.0	++++.0		

### 7.0 9999.0 35.0 8.1 4.8 9.1 9999.0

\*\*\*\*\* SHIP # 356 \*\*\*\*\*

															SRPH
_	DIMEN	SION	NATH 5.0	NMBR	TYPE		L PPX	the second se	statement interiments whether	DRFT 15.0	TRIM 0.0	BULR 0.0	121.0	SSHP 27.1	100.0
			5.0	354.0	5.0	121.0	252.0	262.0	34.4	10.0					
RU	DDER,	PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLC	1.00	
-			14.5	53.0	7.5	10.9	3.0	1.0	1.0	17.6	0.0	1.0	\$999.0		
	TUR	NING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
			the second s	9999.0	40.0	10.7	5.2		9999.0						
				9997.0	35.0	9.3	5.0		9999.0						
_			17.2	9999.0	-35.0	10.6	4.8	10.2	9999.0		_				
	STOP	PING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TIME					
			17.3			9999.0		9999.0		222.0				_	
							10.00			1000					
	ZIG	-ZAG	SPDZ		OVS1	OVSF	OVSW								
			16.9	20.0	14.0	14.0	9999.0	9999.0	7777.0	7777.0					_
		IP .	357 ##									_		0.000	
		5 G		2.2.12			-	-			-				
	DIMEN	SION	NATN		TYPE		LBPX				TRIM	BULS	DDIS	SSHP	SRPH
			5.0	357.0	5.0	55.0	238.0	249.0	36.6	7.9	28.0	0.0	9999.0	20.7	114.0
RI	DDER.	PROP	SSPD	PDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX		TRLC		
			16.7			9999.0	2.0				0.0		9999.0		_
		-	-				1.1.1.1.1	- 1025.							
	TUR	NING	SPDT		RUDT		TRNT	DIAT							
				9779.0	35.0				9999.0						
				9999.0	-35.0		2.0		7777.0						
				9999.0	-35.0		2.5		9999.0						
	STOP	PING	SPDS		RUDS		HRCH								
-			16.7	100.0	0.0	9999.0	24.2	0.1	10.5	24.0					
		- 41	358 11				_			_					
-															
	DIMEN	SION	NATH		TYPE						TRIM	BULS	DPIS	SSHP	SRPH
	_		3.0	358.0	1.0	89.0	237.0	7977.0	34.4	12.6	7.0	9999.0	87.0	22.8	115.0
RU	DDER.	PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLC		
			9999.0			9999.0	9999.0	3.0	1.0		0.0	9999.0	7777.0		
	TUR	INING	SPDT		RUDT		TRNT								
				9999.0	-35.0				7777.0						
-	STOP	PING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR	_				
			14.2	100.0	0.0	9999.0	20.4	5.9	8.0	9999.0					
		-	357 ##	***											
	DINCH	SION	NATH	NHER	TYPE	DISP	LBPX	LOAX	REAM	DRFT	TRIM	PULD	DDIS	SSHP	
			3.0		2.0	9999.0	237.0	9999.0	40.8	15.9	0.0	7777.0	9999.0	28.0	7999.0
RU	DDER,	PROP		RDAR 9999.0	PDIA	7977.0					LCAX	4797.0			
			*****	****.0	****					16.6					

9999.0 9999.0 35.0 9999.0 9999.0 10.5 9999.0 9999.0 9999.0 -35.0 9999.0 9999.0 9.9 9999.0

STOPPING	SF05 9999.0	SHPS	RUDS TDIS 0.0 9999.0	HRCH SRCH 33.4 9999.0	TINS TINR 13.0 7779.0	,

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_														
	##### SHIP #	360 ##	***											
-	DINCHSION	NATH	NISER	TYPE	DISP	1.650	1.044	DEAN	-					
		3.0			\$999.0		9997.0					DD15 7777.0		SRP 7977.
	RUDDER. FROP	SSPD				RDST	ENGN	PROP	LATA	LCAX	MMMU	TRLC		
		9999.0	9999.0	9999.0	9999.0	7777.0		7777.0			9999.0	9979.0		
	TURNING				ADVY	TRNT	DIAT	FRPN						
			9999.0		9999.0			7777.0						
		9999.0	9999.0	-35.0	9999.0	9999.0	10.2	9999.0						
	STOPPING	SPAS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TIMR					
			100.0		9999.0		9999.0		7777.0					
									_					
	TTAR SHIP .	361 ##	***											
	BINENCIAN													
	DIMENSION	NATN 3.0			DISP 7979.0	LBPX	LOAX 9999.0	DEAN				DDIS	SSHP	SRPI
-		3.0	301.0	2.0	*****	23310	7777.0	38.9	7.9	9999.0	7777.0	9999.0	24.0	
	RUDDER, PROP					RDST		PROP	LATA	LCAX	WNWV	TRLC		
		7999.0	9799.0	9999.0	9977.0	9999.0	1.0	9999.0	28.4	0.0	9999.0	9999.0		
	TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
			7999.0	35.0	9999.0	9979.0	10.9	9957:9						
		7999.0	9999.0	-35.0	9999.0	9999.6	12.0	9999.0						- · · · • •
	STOPPING	SPDS	SHPS	RUDS	TOIS	HRCH	SRCH	TINS	TINR					
			100.0		9999.0		9999.0		9999.0					
	BARR SHIP &	342 31	***											
	DIMENSION	NATN	NHER	TYPE	DISP	LIPX	LOAX	DEAN	DRFT	TRIM		DDIS	SSHP	SRPH
		3.0	362.0	2.0	0.6664	253.0						9999.0		
	RUDDER, PROP		RDAR	PDIA	ASHP									
	ACOPERT FROM		7999.0			RDST	EHGN	PROP	LATA	LCAX	1979.0	TRLC		
											(,,,,,,	,,,,,		
_	TURNING	SPOT		RUDT	ADVT	TRNT	DIAT	FRPH						
			9999.0		7799.0			7777.0						
			////.0	-30.0	9997.0	7777.0	7.7	7777.0						
	STOFFING	SPUS	SHFS	RUDS	TDIS	HRCH	SACH	TINS	TINE					
		16.2	100.0	0.0	9999.0				7777.0					
-								·						
	***** SHIP *	363 ##	***											
-	DIMENSION	NATH	NHBR	TYPE	DISP	LIPX	LOAX	BEAH	DRFT	TETH	BULB	bhrs	SEVE	SRP
		3.0	363.0		7777.0			38.9			7779.0			9779.0
	RUDDER, PROP	SSPh	RUAR	PDIA	ASH	RDST	ERGN	PROP	LATA	LEAT	UROU	THE		
			9999.0			7999.0		7777.0	27.1		7777.0			
	TURNIP'S	SI-h+	SENE	RUDY	ANUT	TENT		FRPH						
	I WARTED		\$999.0		7999.0			7777.0						

ST**GPPIN**G SPDS SHFS RUDS TDIS HRCH SRCH TINS TINR 15.5 100.0 0.0 9999.0 26.0 9999.0 12.0 9999.0

\*\*\*\*\* SHIP # 364 ##### DDIS SSHP SRPH DIMENSION NATH NUBR TYPE DISP LBPX LOAX BEAM DRFT TRIM BUL B 0.0 9999.0 9999.0 21.0 9999.0 3.0 364.0 2.0 9799.0 247.0 9999.0 38.9 12.3 l. LATA LCAX UNUU TRLC 21.4 0.0 9999.0 9999.0 RUDDER, PROP SSPD RDAR FDIA PROP ASHP RDST EHGN . 3.0 9999.0 7999.0 9997.0 9999.0 9999.0 9999.0 RUDT ADVT TRNT DIAT FRPM TURNING SPDT SPDF 8.6 9999.0 9999.0 9997.0 35.0 9999.0 9999.0 9999.0 9999.0 -35.0 9999.0 9999.0 9979.0 9997.0 ł. STOPPING SPDS SHPS RUDS TOIS HRCH SRCH TINS TIME 9949.0 100.0 0.0 9999.0 30.8 9999.0 14.0 9999.0 12 ##### SHIP # 345 ##### 14 TRIN BULB DDIS SSHP SRPM 0.0 9999.0 111.0 24.1 105.0 DRFT TRIM 14.3 0.0 DIMENSION NATH NEER TYPE DISP LAPX LOAX BEAK 8.0 365.0 2.0 111.0 250.0 9999.0 38.1 RUDDER, FROF SSFD FDAR PDIA ASHP RDST ENGN FROP LATA LCAX UNUU TRLC 9999.0 62.0 7.5 12.0 9999.0 1.0 1.0 52.4 0.0 9999.0 9999.0 27 TURNING SPDT SPDF RUNT ADVT TRNT DIAT FRPH 16.5 7979.0 -35.0 7.9 9779.0 9999.0 9999.0 i., as. 24 STOPPING SPDS SHPS RUDS THIS HRCH SRCH TINS TINE 16.5 100.0 0.0 7999.0 33.4 7999.0 12.0 9999.0 ... ... #4### SHIP # 366 ##### 11 DIHENSION NATH NHER TYPE DISP LEPX LOAX BEAM DRFT TRIN BULE DDIS SSHP SRPM 8.0 366.0 1.0 84.0 232.0 9999.0 33.5 13.2 0.0 9999.0 84.0 17.0 110.0 32 las<sup>1</sup> 34 
 FDIA
 ASHF
 RDST
 ENGN
 PROP
 LATA
 LCAX
 WNWV
 TRLC

 6.4
 12.0
 9999.0
 3.0
 1.0
 11.8
 0.0
 9999.0
 9999.0
 120 FDIA RUDDER, FROP SSFD RDAR 9999.0 43.0 131 hal TURNING SPDT SPDF RUDT ADVT TRNT DIAT FRPM 9999.0 9999.0 -35.0 7.1 9999.0 9799.0 9979.0 12 STOPPING SPDS SHES RUDS TDIS HRCH SRCH TINS TINR 16.3 100.0 0.0 9999.0 26.6 9999.0 11.5 9999.0 27 44 45 ##### SHIF # 367 ##### Ċ, NATN NMRR TYPE DISP LBPX LOAX BEAM DRFT TRIN BULB DDIS SSHP SRPM 8.0 367.0 2.0 109.0 257.0 9999.0 38.7 15.4 0.0 9999.0 109.0 29.4 108.0 DIMENSION -----RDST EHGN PROP LATA LCAX WHWY TRLC 999.0 1.0 1.0 13.5 0.0 9999.0 9999.0 ASHE RUDDER, PROF SSPD PDAR 9999.0 52.0 PDIA 20.0 9999.0 7.2 ADUT IRNT DIAT FRPH 8.2 9979.0 9999.0 9979.0 8.8 9999.0 9999.0 9979.0 RUDT SPDT SPDF ----TURNING 9999.0 9979.0 35.0 9999.0 9999.0 -35.0 8.8 9999.0 9999.0 9999.0 SPDS SHFS RUDS TDIS HRCH SRCH TIMS TIMR 17.9 100.0 0.0 9999.0 33.0 5.5 12.5 9999.0 STOPPING

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##### SHIP # 348 #####

	DIMENSION	NATH	NHBR	TYPE	DISP	LBPX	LOAX	BEAN	DRFT	TRIM	BIJL.	DDIS	SSHP	SRPH
		8.0	368.0	2.0	134.0	253.0	9999.0				9999.0		18.0	117.0
	RUDDER. PROP		RDAR	PDIA	ACHE	ROST	ENGN	FROP	LAYA		n.e.u			
		9977.0				9979.0					UNU() 7999.0	TRLC 9999.0		
	TURNING	SPDT	SPDF	RUDT	ADUT	TENT	DIAT	FRPH						
			9999.0					9999.0						
-		9999.0	9999.0	-35.0				9999.0						
	STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TIME					
		13.6	100.0	0.0	9999.0		9999.0		9999.0					
	SEESS SHIP .	749												
-														
	DIMENSION	NATH			DISP	LBPX	LOAX	BEAH	DRFT	TRIN	BULS	DDIS	SSHP	SRPH
_		8.0	369.0	2.0	237.0	310.0	9997.0	47.2	10.0		7999.0		28.0	85.0
	RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	EHGN	PROP	LATA	LCAX	UNU	TRLC		
		9999.0	79.0			9999.0						7999.0		
	TURNING	SPDT						-						-
	IUKNING		SPDF 9999.0											
-			9999.0					9997.0						
_	STOPPING		3HPS		TDIS 9999.0		SRCH	TINS	TIMR					
	TATES SHIP T	370'##	***				** **** ****			. <del></del> .				
	DIMENSION	NATH	NMBR	TYPE	DISP					2.4		1.1.1		
			370.0			L.BPX	10AX			TRIM	BUL R		SSHP 20.7	
												////	20.7	114.0
	RUDDER, PROP	SSPD				RDST	ENGN	PROP	LATA					
		9999.0	44.0	9999.0	9979.0	7777.0	3.0	1.0	18.4	0.0	7999.0	7999.0		
	FURNING	SPDT		RUDT	ADUT	TRNT	DIAT	FRPH						
			7979.0					9999.0						
		16.0	9999.0	35.0	ó , 8	7777.0	9999.0	7979.0						
-	STOPFING				-1015	HECH	SRCH	TINS	TIAR					
		15.9	100.0	0.0	9999.0	23.8	9999.0	8.8	7777.0					
	***** SHIP *	371 ##	***									**		
-	DINENSION													
	DINENSION	B.O			1779.0							NDIS-		
		0.0	3/110	3.0	*****	243.0	****.0	31.7	7777.0	9777.0	\$797.0	79.0	20.7	114.0
	RUDDER, PROP					RDST	ENGN	PROP	LAYA	LCAX	DING	TRUC		
		9999.0	44.0	9999.0	9999.0	9999.0	3.0	1.0	7979.0	0.0	7779.0	7777.0		
-	TURNING	SEDT	SPDF	RUDT	ADUT	TRNT	TAID	FRPH						
			9999.0	35.0			\$999.0							
-		16.0	9999.0	-35.0			9799.0						_	
	SARSE SHIP 4	372 84	171											
	DIMENSION	NATH	NHBR	TYPE	DISP	LIPX	LOAX	DEAN	DRFT	TRIN	BULB	DDIS	SSHP	SRPN
		8.0	372.0	1.0	64.0		1777.0	31.7	13.0		9999.0			111.0

LATA LCAX NNWV TRLC 7.2 0.0 9999.0 9999.0 PROP RUDDER, PROP SSPD RDAR PDIA ASHP RDST ENGN 9999.0 35.0 6.7 9.8 9999.0 1.0 1.0 RUDT FRPH SPDE ADVT SPOT TRNT DIAT TURNING 4.6 9999.0 9999.0 9979.0 5.8 9999.0 9999.0 9999.0 9977.0 9779.0 35.0 -35.0 9999.0 9999.0 STOPPING SPDS SHPS RUD& TDIS HRCH SRCH TINS TIME 18.0 100.0 0.0 9999.0 18.0 11.0 11.0 9999.0 . . ##### SHIP # 373 ##### TYPE DISP LBPX LOAX BEAN DRFT TRIM BULB DDIS SSHP SRPM 1.6 98.0 233.0 9999.0 37.2 12.9 2.0 9999.0 98.0 24.3 108.0 DIMENSION NATH NMBR 8.0 373.0 RUDDER, FROP SSFD SSFD RDAR 999.0 45.0 PDIA ASHP RDST ENGN 7.0 12.0 9999.0 1.0 TRLC LCAX WHWU TRLC PROP LATA 13.0 1.0 1.0 DUT TENT - DIAT FRPM 4.9 9999.0 9999.0 9999.0 7.4 9999.0 9999.0 9999.0 TURNING SPDT SPDF 9999.0 9999.0 ADVT RUDT •• 35.0 9999.0 9999.0 -35.0 RUDS TDIS HRCH SRCH 0.0 9999.0 26.7 10.4 STOPPING SPDS SHPS 16.5 100.0 TIHS TIMR 12.3 9999.0 ##### SHIP # 374 ##### 24 TRIM BULR DDIS SSHP SRPM 0.0 9999.0 220.0 29.0 85.0 DIMENSION NATH MADE 8.0 374.0 TYPE DIEP LAPX LOAX 2.0 220.0 305.0 9999.0 SRPN REAM DRET 25 24 47.2 18.4 ., LCAX WNWY TRLC . . . . RUDDER, PROF SSPD RDAR POLA ASHP ROST ENGN FROF LATA 29. 9779.0 110.0 8.9 9999.0 9999.0 19.1 0.0 7777.0 7777.0 1.0 1.0 39 ADUT TENT DIAT FRFM 10.7 9999.0 9999.0 9999.0 FUDT 11 TURNING SPOT SPDF 16.0 9799.0 .. 35.0 231 14.0 9999.0 -35.0 10.3 9999.0 9999.0 9999.0 34 RUDS TDIS HRCH SRCH TINS TINR 0.0 9999.0 43.8 9999.0 17.6 9999.0 3. STOPPING SPDS SHPS 16.0 100.0 1 40 \*\*\*\*\* SHIP # 375 \*\*\*\*\* TRIM . BULB SRPA DDIS SHP DIMENSION NATH NMBR TYPE DISP LEPX LOAX BEAM DRFT 0.0 9999.0 17.0 104.0 69.0 226.0 9999.0 69.0 20 8.0 375.0 1.0 32.2 11.6 FROP LCAX WNWV TRLC SDAR PDIA ASHP ENGN LATA RUDDER. FROP SSPD RDST 0.0 9999.0 9999.0 9997.0 9999.0 17.0 9999.0 1.0 41 6.6 3.0 13.6 44 TURNING SPDT SPDF RUDT ADVT TENT DIAT FRPH ... 14.0 9999.0 35.0 8.5 9997.0 9999.0 9999.0 RUDS TDIS HRCH SRCH TIHS TIHR 0.0 9999.0 23.0 9999.0 8.3 9999.0 STOPPING SPDS SHPS RUDS 16.0 100.0 •• \$\$\$\$\$ SHIP \$ 426 \$\$\$\$ DRFT TRIM BULD DDIS SSHP SRPM 14.3 0.0 9999.0 101.0 24.1 108.0 TYPE DISP LBPX LOAX 2.0 101.0 250.0 9999.0 NATN NMPR TYPE BEAH DIMENSION ----8.0 424.0 34.3 LCAX WNWV TRLC RUDDER, PROP SSPD RDAR PDIA ASHP RDST ENGN PROP LATA

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		9979.0	62.0	7.5	12.0	9999.0	1.0	1.0	14.3	0.0	9999.0	7777.0		
	TURNING		SPDF 9779.0	RUDT 35.0	ADVT 8.3		DIAT 9999.0	FRPH 9979.0						
		16.4	9999.0	-35.0			9999.0							
	STOPFING	SFNS	SAFS	RUDS	TDIS	HRCH	SRCH	TIRS	TINR					
		16.4	100.0		9999.0				9799.0					
	##### SHIP #	427 88	***											
	DIMENSION	NATN 8.0		TYPE 1.0		LBPX 215.0	LOAX 9999.0		DRFT 11.4	TRIM 0.0	BUL 8 9999.0		55HP 19.0	SRP/ 103.0
	RUNDER, PRUP	SSED	RUAR	FDIA	ASHF	RUST	ENGN	PROP	LATA	TCAY	טטאנו	TREC		
		9999.0		7.0		9979.0						9999.0		
	TURNING	SI'DT'	SPDF	RUDT	AUVT	TENT	DIAT	FRPA						
			9997.0	35.0			\$999.0							
_		16.2	9999.0	-35.0	9.0	9599.0	9999.0	9999.0						
	STOPPING	SEDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
		9975.0	100.0	0.0	9599.0	34.4	11.2	8.0	9999.0					
	##### SHIP #	428 ##	***											
	DIMENSION	NATN B.O		11FE 2.0	DISP 134.0		LDAX 9999.0	8EAH 39.0	DRFT 15.4	TRIH 2.0	BULB 9999.0		SSHP 25.0	SRP1
	RUDDER. PROP	SSPD	FDAR	FDIA	ASHF	RDST	ENGN	FROP	LATA	LCAX	UNWU	TRUC		
		9797.0		7.4		9997.0			7999.0				•	
	TURNING	SPOT	SFDF	RUDT	ADVT	TENT	DIAT	FRPH						
	TURITING		9997.0	35.0		\$997.0		9999.0						
			0.9502			9799.0		9999.0						
	STOPPING	SPDS	61130											
	STUPP 140		SHPS	RUDS					7799.0					
	AXAXA SHIP &	452 84	***											
	•••••	417 44	•••											
	DIMENSION	NATN		TYPE				BEAH	DRFT	TRIN			SSHP	SRPI
	-1	8.0	429.0	2.0	59.0	274.0	9999.0	39.0	7.4	22.0	9999.0	134.0	25.0	105.
	RUDDER. PROM	SSPD	RDAR	PUTA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLC		
		9979.0		7.4		9799.0						9999.0		
	TURNING	SPDT	SPDF	RUDT	ADUT	TRNT	DIAT	FRPH						
	TERMINO		7979.0-	35.0		-7999.0		9999:0						
			9999.0	-35.0		9999.0		9999.0						
	STOPF ING				TDIS				TIR					
		9999.0	100.0	0.0	9999.0	30.8	4.0	15.5	9999.0					
	STERS SHIP .	430 **	***											
	DIMENSION	NATN	NHBR	TYPE	DYSF	LEPX	LOAX	BEAH	DRFT	TRIN	BULT	DNIS	SSHP	SEPI
	DIURM9104	8.0		1.0	66.0		\$999.0	30.6	12.4		7777.0			105.0
	RUDDER, FROP	SSPD	RDAR	FDIA	ASHP	RDST	ENGN	FROP	LATA			TREC		

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TUKNING		SPDF 9997.0	RUDT 35.0	ADVT	TRNT 7999.0	DIAT	FRPM 9999.0						
		9999.0	-35.0		9999.0		9999.0						
S.C													
STOPPING		3HPS	RUDS	TDIS 9994.0		SRCH 3.2		TIMR 9999.0					
									· · · · · · · · · · · · · · · · · · ·				
***** SHIP *	431 ##	***											
DIMENSION	NATN	NMBR	TYPE	DISP	LBPX	LOAX	DEAN	DRFT	TRIN	DULB	DDIS	SSHP	SAPH
	8.0		1.0			9999.0		11.6		9999.0		10.2	
RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RAST	EHGN	PROP	LATA	LCAX	UNNV	TRUC		
	9999.0	41.0	6.4	7.2	9999.0	3.0	1.0	9999.0	9999.0	9999.0	9999.0		
TURNING	SFDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
		9999.0	-35.0		9999.0		9999.0	_					
	15.4	9999.0	-35.0	6.8	9999.0	5.9	9999.0						
STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TIHS	TINR					
	15.8	100.0	0.0	9999,0	28.6	13.7	11.3	7797.0					
11111 SHIP 1	432 ##	***			•								
DIMENSION	NATH	NMBR	TYPE	DISP		LOAX	BEAH	DRFT		BULB	DATE	-	
procusion		432.0	1.0			9999.0			0.0	9999.0	87.0	SSHP	124.0
HUDDER. PROP	35FD 9999.0		PDIA		805T			1999.0					
						3.0							
TURNING	SPOT	SPOF	RUDT	ADVT	TRNT								
		9999.0	-35.0		9997.0		9979.0						
STOPPING		SHF3	RUDS	TD15 9999.0		SRCH 10.4		TINR 7777.0					
	13.8	100.0	0.0	****.0	21.7	10.4		*****					
***** SHIP 4	433 ##	***											
DIMENSION	NATN 8.0		TYPE 1.0			LOAX 9999.0		DRFT 13.1		BULS 7999.0			SRPN 105.0
												2210	143.4
RUDDER, PROP			PUIA		RDST			LATA			TALC		
	9999.0	45.0	7.3	8.0	9999.0	1.0	1.0	11.8	0.0	9999.0	9999.0		
TURNING			RUDT		TRNT								
		9999.0 9599.0	35.0 -35.0		9999.0								
	,,,,,,	*****	-33.0	0.0	9999.0	****.0	7777.0						
STOPPING			RUDS										
	16.8	100.0	0.0	9999.0	29.9	9999.0	11.5	9999.0					
##### SHIP #	434 88	***											
DIMENSION	NATH	NMBR	TYPE	DISP	LBFX	LOAX	BEAN	DRFT	TRIN	BULB	DRIS	SSHP	SRPH
	8.0		1.0			9999.0				9999.0			105.0
RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLC		
	9999.0				9979.0			12.0			7777.0		
													and the second
TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	PIAT	FREM						

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		16.9	100.0	0.0	9999.0	14-1	7.0	9.2	9999.0					
Г	11111 SHIP 4	435 ##	111											_
	DIMENSION			TYPE						TRTH			SSHP	SRPH
		8.0	435.0	2.0	112.0	265.0	9999.0	38.9	12.8	2.0	9999.0	112.0	22.0	82.0
	RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RAST	ENGN	PROP	LATA	LCAX	UNUU	TRLC		
		9977.0		9.0		9999.0				-	-	9579.0		
	TURNING		SPDF 9799.0	RUDT 35.0	ADVT	TRNT	DIAT	FREM						
			9999.0	-35.0	9.0	9999.0	9999.0	9999.0						
_								*****						
	STOPPING				TDIS			TINS	TINR					
		9999.0	100.0	9.0	9999.0	24.5	9.2	13.0	9999.0					
	##### SHIP #	436 88	***											
-	DINENSION	UNYA	WHER											
	PINCHSION	8.0		1.0			194X				BULS			SRPH
			43010		73.9	2.30.10	*****•	2210	13.3	0.0	9999.0	93.0	22.7	115.0
	RUDDER, PROP	ssrb	RDAR	POTA	ASRF	ROST	ENGN	PROP	LATA	LCAY	UNIN	TREC		
		9999.0	46.0	7.1	8.1	9999.0	1.0	1.0				9999.0		
											1.1			
	STOPPING		SHPS 100.0		TD15 7999.0									
			100.0	0.0	7999.0	.32.8	9999.0	13.2	9999.0					
	ARTER SHIP &	437 ##	***											
	DINENSION	NATH	NASE	TYPE	DISP	TIPX	LOAX	DEAN	DRFT	TEYN	BUCS		SSHP .	
		8.0	437.0	3.0			7,999.0				9999.0			105.0
_	RUDDER PROF	TEAN	FUAR											
	RUDUERF FRUF	9999.0		PDIA		RD51 9999.0			LATA 14.5			TRLC		
			3314	/	,,,,,,,	*****	1.0	1.0	14.5	0.0	9999.0	9799.0		
	TURNING	SPDT	SPDF	FUDT	TVUA	TRAT	DIAT	FRPR						
			9979.0	35.0			9997.0	9999.0						
		17.1	9999.0	-35.0	7.1	9999.0	7999.0	9999.0		and the second				
	STOPPING	SPDS	SHPS	RUDS	TDIS									
	atorrano		100.0		9999.0	HRCH	SRCH 7777.0		TIHR 9999.0					
									*****					
	##### SHIP #	438 **	***											
	DINENSION	NATH	NNBR	TYPE	DISP	LBPX	1.044		-					
	P THE MOTOR	8.0	438.0	3.0	49.0		LOAX 7777.0	32.3	DRFT 7.8	TRIM		DIS	SSHP	SRPH
-				3.0	47.10		,,,,,,	321.3	/.8	0.0	9999.0	7774.0	14.5	103.0
	RUDDER. PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLC		
_		9999.0	44.0	6.7	7.5	9999.0	1.0	1.0	32.1		\$999.0			
											•			
	TURNING		SPDF	RUDT	ADVT			FRPM						
-		the second s	9979.0	35.0			9999.0							
		1012	*****	-33.0	4.2	7777.0	****.0	7777.0						
	STOPPING	SPDS	SHPS	RUDS	IDIS	HRCH	SRCH	TINS	TINR					
-			100.0		9999.0		9999.0		9999.0	-				

17.2 9999.0 -35.0 7.4 9999.0 9999.0 9999.0 STOPPING SPDS SHPS RUDS TDIS HRCH SRCH TINS TINR 14.9 100.0 0.0 9999.0 14.1 9.8 9.2 9999.0

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	A SHIP . 4					1.00			DRFT	TRIN	BULP	DDIS	SSHP	SRPH
1	INCUSION	NATN	NHBR	TYPE	DISP	LBPX		PEAN	7.6		9999.0			100.0
		8.0	439.0	1.0	88.0	274.0		41.2	/					
	ER. PROP	SSPD	RDAR	PDIA	ASHP	FRST	ENGN	PROP	LATA	LCAX	VNNN	TRLC		
KUU		997.0	57.0	7.5	12.5 1	999.0	1.0	1.0	38.5	0.0	9999.0	****		
									TIMR					
	STOPPING	SFDS	SHES		TDIS	HRCH			9999.0					
		17.2	100.0	0.0 9	799.0	24+4	9999.0	713						
222	## SHIP #	40 111	**											
						LBPX	LOAX	BEAN	DRFT	TRIM	BULB	DDIS	SSHP	
	DIMLNSION	HATH	NMBR 440.0	TYPE 3.0	DISP	229.0		32.3	8.5	1.0	9999.0	9999.0	16.5	103.0
		1.0	440.0	3.4							UNUV	TRLC		
RUD	DER. PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROF	10.5	LCAX	9999.0			
		9999.0	47.0	6.7	7.8	9999.0	1.0	1.0	5419					
		SPDT	SPDF	RUDT	ADVT	TRNT	. DIAT	FRPH						
	TURNING		7999.0	35.0	5.4	9997.0	9999.0	9999.0						
			9999.0	-35.0	4.2	9999.0	9999.0	9999.0						
								TIMS	TIMR					
	STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH 9999.0		9999.0					
		15.3	100.0	0.0	9999.0	10.0								
				<b>A</b>										
***	SHIP .	441 888	**											-
		MATH	NMER	TYPE	DISP	LAPX	LOAX	BEAK	DRFT	TRIM	BUL.B	DDIS		SRPH
	DIMENSION	1.0	441.0	1.0	60.0	248.0	9999.0	38.1	18.7	41.0	9999.0	9999.0	21.2	124.0
								PROP	LATA	- CEAN		TRUC		
- KÜI	DER. PRUP	SSPD	RDAK	FDIA	ASHF	RDST	ENGN 1.0	FROP 1.0	29.0	0.0	9999.0	9999.0		
		9999.0	54.0	6.7	11.5	9999.0	1.0	1.0						
	STOPPING	et ne	SHES	FUDS	TUIS	HECH	SFCH	TINS						
	2106.1.140	15.4	100.0		7999.0	21.0	9979.0	7.8	9999.0					
													-	
**1	*** SHIP *	442 11	* * *										SSHP	SREM
	DIMENSION	NATN	NMBR	TYPE	DISP	LBFX		BEAH	DRFT	TRI	I BULI	hbis 9999.0	27.5	103.0
		1.0		4.0	87.0	296.0	9999.0	43.3	24.7	18.0			27.53	
					ACHIC	RDST	EHGN	FROF	LATA	LCA		TRUC		
RU	DDER, PROP	SSPD	RDAR 58.0	PUIA 7.6	ASHP 12.5	9979.0						9999.0		
		9979.0	30.0											
	TURNING	SPDY	SPDF	RUDT	TAOUT	TENT	DIAT	FRPH						
		18.3	9999.0	35.0	9.7	9999.0	9999.0	9999.0						
		13.3	9999.0	-35.0	8.7	9999.0	4799.0	9999.0						
		SPDS	SHPS	RUDS	TDIS	HRCH	SRCH							
	STOPPING		100.0		9999.0		9999.0	11.1	9999.0					
											-			
	ALL SHIE .	443 38							1.000					
	DIMENSION	NATH	NMPR	TYPE	DISP									
		1.0		1.0		218.0	9999.0	31.7	16.2	0.	0 9999.	0 69.0	19.0	103.0
							ENGN	PROP	LATA	LCA	-	V TRLC		
RU	IDDER. PROP			PDIA	ASHP	RDS1 9999.0				0.		0 9999.0		
_		9999.0	37.0	6.9	11.13									
	TURNING	SPDT	SPDF	RUDT	ADUT	TRNT	DIAT							
			9999.0	35.0	4.4	9999.0	9999.0	9999.0	•					

4999.0 9999.0 -35.0 7.2 9999.0 9999.0 9994.0

STOPPING SPDS SHPS RUDS TDIS HRCH SRCH TINS TINR 16.9 100.0 0.0 9999.0 22.5 9999.0 8.8 9999.0

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	***** SHIP +													
	DIMENSION	NATN	NMBR	TYPE	DISP	LBPX	LOAX	BEAH	DRFT	TRIM	BULB	DDIS		SRPH 110.0
		1.0	444.0	3.0	57.0	216.0	9999.0	36.6	15.4	0.0	9999.0	57.0	20.2	110.0
		SSPD	RDAR	PEIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	WHWV	TRLC		
	RUDDER, PROP	9999.0	32.0	4.7		9999.0	1.0	1.0	11.2	0.0	9999.0	9999.0		
	TURNING	SPOT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
			9999.0	35.0			\$999.0							
		17.2	9999.0	-35.0	013	*****								
	STOPPING		SHPS	RUDS	TDIS	HRCH	SRCH		TINR					
	51017 1140		100.0	0.0	9999.0	33.3	9999.0	12.0	7777.0					
	##### SHIP #	445 \$8	***											
	DIHENSTON	NATH	NHER	TYPE	DISF	LIPX	LOAX	DEAN	DRFT		JULY	DDIS		SRPH
	PERCHATON	1.0		1.0	40.0	213.0	9999.0	30.5	15.2	0.0	7777.0	60.0	18.6	114.0
							FILM	PROP	LATA	TEAT		TREE		
	RUDDER, FROP	SSPD	RDAR	FDIA	ASHP	R05T	Elign 1.0	1.0	10.4		7779.0			
		9999.0	32.0	6.6		****								
	TURNING	TUAZ	SFDF	KUDT			DIAT							
			9999.0	35.0			9999.0							
		7999.0	9999.0	-35.0	6.1	9999.0	9999.0	7777.0						
				RUDS	TDIS	HRCH	SRCH	TINS	TINR					
	STOPPING		SHPS		9999.0				9999.0					
		1013												
	##### SHIP #	446 \$\$	***											
	DIMENSION	NATH	NMPR	TYPE	DISP	LBPX	LOAX	BEAN	DRFT	TRIN		DRIS	SSHP	SRPH
	DINCHSION	1.0		1.0	59.0	213.0	9999.0	30.5	15.2	0.0	9999.0	59.0	18.0	116.0
												TRLC		
-							E.1.011		1	ICAY				
	RUDDER, PROP			PDIA	ASHP			PROP	LATA	LCAX				
	RUDDER, PROP	55FD 7977.0		PDIA 6.6		RDST 9999.0					9999.0			
		7977.0	32.0	4.6	8.0	9999.0	1.0	1.0	10.4					
	RUDDER, PROF	7977.0	32.0 SPDF		8.0 ADUT	9999.0 TRNT 7999.0	1.0 BIAT	1.0 FRPH 9979.0	10.4					
		7977.0 SFD1 7799.0	32.0	6.6 RUDT	8.0 ADUT	9999.0 TRNT 7999.0	1.0 DIAT	1.0 FRPH 9979.0	10.4					
	TURNING	7977.0 SFD1 7799.0 \$999.0	32.0 SPDF 9799.0 9999.0	4.4 RUDT 35.0 -35.0	8.0 ADUT 6.6 6.7	9999.0 TRNT 9999.0 9999.0	1.0 BIAT 9999.0 9999.0	1.0 FRPN 9979.0 9999.0	10.4					
		7977.0 SFD1 7799.0 \$999.0	32.0 SPDF 9799.0 9999.0 SHPS	4.4 RUDT 35.0 -35.0 RUDS	8.0 ADUT 6.6 6.7 TDIS	9999.0 TRNT 9999.0 9999.0 HRCH	1.0 BIAT 9999.0 9999.0 SRCH	1.0 FRPH 9979.0 9999.0 TINS	10.4 TIMR					
	TURNING	7977.0 SFD1 7799.0 \$999.0	32.0 SPDF 9799.0 9999.0	4.4 RUDT 35.0 -35.0 RUDS	8.0 ADUT 6.6 6.7	9999.0 TRNT 9999.0 9999.0 HRCH	1.0 BIAT 9999.0 9999.0 SRCH	1.0 FRPH 9979.0 9999.0 TINS	10.4					
	TURNING Stopping	7977.0 SFD1 7799.0 \$999.0 CPD9 17.5	32.0 SPDF 9799.0 9999.0 SHPS 5 100.0	4.4 RUDT 35.0 -35.0 RUDS	8.0 ADUT 6.6 6.7 TDIS	9999.0 TRNT 9999.0 9999.0 HRCH	1.0 BIAT 9999.0 9999.0 SRCH	1.0 FRPH 9979.0 9999.0 TINS	10.4 TIMR					
	TURNING	7977.0 SFD1 7799.0 	32.0 5 SPDF 7799.0 5 9999.0 5 9999.0 5 9999.0 5 9999.0 5 9999.0 5 9999.0 5 9999.0	4.4 RUDT 35.0 -35.0 RUD9 0.0	8.0 ADUT 6.6 6.7 TDIS 7019	9999.0 TRNT 9999.0 9999.0 9999.0 HRCH 24.2	1.0 DIAT 9999.0 9999.0 9999.0 SRCH	1.0 FRPH 9779.0 7999.0 TINS 8.5	10.4 TIMR 9999.0	0.0	7997.0	7777.0		SRP
	TURNING Stopping	7977.0 SFD1 7799.0 5999.0 5999.0 17.3 17.3	32.0 5 SPDF 5 7779.0 5 SHPS 5 100.0	4.4 RUDT 35.0 -35.0 RUD9 0.0	8.0 ABUT 4.6 6.7 TDIS 7979.0	9999.0 TRNT 9999.0 9999.0 HRCH 24.2	1.0 DIAT 9999.0 9999.0 9999.0 9797.0 SRCH 9.4	1.0 FRPH 9779.0 9999.0 TIHS 8.5	10.4 TIMR 9999.0 DRFT	0.0 TRIP	7797.0	9999.0 DDIS	55HP 20.7	
	TURNING <u>Stopping</u> ##### Ship (	7977.0 SFD1 7799.0 5999.0 5999.0 17.3 17.3	32.0 5 SPDF 7799.0 5 9999.0 5 9999.0 5 9999.0 5 9999.0 5 9999.0 5 9999.0 5 9999.0	4.4 RUDT 35.0 -35.0 RUD9 0.0	8.0 ABUT 4.6 6.7 TDIS 7979.0	9999.0 TRNT 9999.0 9999.0 HRCH 24.2	1.0 DIAT 9999.0 9999.0 9999.0 SRCH	1.0 FRPH 9779.0 9999.0 TIHS 8.5	10.4 TIMR 9999.0 DRFT	0.0 TRIP	7997.0	9999.0 DDIS		
	TURNING <u>Stopping</u> 19338 Ship ( <u>Dimension</u>	2997.0 SFDI 7799.0 	32.0           SPDF           9799.0           9799.0           SHPS           5-100.0           100.0           100.0           100.0           100.0           100.0           100.0	4.4 RUDT 35.0 -35.0 RUD9 6.0 	8.0 ADUT 6.6 6.7 TDIS 9999.0	+++++.	1.0 DIAT 9999.0 9999.0 9999.0 SRCH 9.4	1.0 FRPH 977.0 9359.0 TINS B.5 BEAM 31.1	10.4 TIMR 9999.0 DRFT 11.4	0.0 TRIF 5.0 LCA	9999.0			
	TURNING <u>Stopping</u> ##### Ship (	9999.0 SFD1 7999.0 6999.0 CPD5 17.3 447 81 NATI 1.1 SSP1	32.0           SPDF           9799.0           979.0           979.0           979.0           979.0           979.0           979.0           979.0           979.0           979.0           979.0           979.0           979.0           970.0           970.0           970.0           970.0           970.0           970.0           970.0           970.0	4.4 RUDT 35.0 -35.0 RUD9 0.0 -35.0 RUD9 0.0 	8.0 ADUT 6.6 6.7 TDIS 9999.0 DISP 61.0 ASHP	+++++.	1.0 DIAT 9999.0 9799.0 9799.0 9799.0 SRCH 9.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4 5	1.0 FRPH 977.0 9999.0 TINS 8.5 BEAM 31.1	10.4 TIMR 99990.0 DRFT 11.4	0.0 TRIF 5.0 LCA	9999.0	9999.0 		
	TURNING <u>Stopping</u> 19338 Ship ( <u>Dimension</u>	2997.0 SFDI 7799.0 	32.0           SPDF           9799.0           979.0           979.0           979.0           979.0           979.0           979.0           979.0           979.0           979.0           979.0           979.0           979.0           970.0           970.0           970.0           970.0           970.0           970.0           970.0           970.0	4.4 RUDT 35.0 -35.0 RUD9 0.0 -35.0 RUD9 0.0 	8.0 ADUT 6.6 6.7 TDIS 9999.0 DISP 61.0 ASHP	9999.0 TRNT 9999.0 9999.0 HRCH 24.2 LBP) 216.0 9999.0	1.0 DIAT 9999.0 9999.0 SRCH 9799.0 SRCH 9799.0 SRCH	1.0 FRPH 977.0 7999.0 TINS 8.5 BEAM 31.1 PROP	10.4 TIMR 9999.0 DRFT 11.4 LATA 11.9	0.0 TRIF 5.0 LCA	9999.0			SRPJ 

\*\*\*\*\* SHEF \* 448 \*\*\*\*\* REAN BULB DDIS SSHP SRPH NATN NHBR TYPE DISP LOPX LOAX DRFT TRIM DINCHSION 45.0 9999.0 61.0 20.7 105.0 1.0 9999.0 216.0 9999.0 1.0 448.0 31.1 ... TRUC RUDDER, FROF SSPD PDAR 9999.0 30.0 RAST ENGN PROP LATA LCAX UNUV PDIA ASHP 0.0 9999.0 9999.0 22.0 4.7 9999.0 9999.0 1.0 1.0 ADVT TRNT BIAT FRPH 5.8 9999 0.9999.0 9999.0 4.9 9999 0.9999 0.9999 0. SPDT SPDF RUDT 9999.0 9999.0 35.0 9999.0 9999.0 -35.0 TURNING . . . ##### SHIP # 447 ##### TRIM BULB DDIS SSHP SRPH 28.0 9999.0 9999.0 16.5 104.0 DISF LBFX LOAX 45.0 230.0 9999.0 DIMENSION NATH MAR BEAM DRFT TYPE 16.5 104.0 1.0 449.0 35.4 7.0 3.0 ... LCAX UNUV TRLC 0.0 9999.0 9999.0 ASHP RDST ENGN 4.7 9999.0 - 1.0 PROP LATA RUDDER, PROP SSPD PDIA RDAR 2 2 2 2 5 25.6 4.0 9999.0 56.0 5.5 ADUT TENT DIAT FRFM 9.1 9999.0 9999.0 9999.0 FRPH TURNING SPDT SPDF RUDT 9999.0 9999.0 35.0 7.2 9999.0 9999.0 9999.0 **'**19 9999.0 9999.0 -35.0 TDIS HRCH SRCH TIHS TIMR STOPPING SPDS SHPS RUDS 8.1 9999.0 0.0 9999.0 9999.0 9999.0 15.7 100.0 81 24 ##### SHIP # 450 ##### 21 SRPH PEAN DRFT TRIN BULR DRIS SSHP LBPX LOAX DIHENSION NATH NHBR TYPE DISP . 34.0 9999.0 9999.0 18.9 119.0 1.0 450.0 1.0 43.0 225.0 9999.0 32.2 7.3 .... 20 SSED RDAR FDIA ASHF RDST ENGN PROP LATA LCAX UNNO TRUC 19 RUDDER, FROP 0.0 9999.0 9999.0 9999.0 14.4 9999.0 1.0 1.0 22.0 39.0 6.7 11 79 RUDT ADVT TRNT DIAT FREM SPDT SPDF TURNING 6.2 9999.0 9999.0 9999.0 7.0 9999.0 9999.0 9999.0 14.8 9999.0 35.0 ... 1,... 17.2 9999.0 -35.0 RUDS TDIS HRCH SRCH TINS TIME 0.0 9999.0 27.7 9999.0 4.5 9999.0 SPRS SHPS 17.2 100.0 STOPPING 13.0 1 ##### SHIP # 451 ##### 41 TRIN BULB DRIS SSHP SRPM 41.0 9999.0 9999.0 13.8 103.0 NISP LEPX LOAX BEAM 45.0 212.0 9999.0 32.5 TYPE DRFT NABR NATH NHER 1.0 451.0 DIMENSION -03 3.0 7.6 14.3 4 ASHP RDST ENGN PROP LATA LCAX WHWY TRLC 6.2 9999.0 1.0 1.0 23.2 0.0 9999.0 9999.0 RUDDER, FROP SSPD RDAR 9999.0 43.0 PDIA 46 4.4 17 RUDT ADUT TRNT DIAT FRPM 6.1 9999.0 9999.0 9999.0 SPDT SPDF 15.4 9999.0 ... TURNING 35.0 \*\* 5.3 9999.0 9999.0 9999.0 15.4 9999.0 -35.0 1 : : : : : : : : TINS TINR 7.2 9999.0 SPD5 SHPS 15.4 100.0 RUDS TDIS HRCH SRCH 0.0 9999.0 17.2 9999.0 STOPPING \*\*\*\*\* CHIP # 452 \*\*\*\*\* TRIN BULB DDIS 26.0 9999.0 9999.0 DISP LBPX LOAX 42.0 216.0 9999.0 SSHP SRPH DRFT DIMENSION NATH MADE 1.0 452.0 TYPE DEAN 13.8 103.0 31.1 7.5 3.0

CAX UNUV TRLC 0.0 9999.0 9999.0 ENGN ASHP RDST RUDDER, FROP SSPD 9999.0 RDAR PDIA 6.1 9999.0 1.0 1.0 43.0 6.4 TURNING SPDT 5700 9999.0 9997.0 FRPH DIAT ADVT TRNT RUDT 5.5 9999.0 9999.0 9997.0 35.0 5.6 9799.0 9999.0 9999.0 -35.0 9999.0 7999.0 SRCH SHIT TIMR HRCH RUDS TRIS STOPPING SPDS SHPS 8.8 9999.0 21.4 9999.0 16.2 100.0 0.0 9999.0 \$2888 SHIP # 453 \$\$\$\$ DDIS SSHP SRPN TRIM BULS LOAX BEAH DRFT LEPX TYPE DISP DIMENSION NATH NMBR 0.0 9999.0 139.0 42.4 115.0 272.0 9997.0 40.2 15.2 139.0 2.0 1.0 453.0 TRUC LATA LCAX UNUU PROP EHGN PDIA ASHP RBST RDAR SSED RUDDER, FROP 0.0 9999.0 9999.0 4.0 17.8 15.0 9999.0 1.0 6.7 9999.0 95.0 FRPM ADVT TRNT \* DIAT SPOF RUDT SPDT TURNING 7.3 9999.0 9999.0 9979.0 9999.0 7979.0 35.0 7.4 9999.0 9999.0 9999.0 9999.0 5997.0 -15.0 ... TINS TINR 8.7 9999.0 TDIS - HRCH SRCH 999.0 22.6 9799.0 999.0 13.7 9999.0 SRCH RUDS STOFFING SPDS SHPS 0.0 9999.0 100.0 19.0 8.0 9999.0 •• 0.0 9999.0 10.9 100.0 20 8 1 23 \*\*\*\*\* SHIP \* 454 \*\*\*\*\* TRIN BULD DATS SSHP SRPH 0.0 9999.0 88.0 22.7 115.0 SRPH DISF LEFX LOAX 84 25 FEAH DRFT TTHENSION NATH NHER TYPE 1.0 88.0 250.0 9999.0 13.4 31.7 1.0 454.0 26 TROP LATA CCAX UNUV TRUC 27 FRIA ASHF ROST ENGN RUDDER, TROP SSPD RDAR 0.0 9999.0 9999.0 28 1.0 14.8 8.1 9999.0 1.0 9999.0 46.0 7.0 11 1014 TENY DIAT FREM 7.3 9999.0 9999.0 9999.0 TERPH TURNING SPOT SPOF RUDY ADVY 11 12 13 14 19 14 19 14 19 10 9999.0 9999.0 35.0 7.3 9999.0 9999.0 9999.0 9999.0 9999.0 -35.0 TIME TINS HRCH SRCH RUDS TDIS STOPPING SPDS SHPS 9.7 9999.0 24.2 9999.0 0.0 9979.0 16.8 100.0 B.9 100.0 9.5 9799.0 ##### SHIP # 455 ##### 40 TRIN BULB DDIS SAMP SAPH 0.0 9999.0 63.0 18.0 110.0 TYPE DISP LBPX LOAX TRIM DRFT BEAN MARK NATN DIMENSION 31.0 11.5 1.0 455.0 LCAX UNUV PROP TRLC RUDDER, FROP SSPD ENGN LATA ASHF RDST PDIA RDAR -----0.0 9999.0 9999.0 10.9 B.5 9999.0 1.0 1.0 34.0 6.6 SPDS SHPS RUDS TDIS HRCH SKCH 17.2 100.0 0.0 9999.0 27.3 9999.0 TIKS TINR STOPPING 12.4 9999.0 \$\$\$\$\$ SHIP # 456 \$\$\$\$ SSHP SRPH BULD DDIS LBPX BEAN DRFT TRIN TYPE LOAX DISP 10.0 110.0 NATH NHBR -----DIMENSION 43.0 217.0 9999.0 7.9 14.0 9999.0 63.0 1.0 456.0 31.0 1.0 18.4 TRLC PROP LCAX UNUU ENGN ASHP RDST SSPD RDAR FDIA RUDDER, PROP 0.0 9999.0 9999.0 1.0 1.6 8.5 9999.0 9999.0 34.0 6.6 FRPH TRNT DIAT ADVT TURNING SPDT SPDF RUDT

9039 LATA 17.7 LCAX

3

9999.0 9999.0 35.0 5.3 9999.0 9999.0 9999.0 7999.0 9999.0 -35.0 6.3 9999.0 9999.0 9999.0

STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TIMS	TIMR	
1.	17.6	100.0	0.0	9999.0	23.8	9999.0	10.3	9999.0	

		457 48												
									-	VATU	BULB	DDIS	SSHP	SRPN
	DIMENSION	NATN 1.0		TYPE 1.0			10AX	BEAH 35.4	DRFT 12.2		9999.0	80.0	19.4	
-	RUDDER, PROP	SSPD	RDAS	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX		TRLC		_
	RODDERT TROP	9999.0		7.0		9999.0	1.0	1.0	12.4	0.0	9999.0	9999.0		
-	TURNING	SPDT	SPDF	RUDT		TRNT		FRPM						
			9999.0	35.0			9999.0							
_		9999.0	9999.0	-35.0	7.4	9999.0	9999.0	\$999.0						
	STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	. SRCH	TINS	TINR					
			100.0		9999.0		12.8	9.7	9999.0					
-			-											
	STATE SHIP 4	428 88				15.57								
1	DINENSION	NATN	MABR	TYPE	DISP			BEAM	DRFT	TRIM			SSHP	SRPN
_		1.0	458.0	1.0	45.0	233.0	9999.0	35.4	6.4	42.0	9999.0	80.0	19.4	106.0
		SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUU	TRLC		
	RUDDER+ PROP	7977.0		7.0		9979.0		1.0	26.1		9999.0	9999.0		_
		200111												
	TURNING			RUDT	ADVT	TRNT	DIAT	FRPM						
_			7997.0	-35.0	7.6	9999.0	9999.0	9999.0			_			
1		4444.0	7599.0	-35.0	/	1111.0								
i	STOPFING	SPRS	SHPS	RUDS	TDIS	HRCH	SRCH		TIMR					
1		17.0	100.0	0.0	9999.0	23.4	30.5	11.7	9999.0					
_		-184												
1	antr .	447 44									10.04			
2	DIMENSION	NATH		TYPE			LOAX		DRFT		BUL.D		SSHP	91.0
-		5.0	459.0	2.0	271.0	304.0	9999.0	52.4	19.9	0.0	****.0	271.0	34.0	41.0
			RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLC		100
-	RUDDER. PROP	9999.0			7999.0							9999.0	-	
4	TURNING			RUDT										
i.			9999.0	35.0		9999.0		9999.0						
;		460 8												
_	DINENSION	NATI	NMBR	TYPE	DISP	LEPT	LOAX	BEAN	DRFT	TRIP	BULT	BDIS	THE	SRPH
	DINCHSION	5.0		2.0			9999.0				9999.0	312.0	36.0	85.0
	RUDDER, PROF			FDIA						LCAN		TRLC		
		9979.	0 112.0	8.9	7999.0		1.0	1.0	41.7					
+	TURNING	· CPD	T SPDF	RUDT	ADVI	TRNI		FRPH						
	- CAN LAG		9999.0		9.1	9979.0	4.0	9999.0						
2			9999.0			9999.0		9799.0						
			5 9999.0		7.	9999.		7799.0						
			8 9999.0	-35.0		4444.0		****.0						

AST NO ...

DINENSION	NATH	NMBR	TYPE	DISP	LUPX	LOAX	DEAN	DRFT	TRIN	BULB	DDIS	SSHP	SRPH
	5.0		2.0	139.0		9997.0	54.0	7.6		9999.0	312.0	25.0	85.0
RUDDER, PROF	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLS		
	9999.0	87.0	8.9	9999.0	9999.0	1.0	1.0	54.5	0.0	9999.0	9999.0		
TURNING		SPDF	RUDT		TRNT	DIAT	FRPH						
	-	9999.0	35.0		9999.0		9999.0						
	17.7	9999.0	-35.0	8.5	9999.0	6.6	9999.0						
***** SHIP *	462 88	***											
DIMENSION	NATH	NMBR	TYPE	DISP	LBPX	LOAX	BEAH	DRFT	TRIN	BULB	DDIS	SSHP	SRPI
	5.0	462.0	2.0	269.0	310.0	9999.0	54.0	19.4	0.0	9999.0	269.0	36.0	85.0
RUDDER. PROP	SSFD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	NHW	TRLC		
	9999.0	98.0	8.8	9999.0	9999.0	- 1.0	1.0	24.7	0.0	9999.0	9999.0		
TURNING	SPDT	SPDF	RUDT	ADUT	TRNT	DIAT	FRPH						
	16.9	9999.0	35.0	9.1	9999.0		9999.0						
	16.4	9999.0	-35.0		9999.0		9999.0						
		9979.0	35.0		7999.0		9999.0						
	6.5	9999.0	-35.0	9.5	9999.0	8.2	9999.0						
STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
	17.4	100.0	0.0	9999.0	44.6	19.5	17.2	9999.0					
	463 88												
DIMENSION	NATH		TYPE	DISP	LBPX	LOAX 9999.0	BEAN 54.0	DRFT 10.0	TRIM	BULB 9999.0	DDIS 247.0	SSHP 34.0	SRP 85.
	5.0	463.0	2.0	129.0	310.0	****.0	34.0	10.0	3/.0	*****	207.0	30.0	
RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	WHWV	TRLC		
	7999.0	88.0	8.8	9999.0	9999.0	1.0	1.0	54.0	0.0	9999.0	9999.0		
TURNING	SPDT	SPDF	RUDT	ADUT	TRNT	DIAT	FRPN						
		9999.0	35.0		9999.0	7.0	9999.0						
	17.9	9999.0	-35.0		9999.0		9999.0						
		9999.0	35.0		9999.0		9999.0						
	7.1	9999.0	-35.0	7.6	9999.0	9.8	7777.0						
STOPPING	SPDS		RUDS		HRCH	SRCH	TIMS	TIMR 9999.0					
	16.9	100.0	0.0	9999.0	34.7	6.6	14.0	****.0					
	464 88	***											
					and the second second		DEAN	DRFT	TRIM	BUL P	DDIS	SSHP	SRP
BINENSION	NATH	NMBR	TYPE	DISP	LBPX	LOAX						11.3	119.
			TYPE 1.0	DISP 39.0		19999.0	26.0	10.8	0.0	9999.0	39.0	11.2	Contra Contra
	NATH	464.0						10.8 LATA	0.0	9999.0	39.0 TRLC		
DIMENSION	NATH 5.0	464.0 RDAR	1.0 PDIA	39.0 ASHP	142.0	9999.0	26.0 PROP	LATA	LCAX		TRLC		
DIMENSION	NATH 5.0 SSPD	464.0 RDAR 28.0	1.0 PDIA	39.0 ASHP	142.0 RDST	9999.0 ENGN	24.0 PROP 1.0	LATA 7.7	LCAX	-	TRLC		
DIMENSION Rudder, prop	NATN 5.0 SSPD 9999.0 SFDT 15.0	464.0 RDAR 20.0 SPDF 9999.0	1.0 PDIA 5.8	37.0 ASHP 7777.0 ADVT 5.0	142.0 RDST 9999.0 TRNT 9999.0	9999.0 ENGN 3.0 DIAT 4.4	24.0 PROP 1.0 FRPM	LATA 7.7	LCAX	-	TRLC		
DIMENSION Rudder, prop	NATN 5.0 SSPD 9999.0 SPDT 15.0 14.0	464.0 RDAR 20.0 SPDF 9999.0	1.0 PDIA 5.8 RUDT 35.0 -35.0	39.0 ASHP 9999.0 ADVT 5.0 5.0	142.0 RDST 9999.0 TRNT 9999.0 9999.0	9999.0 ENGN 3.0 DIAT 4.4 3.4	24.0 PROP 1.0 FRPM 9999.0 9999.0	LATA 7.7	LCAX	-	TRLC		
DIMENSION Rudder, prop	NATN 5.0 SSPD 9999.0 SFDT 15.0 14.0 8.3	464.0 RDAR 20.0 SPDF 9999.0 9999.0	1.0 PDIA 5.0 RUDT 35.0 -35.0 35.0	37.0 ASHP 9777.0 ADUT 5.0 5.0 4.8	142.0 RDST 9999.0 TRNT 9999.0 9999.0 9999.0	9999.0 ENGN 3.0 DIAT 4.4 3.4 3.5	24.0 PROP 1.0 FRPM 7777.0 7777.0 7777.0	LATA 7.7	LCAX	-	TRLC		
DIMENSION Rudder, prop	NATN 5.0 SSPD 9999.0 SFDT 15.0 14.0 8.3	464.0 RDAR 20.0 SPDF 9999.0	1.0 PDIA 5.8 RUDT 35.0 -35.0	37.0 ASHP 9777.0 ADUT 5.0 5.0 4.8	142.0 RDST 9999.0 TRNT 9999.0 9999.0	9999.0 ENGN 3.0 DIAT 4.4 3.4 3.5	24.0 PROP 1.0 FRPM 9999.0 9999.0	LATA 7.7	LCAX	-	TRLC		

\*\*\*\*\* SHIP \* 461 \*\*\*\*\*

#### 11111 SHIP 0 465 11111

	DIMENSION	NATN	NMBR	TYPE	DISP	LBPX	LOAX	BEAN	DRFT	TRIN	PULB	DRIS	SSHP	SRPH
		5.0	465.0	1.0	20.0	142.0	9799.0	26.0	5.8	43.0	9999.0	20.0	11.2	119.0
	RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	NNNA	TRLC		
	NUPPERF FAUF		23.0									7999.0		
	TURNING	SPDT		RUDT			DIAT							
			9979.0	35.0		9979.0		9999.0						
			9999.0	-35.0		9999.0		9999.0						
			9999.0	-35.0		9999.0		9999.0						
	ZIG-ZAG	SPDZ		OVS1			KPRH							
-		10.8	10.0	5.0	9799.0	9999.0	1.6	1.4	9999.0					
	***** SHIP *	466 11	***											
									ومعرد من بو باین ماز ماند.					
	DIMENSION	NATH		TYPE						TRIM	BULB	DDIS	SSHP	SRPH
		5.0	456.0	2.0	478.0	340.0	9999.0	\$9.0	22.8	0.0	9999.0	478.0	45.0	80.0
	RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRUC		
			162.0		9999.0		1.0					9999.0	1.1	
													Malijale ale desijedan - samp	
	TURNING	SFDT		RUDT	ADUT		DIAT							
_			9999.0	-35.0		9999.0		9999.0						
		10.1		- 3310		7777.0	0.2	7777.0						
	##### SHIP #	467 11	111											
	DIMENCION	NATH	-	THAP										
	DIMENSION	5.0		1 TYPE		L BPX 360.0				TRJH	9999.0		45.0	SRPH 80.0
						30010				3310	,,,,,,	47010	43.0	0010
	RUDDER, FROP	SSPD		PDIA			ENGN		LATA	LCAX	WNWV			
		9999.0	162.0	9.8	9999.0	9999.0	1.0	1.0	67.4	0.0	9999.0	9999.0		
	TURNING	SPDT	SPDF	RUDT	ADUT	TRNT	DIAT	FRPM						
	TURNING		9999.0	35.0		9999.0		9999.0						
		17.8	9999.0	-35.0		9999.0		7999.0						
	***** SHIP *	440 ++												
	AAAAA Surr A	400 44												
	DIMCHSION	NATH	NMBR	TYPE	DISP	LBPX	LOAX	BEAH	DRFT	TRIM	BULS	DAIS	SSHP	SRPH
		5.0		2.0	267.0	306.0	7997.0				9999.0		36.0	90.0
	AUD													
	RUDDER, PROF	SSFD 9999.0		PDIA	ASHP 9999.0	RDST	EHGN 1.0		LATA 20.8			TRLC 9999.0		
		,,,,,,	77.0	4.0	****••	7777.0	1.0	1.0	20.8	0.0	7777.0	7777.0		
	TURNING	SFDT		RUDT		TRNT	DIAT	FRPM	******					
			9999.0	35.0		9999.0	6.8	9799.0						
-		16.5	\$999.0	-35.0	9.6	9999.0	6.8	9999.0						
											•			
	##### SHIP #	449 22	***											
	DIMENSION	NATN		TYPE		LBPX		BEAN	DRFT	TSIN	BULB	DDIS	SSHP	SRPH
_		5.0	469.0	2.0	120.0	306.0	9999.0	53.0	9.4.	35.0	7999.0	247.0	36.0	90.0
	RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	EHGN	PROP				-		
	NUPPERF FRUP	9999.0			9959.0		LHGN 1.0		LATA 51.5	LCAX	UNUV	TRLC 7777.0		
								1.0	91.9		,,,,,	7777.9		

TURNING SPET SPDF RUDT ADVT TRNT DIAT FRPM 17.2 9999.0 35.0 9.6 9999.0 4.2 9999.0 17.2 9999.0 -35.0 8.6 9999.0 5.4 9999.0

THE SHIP T	470 11	m	_										
	NATH	NHOD	TYPE	DISP		LOAX	BEAM	DRFT	TRIM	-	DDIS	SSHP	SRPH
DINCHSION			2.0				53.0	19.6	0.0	9999.0	248.0	34.0	90.0
	CSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLC		
		second of a lot of the					1.0	20.4		9999.0	7999.0		
TURNTHE	SPAT	SPDF	RUDT	ADUT	TRNT	DIAT	FRPN						
TURNING				9.0	9999.0	6.5	9999.0						
	17.0	9999.0	-35.0	9.2	9999.0	7.0	9799.0						
210-240													
	16.3	15.0	25.0	4999.0	4444.0	3.1							
	471 38	***									-		-
DIMENSION	NATH	NMBR	TYPE	DISP	LBPX	LOAX	BEAN	DRFT	TRIM	BULB	DBIS	SSHP	SRPH
			2.0	118.0	304.0	9999.0	53.0	9.4	35.0	9999.0	248.0	34.0	90.0
	6600	RDAP	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	-	TRLC		
AUDIENT THUP											****		
THENTHE	CPDT	CODE	PUDT	ADUT	TENT	DIAT	FRPH						
IUNNING				8.4	9999.0	6.4		1.00		_			
	18.3	9999.0	35.0	8.6	9999.0	6.2	9999.0						
TATAT SHIP T	472 #8	m							-				100
DIMENSION	NATH	NMBR										SSHP	SRPM
	5.0	472.0	5.0	52.0	248.0	9999.0	32.2	11.0	0.0	9999.0	52.0	80.0	110.0
	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA				1	
	9999.0	58.0	7.0	7979.0	9999.0	3.0	3.0	24.6	0.0	4444.0	9999.0		
710-746	SPD7	RUDZ	OVSI	OVSF	OVSW	KPRM	TPRM	PERD					
Liv inv	9979.0					2.0			_				
													-
	9999.0	15.0	5.0	9999.0	9999.0	1.0	1.0	****.0					
SITTE SHIP T	473 18	mi											
DIMENSION	NATH	MMBR	TYPE									SSHP	SRPH
						9999.0	32.2	7.5	30.0	9999.0	52.0	80.0	110.0
	SSFD	RDAR	PDIA	ASHP	RDST	ENGN	PROP					1	-
and the second						3.0	3.0	33.3	0.0	7999.0	9999.0		
210-2A0	SPDZ	RUDZ	ovst	OVSF	ovsu	KPRH	TPRM	PERD		1000	1.1.1.1		
	30.0				9999.0		1.2	9997.0					
					9999.0		1.5	9999.0					
	28.9	5.0											
	30.0	10.0	3.0	9779.0	9999.0	0.8	1.2	9999.0	_	_			
		10.0	3.0	9999.0		0.8	1.2						
	DIMENSION RUDDER, PROP TURNIMG ZIG-ZAG BREASION RUDDER, PROP TURNING RUDDER, PROP ZIG-ZAG BERSION RUDDER, PROP ZIG-ZAG BERSION RUDDER, PROP RUDDER, PROP	DIMENSION NATH 5.0 RUDDER, PROP SSPD 9999.0 TURNING SPDT 17.0 210-ZAG SPDZ 16.4 16.3 ##### SHIP # 471 3# DIMENSION MATH 5.0 RUDDER, PROP SSPD 9999.0 210-ZAG SPDZ 18.4 18.3 ##### SHIP # 472 ## DIMENSION NATH 5.0 RUDDER, PROP SSPD 9999.0 210-ZAG SPDZ 9999.0 210-ZAG SPDZ 9999.0 210-ZAG SPDZ 9999.0 5.0 8#### SHIP # 473 ## DIMENSION NATH 5.0 8#### SHIP # 473 ##	DIMENSION         NATH         NMBR           5.0         470.0           RUDDER, PROP         SSPD         RDAR           9999.0         9999.0           17.0         9999.0           17.0         9999.0           17.0         9999.0           17.0         9999.0           17.0         9999.0           216-ZAG         SPDZ           14.6         15.0           16.3         15.0           #####         SHIP # 471 3####           DIMENSION         NATN           RUDDER, PROP         SSFD           RUDDER, PROP         SSFD           TURNING         SPDT           SP07.0         99.0           TURNING         SPDT           SFOF         RDAR           9999.0         79.0           18.4         9979.0           18.3         9599.0           18.3         9599.0           18.3         9599.0           SEC         472.0           RUDDER, PROP         SSPD           SHIF         473           15.0         9999.0           15.0         9999.0	DIMENSION         NATH         NMBR         TYPE           5.0         470.0         2.0           RUDDER, PROP         SSPD         RDAR         PDIA           9999.0         99.0         8.5           TURNING         SPDT         SPDF         RUDT           17.0         9999.0         -35.0           216-ZAG         SPDZ         RUDZ         OUSI           16.3         15.0         25.0           216-ZAG         SPDZ         RUDZ         OUSI           16.3         15.0         25.0           16.3         15.0         25.0           16.3         15.0         25.0           BIMENSION         MATN         NMBR         TYPE           S.0         471.0         2.0           RUDDER, PROP         SSFD         RDAR         PDIA           9999.0         99.0         8.6           TURNING         SPDT         SFDF         RUDT           RUDDER, PROP         SSFD         RDAR         PDIA           9999.0         56.0         7.0         35.0           RUDDER, PROP         SSPD         RDAR         PDIA           9999.0 <td< td=""><td>DIMENSION         NATH         NMBR         TYPE         DISP           S.O         470.0         2.0         268.0           RUDDER, PROP         SSPD         RDAR         PDIA         ASHP           9999.0         99.0         8.5         9999.0           TURNING         SPDT         SPDF         RUDT         ADVT           17.0         9999.0         -35.0         7.0           17.0         9999.0         -35.0         9.2           ZIG-ZAG         SPDZ         RUDZ         OUSI         OUSF           16.3         15.0         25.0         9999.0         16.3         15.0         25.0           SHIP         471         33333         16.3         15.0         25.0         9999.0           SHIP         471         33333         2.0         118.0           RUDDER, PROP         SSFD         RDAR         PDIA         ASHP           9999.0         90.0         8.6         9999.0         35.0         0.4           RUDDER, PROP         SSFD         RDAR         PDIA         ASHP           9999.0         50         472.0         5.0         52.0           RUDDER, PROP</td><td>DIMENSION         NATH         NHBR         TYPE         DISP         LBPX           S.0         470.0         2.0         268.0         306.0           RUDDER.         PROP         SSPD         RDAR         PDIA         ASHP         RBST           9999.0         99.0         99.4         9999.0         35.0         7.0         9999.0           10.6         9999.0         35.0         7.0         9999.0         17.0         9999.0           210-246         SPDZ         RUD2         0051         DUSF         0058           210-246         SPDZ         RUD2         0051         DUSF         0580           210-246         SPDZ         RUD2         0051         DUSF         0580           210-246         SPDZ         RUD2         0118.0         304.0         0           RUDDER.         PROP         SSPD         RDAR         PDIA         ASHP</td><td>DIMENSION         NATH         NMBR         TYPE         DISP         LBPX         LOAX           Sto         470.0         2.0         268.0         306.0         9997.0           RUDDER,         PROP         SSPD         RDAR         PDIA         ASHP         RDST         ENGH           9997.0         9997.0         35.0         7.0         9997.0         1.0           TURNING         SPDT         SPDF         RUDT         ADUT         TRNT         PIAT           17.0         9997.0         35.0         7.0         9997.0         7.0           218-ZAG         SPDT         RUDZ         OUSI         OUSF         OVSU         REA           14.3         15.0         25.0         9997.0         997.0         3.1           STRESS SHIP         4 471         STRESS         DIMENSION         NATN         NMBR         TYPE         DISP         LBPX         LOAX           Stress         SHIP         4 471         STRESS         LBAX         LOAX           SUDDER,         PROP         SSFD         RDAR         PDIA         ASMP         RDST         EMGN           RUDDER, PROP         SSFD         RDAR         <td< td=""><td>DIMENSION         NATH         NNBR         TYPE         DISP         LBPX         LOAX         PEAM           S.0         470.0         2.0         268.0         306.0         9999.0         33.0           RUDDER.         PROP         SSPD         RDAR         PDIA         ASHP         RBST         EMGH         PROP           9999.0         99.0         8.5         9999.0         1.0         1.0         1.0           TURNING         SPDT         SPDF         RUDI         ADUT         TANT         DIAT         FRPM           17.0         9999.0         -35.0         9.0         9999.0         4.5         9999.0         10.0         1.0           17.0         9799.0         -35.0         9.0         9.0         9.0         9.0         9.0         9.0         9.0         9.0         9.0         9.0         9.0         9.0         9.0         1.0</td><td>DIMENSION         NATH         NMBR         TYPE         DISP         LBPX         LOAX         DEAM         DRFT           RUDDER, PROP         SSPD         RDAR         PDIA         ASHP         RBST         ENGH         PROP         LATA           9997.0         97.0         95.6         9797.0         9797.0         1.0         1.0         20.4           TURNING         SPDT         SPDF         RUDT         ADUT         TRNT         DIAT         FRPH           17.0         9797.0         35.0         7.0         9997.0         1.0         1.0         20.4           10.7.0         9797.0         35.0         7.0         9997.0         2.6         7.7         9997.0           14.3         15.0         25.0         9997.0         9.4         7.7         9997.0         3.1         8.4         997.0           14.3         15.0         25.0         9997.0         9.4         7.4         997.0         3.1         8.4         9797.0           14.4         15.0         25.0         9997.0         3.1         8.4         9797.0           15.0         471.0         2.0         118.0         306.0         9797.0</td><td>DIMENSION         NATH         NHOR         TYPE         DISP         LBPX         LOAX         BEAM         DRFT         TRIM           SUDDER, PROP         SSPD         RDAR         PDIA         ASHP         RDST         ENGH         PROP         LATA         LCAX           YYP9.0         YO.0         S.5         YP99.0         YP99.0         1.0         1.0         20.4         0.0           TURNIMG         SPDF         RUDT         ADUT         THNT         PIAT         FAPA         0.0           17.0         YYPY.0         35.0         7.0         YYPY.0         2.0         7.0         YYPY.0         7.0         YYPY.0           14.4         15.0         25.0         YYPY.0         7.0         YPYP.0         7.0         YPYP.0           16.3         15.0         25.0         YYPY.0         7.4         7.7         YPYP.0           16.4         15.0         25.0         YYPY.0         7.1         7.7         YPYP.0           16.3         15.0         2.0         118.0         304.0         YPYP.0         53.0         Y.4         35.0           RUDDER, PROP         SSFD         RDAR         PDIA         ASHP</td><td>DIMENSION         NATH         NHOR         TYPE         DISP         LBPX         LOAX         BEAM         DRFT         TRIM         BULE           RUDDER, PROP         SSPD         RDAR         PPIA         ASHP         RNST         ENGH         PROP         LATA         LCAX         UMUU           TURNING         SFDT         SPDT         RUDT         ADUT         TRHT         PIAT         FRPM           17.0         9797.0         35.0         7.0         9997.0         4.5         9997.0           17.0         9797.0         35.0         7.0         9997.0         4.5         9997.0           17.0         9797.0         35.0         7.0         9997.0         4.5         9997.0           17.0         9797.0         35.0         7.0         9997.0         2.4         7.7         9997.0           218-2AG         SPOT         RUDT         20051         0051         0050         2.4         7.7         9997.0           218-2AG         SPOT         RUDT         2.0         118.0         304.0         9977.0         31.0         1.4         35.0         9197.0           200ER         SPOT         SLDY         DASH&lt;</td><td>DIMENSION         NATH         NMBR         TYPE         DISP         LDPX         LOAX         DEAM         DRFT         TRIM         BULD         BDIS           RUDDER.         PROP         SSPD         RDAR         PDIA         ASHP         RNST         ENGH         PROP         LATA         LCAX         UNUU         TALE           RUDDER.         PROP         SSPD         RDAR         PDIA         ASHP         RNST         ENGH         PAC         LATA         LCAX         UNUU         TALE           TURNING         SPDT         SPDT         RUDT         ADUT         TENT         PIAT         FRPH           12.0         9999.0         35.0         7.0         9999.0         2.4         7.7         9999.0           218-ZAG         SPDT         RUDZ         OUSI         OUSF         OCSU         X.4         7.7         9999.0           14.3         15.0         2.5.0         9999.0         2.4         7.7         9999.0         2.4         35.0         9999.0         2.4         35.0         9999.0         2.4         35.0         9999.0         2.4         35.0         9999.0         2.4         35.0         9999.0         1.0</td><td>DIRENSION         NATH         NHBR         TYPE         DISP         LBPX         LOAX         BEAM         DRFT         TRIM         BULB         BBIS         SSMP           RUDDER, PROP         SSPD         RDAR         PDIA         ASHP         RBST         ENGM         PROP         LATA         LCAX         UMUU         TRLC           9797.0         970.0         970.0         970.0         970.0         10.0         1.0         20.4         0.0         9797.0         35.0           17.0         9797.0         35.0         7.0         9797.0         3.0         7.0         9797.0         1.0         1.0         20.4         0.0         9797.0         1.0         1.0         1.0         20.4         0.0         9797.0         1.0         1.0         1.0         20.4         0.0         9797.0         1.0         1.0         1.0         1.0         1.0         20.4         1.0         &lt;</td></td<></td></td<>	DIMENSION         NATH         NMBR         TYPE         DISP           S.O         470.0         2.0         268.0           RUDDER, PROP         SSPD         RDAR         PDIA         ASHP           9999.0         99.0         8.5         9999.0           TURNING         SPDT         SPDF         RUDT         ADVT           17.0         9999.0         -35.0         7.0           17.0         9999.0         -35.0         9.2           ZIG-ZAG         SPDZ         RUDZ         OUSI         OUSF           16.3         15.0         25.0         9999.0         16.3         15.0         25.0           SHIP         471         33333         16.3         15.0         25.0         9999.0           SHIP         471         33333         2.0         118.0           RUDDER, PROP         SSFD         RDAR         PDIA         ASHP           9999.0         90.0         8.6         9999.0         35.0         0.4           RUDDER, PROP         SSFD         RDAR         PDIA         ASHP           9999.0         50         472.0         5.0         52.0           RUDDER, PROP	DIMENSION         NATH         NHBR         TYPE         DISP         LBPX           S.0         470.0         2.0         268.0         306.0           RUDDER.         PROP         SSPD         RDAR         PDIA         ASHP         RBST           9999.0         99.0         99.4         9999.0         35.0         7.0         9999.0           10.6         9999.0         35.0         7.0         9999.0         17.0         9999.0           210-246         SPDZ         RUD2         0051         DUSF         0058           210-246         SPDZ         RUD2         0051         DUSF         0580           210-246         SPDZ         RUD2         0051         DUSF         0580           210-246         SPDZ         RUD2         0118.0         304.0         0           RUDDER.         PROP         SSPD         RDAR         PDIA         ASHP	DIMENSION         NATH         NMBR         TYPE         DISP         LBPX         LOAX           Sto         470.0         2.0         268.0         306.0         9997.0           RUDDER,         PROP         SSPD         RDAR         PDIA         ASHP         RDST         ENGH           9997.0         9997.0         35.0         7.0         9997.0         1.0           TURNING         SPDT         SPDF         RUDT         ADUT         TRNT         PIAT           17.0         9997.0         35.0         7.0         9997.0         7.0           218-ZAG         SPDT         RUDZ         OUSI         OUSF         OVSU         REA           14.3         15.0         25.0         9997.0         997.0         3.1           STRESS SHIP         4 471         STRESS         DIMENSION         NATN         NMBR         TYPE         DISP         LBPX         LOAX           Stress         SHIP         4 471         STRESS         LBAX         LOAX           SUDDER,         PROP         SSFD         RDAR         PDIA         ASMP         RDST         EMGN           RUDDER, PROP         SSFD         RDAR <td< td=""><td>DIMENSION         NATH         NNBR         TYPE         DISP         LBPX         LOAX         PEAM           S.0         470.0         2.0         268.0         306.0         9999.0         33.0           RUDDER.         PROP         SSPD         RDAR         PDIA         ASHP         RBST         EMGH         PROP           9999.0         99.0         8.5         9999.0         1.0         1.0         1.0           TURNING         SPDT         SPDF         RUDI         ADUT         TANT         DIAT         FRPM           17.0         9999.0         -35.0         9.0         9999.0         4.5         9999.0         10.0         1.0           17.0         9799.0         -35.0         9.0         9.0         9.0         9.0         9.0         9.0         9.0         9.0         9.0         9.0         9.0         9.0         9.0         1.0</td><td>DIMENSION         NATH         NMBR         TYPE         DISP         LBPX         LOAX         DEAM         DRFT           RUDDER, PROP         SSPD         RDAR         PDIA         ASHP         RBST         ENGH         PROP         LATA           9997.0         97.0         95.6         9797.0         9797.0         1.0         1.0         20.4           TURNING         SPDT         SPDF         RUDT         ADUT         TRNT         DIAT         FRPH           17.0         9797.0         35.0         7.0         9997.0         1.0         1.0         20.4           10.7.0         9797.0         35.0         7.0         9997.0         2.6         7.7         9997.0           14.3         15.0         25.0         9997.0         9.4         7.7         9997.0         3.1         8.4         997.0           14.3         15.0         25.0         9997.0         9.4         7.4         997.0         3.1         8.4         9797.0           14.4         15.0         25.0         9997.0         3.1         8.4         9797.0           15.0         471.0         2.0         118.0         306.0         9797.0</td><td>DIMENSION         NATH         NHOR         TYPE         DISP         LBPX         LOAX         BEAM         DRFT         TRIM           SUDDER, PROP         SSPD         RDAR         PDIA         ASHP         RDST         ENGH         PROP         LATA         LCAX           YYP9.0         YO.0         S.5         YP99.0         YP99.0         1.0         1.0         20.4         0.0           TURNIMG         SPDF         RUDT         ADUT         THNT         PIAT         FAPA         0.0           17.0         YYPY.0         35.0         7.0         YYPY.0         2.0         7.0         YYPY.0         7.0         YYPY.0           14.4         15.0         25.0         YYPY.0         7.0         YPYP.0         7.0         YPYP.0           16.3         15.0         25.0         YYPY.0         7.4         7.7         YPYP.0           16.4         15.0         25.0         YYPY.0         7.1         7.7         YPYP.0           16.3         15.0         2.0         118.0         304.0         YPYP.0         53.0         Y.4         35.0           RUDDER, PROP         SSFD         RDAR         PDIA         ASHP</td><td>DIMENSION         NATH         NHOR         TYPE         DISP         LBPX         LOAX         BEAM         DRFT         TRIM         BULE           RUDDER, PROP         SSPD         RDAR         PPIA         ASHP         RNST         ENGH         PROP         LATA         LCAX         UMUU           TURNING         SFDT         SPDT         RUDT         ADUT         TRHT         PIAT         FRPM           17.0         9797.0         35.0         7.0         9997.0         4.5         9997.0           17.0         9797.0         35.0         7.0         9997.0         4.5         9997.0           17.0         9797.0         35.0         7.0         9997.0         4.5         9997.0           17.0         9797.0         35.0         7.0         9997.0         2.4         7.7         9997.0           218-2AG         SPOT         RUDT         20051         0051         0050         2.4         7.7         9997.0           218-2AG         SPOT         RUDT         2.0         118.0         304.0         9977.0         31.0         1.4         35.0         9197.0           200ER         SPOT         SLDY         DASH&lt;</td><td>DIMENSION         NATH         NMBR         TYPE         DISP         LDPX         LOAX         DEAM         DRFT         TRIM         BULD         BDIS           RUDDER.         PROP         SSPD         RDAR         PDIA         ASHP         RNST         ENGH         PROP         LATA         LCAX         UNUU         TALE           RUDDER.         PROP         SSPD         RDAR         PDIA         ASHP         RNST         ENGH         PAC         LATA         LCAX         UNUU         TALE           TURNING         SPDT         SPDT         RUDT         ADUT         TENT         PIAT         FRPH           12.0         9999.0         35.0         7.0         9999.0         2.4         7.7         9999.0           218-ZAG         SPDT         RUDZ         OUSI         OUSF         OCSU         X.4         7.7         9999.0           14.3         15.0         2.5.0         9999.0         2.4         7.7         9999.0         2.4         35.0         9999.0         2.4         35.0         9999.0         2.4         35.0         9999.0         2.4         35.0         9999.0         2.4         35.0         9999.0         1.0</td><td>DIRENSION         NATH         NHBR         TYPE         DISP         LBPX         LOAX         BEAM         DRFT         TRIM         BULB         BBIS         SSMP           RUDDER, PROP         SSPD         RDAR         PDIA         ASHP         RBST         ENGM         PROP         LATA         LCAX         UMUU         TRLC           9797.0         970.0         970.0         970.0         970.0         10.0         1.0         20.4         0.0         9797.0         35.0           17.0         9797.0         35.0         7.0         9797.0         3.0         7.0         9797.0         1.0         1.0         20.4         0.0         9797.0         1.0         1.0         1.0         20.4         0.0         9797.0         1.0         1.0         1.0         20.4         0.0         9797.0         1.0         1.0         1.0         1.0         1.0         20.4         1.0         &lt;</td></td<>	DIMENSION         NATH         NNBR         TYPE         DISP         LBPX         LOAX         PEAM           S.0         470.0         2.0         268.0         306.0         9999.0         33.0           RUDDER.         PROP         SSPD         RDAR         PDIA         ASHP         RBST         EMGH         PROP           9999.0         99.0         8.5         9999.0         1.0         1.0         1.0           TURNING         SPDT         SPDF         RUDI         ADUT         TANT         DIAT         FRPM           17.0         9999.0         -35.0         9.0         9999.0         4.5         9999.0         10.0         1.0           17.0         9799.0         -35.0         9.0         9.0         9.0         9.0         9.0         9.0         9.0         9.0         9.0         9.0         9.0         9.0         9.0         1.0	DIMENSION         NATH         NMBR         TYPE         DISP         LBPX         LOAX         DEAM         DRFT           RUDDER, PROP         SSPD         RDAR         PDIA         ASHP         RBST         ENGH         PROP         LATA           9997.0         97.0         95.6         9797.0         9797.0         1.0         1.0         20.4           TURNING         SPDT         SPDF         RUDT         ADUT         TRNT         DIAT         FRPH           17.0         9797.0         35.0         7.0         9997.0         1.0         1.0         20.4           10.7.0         9797.0         35.0         7.0         9997.0         2.6         7.7         9997.0           14.3         15.0         25.0         9997.0         9.4         7.7         9997.0         3.1         8.4         997.0           14.3         15.0         25.0         9997.0         9.4         7.4         997.0         3.1         8.4         9797.0           14.4         15.0         25.0         9997.0         3.1         8.4         9797.0           15.0         471.0         2.0         118.0         306.0         9797.0	DIMENSION         NATH         NHOR         TYPE         DISP         LBPX         LOAX         BEAM         DRFT         TRIM           SUDDER, PROP         SSPD         RDAR         PDIA         ASHP         RDST         ENGH         PROP         LATA         LCAX           YYP9.0         YO.0         S.5         YP99.0         YP99.0         1.0         1.0         20.4         0.0           TURNIMG         SPDF         RUDT         ADUT         THNT         PIAT         FAPA         0.0           17.0         YYPY.0         35.0         7.0         YYPY.0         2.0         7.0         YYPY.0         7.0         YYPY.0           14.4         15.0         25.0         YYPY.0         7.0         YPYP.0         7.0         YPYP.0           16.3         15.0         25.0         YYPY.0         7.4         7.7         YPYP.0           16.4         15.0         25.0         YYPY.0         7.1         7.7         YPYP.0           16.3         15.0         2.0         118.0         304.0         YPYP.0         53.0         Y.4         35.0           RUDDER, PROP         SSFD         RDAR         PDIA         ASHP	DIMENSION         NATH         NHOR         TYPE         DISP         LBPX         LOAX         BEAM         DRFT         TRIM         BULE           RUDDER, PROP         SSPD         RDAR         PPIA         ASHP         RNST         ENGH         PROP         LATA         LCAX         UMUU           TURNING         SFDT         SPDT         RUDT         ADUT         TRHT         PIAT         FRPM           17.0         9797.0         35.0         7.0         9997.0         4.5         9997.0           17.0         9797.0         35.0         7.0         9997.0         4.5         9997.0           17.0         9797.0         35.0         7.0         9997.0         4.5         9997.0           17.0         9797.0         35.0         7.0         9997.0         2.4         7.7         9997.0           218-2AG         SPOT         RUDT         20051         0051         0050         2.4         7.7         9997.0           218-2AG         SPOT         RUDT         2.0         118.0         304.0         9977.0         31.0         1.4         35.0         9197.0           200ER         SPOT         SLDY         DASH<	DIMENSION         NATH         NMBR         TYPE         DISP         LDPX         LOAX         DEAM         DRFT         TRIM         BULD         BDIS           RUDDER.         PROP         SSPD         RDAR         PDIA         ASHP         RNST         ENGH         PROP         LATA         LCAX         UNUU         TALE           RUDDER.         PROP         SSPD         RDAR         PDIA         ASHP         RNST         ENGH         PAC         LATA         LCAX         UNUU         TALE           TURNING         SPDT         SPDT         RUDT         ADUT         TENT         PIAT         FRPH           12.0         9999.0         35.0         7.0         9999.0         2.4         7.7         9999.0           218-ZAG         SPDT         RUDZ         OUSI         OUSF         OCSU         X.4         7.7         9999.0           14.3         15.0         2.5.0         9999.0         2.4         7.7         9999.0         2.4         35.0         9999.0         2.4         35.0         9999.0         2.4         35.0         9999.0         2.4         35.0         9999.0         2.4         35.0         9999.0         1.0	DIRENSION         NATH         NHBR         TYPE         DISP         LBPX         LOAX         BEAM         DRFT         TRIM         BULB         BBIS         SSMP           RUDDER, PROP         SSPD         RDAR         PDIA         ASHP         RBST         ENGM         PROP         LATA         LCAX         UMUU         TRLC           9797.0         970.0         970.0         970.0         970.0         10.0         1.0         20.4         0.0         9797.0         35.0           17.0         9797.0         35.0         7.0         9797.0         3.0         7.0         9797.0         1.0         1.0         20.4         0.0         9797.0         1.0         1.0         1.0         20.4         0.0         9797.0         1.0         1.0         1.0         20.4         0.0         9797.0         1.0         1.0         1.0         1.0         1.0         20.4         1.0         <

### ##### SHIP # 474 #####

	DIMENSIO	N NAT												
	DINENSIO			TYPE					DRFT	TRIN	PUL	B DDIS	SSHP	SRPA
		5.	0 474.0	3.0	28.0	190.0	9999.0	30.6	5.9	33.0	9999.	0 9999.0		
	RUDDER, PRO	P CSP												
	NUDDERT PRU						ENGN	I PROP	LATA	LCAX	UNU	V TRLC		
-			0 30.0			9999.0	3.0		20.4	0.0	9999.	0 9999.0		
	TURNIN			RUDT	ADVT	TRNT	DIAT	FRPH						
			5 9979.0	35.0	5,5	9999.0	3.3	9979.0						
			7 9995.0	-35.0		9999.0		9999.0						
			5 9799.0	35.0		9997.0		9999.0						
			8 9999.0	-35.0		9999.0								
		14.	8 9999.0	15.0	6.6	9999.0	9999 6	7030 0						
		15.	9979.0	-35.0		9999.0	9999.0							
	STOPPIN	5F0	S SHPS	RUDS	TDIS	HRCH	SRCH		TINR					
		17.0	100.0		7777.0									
		16.			\$777.0				9999.0					
			7 100.0				3.3	Contraction of the local division of the loc	7997.0					
		10.	100.0	0.0	9999.0	20.7	2.4	10.0	7777.0					
	SHIP	4/5 81	***											
				1.1.1										
	DIMENSION			TYPE		LAPX	LOAX	DEAN	DRFT	TRIM	PHI I	-	COUR	
		5.0	475.0	5.0	8.0	129.0	9999.0	22.4		41.0		DD15	3300	SKPR
									4.3	4114	*****			122.0
	RUDDER, CROF			PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX				
		9999.0	14.0	4.9		9979.0	3.0		9.4			TRLC	-	
							314	110	7.4	0.0	7777.6	9999.0		
	TURNING	SPOT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
			9979.0	35.0		7979.0			_					
			9999.0	-35.0		7999.0		9999.0						
				-33.0	413	****.0	3.3	9999.0						
-	STOPPING	SPDS	SHES											
	aroreing		100.0	RUDS			SRCH		TIMR					
		1/14	100.0	0.0	9999.0	10.4	0.4	3.4	7777.0					
													-	
	eeee outt f	4/6 44	***											
	DIMENSION			TYPE	DISP	LIPX	LOAX	BEAH	DRFT	TRIM	BUL	DATS	SSHP	SRPH
		5.0	476.0	3.0	22.0	178.0	7777.0	28.4	5.4			7779.0		
												7777.0	7.7	150.0
R	UDDER, PROF			FDIA	ASHP	RAST	ENGN	PROP	LATA	TEAS-	Dame	TRUC		
		9999.0	30.0	5.2		9999.0	3.0	1.0	17.1	LUNX	WWWV	TRUC		
_	and the second						314	1.14	17.1	4.4	7777.0	7777.0		
	TURNING	SPDT	SPDF	RUDT	Abur	TRNT	DIAT	FRAN		_				
			9999.0	35.0		9999.0		FRPH						
			9999.0	-35.0				7999.0						
		10.0			0.3	9999.0	4.0	9999.0						
	STOPPING	SPDS												
	01007140			RUDS	TDIS	HRCH	SRCH	TINS	TIMR					
		12.8	100.0	0.0	9999.0	13.2	0.2	5.5	7999.0					
	STAR SHIP .	477 88	111											
												_		
	DIMENSION	NATH	NMBR	TYPE	DISP	LPPX	LOAX	BEAN	DRFT	TRIM	PULR			
_		5.0	477.0	2.0	283.0	320.0		54.5				DDIS	SSHP	SRPN
	Sector Street Providence							9410	19.2	0.0	7999.0	283.0	40.0	83.0
	UDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP						
R	SEPERI FROM								LATA	LCAX	UNBO	TRLC		
R	OPPERT FROM	9999.0	110.0											
R	ODDERT FROF	9999.0	110.0	9.4	14.9	9999.0	1.0	1.0	24.8	0.0	7777.0	7797.0		
R							1000		24.6	0.0	7777.0	7797.0		
R	TURNING	SPDT	SPDF	RUDT 35.0	ADVT	THNT	DIAT	FRPH	24.6	0.0	7777.0	7777.0		

 17.1
 9997.0
 -35.0
 9.8
 9999.0
 7.8
 9999.0

 STOPPING
 SPDS
 SHPS
 RUDS
 TDIS
 HRCH
 SRCH
 TIMS
 TIMR

 17.9
 100.0
 0.0
 9999.0
 44.0
 20.8
 18.0
 9997.0

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	DIMENSION	NATN	NMBR	TYPE	DISP	LBPX	LOAX	BEAN	DRFT	TRIM	BULD	PDIS		
							9999.0					283.0	SSHP 40.0	SRPH
														6310
-	RUDDER: FROP	and the statement washing the	RDAR 108.0	PDIA 9.4		RDST 9999.0		and the second second second	LATA		NNAA			
			100.0	7.4	10.7	****.0	1.0	1.0	55.8	0.0	9999.0	9999.0		
	TURNING			RUDT	ADVT									
			9997.0	35.0		9997.0		9999.0						
		18,2	9999.0	-35.0	9.2	9999.0	8.5	9999.0						
	STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TING					
		18.8	100.0	0.0	9999.0	35.1			9999.0					
	***** SHIP *	477 88	***											
	DINENSION		NHER	TYPE		LBPX	LOAX	BEAN	DRFT	TRIM	BULK	DRIS	SSHP	SRP
		5.0	479.0	2.0	548.0	360.0	9999.0	54.5	28.1		9999.0		45.0	90.0
	AUDDER, PROP	SSED	RDAK	FOIA	ASHP	RIST	ENGN	PROP	LATA			TRUC		
		9999.0		9.2		9999.0			32.0		9999.0			
	TURNING		SPDF											
	TUKICING		9999.0	RUDT 35.0		TRNT 9999.0	DIAT	FRPH 9999.0						
			9999.0	-35.0		9999.0		9999.0						
	STOPPING	SPDS	SHPS 100.0	RUDS	TDIS 9999.0		.SRCH		TIMR					
					****	47.3	1.2	10.3	9999.0					
-	##### SHIP #	480 ##	***											
	DIMENSION	NATH	NMBR	TYPE	DISP	LEPX	LOAX	DEAN	DRET	TRIM	BULD	DDIS	SSHP	SRPH
_		5.0	480.0	2.0	424.0	330.0	9999.0	54.5	27.1	0.0	7997.0	424.0	45.0	90.0
	RUDDER, FROP	SSPD	EDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNNU	761.0		
		9999.0		9.0		9999.0	1.0	1.0	29.4		9999.0	TRLC		
	TURNING	SPBT	SPDF	RUDT	ADUT	TRNT	DIAT	FRPH						
			9999.0	35.0		9999.0		9999.0						
		13.7		-33.0	10.1	7777.0	8.2	7777.0						
	STOPFING			RUDS		HRCH	SRCH	TINS	TIMR					
		15.6	100.0	0.0	9999.0	52.9	34.3	22.7	9999.0					
-	BARRE SHIP T	481 38												
							1000							
-	DIMENSION		481.0	TYPE		LBPX					BUL.B		SSHP	SRPH
		5.0	401+0	2.0	147.0	330.0	9999.0	54.5	10.4	53.0	9999.0	424.0	45.0	90.0
_	RUDDER. PROP		RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLC		
		\$999.0	131.0	9.0	19.0	9999.0		1.0			9999.0			
	TURNING	SPDT	SPDF	RUDT	ADUT	TRNT	DIAT	FRPH						

STOPPING SPDS 3HPS RUDS TDIS HRCH SRCH TINS TIMR 17.7 100.0 0.0 9999.0 14.8 0.2 13.2 9999.0

##### SHIP # 482 #####

					_								
DINCHSION	натн 9.0		TYPE 7999.0		LBPX 9999.0	LOAX 228.0	BEAN 30.5		TRIH 2.0	BULB 9999.0	DAIS 42.0	\$SHP 18.0	SRP1 7979.0
RUDDER, PROP	55FD 9999.0		PDIA 9999.0		RRST 9977.0		PR0P 1.0	LATA 12.0	LCAX 0.0		TRLC 7777.0		
STOPPING	SFDS 16.4	SHPS 100.0	RUDS 0.0	1015 9999.0	HRCH 22.3	SRCH 9999.0	TIKS 9999.0	TIMR 9999.0					
**** SHIP .	483 \$\$1	**					******						
DIMENSION	NATN 9.0	NHBR 483.0	1992 9999.0		LBFX 9999.0		BEAN J1.0	DRFT 11.9		BULB 7797.0	DD15 64.0		SRPR 7777.0
RUDDER, PROF	55FD 9999.0	RDAR 29.0	PDIA 9999.0		RUST 9997.0	EHGN 9999.0	PROP 1.0	LATA 12.7	LCAX 0.0		TRLC 7777.0		
STOPPING	SPD5 17.5	SHFS 100.0	RUDS 0.0	TDIS 9999.0	HRCH 24.0		T 1 MS 9999.0	T I MR 7779.0					
**** GHIP *	484 \$\$\$	**											
DIMENSION	NATN 7.0	NHBR 434.0	TYPE 9999.0		LBFX 9999.0	LOAX 228.0	86AM 31.0	DRFT 7.9	TRIM 17.0	BULB 9979.0	DD18 44.0		SRP# 7777.0
RUDDER. PROP	55FD 9979.0		FDIA 9999.0		RDST 7999.0		PROP 1.0	LATA 21.7		UNUU 9999.0			
STOFFING		SHPS 100.0		TD15 7777.0	HRCH 17.4		TIMS 7777.0						
**** SHIP *	485 111	**											
DIMENSION	NATN 9.0	NMBR 485.0	TYPE 9999.0		LBPX 9979.0	LOAX 228.0	HEAN 31.2	DRFT 11.0	TRIM 3.0	BULB 7777.0	NDIS 60.0		SRPH 7777.0
RUDDER, FROF	SSPD 9999.0	RDAR 38.0	FDIA 9999.0	ASHP 7.3	RDST 9999.0	ENGN +999.0	PROP 1.0	LATA 12.3	LCAX 0.0	UNUU 9999.0			
STOPPING	SFUS 17.0	SHPS 100.0	RUDS 0.0	TDIS 9999.0		SRCH 7777.0	TIKS 9999.0						
**** SHIP *	486 888	**											
DIMENSION	NATN 9.0	NMBR 486.0	TYPE 9999.0	DISF 58.0	L BPX 9999.0	LOAX 228.0	BEAN 30.3	DRFT 11.0	TRIN 1.0	BULB 7999.0	NDIS 58.0		SRPH 7777.0
RUDDER, PROP	SSPD 9799.0	RDAR 34.0	PDIA 9999.0	ASHP 7.5	RDST 7777.0	ENGN 7777.0	PROP 1.0	LATA 13.3	LCAX 0.0	UNUU 7777.0	TRLC 7797.0		
STOPPING	SPD5 16.8	SHPS 100.0	RUDS 0.0	TDIS 7777.0	HRCH 22.2	SRCH 7779.0	TIKS 9999.0	TIMR 7777.0					

\*\*\*\*\* SHIP # 487 \*\*\*\*\*

	DIMENSION	NATN	NKPR	TYPE	DISP	LAPX	LOAX	DEAN	DRFT	TRIM	PULS	DDIS	SSHP	SRPH
	PARENDINA	7.0		9999.0		7777.0	231.0	30.3	12.4		7999.0	44.0		7799.0
	RUDDER, PRC?	SSED	RDAR	PDIA		RIST	ENGN	PROP	LATA	LCAX		TRLC		
		9999.0		9997.0	15.3	9999.0	9999.0	1.0	12.3	0.0	9999.0	9999.0		
-	TURNING			RUDT		TRNT								
			9797.0	35.0			9997.0							
	STOPPING	SPD5 14.7		RUDS 0.0	TDIS 9999.0	HRCH 21.2	SRCH 5.8	TINS 9999.0	TIMR 9999.0					
		488 11	***											
	DIMENSION	NATH	NNPR	TYPE	DISP	LBPX	LOAX	BEAN	DRFT	TRIN	BULB	DRIS	SSHP	SRPI
_		7.0		9999.0		9999.0		30.3	12.8	0.0	9999.0	68.0	21.0	9999.0
	RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNK	TRLC		
		9999.0	40.0	9999.0	10.4	7777.0		1.0	11.2	0.0	9999.0	9999.0		
	TURNING	SPDT	SPDF	RUDT			DIAT	FRPH						
_		9799.0	9999.0		6.0	9999.0	9799.0	9999.0						
		7777.0	\$999.0	-35.0	6.6	****.0	9999.0	7777.0						
	STOPPING					HRCH								
		9999.0	100.0	0.0	9999.0	15+2	9999.0	9999.0	****.0					
		489 81	***									<u></u>		
-	DIMENSION		439.0				231.0			TRIM 0.0	BULB 9999.0	DDIS 64.0	SSHP 21.0	
				1992										
-	RUDDER, PROP	1992 0. FYPP	RDAR 38.0				*ENGN 7999.0	PROP	12.4	LCAX	P999.0			
-	TURNING		SPDF 9997.0	RUDT 35.0			DIAT	FRPH						
			9999.0				9999.0							
-	STOPPING	SPDS	SHPS	RUDS	TOIS	HRCH	TRCH	TINS	TINR					
			100.0	0.0	9999.0	15.4	9999.0	9999.0	9999.0					
-							-							
	SSEES SHIP .	490 ##	***											
-	DINCHSICH	NATH	HABR	TYPE	DISP	LIPX	LOAX		DRFT	TRIN		DETS		SRP
		9.0		9999.0		9999.0	231.0	30.3	7.4	0.0	9999.0	66.0	21.0	\$\$\$\$.0
-	RUDDER. PROP							PROP			DNNG			
		9999.0	38.0	9999.0	\$999.0	9999.0	9999.0	1.0	23.8	0.0	9999.0	****.0		
-	STOPPING										1			_
		15.3	100.0	0.0	9999.0	14.6	9999.0	9999.0	7997.0		-			_
		491 88	***		_									
-	DINENSION	NATH				LIPX	LOAX		DRFT	TRIN		DAIS	SUHP	
		9.0	491.0	9999.0	41.0	\$999.0	235.0	30.6	7.8	20.0	9999.0	46.0	18.9	9999.0
-	RUDDER, PROP	SSPO		FOTA	ASHP	RDST	ENGN	PROP	LATA	LCAX		TRLC		
		9999.0	70.0	9999.0	9999.0	9999.0	9999.0	3.0	21.5	0.0	7999.0	7999.0		

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STOPPING SPDS SHPS RUDS TDIS HRCH SRCH TINS TINR 16.0 100.0 0.0 9999.0 9999.0 9999.0 33.0 9999.0

##### SHIP # 492 #####

DINENSION			TYPE			LOAX		DRFT		BULR			SRPH
	9.0	492.0	9999.0	66.0	9999.0	235.0	30.6	12.0	2.0	9999.0	66.0	21.4	9999.0
RUDDER. FROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNWV	TRLC		
	9997.0	70.0	9979.0	9979.0	9799.0	9999.0	3.0	11.8	0.0	9999.0	9999.0		
STOPFING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
	9999.0		0.0			9999.0	29.2	9999.0					
\$\$\$\$\$ SHIP \$	493 ##	***											
DIMENSION	NATH	NABR	TYPE	DISP	LBPX	LOAX	DEAN	DRFT		BULA			SRPM
	9.0	473.0	9999.0	67.0	\$999.0	236.0	32.1	11.6	0.0	\$\$\$9.0	67.0	21.0	9999.0
RUDDER, FROP	SSPD	FUAR	PDIA	ASHP	RDST	. ENGH	PROP	LATA	LCAX	UNUV	TREC		
	9999.0		9999.0	9999.0	9999.0	\$999.0	1.0	15.2	0.0	\$999.0	9999.0		
TURNING			RUDT			DIAT							
		9799.0 9999.0				9999.0							
	7777.0	4194.0	-35.0	0.4	1111.0	1111.0							
STOPPING					HRCH								
	17.2	100.0	<u> </u>	\$999.0	9999.0	9999.0	71.3	9999.0					
TREAS SHIP &	494 88	***			·								
DIMENSION					L.BPX	•	BEAN	DRFT	TRIM			SSHP	
	9.0	474.0	9999.0	40.0	9999.0	234.0	31.0	7.0	21.0	9999.0	9979.0	15.0	9999.0
RUDDER. FROP	SSPD	RDAR	PUIA	ASHE	RDST	ENGN	PROF	LATA	LCAX	WNWV	TRLC		
	7999.0	34.0	9999.0	5.6	9999.0	9999.0	1.0	25.7	0.0	9999.0	1999.0		
STOFFING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
	9999.0		0.0	9999.0	9999.0	9999.0	23.3	9999.0					
***** SHIP *	495 11	488											
DIMENSION	NATH	NHBR	TYPE	DISF	LBPX	LOAX	BEAN	DRFT	TRIM	BULB	DDIS		SRPH
	9.0	495.0	9979.0	84.0	9799.0	244.0	35.1	12.3	0.0	9999.0	9999.0	16.2	9999.0
KUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNNY	TRLC		
	9999.0		9999.0			9999.0	1.0	14.5	0.0	9999.0	9999.0		
TURNING	SPDT	SFDF	RUDT	AUVT	TRNT	DIAT	FRPM						
		9979.0		7.6	9999.0	9999.0	9999.0						
	17.0	9997.0	-35.0	4.8	9999.0	9999.0	9999.0						
STOPPING	SPAS	SHPS	RUDS	TOTS	HRCH	SRCH	TINS	TIMR					
		100.0		9999.0	9999.0	9999.0	53.9	9999.0					
	494 ++	***											
	470 \$\$											0.4	
***** SHIP 4													
DIMENSION			TYPE		LBPX			the second s	TRIM	And in case of the local division of the loc		SSHP	
	NATH 9.0		TYFE 9999.0		1999.0			Contraction of the local division of the loc		9979.0			SRPH 9999.0

		9999.0	45.0	9999.0	9999.0	9999.0	9999.0	) 1.0	13.2	•				
	TURNING	SPDT									* ****.			
			9999.0											
			9999.0		7.3		9979.0 9999.0	7999.0						
						,,,,,,	, ,,,,,,	****.0						
	STOPPING		SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
1		9995.0	100.0				9999.0		7777.0					
					-									
	**** SHIP #	497 ##	***											
	DIMENSION	NATN	NHER	TYPE	DISP	LAPX	LOAX	BEAH	DAFT					
[		7.0	497.0	9979.0	83.0	9999.0			12.5	TRIN	BULB 7999.0			SRP
	RUDDER, PROP									•••		83.0	×3+1	9999.
	Notificity Proof	9999.0		PILA POPO	ASHP	RIST	ENGN	PROP	LATA	LUAX		TREC		
			1310	,,,,,	****.0	7777.0	9999.0	1.0	18.3	0.0	9999.0	7779.0		
	TURNING	TINE	SFUF	RUDT	ANUT	TENT	DIAT	FRAN			_			
		7997.0				9999.0	9999.0	9990 A						
		9979.0	9999.0	-35.0		9999.0	\$999.0	9999 .						
		9979.0	7779.0	32.0	6.1	9999.0	7999.0	9999 .						
		9999.0	9999.0	-35.0	6,6	9999.0	9999.0	9999.0						
		9997.0	9797.0	35.0	6.5	9997.0	9977.0	7999.0						
		9999.0	7999.0	-35.0	6.6	9999.0	9999.0	9999.0						
	STOFFING	SPDS	SHES											
	01011140		100.0	RUDS		HRCH	SRCH							
			100.0	0.0	9999.0	9799.0	7999.0	20.8	9999.0					
			100.0	0.0	9000 A	9909 A	9999.0 9999.0	40.月	9999.0					
	DIMENSION	NATN 9.0	NMBR 498.0	TYFE 9999.0	DJSP 89.0	LBFX 9997.0	LOAX 234.0	BEAH 34.8	DRFT 13.0	TRIN 0.0	PUL B 9999.0	DDIS 87.0	SSHP 21.0	SRF# 9999.0
	RUDDER, FROP	SSPD	RDAR	PDIA	ASHF	KDST	ENGN	PROP						
_		9979.0	47.0		\$999.0	9999.0	9999.0	1.0	LATA 19.1	LCAX	UNWV	TALC		
					-				17.1	0.0	9999.0	7777.0		
	TURNING	SFDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPM						
_			7999.0	35.0	7.0	9997.0	9999.0	9999.0						
		17+1	9999.0	-35.0	7.6	9999.0	9999.0	9999.0						
	STOPFING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH							
		16.7	100.0		9999.0	0.9995	6008 A	TINS	TINR 7999.0					
								*****	,,,,,,					
			-1											
	***** SHIP &	477 ¥##1	r #											
	DIMENSION	NATN	NADR	TYOF										
		7.0	497.6	TYPE	015F 97.0	LAFX	LOAX	BEAN	DRFT	TRIN	BULB	DDIS	SSHP	SRPM
					77.0	7779.0	237.0	37.2	13.0	5.0	7779.0	99.0		9999.0
	RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	ROST	ENGN					- 22		
		999.0	45.0	9997.0	7979.0	7799.0	9799.6	PROP 1.0	LATA	LCAX	UNNU	TRLC		
								1.0	14.1	0.0	9999.0	7777.0		
	STOPPING	SFDS	SHPS	RUDS	TRIS	HRCH	SRCH	TIMS	TIMR					
		16.5	100.0	0.0	9999.0	9997.0	9999.0	9999.0 1	999.0	<u> </u>			······	
	**** SHIP + 5	00 1111	+											
	DIMENSION	NATH	NABR	TYPE	DISF									
			500.0 3			L.BFX	10AX	BEAM	DRFT	TRIN	BULD	nois	SSHP	SRPH
							4J7+V	35.5	13.2	2.0	999.0	95.0	24.0 9	999.0
	RUDDER, PROF	SSFD	RDAR	PDIA	ASHF	ROST	ENGN	PROP	LATA	LCAX	WNWV	TRLC		

7779.0 49.0 7999.0 10.0 9799.0 9999.0 1.0 16.1 0.0 9999.0 9999.0 TURNING SPDT SPDF ADVT TRNT DIAT FRPM RUDT 15.8 9999.0 35.0 8.2 7999.0 9999.0 9999.0 8.3 9999.0 9999.0 9999.0 RUDS TDIS HRCH SRCH TINS TINE 0.0 9999.0 9999.0 37.0 9999.0 9999.0 STOPPING SPDS SHPS 9999.0 100.0 1. ##### SHIP # 591 ##### DIMENSION NATH HAR TYPE DISP LOPX LOAX 9.0 591.0 9999.0 95.0 9799.0 239.0 SSHP SRPH 24.0 9999.0 TRIM BULB 2.0 9999.0 7 BEAM DRFT PDIS 95.0 : 35.5 13.2 RUDDER, PROF SSPD RD4R PD1A 9999.0 49.0 9999.0 ASHP RDST ENGN PROP LATA LCAX WHWY TRLC ---10.0 9999.0 9999.0 0.0 9999.0 9999.0 1.0 16.1 ... ADUT TRNT DIAT FRPM 8.2 9999.0 9999.0 9999.0 TURNING SPDT SPDF RUDT 15.8 9999.0 35.0 1.3 RUDT 15.8 9999.0 -35.0 8.3 9999.0 9999.0 9999.0 \$\$\$\$\$ SHIP \$ 592 \$\$\$\$ 119 TRIM BULB DDIS \$SHP SRPM 4.0 9999.0 111.0 26.2 9999.0 100 DIMENSION NATH WHER TYPE DISP LEPX LOAX BEAM DRET 2+ 7.0 392.0 9999.0 111.0 9999.0 280.0 37.1 13.3 .... RUDDER, PROP SSPD RDAR PDIA ASHP RDST ENGN 83 PROP LATA LCAX UNUV TRUC 24 7979.0 54.0 9999.0 9997.0 9999.0 9999.0 19.2 0.0 9999.0 9999.0 1.0 25 STOPPING SPDS SHPS RUDS TDIS HECH SECH TIME TIME 17.4 100.0 0.0 9999.0 9999.0 34.0 9999.0 9999.0 24 . 20. 29 ----##### SHIP # 593 ##### DDIS DIMENSION NATH HABR TYPE DISP LOPX LOAX BEAH DRET TRIN BULD SSHP SPPH 10.1 9.0 593.0 9999.0 93.0 9999.0 230.0 36.6 9999.0 0.0 9999.0 109.0 18.5 9999.0 RUDDER, PROP SSPD RDAR FDIA ASHF RDST ENGN 9999.0 54.0 9999.0 9999.0 9999.0 9999.0 PROP RDST ENGN TRLC Ċ LATA LCAX WHWV 1.0 16.2 0.0 9999.0 9999.0 11 11 TURNING SPDT SPDF RUDT ADVT TRNT DJAT FRPH 9999.0 9999.0 35.0 9999.0 9999.0 -35.0 35.0 3.3 9999.0 9999.0 9999.0 10 40 41 42 3.8 9999.0 9999.0 9999.0 41 \$1818 SHIP & 574 ##### ...... DIMENSION NATH NHBK TYPE DISP LBPX LOAX BEAN DRFT TRIN BULB DDIS SSHP SRPM 9.0 594.0 9999.0 58.0 9999.0 254.0 31.4 8.9 14.0 9999.0 9999.0 18.4 9999.0 CT CIC IC IC RUDDER, PROF SSPD RDAR PDIA ASHF RDST EHGN PROF LATA LCAX WNWV TRLC 9999.0 54.0 9999.0 9999.0 9999.0 1.0 26.3 0.0 9999.0 9999.0 SPDT SPDF RUDT 17.1 9999.0 35.0 17.1 9999.0 -35.0 ADUT TRNT DIAT FRPM. 6.8 9999.0 9999.0 9999.0 7.0 9999.0 9999.0 9999.0 TURNING SPDS SHPS 15.8 100.0 RUDS TDIS HRCH SRCH TINS TINK 0.0 9999.0 9999.0 19.9 9999.0 9999.0 STOPPING

##### SHIP # 595 #####

NATH NHRR TYPE 9.0 575.0 9999.0 DIMENSION DISP LBPX LOAX TRIM BULB DDIS 11.0 9999.0 9999.0 SSHP SRPM 17.4 9999.0 BEAN DRFT 49.0 9999.0 254.0 31.6 7.4 RUDDER. PROP SSPD RDAR FDIA ASHP REST ENGN PROP WNWV LATA LCAX TRLC 9997.0 57.0 9977.0 9999.0 9997.0 9999.0 29.5 0.0 9999.0 9999.0 1.0 TURNING SPOT SFDF RUDT ADUT TENT DIAT FREM 16.0 9999.0 5.2 9979.0 9999.0 9999.0 35.0 16.0 9999.0 -35.0 5.5 9999.0 9999.0 9999.0 STOPPING SPDS SHPS RUDS TOIS HRCH SRCH TINS TINR 0.0 9919.0 9999.0 12.2 9999.0 9199.0 18.4 100.0 \$\$\$\$\$ SHIP \$ 596 \$\$\$\$ HATN NMBR TYPE DISF LRPX LOAX BEAN DRFT DIMENSION TRIM BULB DDIS SRPH SSHP 9.0 595.0 9977.0 61.0 9999.0 3.0 9999.0 9999.0 223.0 31.0 14.5 9999.0 11.4 ENGN RUDDER, PROP 6922 RDAR PDIA ASHP RDST FROP LATA LCAX UNWV TRLC 34.0 9977.0 9999.0 9979.0 9999.0 7997.0 1.0 0.0 9999.0 9999.0 11.1 SRCH STOPPING SPDS SHPS RUDS TDIS H&CH TIMS TIMR 0.0 9999.0 9997.0 24.5 9999.0 9999.0 16.0 100.0 15.0 100.0 0.0 9999.0 9999.0 22.5 9999.0 9999.0 19 20 21 \*\*\*\*\* CHIF \* 597 \*\*\*\*\* -----82 UINENSION NATH NHER TYPE DISP LEPX LOAX 9.0 597.0 9999.0 64.0 9999.0 237.0 BEAM 31.0 DRFT TRIM BULB 3.0 9999.0 SSHP SRPH DDIS 3 44.0 11.5 1. ۰. RUDDER. PROP SSPD RDAR FDIA ASHP RDST ENGN 7997.0 36.0 9999.0 9997.0 9999.0 9999.0 PROP ENGN PROP LATA LCAX WHWY TRLC 41 ----.... \*\* 10UR TURNING SPDT SPDF ADVT TRNT DIAT FRPH 13.0 9977.0 7.8 9799.0 9997.0 7979.0 31 8.8 9999.0 9999.0 9999.0 6.2 9999.0 9799.0 9999.0 5.8 9999.0 9999.0 9999.0 16.0 9999.0 -35.0 32 16.0 9779.0 35.0 16.0 9999.0 -35.0 34 38 34 11111 SHIP & 578 11111 37 BEAH DRFT TRIN BULD DDIS SSHP SRPH DIMENSION NATH NHER TYPE DISP LBPX LOAX TRIH 9.0 598.0 9999.0 112.0 9999.0 244.0 37.1 14.3 SSPD RDAR PDIA ASHP RDST ENGN PROP LATA LCAX WHWY TRLC 9999.0 54.0 9997.0 9999.0 9997.0 9797.0 1.0 15.2 0.0 9999.0 9997.0 RUDDER, PROP TRLC 44 TURNING SPDF RUDT ADUT SPUT TENT DIAT FRPH 44 10.4 9999.0 7999.0 9999.0 15.0 9979.0 35.0 -16.0 9999.0 -35.0 8.2 9999.0 9999.0 9999.0 SPDS STOPPING SHPS RUDS TDIS HRCH SRCH TIHS TINR 0.0 9999.0 1.4 9999.0 9999.0 14.5 100.0 21.0 \$\$\$\$\$ SHIP \$ 597 \$\$\$\$ NATN NHER 9.0 599.0 TYPE DISP LEPX LOAX RIA BULB DNIS 0.0 9999.0 243.0 DIMENSION TFAR DRE TRIM SSHP SRPH . 243.0 311.0 9999.0 2.0 47.2 19.0 28.0 85.0 LATA 20.2 LCAX UNGV TRLC 0.0 7777.0 7777.0 SSPD RUDDER, FROF RDAR FUIA ASHF ROST ENGN FROP 9999.0 78.0 8.8 21.0 9999.0 1.0 1.0

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SPDT SPDF ADUT TRNT DIAT FRPH TUKNING RUDT 15.0 9999.0 35.0 11.4 7999.0 9999.0 9997.0 15.0 9999.0 -35.0 13.7 9999.0 9999.0 9999.0 15.4 9799.0 10.8 7777.0 7777.0 7777.0 35.0 -35.0 
 IDIS
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 0.0
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 10.8
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 9999.0
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 8000
 10.8
 9977.0
 SPDS STOPPING SHPS RUDS 7.0 100.0 0.0 9999.0 8.2 9999.0 10.8 9997.0 0.0 9999.0 50.0 9999.0 22.5 9999.0 . 4.2 100.0 0.0 9999.0 4 ! \*\*\*\*\* SHIP \$ 600 \*\*\*\*\* DIHENSION NATH NHER TYPE DISP LEPX LOAX PRAM DRFT TRIN BULR BDIS SEMP SRPM 9.0 600.0 2.0 132.0 232.0 9999.0 40.8 14.6 1.0 9999.0 132.0 23.1 114.6 . h.| PROP LATA LCAX UNUU TRLC 1.0 9999.0 0.0 9999.0 9999.0 haj RUDDER - PROF SSPD RUAR 9997.0 55.0 PDIA ASHP RDST EHGN 7.2 9999.0 9999.0 3.0 STOFFING SPDS SHPS RULS TDIS HRCH SRCH TINS TINR 16.7 100.0 0.0 9999.0 24.6 9999.0 10.0 9999.0 i. 1.01 \$\$\$\$\$ SHIP \$ 601 \$\$\$\$\$ DIMENSION NATN NHBR TYPE DISP LBPX LOAX REAM DRFT TRIM BULD DDIS SAMP SRPM .... RIIDBER, FROF SSPD RDAR PDIA ASHP RDST ENGN PROP LATA LCAX UNUV TRLC 9979.0 55.0 7.2 9999.0 9999.0 3.0 1.0 9999.0 0.0 9999.0 9999.0 1 ..... TURNING GFDT SPDF RUDT ADVT TRNT DIAT FRPN 16.0 9999.0 35.0 9997.0 9999.0 7.0 9999.0 9979.0 5999.0 -35.0 9979.0 9799.0 8.7 9999.0 27 ... 24 •9 STOPPING SPDS SHP3 14.6 100.0 SHES RUDS TDIS HRCH SRCH TINS TINE 0.0 9999.0 29.2 9999.0 10.8 9999.0 11 12 1.6 Ę \*\*\*\*\* SHIP # 602 \*\*\*\*\* E. DIHENSION NATH MAR TYPE DISP LBPX LOAX BEAH 2.0 136.0 249.0 9999.0 39.0 TRIN BULB DBIS 85HP SRPN 3.0 9999.0 136.0 23.1 114.0 DRFT 9.0 602.0 15.1 RUDDER, FROM SSFD RDAR 9999.0 59.0 FUIA ASHF RAST EHGN 7.2 9977.0 9999.0 9999.0 PROP LATA 1.0 9999.0 LCAX UNUU YRLC 0.0 7977.0 7977.0 40 last. 4. RUDT ADUT TRNT DIAT FRPM 35.0 9.3 9999.0 9999.0 9999.0 SPDT SPDF 13.5 9999.0 43 TURNING 4.1, 45 13.5 9999.0 -35.0 7.8 7979.0 7999.0 7999.0 1711 SHIP 4 603 +#### 44 49 DINCHELON NATH NHER TYPE DISP LBPX LOAX BEAN DRFT TRIM DULD DDIS SSHP SRPH 95.0 267.0 9999.0 . 9.0 403.0 37.0 18.0 9999.0 134.0 114.0 2.0 10.0 23.1 12 LCAX WHWY TRLC 0.0 7777.0 7797.0 SSPD RUDDER. PROF RDAR PDIA ASHP RDST ENGN PROP LATA 9999.0 7.2 9999.0 9999.0 9999.0 1.0 9999.0 59.0 STOPPING SPUS SHPS RUDS THIS HACH SACH TIME TIME 61 13.5 100.0 0.0 7777.0 32.2 7797.0 13.7 7777.0

\*\*\*\*\* SHIP # 300 \*\*\*\*\*

	DIMENSION	NATN 14.0		TYPE 3.0	DISP 95.0	LBPX 240.0	LOAX 255.0	BEAN 35.0	DRFT 13.7	TRIN 2.0	BULB 1.0	DDIS 78.0	SSHP 20.7	SRPM 118.0
1	RUDDER. TROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGH	PROP	LATA	LCAX		TRLC		
		16.0	9999.0	7777.0	17.0	2.0	3.0	1.0	15.0	0.0	3.0	2.0		
	TURNING	SPDT 14.3	SPDF 5.0	RUDT -35.0	ADVT B.4	TRNT	DIAT	FRPH						
		15.8	6.0	35.0	8.0	3.4		9999.0 9999.0						
							•••	*****						
1	***** SHIP *	301 ##	***											
	DIMENSION	NATH	NHER	TYPE	DISP	LIPX	LOAX	BEAH	DRFT	TRIN	DULD	DDIS	SSHP	SRPH
		14.0	301.0	3.0	58.0	240.0	255.0	35.0	8.4	4.0	1.0	58.0		118.0
	RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	-							
	RUDIERT THUP		9999.0		17.0	2.0	ENGN 3.0	PROP	27.0	LCAX 0.0	UNWV	TRLC		-
									4/.4		3.0	2.0		
	TURNING	SPDT	SPDF	RUDT	ADVT	TRNT	DIAT	FRPH						
		15.5	6.0	35.0	8.9	2.0		9999.0						
		15.5	4.0	-35.0	7.8	1.4	4.9	7777.0						
3	***** SHIP *	302 ##	***											
	DINENSION	MATN	NHBR	TYPE	DISP	LBPX	LOAX	BEAN	DAFT	TRIM	BULE	DATS	- elun	SRP
	2111EN 31 011	14.0		3.0	45.0	204.0	214.0	30.9	12.3	0.0	1.0	45.0		118.0
	PUDDER, FROP	SSPD	FDAR	PDIA	ASHP	ADST	ENGN	FROP	LATA	LCAX	UHHU	TRUC		
			9999.0	6.4	13.0	2.0	3.0	1.0	11.0	0.0		9999.0		
	TURNING		SPDF		ADVT		DIAT					-		
			9999.0	35.0	3.5		9999.0							
		16.0	9999.0	-35.0	3.5	3.0	9999.0	7777.0						
	STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
		16.0		0.0	20.0		7777.0		7777.0					
	***** SHIP 4	303 18	***											
	DIMENSION	NATH	NHER	TYPE	DISP	LSPX	LOAX	BEAN	DRFT	TRIN	BULD	DDIS	SSHP	SRPH
	e anticida ya	14.0		3.0	11.0	204.0		30.9	2.3	45.0	1.0	11.0	13.8	118.0
	RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	NNW	TRLC		
												7797.0		
(			9999.0	6.4	13.8	2.0	3.0	1.0	29.5	0.0	7.0			
	TURNING		9999.0 SPDF	4.4 RUDT	13.8 ADVT	2.0 TRNT	3.0 DIAT	1.0 FRPH	29.5	0.0	/.0			
	TURNING	15.5 SPDT 14.0	SPDF 77*7.0	RUDT 35.0	ADVT 2.0	TRNT 2.0	DIAT 7777.0	FRPH 9999.0	27.5	0.0	/.0			
1	TURNING	15.5 SPDT 14.0	SPDF	RUDT	ADVT	TRNT 2.0	DIAT	FRPH 9999.0	27.5	0.0				
		15.5 SPDT 14.0 16.0	SPDF 9999.0 9999.0	RUDT 35.0 -35.0	ADVT 2.0 2.0	TRNT 2.0 2.0	DIAT 9999.0 9997.0	FRPH 9999.0 9997.0		0.0				
	TURNING STOPPING	15.5 SPDT 14.0	SPDF 9999.0 9999.0	RUDT 35.0	ADVT 2.0	TRNT 2.0 2.0 HRCH	DIAT 9999.0 9997.0	FRPH 9999.0 9999.0 TINS	27.5 TIMR	0.0				
		15.5 SPDT 14.0 16.0 SPDS	SPDF 9999.0 9999.0	RUDT 35.0 -35.0 RUDS	ADVT 2.0 2.0 TDIS	TRNT 2.0 2.0 HRCH	DIAT 7779.0 7797.0 SRCH	FRPH 9999.0 9999.0 TINS	TINR	0.0				
		13.5 SPDT 14.0 16.0 SPD5 16.0	SPDF 9799.0 9999.0 SHPS 100.0	RUDT 35.0 -35.0 RUDS	ADVT 2.0 2.0 TDIS	TRNT 2.0 2.0 HRCH	DIAT 7779.0 7797.0 SRCH	FRPH 9999.0 9999.0 TINS	TINR	0.0				
	<u>STOPPING</u>	13.5 SPDT 16.0 16.0 SPD5 16.0 304 \$8	SPDF 9799.0 9999.0 SHPS 100.0	RUDT 35.0 -35.0 RUDS	ADVT 2.0 2.0 TDIS	TRNT 2.0 2.0 HRCH 14.0	DIAT 7779.0 7797.0 SRCH	FRPH 9999.0 9999.0 TINS	TINR	0.0	BULP	DDIS	88HP	SRP
	STOPPING	13.5 SPDT 16.0 16.0 SPD5 16.0 304 \$8	SPDF 9999.0 9999.0 SHPS 100.0	RUDT 35.0 -35.0 RUDS 0.0	ADVT 2.0 2.0 TDIS 14.0	TRNT 2.0 2.0 HRCH	DIAT 9999.0 9997.0 9997.0 SRCH 9999.0	FRPH 9999.0 7997.0 Tihs 3.0	TINR YYYY.O			DDIS	55HP 16.7	-
	3TOPPING ***** Ship * <u>Pimension</u>	13.5 SPDT 14.0 16.0 SPD5 16.0 304 94 NATH 14.0	SPDF 9999.0 9999.0 SHPS 100.0 SHPS 100.0	RUDT 35.0 -35.0 RUDS 0.0 TYPE 2.0	ADVT 2.0 2.0 TDIS 14.0 DISF 116.0	TRNT 2.0 2.0 HRCH 14.0 LBPX 261.0	DIAT 9799.0 9997.0 SRCH 9797.0 LOAX 271.0	FRPH 9999.0 7999.0 TIHS 3.0 DEAM 39.0	TINR TTINR TTTT.O DRFT 13.4	TRIM 0.0	<u>BUL P</u> 1.0	DD18 314.0		-
	<u>STOPPING</u>	15.5 SPDT 16.0 I6.0 SPDS 16.0 304 98 NATN 14.0 SSPD	SPDF 9999.0 9999.0 8HPS 100.0 8488 NMBR 304.0 RDAR	RUDT 35.0 -35.0 RUDS 0.0 TYPE 2.0 PDIA	ADUT 2.0 2.0 TDIS 14.0 DISF 116.0 ASHP	TRNT 2.0 2.0 HRCH 14.0 LBPX 261.0 RDST	DIAT 9999.0 9999.0 SRCH 9999.0 LOAX 271.0 ENGN	FRPH 9799.0 7999.0 TIHS 5.0 DEAM 39.0 PROP	TINR TVVV.O DRFT 13.4 LATA	TRIM 0.0 LCAX	BULB 1.0	DDIS 112.0 TRLC		SRPH 118.0
	3TOPPING ***** Ship * <u>Pimension</u>	13.5 SPDT 14.0 16.0 SPD5 16.0 304 94 NATH 14.0	SPDF 9999.0 9999.0 SHPS 100.0 SHPS 100.0	RUDT 35.0 -35.0 RUDS 0.0 TYPE 2.0 PDIA	ADVT 2.0 2.0 TDIS 14.0 DISF 116.0	TRNT 2.0 2.0 HRCH 14.0 LBPX 261.0	DIAT 9799.0 9997.0 SRCH 9797.0 LOAX 271.0	FRPH 9999.0 7999.0 TIHS 3.0 DEAM 39.0	TINR TTINR TTTT.O DRFT 13.4	TRIM 0.0	BULB 1.0	DD18 314.0		-

15.0	9999.0	35.0	7.0	3.7	9999.0	9999.0	
	9999.0		7.4	4.6	9999.0	9999.0	

STOPPING		SHPS 100.0		TDIS 9999.0	HRCH \$999.0	5RCH 9979.0	TINS 11.7	TINR 9999.0
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						1.044	BEAN	DRFT	TRIN	BULB	DDIS	SSHP	SRPH
DIMENSION	NATN 14.0	NMBR 305.0	TYPE 2.0	DISP 111.0	LBPX 250.0	LOAX 263.0	38.0	14.3	0.0		111.0		107.0
RUDDER, PROP	SSPD 16.4	R DAR 60.0	FD1A 7.5	ASHP 12.0	RDST 2.0	ENGN 1.0	PROP 1.0	LATA 14.0	LCAX 0.0		TRLC 9997.0		
TURNING	tent	SPOF	KUDT	ADVI	TENT	TAI	FRFN						
TORHING		9997.0	35.0	5.1		9999.0							
		9999.0	-35.0	3.8	4.4	9999.0	9999.0						
STOPPING	SPUS	SHPS	RUDS	TDIS	HRCH	SRCH		TIMR					
	17.9	100.0	0.0	9999.0	30.9	6.0	11.0	9999.0					
BRARA SHIE 4	306 ***												
DIMENSION	NATH	NMBR	TYPE	DISP	LIPPX	LOAX	BEAH	DRFT	TRIN	BULB	- DRIS	SSHP	SRPH
DINCHOICH		306.4		111.0	250.0	263.9	39.0	14.3	0.0		111.0	24.5	107.0
	SSPD	RDAR	PRIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNHU	TRLC		
RUDDERT PROF		60.03	7.5	12.0	2.0		1.0	14.0	0.0	1.0	9999.0		
TURNING	SPDT	SPDF	RUDT	ADUT	TRNT	DIAT	FRPH						
- DANIERO		7999.0	35.0	5.8			9777.0						
		9999.0	-35.0	5.9	4.6	9999.0	9999.0						
STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
		100.0	0.0	9999.0	27.0	5.6	11.7	9999.0					
STERS SHIP 9	307 \$\$	***											
DIMENSION	NATH	NMBR	TYPE	DISP	LBPX	LOAX		DRFT	TRIN	BULB			SRPH
	14.0	307.0	1.0	62.0	215.0	227.0	31.0	11.3	0.0	1.0	62.0	17.0	103.0
RUDDER. PROP	SSPD	RDAR	PDIA	ASHP	RDST			and the second s	LCAX	UNNU			
	16.4	44.0	7.0	9.0	2.0	1.0	1.0	12.0	9999.0	7.0	9999.0		
TURNING	SPDT	SFDF	RUDT										
		9999.0		9999.0			9997.0						
	17.2	9999.0	-35.0	9999.0	9999.0	6.0	9999.0						
STOPPING	SPDS	SHPS		TOIS				TINR	وبجري بيسي.				
	17.2	100.0	0.0	9999.0	23.0	9999.0	10.3	7777.0					
SEESS SHIP &	304 11	***											
DINENSION	NATH		TYPE						TRIM 0.0	BULB		\$5HP	SRPH 103.0
	14.0	308.0	1.0	62.0	215.0	227.0	31.0	11.3					
RUDDER, PROP	SSPD		PDIA					LATA	LCAX	WNW	TRLC 9799.0		
	16.4	44.0	7.0	9.0	2.0	1.0	1.0	12.0	9999.0	2.0	7777.0		
		SPDF	RUDT	ADUT	TRNT	DIAT	FRPH						
TURNING	5101	arur		9999.0			9999.0						

### STOFFING SPINS SHPS RUDS IDIS HRCH SRCH TINS TINR 17.0 100.0 0.0 9999.0 18.2 9999.0 10.3 9999.0

\*\*\*\*\* SHIP # 309 \*\*\*\*\*

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DINENSION	NA1N 14.0		TYPE 1.0	DISP 62.0	LEPX 215.0		8EAH 31.0	DRFT 11.3	TRIM 0.0	BUL 8	DD18 62.0	55HP 17.0	SRPH 103.0
RUNDER, FROP	SSFD	RDAR	CDIA	ASHF	ROST	ENGN	PROP	LATA	LCAX	UNUV	TRLC		
	15.4	44.0	7.0	9.0	2.0	1.0	1.0	12.0	9999.0	3.0	9999.0		
TURNING	SFDT	SPUF	RUDT	ADVT	TENT	DIAT	FRPN						
	17.5	9797.0	35.0	9997.0	9999.0	6.7	9999.0						
	17.5	9999.0	-35.0	7799.0	9999.0	6.7	9999.0						
STOPPING	SEDS	SHPS	RUDS	TDIS	HECH	SRCH	TINS	TIMR					
		100.0		9999.0				9999.0				Y	
18788 SHIF 8	310 11	111									······································		
									_				
DIMENSION		NMBS 310.0	TYPE	BISP			BFAH 31.0	DRFT 11.3	TRIM 0.0	BULD	DD15	SSHP	SAPH
					215.0	22/10	31.0	11.3		1.4	•2.v	17.0	103.0
RUDDER, FFOP	0122	FDAR	FDIA	ASHP	RAST	ENGN	PROF	LATA		WNWV	TRLC		
	15.4	33.0	7.0	9.0	2.0	1.0	1.0	12.0	\$999.0	2.0	9999.0		
TUENING	CEDT	SPDF	RUDT	ADVT	TENT	DIAT	FRPH						
		7779.0		7799.0			9979.0						
	17.2	9999.0	-35.0	\$\$99.0	9999.0	6.4	9999.0						
STOPPING	SPIS	SHPS	RUIS	TUIS	HORN	SRCH	TTHE	YINR					
	17.2	100.0	0.0	9999.0	17.6	5994.0	9.3	9999.0					
##### 3H1P #	311 \$\$	***				·							
DTHENSTON			TYPE.	DISF	LRPX		BEAK	DRFT	TRIK	BIJCB-	- DUIS-	SSHP	SRPN
		NHER	TYPE 1.0	DJSF 33.0		LOAX	BEAH 33.5	DRFT 13.2	TRIK 0.0		- DAIS- 83.0		
DTHENSION	NATH 14.0	NHER 311.0	1.0	33.0	222.0	LUAX 237.0	33.5	13.2	0.0	1.0	83.0		
	NATH 14.0	NHER 311.0				LOAX		13.2		1.0 DNUT			
DTHENSION	NATH 14.0 56PD 17.0	NHER 311.0 KDAR 48.0	1.0 FBTA 4.7	33.0 ASHF 21.7	222.0 RDST 2.0	LOAX 239.0 ENGW 1.0	33.5 PRDP 1.0	13.2 LA.4 13.6	0.0	1.0 DNUT	83.0 TREC		
DTHENSION	NATH 14.0 SSPD 17.0 SFDT	NHER 311.0 RDAR 48.0 SFDF	1.0 	33.0 ASHF 21.9 ABUT	222.0 RDST 2.0 TENT	LUAX 237.0 Engn 1.0	33.5 PRDP 1.0 FRPN	13.2 LA.4 13.6	0.0	1.0 DNUT	83.0 TREC		
DTHENSION	NATH 14.0 55PD 17.0 5PDT 17.6	NHER 311.0 KDAR 48.0	1.0 FBTA 4.7	33.0 ASHF 21.7	222.0 RDST 2.0 TENT 3.6	LOAX 239.0 ENGW 1.0	33.5 PRDP 1.0 FRPN 9999.0	13.2 LA.4 13.6	0.0	1.0 DNUT	83.0 TREC		
DTHENSION RUDDER PROF	NATH 14.0 55FD 17.0 5FDT 17.6 17.6	NHER 311.0 RDAR 48.0 SFDF 7997.0 7999.0	1.0 PBTA 4.7 KUDT 35.0 -35.0	33.0 ASHF 21.9 AUUY 7.4 9.8	222.0 RBST 2.0 TENT 3.4 4.5	LOAX 239.0 ENGW 1.0 DTAT 9799.0 9799.0	33.5 PRDP 1.0 FRPM 9779.0 9799.0	13.2 [A.4 13.6	0.0	1.0 DNUT	83.0 TREC		
DTHENSION	NATH 14.0 55Fb 17.0 5FbT 17.6 17.6 5FbT	NHER 311.0 KOAR 48.0 SFDF 9997.0 9999.0 SHPS	1.0 PBTA 4.7 FUDT 35.0 -35.0 RUD3	33.0 ASHF 21.9 ADUY 7.4 9.8 TDIS	222.0 RDST 2.0 TENT 3.6 4.5 HRCH	LUAX 237.0 ENGN 1.0 DIAT 7799.0 9999.0 SRCH	33.5 PRDP 1.0 FRPH 9999.0 9999.0 TIMS	13.2 LA.4 13.6 TINR	0.0	1.0 DNUT	83.0 TREC		
DTHENSION RUDDER PROF	NATH 14.0 55Fb 17.0 5FbT 17.6 17.6 5FbT	NHER 311.0 RDAR 48.0 SFDF 7997.0 7999.0	1.0 PBTA 4.7 FUDT 35.0 -35.0 RUD3	33.0 ASHF 21.9 AUUY 7.4 9.8	222.0 RBST 2.0 TENT 3.4 4.5	LOAX 239.0 ENGW 1.0 DTAT 9799.0 9799.0	33.5 PRDP 1.0 FRPH 9999.0 9999.0 TIMS	13.2 [A.4 13.6	0.0	1.0 DNUT	83.0 TREC		
DTHENSION RUDDER PROF	NATN 14.0 56Fb 17.0 5FbT 17.6 17.6 5Fb5 17.6	NHER 311.0 ROAR 48.0 SFDF 9997.0 9997.0 9999.0 SHFS 100.0	1.0 PBTA 4.7 FUDT 35.0 -35.0 RUD3	33.0 ASHF 21.9 ADUY 7.4 9.8 TDIS	222.0 RDST 2.0 TENT 3.6 4.5 HRCH	LUAX 237.0 ENGN 1.0 DIAT 7799.0 9999.0 SRCH	33.5 PRDP 1.0 FRPH 9999.0 9999.0 TIMS	13.2 LA.4 13.6 TINR	0.0	1.0 DNUT	83.0 TREC		
DTHENSTON RUDDER, PROP TURNING STOPPING TTRAL GHIP O	NAYN 14.0 SGPD 17.0 SFDT 17.6 17.6 SPDS 17.6 312 88	NHER 311.0 RDAR 48.0 SFDF 7977.0 9999.0 SHPS 100.0	1.0 PBTA 4.7 FUDT 35.0 -35.0 RUD3 0.0	33.0 ASHF 21.9 ABUY 7.4 9.8 TDIS 9999.0	222.0 RDST 2.0 TENT 3.6 4.5 HRCH 36.5	LUAX 239.0 ENGN 1.0 DIAT 9799.0 9799.0 SRCH 3.0	33.5 PRDP 1.0 FRPH 9999.0 9999.0 TIMS 3.5	13.2 LA.4 13.6 TEMR 9999.0	0.0 LCAX 7777.0	1.0 	93.0 TREC 7777.0	21.9	116.0
DTHENSION RUDDEKT PROF TURNING STOPPING	NAYN 14.0 SGPD 17.0 SFDT 17.6 SFDS 17.6 312 ##	NHER 311.0 REAR 48.0 SFDF 7997.0 7997.0 7999.0 SHPS 100.0 888 NMBR	1.0 PBTA 4.7 FUDT 35.0 -35.0 RUD3	33.0 ASHF 21.9 ADUY 7.4 9.8 TDIS	222.0 RDST 2.0 TENT 3.6 6.5 HRCH 34.5 L.PPX	LUAX 239.0 ENGN 1.0 DIAT 9799.0 9799.0 SRCH 3.0	33.5 PRDP 1.0 FRPM 9999.0 7999.0 7999.0 Tins 3.5	13.2 LA.4 13.6 TINR 9999.0 DRFT	0.0 LCAX 7777.0 TRIM	1.0 DNUT 2.0 BUL B	03.0 TRLC 7777.0 DDIS	21.9	116.0
DTHENSION RUDDER, PROP TURNING STOPPING VIII SHIP O DIMENSION	NATH 14.0 SGPD 17.0 SFDT 17.6 17.6 SPDS 17.6 312 88 NATH 14.0	NHER 311.0 RDAR 48.0 SFDF 7997.0 7999.0 5HFS 100.0 SHFS 100.0	1.0 PBTA 6.7 FUBT 35.0 -35.0 RUD3 0.0 TYPE 1.0	33.0 ASHF 21.9 ABUY 7.4 9.8 TDIS 9999.0 DISF 94.0	222.0 RDST 2.0 YENT 3.4 4.5 HRCH 36.5 L.RPX 251.0	LUAX 239.0 ENGN 1.0 51AT 9799.0 9799.0 9799.0 SRCH 3.0 LOAX 239.0	33.5 PRDF 1.0 FRFM 9999.0 TINS 3.5 DEAM 34.0	13.2 LA.4 13.6 TEHR 9999.0 DRFT 12.4	0.0 LCAX 7777.0 TRIM 0.0	1.0 DNUT 2.0 BULB 1.0	03.0 TRLC 7777.0 DDIS 74.0	21.9	116.0
DTHENSTON RUDDER, PROP TURNING STOPPING TTRAL GHIP O	NATH 14.0 SFD 17.0 SFD 17.6 17.6 SFDS 17.6 312 # # NATH 14.0 SSFD	NHER 311.0 RDAR 48.0 SFDF 7977.0 7779.0 SHFS 100.0 SHFS 100.0 \$## NMBR 312.0 RDAR	1.0 PBTA 4.7 FUBT 35.0 -35.0 RUDS 0.0 TYPE 1.0 PDTA	33.0 ASHF 21.9 ADUT 7.4 9999.0 DISF 94.0 ASHP	222.0 RDST 2.0 TENT 3.6 4.5 HRCH 36.5 HRCH 36.5 L.RPX 251.0 RDST	LUAX 239.0 ENGN 1.0 51AT 7799.0 9799.0 9799.0 SRCH 3.0 LOAX 239.0 ENGN	33.5 PRDF 1.0 FRFW 9999.0 TINS 3.5 BEAH 34.0 FROP	13.2 LA.4 13.6 TIMR 9999.0 DRFT 12.4 LATA	0.0 LCAX 7777.0 TRIM 0.0 LCAX	1.0 DNUU 2.0 BUL B 1.0	83.0 TRLC 7777.0 BDIS 74.0 TRLC	21.9	116.0
DTHENSION RUDDER, PROP TURNING STOPPING VIII SHIP O DIMENSION	NATH 14.0 SGPD 17.0 SFDT 17.6 17.6 SPDS 17.6 312 88 NATH 14.0	NHER 311.0 RDAR 48.0 SFDF 7977.0 7779.0 SHFS 100.0 SHFS 100.0 \$## NMBR 312.0 RDAR	1.0 PBTA 6.7 FUBT 35.0 -35.0 RUD3 0.0 TYPE 1.0	33.0 ASHF 21.9 ABUY 7.4 9.8 TDIS 9999.0 DISF 94.0	222.0 RDST 2.0 YENT 3.4 4.5 HRCH 36.5 L.RPX 251.0	LUAX 239.0 ENGN 1.0 51AT 9799.0 9799.0 9799.0 SRCH 3.0 LOAX 239.0	33.5 PRDF 1.0 FRFM 9999.0 TINS 3.5 DEAM 34.0	13.2 LA.4 13.6 TEHR 9999.0 DRFT 12.4	0.0 LCAX 7777.0 TRIM 0.0	1.0 DNUU 2.0 BUL B 1.0	03.0 TRLC 7777.0 DDIS 74.0	21.9	116.0
DTHENSION RUDDER, PROP TURNING STOPPING VIII SHIP O DIMENSION	NATH 14.0 SFD 17.0 SFD 17.6 17.6 SFD 17.6 312 83 NATH 14.0 SSFD 16.2 SFDT	NHER 311.0 RDAR 48.0 SFDF 7997.0 7999.0 7999.0 SHFS 100.0 SHFS 100.0 SHFS 100.0 RDAR 52.0 SPDF	1.0 PBTA 6.7 KUBY 35.0 -35.0 RUD3 0.0 TYPE 1.0 PDTA 7.0 RUDT	33.0 ASHF 21.9 ABUT 7.4 9.8 TDIS 9999.0 DISF 94.0 ASHP 20.1 ADVT	222.0 RDST 2.0 TENT 3.6 4.5 HRCH 36.5 HRCH 36.5 L.RPX 251.0 RDST	LUAX 237.0 ENGN 1.0 5TAT 7799.0 9799.0 9799.0 SRCH 3.0 LOAX 239.0 ENGN	33.5 PRDF 1.0 FRFW 9999.0 TINS 3.5 BEAH 34.0 FROP	13.2 LA.4 13.6 TIMR 9999.0 DRFT 12.4 LATA	0.0 LCAX 7777.0 TRIM 0.0 LCAX	1.0 DNUU 2.0 BUL B 1.0	83.0 TRLC 7777.0 BDIS 74.0 TRLC	21.9	116.0
DTHENSION RUDDER, PROP TURNING STOPPING TTTENSION RUDDER, PROP	NATH 14.0 SFD 17.0 SFD 17.6 17.6 SFDS 17.6 312 ## NATH 14.0 SSFD 16.2 SFDT 14.7	NHER 311.0 RDAR 48.0 SFDF 7997.0 7999.0 SHFS 100.0 SHFS 100.0 SHFS 100.0 RDAR 52.0 SPDF 777.0	1.0 PDTA 4.7 KUDT 35.0 -35.0 RUD3 0.0 TYPE 1.0 PDIA 7.0 RUDT 35.0	33.0 ASHF 21.9 ADUT 7.4 9.8 TDIS 9999.0 DISF 94.0 ASHP 20.1 ADUT 12.0	222.0 RDST 2.0 YENT 3.4 4.5 HRCH 36.5 HRCH 36.5 U.RPX 251.0 RDST 2.0 TRNT 4.5	LUAX 237.0 EHGW 1.0 5TAT 7799.0 9799.0 9799.0 SRCH 3.0 LOAX 239.0 ENGN 1.0 DIAT 979.0	33.5 PRDF 1.0 FRFW 9979.0 TINS 3.5 TINS 3.5 BEAH 34.0 PROP 1.0 FRPM	13.2 LA.4 13.6 TIMR 9999.0 DRFT 12.4 LATA	0.0 LCAX 7777.0 TRIM 0.0 LCAX	1.0 DNUU 2.0 BUL B 1.0	83.0 TRLC 7777.0 BDIS 74.0 TRLC	21.9	116.0
DTHENSION RUDDER, PROP TURNING STOPPING TTTENSION RUDDER, PROP	NATH 14.0 SFD 17.0 SFD 17.6 17.6 SFDS 17.6 312 ## NATH 14.0 SSFD 16.2 SFDT 14.7	NHER 311.0 RDAR 48.0 SFDF 7997.0 7999.0 7999.0 SHFS 100.0 SHFS 100.0 SHFS 100.0 RDAR 52.0 SPDF	1.0 PBTA 6.7 KUBY 35.0 -35.0 RUD3 0.0 TYPE 1.0 PDTA 7.0 RUDT	33.0 ASHF 21.9 ABUT 7.4 9.8 TDIS 9999.0 DISF 94.0 ASHP 20.1 ADVT	222.0 RDST 2.0 YENT 3.4 4.5 HRCH 36.5 HRCH 36.5 U.RPX 251.0 RDST 2.0 TRNT 4.5	LUAX 239.0 ENGN 1.0 51AT 9799.0 9799.0 9799.0 SRCH 3.0 LOAX 239.0 ENGN 1.0	33.5 PRDF 1.0 FRFM 9979.0 7999.0 Tims 3.5 DFAM 34.0 PROP 1.0 FRPM 9999.0	13.2 LA.4 13.6 TIMR 9999.0 DRFT 12.4 LATA	0.0 LCAX 7777.0 TRIM 0.0 LCAX	1.0 DNUU 2.0 BUL B 1.0	83.0 TRLC 7777.0 BDIS 74.0 TRLC	21.9	SRPH 116.0

#### 15.7 100.0 0.0 9999.0 18.5 9999.0 8.2 9999.0

\*\*\*\*\* SHIP # 313 \*\*\*\*\*

	DIMENSION	NATN	NHBR	TYPE	DISP	LEPY	LOAX	BEAN	DRFT	TRIM	BULD	DDIS	SSHP	SRPH
•	PINCE STON	the second second second	313.0	the second s	241.0	the state of the s	البحدينية الألعد بمزيل المنهد			0.0	1.0	Contractory of the local division of the loc	28.0	85.0
							CHON.							
	RUDDER. PROP	SSPD 15.0	78.0	PDIA B.8	ASHP 21.0	RDST 2.0	ENGN 2.0	PR0P	LATA	-10.0	2.0	1.0		
		13.0	/8.0		41.0	2.0	2.0	1.0	1710	-1414	2.0			
_	TURNING	SPDI		RUDT	ADVT			FRPH					·····	
			9999.0	35.0		9999.0		9999.0						
			9979.0	35.0		9979.0		9999.0						
Ĩ		15.4	9979.0	35.0	9.8	9999.0	11.8	9999.0						
		15.0	9979.0	20.0	12.2	9999.0	12.9	9999.0						
	STOPPING	SPUS	SHPS	RUDS	TOIS	HECH	SRCH	TINS	TINR					
		15.9	100.0		9999.0		9999.0		9999.0					
			100.0		9999.0		4999.0		9999.0					
		4.2	100.0	0.0	9999.0	8+2	9999.0	10.7	9999.0					
	ZIG-ZAG	SPUZ	RUDZ	0451	OVSF	OVSU	KPRM	TPRM	PERD					
		15.0		13.5	13.5	4999.0	9999.0	9999.0	7779.0					
	##### SHIP #	314 11	***											
	NIMENSION	NATH	NMBP	TYPE	DISP	LBPX	LOAX	REAM	DRFT	TRTH	BULB	PRIS	SSHP	SRPH
			314.0			262.0			14.6	0.0	1.0	132.0	23.1	114.0
	RUDDEP+ PLOP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAY		TRLC		
•	ROPPERT FLOR	16.0			9999.0					-8.0		9999.0		
	TURNING	SFDT	SPDF 9999.0	RUDT		TENT 9797.0		FRPH 9997.0					·····	
			9999.0			9999.0		9999.0						
	STOPPING	SPOS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TIMR					
		16.7	100.0	0.0	9999.0	26.6	7797.0	10.3	9999.0					
	***** SHIP #	315 **	***											
	DIMENSION	NATH	NMBR	TYPE	DISF	LBPX	LOAX	BEAM	DRFT	TRIM	BULB	DDIS	SSHP	SRPM
		9.0	315.0	2.0	124.0			41.0	13.7	2.0	1.0	124.0	23.1	114.0
•	RUDDER . PROF	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	- MARTIT	TREC		
	RUBUERI PRUP	16.0			9999.0					-8.0		9999.0		
	TURNING		SFDF			TRNT		FRPN						
			<b>9999.0</b> <b>9999.0</b>			9979.0		7777.0						
		10.0	1117.0	-35.0	7777.0	7777.0	10.0	9999.0					· · · · · · · · · · · · · · · · · · ·	
	STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TIMR					
		14.6	100.0	0.0	9999.0	29.2	9999.0	10.8	9999.0					
	BARRA SHIP 4	316 ##	***											
ĺ	DIMENSION	NATH	NHAP		DISP	LBPX	LOAX	DEAN	DRFT	TRIN		DDIS	SSHP	SRPH
	DIMENSION	7.0		TYPE 2.0						2.0	1.0			114.0
	RUDDER, PROP	SSPD		PDIA						LCAX		TRLC		
		13.5	59.0	7.1	7779.0	2.0	2.0	1.0	12.0	-8.0	3.0	9999.0		

TURNING SFDT SPDF 13.5 9999.0 13.5 9999.0 RUDT 35.0 -35.0 ADVT TRNT 9.2 9999.0 9.8 9799.0 DIAT FRPM 11.1 9999.0 10.9 9997.0

	a second second		Sec. 1											
_	STOPPING	SPDS	3HPS	RUDS	TDIS 9999.0	HRCH	5RCH 9999.0	TINS	TIMR 9999.0					
		13.5	100.0	0.0										
-	48888 SHIP .	117												
										1.1.2.1	1000		10000	
	DIMENSION	NATN	NABR	TYPE	DISP	LBPX	LOAX	BEAN	DRFT	TRIM	BULB	DDIS	SSHP	SRPM
		9.0	317.0	2.0	143.0	269.0	282.0	39.0	15.8	2.0	1.0	143.0	23.1	114.0
	RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLC		
-	NUVIENT THUT	-15.0	and the second second		9999.0	2.0	2.0	1.0	12.0	-8.0	3.0	9999.0		
				1114										
-	TURNING	SPDT	SFDF	RUDT 35.0	ADVT	TRNT 9999.0	DIAT	FRPM 9999.0						
			9999.0	-35.0			. 10.5							
									-				_	
-	STOPPING	SPDS		RUDS	TOTS	HRCH	SRCH	TINS	TINR					
		15.8	100.0	0.0	9999.0	36.5	9999.0	15.5	9999.0					
-						_	_							
	sassa SHIP .	318 18												
				Letter a							-			
	DIMENSION			TIPE	DISP	LBPX	LOAX	PEAN	DRFT 9.5	TR18 2.0	BULB 0.0	240.0	28.0	SRPH 85.0
		9.0	318.0	2.0	114.0	311.0	325.0	47.0	4.5	2.0				
	RUDDER PROP	- deph	RDAR		ASHP	ROST	ENGN	PROP	LATA	LCAX	- UNUT	TREC		
	NOPPERT TROP	15.0			9999.0	2.0	2.0	1.0	25.0	-10.0	2.0	7797.0		
	STOPFING		SHES		1015		SKCH		11HR 9999.0					
		15.5	100.0	0.0	9999.0	2914	9999.0	1919	*****					
	##### SHIP #	319 ##	111											
								BEAK	DRFT	TRIN		DNIS	SSHP	SRPH
	DINENSION	NATN 9.0		11PE	DISF 225.0		LOAX 325.0	47.0	15.4	2.0	1.0	225.0	30.4	80.0
		7.0	317.0	2.14		30310								
	RUDDER, PROP	SSPD	FDAR	FUIA	ASHP	RUST	EHGN	PRUF	LATA	LCAX		TRCC		
		15.5	90.0	9.1	9999.0	2.0	2.0	1.0	15.0	-9.0	3.0	9999.0		
			SPDF	FUOT	ADUY	TRNT	DIAT	FRPH						
	TURNENG		9999.0	-35.0		9999.0		\$999.0						
			9999.0	35.0		9599.0	10.4	9999.0						
			9999.0	-35.0		9799.0		9999.0						
			9999.0	35.0		\$\$97.0		7777.0						
-		10.6	9999.0	-35.0	11.0	9977.0	12.1	9999.0						
	STOPFING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TIMS	TINR					
			100.0		+999.0	39.4	9999.0	15.2	9999.0					
		126												
	11141 SHIP 4	320 ##												
	DIMENSION	HATN	NHBR	TYPE					DRFT	TRIN	BULB	DNIS	SSHP	SRPH
		8.0	320.0	2.0	220.0	305.0	9999.0	47.0	18.3	0.0	1.0	220.0	9999.0	7777.0
		SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLC		
	RUDDEK, PROP		9999.0	8.9	9999.0	7999.0	9999.0	9999.0						
_														
	ZIG-ZAG	SPDZ	RUDZ	OVSI					PERD 1977.0					
			20.0	19.0										

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\*\*\*\*\* SHIP @ 321 \*\*\*\*\*

DIMENSION	NATH	NHBR 376.0	TYPE 1.0	DISP	L8PX	LDAX							SRPH
**** SHIP .	375 \$\$1												
	17.0		0.0			9999.0		9999.0					
STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TIMR					
NUPDERT PROP		9999.0		9999.0				9999.0					
RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLC		
DIMENSION	NATN 8.0	NHBR 325.0	11FE 2.0					9999.0					9999.0
			TURP	DISP	LBPX	LOAX	BEAN	DRFT	TRIN	BULB	DDIS	SSHP	SRPH
***** SHTP *	325 ##1	***											
STOPPING	SFDS 17.0	SHPS	RUDS	TDIS 33.4	HRCH 9779.0	SRCH 9999.0		TINR 9999.0					
									_				
RUDDER, PROP	SSPD	80AR 9999.0	PDIA	ASHP 99-79.0	RDST			LATA 9999.0					
	8.0	324.0											
DIMENSION	NATH	NMBR 324.0	TYPE	DISP 137.0	LBPX			DRFT 9999.0					SRPH .0
***** SHIP 4													
	174 444												
	14.2	100.0	0.0	20.4	1/12	,,,,,,	7.0	,,,,,					
STOPPING	SPDS	SHPS	RUDS 0.0	T015 20.4		-SRCH 9999.0		TIMR 9999.0					
		9999.0		19.0				9999.0	7777.9	1111.0			
RUDDER, PROP	SSFD	RDAR	FDIA	ASHP	RDST		PROP		LCAX				
	3.0	323.0	1.0	89.0	237.0	9999.0	9999.0	9999.0	7777.0	4479.0	75.0	22.8	9999.0
DIMENSION		NHBR	TYPE	DISP	LBPX								
##### SHIP #	323 ***									_			
	16.3	100.0	0.0	30.5	9999.0	14.8	12.7	9999.0					
- STOPPING	SFDS	SHPS	RUDS	TOIS	HRCH		TINS						
	16.3	9999.0	7.5	9.0	2.0	- 1.0	1.0	9999.0	9999.0	9999.0	7777.0		
RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	FROP		LCAX	WHW			
	8.0	322.0	2.0	113.0	254.0	9999.0	9999.0	9999.0	9999.0	7979.0	113.0	19.0	9999.0
DIMENSION	NATN	NMBR	TYPE	DISP	LBPX		BEAN		TRIM	BUL.B	DDIS	SSHP	SRPM
##### SHIP # ;	22 ***	**											
	8.0	10.0	20.0	21.0	9999.0	9999.0	9999.0	9999.0					
ZIG-ZAG	SPDZ	RUNZ	OVS1	OVSF	OVSW	KPRH	TPRM	PERD					
		9997.0	8.9	9999.0	9999.0	9999.0	9999.0	9999.0	9997.0	9999.0	9999.0		
RUDDER. FROP	SSPD	RDAR	FDIA	ASHF	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLC		
	8.0	321.0	2.0	120.0	313.0	9977.0	47.0	10.5	5.0				9999.0

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B.0         372.0         2.0         111.0         273.0         9797.0         9707.0         9797.0         9707.0         9707.0         9707.0         9707.0         9707.0         970.0																				
7777.0       7.2       9797.0       2.0       1.0       9797.0		0F 55	PD	RDAR	PDIA	ASHP	EDST	ENGN	PROP	LATA	LCAY		TRIC							
STOPPSMC         SPDS         SHPS         RUDS         TDIS         MACH         SECH         TINS         TINE           STOPPSMC         100.0         0.0         32.3         9249.0         9299.0         12.0         9999.0           STOPPSMC         377.0         2.0         111.0         270.0         9297.0         9297.0         9297.0         9297.0         9297.0         9297.0         9297.0         9297.0         9297.0         9297.0         9297.0         9297.0         9297.0         9297.0         9297.0         9297.0         9297.0         9297.0         9997.0																				
9999.0         100.0         0.0         32.5         9999.0         12.0         9999.0           9999.0         100.0         0.0         32.5         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         24.0         999.0         24.0         999.0         24.0         999.0         24.0         999.0         24.0         999.0         24.0         999.0         24.0         999.0         24.0         999.0         24.0         999.0         24.0         999.0         24.0         999.0         24.0         999.																				
BIRENSION         MATH         MMDR         TYPE         DISP         LSPX         LOAX         DEFAH         DATT         TRIM         DUBLS         SSMP	STOPPE	NG SF	DS	SHPS	RUDS	TDIS	HRCH	SRCH	TIKS	TIMR										
DIRCHSION         MATN         MRER         TYPE         DISP         LBPX         LOAX         BEAK         DRIT         TRIN         BULE         DDIS         SSNP         SSNP         SAMP         DDIS         SSNP         SAMP         SSNP         SAMP         DDIS         SSNP         SSNP         SAMP         DDIS         ASAP         PROP         LATA         LCAX         UNUU         TRLC           14.3         1977.0         7.18         1977.0         7.18         10.0         777.0 <td></td> <td>9999</td> <td>.0</td> <td>100.0</td> <td>0.0</td> <td>32.5</td> <td>9799.0</td> <td>9999.0</td> <td>12.0</td> <td>9999.0</td> <td></td> <td></td> <td></td> <td></td> <td></td>		9999	.0	100.0	0.0	32.5	9799.0	9999.0	12.0	9999.0										
DIRCHSION         MATN         MARK         TYPE         DISP         LBPX         LOAX         BFAH         DRIT         TRIH         BULE         DDIS         SSHP         SPAC         24.0         4999.0         999.0 <td></td>																				
DIRCHSION         MATN         MRER         TYPE         DISP         LBPX         LOAX         BEAK         DRIT         TRIN         BULE         DDIS         SSNP         SSNP         SAMP         DDIS         SSNP         SAMP         SSNP         SAMP         DDIS         SSNP         SSNP         SAMP         DDIS         ASAP         PROP         LATA         LCAX         UNUU         TRLC           14.3         1977.0         7.18         1977.0         7.18         10.0         777.0 <td></td> <td>1 C</td> <td></td>		1 C																		
B.0         372.0         2.0         111.0         273.0         9797.0         9707.0         9707.0         9707.0         9707.0         9707.0         9707.0         9707.0         9707.0         970.0         24.0         970.0         24.0         970.0         24.0         970.0         24.0         970.0         24.0         970.0         24.0         970.0         24.0         970.0         24.0         970.0         24.0         970.0         24.0         970.0         24.0         970.0         24.0         970.0         24.0         970.0         24.0         970.0         24.0         970.0         270.0         970.0         970.0         970.0         970.0         970.0	##### SHIP	• 377	**1	***																
B.0         372.0         2.0         111.0         273.0         9797.0         9707.0         9707.0         9707.0         9707.0         9707.0         9707.0         9707.0         9707.0         970.0         24.0         970.0         24.0         970.0         24.0         970.0         24.0         970.0         24.0         970.0         24.0         970.0         24.0         970.0         24.0         970.0         24.0         970.0         24.0         970.0         24.0         970.0         24.0         970.0         24.0         970.0         24.0         970.0         24.0         970.0         270.0         970.0         970.0         970.0         970.0         970.0	DIMENCE		*	NHER																
RUDDER:         PROF         SSPD         RDAR         PDIA         ASHP         RDST         ENGN         PROF         LATA         LCAX         WHWU         TRLC           STBPPING         SPDS         SWDS         RUDS         TDIS         MRCH         SRCH         TINS	DINENSI														SRPH					
14.3         9797.0         7.8         9797.0         2.0         1.0         1.0         9797.0         <			.0	3/7.0	2.0	111.0	203.0	9999.0	9999.0	9979.0	9999.0	9999.0	95.0	24.0	9999.0					
14.3         9797.0         7.8         9797.0         2.0         1.0         1.0         9797.0         <		00 00	PD	PDAR	PRIA	ACHP	EDET	CHEN	4044	LATA	ICAY	LINUU	701.0							
STOPPING         SPOS         SHPS         RUDS         TDIS         HACH         SPCH         TINS         TINE           #####         IA.3         100.0         0.0         38.4         9999.0         999.0         14.0         9999.0           #####         CHIP         4         378.4         9999.0         9999	NOPPENT TR		-																	
14.3         100.0         0.0         38.4         9999.0         14.0         9999.0           #####           DIMENSION         NATN         NMBR         TYPE         DISP         LBPX         LOAX         BEAM         DRFT         TRIM         BULB         DDIS         SSMP														-						
14.3         100.0         0.0         38.4         9797.0         14.0         9797.0           ##### CHIP # 378 #####           DIMENSION NATH MARE TYPE         DISP         LBPX         LOAX         BEAM         DRFT         TRIM         BULD         DBIS         SSMP         SSMP<	STOPPI	NG - SP	DS	SHPS	RUDS	TDIS	HRCH	SRCH	TIMS	TINR										
DIMENSION         NATH         MMBR         TYPE         DISP         LBFX         LOAX         BEAM         DRFT         TRIN         BULB         DDIS         SSHP         SSP           RUDDER.         FROF         SSTD         RDAR         PDIA         ASHP         RDST         EMON         PROP         LATA         LCAX         MHW         TELC           17.0         9797.0         7.8         11.5         2.0         1.0         10         9797.0         9797.0         9797.0           STDPPING         SPDS         SHFS         RUDS         TDIS         HECH         SRCH         TINS         TINS           JINTHNSION         MATH         NHSR         TYPE         DISP         LBFX         LOAX         BEAM         DRFT         TRIN         BULB         DDIS         SSHF		14	.3	100.0	0.0	38.4	9999.0	9999.0												
DIMENSION         NATH         MMBR         TYPE         DISP         LBFX         LOAX         BEAM         DRFT         TRIN         BULB         DDIS         SSHP         SSP           RUDDER.         FROF         SSTD         RDAR         PDIA         ASHP         RDST         EMON         PROP         LATA         LCAX         MHW         TELC           17.0         9797.0         7.8         11.5         2.0         1.0         10         9797.0         9797.0         9797.0           STDPPING         SPDS         SHFS         RUDS         TDIS         HECH         SRCH         TINS         TINS           JINTHNSION         MATH         NHSR         TYPE         DISP         LBFX         LOAX         BEAM         DRFT         TRIN         BULB         DDIS         SSHF																				
DIMENSION         NATH         MMBR         TYPE         DISP         LBFX         LOAX         BEAM         DRFT         TRIN         BULB         DDIS         SSHP         SSP           RUDDER.         FROF         SSTD         RDAR         PDIA         ASHP         RDST         EMON         PROP         LATA         LCAX         MHW         TELC           17.0         9797.0         7.8         11.5         2.0         1.0         10         9797.0         9797.0         9797.0           STDPPING         SPDS         SHFS         RUDS         TDIS         HECH         SRCH         TINS         TINS           JINTHNSION         MATH         NHSR         TYPE         DISP         LBFX         LOAX         BEAM         DRFT         TRIN         BULB         DDIS         SSHF																				
8.0         378.0         1.0         71.0         273.0         9997.0         9997.0         9997.0         997.0         997.0         977.0         9	##### SHIP	# 378	222	***																
8.0         378.0         1.0         71.0         273.0         9997.0         9997.0         9997.0         997.0         997.0         977.0         9			-																	
RUDDER:         FROF         SSFD         RDAR         PDIA         ASHP         RDST         EHON         PROP         LATA         LCAX         UHUW         TRLC           17.0         17.0         9997.0         7.8         11.5         2.0         1.0         1.0         9997.	DIMENSI	-													SRPH					
17.0         9999.0         7.8         11.5         2.0         1.0         1.0         9999.0         9999.0         9999.0           STDPPING         SPDS         SHPS         RUDS         TDIS         HRCH         SRCH         TINS         TINE           JUDPING         SPDS         SHPS         RUDS         TDIS         HRCH         SRCH         TINE         TINE           JUDPING         STOP         JO.0         JO.3         JUPPING         SPDS         SHPS         SCH         STOP         JUDPING         STOP         JUPPING			1.0	378.0	1.0	71.0	253.0	9999.0	9999.0	9999.0	9999.0	9999.0	99.0	24.0	9999.0					
17.0         9999.0         7.8         11.5         2.0         1.0         1.0         9999.0         9999.0         9999.0           STDPPING         SPDS         SHPS         RUDS         TDIS         HRCH         SRCH         TINS         TINE           JUDPING         SPDS         SHPS         RUDS         TDIS         HRCH         SRCH         TINE         TINE           JUDPING         STOP         JO.0         JO.3         JUPPING         SPDS         SHPS         SCH         STOP         JUDPING         STOP         JUPPING													1							
STOPPING         SPDS         SHPS         RUDS         TDIS         HRCH         SRCH         TIHS         TIHR           17.0         100.0         0.0         30.8         9999.0         11.0         9999.0         .           #####         DIMENSION         NATH         NHBR         TYPE         DISP         LBPX<'LOAX	RUDDER. FR																			
17.0         100.0         0.0         30.8         7979.0         11.0         9999.0         1.0         9999.0         .           #####         CHIF # 379         #####         SSHP		17	.0	9999.0	7.8	11.5	2.0	1.0	1.0	9999.0	9999.0	9997.0	9999.0							
17.0         100.0         0.0         30.8         7979.0         11.0         9999.0         1.0         9999.0         .           #####         CHIF # 379         #####         SSHP	STOPPT		nc	CHPC	PUDC	Thre	UPCH	COCH	TTHE	TTHE										
SASSE CHIF 4 379 88838           DIHFHSION NATH NHBR TYPE DISP LBPX LOAX BEAM DRFT TRIM BULB DDIS SSHP SRP B.0 379.0 1.0 61.0 253.0 9979.0 9997.0 9997.0 9999.0 9999.0 99.0	albert																			
DIHFHSION         NATH         NHBR         TYPE         DISP         LBPX         'LOAX         BEAM         DRFT         TRIM         BULB         DRIS         SSMP         SRP         SRP           RUDDER.         FROP         SSPD         RDAR         PDIA         ASHP         RDST         ENGN         PROP         Q 9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         24.0         7999.0           RUDDER.         FROP         SSPD         RDAR         PDIA         ASHP         RDST         ENGN         PROP         LATA         LCAX         WHWU         TRLC           15.5         9999.0         7.8         11.5         2.0         1.0         1.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         10.0         12.0         9999.0         12.0         9999.0         12.0         9999.0         12.0         9999.0         1999.0         1999.0         1999.0         19.8         SSHP         SSHP         SRP         SSHP         SSHP         SSHP         SSHP         SSHP         SSHP				100.0		3010		,,,,,,	11.0											
DIHFHSION         NATH         NHBR         TYPE         DISP         LBPX         "LOAX         BEAM         DRFT         TRIH         BULB         DRIS         SSHP         SRP         SRP           RUDDER.         FROP         SSPD         RDAR         PDIA         ASHP         RBST         ENGN         PROP         Q 9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         24.0         7999.0           RUDDER.         FROP         SSPD         RDAR         PDIA         ASHP         RDST         ENGN         PROP         LATA         LCAX         UHWU         TRLC           15.5         9999.0         7.8         11.5         2.0         1.0         1.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         10.0         12.0         9999.0         12.0         9999.0         12.0         9999.0         12.0         9999.0         1999.0         1999.0         1999.0         19.0         19.0         19.0         19.0         19.0         19.0         10.0         10.0         10.0         10.0																				
DIHFHSION         NATH         NHBR         TYPE         DISP         LBPX         "LOAX         BEAM         DRFT         TRIH         BULB         DRIS         SSHP         SRP         SRP           RUDDER.         FROP         SSPD         RDAR         PDIA         ASHP         RBST         ENGN         PROP         Q 9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         24.0         7999.0           RUDDER.         FROP         SSPD         RDAR         PDIA         ASHP         RDST         ENGN         PROP         LATA         LCAX         UHWU         TRLC           15.5         9999.0         7.8         11.5         2.0         1.0         1.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         10.0         12.0         9999.0         12.0         9999.0         12.0         9999.0         12.0         9999.0         1999.0         1999.0         1999.0         19.0         19.0         19.0         19.0         19.0         19.0         10.0         10.0         10.0         10.0	SESES SHIP	4 379	***	***																
B.0         379.0         1.0         41.0         253.0         9997.0				-																
RUDDER: FROP         SSPD         RDAR         PDIA         ASHP         RDST         ENGM         PROF         LATA         LCAX         WHWU         TRLC           15.5         9799.0         7.8         11.5         2.0         1.0         1.0         9799.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         12.0         9999.0         12.0         9999.0         12.0         9999.0         12.0         9999.0         12.0         9999.0         12.0         9999.0         12.0         9999.0         12.0         9999.0         1999.0         12.0         9999.0         12.0         9999.0         12.0         9999.0         12.0         9999.0         12.0         9999.0         12.0         9999.0         1999.0         1999.0         1999.0         1999.0         1999.0         11.0         12.0         9999.0         1999.0         1999.0         1999.0         1999.0         1999.0         1999.0         1999.0         1999.0         1999.0         1999.0         1999.0         1999.0         1999.0         1999.0         1999.0         10.0         10.0         10.0 <td>DIMENSI</td> <td>ON NA</td> <td>TN</td> <td>NABR</td> <td>TYPE</td> <td>DISP</td> <td>LBFX</td> <td>"LOAX</td> <td>BEAN</td> <td>DRFT</td> <td>TRIM</td> <td>BULB</td> <td>PRIS</td> <td>SSHP</td> <td>SRPH</td>	DIMENSI	ON NA	TN	NABR	TYPE	DISP	LBFX	"LOAX	BEAN	DRFT	TRIM	BULB	PRIS	SSHP	SRPH					
15.5         999.0         7.8         11.5         2.0         1.0         1.0         9999.0         9999.0         9999.0           STOPPING         SPDS         SHPS         RUDS         TDIS         HRCH         SRCH         TINS         TINR           15.5         100.0         0.0         26.0         9999.0         12.0         9999.0           STOPPING         SPDS         SHPS         RUDS         TDIS         HRCH         SRCH         TINS         TINR           15.5         100.0         0.0         26.0         9999.0         9999.0         12.0         9999.0           88888         SHIP         360         88888         DIMENSION         MATN         NHR         TYFE         DISP         LBPX         LOAX         BEAN         DRFT         TRIN         BULB         DIS         SSHP         SRP           RUDDER, PROP         SSFD         RDAR         FDIA         ASHP         RDST         ENGN         PROP         LATA         LCAX         UNUV         TRLC           16.0         7999.0         4.8         11.4         2.0         3.0         1.0         9999.0         9999.0         9999.0         9999.0		1		379.0	1.0	61.0	253.0	9997.0	9999.0	9997.0	9999.0	9999.0	99.0	24.0	9999.0					
15.5         999.0         7.8         11.5         2.0         1.0         1.0         9999.0         9999.0         9999.0           STOPPING         SPDS         SHPS         RUDS         TDIS         HRCH         SRCH         TINS         TINR           15.5         100.0         0.0         26.0         9999.0         12.0         9999.0           STOPPING         SPDS         SHPS         RUDS         TDIS         HRCH         SRCH         TINS         TINR           15.5         100.0         0.0         26.0         9999.0         9999.0         12.0         9999.0           88888         SHIP         360         88888         DIMENSION         MATN         NHR         TYFE         DISP         LBPX         LOAX         BEAN         DRFT         TRIN         BULB         DIS         SSHP         SRP           RUDDER, PROP         SSFD         RDAR         FDIA         ASHP         RDST         ENGN         PROP         LATA         LCAX         UNUV         TRLC           16.0         7999.0         4.8         11.4         2.0         3.0         1.0         9999.0         9999.0         9999.0         9999.0																				
STOPPING         SPDS         SHPS         RUDS         TDIS         HRCH         SRCH         TINS         TINR           15.5         100.0         0.0         26.0         9999.0         12.0         9997.0           #####         SHIP         380         #####         Image: Ships         Image:	RUDDER, FR	OP SS	PD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	NHAA	TRLC							
15.5         100.0         0.0         26.0         9999.0         12.0         9999.0           ##### SHIP # 300 #####           DIMENSION MATH NHBR TYPE DISP LBPX LOAX BEAM DRFT TRIM BULB DBIS SSHP SRP 3.0           3.0         380.0         1.0         72.0         232.0         9999.0         9999.0         9999.0         9999.0         9999.0         19.8         9999.0           RUDDER, PROP         SSFD         RDAR         FDIA         ASMP         ROP         LATA         LCAX         WINU TRLC           RUDDER, PROP         SSFD         RDAR         FDIA         ASMP         ROP           STOPPING SPDS         SHPS         RUDS         TDIS         HRCH         SRCH         TIME           STOPPING         SPD         SHPS         RUDS         TDIS         HRCH         STOP PING         SHPS           SHPS         SHPS         RUDS         TDIS         HEAL <td colspan="5" s<="" td=""><td></td><td>1</td><td>1.5</td><td>9999.0</td><td>7.8</td><td>11.5</td><td>2.0</td><td>1.0</td><td>1.0</td><td>9999.0</td><td>9999.0</td><td>9999.0</td><td>9999.0</td><td></td><td>_</td></td>	<td></td> <td>1</td> <td>1.5</td> <td>9999.0</td> <td>7.8</td> <td>11.5</td> <td>2.0</td> <td>1.0</td> <td>1.0</td> <td>9999.0</td> <td>9999.0</td> <td>9999.0</td> <td>9999.0</td> <td></td> <td>_</td>						1	1.5	9999.0	7.8	11.5	2.0	1.0	1.0	9999.0	9999.0	9999.0	9999.0		_
15.5         100.0         0.0         26.0         9999.0         12.0         9999.0           ##### SHIP # 300 #####           DIMENSION MATH NHBR TYPE DISP LBPX LOAX BEAM DRFT TRIM BULB DBIS SSHP SRP 3.0           3.0         380.0         1.0         72.0         232.0         9999.0         9999.0         9999.0         9999.0         9999.0         19.8         9999.0           RUDDER, PROP         SSFD         RDAR         FDIA         ASMP         ROP         LATA         LCAX         WINU TRLC           RUDDER, PROP         SSFD         RDAR         FDIA         ASMP         ROP           STOPPING SPDS         SHPS         RUDS         TDIS         HRCH         SRCH         TIME           STOPPING         SPD         SHPS         RUDS         TDIS         HRCH         STOP PING         SHPS           SHPS         SHPS         RUDS         TDIS         HEAL <td colspan="5" s<="" td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td>	<td></td>																			
##### SHIP # 380 #####           DIMERSION MATH NMBR TYPE DISP LBPX LOAX BEAM DRFT TRIM BULB DBIS SSMP SRP 3.0 360.0 1.0 72.0 232.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 19.8 9999.           RUBDER, PROP SSFD RDAR PDIA ASMP RDST ENGN PROP LATA LCAX WNWV TRLC 16.0 9999.0 6.8 11.4 2.0 3.0 1.0 9999.0 9999.0 9999.0 9999.0 9999.0           STOPPING SPDS SMPS RUDS TDIS HRCH SRCH TIME TIME 16.0 100.0 0.0 25.0 17.2 9.3 10.7 9999.0           ##### SHIP # 381 #####           DIMENSION NATN NMBR TYPE DISP LBPX LOAX BEAM DRFT TRIM BULB DDIS SRMP SRP 8.0 381.0 2.0 107.0 267.0 9999.0 9999.0 9999.0 110.0 21.0 9999.           RUDDER, PROP SSPD RDAR PDIA ASMP RDST ENGN PROP LATA LCAX WNWV TRLC 9999.0 9999.0 7.2 21.0 2.0 3.0 1.0 9999.0 9999.0 9999.0 110.0 21.0 9999.           RUDDER, PROP SSPD RDAR PDIA ASMP RDST ENGN PROP LATA LCAX WNWV TRLC 9999.0 9999.0 7.2 21.0 2.0 3.0 1.0 9999.0 9999.0 9999.0 9999.0 110.0 21.0 9999.0 STOPPING SFDS SHPS RUDS TDIS HRCH SRCH TIMS TIMR	STOPPI																			
DIMENSION         NATH         NMBR         TYPE         DISP         LBPX         LOAX         BEAH         DRFT         TRIM         BULB         DRIS         SSHP         SSRP         SRP           3.0         380.0         1.0         72.0         232.0         7979.0         9779.0         7979.0         9797.0         9797.0         9797.0         9797.0         9797.0         9797.0         19.8         7979.0           RUBDER.         PROP         SSFD         RDAR         PDIA         ASHP         RDST         EHGN         PROP         LATA         LCAX         WHWU         TRLC           16.0         7979.0         6.8         11.4         2.0         3.0         1.0         7979.0         797		1;	1.5	109.0	0.0	26.0	9999.0	9999.0	12.0	9999.0										
DIMENSION         NATH         NMBR         TYPE         DISP         LBPX         LOAX         BEAH         DRFT         TRIM         BULB         DRIS         SSHP         SSRP         SRP           3.0         380.0         1.0         72.0         232.0         7979.0         9779.0         7979.0         9797.0         9797.0         9797.0         9797.0         9797.0         9797.0         19.8         7979.0           RUBDER.         PROP         SSFD         RDAR         PDIA         ASHP         RDST         EHGN         PROP         LATA         LCAX         WHWU         TRLC           16.0         7979.0         6.8         11.4         2.0         3.0         1.0         7979.0         797																				
DIMENSION         NATH         NMBR         TYPE         DISP         LBPX         LOAX         BEAH         DRFT         TRIM         BULB         DRIS         SSHP         SSRP         SRP           3.0         380.0         1.0         72.0         232.0         7979.0         9779.0         7979.0         9797.0         9797.0         9797.0         9797.0         9797.0         9797.0         19.8         7979.0           RUBDER.         PROP         SSFD         RDAR         PDIA         ASHP         RDST         EHGN         PROP         LATA         LCAX         WHWU         TRLC           16.0         7979.0         6.8         11.4         2.0         3.0         1.0         7979.0         797																				
3.0         380.0         1.0         72.0         232.0         7999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         19.8         9999.0           RUDDER, PROP         SSPD         RDAR         PDIA         ASHP         RDST         ENGN         PROP         LATA         LCAX         UNWV         TRLC           14.0         9799.0         6.8         11.4         2.0         3.0         1.0         9999.0         9999.0         9999.0           STOPPING         SPDS         SHPS         RUDS         TDIS         HRCH         SRCH         TIMS         TIMR           14.0         100.0         0.0         25.0         17.2         9.5         10.7         9999.0           STOPPING         SPDS         SHPS         RUDS         TDIS         HRCH         SRCH         TIMS         TIMR           14.0         100.0         25.0         17.2         9.5         10.7         9999.0           STOPPING         NATN         NMBR         TYPE         DISP         LDPX         LOAX         DEAH         DRFT         TRIM         BULB         DDIS         SRMP         SRMP         SRM	erese antr	¥ 300																		
3.0         380.0         1.0         72.0         232.0         7999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         19.8         9999.0           RUDDER, PROP         SSPD         RDAR         PDIA         ASHP         RDST         ENGN         PROP         LATA         LCAX         UNWV         TRLC           14.0         9799.0         6.8         11.4         2.0         3.0         1.0         9999.0         9999.0         9999.0           STOPPING         SPDS         SHPS         RUDS         TDIS         HRCH         SRCH         TIMS         TIMR           14.0         100.0         0.0         25.0         17.2         9.5         10.7         9999.0           STOPPING         SPDS         SHPS         RUDS         TDIS         HRCH         SRCH         TIMS         TIMR           14.0         100.0         25.0         17.2         9.5         10.7         9999.0           STOPPING         NATN         NMBR         TYPE         DISP         LDPX         LOAX         DEAH         DRFT         TRIM         BULB         DDIS         SRMP         SRMP         SRM	DIMENSI		TN	NMBR	TYPE	QISP	LBPY	LOAX	BEAN	DRET	TRIM	BUL B	DAIS	SSHP	SRPH					
RUBDER, PROP         SSFD         RDAR         PDIA         ASHF         RDST         EHGN         PROP         LATA         LCAX         UNUV         TRLC           14.0         7779.0         6.8         11.4         2.0         3.0         1.0         9799.0         9799.0         9799.0           STOPPING         SPDS         SHPS         RUDS         TDIS         HRCH         SRCH         TIMS         TIMR           16.0         100.0         0.0         25.0         17.2         9.5         10.7         9999.0           344918         SHIP         6         381         84881             10.7         9999.0         9999.0         100.0         21.0         9199.0         9999.0         9999.0 </td <td></td>																				
14.0         9799.0         6.8         11.4         2.0         3.0         1.0         9799.0 <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>																				
14.0         9799.0         6.8         11.4         2.0         3.0         1.0         9799.0 <th< td=""><td>RUDDER, PR</td><td>OP 59</td><td>r.D</td><td>RDAR</td><td>PDIA</td><td>ASHP</td><td>RDST</td><td>ENGN</td><td>PROP</td><td>LATA</td><td>LCAX</td><td>UNNU</td><td>TRLC</td><td></td><td></td></th<>	RUDDER, PR	OP 59	r.D	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNNU	TRLC							
STOPPING         SPDS         SHPS         RUDS         TDIS         HRCH         SRCH         TIMS         TIMR           14.0         100.0         0.0         25.0         17.2         9.3         10.7         9999.0           SHIP & 301 88881           DIMENSION NATH HMBR TYPE DISP LBPX LOAX DEAK DRFT TRIM BULD DDIS SSMP SRP 8.0         381.0         2.0         107.0         267.0         9999.0         9999.0         9999.0         100.0         21.0         9999.0           RUDDER, PROP         SSPD         RDA         ASHP         RDST         ENGN         PROP         LATA         LCAX         WHWV         TRLC           9999.0         9999.0         7999.0         7.2         21.0         2.0         3.0         1.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         10.0         21.0         9999.0         9999.0         9999.0         10.0         21.0         9999.0         10.0         21.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         99999.0         9999.																				
16.0         10.0         0.0         25.0         17.2         9.5         10.7         9999.0           3####           DIMENSION NATH NHBR TYPE DISP LBPX LOAX BEAK DRFT TRIM BULB DDIS SSMP SRP 8.0         381.0         2.0         107.0         247.0         9999.0         9999.0         9999.0         100.0         21.0         9999.0           RUDDER, PROP SSPD RDAR PDIA ASHP RDST ENGN PROP LATA LCAX WHWY TRLC 9999.0         9999.0         7.2         21.0         2.0         3.0         1.0         99999.0         9999.0         9999.0																				
SKOTE SHIP & 381 18888           DIMENSION         NATN         NHBR         TYPE         DISF         LDPX         LOAX         DEAK         DRFT         TRIM         BULB         DDIS         SSMP         SRP         SRP           BIMENSION         NATN         NHBR         TYPE         DISF         LDPX         LOAX         DEAK         DRFT         TRIM         BULB         DDIS         SSMP         SRP           8.0         381.0         2.0         107.0         247.0         9797.0         9797.0         9797.0         110.0         21.0         71.0         9797.0         9797.0         110.0         21.0         9797.0           RUDDER, PROP         SSPD         RDAR         PDIA         ASHP         RDST         ENGN         PROP         LATA         LCAX         WHWV         TRLC           9797.0         9797.0         7.2         21.0         2.0         3.0         1.0         9797.0         9797.0         9797.0           STOPPING         SFDS         SHPS         RUDS         TDIS         HRCH         SRCH         TIMS         TIMR	STOPPI	NG SI	115	SHPS	RUDS	TDIS	HRCH	SRCH	TIMS	TIMR										
DIMENSION         NATN         NHBR         TYPE         DISP         LBPX         LOAX         DEAH         DRFT         TRIM         BULB         DDIS         SSMP         SRP           8.0         381.0         2.0         107.0         247.0         9999.0         9999.0         9999.0         9999.0         100.0         21.0         9999.0           RUDDER,         PROP         SSPD         RDAR         PDIA         ASHP         RDST         ENGN         PROP         LATA         LCAX         HNWV         TRLC           9999.0         9999.0         7.2         21.0         2.0         3.0         1.0         9999.0 <td< td=""><td></td><td>10</td><td>.0</td><td>100.0</td><td>0.0</td><td>25.0</td><td>17.2</td><td>9.5</td><td>10.7</td><td>9999.0</td><td></td><td></td><td></td><td></td><td></td></td<>		10	.0	100.0	0.0	25.0	17.2	9.5	10.7	9999.0										
DIMENSION         NATN         NHBR         TYPE         DISP         LBPX         LOAX         DEAH         DRFT         TRIM         BULB         DDIS         SSMP         SRP           8.0         381.0         2.0         107.0         247.0         9999.0         9999.0         9999.0         9999.0         100.0         21.0         9999.0           RUDDER,         PROP         SSPD         RDAR         PDIA         ASHP         RDST         ENGN         PROP         LATA         LCAX         HNWV         TRLC           9999.0         9999.0         7.2         21.0         2.0         3.0         1.0         9999.0 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>																				
DIMENSION         NATN         NHBR         TYPE         DISP         LBPX         LOAX         DEAH         DRFT         TRIM         BULB         DDIS         SSMP         SRP           8.0         381.0         2.0         107.0         247.0         9999.0         9999.0         9999.0         9999.0         100.0         21.0         9999.0           RUDDER,         PROP         SSPD         RDAR         PDIA         ASHP         RDST         ENGN         PROP         LATA         LCAX         HNWV         TRLC           9999.0         9999.0         7.2         21.0         2.0         3.0         1.0         9999.0 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>																				
8.0         381.0         2.0         107.0         247.0         9797.0         9797.0         9797.0         110.0         21.0         9797.0           RUDDER, PROP         SSPD         RDAR         PDIA         ASHP         RDST         ENGN         PROP         LATA         LCAX         WHWV         TRLC           9797.0         9797.0         7.2         21.0         2.0         3.0         1.0         9797.0         9797.0         9797.0           STOPPING         SFDS         SHPS         RUDS         TDIS         HRCH         SRCH         TIMS         TIMR	SASTS SHIP	4 381	\$\$1	***																
B.O         381.0         2.0         107.0         247.0         9999.0         9999.0         9999.0         110.0         21.0         9999.0           RUDDER, PROP         SSPD         RDAR         PDIA         ASHP         RDST         ENGN         PROP         LATA         LCAX         WHWV         TRLC           9999.0         9999.0         7.2         21.0         2.0         3.0         1.0         9999.0         9997.0           STOFPING         SFDS         SHPS         RUDS         TD1S         HRCH         SRCH         TIMS         TIMR		-																		
RUDDER, PROP SSPD RDAR PDIA ASHP RDST ENGN PROP LATA LCAX NHWY TRLC 9999.0 9999.0 7.2 21.0 2.0 3.0 1.0 9999.0 9999.0 9999.0 9999.0 Stopping SFDS SHPS Ruds tdis HRCH SRCH Tims Time	DIMENSI	-													SRPH					
9999.0 9999.0 7.2 21.0 2.0 3.0 1.0 9999.0 9999.0 9999.0 9999.0 STOPPING SFDS SHPS RUDS TDIS HRCH SRCH TIMS TIMR			.0	381.0	2.0	107.0	267.0	7777.0	7777.0	7777.0	7777.0	7777.0	110.0	21.0	7777.0					
9999.0 9999.0 7.2 21.0 2.0 3.0 1.0 9999.0 9999.0 9999.0 9999.0 STOPPING SFDS SHPS RUDS TDIS HRCH SRCH TIMS TIMR								ENAN		1			-							
STOPPING SFDS SHPS RUDS TDIS HRCH SRCH TIMS TIMR	NUMPERI PR																			
	······································	777	+ 0	1777.0	7.2	21.0	2.0	3.0	1.0	7777.0	7777.0	7777.0	7777.V							
	STAPPI	NG CI	ne	SHDE	Bille	7014	Hech	SPCH	TTHE	-										
	wi biri				0.0															

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## ##### SHIP @ 382 #####

DINENSION	NATH 8.0		TYPE	DISP 9999.0	L.8PX						DDIS 9997.0	55HP 17.6	SRPH 9799.0
RUDDER, PROP		RDAR 9999.0	PDIA 9999.0	ASHP 17.6	RDST 2.0	ENGN 3.0	PROF	LATA 7997.0	LCAX 9999.0		TRLC 9999.0		
STOPFING	SPDS 9999.0		RUDS 0.0	TDIS 19.0	HRCH 9999.0	SRCH 9999.0	T J HS 7.3	TINR 9999.0					
***** SHIP *	303 ##	***											
DIMENSION		NMBR 383.0	TYPE 1.0	BISP 9999.0	LBPX 240.0		88AM		TRIM 9999.0		DD15 9999.0	SSHP 20.7	SRPH 9999.0
RUDDER, PROF	SSFD		FDIA 6.6	ASHP 20.7		. ENGN	PROP	LATA 7777.0	LCAX	WNWV	TRLC		
STOPIING	SP.05 7799.0		RUDS	TDIS 32.7	HRCH	SRCH 9999.0	TIHS	TINR 9999.0					_
11118 CHIP 8	384 48	***	·										
DIMENSION	NATN 8.0		TYPE	DISP 65.0	L8PX 204.0		BEAH 9999.0	DRFT 7999,0	TRIM 9999.0		DRIS 54.0	SSHP 13.8	SRPH 9999.0
RUIDER+ PROF	55FD 15.0	RDAR 9779.0	FDIA 6.4	ASHP	RDST 2.0	ENGN 3.0	PROP 1.0	LATA 9999.0	LCAX 9999.0				
STOPPING	SFDS 16.0		RUDS 0.0	TDIS 9999.0	HKCH 20.0	SRCH 9999.0	TINS 7.0	TINR 7797.0					
***** SHIP \$	385 **	***											
DIMENSION	NATN B.O		TYPE 1.0	DISP 11.0	L.RFX 204.0	LOAX 9999.0	BEAN 9999.0	DRFT 9999.0	TRIN 9999.0	BUL 8	DD15 34.0	S5HP 13.0	SRPH 9999.0
RUDDER, FROF		RUAR 9999.0	PRIA 6.4	ASHP 13.8	RDST 2.0	EHGN 3.0	FROP	LATA 9999-0	LCAX	WNWV	TRLC 9999.0		
STOPPING	SPDS 16.0		RUDS 0.0	TDIS 9979.0	HECH	SRCH 7777.0	ttrs 5+1	11MR 9999.0					
##### SHIP #	396 **	***											
DIMENSION	NATN 8.0		TYPE 2.0	DISP 116.0	LBPX 261.0	LOAX 9999.0	BEAN 9999.0	DRFT 9999.0	TRIH 9799.0	BULB 9999.0	DD15 9999.0	SSHP 15.9	SRPM 9999.0
RUDDER. PROP		EDAR 9999.0	PDIA 6.7	ASHF 15.0	RDST 2.0	EHGN 3.0	FROP	LATA 9999.0	LCAX 9999.0		TRLC 7777.0		
CTOPPING	SPDS 14.2		RUDS 0.0	TD15 9999.0	HRCH 9999.0	SRCH 9999.0	TINS 11,9	TINR 9999.0					
***** SHIP *	397_11												
DIMENSION	NATN 8.0		TYPE 2.0	DISP 111.0	L BPX 250.0	LOAX	8FAN	DRFT	TRIM 7777.0	BUL 8	DDIS . 92.0		SRPN 7777.0

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	RUDDER, PROP	SSPD 17.9	RDAR 9799.0	FDIA 7.5	ASHP 12.0	RDST 2.0		PROP 1.0	LATA 9799.0	_			
	STOPPING	SPDS 17.9	SHP5	RUNS	TDIS 9999.0	HRCH 30.7	SRCH 7999.0	TIHS 11.0	TINR 9999.0				
	***** SHIP # :	388 11											
	DIMENSION	NATN 8.0	NHBR 388.0	TYPE 2.0		L.BPX 250.0			DRFT 9999.0				SRP: 1999.0
	RUDDER. CHOP	SSFD 17.3	RDAR 9997.0	PDIA 7.5	ASHP 12.0	RDST 2.0	EHGN 1.0	PROP			TRLC 9999.0		
	STOPF ING	SPDS	SHPS 100.0	RUDS	TDIS 9999.0	HRCH		TINS	TINR 9999.0		 		
	##### SHIP 0										 		
_	DIMENSION	NATH 3.C	NMBR 389.0	TYP2 1.0	DISP 62.0		LOAX 9999.0		DRFT 9999.0		 DD18 49.0	55HP 19.0	SRP 7777.
	RUDDER, PROP		RDAR 9979.0	FDIA 7.0	ASHP 9.0	RDST 2.0			LATA 9999.0		TRLC		
	STOPPING	SPDS	SHPS	RUDS	TDIS 9999.0	HRCH		TIMS	TINR 9999.0				
	VINENSION	MATN 8.0	11HBR 370.0	TYPE 1.0	DISP 62.0		LOAX 9799.0		DRFT 9999.0		 	55HP 17.0	
	SUDDER, PROP	_	370.0	1.0 PDIA		215.0 RDST					 49.0 TRLC	19.0	9999.
		16.9	9799.0	7.0	9.0	2.0	1.0	1.0	9999.0				• • • • • • • • • • • • •
_	STOPPING		SHFS 100.0	RUD5	TDIS 9999.0	HRCH 18.2	SRCH 9999.0		TINR 9999.0		 		
	#\$#!# SHIP #	391 \$\$	***								 		
	DIMENSION	NATN 8.0	NMBR 371.0	TYPE 1.0		LTPX 213.0			DRFT 9999.0		 DD15 49.0		SRP. 7777.
	RUDDER, FROP	SSPD 17.5	RDAR 5979.0	FDIA 7.0	ASHP 9.0	RDST 2.0	EHBN 1.0	PROP	LATA 7999.0				
	STOPPING	SPB5	SHFS 100.0	RUDS 0.0	TDIS 9799.0	HRCH 9999.0	-		TINR 9999.0				
	***** SHIP .	392 ***	127										
	DINENSION	NATN		TYPE 1.0		L.BPX 215.0			DRFT 9999.0	TRIM 7777.0		\$8HP 17.0	8RP 7777.
		9.0			and the second second								
_	RUDLER. PROP	SSPD	RDAR 9999.0	FDIA 7.0	ASHP 9.0	RDST 2.0	ENGN 1.0	PR0P 1.0	LATA 1999.0				

\*\*\*\*\* SHIP # 373 \*\*\*\*\*

DIMENSION	NATN 8.0	NMBR 393.0	TYPE 1.0	DISP 74.0	L RPX 272.0	LOAX 9777.0	BEAN 9999.0	DRFT 7999.0	TRIN 9999.0	BULB 9999.0	DD15 64.0	SSHP 21.9	SRPN 9999.0
	SSPD	KDAR	PDIA	ASHP	FDST	ENGH	PROP	LATA 9999.0					
STOPPING	SFDS	9999.0 SHFS	6.7 RUDS	21.9 TDIS	2.0 HRCH	3.0 SRCH	TINS	TIME	1111.0	1111,0	,,,,,,		
		100.0		9999.0		9999.0		9999.0					
***** SHIP .	394 ##	***									الانداد و و احطای ا		
DIMENSION	NATN 8.0	NMBR 394.0	TYPE 1.0	DISP 74.0	LBPX 237.0	LOAX 9999.0	BEAH 9999.0	DRFT 9999.0	TRIM 9999.0	BULB 9999.0	DD15 76.0	SSHP 20.1	SRPH 9999.0
RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	NNW	TRLC		
STOPPING	15.7 SFDS	9999.0 SHPS	7.0 RUDS	20.1 TRIS	HRCH	- 3.0 SRCH	TINS	9999.0 TIMR	<u> </u>	7777.0	*****		
	15.7	100.0	0.0	9799.0	19.5	9999.0	8.2	9999.0					
BRERE SHIP .	395 11	***											
DIMENSION	NATN 8.0		TYPE 1.0	DISP 65.0	L.8PX 215.0	LOAX		DRFT 9999.0				SSHP 13.8	SRPH 9999.0
RUDDER, PROP	SSPD		PDIA 6.1	ASHP 13.8	RDST 2.0	ENGN 3.0	PROP	LATA	LCAX		TRLC 9999.0		
STOPPING	SFDS		RUDS	TD15 9999.0	HRCH	SRCH	TINS	TINR					
***** SHIP .	396 ##	***											
DIMENSION	NATH B.O		TYPE 1.0	DISP 53.0	LRPX 215.0	LOAX 9999.0		DRFT 9999.0				SSHP 13.0	SRPH 9999.0
RUDDER, PROF	55FD 17.5	RDAR 9999.0	CDIA 6.1	ASHP 13.8	RDST 2.0	ENGN 3.0	FROP	LATA 9999.0			TRLC 9999.0		
STOPPING	SPDS		RUDS	TDIS 9999.0	HRCH	SRCH	TIMS						
**** SHIP *	397 ##	***											
DIMENSION	NATN 8.0		TYPE 1.0		L.RPX	LOAX		DRFT 9999.0				SSHP 12.6	SRP# 9999.0
RUBDER, FROP	SSPD		FDIA 5.7	ASHP	RDST 9999.0	ENGN 3.0	PROP	LATA	LCAX	WHW			
STOPPING	SFDS		RUDS		HRCH	SRCH	TINS						
**** SHIP *													
DIMENSION		NMBR	TYPE 1.0		LBPX	LOAX				BULB 7777.0		SSHP	SRP# 7777.0

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RUDDER. PROP	SSPD 15.0	RDAR 9999.0		ASHP 12.6		ENGN 3.0	PRCP 1.0	LATA	LCAX	 TRLC
STOPPING	SPDS 15.0		RUDS 0.0	TDIS 9999.0	HRCH 7999.0	SRCH 9999.0	TINS	TINR		

	_						414		-				_
sauss SHIP	399 ##												
DIMENSION	NATH 8.0		TYPE			LOAX 9999.0				BUL 8	DP15 55.0	SSHP	SRP
RUDDER. PROP		RDAR 9999.0	PDIA 6.2		RDST 9999.0						TRLC		
STOPPING		SHPS 100.0	RUDS 0.0	TDIS		SRCH 9999.0	TINS						
	400 ##												
DIMENSION	NATN 8.0		TYPE 1.0			LOAX		DRFT 9999.0	TRIN	BUL 8	8015 55.0	SSHP	SRP
RUDDER, FROP	55rb 16.0	RDAR 9999.0	PDIA 6.2			ENGN	PROP		LCAX	WNWU	TRLC		
STOFFING	SPDS 16.0	SHPS 100.0	RUDS 0.0	TDIS	HRCH		TINS						• • • • • • • • • • •
	401 #8												
DIMENSION	NATH 8.0	MMBR 471.0	TYPE 1.0			LOAX 9999.0	BEAN 9999.0	DRFT 9979.0	TRIM	BUL	DDIS 51.0	SSHP	SRP#
RUNDER, PROP	55FD 14.8	RDAR 9799.0	PDIA 6.9	A5HP 9999.0	RDST	ENGN 1.0	PROP	LATA	LCAX	UNUV	TRLC		
STOPPING	SPDS 14.8	SHPS 100.0	RUDS 0.0	TDIS 9999.0	HRCH 20.3	SRCH 9999.0	TINS	TINR 9999.0					
	402 111												
DIMENSION	HATN 8.0	NMBR 402.0	TYPE 1.0	DISP 97.0	L.#PX 240.0	LOAX	BEAN 9999.0	DRFT 9999.0	TRIM	PUL 8	DDIS	55HP	SRPN
RUDDER. PROP	SSPD 14.0	RDAR 9999.0	PDIA 6.1	ASHP 16.1	RPST 9999.0	ENGN 3.0	PROP	LATA	LCAX	UNUV	TRLC		
STOPPING	SPDS 16.0	SHPS 100.0	RUDS 0.0	TPIS 9999.0	HRCH 27.0	SRCH 9999.0	TINS	TINR					
	403 111											10040	
DIMENSION	NATN 8.0	NHBR 403.0	TYPE 1.0	DISP 58.0	L MPX 240.3	LOAX	BEAM	DRFT	TRIN	BUL 8	DAIS	SSHP	SRPM
RUDDER, PROP	SSPD 14.0	RDAR 1177.0	PDIA 6.1	ASHP 16.1	RDST 9999.0	ENGN 3.0	PROP		LCAX		TRLC		
STOPPING	SPDS	SHP5	RUDS	TDIS		SRCH	TIMS	TINR					

14.0 100.0 0.0 9999.0 9999.0 9999.0 7.0 9999.0

##### SHIP \$ 404 ##### TRIM DRFT BULD DDIS SSHP SEPH ATSP LBPX LOAX BEAN DIMENSION NATH NHDR TYPE 222.0 9999.0 9999.0 9999.0 9999.0 9999.0 14.4 9999.6 55.0 8.0 404.0 1.0 76.0 UNUV TRLC PROP 1 CAX PDIA ASHP RDST ENGN LATA SSPD RDAR RUDDER. PROP 1.0 9997.0 9999.0 9999.0 9999.0 17.0 9999.0 12.0 9999.0 3.0 4.2 SPDS SHPS RUDS TDIS HRCH SRCH TINS TINR STOPPING 0.0 9997.0 41.0 9999.0 14.8 9999.0 100.0 17.0 • \*\*\*\* SHIP # 405 \*\*\*\*\* DDIS SSHP SRPH BULB NATH MABR TYPE DISP LIPX LOAX BEAH DRET TRIN DIMENSION 14.4 9999.0 222.0 9999.0 9997.0 9999.0 9999.0 9999.0 55.0 39.0 1.0 8.0 405.0 1. PROP LATA LCAX VUNU ENGN TRLC ROST PDIA ASHE RUDDER, FROP SOPD RDAR 1.0 9979.0 9999.0 9999.0 9999.0 17.0 9999.0 6.2 12.0 9999.0 3.0 19 ...... HRCH SRCH TINS TINR RUDS TOTS STOPPING SPDS SHPS 23.0 7999.0 10.0 9999.0 0.0 9799.0 17.0 100.0 20 \$#\$\$\$ SHIP \$ 406 \$\$\$\$ 21 DDIS SSHP SRPH DEAN DRFT TRIN BIN B DIMENSION NATH NMBR DISP LBPX LOAX TYPE 21 228.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 18.0 7777.0 9.0 406.0 63.0 1.0 24 ----3. PROP LCAX WNWV TRLC ENGH LATA SSCD RDAR PDIA ASHP RDST RUDDER. PROF .... 1.0 9999.0 9999.0 9999.0 9999.0 16.4 9999.0 9997.0 7.5 9999.0 3.0 21 24 TDIS HRCH SRCH TINS TINR STOPPING SPDS SHPS RUDS 29 22.3 9799.0 9999.0 9999.0 0.0 9999.0 100.0 16.6 11 ##### SHIP # 407 ##### SSHP SPPA BULB 2144 NATH TYPE DISP LBPX LOAX BEAN DRFT TRIN DIMENSION NMBR 20.0 9999.0 43.0 228.0 9999.0 9999.0 9997.0 9999.0 9999.0 9999.0 407.0 1.0 7.0 LATA WNWV TRLC ASHP RDST ENGN PROP LCAX RDAR PDIA SSPD RUDDER, FROP 34 1.0 9999.0 7999.0 9999.0 9999.0 9.4 9999.0 1.0 17.5 9999.0 9997.0 1. er HRCH SRCH TINS TINR SPDS SHPS TDIS STOPFING RUDS 0.0 9999.0 5.0 9999.0 9999.0 24.0 17.5 100.0 147) (47) ۰. ##### SHIP # 408 ##### SRPH DRFT TRIM BULB 2110 SSHP. LOAX MAJE TYPE DISP LOPX DIMENSION NATH NABR ... 228.0 9997.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 20.0 9999.0 9.0 408.0 1.0 41.0 149 VUNUV TRLC PROP LCAX PDIA ASHP RDST ENGN LATA SSPD RDAR 1. RUDDER, PROP 1.0 9999.0 9999.0 9999.0 9999.0 14.8 7979.0 9999.0 7.4 9999.0 1.0 ----TDIS HRCH SRCH TINS TINR RUDS SPDS SHPS STOPPING 0.0 9999.0 1.3 9999.0 9999.0 14.8 100.0 17.4 [;] ##### SHIP # 409 ##### SRPN DUL D BDIS SEHP DISP LOAX DEAN DRFT TRIN TYPE LBPX DIMENSION NATN NHER 40.0 228.0 9977.0 9979.0 9999.0 9999.0 9995.0 9995.0 9999.0 17.8 7997.0 9.0 409.0 1.0

RUDDER, PROP	SSPD 17.0	RDAR 9979.0	PDIA 9999.0		RDST 9999.0	ENGN 1.0	PROP 1.0	LATA 9999.0	LCAX 7777.0		TRLC 9999.0		
STOPPING		SHPS 100.0	RUDS	TDIS 9999.0	HRCH	SRCH 7777.0	TIHS 9997.0	TIHR 9999.0					
	410 11												
DIMENSION	NATN 7.0		TYPE 1.0		LBPX 278.0	LOAX 9999.0		DRFT 9999.0	TRIM 9999.0	BUL 8	DD15	SSHP 18.0	SRP# 9999.0
RUDDER, PROP	55PD 14.8		PDIA 9997.0		RDST 9779.0	ENGN 1.0	PROP 1.0	LATA 9999.0	LCAX				
STOPPING	SPDS 15.8		RUDS 0.0	TDIS 9999.0		SRCH 1979.0	TIHS						
	411 88												_
DIMENSION	NATN 9.0	NMBR 411.0	TYPE 1.0		LBPX 230.0	LOAX 9999.0	BEAM 9999.0		TRIN 9999.0	BUL 8	BDIS 9999.0	SSHP 18.0	SRP#
RUDDER. PRCP			FDIA 9999.0		RDST 9999.0	EHGN 7799.0	PROP 9999.0	LATA 9799.0	LCAX	UNUU 7777.0	TRLC 9999.0		
##### SHIF #	412 78												
DIMENSION	NATH 9.0	NHBR 412.0	TYPE 1.0		LBPX 231.0	LDAX 9999.0	BEAN 9999.0	DRFT 9999.0	TRIN 9999.0	BUL 8 9999.0	DDIS 0.7777	55HP 21.0	SRPH 9999.0
RUDDER, PROP	55PD 16.7	RDAR 9999.0	PDIA 9999.0		RDST 9999.0	ENGN 9999.0	PROP 9999.0	LATA 9999.0	LCAX	UNUV 7777.0	TRLC 9997.0		
STOPPING	SPDS 16.7	SHFS 100.0	RUDS 0.0	TDIS 9999.0	HRCH 21.2	25CH	TINS 9999,0	TINR 9999.0					
**** SHIP *	413 88												
DIMENSION	NATH 7.0	NHBR 413.0	TYPE 1.0	DISP 68.0	LBPX 231.0	LOAX 7777.0	BEAH 7777-0	DRFT 9999.0	TRIK 9999.0	BUL B 9999.0	DD15 9999.0	55HP 21.0	SRP# 9999.0
RUDDER, PROP		RDAR 9997.0	PDIA 9979.0		RDST 9999.0	ENGN 9997.0	FROP 9999.0	LATA 9999.0	LCAX 9999.0	UNUU 9999.0	TRLC 7777.0		
STOPPING		SHPS 100.0	RUDS 0.0	TDIS 9999.0	HRCH 15.2	SRCH 9999.0	TINS 9999.0	TINR 9999.0					
FARRA SHIF .	414 88												
DIMENSION	NATN 9.0	NH9R 414.0	TYPE 1.0	DISP 66.0	L.BPX 231.0	LOAX 9999.0	BEAN 9999.0	DRFT 9999.0	TRIH 9797.0	54LR 9797.0	PR15 9797.0	\$\$H? 21.0	SRP# 9999.0
RUDDER, PROP	SSPD 17.3	RDAR 9999.0	FDIA 7799.0	ASHP 9999.0	RDST 9999.0	ENGN 9999.0	PROP 9999.0	LATA 7999.0	LCAX 7777.0	UNUV 7797.0	TRLC 7777.0		
STOPPING	SPDS 17.3	3HPS 100.0	RUDS	TDIS 7797.0	HRCH 15.4	SRCH 7797,0	TIAS 7999.0	TINR 7797.0					

\*\*\*\*\* SHIP # 415 \*\*\*\*\*

DINENSTON NATN NMDR TYPE DISP LPFX LOAX BEAN DRFT TRIN DULD DDIS SSHP SRPH 46.0 235.0 7979.0 9999.0 9999.0 9999.0 9999.0 9999.0 9.0 415.0 1.0 18.9 9999.0 RUDDER, PROP SSPD PDIA SSPD RDAR PDIA ASHP RDST ENGN PROP LATA LCAX UNUU TRLC 16.1 9999.0 9999.0 9997.0 9999.0 9997.0 9999.0 9999.0 9999.0 9999.0 RDAR TRLC SPDS SHPS STOPPING RUDS TDIS HRCH SRCH TIMS TIMR 0.0 9999.0 19.8 9999.0 9999.0 9999.0 16.1 100.0 ##### SHIP # 416 ##### 1 DIMENSION NATH NHRR TYPE DISP LBPX LOAX BEAN DRFT TRIM Bitt B DDIS SSHP SRPH 9.0 416.0 1.0 66.0 235.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 21.4 9999.0 RUDDER, FROP SSPD RDAR ASHP ROST ENGN PROP LATA FDIA LCAX UNUU TPLC 9777.0 9979.0 9979.0 9977.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 STOPPING SPDS SHPS RUDS TDIS HECH SRCH TIKS TINR 9999.0 100.0 0.0 9999.0 17.6 9999.0 9999.0 9999.0 ##### GHIP # 417 ##### DIMENSION NATH NHBR TYPE DISP LAPX LOAX BEAM DAFT TRIM BULB 2100 SSHP ROPH 21 9.0 417.0 1.0 67.0 236.0 9997.0 9999.0 9999.0 9999.0 9599.0 9999.0 21.0 9999.0 5 RUDDER, PROP SSPD RDAR DDIA ASHP ENGN PROP LATA 2 EDST LCAX WNWV TRLC 17.3 9999.0 2779.0 9797.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 -STOPPING SPDS SHPS RUDS TDIS HRCH SRCH TIMS TINR ly -17.3 100.0 0.0 9979.0 8.0 9779.0 9779.0 42.8 ##### GHIF # 418 \*\*\*\*\* 13 ... DIMENSION HATN NHER TYPE DISP L.BPX LOAX BEAH DRFT TRIM BULB DOIS SSHP REPH in 1 9.0 418.0 1.0 40.0 240.0 7999.0 7999.0 9999.0 9999.0 9999.0 9999.0 15.0 9999.0 34 5. RUDDER, PROP SSPD RDAR PDIA ASHP ROST ENGN PROP LATA LCAX UNUV TRUC 9797.0 9997.0 9979.0 . 5.6 9999.0 9997.0 9999.0 9997.0 9999.0 9999.0 9999.0 STOFFING SPDS SHPS RUDS TDIS HRCH SECH TINS TINR 1.0 9797.0 100.0 0.0 9997.0 14.0 9997.0 9999.0 9999.0 ar 41 37338 CHIP \$ 417 33388 TYPE DISP 4.1 DIMENSION NATH NHER LRPY LDAX BEAN DRFT TRIN BUI B DDIS SSHP SRPH 9.0 419.0 1.0 40.0 240.0 9799.0 9999.0 9999.0 9999.0 9999.0 9999.0 15.0 9999.0 •• RUDDER, PROP SSPD RDAR PDIA ASHE RDST ENGN PROP LATA LCAX UNUV TRLC 7979.0 9999.0 9799.0 5.6 9999.0 7999.0 9999.0 9999.0 9999.0 9999.0 9999.0 ļ., STOPPING SPDS SHFS RUDS TRIS HECH SECH TINS TIME ۱., 2999.9 199.0 0.0 9799.0 14.0 9999.0 9999.0 9999.0 \*\*\*\*\* SHIP \$ 420 \*\*\*\*\* ÷ DIMENSION NATH NHER TYPE DISP LBPX LDAX BEAN DRFT TRIN BUIL B DDIS SSHP REPH 9.0 420.0 1.0 40.0 240.0 9997.0 9999.0 9999.0 9799.0 9999.0 9999.0 15.0 9999.0 RUDDER. FROP SSPD RDAR FDIA ASHP RDST ENGN PROP LATA LCAX WNWV TRLC 9999.0 9977.0 9999.0 5.6 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0

### STOPPING SPDS SHPS RUDS TDIS HRCH SRCH TINS TINR 9977.0 100.0 0.0 9999.0 14.0 9999.0 9999.0 9999.0

	DIMENSION	NATN 9.0	NHDR 421.0	-	DISF 40.0	LBFX 240.0					 DRIS 9999.5	SSHP 15.0	SRPH 1917.0
	RUDDER, PROP	55FD 0.7997	RDAR 9999.0	FDIA 9797.0	ASHF 5.6	RDST 9799.0	ENGN 9999.0	PROP 9999.0	LATA 9999.0	LCAX 9999.0	TRLC 7777.0		
	STOPFING		SHPS 100.0	RUDS 0.0	TDIS 9999.0			T J HS 9999.0					
	***** SHIP *	422 88	***										
	DIMENSION	NATN 9.0	NMBR 422.0	TYFE 9999.0	DISP 40.0	L.BPX 240.8					 DDIS 9999.0	SSHP 15.0	SRPN 7797.0
	RUDDER, I'ROP		RDAR 9999.0	FDIA 9999.0	ASHP 5.6	RDST 9999.0		FROP 9999.0	LATA 9999.0	LCAX 9999.0	 TRLC 7779.0		
	STOPFING		SHPS 100.0	RUDS 0.0	TDIS 9999.0			TINS 9999.0	TINR 9999.0		 		
	SARRE CHIP 6	423 ##		-							 		•
	DIMENSION			TYFE 9999.0							DD15 9999.0	SSHP 16.2	SRPH 9999.0
	RUDDER, PROF			FDIA 9999.0	ASHF 7.1	RDST 7799.0	ENGN 9799.0	PROP 9999.0	LATA 7999.0	LCAX 9999.0			
	STOPPING		SHPS 100.0	RUDS 0.0	TDIS 5999.0		SRCH 7999.0	T1H5 9999.0	TINR 9999.0				
	STERE SHIP .	424 **	***										
_	DIMENSION	NATN 9.0	-	TYPE 9999.0	DISF 71.0						DDIS 7777.0	55HP 21.0	SRP# 9999.0
	RUDDER, FROP			FDIA 7997.0	ASHP 7.1		ENGN 9999.0		LATA 9979.0		TRLC 9999.0		
	STOPFING		SHFS 100.0		TDIS 9999.0			TIMS 9999.0					
	\$\$\$#\$ SHIP \$	425 88	***								 		
	DIMENSION	NATN 9.0		TYPE 9979.0							DDIS 9999.0	\$5HP 14.8	SRP# 9999.0
	RUDDER. FROP			FDIA 9999.0					LATA 9999.0		TRLC 7777.0		
	STOPPING	SPDS 18.0	SHF5	RUDS	TDIS 7999.0		SRCH 9999.0	T1HS	TIMR 7977.0				

\*\*\*\*\* SHIP # 501 \*\*\*\*\*

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LOAX BEAN DRFT TRIN BULD DDIS DIMENSION NATH NHPR TYPE DISP LBPX SSHP SRPH 23.1 9999.0 7.0 301.0 7777.0 83.0 244.0 7777.0 7777.0 7777.0 7777.0 7777.0 7777.0 RUDDER, PROP SSED PDIA ASHP RDST ENGN PROP LATA RDAR LCAX UNRO TRIC 14.0 9777.0 9997.0 9997.0 9797.0 9997.0 9999.0 9999.0 9999.0 9999.0 9999.0 SPDS SHPS RUDS TEIS HRCH SRCH TINS TINR STOPPING 8.3 9999.0 9999.0 0.0 9999.0 14.0 100.0 12.5 \*\*\*\*\* SHIP # 502 \*\*\*\*\* 7 LEPX LOAX DEAN DINENSION NATH MADE TYPE DISP DDIS ŀ DRFT TRIM BULD SSHP SRPH <u>9.0</u> 562.0 9999.0 83.0 244.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 23.1 9999.0 10 SSFD RDAR PDIA ASHP RDST ENGN PROP RUDDER, PROP LATA LCAX UNUU TRLC 38 15.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 RUDS TDIS HRCH SRCH 0.0 9999.0 24.4 , 10.7 1 SPDS SHPS RUDS TIMR STOPPING TINS 24.4 , 10.7 9999.0 9999.0 15.0 100.0 ##### SHIP # 503 ##### TYPE DISP LBPX DIMENSION NATH NMBR LOAX BEAH DRFT TRIM BULD DDIS SSHP SRPH 503.0 9999.0 244.0 7999.0 9999.0 9999.0 9999.0 9999.0 9999.0 23.1 9999.0 9.0 83.0 RDST ENGN PROP LATA 23 RUDDER, PROP SSPD RDAR PDIA ASHP LCAX UNUV TRLC 74 15.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 75 STOPPING SPDS SHPS RUDS TDIS HRCH SRCH TIHS 24 TIME 27 15.0 100.0 0.0 9999.0 24.0 10.8 9999.0 9999.0 1. 5 1.1.1.1 SHIP \$ 504 11111 ... NATH NHER 1... TYPE DISP DTHENSTON LBPX LOAX DEAH DRET TRIN BULB DDIS SSHP SRPN 9.0 504.0 9999.0 254.0 9797.0 9999.0 9999.0 9999.0 9999.0 9999.0 19.9 87.0 21.0 9999.0 10 RUDDER, PROF SSPD PDIA ASHP RDAR RDST EHGN PROP LCAX LATA LINHU TRIC 14.7 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 16 []. STOPPING SPDS SHPS RUDS TDIS HRCH SRCH TIMS TINR 16.7 100.0 0.0 9999.0 17.0 9999.0 9999.0 9999.0 -----##### SHIP # 505 ##### 100 DIMENSION NATH NMBR TYPE DISP LBPX LOAX DEAN DRFT TRIM BULD DRIS SSHP SRPM 45 9.0 505.0 9999.0 99.0 257.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 24.3 9999.0 ... RUDDER, PROP SSPD RDAR PDIA ASHP RDST ENGN PROP LATA LCAX WNWV TRLC 16.5 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 SPDS SHPS RUDS TDIS HRCH SRCH TINS STOPFING TIMR 14.5 100.0 0.0 7999.0 9999.0 9999.0 9999.0 9999.0 11111 SHIP & 504 11111 DIMENSION NATH MADE TYPE DISP 1.BPX LOAX BEAH DRFT DDIS TRIN BULE SSHP SRPH 9.0 504.0 9999.0 9999.0 239.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 24.0 9999.0 RUDDER, FROP SSPD RDAR PDIA ASHP RDST ENGN PROP LATA LCAX UNNU TRLC 7979.0 7777.0 7777.0 10.0 7777.0 7777.0 7777.0 7777.0 7777.0 7777.0 7777.0 7777.0

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# STOPPING SFDS SHPS RUDS TDIS HRCH SRCH TINS TIME 9797.0 100.0 0.0 9999.0 37.0 9999.0 9999.0 9999.0

	DIMENSION	NATN 7.0	NMBR 507.0	TYPE 9799.0				BEAN 9999.0			BULB 9999.0	DDIS 9779.0		SRPH 1999.0
	RUDDER, FROF	55FD	RDAR 9997.0		ASHP	RDST	ENGN	FROP		LCAX	WNWV	TRLC		
	STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TIKS						
	***** SHIP \$	508 11												
	DIMENSION	NATN 9.0	NMBR 508.0	TYPE 9979.0	DISP 111.0					TRIM 9999.0		DDIS 9979.0		SRP# 9979.0
_	RUDDER, FROP			FDIA 9779.0		RDST 9999.0		PROF 7997.0	LATA 7777.0			TRLC 7777.0		
	STOPPING		SHPS 100.0		TDIS 9997.0		SRCH 9999.0		TIHR 9997.0					
	**** SHIF #	507 #1	***											
	DIMENSION		HMBR 509.0									DDIS 7777.0	SSHP 18.5	SRP#
	RUDDER, FROP		RDAR 9777.0	PDIA 7997.0			"EHGN 9999.0		LATA 9999.0			TRLC 9999.0		•
_	STOPPING		SHPS 100.0		TDIS 9799.0		SRCH 9999.0	TINS 9999.0						
	17411 SHIP .	510 881	**1											
	DIMENSION		NHBR 510.0			L8PX 255.0						DRIS 9999.0	88HP 18.4	
	RUDDER, PROF			FDIA 7979.0		RDST 9999.0		PROP 9999.0	LATA 9999.0			TRLC 9999.0		
	STOPPING		SHF5 100.0		TDIS 9999.0		SRCH 9999.0		TINR 9999.0					
_	RRARE SHIP .	511 111												
	DINCHSION	NATN 9.0	NMBR 511.0			L3PX 255.0		BEAH 7777.0	DRFT 7777.0			DDIS 9999.0		SRP1 9999.0
	RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RAST	ENGN	PROP	LATA 9999.0	LCAX	UNUV	TRLC		
	STOPFING	SPD5 13.4	SHPS 100.0	RUDS	TDIS 9999.0	HRCH	SRCH 7777.0	TINS	TINR					

\*\*\*\*\* SHIP # 512 \*\*\*\*\*

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	DIMENSION		NMBR 0 512.0			LBPX	LOAX		DRFT	TRIN	RULE	DDIS 9999.0	SSHP	
	RUDDER+ PROF	ssri	FPAR	PDIA	ASHP	RDST	ENGN		1 4 7 4				18.5	<b>7777.</b> 0
	STOPPING	s cros	S SHPS	RUDS	TDIS	NRCH	SRCH	TINS	TTHE		9999.0	9999.0		
	##### SHIP 1													
	DIMENSION	NATH	NHBR	TYPE	DISP	LBPX	LOAX	BEAH	DRFT	TRIN	BULB	DDIS	SSHP	SRPH
	RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	FAST	FUCH	FROR	1 4 7 4				14.8	9999.0
	STOPPING	srbs	SHPS	RUDS	7979.0 TDIS	9999.0	9997.0	9999.0	9999.0	9999.0	9999.0	9999.0		
		16.0	100.0	0.0	9999.0	26.5	9979.0	9999.0	9999.0					
	11411 CHIP	514 11	111											
	DIMENSION	NATH 9.0	NHER 514.0	TYPE 7977.0	DISP 61.0	LBPX 225.0	LOAX 9979.0	8FAH 9999.0	DRFT 9999.0	TRIM 9999.0	BULB 9999.0	DDIS 9999.0	\$\$HP 15.1	SRPH 9999.0
-	PUDDLR, PROP	SSPD	RDAR	FDIA	ASHE	EBST	ENGN	6600	1 474	. LCAX				
	STOPPING	SERS	SHFS	RUDS	TOIS	HRCH	SECH	TTHE						
	***** SHTF *										-	-		
	DIMENSION	NATH 9.0	NMER 515.0	TYPE 9999.0	DISP 61.0	L.RPX 237.0	LOAX		DRFT	TRIM	BULB	DDIS 9799.0	SSHP	SRPH
	RUDDER, PROP	SSPD	RDAR	PDIA	ASHE	FRST	FUGM	0000		LCAX 9999.0				7777.0
	STOPPING	SPDS		RUDS	TDIS	HRCH	CPC4	TINE			****	1117.0		·
	TTTE SHIF .													
	DIMENSION	NATH	NHBR	TYFE 9999.0	DISF 66.0	LEPX 237.0	LOAX 9997.0	8FAN 9999.0	DRFT 9999.C	TRIM	RULB	DNIS 9999.0	SSHP	SRPH
	RUDDER, FROF	SSPD	RDAR	FDIA	ASHE	RDST	ENGN	PPOP		LCAX			13.2	
	STOFFING	SPDS		RUDS	TDIS	HRCH	SECH	TTHE	TIMO					
	22224 SHIP #								<u></u>					
	DIMENSION	NATN 9.0	NMBR 517.0	TYPE 9999.0	DISP 62.0	LBPX 264.0	LOAX	BEAH	DRFT	TRIM 9999.0	PULR	DDIS		SRPH
	RUDDER, FROP	SSFD		PDIA	ASHP		ENGN			LCAX			22.4	9999.0

#### STOPFING SPDS SHPS RUGS TDIS HRCH SRCH TINS TINR 16.5 100.0 0.0 7979.0 21.0 1.4 9799.0 9999.0

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\*\*\*\*\* GHIP 4 518 \*\*\*\*\* LBFX DRFT TRIM DULD DDIS SSHP DINENSION NATN NARK TYPE DISP LOAX BEAN SRPH 23.5 9999.0 9.0 518.0 9999.0 121.0 278.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 FDIA RUDDER, PROP SSPD RDAR ASHE RAST ENGN PROP LATA LCAX WNWV TRLC 9999.0 9977.0 9979.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 9999.0 . \$\$\$\$4 SHIP \$ 519 \$2488 DIMENSION NATH NMRR TYPE DISP LBPX LOAX BEAM DRFT TRIN BUL F DDIS SSHP SRPK 238.0 9999.0 9999.0 9999.0 9999.0 9999.0 22.0 9999.0 3.0 519.0 9997.0 89.0 71.0 RUDDER, PROF SSPD RDAR PDIA ASHP RDST ENGN PROP LATA LCAX WWW TRLC ... 2.0 \* 16.8 7999.0 1.0 9999.0 9999.0 9999.0 9999.0 7.3 9.0 1.0 ....... STOPPING SPDS SHPS RUDS TDIS HRCH SRCH 2 NIT TINR 11.5 9999.0 29.9 9999.0 16.9 100.0 0.0 9999.0 ##### SHIF # 520 ##### 1.1 TRIM DDIS SSHP SRPH DIMENSION NATH NHER TYPE DISP LBPX LOAX BEAN DRET Bill R 22.0 9999.0 3.0 520.0 9999.0 221.0 9999.0 9999.0 9999.0 9999.0 9999.0 75.0 43.0 5 UNUV TRLC RUDDER: PROP SSPD RDAR PDIA ASHP RDST ENGN PROP LATA LCAX •• 1.0 9997.0 9997.0 9999.0 9999.0 15.9 9997.0 7.0 8.0 2.0 1.0 .... 28 SECH SHPS RUDS HECH TINS TIMR STOFFING SPDS TOIS 9.2 9999.0 0.0 9999.0 16.9 100.0 16.1 9.8 31 32 33 34 35 34 35 34 37 36 37 36 #188# SHIP # 521 ##### DIMENSION HATN NMBR TYPE DISP 1 BPX LOAX BEAM DRET TRIK 2111 2 DDIS SSHP SRPH 22.0 9999.0 245.0 9999.0 9999.0 9999.0 9999.0 9999.0 8.0 521.0 9999.0 113.0 97.0 EHGN RUDDER, PROP SSPD RDAR FDIA ASHP RDST PROF LATA LCAX UHUV. TRLC 1.0 9999.0 9999.0 9999.0 9999.0 16.2 9799.0 8.0 4.9 2.0 1.0 SRCH STOPPTNG SPRS SHES RUDS TRIS HRCH TINS TINR 13.0 9999.0 100.0 0.0 9999.0 25.6 9.2 16.2 \$\$\$\$\$ SHIP \$ 522 \$\$\$\$ TYPE DISP LAPX LOAX BEAN DRFT TRIM BULD DDIS SSHP SRPN NATN NMBR DIMENSION 22.6 9999.0 522.0 9999.0 250.0 9997.0 9999.0 9999.0 9999.0 9999.0 72.0 93.0 8.0 FDIA ASHP RDST ENGN FROP LATA LCAX WHWV TRLC RUDDER, PROP SSFD RDAR 17.4 9999.0 1.0 9999.0 9999.0 9999.0 9999.0 7.1 8.1 2.0 1.0 SEDS SHPS RUDS TDIS HRCH SRCH TIMS TIME STOPPING 13.2 9999.0 0.0 9999.0 35.8 9999.0 17.4 100.0 #1888 SHIP # 523 \$8888

DISP LBPX LOAX DEAN DRFT TRIN BULB DDIS SSHP SRPH NATH NMBR TYPE DINENSION 523.0 9999.0 22.0 9999.0 220.0 9919.0 9999.0 9999.0 9999.0 9999.0 53.0 8.0 44.0

RUDDER. PROP	SSFE	RDAR	PDIA	ASHP	RDST	EHGN	PROP	LATA	LCAX	UNUU			
	17.1	9799.0	7.0					7777.0					
STOPPING	SPDS	S SHPS	RUDS	TDIS	Hack								
	17.1			7799.0		SRCH 9799.0		TIMR 9999.0					
##### SHIP #	524 11	1111											
DIMENSION	NATH	NMBR	TYPE	DISP	LBPX	LOAX	BEAH	DRFT					
	8.0		9999.0			9999.0				BULB 9999.0	DDIS 65.0	SSHP 14.8	SRPM 9999.0
RUDDER, PROP	SSPO	RDAR	PDIA	ASHP	RDST								
		9999.0									TRLC 9999.0		
STOPPING	SPDS	SHPS	RUDS	TDIS									
		100.0		9999.0		SRCH 9999.0		TINR 9799.0					
		*****											
11111 SHIP .	525 **	***											
							• • • • • • • • • • • • •						
DIMENSION	NATN				LBFX					BULB	DRIS	SSHP	SRPH
		525.0	7777.0	68.0	2/4.9	9999.0	9999.0	9999.0	9999.0	9999.0	117.0	25.0	9999.0
RUDDER, PROP	SSPD				RDST		PROP	LATA	LCAX	WNWV	TRLC		
	17.2	9997.0	7.5	12.5	2.0	1.0	1.0	9999.0	7777.0	9999.0	9997.0		
STOPPING	SFDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
	17.2	100.0	0.0	9799.0	24.4	9999.0		9999.0					
DIMENSION	NATN 3.0		TYPE 9999.0	DISP 53.0		-LOAX	BEAK		TRIN	BULD	DDIS	SSHP	SRPH
							7777.0	7777.0	1119.0	9999.0	59.0	16.8	9999.0
RUDDER, PROP	SSPD 15.3	RDAR 9999.0	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX				
			6.7	7.8	2.0	1.0	1.0	9999.0	9999.0	9999.0	9999.0		
STOPPING	SPDS		RUDS	TDIS	HRCH		TINS	TIMR					
	15.1	100.0	0.0	79.99.0	16.1	9979.0	7.6	9999.0					
***** SHIP #	527 11	111											
DIMENSION	NATH		TYPE	DISP	LBPX	LOAX	BEAN	DRFT	TRIN	BULB	DDIS	SSHP	SRPH
	3.0	527.0	9799.0	60.0	248.0	9797.0	9999.0	9999.0	9999.0	9999.0	87.0		9999.0
RUDDER, PROP	SCPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUU	TRLC		
	15.4	9997.0	6.7	11.5	2.0	1.0		9999.0					
STOFFING	SPDS	SHES	RUDS	TDIS	HRCH	SRCH							
		100.0		9979.0		7999.0	TINS 7.8	TINR 9799.0					
##### SHIP #	523 11	***											
DIHENSION	HATN	NMBR 528.0	TYPE	DISP	LRPX	LOAX	HAJE	DRFT	TRIM	BULB	DDIS	SSHP	SRPH
		310.0	1117.0	87.0	.8/.0	9999.0	7777.0	7777.0	7777.0	7779.0	149.0	27.5	9999.0
RUDDER, PROP	SSFD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA-	LCAX	WHWV	TRLC		
	18.2	9999.0	7.6	12.5	2.0	1.0	1.0	9999.0				-	
STOPPING	SPDS	SHES	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
	18.2	100.0		9999.0		9999.0	11.3						

	***** SHTP * 3	527 ***	**											
	DIMENSION	NATH 3.0	NHBR 529.0	TYFE 9999.0	DISP 69.0	L8PX 218.0	LOAX 9997.0	BEAH 9999.0	DRFT 9999.0	TRIN 9999.0		DD15 57.0	SSHP 19.0	SRPN 9999.0
	RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLC		
			9997.0	6.9	11.5	2.0	1.0	1.0	9999.0	9999.0	7777.0	9999.0		
_	STOPPING	CFDS 16.9	3HFS 100.0	RUDS 0.0	TDIS 9797.0	HRCH 22.5	SRCH 9999.0	TINS 8.8	TIMR 9999.0					
	TRARE SHIP .	530 ***	**										<u>-</u>	
	DIMENSION	NATN 3.0	NHER 530.0	TYFE 7999.0		LBFX 216.0	LOAX 9999.0		DRFT 9999.0	TRIN 9999.0	BULB 9997.0	DDIS 50.0	55HP 20.3	SRPH 9999.0
	FUDDER, PROP		RDAR 9997.0	FDIA 6.7	ASHP 9.7	RDST 2.0	. ENGN 1.0	PROP 1.0	LATA 1999.0	LCAX 9999.0		TRLC 9997.0		
	STOPPING	SPDS 17.2	SHFS 100.0	RUDS 0.0	TDIS 9999.0	HRCH 33.3	SRCH 9999.0	TIHS 12.0	TINR 9999.0					
	ATART SHIP &	531 ###	**											
	DTHENSION	NATH	NMBR	TYPE 9999.0		LBPX 213.0	LDAX 9999.0	BEAN 9999.0	DRFT 9999.0	TRIM 9999.0		DD15 48.0	SSHP 18.6	58PH
	RUDDER, RROP	SSED	R0AP 9997.0	FDIA	ASHP	RDST 2.0	ENGN 1.0	PR0P	LATA 9999.0					
	STOPPING	SPDS	SHPS 100.0	RUDS	TDIS 7799.0	HRCH 18.3			TINR 9999.0					
		532 ***	183											
	DIMENSION	NATN 8.0	NHBR 532.0	TYPE 9979.0		L.BPX 213.0			DRFT 9979.0			DB15 48.0	SSHP 18.0	SRPI 9999.0
	RUDDER, PROP	SSFD 17.3	RDAR 9999.0			RDST 2.0			LATA 9999.0					
	STOPPING	SPDS 17.5	SHFS 100.0		TDIS 9999.0	HRCH 24.2			TINR 9999.0					
	**** SHIP *	533 ##	\$ \$ \$											
	DIMENSION	NATN 8.0			DISP 9999.0	1.8PX 216.0						DDIS 9999.0	\$5HP 20.6	SRP. 9999.0
	RUDDER, PROF	SSPD 18.0	RDAR 9999.0		ASHF 9999.0	RDST 2.0	-					TRLC 9999.0		
	STOPFING	SPDS 18.0	SHPS 100.0		TDIS 9999.0		SRCH 9999.0		TIHR 9999.0					
	**** SHIP *	534 88	***											
	DINCHSION	NATN 8.0		TYPE 7999.0		LBFX 230.0	LDAX	8 88 88 88 88 88 88 88 88 88 88 88 88 8	DRF1 9999.0				55HP 14.5	SRP 9999.

\*\*\*\* SHIP + 527 \*\*\*\*\*

 RUDDER, PROP
 SSI'D
 RDAR
 PDIA
 ASHP
 RDST
 EHGN
 PROP
 LATA
 LCAX
 UNWV
 TRLC

 15.7
 7999.0
 5.5
 4.4
 2.0
 1.0
 9999.0
 9999.0
 9999.0

 STOPPING
 SFDS
 SHFS
 RUDS
 TDIS
 HRCH
 SRCH
 TIMR

 15.7
 100.0
 0.0
 9999.0
 9999.0
 9399.0
 8.1
 9999.0

	13.7	100.0	0.0	9999.0	9999.0	9799.0	8.1	9999.0					
ARTER SHIP &	232 441	144								<u></u>			
DIMENSION	NATH		TYPE		LBPX			DRFT				SSHP	SRPI
	8.0	535.0	9999.0	43.0	225.0	9999.0	9999.0	9999.0	9999.0	9993.0	56.0	18.9	9999.0
RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNEV	TRLC		
		9999.0			2.0						9999.0		
STOPPING				TDIS	HRCH								
	17.2	100.0	0.0	9999.0	21.7	9999.0	6.5	9999.0					_
##### SHIP #	536 ###	111											
DIMENSION			TYPE	DISP	LBPX				TRIN				SRFI
		-939.0	9999.0	43.0	و دا د	7777.0	1777.2	7777.0	7777.0	7777.0	53.0	13.8	9999.0
RUDDER, PROP			PDIA	ASHP	RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLC		
	15.4	9799.0	6.4	6.3	2.0	1.0	1.0	9999.0	9999.0	9999.0	9999.0		
STOPPING	SFDS	SHPS	RUDS	TDIS	HRCH	SRCH							
STOLLING		100.0		9979.0				TINR 9999.0					
							712						
***** SHIP 4	537 ##	***								-			
DIMENSION	NATH	NHRR	TYPE	ntep	IBPY	LOAX	DEAH	DEST	TRIN		DRIS		SRPI
			9999.0				7999.0						9999.0
RUDDER, PROP	SSPD	RDAR	PDIA	ASHP	RPST		PROP	LATA					
	10.2	9999.0	6.4	6.1		1:0	1.0	9999.0	9999.0	9999.0	9999.0		
STOPPING	SPDS	SHPS	RUDS	TRIS	HACH	SRCH	TIMS	TINR					
	16.2	100.0	0.0	9999.0	31.4	9999.0	8.8	9999.0					
			•										
##### SHIP # :													
	538 \$**												
DIMENSION	NATN	NNBR	TYPE	DISP	LBFX			DRFT	TRIN	BULD	DDIS	SSHP	
	NATN	NNBR					BFAN 9999.0						
	NATN	NNBR				7999.0	9999.0	9999.0	9999.0	9999.0	110.0		
DIMENSION	NATN 8.0 SSPD	NHBR 538.0	9999.0	139.0	272.0	7999.0 ENGN	9999.0 PROP		9999.0 LCAX	9999.0 WNW	110.0 TRLC		
DIMENSION RUPPER, PROP	NATN 8.0 SSPD 19.0	NHBR 538.0 RDAR 7777.0	9999.0 PDIA 6.7	137.0 ASHP 15.0	272.0 RDST 2.0	7999.0 ENGN 1.0	9999.0 PROP 1.0	9999.0 LATA 9999.0	9999.0 LCAX	9999.0 WNW	110.0 TRLC		
DIMENSION	NATN 8.0 SSPD 19.0 SPDS	NHBR 538.0 RDAR 7777.0 SHPS	9999.0 PDIA 6.7 RUDS	137.0 ASHP 15.0 TDIS	272.0 RUST 2.0 HRCH	7999.0 ENGN 1.0 SRCH	9999.0 PROP 1.0 TIMS	9999.0 LATA 9999.0 TIMR	9999.0 LCAX	9999.0 WNW	110.0 TRLC		
DIMENSION RUPPER, PROP	NATN 8.0 SSPD 19.0 SPDS	NHBR 538.0 RDAR 7777.0	9999.0 PDIA 6.7 RUDS	137.0 ASHP 15.0	272.0 RUST 2.0 HRCH	7999.0 ENGN 1.0	9999.0 PROP 1.0 TIMS	9999.0 LATA 9999.0	9999.0 LCAX	9999.0 WNW	110.0 TRLC		
DIMENSION RUPPER, PROP	NATN 8.0 SSPD 19.0 SPDS	NHBR 538.0 RDAR 7777.0 SHPS	9999.0 PDIA 6.7 RUDS	137.0 ASHP 15.0 TDIS	272.0 RUST 2.0 HRCH	7999.0 ENGN 1.0 SRCH	9999.0 PROP 1.0 TIMS	9999.0 LATA 9999.0 TIMR	9999.0 LCAX	9999.0 WNW	110.0 TRLC		
DIMENSION RUPPER, PROP	NATN 8.0 SSPD 19.0 SPDS 19.0	NHBR 538.0 RDAR 7777.0 SHPS 100.0	9999.0 PDIA 6.7 RUDS	137.0 ASHP 15.0 TDIS	272.0 RUST 2.0 HRCH	7999.0 ENGN 1.0 SRCH	9999.0 PROP 1.0 TIMS	9999.0 LATA 9999.0 TIMR	9999.0 LCAX	9999.0 WNW	110.0 TRLC		
DIMENSION RUDDER, PROP Stopping	NATN 8.0 SSPD 19.0 SPDS 19.0	NHBR 538.0 RDAR 7777.0 SHPS 100.0	9999.0 PDIA 6.7 RUDS 0.0	139.0 ASHP 15.0 TDIS 9979.0	272.0 RDST 2.0 HRCH 22.6	7777.0 ENGN 1.0 SRCH 7777.0	9999.0 PROP 1.0 TINS 8.7	9999.0 LATA 9999.0 TIMR 9999.0	9999.0 LCAX	9999.0	110.0 TRLC 9999.0	42.0	9999.(
DIMENSION RUPDER, PROP STOPPING	NATN 8.0 SSPD 19.0 SPDS 19.0 539 331 NATN	NHBR 538.0 RDAR 7777.0 SHPS 100.0	1999.0 PDIA 6.7 RUDS 0.0	139.0 ASHP 15.0 TDIS 9979.0 DISP	272.0 RUST 2.0 HRCH 22.6	7777.0 ENGN 1.0 SRCH 7777.0	9999.0 PROP 1.0 TINS 8.7 DEAM	9999.0 LATA 9999.0 TIMR 9999.0 DRFT	9999.0 LCAX 9999.0	9999.0 WHUV 9999.0	110.0 TRLC 7779.0	42.0 55HP	9999.(
DIMENSION RUPPER, PROP Stopping Stopping Dimension	NATN 8.0 SSPD 19.0 SPDS 19.0 532 333 NATN 8.0	NHBR 538.0 RDAR 7777.0 SHPS 100.0	9999.0 PDIA 6.7 RUDS 0.0	139.0 ASHP 15.0 TDIS 9979.0	272.0 RUST 2.0 HRCH 22.6	7777.0 ENGN 1.0 SRCH 7777.0	9999.0 PROP 1.0 TINS 8.7	9999.0 LATA 9999.0 TIMR 9999.0 DRFT	9999.0 LCAX 9999.0	9999.0 WHUV 9999.0	110.0 TRLC 7779.0	42.0 55HP	9999.(
DIMENSION RUDDER, PROP STOPPING	NATN 8.0 SSPD 19.0 SPDS 19.0 539 331 NATN 8.0 SSFD	NHBR 538.0 RDAR 7979.0 SHPS 100.0 NHBR 539.0 RDAR	7777.0 PDIA 6.7 RUDS 0.0 TYPE 7777.0 PDIA	139.0 ASHP 15.0 TDIS 9979.0 DISP 88.0 ASHP	272.0 RUST 2.0 HRCH 22.6	7777.0 ENGN 1.0 SRCH 7777.0	9797.0 PROP 1.0 TIMS 8.7 BEAM 9799.0 PROP	9999.0 LATA 9999.0 TIMR 9999.0 DRFT 9999.0 LATA	9999.0 LCAX 9999.0 TRIM 9999.0 LCAX	9999.0 UNUU 9799.0 BUL B 9799.0 UNUU	110.0 TRLC 9999.0 DD15 9999.0 TRLC	42.0 55HP	9999.(
DIMENSION RUPPER, PROP Stopping Stopping Dimension	NATN 8.0 SSPD 19.0 SPDS 19.0 539 331 NATN 8.0 SSFD	NHBR 538.0 RDAR 7777.0 SHPS 100.0 HBR 539.0	7999.0 PDIA 6.7 RUDS 0.0 TYPE 9999.0	139.0 ASHP 15.0 TDIS 9979.0 DISP 88.0	272.0 RUST 2.0 HRCH 22.6 LBPX 250.0	7777.0 ENGN 1.0 SRCH 7777.0 LOAX 7777.0 ENGN	9797.0 PROP 1.0 TIMS 8.7 BEAM 9799.0 PROP	9999.0 LATA 9999.0 TIMR 9999.0 DRFT 9979.0	9999.0 LCAX 9999.0 TRIM 9999.0 LCAX	9999.0 UNUU 9799.0 BUL B 9799.0 UNUU	110.0 TRLC 9999.0 DD15 9999.0 TRLC	42.0 55HP	9999.(
DIMENSION RUPPER, PROP Stopping Stopping Dimension	NATN 8.0 SSPD 19.0 SPDS 19.0 539 331 NATN 8.0 SSFD	NHBR 538.0 RDAR 7979.0 SHPS 100.0 NHBR 539.0 RDAR	7777.0 PDIA 6.7 RUDS 0.0 TYPE 7777.0 PDIA	139.0 ASHP 15.0 TDIS 9979.0 DISP 88.0 ASHP	272.0 RDST 2.0 HRCH 22.6 LBPX 250.0 RDST	7777.0 ENGN 1.0 SRCH 7777.0 LOAX 7777.0 ENGN 1.0	9799.0 PROP 1.0 TIMS 8.7 BEAM 9797.0 PROP 1.0	9999.0 LATA 9999.0 TIMR 9999.0 DRFT 9999.0 LATA	9999.0 LCAX 9999.0 TRIM 9999.0 LCAX	9999.0 UNUU 9799.0 BUL B 9799.0 UNUU	110.0 TRLC 9999.0 DD15 9999.0 TRLC	42.0 55HP	SRP# 9999.0

### ##### SHIP # 540 #####

4

DIMEN	SION								DRF1	TRIM 9999.0	BUL .	DRIS 54.0	SSHP 17.0	SRP1 9999.0
RUDDER,	rror													
STOP	FING							TINS	TING					
***** SH	IP Ø	541 ##	***											
DINCH	SION									TRIM 9999.0	BULB 9999.0	DDIS 53.0	\$5HP	SRP# 9999.0
RUDDER+ F	non	SSPD 16.4				RDST	ENGN	PROP	LATA	LCAX	UNUV	TRLC		
STOP	FING	SPDS 16.4						TIMS	TINR					
**** SH1	IF #	542 28	***									····		
DIMENS	SIGN					L.BPX			DRFT	TRIN	BULR	DDIS	SSHP	SRPM
RUDDER. P			RDAR 9799.0		ASHP	RDST	ENGN	PROP	LATA	LCAX		TRLC	1/.0	¥¥¥¥.0
STOPP			SHFS 100.0	RUDS 0.0	TDIS	HRCH	SRCH	TINS	TIME					
		543 881								225				
DINENS	10#	NATH 8.0	NHPR 543.0	TYPE 9799.0	DISP 90.0	1. BPX 224.0	LOAX	8FAH 9999.0	DRFT 9999.0	TRIM 9997.0	BUL 8	DDIS	SSHP	SRPN
RUDDER, P	ROP	SSPD 16.4	RDAR 9997.0	PDIA 6.8	ASHP 9999.0	RPST 2.0	ENON	PROP	LATA	LCAX	WHUV	TRLC		
STOPP	ING	SPDS	SHFS 100.0	RUDS 0.0	TDIS 9999.0	HRCH	SRCH	TINS	TINR					
		544												
DIMENS	ION	NATH 8.0	NMBR 544.0	TYPE 9799.0	D15P 43.0	LBPX 224.0	LOAX	BEAN	DRFT	TRIM	BULB	DPIS	SSHP	SRPM
UDDER, P	ROP	SSPD	RDAR 9979.0	PDIA	ASHP 9799.0	RDST 2.0	ENGN 1.0	PROP	LATA	LCAX 9999.0	UNUV	TRLC	19.0	
								1.0				****.0	_	
	RUDDER, STOP ##### SH DINEN RUDDER, 1 STOP B#### SH DINENS RUDDER, P STOPP STOPP	RUDDER, FROP STOPPING ##### SHIP # DIMENSION RUDDER, FROP STOPPING ##### SHIP # DIMENSION RUDDER, FROP STOPPING MUDDER, FROP STOPPING	8.0           RUDDER, FROF         SSFD           9999.0           STOPPING         SPDS           9799.0           \$\$TOPPING         SPDS           9799.0           \$\$TOPPING         SPDS           9799.0           \$\$TOPPING         SPDS           9799.0           \$\$TOPPING         SPDS           16.4           STOPPING         SPDS           9777.0           STOPPING         SPDS           9777.0           STOPPING         SPDS           NATH           8.0           RUDDER. PROP         SSFD           16.4           STOPPING         SPDS           16.4           STOPPING         SPDS           16.4         STOPPING           STOPPING         SPDS	B.0         540.0           RUDDER, FROF         SSFD         RDAR           9999.0         9799.0         9799.0           STOPPING         SPDS         SHFS           9799.0         100.0           #####         SHIF         541         #####           DINENSION         NATH         NHBR           BINENSION         NATH         NHBR           BINENSION         NATH         NHBR           BIMENSION         NATH         NHBR	B.0         543.0         9999.0           RUDDER, FROP         SSFD         RDAR         PDIA           9799.0         9799.0         6.4           STOPPING         SPDS         SHFS         RUDS           9797.0         100.0         0.0           #####         SHIP         541         #####           DIHENSION         NATH         NHBR         TYPE           BIHENSION         NATH         NHBR         TYPE           BIHENSION         NATH         NHBR         TYPE           BIHENSION         SAL         9999.0         6.0           STOPFING         SPDS         SHPS         RUDS           STOPFING         SPDS         SHPS         RUDS           STOPFING         SPDS         SHPS         RUDS           STOPFING         SPDS         SHPS         RUDS           RUDDER.         FEOF         SSPD         RDAR         PDIA           9777.0         9797.0         4.2         STOPFING         SPDS         SHFS           STOPFING         SPDS         SHFS         RUDS         7777.0         6.2           STOPFING         SPDS         SHFS         RUDS         <	B.0         540.0         9999.0         66.0           RUDDER, FRDF         SSFD         RDAR         PDIA         ASHP           9799.0         9799.0         6.6         9999.0           STDFPING         SFDS         SHFS         RUDS         TDIS           9799.0         100.0         0.0         9999.0           \$\$TDFPING         SFDS         SHFS         RUDS         TDIS           \$\$TDFPING         SAL         \$	B.0         540.0         9999.0         666.0         219.0           RUDDER, FROF         SSFD         RDAR         FDIA         ASHF         FRDST           9799.0         9799.0         6.4         9999.0         2.0           STOFPING         SPDS         SHFS         RUDS         TDIS         HKCH           9799.0         100.0         0.0         9997.0         7997.0           #####         SHIF         \$541         #####           DIMENSION         NATH         NHBR         TYPE         DISF         LBPX           8.0         \$41.0         7999.0         30.0         205.0           RUDDER, FROF         SSPD         RDAR         PDIA         ASHF         RDF           8.0         \$41.0         7999.0         30.0         205.0           RUDDER, FROF         SSPD         RDAR         PDIA         ASHF         RDF           8.0         542.0         9999.0         27.0         218.0           STOFPING         SPDS         SHPS         RUDS         TDIS         HRCH           16.4         9997.0         6.2         15.3         2.0           STOFFING         SPDS <t< td=""><td>B.0         540.0         9999.0         660.0         219.0         9999.0           RUDDER, FROF         SSFD         RDAR         PDIA         ASHP         RDST         EHON           9799.0         9799.0         6.6         9999.0         2.0         1.0           STOFPING         SPDS         SHFS         RUDS         TDIS         HKCH         SRCH           9799.0         100.0         0.0         9997.0         7997.0         9997.0           \$\$TOFPING         SPDS         SHFS         RUDS         TDIS         HKCH         SRCH           9797.0         100.0         0.0         9997.0         7997.0         9997.0           \$\$TOFPING         SHDS         SHFS         RUDS         LDFX         LOAX           8.0         541.0         7999.0         30.0         205.0         9999.0           RUDDER, FROP         SSPD         RDAR         PDIA         ASHF         RDST         EHON           16.4         100.0         0.0         9797.0         18.8         9997.0           STOFPING         SPDS         SHFS         RUDS         TDIS         HRCH         SHCH           8.0         542.0</td><td>B.0         540.0         9999.0         64.0         219.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         2.0         1.0         1.0           RUDDER, FROF         SSFD         RUDS         TDIS         HRCH         SRCH         TINS           9999.0         9999.0         6.6         9999.0         2.0         1.0         1.0         1.0           STOPPING         SFDS         SHPS         RUDS         TDIS         HRCH         SRCH         TINS           9999.0         100.0         0.0         9997.0         7997.0         9999.0         9999.0           100.0         0.0         9997.0         30.0         205.0         9999.0         9999.0           RUDDER, FROF         SSFD         RDAR         PDIA         ASHF         RDST         EMGN         PROP           RUDDER, FROF         SSFD         RDAR         PDIA         ASHF         RDST         EMGN         PROP           STOPFING         SPDS         SHPS         RUDS         TDIS         HRCH         SRCH         TINS           BIMENSION         NATN         NMPR         TYPE         <td< td=""><td>B.0         540.0         9999.0         66.0         219.0         9990.0         9999.0           RUDDER, FROF         SSFD         RDAR         FDIA         ASHF         RDST         ENGN         PROP         LATA           9799.0         9799.0         6.4         9999.0         2.0         1.0         1.0         9999.0           STOPPING         SPDS         SHPS         RUDS         TDIS         HRCH         SRCH         TIMS         TIMS           9999.0         100.0         0.0         9997.0         7999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         205.0         9999.0         9999.0         9999.0         20.0         3.0         1.0         9999.0           STOPFING         SPDS         SHPS         RUDS         TDIS         HRCH         SRCH         TIMS         TIMS           104.4         100.0         0.0         9999.0         27.0         18.8         9999.0         7.4         9999.0         <td< td=""><td>B.0         540.0         9999.0         66.0         719.0         9999.0         9999.0         9999.0         10.0         9999.0         <t< td=""><td>B.0         540.0         999.0         66.0         210.0         9999.0</td><td>B.0         543.0         9999.0         543.0         9999.0</td><td>B.0         540.0         9999.0         64.0         718.0         9999.0</td></t<></td></td<></td></td<></td></t<>	B.0         540.0         9999.0         660.0         219.0         9999.0           RUDDER, FROF         SSFD         RDAR         PDIA         ASHP         RDST         EHON           9799.0         9799.0         6.6         9999.0         2.0         1.0           STOFPING         SPDS         SHFS         RUDS         TDIS         HKCH         SRCH           9799.0         100.0         0.0         9997.0         7997.0         9997.0           \$\$TOFPING         SPDS         SHFS         RUDS         TDIS         HKCH         SRCH           9797.0         100.0         0.0         9997.0         7997.0         9997.0           \$\$TOFPING         SHDS         SHFS         RUDS         LDFX         LOAX           8.0         541.0         7999.0         30.0         205.0         9999.0           RUDDER, FROP         SSPD         RDAR         PDIA         ASHF         RDST         EHON           16.4         100.0         0.0         9797.0         18.8         9997.0           STOFPING         SPDS         SHFS         RUDS         TDIS         HRCH         SHCH           8.0         542.0	B.0         540.0         9999.0         64.0         219.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         2.0         1.0         1.0           RUDDER, FROF         SSFD         RUDS         TDIS         HRCH         SRCH         TINS           9999.0         9999.0         6.6         9999.0         2.0         1.0         1.0         1.0           STOPPING         SFDS         SHPS         RUDS         TDIS         HRCH         SRCH         TINS           9999.0         100.0         0.0         9997.0         7997.0         9999.0         9999.0           100.0         0.0         9997.0         30.0         205.0         9999.0         9999.0           RUDDER, FROF         SSFD         RDAR         PDIA         ASHF         RDST         EMGN         PROP           RUDDER, FROF         SSFD         RDAR         PDIA         ASHF         RDST         EMGN         PROP           STOPFING         SPDS         SHPS         RUDS         TDIS         HRCH         SRCH         TINS           BIMENSION         NATN         NMPR         TYPE <td< td=""><td>B.0         540.0         9999.0         66.0         219.0         9990.0         9999.0           RUDDER, FROF         SSFD         RDAR         FDIA         ASHF         RDST         ENGN         PROP         LATA           9799.0         9799.0         6.4         9999.0         2.0         1.0         1.0         9999.0           STOPPING         SPDS         SHPS         RUDS         TDIS         HRCH         SRCH         TIMS         TIMS           9999.0         100.0         0.0         9997.0         7999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         205.0         9999.0         9999.0         9999.0         20.0         3.0         1.0         9999.0           STOPFING         SPDS         SHPS         RUDS         TDIS         HRCH         SRCH         TIMS         TIMS           104.4         100.0         0.0         9999.0         27.0         18.8         9999.0         7.4         9999.0         <td< td=""><td>B.0         540.0         9999.0         66.0         719.0         9999.0         9999.0         9999.0         10.0         9999.0         <t< td=""><td>B.0         540.0         999.0         66.0         210.0         9999.0</td><td>B.0         543.0         9999.0         543.0         9999.0</td><td>B.0         540.0         9999.0         64.0         718.0         9999.0</td></t<></td></td<></td></td<>	B.0         540.0         9999.0         66.0         219.0         9990.0         9999.0           RUDDER, FROF         SSFD         RDAR         FDIA         ASHF         RDST         ENGN         PROP         LATA           9799.0         9799.0         6.4         9999.0         2.0         1.0         1.0         9999.0           STOPPING         SPDS         SHPS         RUDS         TDIS         HRCH         SRCH         TIMS         TIMS           9999.0         100.0         0.0         9997.0         7999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         9999.0         205.0         9999.0         9999.0         9999.0         20.0         3.0         1.0         9999.0           STOPFING         SPDS         SHPS         RUDS         TDIS         HRCH         SRCH         TIMS         TIMS           104.4         100.0         0.0         9999.0         27.0         18.8         9999.0         7.4         9999.0 <td< td=""><td>B.0         540.0         9999.0         66.0         719.0         9999.0         9999.0         9999.0         10.0         9999.0         <t< td=""><td>B.0         540.0         999.0         66.0         210.0         9999.0</td><td>B.0         543.0         9999.0         543.0         9999.0</td><td>B.0         540.0         9999.0         64.0         718.0         9999.0</td></t<></td></td<>	B.0         540.0         9999.0         66.0         719.0         9999.0         9999.0         9999.0         10.0         9999.0 <t< td=""><td>B.0         540.0         999.0         66.0         210.0         9999.0</td><td>B.0         543.0         9999.0         543.0         9999.0</td><td>B.0         540.0         9999.0         64.0         718.0         9999.0</td></t<>	B.0         540.0         999.0         66.0         210.0         9999.0	B.0         543.0         9999.0         543.0         9999.0	B.0         540.0         9999.0         64.0         718.0         9999.0

DIMENSION NATH MADE TYPE DISP LEPX LOAX BEAM DEFT TEIN BULB DDIS SSMP SEPM 8.0 545.0 7777.6 48.0 237.0 7777.0 7777.0 7777.0 7777.0 7777.0 7777.0 7777.0 7777.0 7777.0

#### RUDDER. PROP 11222 RDAR ROP LATA LCAX WWW TRLC 1.0 7777.0 7777.0 7777.0 7777.0 PDIA ASHP RDST ENGN PROP TRLC 17.0 9999.0 7.1 9999.0 2.0 1.0 STOPPING SPDS SHPS RUDS TDIS HRCH SRCH TINS TIMR 17.0 100.0 0.0 9999.0 19.3 7799.0 8.0 9999.0 11111 SHIP \$ 546 11111 . DIMENSION NATH NMBR TYPE DISP LBPX LOAX PEAN DRFT TRIM BUL B DRIS SSHP SPPH l. 8.0 546.0 9999.0 92.0 250.0 9997.0 7777.0 7777.0 7777.0 7977.0 72.0 23.0 9999.0 : RUDDER, PROP SSPD RDAR PDIA ASHP RAST ENGN PROP LATA LCAX UNNA TRLC 1.0 7777.0 7777.0 7777.0 7777.0 ۱. 17.4 9999.0 1.0 7.0 8.0 2.0 Ċ STOPPING SPDS SHPS RUDS TDIS HRCH TIMR SRCH TINS 100.0 0.0 9999.0 24.0 9999.0 2 17.4 38.5 11.5 ..... STATE SHIP & 547 STARE DIMENSION NATH MMBR TYPE DISP LPPX LOAX BFAN DRFT TRIN DULD DDIS SEHP SEPH ... 9.0 547.0 9999.0 240.0 9999.0 9999.0 9999.0 9999.0 9999.0 118.0 140.0 24.0 9999.0 . RUDDER, PROP SSPD RDAR PDIA ASHP RDST ENGN PROP LATA LCAX UNNU TRLC . 15,8 9999.0 7.0 13.0 1.0 9999.0 9999.0 9999.0 9999.0 2.0 3.0 ----... STOPPING SPDS SHPS RUDS TDIS HRCH SRCH TIMS TIMR .. 15.8 100.0 0.0 9999.0 48.4 10.0 16.7 9999.0 -24 \$\$\$\$\$ SHIP 4 548 \$\$\$\$ 2 2.0 -DIMENSION NATH NHER TYPE DISP IRPY LOAX BEAN DRFT TRIM BUIL B DDIS SSHP SPPH ... 8.0 548.0 9999.0 121.0 245.0 9799.0 9999.0 9999.0 9999.0 9999.0 24.0 9999.0 104.0 \*\* RUDDER, PROP SCPD .. RDAR PDIA ASHP LATA RDST ENGN PROP LCAX UNUU TRLC 14.6 9999.0 6.9 8.7 1.0 7777.0 7777.0 7777.0 7777.0 2.0 1.0 . . . . . -STOPPING SPDS SHPS RUDS TDIS HRCH SRCH TINS TIMR 14 0.0 9999.0 100.0 16.6 40.3 16.7 13.9 9999.0 ... 1 43111 SHIP & 549 #1118 1. DIMENSION NATN NMBR TYPE DISP LBPX LOAX REAM DRFT TRIM BULD DRIS SSHP SRPN 549.0 9999.0 .. 8.0 255.0 7777.0 7777.0 7777.0 7777.0 7777.0 146.0 23.0 9999.0 125.0 ..... RUDDER. FROP 4.7 SOPD RDAR PDIA ASHP RDST ENGH PROP LATA LCAX UNNU TRLC 14.5 9999.0 1.0 7777.0 7777.0 7777.0 7777.0 4.7 9999.0 2.0 3.0 -STOPPING SPDS SHPS RUDS TDIS HRCH SRCH TIMS TIMR i. 14.5 100.0 0.0 7779.0 35.9 4.4 14.4 9999.0 21121 SHIP & 550 11114 Ľ. DIMENSION NATH NMBR TYPE DISP LBPX LOAX BEAN DRFT TRIN BULD DOTE COMP -8.0 550.0 9999.0 85.0 235.0 7777.0 7777.0 7777.0 7777.0 7779.0 17.5 9999.0 70.0 RUDDER. PROP SCPD RDAR PDIA ASHP RDST ENGN PROP LATA LCAX UNUV TRLC 16.4 9999.0 1.0 7777.0 7977.0 7777.0 7777.0 4.4 14.0 2.0 3.0 STOPPING SPDS SHPS RUDS TDIS TINS TINE 14.5 7777.0 HRCH SRCH 14.4 100.0 0.0 9999.0 40.4 5.4

##### SHIP # 551 #####

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DIMENSION	NATN 8.0	NHBR 551.0	TYPE 9779.0	DISP 125.0	L3PX 262.0	LOAX	BEAN 7777.0	DRFT 9997.0	TRIN 9997.0	BULB 7777.0	DRIS 112.0	SSHP 23.8	SRPN 9999.0
RUDDER, FROP	35PD 17.2	RDAR 9999.0	PDIA 7.1	ASHP 8.3	RNST 2.0	ENGN 1.0	PR0P	LATA 7797.0	LCAX 7777.0	UNUU 9999.0			
сторрійс	SPDS 17.2	SHP5 100.0	RUDS 0.0	TDIS 9999.0	HRCH 6.5	SRCH 7777.0	TINS 6.0	TINR 7777.0					
***** SHIP #	552 881				<u>.</u>								
DIMENSION	NATH		TYPE 9999.0	DISP 102.0	L.BPX 239+0	LOAX 9999.0						\$5HP 20.7	SRPH 9999.0
RUDDER, PROP	SSPD 16.9	RDAR 9999.0	PDIA 6.4	ASHP 9997.0	RBST 2.0	ENGN 3.0	PR0P	LATA 999/.0	LCAX 7777.0	UNUV 7777.0			
STOPPING	SPDS 16.9	SHP5	RUDS 0.0	TDIS 9999.0	HRCH 37.7			TINR 9999.0					
***** SHIP *	553 **	***											
DIMENSION	NATN 8.0		TYFE 9999.0	DISP 83.0	1.8PX	LDAX 7777.0			TRIM 9999.0			\$5HP 20.7	SRPH 9999.0
FUDDER, FROF		RDAR 9999.0	PDIA 6.7	ASHP 10.4	RDST 2.0	ENGN 3.0	PROP 1.0	LATA 9999.0		UNUV 7777.0			
STOPPING		SHPS 100.0		TDIS 9999.0		SRCH							
	554 88	***											_
DIMENSION	NATH 8.0		TYPE	DISP 103.0	LBPX 234.0	LOAX						55HP 20.7	SRPH 7977.0
RUDDER, PROP		RDAR 9999.0		ASHP 10.4	RDST 2.0						TRLC		
STOPPINO		SHPS		TDIS 9999.0				TINR 9999.0					
	555 88												
DIMENSION			TYPE 9999.0			LDAX						55HP 23.0	SRPN 9999.0
RUDDER, PROP		RDAR 9999.0					PR0P		LCAX		TRLC		
STOPPING		SHPS	RUDS	TRIS				TINR					
	554 ##												
DIMENSION			-				-	-	-		PDIS	SSHP	SRPH

DIMENSION NATH NNDR TYPE DISP LDPX LOAX DEAN DRFT TRIN BULD DDIS SSMP SRPH 8.0 536.0 7797.0 143.0 245.0 7797.0 7777.0 7777.0 7777.0 7977.0 117.0 27.4 7777.0 
 RUDDER, FROP
 SSPD
 FDAR
 PDIA
 ASHF
 RDST
 EHGN
 PROP
 LATA
 LCAX
 WHWY
 TRLC

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SFDS 16.9 53 \$88 NATN 8.0 SSFD 17.6 SFDS 17.6	PDAR 9999.0 SHPS 100.0	TYPE 9999.0 PDIA 6.6 RUDS 0.0	DISP 154.0 ASHP 11.4 TDIS 7979.0 DISP 28.0 ASHP 6.0 TDIS 9799.0	RDST 2.0 HRCH 24.0 LRPX 213.0 RDST 2.0 HRCH	9999.0 EHGN 3.0 SRCH 22.0 LDAX 9999.0 EHGN 1.0 SRCH	PROP 1.0 TJHS 13.2 BEAH 9999.0 PROP 1.0 TIHS	9999.0 LATA 9999.0	9799.0 LCAX 7999.0 TRIM 9799.0 LCAX	9999.0 UNUU 9999.0 BULB 9999.0 UNUU	TRLC 9999.0 DD15 51.0 'TRLC	58HP	9999.0
16.8 SPDS 16.8 53 *** NATN B.0 SSPD 17.6 SPDS 17.6 SPDS 17.6	9999.0 SHPS 100.0 ** NMBR 553.0 RDAR 9999.0 SHPS 100.0	7.0 RUDS 0.0 TYPE 9999.0 PDIA 6.6 RUDS 0.0	11.4 TDIS 9999.0 DISP 28.0 ASHF 6.0 TDIS	2.0 HRCH 24.0 LBPX 213.0 RDST 2.0 HRCH	3.0 SRCH 22.0 LOAX 9997.0 ENGN 1.0 SRCH	1.0 TJMS 13.2 BEAM 9999.0 PROP 1.0 TIMS	9999.0 TIMR 9999.0 DRFT 9999.0 LATA 9999.0 TIMR	7999.0 TRIM 9999.0 LCAX	9999.0 BULB 9999.0 WNWV	9999.0 DRIS 51.0 'TRLC		
SFDS 16.8 58 111 NATN 8.0 SSFD 17.6 SFDS 17.6 59 111	SHPS 100.0 ** NMBR 553.0 RDAR 9999.0 SHPS 100.0	RUDS 0.0 TYPE 9999.0 PDIA 6.6 RUDS 0.0	TDIS 7779.0 DISP 28.0 ASHF 6.0 TDIS	HRCH 24.0 L.BPX 213.0 RDST 2:0 HRCH	SRCH 22.0 LOAX 9999.0 Ehgn 1.0 SRCH	TJMS 13.2 BEAN 9999.0 PROP 1.0 TIMS	TIHR 9999.0 DRFT 9999.0 LATA 9999.0 TIMR	TRIM 9999.0 LCAX	BUL B 9999.0 UNWV	DR18 51.0 'TRLC		
NATN B.0 SSPD 17.6 SPDS 17.6 59_###	NHER 553.0 RDAR 9979.0 SHPS 100.0	9999.0 PDIA 6.6 RUPS 0.0	28.0 ASHF 6.0 TDIS	213.0 RDST 2.0 HRCH	9999.0 Ehgn 1.0 Srch	9999.0 PROP 1.0 TINS	9999.0 LATA 9999.0 TIHR	9999.0	9999.0 UNUV	51.0 'TRLC		
8.0 SSPD 17.6 SPDS 17.6 57_***	553.0 RDAR 9979.0 SHPS 109.0	9999.0 PDIA 6.6 RUPS 0.0	28.0 ASHF 6.0 TDIS	213.0 RDST 2.0 HRCH	9999.0 Ehgn 1.0 Srch	9999.0 PROP 1.0 TINS	9999.0 LATA 9999.0 TIHR	9999.0	9999.0 UNUV	51.0 'TRLC		
17.6 SPDS 17.6 59_***	9999.0 SHPS 100.0	6.6 RUDS 0.0	6.0 TDIS	2.0 HRCH	1.0 SRCH	1.0 TIMS	9999.0 TINR					
17.6 59 ***	109.0	0.0							1			
	**											-
NATN												
8.0	NHBR 557.0	TYPE 9999.0	DISF 71.0		LOAX 9799.0			TRIN 9799.0		NDIS 40.0	SSHP 18.4	SRFN 9999.0
SSPD 17.2	RDAR 9999.0	FDIA 6.6	ASHF 18.4	RAST 2.0	1'NBN 3.0	PROF 1.0	LATA 9999.0	LCAX 9999.0	UNWV 9999.0	TRLC 9999.0		
SPDS 17.2	SHPS 100.0	RUDS 0.0			SRCH 9.0							
60 111												
NATN 8.0	NMBR 540.0		D15P 34.0		LOAX 9979.0	BEAN 9999.0	DRFT 9999.0	TRIM 9999.0	BULB 9999.0	DR15 62.0	\$8HP 17.4	SRPH 9999.0
SSPD 17.2	RDAR 9999.0	PDIA 6.2	ASHP 17.6		ENGN 3.0	PROP 1.0	LATA 9999.0			TRLC 7797.0		
SFDS 17.2	SHFS 100.0	RUDS 0.0	TDIS 9999.0		SRCH 2.3							
61. 884												
NATH 8.0	NMBR 361.0	TYPE 9999.0	015P 244.0						BULB 7777.0	DD15 208.0	SSHP 33.0	SRPH 9999.0
SSFD 16.6	RDAR 9999.0		ASHP 7999.0		ENGN 1.0							
6	SSPD 17.2 SPDS 17.2 0 111 NATN 8.0 SSPD 17.2 SPDS 17.2 SPDS 17.2 1 11 NATH 8.0 SSPD 55PD 55PD 55PD	SSPD         RDAR           17.2         9799.0           SPDS         SHPS           17.2         100.0           0         \$	SSPD         RDAR         FDIA           17.2         9799.0         6.6           SPDS         SHPS         RUDS           17.2         100.0         0.0           0         \$	SSPD         RBAR         FDIA         ASHF           17.2         7979.0         6.6         18.4           SPDS         SHPS         RUDS         TDIS           17.2         100.0         0.0         9799.0           0         18883           MATN         NHBR         TYPE         DISP           8.0         560.0         9799.0         34.0           SSPD         RDAR         PDIA         ASHP           17.2         9999.0         6.2         17.6           SPDS         SHFS         RUDS         TDIS           17.2         100.0         0.0         9999.0           4.2         17.6         SPDS         SHFS           SPDS         SHFS         RUDS         TDIS           17.2         100.0         0.0         9999.0           1         38488         NATH         NMBR         TYPE         DISP           8.0         561.0         9999.0         244.0         SSFD         RDAR         PDIA         ASHP           16.6         9999.0         7.8         7999.0         SHPS         SUDS         TDIS	SSPD         RBAR         FDIA         ASHF         RDST           17.2         7979.0         6.6         18.4         2.0           SPDS         SHPS         RUDS         TDIS         HRCH           17.2         100.0         0.0         9799.0         22.0           0         13883         HATN         NHBR         TYPE         DISP         L.PPX           8.0         560.0         9799.0         34.0         216.0           SSPD         RDAR         PDIA         ASHP         RDST           17.2         9999.0         6.2         17.6         2.0           SPDS         SHFS         RUDS         TDIS         HRCH           17.2         9999.0         6.2         17.6         2.0           SPDS         SHFS         RUDS         TDIS         HRCH           17.2         100.0         0.0         9999.0         15.7           1         34838	SSPD         RBAR         FDIA         ASHF         RDST         I'HGN           17.2         9999.0         6.6         18.4         2.0         3.0           SPDS         SHPS         RUDS         TDIS         HRCH         SRCH           17.2         100.0         0.0         9999.0         22.0         9.0           0         13883               0         13883               NATN         NHBR         TYPE         DISP         L.PPX         LOAX           8.0         560.0         9799.0         34.0         216.0         9999.0           SSPD         RDAR         PDIA         ASHP         RDST         EHGN           17.2         9999.0         4.2         17.6         2.0         3.0           SPDS         SHFS         RUDS         TDIS         HRCH         SRCH           17.2         9999.0         4.2         17.6         2.0         3.0           SPDS         SHFS         RUDS         TDIS         HRCH         SRCH           17.2         100.0         0.0         9	SSPD         RBAR         FDIA         ASHF         RDST         I'NGN         PRDF           17.2         9999.0         6.6         18.4         2.0         3.0         1.0           SPDS         SHPS         RUDS         TDIS         HRCH         SRCH         TIMS           17.2         100.0         0.0         9999.0         22.0         9.0         7.9           0         13883	SSPD         RBAR         FDIA         ASHF         RBST         FNGN         PROF         LATA           17.2         7979.0         6.6         18.4         2.0         3.0         1.0         9799.0           SPDS         SHPS         RUDS         TDIS         HRCH         SRCH         TIMS         TIMR           17.2         100.0         0.0         9799.0         22.0         9.0         7.9         9999.0           3PDS         SHPS         RUDS         TDIS         HRCH         SRCH         TIMS         TIMR           17.2         100.0         0.0         9799.0         22.0         9.0         7.9         9999.0           0         13883	SSPD         KBAR         FDIA         ASHF         RBST         FNGN         PROF         LATA         LCAX           17.2         7979.0         6.6         18.4         2.0         3.0         1.0         9999.0         9797.0           SPDS         SHPS         RUDS         TDIS         HRCH         SRCH         TIMS         TIMR           17.2         100.0         0.0         9999.0         22.0         9.0         7.9         9999.0           3PDS         SHPS         RUDS         TDIS         HRCH         SRCH         TIMS         TIMR           17.2         100.0         0.0         9999.0         22.0         9.0         7.9         9999.0           0         13883	SSPD         KBAR         FDIA         ASHF         RBST         FNGN         PROF         LATA         LCAX         WNWV           17.2         7979.0         6.6         18.4         2.0         3.0         1.0         9999.0         9999.0         9999.0           SPDS         SHPS         RUDS         TDIS         HRCH         SRCH         TIMS         TIMR           17.2         100.0         0.0         9999.0         22.0         9.0         7.9         9999.0           0         18883	SSPD         KBAR         FDIA         ASHP         RDST         I'HON         PROF         LATA         LCAX         WHWV         TRLC           17.2         7979.0         4.4         18.4         2.0         3.0         1.0         9979.0         9	SSPD         RDAR         FDIA         ASHF         RDST         ['NGN         PROF         LATA         LCAX         WNWV         TRLC           17.2         9797.0         6.6         18.4         2.0         3.0         1.0         9797.0         17.4           0         33333         34.0         216.0         9797.0         9797.0         9797.0         9797.0         42.0         17.4           SSPD         RDAR         PDIA         ASHP         RDST         EHGN         PROP         LATA         LCAX         WNW         TRLC           17.2         9797.0         6.2         17.6         2.0         3.0         1.0         9797.0         9797.0         9797.0 <t< td=""></t<>

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NATH NHBR TYPE DISP 3.0 562.0 9999.0 203.0 DRFT TRIN BULD NTAN HOLOHATN 310.0 9999.0 9999.0 9999.0 9999.0 9999.0 176.0 28.0 9999.0 LCAX LINHU TRUC PDIA ASHP RDST ENGN PROP LATA RUDDER, PROP CSPD RDAR 1.0 9999.0 9999.0 9999.0 9999.0 15.9 9999.0 8.8 9999.0 1.0 2.0 SPDS SHPS RUDS TDIS HECH SPCH. TIMS TINR STOPPING 19.6 9999.0 0.0 9999.0 26.8 12.9 15.7 100.0 ##### SHIP # 563 ##### DIMENSION NATH NMBR TYPE DISF 8.0 563.0 7999.0 183.0 SRPH SSHP LBPX LOAX BEAN DRFT TRIM BUL B DDIS ... 290.0 9999.0 9999.0 9999.0 9999.0 9999.0 30.0 9999.0 154.0 14.8 ... UNUU TRLC RDST EHGN PROP LATA I CAX PDIA ASHP SSPD RDAR RUDDER, FROF .. 1.0 9999.0 9999.0 9999.0 9999.0 7.8 9999.0 2.0 1.0 16.8 7999.0 TIMS TIMR HECH SRCH STOPPING SPDS SHPS RUDS TDIS 15.7 9999.0 0.0 9999.0 16.8 100.0 36.8 10.1 k. 19 7#\*\*\* SHIP # 564 ##### 22 BUIL B DDIS COLO . SEPH BEAN DRFT TRIM LOAX DIMENSION NATH MADE TYPE DISP LBFX .... 22.0 9999.0 244.0 9979.0 9999.0 9999.0 9999.0 9999.0 97.0 3.9 564.0 9999.0 112.0 24 -----2 TRLC LCAX UNWV ASHP RDST EHGN FROP I ATA RDAR PDIA SSPD RUPBER, PROF 1.0 9999.0 9999.0 9999.0 9997.0 6.9 16.2 7979.0 1.0 8.0 2.0 -----24 SRCH TIKS TIMR SPDC SHPS RUDS TDIS HECH STOPPING 13.0 9999.0 0.0 9999.0 16.2 100.0 24.5 9.7 ##### SHIP # 565 ##### 11 34 SPPH BULB BDIS COMP BEAN DRFT TRIN TYPE LBPX LOAX NATH NHBR DISP DIMENSION 243.0 9999.0 9999.0 9999.0 9999.0 9999.0 24.0 9999.0 82.0 8.0 565.0 7999.0 100.0 1. 37 UNUV TRLC PROP LCAX SSFD PDIA ASHP RDST ENGN LATA RDAR RUDDER, PROP 1.0 9999.0 9999.0 9999.0 9999.0 7.0 9999.0 1.0 16.4 9999.0 2.0 3. 40 RUDS HRCH SRCH TIMS TIMR STOPPING SPDS SHPS THIS 12.6 9999.0 0.0 9999.0 10.1 16.4 100.0 24.6 42 -\*\*\*\*\* SHIP # 566 \*\*\*\*\* 46 BEAN DRFT TRIM DULD DDIS SSHP SRPH DISF I BPX LOAX NATH NHER TYPE DIMENSION ... 15.0 9999.0 213.0 9999.0 9999.0 9999.0 9999.0 9999.0 57.0 8.0 566.0 9999.0 34.0 \*\* UNUV TRLC LCAX RDST ENGN PROP LATA PDIA ASHE RUDDER. PROP SSPD RDAR 1.0 9999.0 7997.0 9999.0 9999.0 4.0 9999.0 2.0 1.0 16.4 9999.0 9.6 7 7 HRCH SRCH TINS . TIMR SPDS SHPS RUDS TRIS STOPPING 8.3 7999.0 0.0 9999.0 3.6 16.4 100.0 21.5 \*\*\*\*\* SHIP # 567 \*\*\*\*\*

BEAN DRFT SSHP SRPH TRIN BULB PDIS LOAX DIMENSION NATN NHBR TYPE BISP LBPX 8.0 567.0 9999.0 143.0 256.0 9999.0 9999.0 9999.0 9999.0 9999.0 24.0 9999.0 124.0

E-135

IBPY

LOAX

BEAN

DRIS

SSHP

SRPH

##### SHIP # 567 #####

RUDDER, PROP	SSPD 15.5	RDAR 9999.0	PDIA 7.2	ASHP 8.8	RDST 2.0	ENGN 3.0	PROP 1.0	LATA	LCAX	UNUU 9999.0	TRLC		
STOPPING	SFDS 15.5	SHPS 100.0	RUDS 0.0	TDIS	HRCH 21.3	SRCH 17.3	TINS 14.4	TIMR					
	560 11												
DIMENSION	NATH 8.0	NHBR 568.0	TYPE 9999.0	DISP 71.0	L	LOAX	BF.AM 9999.0	DRFT 9999.0	TRIM 9999.0	BUL 8	DDIS 124.0	55HP 24.0	SRP1 9999.0
RUDDER. PROP	SSPD 17.7	RDAR 9999.0	PDIA 7.2	ASHP 8.8	RPST 2.0	EHGN 3.0	PROP 1.0	LATA	LCAX		TRLC		
STOPPING	SPDS 17.7	SHPS	RUDS 0.0	TBIS	HRCH 28.1	SRCH 5.0	TINS	TIMR 9999.0					
18888 SHIP .	567 88												
DIMENSION		NHBR 569.0	TYPE 9999.0	DISP 37.0	LBPX 224.0	LOAX 9799.0	BEAH 9999.0	DRFT 9999.0	* TRIM	BULB	DD15 48.0	55HP 18.4	SRPI
RUPDER. PROP	SSPD 17.0	RDAR 9999.0	PDIA 6.2	ASHP 18.4	RDST 2.0	ENGH 3.0	PROP 1.0	LATA	LCAX		TRLC		
STOPPING	SPD5 17.0	SHPS 100.0	RUDS	TDIS	HRCH 16.3	SRCH 2.0	TINS 5.3	TIMR 9999.0					
2+5+4 SHIP 4	570 ##												
DIMENSION	NATH 8.0	NHDR 570.0	TYPE .0	DISP	L 8PX 270.0	LOAX	BFAN 9999.0	DRFT 9999.0	TRIM 9997.0	BUL R 9999.0	DD15 54.0	55HP 13.4	SRP
	SSPD 14.3	RDAR 7979.0	PDIA 6.6	ASHP 5.4	RAST 2.0	ENGN 1.0	PROP 1.0	LATA 9999.0	LCAX		TRLC	*	
STOPPING	SPDS 14.5	SHPS 100.0	RUDS 0.0	TDIS 9999.0	HRCH 14.1	SRCH 11.3	TINS 9.0	TINR 7979.0					
	571 11												
DIMENSION	NATH 8.0	NHBR 571.0	TYPE	DISP 244.0	L BPX 310.0	LOAX	BEAH 9999.0	DRFT 9999.0	TRIM	BUL P 9999.0	PDIS 207.0	SSHP 28.0	SRP
RUDDER, PROP	SSPD 15.9	RDAR 9999.0	PD1A	ASHP 13.4	RDST 2.0		PROP 1.0	LATA	LCAX		TRLC		
STOPPING	SPDS 15.7		RUDS 0.0	TB15	HRCH 44.7	SRCH	TINS 22.5	TINR					
	572 11			1								_	1
DIMENSION	NATH 8.0		TTPE		1 BPX 224.0	LOAX	BEAN 9979.0	DRFT 1999.0	TRIM	BUL	DD15 .0	55HP 20.0	SRP
RUDDER, PROP	55PD 14.6	RDAR 9999.0	PDIA 7.0	A5HP	RDST 2.0	ENGN 1.0	PROP	LATA	LCAX		TRLC		
STOPPING	SPDS 14.4		RUDS 0.0		HRCH 15.9	SRCH 11.1	TIMS	TINR					

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*****	antr	 

	DIMENSION	NATN B.O	NHBR 573.0	TYPE 9999.0	DISF 111.0	LBPX 250.0	LOAX 9999.0	BEAH 9999.0		TRIM 7777.0		PDIS 92.0	SSHP 24.1	SRPH 9999.0
	RUDDER, FRCF	SSPD 16.5	RDAR 9999.0	FDIA 7.5	ASHP 12.0	RDST 2.0	ENGN 1.0	PROP 1.0	LATA 7777.0	LCAX 9999.0	UNUV 9999.0	TRLC 9999.0		
	BHINGOTS	SPD5	SHPS 100.0	RUDS 0.0	TDIS 9997.0	HRCH 33.4	SRCH 9999.0		TINR 9999.0					
	***** SHIP *	574 ##1												
	DIMENSION	NATN B.O	NMBR 574.0		D15P 84.0	LBPX 232.0	LOAX 9999.0	88AH 9999.0	DRFT 9999.0	TRIM 9999.0	BUL 8 9999.0	DD15 71.0	SSHP 17.0	SRPN 9999.0
	RUNDER. PROP	SSFD 16.3	RDAR 9999.0	PDIA 6.4	ASHP 12.0	RDST 2.0	ENGN 3.0	FR0P	LATA 9799.0	LCAX 9999.0	UNUU 7797.0	TRLC 7777.0		
	STOPPING	SPDS 16.3	SHPS 100.0	RUDS 0.0	TDIS 9999.0		SRCH 9999.0		TINR 9999.0					
	***** SHIP *													
	DIMENSION	NATN 8.0	NHER	TYPE 7997.0	DISP 109.0	L BPX	LOAX 9999.0	BEAN 9999.0		TRIM 9999.0		BRIS 87.0	SSHP 29.4	SRFH 9999.0
	PUDDER, PROP	SSED		FDIA	ASHP 20.0	RDST 2.0	ENGN 1.0	FROF 1.0	LATA 9999.0	LCAX 9999.0				
	STOFFING	SFDS 17.9	SHES	RUDS	TDIS 9997.0	HRCH 33.0	6RCH 5.3		TINR 9999.0					
	***** SHIP #	576 **	***											
	NIMENSION	NATN 8.9	NMBR	TYFE 9999.0		L RPX 253.0	L04X 9999.0	BEAN 9799.0				DDIS 117.0	SSHP 18.0	SRPH 9999.0
	RUDDER, PROP	SSPD 13.6	RDAR 9999.0			RDST 2.0		FROP	LATA 9999.0	LCAX 9999.0				
	STOPFING		SHPS	RUDS	TDIS 9999.0	HRCH 25.8	SRCH 9999.0		TINR 9999.0					
	**** SHIP .	577 ##	***											
-	DIMENSION		NMBR 577.0			L.BPX 310.0	LOAX 9999.0	BEAN 9999.0					55HP 28.0	SRP1 9999.(
	RUDDER, PROP		RDAR 9999.0			RDST 2.0		FROP	LATA 9999.0					
	STOPFING	SPDS		RUDS	TDIS 9999.0	HRCH 35.9	SRCH 9999.0		TJHR 9999.0					
	***** SHIF *	578 \$\$												
	DIMENSION	NATN				LBPX			DRFT 7777.0				\$SHP	SRPI

RUDDER, PROP SSPD RDAR PDIA ASHP RDST ENGN PROP LATA LCAX UNUV TRLC 15.9 9997.0 9997.0 20.0 2.0 3.0 1.0 9799.0 9999.0 9999.0 9999.0 STOPPING SPDS CHES FUDS TOTS HRCH SRCH TIHS TINR 0.0 9779.0 15.7 100.0 23.8 9979.0 8.8 9999.0 13111 GHIP & 577 #5888 DIMENSION NATH NMBR TYPE DISP IBFX LOAX BEAH DRFT TRIN BUL B BBIS SSHP SRPH 8.0 577.0 9999.0 206.0 9999.0 9999.0 9999.0 9999.0 9999.0 64.0 18.0 9999.0 52.0 RUDDER. PROP SSPD ŀ RDAR FDIA ASHE RDST ENGN FROP LATA LCAX UNNU TRLC 18.0 9797.0 6.7 7.8 2.0 1.0 1.0 9999.0 9999.0 9999.0 9999.0 STOPPING SPUS SHPS RUDS TDIS HRCH SRCH TINS TINR 13.0 100.0 0.0 9997.0 13.0 11.0 11.0 9999.0 5 .. 11111 SHIP # 530 11111 1.6 ., DIMENSION NATN NMBR TYPE DISP IRFY LOAX BEAM DRFT TRIN DULD DAIS SSHP SRPH 530.0 7997.0 8.0 233.0 9997.0 9999.0 9999.0 9999.0 9999.0 98.0 •• 82.0 24.3 9999.0 RUDDER, PROF RDAR SSPD FDIA ASHP RDST EHGN PROP LATA LCAX UNUV TRLC 21 16.5 9999.0 7.0 12.0 2.0 1.0 1.0 9999.0 9999.0 9999.0 9999.0 ... 23 STOPPING SPDS SHPS RUDS TRIS HRCH SRCH TIMS TINR 24 0.0 9797.0 15.5 100.0 26.7 10.4 12.3 9999.0 21 24 ##### SHIP # 531 ##### ,, .... 29 DINEMAION NATN LEPX LOAX NHER TYPE DISP BEAN DRET TRIN BHI B ..... SSHP SRPH 13 3.0 521.0 9997.0 220.0 305.0 9997.0 9999.0 9997.0 9999.0 9999.0 11 193.0 29.1 9999.0 17 RUDDER, PROP SSPD SDAR PDIA ASHP RDST ENGN 1033 LATA LCAX HARA TRLC 33 15.0 9999.0 3.9 7979.0 2.0 1.0 9999.0 9999.0 9999.0 9999.0 1.0 ----3.4 STOPPING SPDS SHPS RUDS TRIS HRCH SRCH TINS TINR 16.0 100.0 0.0 7979.0 43.8 9779.0 17.6 9999.0 5. <u>.</u> \*\*\*\*\* SHIP # 582 ##### DIMENSION NATN HMBR TYPE DISP LBEX LOAX BEAH DRFT TRIM BULE ..... SSHP SRPH 3.0 592.0 7979.0 69.0 276.0 7797.0 9999.0 9999.0 9999.0 9999.0 147 60.0 17.0 9999.0 RUDDER, PROP SSCD RDAR PDIA ASHP RDST ENGN PROP LATA LCAX WNWV TRUC 1 16.0 7979.0 6.6 17.0 2.0 3.0 1.0 9999.0 9999.0 9999.0 9999.0 \*\*\* STOPPING SPDS SHPS RUDS TDIS HECH SRCH TIMS TIME 40 0.0 9979.0 16.0 100.0 23.0 9979.0 8.3 9999.0 43 #1#11 SHIP # 583 ##### DINENSION NATH NHER TYPE DISP LAPX LOAX BEAN DRFT TRIM DULD DDIS SSHP SRPH 8.0 533.0 9999.0 250.0 9799.0 9799.0 9799.0 9999.0 9999.0 101.0 83.0 26.1 9999.0 RUDDER, PROP SSPD RDAR PDIA ASHE RIST ENGN PROP LATA LCAX VUNU TRLC 16.4 9999.0 7.5 12.0 2.0 1.0 9999.0 9999.0 9979.0 9999.0 1.0 STOPPING SPDS SHPS RUDS TOIS HRCH SRCH TINS TIMR 16.4 100.0 0.0 9979.0

31.3

10.4

11.5 9999.0

#### \*\*\*\*\* GHIP \* 584 \*\*\*\*\*

_	DIMEN	SION	NATN 8.0	NMDR 584.0	TYPE 7999.0		1 PFX 215.0	1 DAX		DRFT 9999.0			DDIS 50.0		SRPN 9999.0
	RUDDER.	PROP	SEPD 9999.0	RDAR 9999.0	PDIA 7.0	ASHP 8.0	RDST 2.0		PROP 1.0	LATA 9999.0			TRLC 9999.0		
	STOP	PING		SHPS 9997.0	RUDS	TDIS		SRCH	TIMS	TIMR					
		1			0.0		34.4	11.2	4.0						
	DIMEN	SION		NHBR 585.0				LOAX 9999.0	8FAN 37.0		TRIM 1.0	BULB 9999.0	DDIS 143.0	SSHP 23.1	SRP# 9999.0
	RUDDER.	PROP	SSPD 15.0	FDAR 9999.0	PDIA 9999.0	ASHP 23.0	RDST 2.0		PROP 1.0	LATA 9999.0	LCAX		TRLC		
	TUR	NING		SPDF 9977.0	RUDT 35.0		9999.0		FRPM 9999.0						
			15.0	9999.0	-35.0	11.0	9999.0	12.0	9999.0		_				
	18853 SH	IP .	536 14	***					-	-					
-	DINCH	SION	NATH 1.0					LOAX 9999.0	8FAM	DRFT 11.5	TRIM 10.0		DD15		SRP#
	RUDDER	PPOF	0.46.0			ASHF	RUST	ENGN	PROF		LCAX		TRLC		
			15.6	9999.0	9999.0	23.0	2.0	3.0	1.0	9999:0	7999.0	9999.0	9999.0		
	STOP	PING	SPDS 15.R	SHPS	FUDS 0.0	TDIS 9979.0	HRCH 36.5	SRCH	TINS 15.5	TINR 7777.0					
-	*********	fr+-	587 1+1												
	DIMEN	SION	NATH	NHER	TYPE	DISP	LBFX		BEAN	DRFT	TRIM	BULB	DDIS	SSHP	SRPI
			1.0		9999.0	240.0	311.0	9999.0	47.0	18.7	2.0	9999.0	240.0	28.0	7999.0
	RUDDER	FROF	SSPD 15.0	RDAR 7999.0	PDIA 9799.0	ASHP 13.7	RDST 2.0	ENGN 1.0	PR0P	LATA 9999.0	LCAX		TRLC 9999.0		
	STOF	PING	SEDS	SHPS	RUDS	TRIS	HRCH	SRCH	TINS	T1MR 9999.0					
				100.0		9999.0				9999.0					
	***** SH	IP #	538 ***	***											
1	<b>DIREN</b>	Sign	NATN 1.0	NNBR 583.0	1999.0	DISF 115.0		LUAX 7777.0	BEAN 47.0	DRFT 9.6	TRIN 32.0	BUL B 7777.0	DD15 115.0		58PH 9999.0
	RUDDER,	PROP	SSPD 15.0	RDAR 7999.0	FDIA 9999.0	A\$HF 13.7	RDST 2.0	ENGN 1.0	PROP 1.0	LATA 9997.0	LCAX 7777.0		TRLC 7797.0		
	STOP	PING	SFDS 15.5	SHPS 100.0	RUDS 0.0	TDIS 7777.0	HRCH 29.4	SRCH 7777.0		TINR 9777.0					

##### SHIP 0 587 #####

DEMENSION	NATH		TYPE	DISP	L BPX	LOAX	BEAN	DRFT	TRIM	PULS	DDIS	SSHP	SRPH
	1.0		9999.0			9999.0	47.0	18.4		9999.0	225.0		7797.0
RUPDER, PFOP	SSPD	RDAR	FDIA	ASHP	RAST	ENGN	PROP	LATA	LCAX	UNUV	TRLC		
	15.0		9999.0	22.8	2.0			9999.0					
TURNING	SPDT	SPDF	RUDT	ADUT	TRNT	DIAT	FRPH						
		9999.0			9999.0	11.2	9979.0						
	15.5	4799.0	-35.0	8.2	\$999.0	9.0	9999.0						
	10.6	9977.0	-35.0	10.0	9999.0	11.0	9999.0						
STOPPING	seps	SHIPS	RUDS	TRIS	HRCH	SRCH	TINS	TIMR	1000				
	16.0	100.0	0.0	9999.0	39.4	9979.0	15.2	9999.0					
	17.0	100.0	0.0	9999.0	81.5	9999.0	51.0	9999.0					
***** SHIP * 5	90 11:	***						_					
DTHENSTON	NATH	NHER	TYPE	DISP	LBPX	LOAX	DEAN	DRFT	TRIN	BULB	DOIS	SSUP	SRPH
			9999.0			9999.0				9999.0			9999.0
			_										
FUDDER, FROP		RDAR		ASHP		. EHGN	PROP	LATA		MHMA			
	15.0	9979.0	9999.0	22.8	2.0	1.0	1.0	\$999.0	9999.0	9999.0	9999.0		
TURNING		SPDF	RUDT	ADVT	TRNT		FRPH						
		7999.0			9999.0		7777.0						
	16.0	9999.0	35.0	7.5	9999.0	9.5	9999.0						and the second se
STOPPING	SPDS	SHPS	RUDS	TDIS	HRCH	SRCH	TINS	TINR					
	16.0	100.0		9999.0		9999.0		9999.0					
	Statute - education												
		*****											
									•••••				
													*****
			*****										

APPENDIX F DESCRIPTION OF THE SHIP MANEUVERING DATA BASE AND DATA BASE PROGRAMS

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# APPENDIX F

The ship maneuvering data base described in the text is contained in, and manipulated by, a package of three main computer programs. These programs are especially tailored to ship maneuvering performance and were developed in lieu of using an existing, generalized data base management program.

These programs were developed for use on PDP 11/34 and 11/44 computers and can be used on the Coast Guare 11/34 computers. Plots are prepared with a TEKTRONIX terminal and "Easy Graph" software package which are used by the Coast Guard with the PDP 11/34 computer.

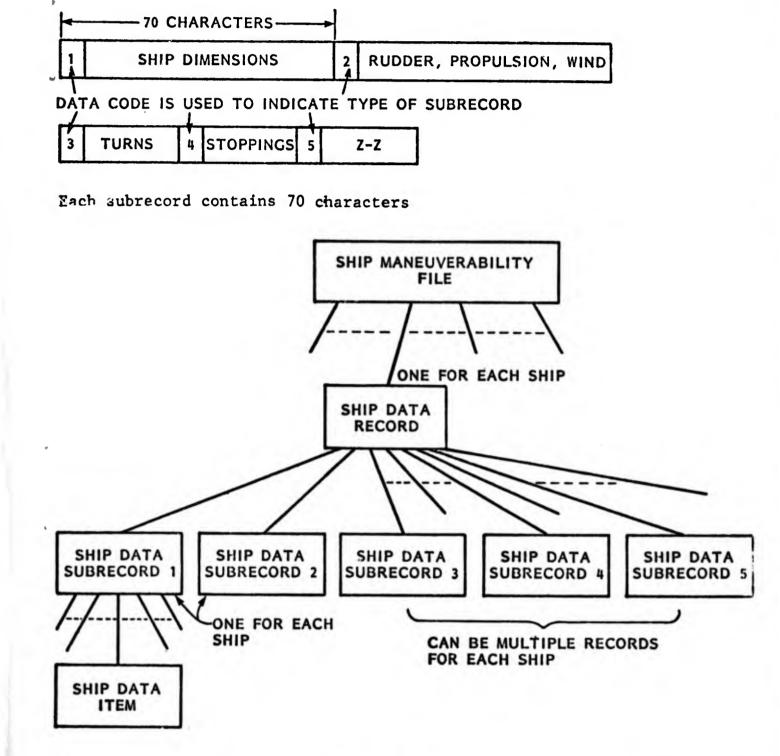
# F-1 Data Base Programs

The three programs are designated SMDB, SMPLT and STAT. The programs are coupled through disk files. SMDB can generate disk files accessed by STAT and both SMPLT and STAT can generate disk files that can be accessed by a TEKTRONIX "Easy Graph" plotting package which is used in conjunction with the PDP 11 Series computer. The general functions of the three programs are described below. Program Listings and User's Manuals are provided at the end of this Appendix.

<u>Program SMDB</u> - SMDB is a computer program designed to access a file of ship maneuverability data (SMDB.DAT) and to select ships by certain criteria. The data for these ships can be listed and/or filed for further study or manipulation.

The program can check the validity of the input data formats, upper and lower bounds of each item, list the selected data with proper heading, print a data name dictionary, sort maneuvering data in the turning, stopping then zig-zag order. The SELECT OPTION can find ship data which meets limits or criteria specified by the user, show the number of data found meeting these criteria, list this data, and file these data under a name assigned by the user.

<u>Program SMPLT</u> - SMPLT creates disk files of ship maneuverability data for input to PLOT5, the Tecktronix "Easy Graph" package or program STAT. This input data comes from a file created by the program SMDB. SMPLT selects



# ORGANIZATION OF SHIP MANEUVERING PERFORMANCE DATA FILE

TABLE F1

# TABLE F2 SHIP MANEUVERING PERFORMANCE DATA FORMAT

	(1)	(2)	(3)	(4)	(5)	(6) (7	) (8)	(9)	(1.0)	(11)	(12)	(	(13)	(14)
Item	Data Code	Ship Nationali	Ship ty No.	Type of Ship	Disp	LBP LC	)A Bean	n Draft	Trim	Bulb	Desig		vice SHP	Service RPH
	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	) (2	3)	(24)	(25)	(26)	
Item	Data Code	Service	Rudder Area	Prop. Diam.	Ast. SHP	Rudder/ Stern Code	Engin Code		er WL		Wind LCA	Wind/ Wave Cod3	Tria Code	
							•							
Maneuver	(27)	(28)	(29)	(30)	Turn (31	ing Circ	)	(33)	(34)					
Item	Data Code	Approach		Rudder Angle	Advar	ice Tran	1 isfer	actical Diam.	Final RPM					
lianeuver						copping (39)	(40)	(41)	(42)	(	43)			
Item	(35) Data Code	(36) Approach Speed	(37) 7. Astern SHP	(38 Rude Comm	der	(J9) Track istance	Head Reach	•	Time to Stop		to = 0			
					_	1- 7-5								
					2	ig-Zag								

Item	(44) Data Code	(45) Approach Speed	Buddaw		Final Overshoot	Overshoot Width	K'*	т'*	feriod	
Maneuver		(18)	(46)	(47)	(48)	(49)	(50)	(51)	(52)	

\* These are the Motora/Norrbin zig-zag perameters

from the file the desired ship parameters and files them separately in a format that can be accessed by PLOTS, or STAT.

<u>Program STAT</u> - STAT performs a least square curve fit for parameters selected by the program SMPLT. Mean square error, standard derivation, slope, intersection, mean from fitted curve, and interpolated values are also calculated as part of this curve fit. STAT will curve fit data using all polynomials from first order to the highest order specified by the user. It can also be used to change, delete and list data points for the curve fit. It also stores data for input to PLQT5, Tektronix's "Easy Graph" package.

## F-2 Description of Data Contained in Files

The general organization and structure of the ship maneuvering data file is outlined in Table F-1. The file consists of a set of individual ship data records (one for each ship and distinct ship loading condition for which maneuvering trials data exist). Each ship data record consists of a number of subrecords. For each ship there must be one subrecord each of types 1 and 2 (ship dimensions and rudder/propulsion/wind data, respectively). There may be any number of subrecords 3, 4 and/or 5 for each ship, but there must be at least one of these subrecords. Subrecords 3, 4 and 5 provide data for turning, stopping and zig-zag or Z maneuvers, respectively.

The particular data contained in subrecords 1 to 5 is described in Table F-2. A detailed explanation of the data coding for these subrecords is given in Table F-3. Details of data formats, etc., are given in the following sections.

### TABLE F-3

### EXPLANATION OF DATA FILE CODING

Explanations of Item Codings: Each subrecord contains 70 characters. The data format is (I2,13F6.1) for each subrecord. The integer field is designated for subrecord data codes.

Right justified numbering is assumed in filling out the codes Enter 9999. for unknown or missing data.

(A) Ship Dimensions Subrecord(1) Data Code: 1. New

(NATN)\*

- 1. New ship record starts, dimension subrecord
- 2. Rudder, Propulsion and Wind, Wave subrecord
- 3. Turning Circle subrecord
- 4. Stopping subrecord
- 5. Zig-Zag subrecord
- (2) Ship Nationality Code:
  - 01 United States
    - 02 Soviet Union
    - 03 Sweden
    - 04 Norway
    - 05 Japan
    - 06 Denmark
    - 07 Finland
    - 08 United Kingdom
    - 09 France
    - 10 Canada
    - 11 Liberia
    - 12 Panama
    - 13 Australia
    - 14 Federal Republic of Germany (West Germany)
    - 15 German Democratic Republic (East Germany)
    - 16 Poland
    - 17 Italy
    - 18 Korea
    - 19 Spain
    - 20 Greece
    - 21 Algeria
    - 22 People's Republic of China (Mainland)
    - 23 Republic of China (Taiwan)

11 wy your Jilly you

99 Not known or other

\* Nnemonic (abbreviation) used in computer

# TABLE F-3 (Continued)

(3)	Ship No.: (NMBR)	A three digit number between 001 and 999 assigned for identification of ships
(4)		<ol> <li>Tanker &lt; 100,000 DWT</li> <li>Tanker &gt; 100,000 DWT</li> <li>Bulk Carrier &lt; 100,000 DWT</li> <li>Bulk Carrier &gt; 100,000 DWT</li> <li>Cargo ship</li> <li>Container ship</li> <li>LNG ship</li> <li>Passenger ship</li> <li>Others' (drilling, etc.)</li> </ol>
(5)	Disp.: Tria (DISP)	<pre>1 Displacement (1000 metric tons) 1 metric ton = .984 long tons Use trial displacement if known otherwise use design full load summer displacement</pre>
		Fully loaded and ballasted ship data should be considered as two distinct ships.
(6)	LBP: (LBPX)	Ship length between perpendiculars (meters)
(7)	LOA: (LOAX)	Ship's overall length (meters)
(8)	Beam: (BEAM)	Maximum beam (meters)
(9)	Draft: (DRFT)	Draft at midships, or mean draft (meters)
(10)	Trim: (TRIM)	Trim of ship (% of mean draft) + trim by stern - trim by bow
(11)	Bulb: (BULB) 39-42	Bulbous bow area forward of forward perpendicular, divided by ship LBP times draft (% length × draft)
(12)	Design Disp. (DDIS)	Ship displacement at design load (1000 metric tons)
(13)	Service SHP (SSHP)	:Engine SHP at service speed (1000 HP) Use maximum SHP if service SHP is unknown
(14)	Service RPM (SRPM)	Engine RPM at service speed (RPM) Use maximum rpm if service RPM is unknown

# TABLE F3 (Continued)

(B)	Rudder, <sup>o</sup> ropulsion and (15) Data Code:	Wind/Wave Subrecord See item (1)	
	(16) Service Speed: De (SSPD)	sign Service Speed (knots)	
	(17) Rudder Area: To (RDAR) If	tal (fixed plus movable) rudder area (meters <sup>2</sup> ) f ship has multiple rudders, use total area	
	(18) Prop. Diam.: Pr (PDIA)	ropeller Diameter (meters)	
	(19) Astern SHP: Ma (ASHP)	aximum SHP when ship is moving astern (1000 HP)	
	(20) Rudder/Stern Code: (RDST)	<ol> <li>All-movable rudder</li> <li>Semi-balanced rudder</li> <li>Balanced rudder with fixed structure</li> <li>All-movable rudder with flap</li> <li>Cruiser rudder</li> </ol>	
	(21) Engine Code: (ENGN)	Type of propulsion engine 1. Steam with fixed pitch propeller 2. Steam with controllable pitch propeller 3. Diesel with fixed pitch propeller 4. Diesel with controllable pitch propeller 5. Gas turbine with fixed pitch propeller 6. Gas turbine with controllable pitch propeller	
		9. Other	
	(22) Prop/Rudder Code:	Propeller/rudder arrangement 1. One propeller, one rudder 2. One propeller, two rudders	
		3. Two propellers, one rudder : $\frac{\circ}{8}$	
		4. Two propellers, two rudders	
		5. Multiple propellers with equal number of rudders e.g., 8 - 8	Οſ
		<ul> <li>6. Multiple propellers with unequal number of rudders,</li> <li>e.g.,</li> </ul>	r
		flanking main rudders rudders	

- - - M

## TABLE F-3 (Continued)

 (23) Lateral Wind Area: Lateral projected area (above still waterline) (LATA)
 (24) Wind LCA: Center of lateral projected area (above still waterline) measured from midships, + forward,

- aft of midships (meters)

(25) Wind/Wave Code:

(WNWV)

	Wind	Beaufort Scale	Speed (Knots)	Wave	Height (ft)
1	Calm	0-3	0-11	Smooth	0-3
2	Calm			Moderate	4-6
3	Calm			High	6-Up
4	Moderate	4-6	12-27	Smooth	0-3
5	Moderate			Moderate	4-6
6	Moderate			High	6-Up
7	Strong	7-12	28-Up	Smooth	0-3
8	Strong			Moderate	4-6
9	Strong			High	6-Up

(26)	Trial Code:	
	CC39,40	
	(TRLC)	

1. Ship trials conducted by ship officer/ ship company

- 2. Ship trials conducted by shipyard
- 3. Ship trials were very carefully conducted
  - 4. Simulation results
  - 5. Model tests

See item (1)

(C) Turning circle subrecord (27) Data Code:

> (28) Approach Speed: (SPDT)

(29) Final Speed:

(30) Rudder Angle: (RUDT)

- (31) Advance: Head reach of (ADVT) meters)
- (32) Transfer: (TRNT

Speed at start of turn (knots)

Speed at 180<sup>0</sup> turn, or final steady state speed (knots)

Commanded rudder angle (degrees) Positive for port rudder Negative for starboard rudder

Head reach of ship's C.G. at 90° turn (100

Side reach of ship's C.G. at 90<sup>0</sup> turn (100 meters)

# TABLE F-3 (Continued)

	(33) Tactical Diam: (DIAT)	Side reach of ship's C.G. at 180 <sup>0</sup> turn (100 meters)
	(34) Final RPM: (FRPM)	RPM at finish of turn
(D)	Stopping Subrecord (35) Data Code:	See item (1)
	(36) Approach Speed: (SPDS)	Speed at start of stopping command (knots)
	(37) Percent Astern SHP: (SHPS)	Percent of maximum astern SHP ordered
	(38) Rudder Command: (RUDS)	0 = Zero rudder ±1 - ±49 = commanded rudder angle, (degrees) no rudder cycling
		±50 - ±98 = 49 + commanded maximum rudder angle (degrees) with rudder cycling
		$\pm 99$ = unknown or not specified, but rudder direction can be derived.
	<pre>(39) Track Distance: (TDIS)</pre>	Stopping tract distance of ship's C.G. (100 meters)
	(40) Head Reach: (HRCH)	Head reach of ship's C.G. at stop (100 meters)
	(41) Side Reach: (SRCH)	Side reach of ship's C.G. at stop (100 meters)
	(42) Time to Stop: (TIMS)	Time elapsed between the start of stopping maneuver and ship forward speed = 0 (minutes)
	(43) Time to RPM = 0: (TIMR)	Time elapsed between the start of stopping maneuver and shaft $RPM = 0$ (seconds)
(E)	Zig-Zag Subrecord (44) Data Code	See item (1)
	(45) Approach Speed:	Speed at start of zig-zag (knots)
	(SPDZ) (46) Rudder Angle:	Commanded rudder angle (degrees)
	(RUDZ) (47) First Overshoot: (OVS1)	First overshoot angle (degrees)
	(48) Final Overshoot: (OVSF)	Last available zig-zag overshoot angle (degrees)
	(49) Overshoot Width:	Overshoot width of path, the side reach mea- sured from 2nd rudder command to first maximum side reach (100 meters)
		also regain free man a

# TABLE F -3 (Concluded)

(50) K' :	Nondimensionalized Motoro/Norrbin zig-zag
(KPRM)	parameter (see Appendix
(51) T' :	Nondimensionalized Motoro/Norrbin zig-zag
(TPRM)	parameters (see Appendix
(52) Period: (PERD)	Time elapsed between 2nd rudder execution and 4th rudder execution (minutes)

h

# F-3 Users Guides

Programs SMDB, SMPLT and STAT have been designed for easy use and hence elaborate user instructions or User's Guides are not needed. Sections D.3.1, b.3.2 and D.3.3 contains the User's Guides for these three programs.

### F-3-1 Program SMOR

----- USERS GUIDE TO SHDR PROGRAM

### FURPOSE

ł.

SMDR IS A COMPUTER PROGRAM DESIGNED TO ACCESS A FILE OF SHIF NANUVERABILITY DATA(SHOB.DAT) AND TO SELECT SHIPS BY CERTAIN CRITERIA. THE DATA FOR THESE SHIPS CAN BE LISTED OR THEY CAN RE FILED AWAY FOR FURTHER STUDY OK MANIPULATION.

SOFTWARE

SHDB WAS WRITTEN IN FORTKAN AND RUNS UNDER DIGITAL EQUIPHENT CORPORATION'S RSX-11H OPERATING SYSTEM.

### FILES

SMDB.DAT IS THE SHIP MANUVERABILITY DATA FILE. IT IS GRGANIZED INTO SHIP RECORDS. EACH Record has 3 to 3 subrecord types. These 5 are:

1 - SHIP DIMENSIONS

- 2 RUDDER, FROFELLER AND OTHER SHIP CHARACTERISTICS
- 3 TURNING CIRCLE DATA
- 4 STOPPING DATA
- 5 ZIG-ZAG DATA

THERE MUST BE ONE EACH OF SUBRECORD TYPES 1 AND 2 FOR EACH SHIP AND THERE MAY BE ZERO, ONE OR MORE OF EACH OF SUBRECORD TYPES 3, 4 AND 5 FOR EACH SHIP. THE MAXIMUM NUMBER OF SUBRECORDS ALLOWFD FOR A SHIP 13 50. THE MAXIMUM NUMBER OF SHIPS ALLOWED IN SHDB.DAT IS 1000.

SMDB.DAT IS A DIRECT ACCESS FILE WITH FIXED LENGTH RECORDS AND THUS CANNOT BE EDITED. TO UPDATE OR ADD TO THIS FILE ONE MUST USE THE EDITOR ON DABA.DAT AND THEN RUN A PROGRAM - CHDB TO CREATE A NEW SMDB.DAT FILE. SEE GUIDE TO CHDB.

SMDD.DAT

IS A DATA DICTIONARY FOR THE VARIABLES STORED IN SHDB.DAT. INFORMATION IS STORED ONE RECORD PER VARIABLE AND INCLUDES:

> 1 - A 4 CHARACTER NNEHONIC FOR THE VARIABLE 2 - A CODE DEPICTING VARIABLES AS: 1 - QUANTITATIVE 2 - QUALITATIVE ITEM 3 - DESCRIPTION OF THE VARIABLE 4 - UNIT OF MEASUREMENT (IF APPLICABLE)

5 - HINIHUM ALLOWABLE VALUE

6 - HAXTHUM ALLOWABLE VALUE

SHDD.DAT CAB BE CHANGED BY USING THE TEXT EDITOR.

#### SHDB EXECUTION

TO RUN SHDB ENTER:

CUSER ENTRIES UNDERLINED]

>RUN SHDB

A MESSAGE IS DISPLAYED:

SHIP MANUVERABILITY DATA BASE PROBRAM

ENTER DATA ITEN(S) FOR HIGH SPEED SCANNING

#### NOTE:

ANY 10 DATA ITEMS FROM SUBRECORD TYPES 1 AND 2 CAN BE STORED INTERNALLY FOR HIGH SPEED SUANNING. (SEE SFLECT HODE) IF SCANNING IS TO BE DONE FOR ANYITEMS HOT STORED INTERNALLY AREI

ANY 10 DATA ITEMS FROM SUBKECORD TYPES 1 AND 2 CAN BE STORED INTERNALLY FOR HIGH SPEED SUANNING.(SEE SFLECT MODE) IF SCANNING IS TO BE DONE FUR ANYITEMS NOT STORED INTERNALLY THE SCAN OF SHIPS MUST BO TO THE DISK AND WILL TAKE UP TO ONE MINUTE. OTHERWISE THE SCAN IS ALMOST INSTANTANEOUS. TEN ITEMS AKE DEFAULT FOR INTERNAL STORAGE, THEIR MHEMONICS

> TYPE DISP LBPX DRFT RDAR PDIA PROP WNWV NMBR

\_\_\_\_\_

TO CHANGE THIS LIST ENTER THE MNENOHICS(TAKEN FROM THE DATA DICTIONARY) FOR THE VARIABLES YOU ARE INTERESTED IN. ENTER ON ONE LINE WITH A SPACE BETWEEN EACH. THE ITERS YOU ENTER REPLACE THE ITEMS ON THE ABOVE LIST FROM THE BOTTOM UP.

#### EXAMPLE:

TRIK BULB ENGN

THE FILE IS THEN READ FLACING THE HIGH SPEED SCANNING VARIABLES IN INTERNAL STORAGE.

WHEN FINISHED A HESSAGE IS DISPLAYED:

XXX SHIPS ON FILE EWHERE XXX IS THE NUMBER OF SHIP RECORDS]

THEN THE COMPUTER DISPLAYS!

TYPE "HELP" FOR A LIST OF OPTIONS

AND A PROMPT:

MNV>

AT THIS POINT YOU HAY ENTER DHE OF THE OPTIONS LISTED BELOW.

IF YOU RESPOND:

MNV>HELP

YOU WILL GET A LIST OF OPTIONS:

VALID OPTIONS: CHECK

LIST SELECT HELP DDICT Sort Exit

AND THE PROMPT!

MNV>

ENTER ANY VALID OPTION. WHEN THE OPTION IS COMPLETE AN MNV> PROMPT FOR ANOTHER OPTION WILL BE PROVIDED.

YOU WILL GET A LIST OF OPTIONS:

----

VALID	OFTIONS:	CHECK
		LIST
		SELECT
		HELP
		DDICT
		SORT
		EXIT

AND THE PROMPT:

HNV>

ENTER ANY VALID OFTION. WHEN THE OFTION IS COMPLETE AN MNV> PROMPT FOR ANOTHER OFTION WILL BE FROVIDED.

### DESCRIPTION OF SHOB OPTIONS

CHECK

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THIS OFTION WILL SCAN THE FILE AND CHECK TO MAKE SUKE ALL ITERS ARE WITHIN THE LIMITS SET IN THE DATA DICTIONARY. IF EVERYTHING CHECKS OUT AFTER 1-2 MINUTES THE COMPUTER TYPES:

NO ERRORS FOUND

LIST

THIS OFTION WILL MAKE A COMPLETE LISTING WITH HEADINGS OF THE DATA BASE.

# SELECT

THIS WILL PUT YOU INTO SELECT MODE. (SEE BELOW)

### HELP

----

DISPLAYS VALID SHDB OFTIONS TO THE MNV> PROMPT.

# DDICT

MAKES A COMPLETE LISTING OF THE DATA DICTIONARY.

# SORT

----

WILL SORT THE SUBRECORDS IN EACH SHIP SO THAT THEY ARE IN ASCENDING ORDER BY SUBRECORD TYPE 1-5. 

### SELECT HODE

WHEN SELECT IS ENTERED IN RESPONSE TO THE KNV> PROMPT YOU GO INTO ANDTHER HODE WITH A NEW SET OF OFTIONS. THE FIRST HESSAGE HERE IS:

SELECT HODE

AND A PROMPT:

SEL>

IF YOU ENTER:

SEL>HELP

YOU GET:

VALID OFTIONS: FIND SHOW LIST HELP FILE QUIT EXJT

AND THE PROMPT:

SEL>

ENTER ANY VALID OFTION.

### DESCRIPTION OF SELECT OPTIONS

# FIND

THIS COMMAND INITIATES THE SCAN OF THE DATA BASE FOR SHIPS THAT MEET THE SPECIFIED CRITERIA. THE FORM OF THE "FIND" COMMAND IS:

FIND HNEN OF LK1 CLH23 CAND3 <- BRACKETS SIGNIFY OFTIONAL ENTRY-

WHERE:	MNEN	IS ONE OF THE VALID 4 CHARACTER MNEMONICS
	OF	IS A 2 CHARACTER OPERATOR OF WHICH THERE ARE FIVE:
		GT - GREATER THAN
		LT - LESS THAN
		EQ - EQUAL TO .
		BT - BETWEEN LH1 AND LH2
		NE - NOT EQUAL TO I.M1
	LK1	IS A LIMIT THAT EACH SHIP IS COMPARED TO WITH THE
		OPERATOR SELECTED. WITH THE BT OPERATOR IT IS THE
		LOWER LINIT. MUST BE ENTERED WITH A DECIMAL POINT.
	LH2	IS DNLY USED WITH THE BT OPERATOR AS THE UPPER LINIT.
	B116	MUST BE ENTERED WITH A DECIMAL POINT.
	AND	WITH "AND" APPENDED TO THE "FIND" CONKAND YOU MAY
		ADD ANOTHER "FIND" CONKAND TO THE SAKE SCAN OF THE DATA
		BASE. WHEN AN 'AND' IS ENTERED A FND> PROMPT IS DISPLAYED
		ON THE NEXT LINE AND ANOTHER "FIND" HUST BE ENTERED.
		UN THE REAT LINE AND ANDINES FIND BUST BE ENTERED.

EXAMPLE: TO FIND ALL SHIPS WITH A DISPLACEMENT BETWEEN 100,000 AND 150,000 TONS. (Values of 100. and 150. In data base)

SEL>FIND DISP BT 100. 150.

THE NUMBER OF SHIPS HEETING THIS CRITERIA IS DISPLAYED:

1. 2. 2 . A. 3. . . .

244 SHIPS FOUND

F-17

NUDI BE ENTERED WITH A DECINAL PUTHI. WITH "AND" APPENDED TO THE "FIND" COMMAND YOU MAY ADD ANOTHER "FIND" COMMAND TO THE SAME SUAN OF THE DATA BASE. WHEN AN "AND" IS ENTERED A FND: PROMPT IS DISPLAYED ON THE NEXT LINE AND ANOTHER "FIND" MUST BE ENTERED.

EXAMPLE: TO FIND ALL SHIPS WITH A DISPLACEMENT BETWEEN 100,000 AND 150,000 TONS. (Values of 100. And 150. In data base)

SEL>FIND DISP BT 100. 150.

THE NUMBER OF SHIPS HEETING THIS CRITERIA IS DISPLAYED!

244 SHIPS FOUND

AND

EXAMPLE: FIND ALL SHIPS WITH A DRAFT LESS THAN 10 METERS AND WITH A RUDDER TYPE 2.

SEL>FIND DRFT LT 10. AND FND>FIND RUDT EQ 2.

22 SHIPS FOUND.

WHEN THE FIND COMMAND IS EXECUTED A LIST OF SHIPS SELECTED IS STORFD. EACH "FIND" WILL CREATE A NEW LIST AND THE OLD LIST WILL BE LOST. TO SAVE THE OLD LIST USE THE "FILE" COMMAND(SEE BELOW).

SHOW

LIST SHIPS (BY THEIR POSITION IN FILE) FOUND BY PREVIOUS "FIND" CONHAND.

# LIST

----

MAKE A COMPLETE LISTING WITH HEADINGS OF SHIPS FOUND BY PREVIOUS "FIND" COMMAND.

# HELP

....

LIST VALID OPTIONS TO SEL> PROMPT.

### FILE

....

1

PLACE IN A NEW, SEPARATE FILE SHIPS FOUND WITH PREVIOUS "FIND" Commands. A file name is prompted for.

### QUIT

QUIT SELECT MODE AND RETURN TO SHOP FOR MMV> PROMPT. FOR ADDITIONAL SHOB OFTION.

EXIT

EXIT SHDD.

SMDB.DAT DESCRIPTION AND MAINTENANCE

FILE STRUCTURE-

SMDB.DAT IS ORGANIZED INTO SHIP RECORDS, EACH SHIP HAVING 2 OR MORE 80 CHARACTER SUB-RECORDS. THERE ARE 5 TYPES OF SUB-RECORDS. EACH RECORD CONSISTS OF A SUB-RECORD TYPE CODE (NUMBER FROM 1 - 5) RIGHT JUSTIFIED IN COLUMNS 1 1 2 AND DATA ITEMS IN COLUMNS 3 - 80 WITH A FORMAT 13F6.1. IF A SUB-RECORD DOES NOT HAVE 13 DATA ITEMS THE REMAINING FIELDS CONTAIN 0.0. THE END OF FILE IS INDICATED BY THE NUMBER 99 IN COLUMNS 1 1 2.

DESCRIPTION OF SUB-RECORDS-

TYPE 1, SHIP DESCRIPTION 1: THERE MUST BE ONE OF THESE FOR EACH SHIP

'1' - RECORD TYPE CODE NATN - SHIP NATIONALITY NMBR - SHIP NUMBER TYPE - TYPE OF SHIP CODE DISP - TRIAL DISPLACEMENT IBPX - LENGTH BETWEEN PERPENDICULARS LOAX - LENGTH OVERALL BEAM - SHIP'S DEAN DRFT - SHIP'S DRAFT AT TRIALS TRIM - SHIP'S TRIM BULB - BHLEDUG BOU AREA FWD OF F.P. DUIS - DESIGN DISPLACEMENT SSHP - SHRVICE SHP SRPM - SERVICE RPM

TYPE 2. GHIP DESCRIPTION 2: THERE MUST BE ONE OF THESE FOR EACH SHIP

'2' - RFCORD TYPE CODE SSPD - SERVICE SPEED RDAR - TOTAL RUDDER AREA PDIA - PROPELLER DIAMETER ASHP - MAX ASTERN SHP RDST - RUDDER/STERN CODE FNOP - ENGINE CODE FROP - PROPELLER/RUDDER CODE LATA - LATERAL AREA IUAX - WIND LATERAL CENTER OF AREA WNW - WIND/WAVE CODE TRLC - TRIAL CODE

TYPE 3, TURNING MANUVER THERE MAY BE ZERO

THERE MAY BE ZERO OR MORE OF THESE

DAT THEF

SPDT - SPEED AT START OF TURNING SPDF - SPEED AT STEADY TURNING RUDT - RUDDER ANGLE AT TURNING ADVT - ADVANCE OF TURN TRNT - TRANSFER DF TURN DIAT - TACTICAL BIAMETER OF TURN FRPH - RPM AT FINISH OF TURN F-19

TYPE 4. STUPPING MANUVER

THERE MAY BE ZERO DR MORE OF THESE

F-1

SPDS - SPEED AT START OF STOPPING SHFS - ASTERN SHP RFCOMMENDED FOR STOP RUDS - RUDDER COMMAND AT STOPPING TDIS - TRACK DISTANCE OF STOPPING HRCH - HEAD REACH AT STOP SRCH - SIDE REACH AT STOP TIMS - TIME TO STOP TIMS - TIME TO RPM=0

TYPE 5, ZIG-ZAG MANUVER: THERE MAY BE ZERD OR HORE OF THESE

SPDZ - SPEED AT START OF ZIG-ZAG FUDZ - COMMANDED RUDDER ANGLE AVSI - FIRST OVERSHOOT AVS2 - SECOND OVERSHOOT AVSW - OVERSHOOT WIDTH RFRM - ZIG-ZAG PARAMETER TFRM - ZIG-ZAG PARAMETER FERD - PERIOD OF ZIG-ZAG

### ADDING TO AND ALTERING SHDB.DAT-

SMDB.DAT HAS THE FOLLOWING ATTRIBUTES: DIRECT (OR RANDOM) ACCESS FIXED LENGTH RECORDS CO CHARACTER RECORDS

THIS FILE NEEDS FIXED LENGTH RECORDS IN ORDER TO BE A RANDOM ACCESS FILE, AND IT NEEDS RANDOM ACCESS TO AVOID HAVING TO SCAN THE ENTIRE FILE TO SFLECT A SHIP.

SINCE SAME.MAI HAS FIXED LENGTH RECORDS ONE CANNOT EDIT THE FILE. THE FROCEDURE FOR MAKING ANY CHANGES TO THE FILE INVOLVE EDITING ANOTHER FILE AND RUNNING A PROGRAM TO CREATE A NEW SMDB.DAT.

THE EDITABLE FILE IS CALLED SNDABA.DAT. THE STRUCTURE IS THE SAME AS SMDB.DAT IN THAT EAGH LINE OF SMDABA.DAT CORRESPONDS TO A SHIP SUB-RECORD. SMDABA.DAT DIFFERS BECAUSE IT HAS VARIABLE LENGTH RECORDS THAT CAN BE READ WITH FREE FORMAT (LIST-DIRECTED) FORTRAN READ STATEMENTS. THE ITEMS IN EACH RECORD ARE SEPARATED BY A TAB (A SPACE OR A COMMA ALSO WORK) AND EACH RECORD IS TERMINATED BY A SLASH '/'.

YOU HAY EDIT SHDABA.DAT WITH DEC'S STANDARD EDITOR--INSERTIONS, Deleti(ins and substitutions can all be used. Each record must begin with a record type (an integer from 1 to 5) and must end with a slash. The final record in the file must have a record type number of 99 to indicate end-of-file.

AFTER EDITING SMUABA.DAT CREATE A NEW SHDB.DAT BY ENTERING:

RUN NEWDB

0

WHEN FINISHED IT IS A GOOD IDEA TO PURSE AND THEN MAKE BACKUP COPIES OF BOTH SHDABA.DAT AND SHDB.DAT. 5-3-2 Program SMPLT

F-20

----- USERS BUIDE TO SHPLT -----

PURPOSE

THE PROGRAM SHPLT CREATES PLOTTING FILES OF SHIP NANUVERABILITY Data for input to plots - tektronix's "Easy graph" package. This Data comes from a file created by the program shdb.

### SOFTWARE

SHPLT WAS WRITTEN IN FORTRAN AND RUNS UNDER DIGITAL EQUIPHENT Corporation's RSX-11M operating system.

#### FILES

INPUT.DAT

IS A FILE CREATED BY A PREVIOUS RUN OF SKDB. IT HAS THE EXACT SAME STRUCTURE AS THE MAIN DATA BASE FILE - SHDB.DAT - AND IS IN FACT A SUBSET OF THAT FILE. SEE GUIDE TO SMDB.

SHDD.DAT

IS THE SAME DATA DICTIONARY FILE USED IN THE SHDB PROGRAM. SEE GUIDE TO SMDR.

SMPLT EXECUTION

TO EXECUTE SMPLT ENTER:

EUSER ENTRIES UNDERLINED

SRUN SHPLT

A MESSAGE IS DISPLAYED:

ENTER INPUT FILE NAME

ENTER NAME OF FILE FROM WHICH YOU WISH GRAPHS TO BE PLOTTED. THIS FILE HAS BEEN CREATED BY THE SMDB PROGRAM AND SHOULD BE ON DIRECTORY [201,2].

THE FILE IS READ THROUGH TO MAKE AN INDEX TO EACH SHIP RECORD AND THEN ANOTHER MESSAGE IS DISPLAYED:

ENTER UP TO 10 VARIABLES FOR EASY BRAPH. 8 Variables in 1st line.

AT THIS POINT ENTER ANY OF THE MNEMONICS FOUND IN THE DATA DICTIONARY LIST. USE A SPACE DETWEEN EACH. IF ENTERING MORE THAN 8 VARIABLES HIT Retyrn After 1st 8 and then enter up to 2 more on 2nd line and hit return.

### NOTES

BINCE THERE MUST BE A ONE TO ONE CORRESPONDENCE FOR ALL VARIABLES TO BE PLUTTED THERE CAN BE NO MIXING OF DIFFERENT TYPES OF MANUVERABILITY DATA.

PLOTTED THERE CAN BE NO MIXING OF DIFFERENT TYPES OF MANUVERABILITY DATA. For Example, you cannot plot a turning manuver variable against a zig-zag Manuver Variable. Only one of the turning, stopping or zig-zag subrecord Types may have variables selected from them at on time. SHPLT NOW SCANS THE FILE, READING THE REQUESTED VARIABLES INTO MEMORY. Any ship with a missing value for one of the variables is dropped. F-21

WHEN FINISHED THIS PROCESS THE FOLLOWING INFORMATION IS PROVIDED:

M PLOT FILES CREATED. N DATA POINTS PER FILE.

WHERE: M IS THE NUMBER OF VARIABLES ENTERED. (ONE FILE PER VARIABLE) N IS THE NUMBER OF DATA POINTS FOUND ON THE INPUT FILE.

NOTE:

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'n,

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THERE CAN BE MORE THAN 1 DATA POINT PER SHIP IF PLOTTING IS DESIRED FOR

MANUVERABILITY DATA. FOR EXAMPLE, IF A SHIP HAS SEVEN TURNING SUBRECORDS AND TACTICAL DIAMETER IS SELECTED FOR PLOTTING AGAINST DISPLACEMENT YOU WILL GET SEVEN DIFFERENT DIAMETERS PLOTTED AGAINST ONE DISPLACEMENT VALUE.

THESE FILES ARE CREATED ON DIRECTORY [201.2] AND ARE GIVEN THE SAME 4 Character Name as their mnemonic with a "dat" extension appended. The Variables are then accessed in plots with the "attach" command. See the "Easy graph" manual.

WARNING:

THE MAXIMUM NUMBER OF DATA POINTS ALLOWED PER FILE IS 500. AN ERROR Hessage is displayed if more than 500 are found during the file scan.

### F-3-3 Program STAT

----- USERS GUIDE TO STAT ------

### PURPOSE

THE PROGRAM STAT COMBINES A SERIES OF SUBROUTINES TO PERFORM LEAST SQUARE CURVE FIT FOR PARAMETERS SELECTED BY PROGRAM SMPLT. IT ALSO CHANGES, DELETES, AND LISTS DATA POINTS FOR THE CURVE FIT. AND STORES DATA FOR INPUT TO PLOTS - TEKTRONIX'S "EASY GRAPH" PACKGE.

#### SOFTWARE

STAT WAS WRITTEN IN FORTRAN AND RUNS UNDER DIGITAL EQUIPMENT Corporation's RSX-11M OPERATING SYSTEM.

### FILES.

PARA . DAT

IS A FILE CREATED FOR THE X, Y FUNCTION DEFINITIONS. It has 4 characters per line. Each line of the file should contain a mnemonics of the ship data parameters, or 4 blank spaces(to seperate parameter sets).

SHDD.DAT

IS THE SAME DATA DICTIONARY FILE USED IN THE SKDB PROGRAM. SEE GUIDE TO SHDB.

#### PREPROCESSING

BEFORE EXECUTING STAT, PROGRAM SKPLT SHOULD BE EXECUTED TO CREATE INPUT FILES FOR THE BELECTED PARAMETERS. THE NAMES OF THE FILES ARE THE SAME AS THE PARAMETER HNEMONICS IN SMDD.DAT. FOR EXAMPLE:

THE USER WANTS TO CREATE A FILE FOR DISPLACEMENT DISP, THE FILE NAME FOR "THIS PARAMETER IS

DISP.DAT

TWO ADDITIONAL THINGS SHOULD BE DONE BEFORE EXECUTING STAT:

(I) CHECK THE FILE PARA.DAT

THE USER NEEDS TO INCLUDE THE DESIRED PARAMETERS FOR A PARTICULAR ANALYSIS IN PARA.DAT. FOR EXAMPLE:

THE USER WANTS TO CURVE FIT LBPX VS DISP, PARA.DAT SHOULD INCLUDE:

---- (OTHER SET OF PARAMETERS)

\*\*\*\*

DISP

---- (OTHER SET OF PARAMETERS)

----

NOTE THAT THE LAST LINE OF PARA.DAT MUST BE 4 BLANK SPACES.

IF PARA.DAT DOES NOT INCLUDE THE DESIRED SET OF PARAMETERS, A NEW SET of parameter mnemonics must be entered using editor.

Sector Maine

(II) DEFINE X, Y FUNCTIONS

THE LEAST SQUARE CURVE FIT PROGRAMS CAN ONLY BE OPERATED ON TWO VARIABLES

AT A TIME, THEREFORE THE PARAMETERS MUST BE MANIPULATED TO GIVE ONLY TWO VARIABLES X, AND Y. THESE FUNCTIONS MUST BE DEFINED IN SUBROUTINE XYCAL(FILE XYCAL.FTN) BEFORE EXECUTING STAT. THERE ARE UP TO 10 X, Y FUNCTIONS CAN BE DEFINED IN XYCAL.

THE PARAMETER NAMES IN XYCAL ARE NO LONGER THE MNEMONICS USED IN PARA.DAT FILE. THEY ARE FIT(I,J), WHERE J IS NUMBERED ACCORDING TO THE ORDER OF THE PARAMETERS STORED IN PARA.DAT. FOR EXAMPLE:

IN THE PREVIOUS EXAMPLE

FIT(1,1) CORRESPONDS TO DISP FIT(1,2) CORRESPONDS TO LBPX

IF IT IS DESIRED TO CURVE FIT LBP IN METERS VS DISPLACEMENT IN TONS. THEN THE PROGRAM XYCAL SHOULD BE ALTERED AS:

STATHENI NO. X(I)=FIT(I,1)\*1000. Y(I)=FIT(I,2) BD TD 200

RE SURE TO COMPILE XYCAL AFTER DEFINING OR CHANGING X, Y FUNCTIONS.

### STAT EXECUTION

IF XYCAL HAS BEEN NODIFIED, JASK BUILD STAT BY TYPING:

POTAT

TH EXECUTE STAT AFTER TASK BUILDING, ENTER:

SRUN STAT

4 MESSAGE IS DISPLYED:

SELECT THE OF THE FOLLOWING OPTIONS:

1 CHOOSE SHIP VARIABLES FOR X, Y FUNCTIONS

- 2 LIST X+ Y
- 3 CHANGE VALUES OF X, Y ELEMENTS
- 4 LEAST SQUARE CURVE FIT
- 5 STORE X, Y, SHIP VARIABLES, AND/OR FITTED X, Y ON DISK
- 6 EXIT

AFTER FINISHING AN OPTION, THE ABOVE PROCESS WILL REPEAT FOR THE USER TO SFLECT NEXT OPTIONS. IF OPTION 6 IS SELECTED THE STAT PROGRAM WILL END. THE FUNCTIONS OF THESE OPTIONS ARE EXPLAINED BELOW:

<1> IF OPTION 1 IS SELECTED, THE PROGRAM WILL READ IN PARA.DAT, AND PRINT THE PARAMETER NAMES STORED IN THAT FILE. EACH SET OF PARAMETERS IS GIVEN A NUMBER FOR THENTIFICATION. NOTE THAT THESE NAMES MUST BE THE MNEMONICS LISTED IN THE SMDD.DAT FILE. AND EACH SET CAN HAVE NO MORE THAN 10 PARAMETERS. THE PROGRAM THEN PROMPT:

SELECT ONE OF THE ABOVE PARAMETRIC COMBINATIONS

AFTER A NUMBER IS SELECTED, STAT WILL LIST THE PARAMETERS FOR THAT IDENTI-Fying Number. Stat will then input the data and calculate X, Y variables.

<2> IF OPTION 2 IS SELECTED, STAT WILL LIST THE VALUES OF THE

X, Y VARIABLES. AT THE END OF EACH PAGE(10#12=120 DATA POINTS), THE USER Should select whether to continue listing C3 not by entering "y" or "N" After The prompt:

CONTINUE LISTINGT(Y/N)

AT THE END OF LISTING, THE USER SHOULD ENTER "1" TO PROCESS OTHER OPTIONS AFTER

F-23

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1

THE PRUMPIT

ENTER 1 TO PROCESS OTHER OPTIONS

<3> IF OPTION 3 IS SELECTED, STAT WILL PROMPT THE USER TO ENTER THE DATA NUMBER OF THE DATA TO BE CHANGED:

ENTER DATA . TO BE CHANGED

THEN IT WILL PRINT OLD VALUES:

OLD VALUES \* X = \*.\*\*\*E \*\* Y= \*.\*\*\*E \*\* WHERE \*'S INDICATE VALUES IN THE X; Y ARRAYS

AND ASK FOR NEW VALUES:

ENTER NEW X, Y VALUES, OR 1.E 30, 1.E 30 TO DELETE THIS DATA POINT

THE USER CAN DELETE A DATA POINT BY ENTERING:

1.E+30, 1.E+30

STAT WILL ASK WHETHER MORE CHANGES ARE NEEDED AFTER EACH CHANGE OF DATA POINT:

MORE CHANGES? (Y/N)

NOTE THAT IF SOME DATA HAVE BEEN DELETED; OPTION 2 NUST BE RE-SELECTED IN DRUER TO COMPLETE THE DELETE PROCESS.

<4> IF OPTION 4 IS SELECTED; STAT WILL START LEAST SQUARE CURVE FIT. IT FIRST PROMPT FOR THE HIGHEST ORDER OF POLYNOMIAL APPROXIMATION:

ENTER HIGHEST ORDER OF APPROXIMATION DESIRED (MAX=7)

STAT WILL CURVE FIT DATA FOR ALL POLYNOMIALS WITH ORDERS FROM 1 UP TO THE HIGHEST ORDER SELECTED. STAT THEN PROMPT:

NO YOU WANT FITTED CURVES PASS THE ORIGINT(Y/N)

FOR CURVES PASSING THE ORIGIN(ENTER "Y"), THE 0-TH ORDER TERM OF THE POLYNOMIAL IS 0.

STAT THEN CALCULATES AND PRINTS THE LEAST SQUARE FIT COEFFICIENTS, NEAN SQUARE ERROR, STANDARD DEVIATION, SLOPE, INTERSECTION, MEAN FROM FITTED CURVE, AND 20 INTERPOLATED VALUES FOR EACH CURVE. AT THE END OF OPTION 4, THE USER SHOULD ENTER "1" TO PROCESS OTHER OPTIONS AFTER THE PROMPT:

ENTER 1 TO PROCESS OTHER OPTIONS

<5> IF OPTION 5 IS SELECTED, DATA WILL BE STORED FOR FUTURE PROCESSING(E.G. FOR BL PLOTS INPUT), STAT WILL PROMPT WHETHER INTERPOLATED VALUES NEED TO BE STORED:

NO YOU WANT TO STORE THE INTERPOLATED POINTST(Y/N)

IF YES(ENTER 'Y'), THEY ARE STORED IN:

RX.DAT RY.DATII+J

WHERE I=1 TO THE HIGHEST ORDER DESIRED J=THE LATEST VERSION NUMBER OF RY.DAT PREVIOUSLY STORED

man and a star a star and

X. Y VARIABLES ARE STORED IN:

X.DAT Y.DAT

AND SHIP VARIABLES ARE STORED IN DATA FILES WITH THEIR CORRESPONDING MNEMONICS AS FILE NAMES. At the END of Storage, the User Should Enter "1" to process other Options after the prompt:

F-25

ENTER'1 TO PROCESS OTHER OPTIONS

<6> OFTION 6 ENDS STAT PROGRAM EXECUTION.

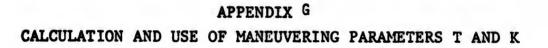
WARNINGI

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THE MAXIMUM NUMBER OF DATA POINTS ALLOWED FER FILE IS 500, AN ERROR Message is displayed if more than 500 are found during the file scan.



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### APPENDIX G

CALCULATION AND USE OF MANEUVERING PARAMETERS T AND K

# Gl First-Order System Approximation of Ship Maneuvering Equations and Steering Quality Indices

Linear equations of ship maneuvering were at one time widely used, especially in Japan (see Reference A-1, for instance) and have proven quite useful in interpreting and predicting the steering behaviour of ships. It has been previously shown that the steering behaviour of a ship can be represented by the coupled sway-yaw equations with four characteristics coefficients, K, T<sub>1</sub>, T<sub>2</sub>, and T<sub>3</sub>. The important parameters governing maneuverability are K and  $T = T_1 + T_2 - T_3$ . The equation of motion written in terms of the coefficients K and T can be expressed by the following differential equation of the first order in ship yaw rate,  $r = \psi$ :

$$T \frac{d\psi}{dt} + \dot{\psi} = K \delta_r \qquad (G-1)$$

where  $\delta_r = rudder angle$ .

Comparing the above equation with the pure yaw motion equation

$$I_t \frac{d\psi}{dt} + N_{\psi} \dot{\psi} - N_{\delta r} \cdot \delta_r$$

It is easily understood that the index T represents a ratio of the inertia  $I_t$  to the damping coefficient  $N_{\psi}$ , and the index K represents a ratio of the rudder turning moment coefficient  $N_{\delta r}$ to damping coefficient  $N_{\psi}$ , e.g.

$$K = \frac{corring}{yaw-damping coefficient}$$

so that

1

# K = turning moment coefficient × T

It should be noted, however, that the yawing motion of a ship is coupled to swaying. Consequently, the inertia resisting yawacceleration is not merely a moment of inertia of the ship (included added inertia) but includes also a contributed due to sway mass. The same effects occur also for hull yaw damping moment and turning moment produced by the rudder.

Equation A-1 can be easily solved by numerical integration. For the most simple case where the rudder is put over suddenly to a certain angle  $\delta_0$ , the solution is simply:

 $\dot{\psi} = K \delta_0 (1 - e^{-t/T})$ 

The yaw rate  $r = \psi$  increases exponentially with a rate dependent on T and finally assumes a steady value K  $\delta_0$ . A larger K provides a tighter steady-state turning ability and a smaller T a quicker response to helm. Thus, K may be used as an index of turning ability and T as an index of quickness in response to helm.

It should be emphasized that the steady-state turning of a ship and how quickly a ship can reach steady state turning motion are two different maneuvering features, and that essentially these two features characterize response behaviour of a ship in steering. In summary, the main maneuvering qualities of ships can generally be characterized only by two indices, T and K, as indicated below.

G-3

### T: represents quick responsiveness, or course stability

T the terror of terr

K: represents turning ability in accordance with the relation  $K \delta = r$ 

K the turning ability better worse

# G.2 Methods for Obtaining Indices T and K

Ship motions during maneuvers are by no means linear and hence average values of K and T are naturally functions of the amplitude of motion. Therefore, the values of these indices vary significantly with the average magnitude of the motion. It is therefore important to estimate the values of both indices for the same conditions.

The indices T and K can be calculated numerically from Equation G-1 using known values of forces acting on the ship and rudder (obtained, for instance, from PMM tests and linearized to fit the format of Equation G-1). However, the advantage of these indices is that they can be easily derived from the results of the typical maneuvers conducted with actual or model ships.

G.2.1 Method for Obtaining T and K from a Turning Maneuver -In a turning maneuver, the rudder is put over as quickly as possible while the ship is advancing on a straight course and then is held at a fixed angle. After the turning of the ship reaches a steadystate phase, the rudder is returned to the mid-position as quickly as possible. From the record of the turning angle  $\psi$  and times during the above tests, T and K can be obtained from simple relationships, Reference G-2. Usually a non-dimensional form of these indices is defined as follows:

$$T' = T \begin{pmatrix} V \\ L \end{pmatrix}$$
  $K' = \begin{pmatrix} L \\ \overline{V} \end{pmatrix} K$ 

where V is velocity of center of gravity of a ship, and L is ship length.

The steering quality indices K and T have an immediate relationship to the conventional measures of ship maneuverability, see Reference 1:

Turning	diameter/L	=	2/K'80
Turning	log	*	$T + t_1/2(t_1 = time to reach the rudder angle, \delta_0)$
Advance,	D <sub>A</sub> /L	-	$T' + 1/K'\delta_0 + (V/L) t_1/2$

Considering the non-linear character of ship motions, different values of indices will be obtained for different applied rudder angles.

The coefficient K' can be easily obtained from the results of turning trials at variable rudder angles (spiral tests). The slope of the steady turning yaw rate plotted against rudder angle in a non-dimensional form  $(r'-\delta_r)$  characteristics) represents the ratio of the incremental r' to the incremental  $\delta_r$  and this, in turn, equals K' = K(L/V).

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G.2.2 <u>Method for Obtaining T and K From Zig-Zag Tests</u> -Nomoto proposed a method for obtaining T and K from an analysis of the Kempf zig-zag test. This method is outlined in References G-1 and G-2. K and T can be calculated from Equation F-1 for different time intervals if there is a continuous record of the ship heading angle and rudder angle history. In the actual calculations, this process is repeated only for each set of changes in heading angles separately and the final values of K and T are obtained as an average of these values. Though this method of obtaining these indices is conceptually simple, the numerical process itself is tedious and is potentially inaccurate (the trials records of ship heading and rudder angles must be very precise).

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Results of zig-zag tests, though valuable for a particular ship under specific test conditions, cannot be readily compared with results for other ships or other test conditions because of the highly transient character of the results. They also cannot be readily compared with results of tests performed at the different environmental condition. Because of the severe non-linearity for unstable ships, the values of K and T obtained for these ships should be extremely sensitive to the amplitude of motions.

The overshoot angle which is obtained from zig-zag tests has often been used as a measure of controllability. This angle is the difference between the heading angle when the rudder reverses and the subsequent extreme value of heading angle. As a result, however, a lower rudder rate yields a larger overshoot. In order to separate the effect of rudder rate (performance of the steering gear, rather than the ship), Japanese studies modified the definition so as to measure the angle from the time when a rudder passes amidship to the point of extreme course deviation. It should be noted that overshoot angle corresponds to KT  $\delta_r/2$ , and thus, the overshoot angle as a measure of maneuverability contains a drawback in that it cannot discrimate between a ship with good turning ability and quick response (large K and small T) and another with poor turning ability and slow response (smaller K and larger T); the former is much better than latter with respect to maneuverability.

G-6

Another measure of maneuverability which can be immediately obtained from zig-zag trial results is the lag time from the rudder passing amidship to the extreme heading deviation. The value of T can be determined from this lag time.

Estimations of the values of T and K show that there is a certain narrow range for the combination of T and K values. Nomoto suggested that the rudder area  $(A_R)$  and displacement ( $\Delta$ ) are the dominant factors governing the ratio K/T.

This is illustrated in Figure -1 in which 1/T', which represents the course stability or rate of response, is taken as an abscissa and  $\frac{L A_R}{K' - D}$ , which represents a measure of turning ability is taken as an ordinate. As can be seen, the plotted values derived from numerous zig-zag trial tests are distributed within a relatively small range about a straight line through the origin. Taking into account the variety of ship and rudder configurations and the reliability of trial tests, this result is considered to confirm the validity of a correlation between K and T.

Figure G-1 also yields the following conclusions:

- 1. The turning ability and quick response to steering are related largely through rudder size.
- 2. The only effective way to improve the turning performance is generally to increase rudder size.
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G-7

# G.3 References

- G.1 Researches on the Maneuverability of Ships in Japan, 60th Anniversary Series, Society of Naval Architects of Japan, Vol. 11, Tokyo, 1966.
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