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WIDEBAND COMMUNICATIONS EQUIPMENT

GROUND RADIO COMMUNICATION

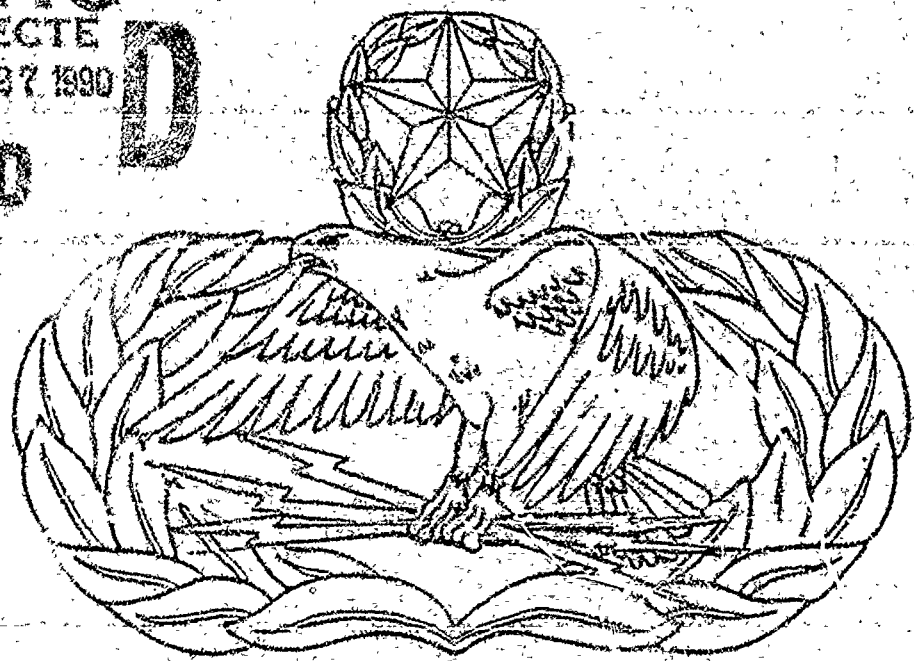
SPACE COMM SYSTEMS EQUIPMENT

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304X0/X4/X6

APPENDIX A

PAK ANALYSIS

MAY 1990

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## APPENDIX A

### Purpose

This Appendix provides task analysis data for the Wideband Communications Equipment, Ground Radio Communications, and Space Communications Systems Equipment/Operator specialties, AFSCs 304X0/4/6. Data contained in this document are the result of a detailed Training Requirements Analysis (TRA) conducted during February through October, 1989. Task analysis data provided the basis for the specific training recommendations provided in the TRA report. This Appendix is provided for use in developing resident and nonresident training programs. Copies are available to Air Force training and management officials. Address requests to USAFOMC/OMT, Randolph AFB, Texas 78150-5000. Keywords: Wideband Communications Equipment, Communication and Radio Systems, Appendix, TRA, Task Analysis. JG 1

### Format

1. **TASK #:** A unique number is assigned to track each TRA task.
2. **TASK:** A work action. TRA tasks may subsume closely related USAF Job Inventory statements or statements from other sources, such as Task Training Tables (TTT) or Work Center Assigned Task Lists. Each TRA task is documented on a separate TAW.
3. **DUTY CODE:** Indicates the last two digits of the AFSC which has the primary responsibility for performing this task.
4. **TASK STATUS:** Indicates the training recommendation for this task. A "K" indicates knowledge level (familiarization) training is recommended. A "P" is used to recommend follow-on training to the performance level. Training may be provided during the initial, 3-skill level, resident course designated by "R" or during on-the-job-training designated by "OJT." For example, "3R-KP" is a recommendation for knowledge and performance training during the 3-skill level awarding resident course.
5. **TIMES ANALYZED:** The number of who provided information about this task.
6. **TASK NOTES:** The following information was collected for each task.
  - a. **CONSEQUENCES:** What are the consequences of inadequate task performance in terms of:
    - 1) **MISSION:** NONE, MINOR, SERIOUS
    - 2) **EQUIPMENT DAMAGE:** NONE, DAMAGE
    - 3) **INJURY TO PERSONNEL:** NONE, INJURY
  - b. **HOW OFTEN:** How often is the task performed?
  - c. **OJT TRAINABLE:** Could this task be trained during OJT to:
    - 1) **Current Technical School Graduates:** YES, NO

- 2) Basic Training Graduates: YES, NO
- d. QTP ADEQUATE: YES, NO, NONE, COMMENTS
- e. QTP REFERENCE(S): QTP number, N/A
- f. TTT: If available, the TTT-recommended skill level for task performance is recorded.
- g. SME OPINION: The skill level at which the interviewed technicians recommend the task be performed.
- h. Other notes may be entered here, as necessary.
7. EQUIPMENT: What equipment, tools, supplies, etc, are required to perform the task?
8. REFERENCES: What references are used to perform the task?
9. CONDITIONS: What special conditions (environmental, time constraints, etc) effect task performance?
10. CUES: What causes you to perform the task? How do you know the task must be performed?
11. STANDARDS: What criteria would the supervisor use to determine the task has been adequately accomplished?
12. OSR DATA: Lists data from the OSR for the JI statements SMEs matched to the TRA task. TASK is the number of the JI statement. TE is the training emphasis rating for the JI statement. 1JOB is the percentage of personnel in their first job who perform the JI statement. 1ENL is the percentage of personnel in their first enlistment who perform the JI statement. 5SKL is the percentage of 5-skill level personnel who perform the JI statement. 7SKL is the percentage of 7-skill level personnel who perform the JI statement. TD is the task difficulty rating for the JI statement. ATI is the automated training indicator for the JI statement.
13. ACTIVITIES SKILL KNOWLEDGE: TRA analysts interviewed subject matter experts and reviewed technical references to identify activity, skill, and knowledge behaviors required for task performance. Many of the behaviors required for task performance were taken directly from the Electronic Fundamentals/Applications list, from which attachment 2 to the STS is derived and the OSRs for AFSCs 304X0/4/6. These activity skill and knowledge behaviors may be found in Appendix B. The following definitions were used in this TRA.
- a. Activities are "sets of related behaviors" which have a "common purpose." Activities summarize detailed procedural steps, such as those specified in Technical Orders.
- b. Skills and knowledge are prerequisite abilities which support task performance but are not themselves part of the steps for accomplishing the task. In this TRA, troubleshooting or fault isolation abilities are

classified as knowledge because the essential component of this behavior is the mental ability or decision process used to determine the problem.

c. Activities, skills, and knowledge are designated as A, S, and K, respectively.



STATEMENT "A" per Dr.L. Aslett  
USAF Occupational Measurements Center/  
ONTO, Randolph AFB, TX 78150  
TELECON 6/26/90

VG

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| Availability Codes |                                     |
| Dist               | Avail and/or Special                |
| <i>A-1</i>         |                                     |



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TASK #: 00010  
 INSPECT AMS-1X00 AUTOMATIC MASTER STATION COMPUTER SYSTEM  
 DUTY CODE: X0  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: MINOR, DAMAGE, NONE  
 HOW OFTEN: 28  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): ROCKWELL INTERNATIONAL AMS-1X00 AUTOMATIC  
 MASTER STATION MANUAL, AND T.O. 00-25-234  
 TTT: 5  
 SNE OPINION: 3  
 EQUIPMENT:  
 SOFT BRISTLE BRUSH, VACUUM CLEANER, ELECTROSTATIC DISCHARGE STRAP  
 AND MAT  
 REFERENCES:  
 ROCKWELL INTERNATIONAL AMS-1X00 AUTOMATIC MASTER STATION  
 MANUAL, T.O. 00-25-234  
 CONDITIONS CUES:  
 COND: ON EQUIPMENT  
 CUE: PHI  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB   1ENL   5SKL   7SKL   TD   ATI  
 304X0 Q 1081 2.43 17.0 15.0 10.0 5.0 4.21 7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 A VACUUM AND BRUSH SURFACES  
 A REMOVE AND CLEAN FILTER  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 Q1081 A PERFORM PHI ON AUTOMATIC FAULT SENSING AND SWITCHING  
 NETWORKS

-----

TASK #: 00020  
 MONITOR EQUIPMENT FAULT ALARMS WITH AMS-1X00 AUTOMATIC MASTER STATION  
 DUTY CODE: X0  
 TASK STATUS: 3R-KP  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: NONE, DAMAGE, NONE  
 HOW OFTEN: DAILY  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): ROCKWELL INTERNATIONAL AMS-1X00 AUTOMATIC  
 MASTER STATION MANUAL  
 TTT: 5  
 SNE OPINION: 3  
 REFERENCES:  
 ROCKWELL INTERNATIONAL AMS-1X00 AUTOMATIC MASTER  
 STATION MANUAL  
 CONDITIONS CUES:  
 COND: AT AMS-1X00 CRT AND KEYBOARD  
 CUE: CRT FAULT ALARM, TEC CONTROL COMPLAINT  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB   1ENL   5SKL   7SKL   TD   ATI  
 304X0 G 0155 4.11 47.0 31.0 25.0 19.0 3.67 12.0  
 304X0 G 0156 5.67 62.0 50.0 43.0 35.0 5.10 18.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A SELECT STATION TO MONITOR  
 A SELECT FUNCTIONS TO BE MONITORED  
 A NOTE FAULT ALARMS INDICATED ON CRT  
 A ACKNOWLEDGE ALARM  
 K RECALL SIGHT ABBREVIATIONS  
 K RECALL CRT KEYBOARD OPERATION  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 G0155 A OBSERVE STATUS DISPLAY PANELS TO DETERMINE EQUIPMENT  
 OPERATION (SIGNAL QUALITY)  
 0 G0156 A OBSERVE TEST EQUIPMENT, SUCH AS SCOPES AND SIGNAL  
 ANALYZERS, TO DETERMINE EQUIPMENT OPERATION

TASK #: 00030  
REMOELY SWITCH EQUIPMENT WITH AMS-1X00 AUTOMATIC MASTERSTATION  
DUTY CODE: X0  
TASK STATUS: 3R-K  
TIMES ANALYZED: 3

TNOTES:

CONSEQUENCES: MINOR, NONE, NONE  
HOW OFTEN: INDEFINITE, HAVE NOT DONE YET  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): ROCKWELL INTERNATIONAL AMS-1X00 AUTOMATIC  
MASTER STATION MANUAL

TTT: 3  
SME OPINION: 3

REFERENCES:

ROCKWELL INTERNATIONAL AMS-1X00 AUTOMATIC MASTER  
STATION MANUAL

CONDITIONS CUES:

COND: AT CRT AND KEYBOARD  
CUE: FAULT ALARM LIGHT, USER COMPLAINT

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE IJOB IENL 5SKL 7SKL TD ATI  
304X0 G 0184 4.33 44.0 36.0 29.0 22.0 3.19 12.0

ACTIVITIES SKILL KNOWLEDGE:

A SELECT NETWORK  
A SELECT STATION  
A SELECT EQUIPMENT  
A SWITCH EQUIPMENT  
K RECALL SIGHT ABBREVIATIONS  
K RECALL CRT KEYBOARD OPERATION

OSR JOB INVENTORY TASK STATEMENTS:

0 G0184 A PERFORM SWITCHOVERS OF EQUIPMENT SUBASSEMBLIES TO  
REDUNDANT EQUIPMENT

-----  
TASK #: 00040  
INSPECT DMX-2003 MULTIPLEXER/DEMULTIPLEXER  
DUTY CODE: X0  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: NONE, NONE, NONE  
HOW OFTEN: 28  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): ROCKWELL INTERNATIONAL DMX-2003 DIGITAL  
MULTIPLEXER/DEMULTIPLEXER MANUAL

TTT: 3  
SME OPINION: 3

EQUIPMENT:

SOFT BRISTLE BRUSH, VACUUM CLEANER

REFERENCES:

ROCKWELL INTERNATIONAL DMX-2003 DIGITAL  
MULTIPLEXER/DEMULTIPLEXER MANUAL

CONDITIONS CUES:

COND: ON EQUIPMENT  
CUE: PHI

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE IJOB IENL 5SKL 7SKL TD ATI  
304X0 M 0662 4.33 16.0 16.0 12.0 8.0 4.75 11.9

ACTIVITIES SKILL KNOWLEDGE:

A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
A VACUUM AND BRUSH EXTERIOR SURFACES

OSR JOB INVENTORY TASK STATEMENTS:

0 M0662 A PERFORM PHI ON TIME DIVISION MULTIPLEXERS

TASK #: 00650  
TROUBLESHOOT DMX-2003 MULTIPLEXER/DEMULTIPLEXER  
DUTY CODE: X0  
TASK STATUS: 3R-KP  
TIMES ANALYZED: 2  
NOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, NONE  
HOW OFTEN: SIX MONTHS  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): ROCKWELL INTERNATIONAL DMX-2003 DIGITAL  
MULTIPLEXER/DEMULTIPLEXER

TTT: 3  
SME OPINION: 3  
REFERENCES:  
ROCKWELL INTERNATIONAL DMX-2003 DIGITAL  
MULTIPLEXER/DEMULTIPLEXER MANUAL

CONDITIONS CUES:  
COND: ON EQUIPMENT  
CUE: FAULT ALARM, USER COMPLAINT

JOB STANDARDS:

IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 I 0236 3.04 40.0 40.0 40.0 26.0 3.60 12.0

ACTIVITIES SKILL KNOWLEDGE:  
A ATTACH ELECTROSTATIC GROUNDING STRAP  
A RESEAT CIRCUIT CARD INDICATED BY FAULT ALARM  
A REPLACE CIRCUIT CARD IF RESEATING DOES NOT CLEAR  
FAULT  
A CHECK STATUS LIGHTS FOR CORRECT OPERATION  
OSR JOB INVENTORY TASK STATEMENTS:  
0 I0236 A REMOVE ELECTRONIC SUBASSEMBLIES USING METHODS OTHER  
THAN SOLDERING

TASK #: 00060  
MANUALLY SWITCH DMX-2003 MULTIPLEXER/DEMULTIPLEXER  
DUTY CODE: X0  
TASK STATUS: 3R-K  
TIMES ANALYZED: 2

NOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, NONE  
HOW OFTEN: SIX MONTHS  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): ROCKWELL INTERNATIONAL DMX-2003  
MULTIPLEXER/DEMULTIPLEXER MANUAL

TTT: 3  
SME OPINION: 3  
REFERENCES:  
ROCKWELL INTERNATIONAL DMX-2003  
MULTIPLEXER/DEMULTIPLEXER MANUAL

CONDITIONS CUES:  
COND: ON EQUIPMENT, EQUIPMENT MAY BE RELEASED  
CUE: ALARM INDICATION, EQUIPMENT DOES NOT AUTOMATICALLY TRANSFER  
TO SPARE

JOB STANDARDS:

IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 G 0184 4.33 44.0 36.0 29.0 22.0 3.19 12.0

ACTIVITIES SKILL KNOWLEDGE:  
A VERIFY SPARE EQUIPMENT IS AVAILABLE AND OPERATIONAL  
A SELECT GROUP TO TRANSFER WITH GROUP SELECT BUTTON  
A VERIFY EQUIPMENT TRANSFERS AS PROGRAMMED  
OSR JOB INVENTORY TASK STATEMENTS:  
0 G0184 A PERFORM SWITCHOVERS OF EQUIPMENT SUBASSEMBLIES TO  
REDUNDANT EQUIPMENT

TASK #: 00070  
 INSPECT AN/FCC-19 AND AN/FCC-25 MULTIPLEXER  
 DUTY CODE: X0  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 2  
 NOTES:  
 CONSEQUENCES: NONE, NONE, NONE  
 HOW OFTEN: 28, 56, WEEKLY (NON T.O. BY TECH CONTROL USING  
 REMOTE PATCH PANEL)  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NO (DOES NOT COVER ANCILLARY TEST EQUIPMENT USED  
 FOR SYSTEM)  
 TNG REFERENCE(S): QTP 304X0-30F  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 OSCILLOSCOPE, TELETYPE TEST SET, TRANSMISSION TEST SET,  
 HAND TOOLS, VACUUM CLEANER, GENERAL PURPOSE CLEANING SOLVENT,  
 FREQUENCY COUNTER  
 REFERENCES:  
 T.O. 31W2-2FCC19-1  
 CONDITIONS CUES:  
 COND: POWER ON  
 CUE: PMI, USER COMPLAINT  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X0 N 0747 2.93 19.0 16.0 14.0 5.0 4.56 11.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A PERFORM USER PATCH OFF PROCEDURES  
 A PERFORM POWER SUPPLY DC VOLTAGE CHECK  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 A PERFORM SERIAL AND PARALLEL CLOCK SIGNALS  
 A PERFORM TRANSITION AND PARALLEL DATA OUTPUT SIGNAL  
 CHECK  
 A CLEAN CABINET INTERIOR/EXTERIOR  
 A ALIGN/ADJUST BIAS AND OUTPUT SIGNAL  
 A PERFORM KEYS OUTPUT FREQUENCY CHECK  
 A PERFORM CENTER FREQUENCY AND BIAS WAVEFORMS CHECK  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 N0747 A PERFORM PREVENTIVE MAINTENANCE INSPECTIONS (PMI) ON  
 TELETYPE MULTIPLEXER ASSOCIATED INTERFACE EQUIPMENT

-----

TASK #: 00680  
 TROUBLESHOOT AN/FCC-19 AND AN/FCC-25 MULTIPLEXER  
 DUTY CODE: X0  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 2  
 NOTES:  
 CONSEQUENCES: MINOR, DAMAGE, NONE  
 HOW OFTEN: QUARTERLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONICS FUNDAMENTALS)  
 QTP ADEQUATE: NO (DOES NOT COVER ANCILLARY TEST EQUIPMENT USED  
 FOR SYSTEM)  
 TNG REFERENCE(S): QTP 304X0-30F  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 OSCILLOSCOPE, TELETYPE TEST SET, TRANSMISSION TEST SET,  
 HAND TOOLS, DIGITAL MULTIMETER, FREQUENCY COUNTER  
 REFERENCES:  
 T.O. 31W2-2FCC19-1  
 CONDITIONS CUES:  
 COND: POWER ON, PATCH OFF USER  
 CUE: PMI FINDING, USER COMPLAINT  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X0 Q 1008 2.46 9.0 9.0 6.0 5.0 6.40 7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 K ISOLATE FAULTY KEYS  
 K ISOLATE FAULTY CONVERTER  
 K ISOLATE FAULTY PATCH PANEL BROKEN WIRES  
 K ISOLATE FAULTY BITE (EQUIPMENT NOT USED FOR TESTING)  
 K APPLY THEORY OF OPERATION FOR ANALOG-TO-DIGITAL AND  
 DIGITAL-TO-ANALOG CONVERTERS  
 A REMOVE/REPLACE SUBASSEMBLY COMPONENTS AND PARTS

OSR JOB INVENTORY TASK STATEMENTS:  
0 Q1008 K ISOLATE MALFUNCTIONS IN ANALOG-TO-DIGITAL CONVERTERS

---

TASK #: 00090  
TROUBLESHOOT AN/FCC-19 AND AN/FCC-25 MULTIPLEXER KEYER  
DUTY CODE: X0  
TASK STATUS: 3R-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: MINOR, DAMAGE, NONE  
HOW OFTEN: QUARTERLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS  
QTP ADEQUATE: NO (DOES NOT COVER ANCILLARY TEST EQUIPMENT USED  
FOR SYSTEM)  
TNG REFERENCE(S): QTP 304X0-30F  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
OSCILLOSCOPE, TELETYPE TEST SET, TRANSMISSION TEST SET,  
HAND TOOLS, DIGITAL MULTIHETER, FREQUENCY COUNTER, SOLDERING  
KIT  
REFERENCES:  
T.O. 31W2-2FCC19-1  
CONDITIONS CUES:  
COND: KEYER IS ON EXTENDER CARD THEN ON BENCH  
CUE: FAILURE OF KEYER COMPONENT  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 M 0738 2.93 29.0 23.0 20.0 10.0 5.2 11.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY KEYER COMPONENTS  
K APPLY THEORY OF OPERATION FOR ANALOG-TO-DIGITAL AND  
DIGITAL-TO-ANALOG CONVERTERS  
A REMOVE/REPLACE KEYER COMPONENTS  
OSR JOB INVENTORY TASK STATEMENTS:  
0 N0736 K ISOLATE MALFUNCTIONS IN FREQUENCY SHIFT KEYERS

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TASK #: 00100  
TROUBLESHOOT AN/FCC-19 AND AN/FCC-25 MULTIPLEXER CONVERTER  
DUTY CODE: X0  
TASK STATUS: 3R-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: MINOR, DAMAGE, NONE  
HOW OFTEN: QUARTERLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: NO (DOES NOT COVER ANCILLARY TEST EQUIPMENT USED  
FOR SYSTEM)  
TNG REFERENCE(S): QTP 304X0-30F  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
DIGITAL MULTIMETER, TELETYPE TEST SET, TRANSMISSION TEST SET  
FREQUENCY COUNTER, OSCILLOSCOPE, HANDTOOLS, SOLDERING KIT  
REFERENCES:  
T.O. 31W2-2FCC19-1  
CONDITIONS CUES:  
COND: CONVERTER ON EXTENDER CARD THEN ON BENCH  
CUE: PMI FINDING, USER COMPLAINT  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 M 0737 2.93 27.0 21.0 18.0 10.0 5.86 11.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY CONVERTER TRANSISTORS  
K ISOLATE FAULTY CONVERTER FILTER  
K ISOLATE FAULTY CONVERTER RELAYS  
K ISOLATE FAULTY POWER SUPPLY FUSES  
K ISOLATE FAULTY CONVERTER ADJUSTABLE RESISTORS  
K APPLY THEORY OF OPERATION FOR ANALOG-TO-DIGITAL AND  
DIGITAL-TO-ANALOG CONVERTERS  
A REMOVE/REPLACE COMPONENTS AND PARTS  
OSR JOB INVENTORY TASK STATEMENTS:  
0 N0737 K ISOLATE MALFUNCTIONS IN FREQUENCY SHIFT CONVERTERS



TASK #: 00110  
 ALIGN/ADJUST AN/FCC-19 AND AN/FCC-25 MULTIPLEXER  
 DUTY CODE: X0  
 TASK STATUS: 3R-KP  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: MINOR, DAMAGE, NONE  
 HOW OFTEN: QUARTERLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: NO (DOES NOT COVER ANCILLARY TEST EQUIPMENT USED FOR SYSTEM)  
 TNG REFERENCE(S): QTP 304X0-30F  
 TTT: 2  
 SME OPINION: 3  
 EQUIPMENT:  
 TRANSMISSION TEST SET, TELETYPE TEST SET, DIGITAL MULTIMETER  
 FREQUENCY COUNTER, OSCILLOSCOPE, COMMON HANDTOOLS  
 REFERENCES:  
 T.O. 31W2-2FCC19-1  
 CONDITIONS CUES:  
 COND: POWER ON, PATCH OFF USER  
 CUE: PMI FINDING, COMPONENT REPLACEMENT, USER COMPLAINT  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK  TE  1JOB  1ENL  5SKL  7SKL  TD  ATI  
 304X0  Q  0959  3.02  15.0  15.0  13.9  2.0  1.46  11.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A ALIGN/ADJUST BIAS AND OUTPUT SIGNAL  
 A CALIBRATE BITE EQUIPMENT (NOT DONE DUE TO LACK OF USE AND PARTS)  
 A ALIGN/ADJUST CENTER CONVERTER FREQUENCY AND BIAS  
 A ALIGN/ADJUST KEYS OUTPUT  
 K APPLY THEORY OF OPERATION FOR ANALOG-TO-DIGITAL DIGITAL-TO-ANALOG CONVERTERS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 Q0959 A ADJUST ANALOG-TO-DIGITAL CONVERTER COMPONENTS

TASK #: 00120  
 INSPECT THE AN/FCC-100 MULTIPLEXER  
 DUTY CODE: X0  
 TASK STATUS: 3R-KP  
 TIMES ANALYZED: 5  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, INJURY  
 HOW OFTEN: 28  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NO  
 TNG REFERENCE(S): QTP 300X-30Z, THEY DON'T USE IT  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 HAND TOOLS, VACUUM CLEANER  
 REFERENCES:  
 T.O. 31W1-2FCC100-1  
 CONDITIONS CUES:  
 COND: IN SHOP  
 CUE: PMI  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK  TE  1JOB  1ENL  5SKL  7SKL  TD  ATI  
 304X0  M  0560  4.11  13.0  16.0  12.0  6.0  4.87  11.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A CHECK FAULT STATUS AND POWER SUPPLY STATUS LIGHTS PER T.O.  
 A REMOVE, CLEAN, AND REPLACE POWER SUPPLY FAN FILTER  
 A REMOVE, CLEAN, AND REPLACE MODULE ACCESS PANEL FILTER  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 M0660 A PERFORM PMI ON TIME DIVISION MULTIPLEXER ASSOCIATED INTERFACE EQUIPMENT

TASK #: 00130  
 CONFIGURE AN/FCC-100 MULTIPLEXER  
 DUTY CODE: X0  
 TASK STATUS: 3R-K  
 TIMES ANALYZED: 2

TNOTES:  
 CONSEQUENCES: SERIOUS, NONE, NONE  
 HOW OFTEN: SIX MONTHS  
 OJT TRAINABLE: YES, NO, DATA TRANSMISSION PRINCIPLES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31W1-2FCC100-1  
 TTT: 5  
 SME OPINION: 3

REFERENCES:  
 T.O. 31W1-2FCC100-1

CONDITIONS CUES:  
 COND: ON EQUIPMENT, EQUIPMENT RELEASED  
 CUE: CHANGE IN CIRCUIT REQUIREMENTS

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X0 I   | 0251 | 3.22 | 41.0 | 39.0 | 39.0 | 25.0 | 3.96 | 12.0 |
| 304X0 M   | 0721 | 1.48 | 18.0 | 16.0 | 15.0 | 10.0 | 4.43 | 2.0  |
| 304X0 G   | 0155 | 4.11 | 47.0 | 31.0 | 25.0 | 19.0 | 3.67 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:  
 A REPLACE CIRCUIT CARDS AS NEW CONFIGURATION REQUIRES  
 A PROGRAM NEW CONFIGURATION INTO MEMORY THROUGH KEY-BOARD  
 A ACTIVATE NEW CONFIGURATION THROUGH KEYBOARD  
 A CHECK STATUS LIGHTS FOR CORRECT OPERATION

OSR JOB INVENTORY TASK STATEMENTS:  
 0 G0155 A OBSERVE STATUS DISPLAY PANELS TO DETERMINE EQUIPMENT OPERATION (SIGNAL QUALITY)  
 0 I0251 A REPLACE ELECTRONIC SUBASSEMBLIES USING METHODS OTHER THAN SOLDERING  
 0 M0721 A REPLACE TWO WIRE/FOUR WIRE CONVERSION AND TERMINATION CIRCUITS

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TASK #: 00140  
 TROUBLESHOOT THE AN/FCC-100 MULTIPLEXER  
 DUTY CODE: X0  
 TASK STATUS: 3R-KP  
 TIMES ANALYZED: 5

TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: SIX MONTHS OR ANNUALLY  
 OJT TRAINABLE: YES, NO, BASIC ELECTRONICS, THEORY OF TIME DIVISION MULTIPLEXING  
 QTP ADEQUATE: ONLY GIVES T.O. REFERENCE  
 TNG REFERENCE(S): QTP 300X0-30Z, THEY DON'T USE IT  
 T.O. 31W1-2FCC100-1

TTT: 5  
 SME OPINION: 3 OR 5

EQUIPMENT:  
 BITE, EXTERNAL BIT ERROR RATE TESTER, HANDTOOLS

REFERENCES:  
 T.O. 31W1-2FCC100-1

CONDITIONS CUES:  
 COND: IN SHOP, EQUIPMENT RELEASED  
 CUE: USER COMPLAINT, FAULTY ALARM LIGHT, LOSS OF RECEIVE DATA RECONFIGURATION OF SYSTEM, INSPECTION RESULTS

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X0 I   | 0236 | 3.04 | 40.0 | 40.0 | 40.0 | 26.0 | 3.60 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:

- A REMOVE/REPLACE CIRCUIT CARDS, COMPONENTS, AND PARTS
- A PERFORM ALARM STATUS CHECK USING KEYPAD
- A PERFORM OUT-OF-SERVICE BITE TEST THROUGH KEYPAD
- A PERFORM LED STATUS CHECKS
- A REFERENCE ALARM INDICATIONS TO T.O. ALARM TABLES
- A CHECK LOGIC STATES AND SIGNAL STATUS USING BUILT-IN LOGIC PROBE
- A CHECK CABLES AND ASSOCIATED PATCHING MODULES
- A VERIFY CIRCUIT CARD STRAPPING AGAINST T.O. STRAPPING TABLE
- A PLACE JUMPER STRAP TO PIN POSITION PER T.O.
- K ISOLATE FAULTY CIRCUIT CARDS

OSR JOB INVENTORY TASK STATEMENTS:

- 0 I0236 A REMOVE ELECTRONIC SUBASSEMBLIES USING METHODS OTHER THAN SOLDERING

TASK #: 00150

INSPECT AN/FCC-98(V) MULTIPLEXER SET

DUTY CODE: X0

TASK STATUS: 3-OJT

TIMES ANALYZED: 1

TNOTES:

CONSEQUENCES: SERIOUS, NONE, NONE

HOW OFTEN: 28, 56

OJT TRAINABLE: YES, YES

QTP ADEQUATE: NONE

TNG REFERENCE(S): 31W2-2FCC98-1

TTT: 5

SME OPINION: 3

REFERENCES:

T.O. 31W2-2FCC98-1

CONDITIONS CUES:

COND: ON EQUIPMENT

CUE: PMI

JOB STANDARDS:

I&W REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X0 M   | 0660 | 4.11 | 13.0 | 16.0 | 12.0 | 6.0  | 4.87 | 11.0 |

ACTIVITIES SKILL KNOWLEDGE:

- A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS
- A CHECK VOLTAGE LEVELS OF POWER SUPPLY
- A PERFORM BITE SELF TEST

OSR JOB INVENTORY TASK STATEMENTS:

- 0 M0660 A PERFORM PMI ON TIME DIVISION MULTIPLEXER ASSOCIATED INTERFACE EQUIPMENT

TASK #: 00160  
 ADJUST AN/FCC-98(V) VOICE FREQUENCY (VF) MULTIPLEXER SETVOICE FREQUENCY (VF) M  
 ODULE CHANNEL LEVELS  
 DUTY CODE: X0  
 TASK STATUS: 3-0JT  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: SERIOUS, NONE, NONE  
 HOW OFTEN: MONTHLY  
 OJT TRAINABLE: YES, NO, TEST EQUIPMENT, SYSTEM KNOWLEDGE,  
 DIGITAL ELECTRONICS  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31W2-2FCC98-1  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 HAND TOOLS, ANALOG MULTIMETER  
 REFERENCES:  
 T.O. 31W2-2FCC98-1  
 CONDITIONS CUES:  
 COND: ON EQUIPMENT, EQUIPMENT RELEASED  
 CUE: BITE METER READING  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X0 T 1391 1.48 4.0 6.0 6.0 2.0 4.81 2.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A PERFORM BITE CHANNEL RECEIVE LEVEL CHECK  
 A ADJUST VF MODULE RECEIVE GAIN CONTROL  
 A PERFORM BITE CHANNEL TRANSMIT LEVEL CHECK  
 A ADJUST VF MODULE TRANSMIT GAIN CONTROL  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 T1391 A ADJUST AUDIO AMPLIFIERS

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TASK #: 00170  
 ADJUST AN/FCC-98(V) DATA TIMING GROUP COMMON VOICE FREQUENCY GAIN LEVEL  
 DUTY CODE: X0  
 TASK STATUS: 3R-KP  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: SERIOUS, NONE, NONE  
 HOW OFTEN: SIX MONTHS  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31W2-2FCC98-1  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 HAND TOOLS  
 REFERENCES:  
 T.O. 31W2-2FCC98-1  
 CONDITIONS CUES:  
 COND: ON EQUIPMENT, EQUIPMENT RELEASED  
 CUE: RECEIVE OR TRANSMIT CHANNELS OUT OF SPECIFICATIONS BY  
 COMMON AMOUNT  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X0 M 0630 4.57 18.0 16.0 13.0 10.0 6.18 11.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A PERFORM BITE CHANNEL COMMON GAIN CHECK  
 A ADJUST COMMON GAIN VF RECEIVE FUNCTION  
 A ADJUST ODD CHANNEL COMMON GAIN VF TRANSMIT FUNCTION  
 A ADJUST EVEN CHANNEL COMMON GAIN VF TRANSMIT FUNCTION  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 M0630 A OPERATIONAL CHECK MOBILE ANTENNA SYSTEMS

TASK #: 00180  
PERFORM AN/FCC-98(V) VOICE FREQUENCY (VF) MODULE LOOP TEST  
DUTY CODE: X0  
TASK STATUS: 3R-KP  
TIMES ANALYZED: 2

TNOTES:  
CONSEQUENCES: SERIOUS, NONE, NONE  
HOW OFTEN: MONTHLY  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31W2-2FCC98-1  
TTT: 3  
SME OPINION: 3

EQUIPMENT:  
HAND TOOLS

REFERENCES:  
T.O. 31W2-2FCC98-1

CONDITIONS CUES:  
COND: ON EQUIPMENT, EQUIPMENT RELEASED  
CUE: FOLLOWS VF MODULE CHANNEL LEVEL ADJUSTMENT

JOB STANDARDS:  
IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X0 G   | 0181 | 4.65 | 29.0 | 30.0 | 30.0 | 21.0 | 4.21 | 12.0 |
| 304X0 G   | 0156 | 5.67 | 62.0 | 50.0 | 43.0 | 35.0 | 5.10 | 18.0 |

ACTIVITIES SKILL KNOWLEDGE:  
A PERFORM BITE VOICE FREQUENCY FUNCTION LOOP TEST  
A VERIFY BITE METER INDICAIONS PER T.O.

OSR JOB INVENTORY TASK STATEMENTS:  
0 G0156 A OBSERVE TEST EQUIPMENT, SUCH AS SCOPES AND SIGNAL ANALYZERS, TO DETERMINE EQUIPMENT OPERATION  
0 G0181 A PERFORM PREOPERATIONAL CHECKS OF EQUIPMENT

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TASK #: 00190  
TROUBLESHOOT AN/FCC-98(V) MULTIPLEXER SET  
DUTY CODE: X0  
TASK STATUS: 3R-KP  
TIMES ANALYZED: 2

TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: MONTHLY  
OJT TRAINABLE: YES, NO, BASIC ELECTRONICS, THEORY OF OPERATION OF SYSTEM  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31W2-2FCC98-1  
TTT: 3  
SME OPINION: 5

EQUIPMENT:  
OSCILLOSCOPE, ANALOG MULTIMETER

REFERENCES:  
T.O. 31W2-2FCC98-1

CONDITIONS CUES:  
COND: ON EQUIPMENT, EQUIPMENT RELEASED  
CUE: SYSTEM FAILURE, FAULT ALARM, ALIGNMENT TO T.O.  
SPECIFICATIONS NOT POSSIBLE

JOB STANDARDS:  
IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X0 M   | 0646 | 4.41 | 19.0 | 15.0 | 13.0 | 10.0 | 6.70 | 11.0 |

ACTIVITIES SKILL KNOWLEDGE:  
A CHECK FAULT ALARMS  
A PERFORM BITE METER READING PER T.O.  
A REMOVE AND REPLACE CIRCUIT CARDS  
K ISOLATE FAULTY CIRCUIT CARDS BY VERIFYING WAVEFORMS PER T.O.

OSR JOB INVENTORY TASK STATEMENTS:  
0 M0646 K ISOLATE MALFUNCTIONS IN SOLID-STATE TIME DIVISION MULTIPLEXERS

TASK #: 00200  
 INSPECT AN/FRA-90 TRANSCEIVER  
 DUTY CODE: X0  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: 28, 56  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X0-30N  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 VACUUM CLEANER, CLEANING CLOTHS, METER M1 (BITE)  
 REFERENCES:  
 T.O. 31R5-2FR-106WC-1  
 T.O. 31R5-2FR-101  
 CONDITIONS CUES:  
 COND: REDUNDANT SYSTEM, ONE TRANSCEIVER ALWAYS ON LINE  
 CUE: PHI, HIGH BASE BAND NOISE, RCI ALARMS, DAILY MONITORING  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X0 Q 1054 2.24 18.0 13.0 10.0 6.0 6.43 7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 A PERFORM LOCAL AND REMOTE ALARM CHECKS  
 A PERFORM TRANSCEIVER STATUS INDICATOR CHECKS (METER  
 M-1)  
 A CLEAN TRANSCEIVER INTERIOR AND EXTERIOR  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 Q1054 K ISOLATE MALFUNCTIONS IN TRANSCEIVERS

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TASK #: 00210  
 TROUBLESHOOT AN/FRA-90 TRANSCEIVER  
 DUTY CODE: X0  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: SEMI-ANNUALLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X0-30N  
 TTT: NONE  
 SME OPINION: 3  
 EQUIPMENT:  
 SPECTRUM ANALYZER, SUPER HIGH FREQUENCY GENERATOR, DIGITAL  
 MULTIMETER, FREQUENCY COUNTER, AUDIO GENERATOR, METER M1 (BITE),  
 NOISE GENERATOR, NOISE RECEIVER, HANDTOOLS, SOLDERING KIT  
 REFERENCES:  
 T.O. 31R5-2FR-101  
 CONDITIONS CUES:  
 COND: REDUNDANT, ONE SYSTEM ALWAYS ON LINE  
 CUE: PHI FINDING, DAILY MONITORING OR REMOTE/LOCAL ALARMS  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X0 Q 1054 2.24 18.0 13.0 10.0 6.0 6.43 7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 K ISOLATE FAULTY MODULES, CIRCUIT CARDS AND COMPONENTS  
 A REMOVE OR REPLACE MODULES, CIRCUIT CARDS AND COMPO-  
 NENTS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 Q1054 K ISOLATE MALFUNCTIONS IN TRANSCEIVERS

TASK #: 00220  
 ALIGN/ADJUST AN/FRA-90 TRANSCEIVER  
 DUTY CODE: X0  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 2

TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: SEMI-ANNUALLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X0-30N  
 TTT: 3  
 SME OPINION: 3

EQUIPMENT:  
 DIGITAL MULTIMETER, DIGITAL VOLTMETER, POWER METER WITH POWER  
 SENSOR, ATTENUATOR, SPECIAL EQUIPMENT CABLE/CONNECTORS, FREQUENCY  
 COUNTER, AUDIO SIGNAL GENERATOR, FREQUENCY SELECTIVE VOLTMETER,  
 SPECTRUM ANALYZER, AC VOLTMETER, RF SIGNAL GENERATOR,  
 TRANSMISSION AND NOISE MEASURING SET

REFERENCES:  
 T.O. 31R5-2FR-101

CONDITIONS CUES:  
 COND: REDUNDANT SYSTEM, ONE SYSTEM ALWAYS ON LINE  
 CUE: MODULE REPLACEMENT, SYSTEM OUT OF PARAMETERS, FINDING  
 DURING DAILY CHECK

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|------|------|------|------|------|------|-----|
| 304X0 Q   | 1004 | 2.11 | 17.0 | 14.0 | 11.0 | 7.0  | 5.87 | 7.0 |

ACTIVITIES SKILL KNOWLEDGE:  
 A ALIGN/ADJUST POWER SUPPLY CIRCUIT CARD ASSEMBLY  
 A PERFORM RF POWER OUTPUT CHECK  
 A ALIGN/ADJUST TRANSMIT FREQUENCY  
 A ALIGN/ADJUST FREQUENCY (TRANSMIT) DEVIATION  
 A ALIGN/ADJUST BASEBAND TRANSMIT LEVELS  
 A ALIGN/ADJUST PILOT TRANSMIT LEVEL  
 A ALIGN/ADJUST LOCAL OSCILLATOR FREQUENCY  
 A PERFORM AGC SIGNAL CHECK  
 A ALIGN/ADJUST BASEBAND RECEIVE LEVELS  
 A ALIGN/ADJUST TRANSCEIVER ALARMS  
 A ALIGN/ADJUST BASEBAND GAIN  
 A PERFORM RADIO BALANCE CHECK  
 A PERFORM FREQUENCY RESPONSE CHECK  
 A PERFORM RECEIVER RSL VERSUS AGC AND BASEBAND SLOT  
 NOISE TEST  
 A PERFORM TOTAL AND IDLE NOISE TEST  
 A ALIGN/ADJUST LOCAL OSCILLATOR ATTENUATOR  
 K CALCULATE IMPEDENCE MISMATCH USING BASE TEN EQUATIONS  
 K CONVERT POWER METER READINGS BETWEEN WATTS AND DECI-  
 BELS

OSR JOB INVENTORY TASK STATEMENTS:  
 0 Q1004 A ALIGN TRANSCEIVERS

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TASK #: 00230  
 INSPECT AN/FRA-90 TRANSCEIVER POWER SUPPLY  
 DUTY CODE: X0  
 TASK STATUS: 3R-KP  
 TIMES ANALYZED: 2

TNOTES:  
 CONSEQUENCES: MINOR, DAMAGE, NONE  
 HOW OFTEN: 28  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X0 30N  
 TTT: 3  
 SME OPINION: 3

EQUIPMENT:  
 DIGITAL MULTIMETER

REFERENCES:  
 T.O. 31R5-2FR-101

CONDITIONS CUES:  
 COND: POWER IS ON DURING INSPECTION, ONE SYSTEM IS ALWAYS ON LINE  
 CUE: PMI, M1. METER IS OUT OF PARAMETER, SYSTEM ALARMS

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X0 L   | 0565 | 3.80 | 30.0 | 27.0 | 24.0 | 13.0 | 4.75 | 11.0 |

ACTIVITIES SKILL KNOWLEDGE:

A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
A PERFORM POWER SUPPLY METER CHECKS  
A MEASURE AGC VOLTAGE FROM IF SHELF AND METER PANEL  
ASSEMBLY WITH DIGITAL MULTIMETER (NON T.O. STEP)

OSR JOB INVENTORY TASK STATEMENTS:

0 L0565 A PERFORM PHI ON FM SHF TRANSMITTERS

TASK #: 00240

TROUBLESHOOT AN/FRA-90 TRANSCEIVER POWER SUPPLY

DUTY CODE: X0

TASK STATUS: 3-OJT

TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: MINOR, DAMAGE, NONE  
HOW OFTEN: SEMI-ANNUALLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X0-30N

TTT: 3

SME OPINION: 3

EQUIPMENT:

DIGITAL MULTIMETER, OSCILLOSCOPE, SOLDERING KIT, HANDTOOLS

REFERENCES:

T.O. 31R5-2FR-14

CONDITIONS CUES:

COND: REDUNDANT SYSTEM WITH ONE SYSTEM ALWAYS ON LINE  
CUE: PHI FINDING, MODULE FAILURE RELATED TO POWER, SYSTEM  
ALARMS, FUSES CONTINUALLY BLOW

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD  | ATI  |     |
|-----------|------|------|------|------|------|------|-----|------|-----|
| 304X0     | N    | 0725 | 2.61 | 22.0 | 19.0 | 16.0 | 8.0 | 4.48 | 7.0 |

ACTIVITIES SKILL KNOWLEDGE:

K ISOLATE FAULTY POWER SUPPLY CIRCUIT CARD ASSEMBLY  
K ISOLATE FAULTY INDIVIDUAL COMPONENTS  
A REMOVE/REPLACE CIRCUIT CARDS AND COMPONENTS

OSR JOB INVENTORY TASK STATEMENTS:

0 N0725 A ADJUST DIRECT CURRENT (DC) POWER SUPPLY COMPONENTS

TASK #: 00250

ALIGN/ADJUST AN/FRA-90 TRANSCEIVER POWER SUPPLY

DUTY CODE: X0

TASK STATUS: 3-OJT

TIMES ANALYZED: 1

TNOTES:

CONSEQUENCES: MINOR, NONE, NONE  
HOW OFTEN: SEMI-ANNUALLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X0-30N

TTT: 3

SME OPINION: 3

EQUIPMENT:

DIGITAL MULTIMETER, HANDTOOLS

REFERENCES:

T.O. 31R5-2FR-101

CONDITIONS CUES:

COND: POWER IS ON, REDUNDANT SYSTEM IS ON LINE  
CUE: COMPONENT REPLACEMENT, POWER SUPPLY IS OUT OF PARAMETERS,  
SYSTEM ALARMS

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |      |
|-----------|------|------|------|------|------|------|------|------|------|
| 304X0     | L    | 0518 | 2.85 | 7.0  | 13.0 | 15.0 | 11.0 | 5.54 | 11.0 |

ACTIVITIES SKILL KNOWLEDGE:

A ALIGN/ADJUST POWER SUPPLY VOLTAGE

OSR JOB INVENTORY TASK STATEMENTS:

0 L0618 A ADJUST SUPER HIGH FREQUENCY (SHF) POWER AMPLIFIER COMPONENTS



TASK #: 00260  
INSPECT AN/FRC-96 RADIO SET GROUP  
DUTY CODE: X0  
TASK STATUS: 3R-KP  
TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: 1, 7, 14, 28, 56, 84, 168  
OJT TRAINABLE: YES, NO, TEST EQUIPMENT  
QTP ADEQUATE: NOT USED  
TNG REFERENCE(S): SEE REFERENCES  
TTT: 5  
SME OPINION: 5

EQUIPMENT:

AC VOLTMETER, SPECTRUM ANALYZER, SWEEP GENERATOR, DIGITAL  
MULTIMETER, FREQUENCY SELECTIVE VOLTMETER, SIGNAL GENERATOR  
(RF AND AUDIO), NOISE GENERATOR/RECEIVER, ANALOG MULTIMETER,  
OSCILLOSCOPE, POWER METER, FREQUENCY COUNTER, ATTENUATORS,  
DIODE DETECTOR, HP-85 COMPUTER, CLEANING SUPPLIES, COMMON HAND  
TOOLS

REFERENCES:

T.O. 31R5-2FRC-126WC-1  
T.O. 31R5-2FRC-196WC-1  
T.O. 31R5-2G-346WC-1  
T.O. 31R5-2FRC-106WC-1  
T.O. 31R5-2FRC96-16WC-1  
T.O. 35E9-94-6WC-1

CONDITIONS CUES:

COND: EQUIPMENT DOWN FOR SOME PORTIONS OF PHI, OUTAGE REQUIRES  
COORDINATION, WATER COOLED EQUIPMENT

CUE: PHI

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |      |
|-----------|------|------|------|------|------|------|------|------|------|
| 304X0     | K    | 0420 | 4.52 | 50.0 | 39.0 | 35.0 | 17.0 | 4.84 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:

- A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS
- A CLEAN EQUIPMENT EXTERIOR AND INTERIOR TO INCLUDE AIR  
FILTERS
- A LUBRICATE FITTINGS AND BEARINGS
- A CHECK METER READINGS
- A CHECK VOLTAGE LEVELS
- A CHECK VOLTAGE STABILITY
- A CHECK RF BANDPASS
- A CHECK GAIN LEVELS
- A CHECK FREQUENCY LEVELS
- A CHECK POWER OUTPUT LEVELS
- A CHECK NOISE LEVELS
- A CHECK FREQUENCY QUIETING CURVES
- A CALIBRATE METERS
- A CHECK NOISE/POWER RATIOS
- A CHECK BASIC/INTRINSIC NOISE RATIO
- A CHECK WATER FLOW RATE
- A CHECK FAULT ALARM OPERATION
- A SAMPLE COOLANT
- A CHECK WAVEGUIDE PRESSURIZATION
- A CHECK HEAT EXCHANGER OPERATION
- A CHECK DEHYDRATOR OPERATION

OSR JOB INVENTORY TASK STATEMENTS:

0 K0420 A PERFORM PHI ON FM RECEIVERS

TASK #: 00270  
TROUBLESHOOT AN/FRC-96 RADIO SET GROUP POWER AMPLIFICATION SYSTEM  
DUTY CODE: X0  
TASK STATUS: 3-CJT  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: MINOR, DAMAGE, INJURY  
HOW OFTEN: DAILY  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: NOT USED  
TNG REFERENCE(S): T.O. 31R5-2FRC96-12, T.O. 31R5-2FRC96-13, AND  
T.O. 31R5-2FRC96-14  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
AC VOLTMETER, SPECTRUM ANALYZER, DIGITAL MULTIMETER, HAND  
TOOLS, ANALOG MULTIMETER, SOLDERING KIT  
REFERENCES:  
T.O. 31R5-2FRC96-12  
T.O. 31R5-2FRC96-13  
T.O. 31R5-2FRC96-14  
CONDITIONS CUES:  
COND: CAN BE TIME CRITICAL, IN SHOP  
CUE: FAULT ALARM, USER COMPLAINT, PMI CHECK OUT OF  
SPECIFICATIONS  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE LJOB LENL 5SKL 7SKL TD ATI  
304X0 N 0746 2.20 10.0 8.0 7.0 4.0 6.05 7.0  
ACTIVITIES SKILL KNOWLEDGE:  
A CHECK FAULT ALARMS  
A CHECK METER READINGS  
A CHECK VOLTAGE LEVELS AT TEST POINTS  
K ISOLATE FAULT FROM EQUIPMENT SUBASSEMBLIES TO INDI-  
VIDUAL COMPONENTS THROUGH CIRCUIT TRACING AND VOLTAGE  
TESTS  
A REMOVE/REPLACE SUBASSEMBLIES, COMPONENTS, OR PARTS  
OSR JOB INVENTORY TASK STATEMENTS:  
0 N0746 K ISOLATE MALFUNCTIONS IN DC POWER SUPPLY LINE ISOLA-  
TION ASSEMBLIES

-----  
TASK #: 00280  
TROUBLESHOOT AN/FRC-96 RADIO SET GROUP EXCITER/RECEIVER SECTION TO MODULE LEVEL  
OR MECHANICAL COMPONENT LEVEL  
DUTY CODE: X0  
TASK STATUS: 3R-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: MINOR, DAMAGE, INJURY  
HOW OFTEN: WEEKLY  
OJT TRAINABLE: YES, NO, SPECIALIZED TEST EQUIPMENT  
QTP ADEQUATE: NOT USED  
TNG REFERENCE(S): SEE REFERENCES  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
WIDEBAND AC VOLTMETER, SPECTRUM ANALYZER, DIGITAL MULTIMETER,  
FREQUENCY SELECTIVE VOLTMETER, SIGNAL GENERATOR (RF AND AUDIO),  
NOISE GENERATOR/RECEIVER, OSCILLOSCOPE, POWER METER, FREQUENCY  
COUNTER, ATTENUATORS, DIODE DETECTOR, HP-25 COMPUTER, PYROMETER,  
RF MILLIVOLTMETER, COMMON HAND TOOLS, SWEEP GENERATOR, ANALOG  
MULTIMETER, SOLDERING KIT  
REFERENCES:  
T.O. 31R5-2FRC-122  
T.O. 31R5-2FRC-191  
T.O. 31R5-2G-342  
T.O. 31R5-2G-343  
T.O. 31R5-2G-344  
T.O. 31R5-2FRC-102  
T.O. 31R5-2FRC-103  
T.O. 31R5-2FRC-104  
T.O. 35E-94-2  
CONDITIONS CUES:  
COND: CAN BE TIME CRITICAL, IN SHOP  
CUE: FAULT ALARM, USER COMPLAINT, PMI CHECK OUT OF  
SPECIFICATIONS

**JOB STANDARDS:**

**IAW REFERENCES**

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 L 0550 3.63 16.0 16.0 16.0 15.0 6.40 11.0

**ACTIVITIES SKILL KNOWLEDGE:**

- A CHECK FAULT ALARMS
- A SWITCH TRAFFIC BETWEEN REDUNDANT COMPONENTS TO ISOLATE FAULTY SUBASSEMBLY
- A ISOLATE FAULTY MODULE BY CHECKING FREQUENCY, VOLTAGE, AND DB LEVELS
- K ISOLATE FAULTY MECHANICAL COMPONENTS
- A REMOVE/REPLACE SUBASSEMBLIES, MODULES, AND PARTS
- K PERFORM LINEAR TO LOGARITHMIC CONVERSIONS

**OSR JOB INVENTORY TASK STATEMENTS:**

C L0550 K ISOLATE MALFUNCTIONS IN FM SOLID-STATE SHF TRANSMITTERS

**TASK #: 00290**

REPAIR AN/FRC-96 RADIO SET GROUP EXCITER/RECEIVER SECTION

DUTY CODE: X0

TASK STATUS: 3R-KP

TIMES ANALYZED: 2

**TNOTES:**

- CONSEQUENCES: MINOR, DAMAGE, INJURY
- HOW OFTEN: WEEKLY
- OJT TRAINABLE: YES, NO, BASIC ELECTRONICS, TEST EQUIPMENT
- QTP ADEQUATE: NOT USED
- TNG REFERENCE(S): SEE REFERENCES
- TTT: 5
- SME OPINION: 5

**EQUIPMENT:**

DIGITAL MULTIMETER, SIGNAL GENERATOR (AUDIO AND RF), OSCILLOSCOPE, FREQUENCY COUNTER, ATTENUATORS, DIODE DETECTOR PYROMETER, RF MILLIVOLTMETER, COMMON HAND TOOLS

**REFERENCES:**

- T.O. 31R5-2FRC-122
- T.O. 31R5-2FRC-191
- T.O. 31R5-2G-342
- T.O. 31R5-2G-343
- T.O. 31R5-2G-344
- T.O. 31R5-2FRC-102
- T.O. 31R5-2FRC-103
- T.O. 31R5-2FRC-104
- T.O. 35E9-94-2

**CONDITIONS CUES:**

- COND: CAN BE TIME CRITICAL, IN SHOP
- CUE: RESULT OF TROUBLESHOOTING

**JOB STANDARDS:**

**IAW REFERENCES**

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 Q 0962 3.07 31.0 29.0 26.0 16.0 3.77 11.0

**ACTIVITIES SKILL KNOWLEDGE:**

- A ALIGN CIRCUIT CARDS
- A REMOVE AND REPLACE MECHANICAL COMPONENTS

**OSR JOB INVENTORY TASK STATEMENTS:**

0 Q0962 A ADJUST AUDIO AMPLIFIER COMPONENTS

**TASK #: 00300**

TROUBLESHOOT AND REPAIR AN/FRC-96 RADIO SET GROUP EXCITER/RECEIVER SECTION MOD ULES

DUTY CODE: X0

TASK STATUS: 3R-KP

TIMES ANALYZED: 2

**TNOTES:**

- CONSEQUENCES: MINOR, DAMAGE, INJURY
- HOW OFTEN: TWO MONTHS
- OJT TRAINABLE: YES, NO, BASIC ELECTRONICS, TEST EQUIPMENT
- QTP ADEQUATE: NOT USED
- TNG REFERENCE(S): SEE REFERENCES
- TTT: 5
- SME OPINION: 5

**EQUIPMENT:**

DIGITAL MULTIMETER, SIGNAL GENERATOR (AUDIO AND RF), OSCILLOSCOPE, FREQUENCY COUNTER, ATTENUATORS, DIODE DETECTOR PYROMETER, RF MILLIVOLTMETER, COMMON HAND TOOLS, SOLDERING KIT

REFERENCES:

T.O. 31R5-2FRC-122  
T.O. 31R5-2FRC-191  
T.O. 31R5-2G-342  
T.O. 31R5-2G-343  
T.O. 31R5-2G-344  
T.O. 31R5-2FRC-102  
T.O. 31R5-2FRC-103  
T.O. 31R5-2FRC-104  
T.O. 35E9-94-2

CONDITIONS CUES:

COND: CAN BE TIME CRITICAL, IN SHOP  
CUE: RESULT OF TROUBLESHOOTING TO MODULE LEVEL

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 I 0230 4.07 60.0 54.0 49.0 24.0 4.16 18.0

ACTIVITIES SKILL KNOWLEDGE:

K TRACE CIRCUIT DIAGRAMS  
A CHECK WAVEFORMS  
A CHECK VOLTAGE LEVEL  
A CHECK VOLTAGE STABILITY  
A CHECK RESISTANCE AT SUSPECTED FAULTY COMPONENT  
A REMOVE AND REPLACE FAULTY COMPONENT

OSR JOB INVENTORY TASK STATEMENTS:

0 I0230 A REMOVE ELECTROMECHANICAL COMPONENTS USING SOLDERING METHODS

TASK #: 00310

ALIGN AN/FRC-96 RADIO SET GROUP MODULATOR

DUTY CODE: X0

TASK STATUS: 3R-KP

TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY

HOW OFTEN: WEEKLY

OJT TRAINABLE: YES, YES

QTP ADEQUATE: NOT USUJ

TNG REFERENCE(S): T.O. 31R5-2G-342

TTY: 5

SME OPINION: 5

EQUIPMENT:

AC VOLTMETER, SPECTRUM ANALYZER, AUDIO TONE GENERATOR, COMMON HANDTOOLS

REFERENCES:

T.O. 31R5-2G-342

CONDITIONS CUES:

COND: CAN BE TIME CRITICAL, IN SHOP

CUE: RESULT OF TROUBLESHOOTING

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 L 0521 3.76 26.0 26.0 25.0 17.0 5.32 11.0

ACTIVITIES SKILL KNOWLEDGE:

A INSERT KNOWN FREQUENCY LEVEL  
A ADJUST VOLTAGE LEVEL  
A CHECK PILOT TONE LEVEL  
A INSERT NEW FREQUENCY LEVEL  
A CHECK FOR CARRIER DROPOUT

OSR JOB INVENTORY TASK STATEMENTS:

0 L0521 A ADJUST TRANSMITTER FREQUENCY MODULATION (FM) MODULATOR COMPONENTS

TASK #: 00320

INSPECT AN/FRC-97 RADIO SET GROUP

DUTY CODE: X0

TASK STATUS: 3R-KP

TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY

HOW OFTEN: 1, 7, 14, 28, 56, 84, 168

OJT TRAINABLE: YES, NO, TEST EQUIPMENT

QTP ADEQUATE: NOT USED

TNG REFERENCE(S): T.O. 31R5-2FRC-126WC-1, T.O. 31R5-2FRC-196WC-1,  
T.O. 31R5-2G-346WC-1, T.O. 31R5-2FRC-106WC-1,  
AND T.O. 31R5-2FRC97-6WC-1

TTT: 5

SME OPINION: 5

EQUIPMENT:

AC VOLTMETER, SPECTRUM ANALYZER, SWEEP GENERATOR, DIGITAL  
MULTIMETER, FREQUENCY SELECTIVE VOLTMETER, SIGNAL GENERATOR  
(RF AND AUDIO), NOISE GENERATOR/RECEIVER, OSCILLOSCOPE, POWER  
METER, FREQUENCY COUNTER, ATTENUATORS, DIODE DETECTOR, HP-85  
COMPUTER, CLEANING SUPPLIES, COMMON HAND TOOLS, ANALOG MULTIMETER

REFERENCES:

T.O. 31R5-2FRC-126WC-1

T.O. 31R5-2FRC-196WC-1

T.O. 31R5-2G-346WC-1

T.O. 31R5-2FRC-106WC-1

T.O. 31R5-2FRC97-6WC-1

CONDITIONS CUES:

COND: EQUIPMENT DOWN FOR SOME PORTIONS OF PHI, OUTAGE REQUIRES  
COORDINATION

CUE: PHI

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK   | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|--------|------|------|------|------|------|------|------|
| 304X0     | K 0420 | 4.52 | 50.0 | 39.0 | 35.0 | 17.0 | 4.84 | 12.0 |
| 304X0     | G 0178 | 3.61 | 18.0 | 15.0 | 14.0 | 13.0 | 5.64 | 11.0 |
| 304X0     | L 0565 | 3.80 | 30.0 | 27.0 | 24.0 | 13.0 | 4.75 | 11.0 |

ACTIVITIES SKILL KNOWLEDGE:

- A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS
- A CLEAN EQUIPMENT EXTERIOR AND INTERIOR TO INCLUDE AIR  
FILTERS
- A LUBRICATE FITTINGS AND BEARINGS
- A CHECK METER READINGS
- A CHECK VOLTAGE LEVELS
- A CHECK VOLTAGE STABILITY
- A CHECK RF BANDPASS
- A CHECK GAIN LEVELS
- A CHECK FREQUENCY LEVELS
- A CHECK POWER OUTPUT LEVELS
- A CHECK NOISE LEVELS
- A CHECK FREQUENCY QUIETING CURVES
- A CALIBRATE METERS
- A CHECK NOISE/POWER RATIOS
- A CHECK BASIC/INTRINSIC NOISE RATIO
- A CHECK FAULT ALARM OPERATION
- A CHECK WAVEGUIDE PRESSURIZATION
- A CHECK HEAT EXCHANGER OPERATION
- A CHECK DEHYDRATOR OPERATION

OSR JOB INVENTORY TASK STATEMENTS:

- 0 G0178 A PERFORM NOISE POWER RATIO (NPR) TESTS
- 0 K0420 A PERFORM PHI ON FM RECEIVERS
- 0 G0178 A PERFORM NOISE POWER RATIO (NPR) TESTS
- 0 K0420 A PERFORM PHI ON FM RECEIVERS
- 0 L0565 A PERFORM PHI ON FM SHF TRANSMITTERS

TASK #: 00330  
TROUBLESHOOT AN/FRC-97 RADIO SET GROUP POWER AMPLIFICATION SYSTEM  
DUTY CODE: X0  
TASK STATUS: 3R-KP  
TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: MINOR, DAMAGE, INJURY  
HOW OFTEN: DAILY  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: NOT USED  
TNG REFERENCE(S): T.O. 31R5-2FRC97-2, T.O. 31R5-2FRC97-3,  
AND T.O. 31R5-2FRC97-4

TTT: 5  
SME OPINION: 5

EQUIPMENT:

AC VOLTMETER, SPECTRUM ANALYZER, DIGITAL MULTIMETER, HAND TOOLS,  
SOLDERING KIT, ANALOG MULTIMETER

REFERENCES:

T.O. 31R5-2FRC97-2  
T.O. 31R5-2FRC97-3  
T.O. 31R5-2FRC97-4

CONDITIONS CUES:

COND: CAN BE TIME CRITICAL, IN SHOP  
CUE: FAULT ALARM, USER COMPLAINT, PMI CHECK OUT OF  
SPECIFICATIONS

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK YE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 L 0558 3.43 13.0 14.0 16.0 13.0 6.27 11.0

ACTIVITIES SKILL KNOWLEDGE:

A CHECK FAULT ALARMS  
A CHECK METER READINGS  
A CHECK VOLTAGE LEVELS AT TEST POINTS  
K ISOLATE FAULT FROM EQUIPMENT SUBASSEMBLIES TO INDIVIDUAL COMPONENTS THROUGH CIRCUIT TRACING AND VOLTAGE TESTS

A REMOVE/REPLACE ASSEMBLIES, COMPONENTS, OR PARTS

OSR JOB INVENTORY TASK STATEMENTS:

0 L0558 K ISOLATE MALFUNCTIONS IN SHF POWER AMPLIFIERS

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TASK #: 00340

TROUBLESHOOT AN/FRC-97 RADIO SET GROUP EXCITER/RECEIVER SECTION TO MODULE LEVEL  
OR MECHANICAL COMPONENT LEVEL

DUTY CODE: X0  
TASK STATUS: 3R-KP  
TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: MINOR, DAMAGE, INJURY  
HOW OFTEN: WEEKLY  
OJT TRAINABLE: YES, NO, SPECIALIZED TEST EQUIPMENT  
QTP ADEQUATE: NOT USED  
TNG REFERENCE(S): SEE REFERENCES

TTT: 5  
SME OPINION: 5

EQUIPMENT:

WIDEBAND AC VOLTMETER, SPECTRUM ANALYZER, DIGITAL MULTIMETER,  
FREQUENCY SELECTIVE VOLTMETER, SIGNAL GENERATOR (RF AND AUDIO),  
NOISE GENERATOR/RECEIVER, OSCILLOSCOPE, POWER METER, FREQUENCY  
COUNTER, ATTENUATORS, DIODE DETECTOR, HP-85 COMPUTER, PYROMETER,  
RF MILLIVOLTMETER, COMMON HAND TOOLS, SWEEP GENERATOR, SOLDERING  
KIT, ANALOG MULTIMETER

REFERENCES:

T.O. 31R5-2FRC-122  
T.O. 31R5-2FRC-191  
T.O. 31R5-2G-342  
T.O. 31R5-2G-343  
T.O. 31R5-2G-344  
T.O. 31R5-2FRC-102  
T.O. 31R5-2FRC-103  
T.O. 31R5-2FRC-104

CONDITIONS CUES:

COND: CAN BE TIME CRITICAL, IN SHOP  
CUE: FAULT ALARM, USER COMPLAINT, PMI CHECK OUT OF  
SPECIFICATIONS

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X0 K 0390 3.74 16.0 16.0 19.0 15.0 6.24 11.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A CHECK FAULT ALARMS  
 A SWITCH TRAFFIC BETWEEN REDUNDANT COMPONENTS TO ISO-  
 LATE FAULTY SUBASSEMBLY  
 K ISOLATE FAULTY MODULE BY CHECKING FREQUENCY, VOLTAGE,  
 AND DB LEVELS  
 K ISOLATE FAULTY MECHANICAL COMPONENTS  
 A REMOVE/REPLACE MODULES, COMPONENTS, OR PARTS  
 K PERFORM LINEAR TO LOGARITHMIC CONVERSIONS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 K0390 K ISOLATE MALFUNCTIONS IN SOLID-STATE FM RECEIVERS

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TASK #: 00350  
 REPAIR AN/FRC-97 RADIO SET GROUP EXCITER/RECEIVER SECTION  
 DUTY CODE: X0  
 TASK STATUS: 3R-KP  
 TIMES ANALYZED: 2  
 NOTES:  
 CONSEQUENCES: MINOR, DAMAGE, INJURY  
 HOW OFTEN: WEEKLY  
 OJT TRAINABLE: YES, NO, BASIC ELECTRONICS, TEST EQUIPMENT  
 QTP ADEQUATE: NOT USED  
 TNG REFERENCE(S): SEE REFERENCES  
 TTT: 5  
 SME OPINION: 5  
 EQUIPMENT:  
 DIGITAL MULTIMETER, SIGNAL GENERATOR (AUDIO AND RF),  
 OSCILLOSCOPE, FREQUENCY COUNTER, ATTENUATORS, DIODE DETECTOR  
 PYROMETER, RF MILLIVOLTMETER, COMMON HAND TOOLS, ANALOG  
 MULTIMETER.  
 REFERENCES:  
 T.O. 31R5-2FRC-122  
 T.O. 31R5-2FRC-191  
 T.O. 31R5-2G-342  
 T.O. 31R5-2G-343  
 T.O. 31R5-2G-344  
 T.O. 31R5-2FRC-102  
 T.O. 31R5-2FRC-103  
 T.O. 31R5-2FRC-104  
 CONDITIONS CUES:  
 COND: CAN BE TIME CRITICAL, IN SHOP  
 CUE: RESULT OF TROUBLESHOOTING  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X0 K 0374 3.98 29.0 29.0 30.0 18.0 5.97 11.0  
 304X0 K 0477 2.50 8.0 10.0 12.0 12.0 5.69 7.0  
 304X0 I 0229 2.78 44.0 37.0 34.0 20.0 2.85 10.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A ALIGN CIRCUIT CARDS  
 A REMOVE AND REPLACE MECHANICAL COMPONENTS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 I0229 A REMOVE ELECTROMECHANICAL COMPONENTS USING METHODS  
 OTHER THAN SOLDERING  
 0 K0374 A ALIGN FM RECEIVERS  
 0 K0477 A REPAIR MALFUNCTIONS IN SOLID-STATE FM RECEIVERS  
 1 I0229 A REMOVE ELECTROMECHANICAL COMPONENTS USING METHODS  
 OTHER THAN SOLDERING

TASK #: 00360  
TROUBLESHOOT AND REPAIR AN/FRC-97 RADIO SET GROUP EXCITER/RECEIVER SECTION MODULES  
DUTY CODE: X0  
TASK STATUS: 3R-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: MINOR, DAMAGE, INJURY  
HOW OFTEN: TWO MONTHS  
OJT TRAINABLE: YES, NO, BASIC ELECTRONICS, TEST EQUIPMENT  
QTP ADEQUATE: NOT USED  
TNG REFERENCE(S): SEE REFERENCES  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
DIGITAL MULTIMETER, SIGNAL GENERATOR (AUDIO AND RF),  
OSCILLOSCOPE, FREQUENCY COUNTER, ATTENUATORS, DIODE DETECTOR,  
PYROMETER, RF MILLIVOLTMETER, COMMON HAND TOOLS, ANALOG  
MULTIMETER, SOLDERING KIT  
REFERENCES:  
T.O. 31R5-2FRC-122  
T.O. 31R5-2FRC-191  
T.O. 31R5-2G-342  
T.O. 31R5-2G-343  
T.O. 31R5-2G-344  
T.O. 31R5-2FRC-102  
T.O. 31R5-2FRC-103  
T.O. 31R5-2FRC-104  
CONDITIONS CUES:  
COND: CAN BE TIME CRITICAL, IN SHOP  
CUE: RESULT OF TROUBLESHOOTING TO MODULE LEVEL  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB   1ENL   5SKL   7SKL   TD   ATI  
304X0 K 0406   .67   7.0   6.0   5.0   6.0   6.06   2.0  
304X0 K 0390   3.74   16.0   16.0   19.0   15.0   6.24   11.0  
304X0 K 0477   2.50   8.0   10.0   12.0   12.0   5.69   7.0  
ACTIVITIES SKILL KNOWLEDGE:  
K TRACE CIRCUIT DIAGRAMS  
A CHECK WAVEFORMS  
A CHECK VOLTAGE LEVEL  
A CHECK VOLTAGE STABILITY  
A CHECK RESISTANCE AT SUSPECTED FAULTY COMPONENT  
A REMOVE AND REPLACE FAULTY COMPONENT  
OSR JOB INVENTORY TASK STATEMENTS:  
0 K0390 K ISOLATE MALFUNCTIONS IN SOLID-STATE FM RECEIVERS  
0 K0406 K ISOLATE MALFUNCTIONS IN TUBE TYPE FM RECEIVERS  
0 K0477 A REPAIR MALFUNCTIONS IN SOLID-STATE FM RECEIVERS

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TASK #: 00370  
ALIGN AN/FRC-97 RADIO SET GROUP MODULATOR  
DUTY CODE: X0  
TASK STATUS: 3R-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: WEEKLY  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: NOT USED  
TNG REFERENCE(S): T.O. 31R5-2G-342  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
AC VOLTMETER, SPECTRUM ANALYZER, AUDIO TONE GENERATOR, COMMON  
HANDTOOLS, SIGNAL GENERATOR  
REFERENCES:  
T.O. 31R5-2G-342  
CONDITIONS CUES:  
COND: CAN BE TIME CRITICAL, IN SHOP  
CUE: RESULT OF TROUBLESHOOTING  
JOB STANDARDS:  
IAW REFERENCES



OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 L 0521 3.70 26.0 26.0 25.0 17.0 5.32 11.0  
304X0 L 0531 3.63 17.0 18.0 20.0 16.0 6.15 11.0

ACTIVITIES SKILL KNOWLEDGE:  
A INSERT KNOWN FREQUENCY LEVEL  
A ADJUST VOLTAGE LEVEL  
A CHECK PILOT TONE LEVEL  
A INSERT NEW FREQUENCY LEVEL  
A CHECK FOR CARRIER DROPOUT

OSR JOB INVENTORY TASK STATEMENTS:  
0 L0521 A ADJUST TRANSMITTER FREQUENCY MODULATION (FM) MODULA-  
TOR COMPONENTS  
0 L0531 A ALIGN FM SHF TRANSMITTERS

TASK #: 00380  
INSPECT AN/FRC-127 RADIO SET  
DUTY CODE: X0  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 2

TNOTES:  
CONSEQUENCES: NONE, DAMAGE, NONE  
HOW OFTEN: 28, 84, 156  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X0-30J, LWC-2140CG-31R5-4-45-6WC-1,  
T.O. 31R5-4-45-6WC-1, AND T.O. 31R5-4-45-2

TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
POWER METER, FREQUENCY COUNTER, AUDIO OSCILLATOR, SELECTIVE  
VOLTMETER, SIGNAL GENERATOR, CLEANING SUPPLIES

REFERENCES:  
LWC-2140CG-31R5-4-45-6WC-1  
T.O. 31R5-4-45-6WC-1

CONDITIONS CUES:  
COND: IN SHOP, OUT OF SERVICE  
CUE: PHI

JOB STANDARDS:  
IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 S 1389 1.74 6.0 10.0 9.0 9.0 4.90 7.0

ACTIVITIES SKILL KNOWLEDGE:  
A CHECK FAULT ALARMS  
A CHECK METER READINGS  
A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
A CLEAN EXTERIOR  
A CHECK BASEBAND PILOT LEVELS  
A CHECK RECEIVE SIGNAL LEVEL AND RECEIVE QUIETING  
CURVES  
A CHECK RADIO ORDER WIRE OPERATION  
A CHECK POWER SUPPLY OUTPUT VOLTAGE  
A CHECK TRANSMIT OUTPUT POWER  
A CHECK TRANSMIT OUTPUT FREQUENCY  
A CHECK FM REFERENCE CRYSTAL OSCILLATOR FREQUENCY  
A CHECK LOCAL OSCILLATOR FREQUENCY

OSR JOB INVENTORY TASK STATEMENTS:  
0 S1389 A VISUALLY INSPECT INSTALLATION AND INTERCONNECTIONS OF  
INSTALLED EQUIPMENT

TASK #: 00390  
TROUBLESHOOT AN/FRC-127 RADIO SET RECEIVE SIDE  
DUTY CODE: X0  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: NONE, DAMAGE, NONE  
HOW OFTEN: INDEFINITE (NOT BEEN DONE YET)  
OJT TRAINABLE: YES, NO, BASIC ELECTRONICS, TEST EQUIPMENT,  
MICROWAVE THEORY  
QTP ADEQUATE: NO  
TNG REFERENCE(S): QTP 304X0-30J, T.O. 31R5-4-45-2  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
FREQUENCY COUNTER, SELECTIVE VOLTMETER, VOLTMETER, SPECTRUM  
ANALYZER, ANALOG MULTIMETER, DIGITAL MULTIMETER, OSCILLOSCOPE,  
SOLDERING KIT  
REFERENCES:  
T.O. 31R5-4-45-2  
CONDITIONS CUES:  
COND: IN SHOP, OUT OF SERVICE  
CUE: USER COMPLAINT, FAULT ALARMS  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 Q 1024 2.78 20.0 20.0 17.0 11.0 5.53 11.0  
ACTIVITIES SKILL KNOWLEDGE:  
A CHECK FAULT ALARMS  
A CHECK RECEIVE SIGNAL LEVEL  
A CHECK LOCAL OSCILLATOR FREQUENCY  
A CHECK IF AMPLIFIER OUTPUT  
A CHECK LINE AMPLIFIER OUTPUT  
K ISOLATE COMPONENT THROUGH AUDIO/IF/RF SIGNAL INJEC-  
TION AND CIRCUIT TRACING  
A REMOVE AND REPLACE INDICATED MODULE  
A REMOVE AND REPLACE INDICATED COMPONENT  
OSR JOB INVENTORY TASK STATEMENTS:  
0 Q1024 K ISOLATE MALFUNCTIONS IN LINE AMPLIFIERS

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TASK #: 00400  
TROUBLESHOOT AN/FRC-127 RADIO SET TRANSMIT SIDE  
DUTY CODE: X0  
TASK STATUS: 3R-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: NONE, DAMAGE, NONE  
HOW OFTEN: INDEFINITE (NOT BEEN DONE YET)  
OJT TRAINABLE: YES, NO, BASIC ELECTRONICS, TEST EQUIPMENT,  
MICROWAVE THEORY  
QTP ADEQUATE: NO  
TNG REFERENCE(S): QTP 304X0-30J, T.O. 31R5-4-45-2  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
FREQUENCY COUNTER, SELECTIVE VOLTMETER, VOLTMETER, SPECTRUM  
ANALYZER, ANALOG MULTIMETER, DIGITAL MULTIMETER, OSCILLOSCOPE,  
SOLDERING EQUIPMENT  
REFERENCES:  
T.O. 31R5-4-45-2  
CONDITIONS CUES:  
COND: IN SHOP, OUT OF SERVICE  
CUE: USER COMPLAINT, FAULT ALARMS  
JOB STANDARDS:  
IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 I 0230 4.07 60.0 54.0 49.0 24.0 4.16 18.0  
ACTIVITIES SKILL KNOWLEDGE:  
A CHECK FAULT ALARMS  
A CHECK TRANSMIT SIGNAL LEVEL  
A CHECK TRANSMIT FREQUENCY  
A CHECK LOCAL OSCILLATOR FREQUENCY  
A CHECK FM EXCITER OUTPUT  
A CHECK POWER MULTIPLIER OUTPUT  
A CHECK WAVEGUIDE FREQUENCY AND POWER LEVEL  
K ISOLATE COMPONENT THROUGH AUDIO/IF/RF SIGNAL INJECTION AND CIRCUIT TRACING  
A REMOVE AND REPLACE INDICATED MODULE  
A REMOVE AND REPLACE INDICATED COMPONENT  
OSR JOB INVENTORY TASK STATEMENTS:  
0 I0230 A REMOVE ELECTROMECHANICAL COMPONENTS USING SOLDERING METHODS

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TASK #: 00410  
ALIGN OR ADJUST AN/FRC-127 RADIO SET  
DUTY CODE: X0  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: NONE, DAMAGE, NONE  
HOW OFTEN: INDEFINITE (NOT BEEN DONE YET)  
OJT TRAINABLE: YES, NO, BASIC ELECTRONICS, TEST EQUIPMENT, MICROWAVE THEORY  
QTP ADEQUATE: NO  
TNG REFERENCE(S): QTP 304X0-30J, T.O. 31R5-4-45-2  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
SELECTIVE VOLTMETER, HAND TOOLS, DIGITAL MULTIMETER, ANALOG MULTIMETER  
REFERENCES:  
T.O. 31R5-4-45-2  
CONDITIONS CUES:  
COND: IN SHOP, OUT OF SERVICE  
CUE: RESULT OF TROUBLESHOOTING, FAILURE OF PMI CHECK  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 Q 0984 3.00 25.0 24.0 22.0 12.0 4.28 11.0  
ACTIVITIES SKILL KNOWLEDGE:  
A ADJUST TRANSMIT AMPLIFIER OUTPUT LEVEL  
A ADJUST TRANSMIT PILOT TONE LEVEL  
A ADJUST RECEIVE BASEBAND LEVEL CONTROL  
A ADJUST RECEIVE LINE AMPLIFIER OUTPUT LEVEL  
A ADJUST LOCAL OSCILLATOR FREQUENCY  
A ADJUST RESONANT CAVITY OUTPUT FREQUENCY  
A ADJUST TRANSMIT PILOT DETECTOR THRESHOLD  
A ADJUST TRANSMIT ALARM INTERFACE THRESHOLD  
OSR JOB INVENTORY TASK STATEMENTS:  
0 Q0984 A ADJUST LINE AMPLIFIER COMPONENTS

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TASK #: 00420  
INSPECT AN/FRC-162(V) MICROWAVE RADIO  
DUTY CODE: X0  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 1  
TNOTES:  
CONSEQUENCES: MINOR (DEGRADED COMMUNICATIONS), NONE, NONE  
HOW OFTEN: 84 AND 168 DAY AND SPECIAL INSPECTIONS  
OJT TRAINABLE: YES  
QTP ADEQUATE: HASN'T USED IT  
TNG REFERENCE(S): QTP 304X0-30VB  
TTT: 5  
SME OPINION: 3

**EQUIPMENT:**

(HP 432A) POWER METER, THERMISTOR MOUNT (HP 478A), MICROWAVE FREQUENCY COUNTER, FREQUENCY COUNTER (SYSTRON DONNER 6316A), FREQUENCY SELECTIVE VOLTMETER, DIGITAL VOLTMETER, MICROWAVE SIGNAL GENERATOR AND AN/URM-44A, TEST OSCILLATOR (HP 651B) DELAY AND LINEARITY TEST SIGNAL GENERATOR (COLLINS 70E1-MW), DELAY AND TEST LINEARITY SIGNAL ANALYZER (COLLINS 70E2-MW), 70 MHZ DELAY AND LINEARITY AND TEST RECEIVER (COLLINS 70G1-MW), AC VOLTMETER (HP 400E), OSCILLOSCOPE, AN/USM-281C, WHITE NOISE TEST SET (MARCONI (0A2090A), CONNECTORS, TEST CABLES, TEST PROD WITH INSULATED LEAD, ADAPTORS, 75 OHM TERMINATION, CLIP-ON MILLIAMMETER (HP 428B), DISTORTION ANALYZER (HP 333A), DEVIATION CALIBRATOR 70 D2-2 MW, DATA TRANSMISSION TEST SET MODEL 604M, HP 85B COMPUTER, TOOL KIT, ANALOG MULTIMETER, SPECTRUM ANALYZER

**REFERENCES:**

T.O. 31R5-2FRC-162-1  
T.O. 31R5-2FRC162-6WC-1

**CONDITIONS CUES:**

COND:  
CUE:

**JGB STANDARDS:**

IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 Q 1081 2.43 17.0 15.0 10.0 5.0 4.21 7.0

**ACTIVITIES SKILL KNOWLEDGE:**

- A CLEAN EQUIPMENT
- A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS
- A VERIFY SWITCH POSITIONS
- A CHECK METER INDICATIONS
- A TEST ALARM LAMP OPERATION
- A MEASURE TRANSMIT POWER AND FREQUENCY
- A MEASURE TRANSMIT AND RECEIVE PILOT LEVELS
- A MEASURE TRANSMIT PILOT DEVIATION LEVEL
- A MEASURE AUTOMATIC FREQUENCY CONTROL (AFC) REFERENCE UNIT FREQUENCY
- A MEASURE RECEIVE LOCAL OSCILLATOR FREQUENCY
- A VERIFY AUTOMATIC GAIN CONTROL (AGC) VOLTAGES VERSUS AGC METER READINGS
- A MEASURE AUDIO CHANNEL TRANSMIT AND RECEIVE LEVEL
- A TEST TRANSMITTER LINEARITY
- A MEASURE RECEIVE SIGNAL FOR DELAY EQUALIZATION
- A MEASURE BASEBAND FREQUENCY RESPONSE
- A MEASURE SYSTEM NOISE POWER RATIO (NPR) AND RESIDUAL NOISE
- K APPLY LOGARITHMIC AND EXPONENTIAL NOTATION

**OSR JOB INVENTORY TASK STATEMENTS:**

0 Q1081 A PERFORM PMI ON AUTOMATIC FAULT SENSING AND SWITCHING NETWORKS

**TASK #: 00430**

ALIGN AND ADJUST FRC-162(V) MICROWAVE RADIO  
DUTY CODE: X0  
TASK STATUS: 3R-K  
TIMES ANALYZED: 1

**TNOTES:**

CONSEQUENCES: SERIOUS, NONE, NONE  
HOW OFTEN: MONTHLY  
OJT TRAINABLE: YES  
QTP ADEQUATE: HASN'T USED IT YET  
TNG REFERENCE(S): QTP 304X0-30VB  
TTT: 5  
SME OPINION: 5

**EQUIPMENT:**

(HP 432A) POWER METER, THERMISTOR MOUNT (HP 478A), MICROWAVE FREQUENCY COUNTER, FREQUENCY COUNTER (SYSTRON DONNER 6316A), FREQUENCY SELECTIVE VOLTMETER, DIGITAL VOLTMETER, MICROWAVE SIGNAL GENERATOR AND AN/URM-44A, TEST OSCILLATOR (HP 651B) DELAY AND LINEARITY TEST SIGNAL GENERATOR (COLLINS 70E1-MW), DELAY AND TEST LINEARITY SIGNAL ANALYZER (COLLINS 70E2-MW), 70 MHZ DELAY AND LINEARITY AND TEST RECEIVER (COLLINS 70G1-MW), AC VOLTMETER (HP 400E), OSCILLOSCOPE, AN/USM-281C, WHITE NOISE TEST SET (MARCONI (0A2090A), CONNECTORS, TEST CABLES, TEST PROD WITH INSULATED LEAD, ADAPTORS, 75 OHM TERMINATION, CLIP-ON MILLIAMMETER (HP 428B), DISTORTION ANALYZER (HP 333A), DEVIATION CALIBRATOR 70 D2-2 MW, DATA TRANSMISSION TEST SET MODEL 604M, HP 85B COMPUTER, ANALOG MULTIMETER, TOOL KIT, SPECTRUM ANALYZER

REFERENCES:

T.O. 31R5-2FRC162-1  
T.O. 31R5-2FRC162-6WC-1

CONDITIONS CUES:

COND: EQUIPMENT DOWN; BACKUP EQUIPMENT ON THE AIR  
CUE: INSPECTION RESULTS OR OTHER OUT OF TOLERANCE INDICATIONS

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 I 0229 2.78 44.0 37.0 34.0 20.0 2.8 10.0

ACTIVITIES SKILL KNOWLEDGE:

A ADJUST ATTENUATOR UNIT  
A ADJUST AFC REFERENCE UNIT  
A ADJUST AFC DISCRIMINATOR ZERO AND DEVIATION SENSITIVITY  
A ADJUST RF POWER OUTPUT  
A ADJUST TRANSMITTER OR FREQUENCY  
A ADJUST TRANSMITTER LINEARITY  
A CALIBRATE TRANSMIT DEVIATION AND ADJUST MODULATION AMPLIFIER  
A ADJUST TWT PERFORMANCE MONITOR  
A ADJUST TWT OUTPUT POWER  
A ADJUST TWT PERFORMANCE MONITOR  
A ADJUST TWT OUTPUT POWER  
A ADJUST LOCAL OSCILLATOR FREQUENCY  
A ADJUST LOCAL OSC DRIVE TO MIXER  
A ADJUST IF AMPLIFIER DEVIATION SENSITIVITY  
A ADJUST IF AMPLIFIER DISCRIMINATOR  
A CALIBRATE AGC VOLTAGE VERSUS RSL  
A ADJUST IF AMPLIFIER DISCRIMINATOR  
A CALIBRATE AGC VOLTAGE VERSUS RSL  
A ADJUST IF AMPLIFIER SQUELCH  
A CHECK/ADJUST SENSOR LOGIC SWITCH, SWITCH CONTROL, AND SWITCHOVER CONTROL UNITS  
A ADJUST FM MODULATOR, FM DEMODULATOR, AND AUDIO CHANNEL LEVELS  
A CALIBRATE DEVIATION TEST MONITOR  
A ADJUST DELAY EQUALIZATION  
  
A MEASURE BASEBAND ENVELOPE DELAY  
A MEASURE BIT ERROR RATE

OSR JOB INVENTORY TASK STATEMENTS:  
0 I0229 A REMOVE ELECTROMECHANICAL COMPONENTS USING METHODS OTHER THAN SOLDERING

TASK #: 00440

TROUBLESHOOT AN/FRC-162(V) AND COORDINATE WITH DISTANT END

DUTY CODE: X0

TASK STATUS: 3R-KP

TIMES ANALYZED: 1

TNOTES:

CONSEQUENCES: MINOR, NONE, NONE  
HOW OFTEN: MONTHLY  
OJT TRAINABLE: YES  
QTP ADEQUATE: NOT USED YET  
TNG REFERENCE(S): QTP 304X0-30VB  
TTT: 3 OR 5  
SHE OPINION: 3 OR 5

EQUIPMENT:

(HP 432A) POWER METER, THERMISTOR MOUNT (HP 478A), MICROWAVE FREQUENCY COUNTER, (SYSTRON DONNER 6316A), FREQUENCY SELECTIVE VOLTMETER, DIGITAL VOLTMETER, MICROWAVE SIGNAL GENERATOR AND AN/URM-44A, TEST OSCILLATOR (HP 651B) DELAY AND LINEARITY TEST SIGNAL GENERATOR (COLLINS 70E1-MW), DELAY AND TEST LINEARITY SIGNAL ANALYZER (COLLINS 70E2-MW), 70 MHZ DELAY AND LINEARITY AND TEST RECEIVER (COLLINS 70G1-MW), AC VOLTMETER (HP 400E), OSCILLOSCOPE, AN/USM-281C, WHITE NOISE TEST SET (MARCONI (0A2090A), CONNECTORS, TEST CABLES, TEST PROD WITH INSULATED LEAD, ADAPTORS, 75 OHM TERMINATION, CLIP-ON MILLIAMMETER (HP 428B), DISTORTION ANALYZER (HP 333A), DEVIATION CALIBRATOR 70 D2-2 MH, DATA TRANSMISSION TEST SET MODEL 604H, HP 85B COMPUTER, TOOL KIT, SPECTRUM ANALYZER, SOLDERING KIT, SELECTIVE LEVEL METER

REFERENCES:

T.O. 31R5-2FRC162-1

T.O. 31R5-2FRC

CONDITIONS CUES:

COND: EQUIPMENT COULD BE UP OR DOWN; BACKUP WOULD PROBABLY BE ON THE AIR

CUE: FEEDBACK FROM DISTANT END OR RADIO ALARM, SPECIAL CHECKS DONE EVERY TWELVE MONTHS OR WHEN SIGNAL IS DEGRADED AS DETERMINED FROM PMI, OR DISTANT END FEEDBACK

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 J 0290 2.74 8.0 7.0 9.0 11.0 6.31 11.0

ACTIVITIES SKILL KNOWLEDGE:

- A CHECK VISUAL ALARMS
- A CHECK THAT FREQUENCIES AT VARIOUS POINTS ARE CORRECT
- A CHECK RADIO LEVELS
- A INSERT TEST TONES AND CHECK VARIOUS POINTS IN RADIO
- A CHECK POWER SUPPLY
- A COORDINATE WITH DISTANT END TO DETERMINE WHAT THEY ARE SENDING AND RECEIVING
- K ISOLATE FAULTY TRANSMITTER PARTS
- K ISOLATE FAULTY RECEIVER PARTS
- K ISOLATE FAULTY ANCILLARY EQUIPMENT PARTS
- A ADJUST DELAY EQUALIZATION
- A MEASURE BASEBAND ENVELOPE DELAY
- A MEASURE BIT ERROR RATE
- A MEASURE RECEIVE SIGNAL FOR DELAY EQUALIZATION
- A MEASURE BASEBAND FREQUENCY RESPONSE
- A MEASURE SYSTEM NPRS AND BINRS

OSR JOB INVENTORY TASK STATEMENTS:

0 J0290 K ISOLATE MALFUNCTIONS IN ANTENNA TRANSMISSION LINES OR RELATED COMPONENTS, SUCH AS FILTERS

TASK #: 00450

INSPECT AN/FRC-171(V)10 DIGITAL RADIO SET

DUTY CODE: X0

TASK STATUS: 3R-KP

TIMES ANALYZED: 3

TNOTES:

CONSEQUENCES: MINOR TO SERIOUS, DAMAGE, INJURY

HOW OFTEN: 84 DAYS

OJT TRAINABLE: YES

QTP ADEQUATE: NONE, LOCAL TASK QUALIFICATION PACKAGES ARE AVAILABLE (WIDEBAND TRAINING PLAN)

TNG REFERENCE(S): LOCALLY DEVELOPED WIDEBAND TRAINING PLAN

TTT: 3

SME OPINION: 3 (MOST INSPECTIONS)

EQUIPMENT:

VOLTMETER, FREQUENCY COUNTER, POWER METER, BIT ERROR RATE (BER)

TEST SET, SPECTRUM ANALYZER, BUILT IN DISPLAY PANEL METER,

OSCILLOSCOPE, ANALOG MULTIMETER, DIGITAL MULTIMETER, TOOL KIT

REFERENCES:

T.O. 31R5-2FRC-181

T.O. 31R5-2FRC-186WC-1

CONDITIONS CUES:

COND: ORGANIZATIONAL MAINTENANCE; EQUIPMENT UP OR DOWN

CUE: PMI

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X0 L   | 0516 | 3.13 | 21.0 | 22.0 | 20.0 | 15.0 | 4.42 | 11.0 |
| 304X0 K   | 0418 | 4.04 | 18.0 | 20.0 | 17.0 | 10.0 | 4.22 | 11.0 |
| 304X0 G   | 0155 | 4.11 | 47.0 | 31.0 | 25.0 | 19.0 | 3.67 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:

- A CHECK DISPLAY PANEL ASSEMBLY 511800 LAMPS
- A CHECK TIMING STATUS LAMPS
- A CHECK POWER SUPPLY VOLTAGES ON DISPLAY PANEL
- A CHECK RF READINGS ON DISPLAY PANEL
- A VERIFY CATHODE CURRENTS ARE INDICATING A NON-DEGRADED TRAVELING WAVE TUBE (TWT)
- A CHECK TRANSMITTER AND RECEIVER STABLE LOCAL OSCILLATOR (STALG) FREQUENCY
- A CLEAN FANS AND ENTIRE RADIO
- A CHECK METER READINGS
- A PERFORM LOOPBACK TEST
- A TEST MODEM
- A TEST MULTIPLEXER CARD
- A TEST DEMULTIPLEXER CARD
- A TEST TIMING MODULE
- A TEST SWITCHOVER LOGIC MODULE
- A CHECK OF RECEIVE ALARM LAMPS
- A CHECK TWT POWER SUPPLY VOLTAGE AND CURRENT
- A ADJUST POWER ALARM THRESHOLD AND TRANSMITTER OUTPUT
- A CHECK HELIX MONITOR
- K INTERPRET AN/FRC-171 BLOCK DIAGRAM

OSR JOB INVENTORY TASK STATEMENTS:

- 0 G0155 A OBSERVE STATUS DISPLAY PANELS TO DETERMINE EQUIPMENT OPERATION (SIGNAL QUALITY)
- 0 K0418 A PERFORM PHI ON DIGITAL RECEIVERS
- 0 L0516 A ADJUST POWER MONITORS

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TASK #: 00460

TROUBLESHOOT AN/FRC-171(V)10 DIGITAL RADIO SET

DUTY CODE: X0

TASK STATUS: 3R-KP

TIMES ANALYZED: 3

TNOTES:

CONSEQUENCES: SERIOUS, NONE, INJURY

HOW OFTEN: SEMIANNUALLY

OJT TRAINABLE: YES

QTP ADEQUATE: NONE

TNG REFERENCE(S): T.O. 31R5-2FRC-181

TTT: 5

SME OPINION: 3

EQUIPMENT:

VOLT OHM METER, FREQUENCY COUNTER, POWER METER, BIT ERROR RATE (BER) TEST SET, SPECTRUM ANALYZER, TWT POWER SUPPLY TESTER, OSCILLOSCOPE, SOLDERING KIT, TOOL KIT, ANALOG MULTIMETER, DIGITAL MULTIMETER

REFERENCES:

T.O. 31R5-2FRC-181

CONDITIONS CUES:

COND: ORGANIZATIONAL MAINTENANCE; BACK UP RADIO ON-LINE

CUE: INSPECTION RESULTS; EQUIPMENT FAILURE

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X0 L   | 0535 | 3.83 | 6.0  | 12.0 | 13.0 | 11.0 | 6.56 | 11.0 |
| 304X0 L   | 0573 | 2.09 | 7.0  | 10.0 | 11.0 | 9.0  | 3.89 | 7.0  |

ACTIVITIES SKILL KNOWLEDGE:

- K ISOLATE FAULTY LINE REPLACEABLE UNITS (LRU), MODULES, AND COMPONENTS
- A REMOVE AND REPLACE LINE REPLACEABLE UNITS (LRU), MODULES, AND COMPONENTS
- K INTERPRET AN/FRC-171 BLOCK DIAGRAM

OSR JOB INVENTORY TASK STATEMENTS:

- 0 L0535 K ISOLATE MALFUNCTIONS IN DIGITAL TRANSMITTERS
- 0 L0573 A REMOVE DIGITAL TRANSMITTER MODULAR CIRCUIT CARDS

TASK #: 00470  
 ALIGN OR ADJUST AN/FRC-171(V)10 DIGITAL RADIO SET  
 DUTY CODE: X0  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: SERIOUS, NONE, NONE  
 HOW OFTEN: 84 DAYS  
 OJT TRAINABLE: YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): LOCALLY DEVELOPED WIDEBAND TRAINING PLAN  
 TTT: 5  
 SME OPINION: 3  
 EQUIPMENT:  
 VOLTMETER, FREQUENCY COUNTER, POWER METER, BIT ERROR RATE (BER)  
 TEST SET, SPECTRUM ANALYZER, COMMON HANDTOOLS, OSCILLOSCOPE  
 ANALOG MULTIMETER, DIGITAL MULTIMETER  
 REFERENCES:  
 T.O. 31R5-2FRC-181  
 T.O. 31R5-2FRC-186WC-1  
 CONDITIONS CUES:  
 COND: ORGANIZATIONAL MAINTENANCE; EQUIPMENT UP OR DOWN  
 CUE: INSPECTION RESULTS  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB   1ENL   5SKL   7SKL   TD   ATI  
           304X0 L 0518 2.85 7.0 13.0 15.0 11.0 5.54 11.0  
           304X0 O 0786 2.98 9.0 8.0 7.0 4.0 5.62 11.0  
 ACTIVITIES SKILL KNOWLEDGE:  
           A ALIGN TWT POWER SUPPLY  
           A ALIGN POWER ALARM THRESHOLD AND TRANSMITTER POWER  
           A ALIGN HELIX MONITOR  
           A ALIGN MONITOR BOARD FOR PROPER METER READINGS  
           A ALIGN FREQUENCY SOURCES  
           A CONFIGURE MODEM  
           A CONFIGURE MULTIPLEXER  
           A CONFIGURE DEMULTIPLEXER  
           A CONFIGURE TIMING MODULE  
           A CONFIGURE SWITCHOVER MODULE  
 OSR JOB INVENTORY TASK STATEMENTS:  
   0 L0518 A ADJUST SUPER HIGH FREQUENCY (SHF) POWER AMPLIFIER  
           COMPONENTS  
   0 00786 A ADJUST DIGITAL MODEMS



TASK #: 00480  
 INSPECT THE AN/FTA-20 TELEPHONE TERMINAL  
 DUTY CODE: X0  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: SERIOUS, NONE, NONE  
 HOW OFTEN: 28, 56, 84  
 OJT TRAINABLE: YES, NO, BASIC ELECTRONICS  
 QTP ADEQUATE: NONE  
 QTP REFERENCE(S): T.O. 31W2-4-116-36WC-1, T.O. 31W2-4-116-31  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 VOICE FREQUENCY OSCILLATOR, RMS VOLTMETER, FREQUENCY COUNTER  
 MATCHING TRANSFORMER, DIGITAL MULTIMETER, OSCILLOSCOPE,  
 POWER SUPPLY, CAPACITOR SUBSTITUTION BOX  
 REFERENCES:  
 T.O. 31W2-4-116-36WC-1  
 T.O. 31W2-4-116-31  
 CONDITIONS CUES:  
 COND: IN SHOP, EQUIPMENT RELEASED  
 CUE: PMI OR EQUIPMENT FAILURE  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X0 S 1389 1.74 6.0 10.0 9.0 9.0 4.90 7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 A CLEAN AND LUBRICATE EQUIPMENT  
 A PERFORM CORROSION CONTROL PROCEDURES  
 A PERFORM EQUIPMENT OPERATIONAL CHECKS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 S1389 A VISUALLY INSPECT INSTALLATION AND INTERCONNECTIONS OF  
 INSTALLED EQUIPMENT

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TASK #: 00490  
 ALIGN AND ADJUST THE AN/FTA-20 TELEPHONE TERMINAL  
 DUTY CODE: X0  
 TASK STATUS: 3R-KP  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: SERIOUS, NONE, NONE  
 HOW OFTEN: MONTHLY  
 OJT TRAINABLE: YES, NO, BASIC ELECTRONICS AND SYSTEM PRINCIPLES  
 QTP ADEQUATE: NONE  
 QTP REFERENCE(S): T.O. 31W2-4-116-36WC-1 AND T.O. 31W2-4-116-31  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 AUDIO OSCILLATOR, AUDIO LEVEL METER, FREQUENCY COUNTER, HAND SET,  
 OSCILLOSCOPE  
 REFERENCES:  
 T.O. 31W2-4-116-36WC-1  
 T.O. 31W2-4-116-31  
 CONDITIONS CUES:  
 COND: IN SHOP, EQUIPMENT RELEASED  
 CUE: PMI, EQUIPMENT FAILURE, OR USER COMPLAINT  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X0 Q 0962 3.07 31.0 29.0 26.0 16.0 3.77 11.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A PERFORM TRANSMIT LEVEL AND SENSITIVITY CHECK  
 A PERFORM TRANSMIT SIGNAL FREQUENCY CHECK  
 A PERFORM RECEIVE LEVEL CHECK  
 A PERFORM RECEIVE SIGNAL DETECTOR AND SENSITIVITY CHECK  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 Q0962 A ADJUST AUDIO AMPLIFIER COMPONENTS

TASK #: 00500  
TROUBLESHOOT THE AN/FTA-20 TELEPHONE TERMINAL RECEIVE SECTION  
DUTY CODE: X0  
TASK STATUS: 3R-KP  
TIMES ANALYZED: 3  
NOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: SEMI-ANNUALLY  
OJT TRAINABLE: YES, NO, BASIC ELECTRONICS AND SYSTEM PRINCIPLES  
QTP ADEQUATE: NONE  
QTP REFERENCE(S): T.O. 31W2-4-116-36WC-1 AND T.O. 31W2-4-116-31  
TTT: 3  
SME OPINION: 5  
EQUIPMENT:  
AUDIO OSCILLATOR, AUDIO LEVEL METER, HAND SET, DIGITAL  
MULTIMETER, OSCILLOSCOPE, CAPACITOR SUBSTITUTION BOX,  
FREQUENCY COUNTER, CIRCUIT TESTER  
REFERENCES:  
T.O. 31W2-4-116-36WC-1  
T.O. 31W2-4-116-31  
CONDITIONS CUES:  
COND: IN SHOP, EQUIPMENT RELEASED  
CUE: PMI, EQUIPMENT FAILURE, OR USER COMPLAINT  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB   1ENL   5SKL   7SKL   TD   ATI  
304X0 Q 1035 2.93 13.0 16.0 15.0 11.0 5.49 11.0  
ACTIVITIES SKILL KNOWLEDGE:  
A PERFORM EQUIPMENT OPERATION CHECKS  
A ALIGN OR ADJUST COMPONENTS  
K ISOLATE FAULTY COMPONENT  
OSR JOB INVENTORY TASK STATEMENTS:  
0 Q1035 K ISOLATE MALFUNCTIONS IN SOLID-STATE AUDIO AMPLIFIERS

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TASK #: 00510  
TROUBLESHOOT THE AN/FTA-20 TELEPHONE TERMINAL TRANSMIT SECTION  
DUTY CODE: X0  
TASK STATUS: 3R-KP  
TIMES ANALYZED: 3  
NOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: SEMI-ANNUALLY  
OJT TRAINABLE: YES, NO, BASIC ELECTRONICS AND SYSTEM PRINCIPLES  
QTP ADEQUATE: NONE  
QTP REFERENCE(S): T.O. 31W2-4-116-36WC-1 AND T.O. 31W2-4-116-31  
TTT: 3  
SME OPINION: 5  
EQUIPMENT:  
AUDIO OSCILLATOR, AUDIO LEVEL METER, HAND SET, DIGITAL  
MULTIMETER, OSCILLOSCOPE, 20 HZ RING GENERATOR, CAPACITOR  
SUBSTITUTION BOX, FREQUENCY COUNTER  
REFERENCES:  
T.O. 31W2-4-116-36WC-1  
T.O. 31W2-4-116-31  
CONDITIONS CUES:  
COND: IN SHOP, EQUIPMENT RELEASED  
CUE: PMI, EQUIPMENT FAILURE, OR USER COMPLAINT  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB   1ENL   5SKL   7SKL   TD   ATI  
304X0 Q 1045 3.26 8.0 13.0 14.0 10.0 5.89 11.0  
304X0 K 0388 3.61 22.0 22.0 24.0 16.0 5.97 11.0  
304X0 H 6638 3.57 14.0 15.0 14.0 9.0 5.93 11.0  
ACTIVITIES SKILL KNOWLEDGE:  
A PERFORM EQUIPMENT OPERATION CHECKS  
A ALIGN OR ADJUST COMPONENTS  
K ISOLATE FAULTY COMPONENT  
OSR JOB INVENTORY TASK STATEMENTS:  
0 Q1045 K ISOLATE MALFUNCTIONS IN SOLID-STATE AFC  
0 K0388 K ISOLATE MALFUNCTIONS IN SOLID-STATE AGC CIRCUITS  
0 H0638 K ISOLATE MALFUNCTIONS IN SOLID-STATE IN-BAND SIGNALING  
AND CONTROL CIRCUITS  
0 K0388 K ISOLATE MALFUNCTIONS IN SOLID-STATE AGC CIRCUITS  
0 H0638 K ISOLATE MALFUNCTIONS IN SOLID-STATE IN-BAND SIGNALING  
AND CONTROL CIRCUITS  
0 Q1045 K ISOLATE MALFUNCTIONS IN SOLID-STATE AFC

TASK #: 00520  
 REMOVE, REPAIR, AND REPLACE AN/FTA-20 TELEPHONE TERMINAL CIRCUIT CARDS  
 DUTY CODE: X0  
 TASK STATUS: 3R-KP  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: SEMI-ANNUALLY  
 OJT TRAINABLE: YES, NO, REPAIR REQUIRES EXTENSIVE KNOWLEDGE  
 QTP ADEQUATE: NONE  
 QTP REFERENCE(S): T.O. 31W2-4-116-36WC-1 AND T.O. 31W2-4-116-31  
 TTT: 3  
 SME OPINION: 5  
 EQUIPMENT:  
 OSCILLOSCOPE, CIRCUIT TESTER, DIGITAL MULTIMETER  
 REFERENCES:  
 T.O. 31W2-4-116-36WC-1  
 T.O. 31W2-4-116-31  
 CONDITIONS CUES:  
 COND: IN SHOP, EQUIPMENT RELEASED  
 CUE: ISOLATED DEFECT  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X0 I 0236 3.04 40.0 40.0 40.0 26.0 3.60 12.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 K ISOLATE FAULTY CIRCUIT CARD COMPONENTS  
 A REMOVE AND REPLACE CIRCUIT BOARD COMPONENTS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 I0236 A REMOVE ELECTRONIC SUBASSEMBLIES USING METHODS OTHER  
 THAN SOLDERING

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TASK #: 00530  
 INSPECT THE AN/FTA-28 TELEPHONE TERMINAL  
 DUTY CODE: X0  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: SERIOUS, NONE, NONE  
 HOW OFTEN: 28  
 OJT TRAINABLE: YES, NO, BASIC ELECTRONICS  
 QTP ADEQUATE: NONE  
 QTP REFERENCE(S): T.O. 31W1-2FTA28-1 AND LOCAL WORK CARDS  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 VOICE FREQUENCY OSCILLATOR, RMS VOLTMETER, FREQUENCY COUNTER,  
 MATCHING TRANSFORMER, 20 HZ RING GENERATOR, OSCILLOSCOPE,  
 DIGITAL MULTIMETER  
 REFERENCES:  
 T.O. 31W1-2FTA28-1  
 LOCAL WORK CARDS  
 CONDITIONS CUES:  
 COND: IN SHOP, EQUIPMENT RELEASED  
 CUE: PHI OR EQUIPMENT FAILURE  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X0 S 1389 1.74 6.0 10.0 9.0 9.0 4.90 7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A PERFORM OPERATIONAL PERFORMANCE TEST  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 A CLEAN INTERIOR AND EXTERIOR OF EQUIPMENT  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 S1389 A VISUALLY INSPECT INSTALLATION AND INTERCONNECTIONS OF  
 INSTALLED EQUIPMENT

TASK #: 00540  
TROUBLESHOOT THE AN/FTA-28 TELEPHONE TERMINAL TRANSMIT SECTION  
DUTY CODE: X0  
TASK STATUS: 3R-YP  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: SEMI-ANNUALLY  
OJT TRAINABLE: YES, NO, BASIC ELECTRONICS AND SYSTEM PRINCIPLES  
QTP ADEQUATE: NONE  
QTP REFERENCE(S): T.O. 31W1-2FTA28-1 AND LOCAL WORK CARDS  
TTT: 3  
SME OPINION: 5  
EQUIPMENT:  
AUDIO OSCILLATOR, AUDIO LEVEL METER, HAND SET, DIGITAL  
MULTIMETER, OSCILLOSCOPE, 20 HZ RING GENERATOR, CAPACITOR  
SUBSTITUTION BOX, FREQUENCY COUNTER  
REFERENCES:  
T.O. 31W1-2FTA28-1  
LOCAL WORK CARDS  
CONDITIONS CUES:  
COND: IN SHOP, EQUIPMENT RELEASED  
CUE: PMI, EQUIPMENT FAILURE, OR USER COMPLAINT  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 Q 1035 2.93 13.0 16.0 15.0 11.0 5.49 11.0  
ACTIVITIES SKILL KNOWLEDGE:  
A PERFORM OPERATION CHECKS  
A ALIGN OR ADJUST COMPONENTS  
K ISOLATE FAULTY MODULES OR COMPONENTS  
OSR JOB INVENTORY TASK STATEMENTS:  
0 Q1035 K ISOLATE MALFUNCTIONS IN SOLID-STATE AUDIO AMPLIFIERS

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TASK #: 00550  
REMOVE, REPAIR, AND REPLACE AN/FTA-28 TELEPHONE TERMINALCIRCUIT CARDS  
DUTY CODE: X0  
TASK STATUS: 3R-KP  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: SEMI-ANNUALLY  
OJT TRAINABLE: YES, NO, REPAIR REQUIRES EXTENSIVE KNOWLEDGE  
QTP ADEQUATE: NONE  
QTP REFERENCE(S): T.O. 31W1-2FTA28-1 AND LOCAL WORK CARDS  
TTT: 3  
SME OPINION: 5  
EQUIPMENT:  
OSCILLOSCOPE, CIRCUIT TESTER, DIGITAL MULTIMETER, HAND TOOLS  
REFERENCES:  
T.O. 31W1-2FTA28-1  
LOCAL WORK CARDS  
CONDITIONS CUES:  
COND: IN SHOP, EQUIPMENT RELEASED  
CUE: ISOLATED DEFECT  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 I 0236 3.04 40.0 40.0 40.0 26.0 3.60 12.0  
ACTIVITIES SKILL KNOWLEDGE:  
A REMOVE/REPLACE CIRCUIT BOARD COMPONENTS AND MINOR  
PARTS  
A REMOVE OR REPLACE OSCILLATORS  
OSR JOB INVENTORY TASK STATEMENTS:  
0 I0236 A REMOVE ELECTRONIC SUBASSEMBLIES USING METHODS OTHER  
THAN SOLDERING

TASK #: 00560  
 ALIGN AND ADJUST THE AN/FTA-28 TELEPHONE TERMINAL TRANSMIT LEVEL  
 DUTY CODE: X0  
 TASK STATUS: 3R-KP  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: SERIOUS, NONE, NONE  
 HOW OFTEN: MONTHLY  
 OJT TRAINABLE: YES, NO, BASIC ELECTRONICS AND SYSTEM PRINCIPLES  
 QTP ADEQUATE: NONE  
 QTP REFERENCE(S): T.O. 31W1-2FTA28-1 AND LOCAL WORK CARDS  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 AUDIO OSCILLATOR, AUDIO LEVEL METER  
 REFERENCES:  
 T.O. 31W1-2FTA28-1  
 LOCAL WORK CARDS  
 CONDITIONS CUES:  
 COND: IN SHOP, EQUIPMENT RELEASED  
 CUE: PHI, EQUIPMENT FAILURE, OR USER COMPLAINT  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB   1ENL   5SKL   7SKL   TD   ATI  
 304X0 Q 0962 3.07 31.0 29.0 26.0 16.0 3.77 11.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A SET SWITCHES AND CONTROLS  
 A PERFORM FOUR WIRE SEND CONTROL AMPLIFIER LEVEL CHECK  
 A PERFORM FM SIGNALLING OUTPUT LEVEL CHECK  
 A PERFORM TRANSMIT SENSITIVITY CHECK  
 A PEK:ORM SEND AMPLIFIER CHECK  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 Q0962 A ADJUST AUDIO AMPLIFIER COMPONENTS

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TASK #: 00570  
 ALIGN AND ADJUST THE AN/FTA-28 TELEPHONE TERMINAL TRANSMIT SIGNAL FREQUENCY AND TIME CONSTANT  
 DUTY CODE: X0  
 TASK STATUS: 3R-KP  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: SERIOUS, NONE, NONE  
 HOW OFTEN: MONTHLY  
 OJT TRAINABLE: YES, NO, BASIC ELECTRONICS AND SYSTEM PRINCIPLES  
 QTP ADEQUATE: NONE  
 QTP REFERENCE(S): T.O. 31W1-2FTA28-1 AND LOCAL WORK CARDS  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 AUDIO OSCILLATOR, AUDIO LEVEL METER, FREQUENCY COUNTER,  
 HAND SET  
 REFERENCES:  
 T.O. 31W1-2FTA28-1  
 LOCAL WORK CARDS  
 CONDITIONS CUES:  
 COND: IN SHOP, EQUIPMENT RELEASED  
 CUE: PHI, EQUIPMENT FAILURE, OR USER COMPLAINT  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB   1ENL   5SKL   7SKL   TD   ATI  
 304X0 M 0621 3.24 20.0 16.0 16.0 10.0 5.38 11.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A SET SWITCHES AND CONTROLS  
 A CHECK TRANSMIT SIGNALLING FREQUENCIES  
 A CHECK TRANSMIT TIME CONSTANT  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 M0621 A ADJUST IN-BAND SIGNALING AND CONTROL CIRCUIT COMPONENTS

TASK #: 00580  
TROUBLESHOOT THE AN/FTA-28 TELEPHONE TERMINAL RECEIVE SECTION  
DUTY CODE: X0  
TASK STATUS: 3R-KP  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: SEMI-ANNUALLY  
OJT TRAINABLE: YES, NO, BASIC ELECTRONICS AND SYSTEM PRINCIPLES  
QTP ADEQUATE: NONE  
QTP REFERENCE(S): T.O. 31W1-2FTA28-1 AND LOCAL WORK CARDS  
TTT: 3  
SME OPINION: 5  
EQUIPMENT:  
AUDIO OSCILLATOR, AUDIO LEVEL METER, HAND SET, DIGITAL  
MULTIMETER, OSCILLOSCOPE, CAPACITOR SUBSTITUTION BOX,  
FREQUENCY COUNTER  
REFERENCES:  
T.O. 31W1-2FTA28-1  
LOCAL WORK CARDS  
CONDITIONS CUES:  
COND: IN SHOP, EQUIPMENT RELEASED  
CUE: PMI, EQUIPMENT FAILURE, OR USER COMPLAINT  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 Q 1035 2.93 13.0 16.0 15.0 11.0 5.49 11.0  
ACTIVITIES SKILL KNOWLEDGE:  
A PERFORM OPERATION CHECKS  
A ALIGN OR ADJUST COMPONENTS  
K ISOLATE FAULTY MODULES OR COMPONENTS  
OSR JOB INVENTORY TASK STATEMENTS:  
0 Q1035 K ISOLATE MALFUNCTIONS IN SOLID-STATE AUDIO AMPLIFIERS

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TASK #: 00590  
ALIGN AND ADJUST THE AN/FTA-28 TELEPHONE TERMINAL RECEIVE LEVEL AND SENSITIVITY  
DUTY CODE: X0  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: SERIOUS, NONE, NONE  
HOW OFTEN: MONTHLY  
OJT TRAINABLE: YES, NO, BASIC ELECTRONICS AND SYSTEM PRINCIPLES  
QTP ADEQUATE: NONE  
QTP REFERENCE(S): T.O. 31W1-2FTA28-1 AND LOCAL WORK CARDS  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
AUDIO OSCILLATOR, AUDIO LEVEL METER, FREQUENCY COUNTER  
REFERENCES:  
T.O. 31W1-2FTA28-1  
LOCAL WORK CARDS  
CONDITIONS CUES:  
COND: IN SHOP, EQUIPMENT RELEASED  
CUE: PMI, EQUIPMENT FAILURE, OR USER COMPLAINT  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 T 1392 1.48 3.0 5.0 5.0 2.0 4.81 2.0  
ACTIVITIES SKILL KNOWLEDGE:  
A SET SWITCHES AND CONTROLS  
A PERFORM LIMITER-DISCRIMINATOR CHECK  
A PERFORM RECEIVE AMPLIFIER CHECK  
A PERFORM NOISE REDUCING AND SYLLABIC CHECK  
OSR JOB INVENTORY TASK STATEMENTS:  
0 T1392 A ADJUST AUDIO CIRCUITS

TASK #: 00600  
 ALIGN AND ADJUST THE AN/FTA-28 TELEPHONE TERMINAL RECEIVE TIME CONSTANT  
 DUTY CODE: X0  
 TASK STATUS: 3R-KP  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: SERIOUS, NONE, NONE  
 HOW OFTEN: MONTHLY  
 OJT TRAINABLE: YES, NO, BASIC ELECTRONICS AND SYSTEM PRINCIPLES  
 QTP ADEQUATE: NONE  
 QTP REFERENCE(S): T.O. 31W1-2FTA28-1 AND LOCAL WORK CARDS  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 AUDIO OSCILLATOR, AUDIO LEVEL METER, HAND SET  
 REFERENCES:  
 T.O. 31W1-2FTA28-1  
 LOCAL WORK CARDS  
 CONDITIONS CUES:  
 COND: IN SHOP, EQUIPMENT RELEASED  
 CUE: PMI, EQUIPMENT FAILURE, OR USER COMPLAINT  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X0 Q 0962 3.07 31.0 29.0 26.0 16.0 3.77 11.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A ADJUST RECEIVE TIME CONSTANT  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 Q0962 A ADJUST AUDIO AMPLIFIER COMPONENTS

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TASK #: 00610  
 INSPECT THE AN/FYA-74 ATOMIC BEAM FREQUENCY STANDARD GROUP  
 DUTY CODE: X0  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: NONE, NONE, NONE  
 HOW OFTEN: 7, 28, 56  
 OJT TRAINABLE: YES, NO, NOT WITHOUT BASIC ELECTRONICS, TEST  
 EQUIPMENT  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31W2-2FYA74-2 AND T.O. W2-2FYA74-6WC-1  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 DIGITAL MULTIMETER, OSCILLOSCOPE, TOOL KIT  
 REFERENCES:  
 T.O. 31W2-2FYA74-2  
 T.O. W2-2FYA74-6WC-1  
 CONDITIONS CUES:  
 COND: IN SHOP  
 CUE: PMI, USER COMPLAINT, SYSTEM MALFUNCTION  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X0 G 0169 3.78 38.0 28.0 23.0 18.0 4.67 11.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 A CHECK POWER SUPPLY OUTPUTS  
 A CHECK OUTPUT FREQUENCIES  
 A CLEAN INTERIOR/EXTERIOR OF EQUIPMENT  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 G0169 A PERFORM FREQUENCY RESPONSE TESTS

TASK #: 00620  
TROUBLESHOOT AN/FYA-74 ATOMIC BEAM FREQUENCY STANDARD GROUP  
DUTY CODE: X0  
TASK STATUS: 3R-K  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, NONE  
HOW OFTEN: SEMI-ANNUALLY  
OJT TRAINABLE: YES, NO, NOT WITHOUT BASIC ELECTRONICS, TEST EQUIPMENT  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31W4-4-262-2, T.O. 31W2-2FYA-122, T.O. 31W2-2FYA74-2, AND T.O. 31S5-2FYA-201  
TTT: 3  
SME OPINION: 5  
EQUIPMENT:  
DIGITAL MULTIMETER, OSCILLOSCOPE, CIRCUIT TESTER, HAND TOOLS  
REFERENCES:  
T.O. 31W4-4-262-2  
T.O. 31W2-2FYA-122  
T.O. 31W2-2FYA74-2  
T.O. 31S5-2FYA-201  
CONDITIONS CUES:  
COND: IN SHOP, EQUIPMENT RELEASED  
CUE: FAULT ISOLATED  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 I 0229 2.78 44.0 37.0 34.0 20.0 2.85 10.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY CIRCUIT CARDS  
K ISOLATE FAULTY CIRCUIT CARD COMPONENTS  
A REMOVE/REPLACE CIRCUIT CARDS AND CIRCUIT CARD COMPONENTS  
OSR JOB INVENTORY TASK STATEMENTS:  
0 I0229 A REMOVE ELECTROMECHANICAL COMPONENTS USING METHODS OTHER THAN SOLDERING

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TASK #: 00630  
ALIGN AND ADJUST THE AN/FYA-74 ATOMIC BEAM FREQUENCY STANDARD GROUP COMPONENTS  
DUTY CODE: X0  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: MINOR, NONE, NONE  
HOW OFTEN: 2 YEARS  
OJT TRAINABLE: YES, NO, BASIC ELECTRONICS, TEST EQUIPMENT  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31W2-2FYA-122, T.O. 31S5-2FYA-201, AND T.O. 31W2-2FYA74-2  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
DIGITAL MULTIMETER, OSCILLOSCOPE, LINEAR PHASE TIME COMPARATOR, FREQUENCY COUNTER  
REFERENCES:  
T.O. 31W2-2FYA-122  
T.O. 31W2-2FYA74-2  
T.O. 31S5-2FYA-201  
CONDITIONS CUES:  
COND: IN SHOP  
CUE: PHI, USER COMPLAINT, SYSTEM MALFUNCTION  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 Q 0960 1.35 1.0 2.0 2.0 2.0 5.26 2.0  
ACTIVITIES SKILL KNOWLEDGE:  
A ADJUST CONTROL INDICATOR  
A ADJUST ATOMIC BEAM FREQUENCY STANDARD GROUP  
A ADJUST DIGITAL CLOCK PULSE GENERATOR  
A PERFORM VOLTAGE AND RIPPLE CHECKS  
A PERFORM DATA DISTORTION CHECK  
OSR JOB INVENTORY TASK STATEMENTS:  
0 Q0960 A ADJUST ATOMIC FREQUENCY STANDARD COMPONENTS



TASK #: 00640  
 ALIGN AND ADJUST THE AN/FYA-74 ATOMIC BEAM FREQUENCY STANDARD GROUP DIGITAL CLOCK PULSE GENERATOR  
 DUTY CODE: X0  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: 2 YEARS  
 OJT TRAINABLE: YES, NO, NOT WITHOUT BASIC ELECTRONICS, TEST EQUIPMENT  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31S5-2FYA-201  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 DIGITAL MULTIMETER, OSCILLOSCOPE, FREQUENCY COUNTER  
 REFERENCES:  
 T.O. 31S5-2FYA-201  
 CONDITIONS CUES:  
 COND: IN SHOP  
 CUE: PHI, USER COMPLAINT, SYSTEM MALFUNCTION  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
 304X0 Q 0960 1.35  1.0  2.0  2.0  2.0 5.26  2.0  
 ACTIVITIES SKILL KNOWLEDGE:  
           A PERFORM VOLTAGE AND RIPPLE CHECKS  
           A PERFORM DATA DISTORTION CHECK  
           A ADJUST DIGITAL CLOCK PULSE GENERATOR  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 Q0960 A ADJUST ATOMIC FREQUENCY STANDARD COMPONENTS

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 TASK #: 00650  
 ALIGN AND ADJUST THE AN/FYA-74 ATOMIC BEAM FREQUENCY STANDARD GROUP POWER SUPPLIES  
 DUTY CODE: X0  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: 2 YEARS  
 OJT TRAINABLE: YES, NO, NOT WITHOUT BASIC ELECTRONICS, TEST EQUIPMENT  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31W4-4-262-2  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 DIGITAL MULTIMETER, OSCILLOSCOPE  
 REFERENCES:  
 T.O. 31W4-4-262-2  
 CONDITIONS CUES:  
 COND: IN SHOP  
 CUE: PHI, USER COMPLAINT, SYSTEM MALFUNCTION  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
 304X0 Q 0981 2.50 22.0 22.0 22.0 16.0 4.76  7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
           A PERFORM VOLTAGE AND RIPPLE CHECK  
           A ADJUST ALARM NULL  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 Q0981 A ADJUST GENERAL PURPOSE POWER SUPPLY COMPONENTS

TASK #: 00660  
 INSPECT AN/GGC-38 MULTIPLEXER  
 DUTY CODE: XO  
 TASK STATUS: 3-OJT  
 TNNOTES:  
 TIMES ANALYZED: 2  
 CONSEQUENCES: NONE, NONE, NONE  
 HOW OFTEN: 28, 56, WEEKLY (NON T.O. BY TECH CONTROL USING  
 REMOTE PATCH PANEL)  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31W4-2GGC-216WC-1  
 TTT: 5  
 SHE OPINION: 3  
 EQUIPMENT:  
 OSCILLOSCOPE, TELETYPE TEST SET, TRANSMISSION TEST SET,  
 HAND TOOLS, VACUUM CLEANER, GENERAL PURPOSE CLEANING SOLVENT,  
 FREQUENCY COUNTER  
 REFERENCES:  
 T.O. 31W4-2GGC-216WC-1  
 CONDITIONS CUES:  
 COND: POWER ON  
 CUE: PMI, USER COMPLAINT  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X0 S 1389 1.74 6.0 10.0 9.0 9.0 4.90 7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A PERFORM USER PATCH OFF PROCEDURES  
 A PERFORM POWER SUPPLY DC VOLTAGE CHECK  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 A PERFORM SERIAL AND PARALLEL CLOCK SIGNALS CHECK  
 A PERFORM TRANSITION AND PARALLEL DATA OUTPUT SIGNAL  
 CHECK  
 A CLEAN CABINET INTERIOR/EXTERIOR  
 A ALIGN/ADJUST BIAS AND OUTPUT SIGNAL  
 A PERFORM KEYSER OUTPUT FREQUENCY CHECK  
 A PERFORM CENTER FREQUENCY AND BIAS WAVEFORMS CHECK  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 S1389 A VISUALLY INSPECT INSTALLATION AND INTERCONNECTIONS OF  
 INSTALLED EQUIPMENT

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TASK #: 00670  
 TROUBLESHOOT AN/GGC-38 MULTIPLEXER  
 DUTY CODE: XO  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 2  
 TNNOTES:  
 CONSEQUENCES: MINOR, DAMAGE, NONE  
 HOW OFTEN: QUARTERLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONICS FUNDAMENTALS)  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31W4-2-GGC38-2 AND T.O. 31W4-2UGC-142  
 TTT: 5  
 SHE OPINION: 3  
 EQUIPMENT:  
 OSCILLOSCOPE, TELETYPE TEST SET, TRANSMISSION TEST SET,  
 HAND TOOLS, DIGITAL MULTIMETER, FREQUENCY COUNTER  
 REFERENCES:  
 T.O. 31W4-2-GGC38-2  
 T.O. 31W4-2UGC-142  
 CONDITIONS CUES:  
 COND: POWER ON, PATCH OFF USER, RELAY REMAINS IN CABINET  
 CUE: PMI FINDING, USER COMPLAINT  
 JOB STANDARDS:  
 IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 N 0746 2.20 10.0 8.0 7.0 4.0 6.05 7.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY KEYS  
K ISOLATE FAULTY CONVERTER  
K ISOLATE FAULTY PATCH PANEL BROKEN WIRES  
K ISOLATE FAULTY BITE (EQUIPMENT NOT USED FOR TESTING  
DUE TO NONAVAILABILITY OF PARTS)  
A REMOVE/REPLACE SUBASSEMBLY PARTS OR COMPONENTS  
K APPLY THEORY OF OPERATION FOR ANALOG-TO-DIGITAL AND  
DIGITAL-TO-ANALOG CONVERTERS  
OSR JOB INVENTORY TASK STATEMENTS:  
0 N0746 K ISOLATE MALFUNCTIONS IN DC POWER SUPPLY LINE ISOLA-  
TION ASSEMBLIES

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TASK #: 00680  
TROUBLESHOOT AN/GGC-38 MULTIPLEXER CIRCUIT CARDS  
DUTY CODE: X0  
TASK STATUS: 3R-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: MINOR, DAMAGE, NONE  
HOW OFTEN: QUARTERLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31W4-UGC-132 AND T.O. 31W4-2UGC-142  
TTT: 5  
SME OPINION: 3  
EQUIPMENT:  
OSCILLOSCOPE, TELETYPE TEST SET, TRANSMISSION TEST SET,  
HAND TOOLS, DIGITAL MULTIMETER, FREQUENCY COUNTER, SOLDERING KIT  
REFERENCES:  
T.O. 31W4-UGC-132  
T.O. 31W4-2UGC-142  
CONDITIONS CUES:  
COND: CIRCUIT CARD IS ON EXTENDER CARD  
CUE: PMI FINDING, USER COMPLAINT  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 N 0738 2.93 29.0 23.0 20.0 10.0 5.92 11.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY CIRCUIT CARD COMPONENTS  
A REMOVE AND REPLACE CIRCUIT CARD COMPONENTS  
K APPLY THEORY OF OPERATION FOR ANALOG-TO-DIGITAL AND  
DIGITAL-TO-ANALOG CONVERTERS  
OSR JOB INVENTORY TASK STATEMENTS:  
0 N0738 K ISOLATE MALFUNCTIONS IN FREQUENCY SHIFT KEYS

TASK #: 00690  
ALIGN/ADJUST AN/GGC-38 MULTIPLEXER  
DUTY CODE: X0  
TASK STATUS: 3R-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: MINOR, DAMAGE, NONE  
HOW OFTEN: QUARTERLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31W4-2UGC-142  
TTT: 5  
SME OPINION: 3  
EQUIPMENT:  
OSCILLOSCOPE, TELETYPE TEST SET, TRANSMISSION TEST SET,  
HAND TOOLS, FREQUENCY COUNTER, DIGITAL MULTIMETER  
REFERENCES:  
T.O. 31W4-2UGC-142  
CONDITIONS CUES:  
COND: POWER ON, PATCH OFF USER  
CUE: PHI FINDING, COMPONENT REPLACEMENT, USER COMPLAINT  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TE ATI  
304X0 M 0629 4.48 40.0 32.0 29.0 19.0 5.74 12.0  
ACTIVITIES SKILL KNOWLEDGE:  
A ALIGN/ADJUST BIAS AND OUTPUT SIGNAL  
A CALIBRATE BITE EQUIPMENT (NOT DONE DUE TO LACK OF USE  
AND PARTS)  
A ALIGN/ADJUST CENTER CONVERTER FREQUENCY AND BIAS  
A ALIGN/ADJUST KEYS OUTPUT  
K APPLY THEORY OF OPERATION FOR ANALOG-TO-DIGITAL AND  
DIGITAL-TO-ANALOG CONVERTERS  
OSR JOB INVENTORY TASK STATEMENTS:  
0 M0629 A ALIGN FREQUENCY DIVISION MULTIPLEXERS

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TASK #: 00700  
INSPECT AN/GRC-203 RML RECEIVER  
DUTY CODE: X0  
TASK STATUS: 3R-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: MINOR, DAMAGE, NONE  
HOW OFTEN: 7, 60  
OJT TRAINABLE: YES, NO TASK REQUIRES ELECTRONIC FUNDAMENTALS  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31R5-4-190-1 AND T.O. 31R5-4-1906MC-6WC-1  
TTT: 5  
SME OPINION: 3  
RECEIVER MAINTENANCE DEPENDS UPON TAKING SYSTEM DOWN FOR  
MAINTENANCE WITH FAA COORDINATION  
EQUIPMENT:  
SIGNAL GENERATOR WITH HIGH MICROWAVE FREQUENCY, OSCILLOSCOPE  
WITH DELAY FUNCTION, DIGITAL MULTIMETER, LINT FREE CLOTH, DUST  
BRUSHES, CABLES, AND 75 OHM TERMINATION CABLE, HANDTOOLS  
REFERENCES:  
T.O. 31R5-4-190-1  
T.O. 31R5-4-1906MC-6WC-1  
CONDITIONS CUES:  
COND: CO-LOCATED WITH AIR TRAFFIC CONTROL  
CUE: PMI SCHEDULE, RECEIVER FAILURE  
JOB STANDARDS:  
IAW REFERENCES

OSR DATA: TASK TE IJOB IENL 5SKL 7SKL TD ATI  
304X0 K 0418 4.04 18.0 20.0 17.0 10.0 4.22 11.0

ACTIVITIES SKILL KNOWLEDGE:

- A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS
- A INSPECT LAMPS FOR LIT CONDITION
- A CHECK VU METER READINGS
- A CHECK TERMINATION FOR CORRECT OHM VALUE
- A CHECK AZIMUTH CHANGE PULSE (ACP)
- A CHECK AZIMUTH RECURRING PULSE (ARP)
- A CHECK MOVING TARGET INDICATOR (MTI)
- A CHECK RADAR PRETRIGGER
- A CHECK BEACON VIDEO
- A PERFORM SIGNAL ANALYSIS IN COORDINATION WITH FAA

OSR JOB INVENTORY TASK STATEMENTS:

- 0 K0418 A PERFORM PMI ON DIGITAL RECEIVERS

TASK #: 00710

TROUBLESHOOT THE AN/GRC-203 RML RECEIVER

DUTY CODE: X0

TASK STATUS: 3-OJT

TIMES ANALYZED: 2

TNOTES:

- CONSEQUENCES: MINOR, DAMAGE, NONE
- HOW OFTEN: 1 EVERY 2 YEARS
- OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)
- QTP ADEQUATE: NONE
- TNG REFERENCE(S): T.O. 31R5-4-190-1, T.O. 31R5-4-192-2-1,  
AND T.O. 31R4-4-192-2

TTT: NONE

SME OPINION: 5

EQUIPMENT:

- SIGNAL GENERATOR WITH HIGH MICROWAVE FREQUENCY, OSCILLOSCOPE  
WITH DELAY FUNCTION, DIGITAL MULTIMETER, PULSE GENERATOR,  
AUDIO GENERATOR (FAA COORDINATED MAINTENANCE), EXTENDER CARD,  
HAND TOOLS

REFERENCES:

- T.O. 31R5-4-190-1
- T.O. 31R5-4-192-2-1
- T.O. 31R4-4-192-2

CONDITIONS CUES.

COND: CO-LOCATED WITH AIR TRAFFIC CONTROL

CUE: RECEIVER FAILED, PMI FINDING

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE IJOB IENL 5SKL 7SKL TD ATI  
304X0 K 0375 4.15 10.0 15.0 15.0 11.0 6.60 11.0

ACTIVITIES SKILL KNOWLEDGE:

- A MEASURE INPUT SIGNAL FROM ANTENNA
- A CHECK VU METER READINGS
- A CHECK OUTPUT OF SEPARATOR

OSR JOB INVENTORY TASK STATEMENTS:

- 0 K0375 K ISOLATE MALFUNCTIONS IN DIGITAL RECEIVERS

TASK #: 00720  
 ALIGN/ADJUST AN/GRC-203 RML RECEIVER  
 DUTY CODE: X0  
 TASK STATUS: 3R-K  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: SERIOUS, NONE, NONE  
 HOW OFTEN: INDEFINITE  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R5-4-192-2-1  
 TTT: NONE  
 SME OPINION: 5  
 EQUIPMENT:  
 FREQUENCY COUNTER, HANDTOOLS  
 REFERENCES:  
 T.O. 31R5-4-192-2-1  
 CONDITIONS CUES:  
 COND: CO-LOCATED WITH AIR TRAFFIC CONTROL  
 CUE: RECEIVER HAS BEEN REPLACED  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X0 Q 0964 3.09 33.0 32.0 28.0 16.0 4.72 12.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A SET RECEIVER SWITCH AND CHECK FAULT LIGHTS  
 A ADJUST AFC FOR CENTER READING  
 A RESET RECEIVER SWITCH AND CHECK FAULT LIGHTS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 Q0964 A ADJUST AUTOMATIC FREQUENCY CONTROL (AFC) COMPONENTS

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TASK #: 00730  
 INSPECT AN/GRC-203 RML SEPARATOR  
 DUTY CODE: X0  
 TASK STATUS: 3R-K  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: 7, 60  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R5-4-190-1 AND T.O. 31R5-4-1906MC-6WC-1  
 TTT: 5  
 SME OPINION: 3  
 EQUIPMENT:  
 SIGNAL GENERATOR WITH HIGH MICROWAVE FREQUENCY, OSCILLOSCOPE  
 WITH DELAY FUNCTION, DIGITAL MULTIMETER, LINT FREE CLOTH, DUST  
 BRUSHES, CABLES, AND 75 OHM TERMINATION CABLE, HANDTOOLS  
 REFERENCES:  
 T.O. 31R5-4-190-1  
 T.O. 31R5-4-1906MC-6WC-1  
 CONDITIONS CUES:  
 COND: CO-LOCATED WITH AIR TRAFFIC CONTROL  
 CUE: PMI SCHEDULE, SEPARATOR FAILURE  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X0 K 0420 4.52 50.0 39.0 35.0 17.0 4.84 12.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 A INSPECT LAMPS FOR LIT CONDITION  
 A CHECK TERMINATION FOR CORRECT OHM VALUE  
 A CHECK AZIMUTH CHANGE PULSE (ACP)  
 A CHECK AZIMUTH RECURRING PULSE (ARP)  
 A CHECK MOVING TARGET INDICATOR (MTI)  
 A CHECK RADAR PRETRIGGER  
 A CHECK BEACON VIDEO  
 A PERFORM SIGNAL ANALYSIS IN COORDINATION WITH FAA  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 K0420 A PERFORM PMI ON FM RECEIVERS

TASK #: 00740  
TROUBLESHOOT AN/GRC-203 RML SEPARATOR  
DUTY CODE: XO  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: MINOR, NONE, INJURY  
HOW OFTEN: ANNUALLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31R5-4-190-1 AND T.O. 31R5-4-1906MC-6WC-1  
TTT: NONE  
SME OPINION: 3  
EQUIPMENT:  
SIGNAL GENERATOR WITH HIGH MICROWAVE FREQUENCY, OSCILLOSCOPE  
WITH DELAY FUNCTION, DIGITAL MULTIMETER, LINT FREE CLOTH, DUST  
BRUSHES, CABLES, AND 75 OHM TERMINATION CABLE, HANDTOOLS,  
AUDIO TONE GENERATOR  
REFERENCES:  
T.O. 31R5-4-190-1  
T.O. 31R5-4-1906MC-6WC-1  
CONDITIONS CUES:  
COND: CO-LOCATED WITH TOWER  
CUE: SEPARATOR FAILURE, FAILED INSPECTION  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 K 0390 3.74 16.0 16.0 19.0 15.0 6.24 11.0  
ACTIVITIES SKILL KNOWLEDGE:  
A MEASURE INPUT SIGNAL FROM ANTENNA  
A CHECK OUTPUT OF RECEIVER  
A CHECK GROUNDING CONNECTIONS  
A REMOVE/REPLACE SUBASSEMBLY PARTS OR COMPONENTS  
OSR JOB INVENTORY TASKS:  
0 K0390 K ISOLATE MALFUNCTIONS IN SOLID-STATE FM RECEIVERS

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TASK #: 00750  
ALIGN/ADJUST AN/GRC-203 RML SEPARATOR  
DUTY CODE: XO  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: MINOR, NONE, NONE  
HOW OFTEN: 60  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31R5-4-1906MC-6WC-1 AND T.O. 31R5-4-190-1  
TTT: NONE  
SME OPINION: 5  
EQUIPMENT:  
OSCILLOSCOPE  
REFERENCES:  
T.O. 31R5-4-1906MC-6WC-1  
T.O. 31R5-4-190-1  
CONDITIONS CUES:  
COND: CO-LOCATED WITH AIR TRAFFIC CONTROL  
CUE: PMI SCHEDULE, FAILED INSPECTION  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 K 0374 3.98 29.0 29.0 30.0 18.0 5.97 11.0  
ACTIVITIES SKILL KNOWLEDGE:  
A PERFORM OPERATION CHECK  
A ALIGN/ADJUST ACP/ARP CIRCUIT CARD  
OSR JOB INVENTORY TASK STATEMENTS:  
0 K0374 A ALIGN FM RECEIVERS

TASK #: 00760  
 SET UP/TEAR DOWN AN/GSC-47 MANPACK/DEB RECONSTITUTION PACKAGE  
 DUTY CODE: XO  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 3

TNOTES:  
 CONSEQUENCES: MAJOR, DAMAGE, INJURY  
 HOW OFTEN: MONTHLY  
 OJT TRAINABLE: YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): LOCAL JQS  
 TTT: NONE  
 SME OPINION: 5

EQUIPMENT:  
 COMMON HANDTOOLS, POCKET TRANSIT

REFERENCES:  
 T.O. 31R5-4-192-2-1  
 T.O. 31R5-4-192-2-2

CONDITIONS CUES:  
 COND: IN FIELD, SPECIALIZED TRAINING REQUIRED FOR TOWER  
 CLIMBING CERTIFICATION

CUE: DEPLOYMENT

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|------|------|------|------|------|------|-----|
| 304X0 R   | 1287 | 2.00 | 12.0 | 16.0 | 21.0 | 11.0 | 5.68 | 7.0 |
| 304X0 R   | 1325 | 1.15 | 11.0 | 18.0 | 23.0 | 11.0 | 3.99 | 2.0 |

ACTIVITIES SKILL KNOWLEDGE:  
 A INVENTORY PARTS  
 A UNPACK/PACK  
 A SET UP TRIPOD OR ANTENNA MOUNTS  
 A MOUNT ANTENNA  
 A INSTALL/REMOVE FEEDHORN  
 A INSTALL/REMOVE RECEIVER  
 A INSTALL/REMOVE TRANSMITTER  
 A INSTALL/REMOVE POWER AMPLIFIER (IF NEEDED)  
 A CONNECT/DISCONNECT ORDER WIRE  
 A INSTALL/REMOVE T1-4000  
 A CONNECT/DISCONNECT GENERATORS  
 A GROUND EQUIPMENT

OSR JOB INVENTORY TASK STATEMENTS:  
 0 R1287 A INSTALL MOBILE COMMUNICATION EQUIPMENT  
 0 R1325 A REMOVE MOBILE COMMUNICATION EQUIPMENT

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TASK #: 00770  
 PERFORM AN/GSC-47 MANPACK SITE PLANNING  
 DUTY CODE: XO  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED:

TNOTES:  
 CONSEQUENCES: MAJOR, NONE, NONE  
 HOW OFTEN: MONTHLY  
 OJT TRAINABLE: YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): CDC 304X0  
 TTT: NONE  
 SME OPINION: 5

EQUIPMENT:  
 POCKET TRANSIT, MAPS, TOPOGRAPHICAL CHARTS

REFERENCES:  
 T.O. 31-1-141 SERIES

CONDITIONS CUES:  
 COND: OFFICE BEFORE DEPLOYMENT; ON-SITE IN FIELD  
 CUE: ECD FOR WAR; LOCALLY DETERMINED FOR TRAINING

JOB STANDARDS:  
 IAW REFERENCES



OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 S 1336 .72 1.0 1.0 1.0 2.0 6.52 2.0

ACTIVITIES SKILL KNOWLEDGE:

A DETERMINE OPERATING LOCATION  
A DEVELOP WRITTEN DEPLOYMENT PLAN  
A INSPECT LOCATION VISUALLY  
A OBTAIN AND REVIEW MAPS  
K APPLY BASIC MATH (ADDITION AND SUBTRACTION)  
K CALCULATE PATH PROFILE  
K INTERPRET TOPOGRAPHICAL MAPS

OSR JOB INVENTORY TASK STATEMENTS:

0 S1386 A SELECT COMMUNICATION SITES FOR LINE OF SIGHT LINKS

TASK #: 00780

OPERATE AN/GSC-47 MANPACK MEP-104A GENERATOR SET

DUTY CODE: XO

TASK STATUS: 3-OJT

TIMES ANALYZED:

NOTES:

CONSEQUENCES: MAJOR, DAMAGE, INJURY

HOW OFTEN: MONTHLY

OJT TRAINABLE: YES

QTP ADEQUATE: YES, BUT IT APPLIES TO AFSC 542X2 AND COVERS  
MAINTENANCE, OPERATION, AND TROUBLESHOOTING

TNG REFERENCE(S): QTP 542X2-500B AND LOCAL TRAINING PLAN

TTT: NONE

SME OPINION: 5

EQUIPMENT:

MEP-104A GENERATOR SET

REFERENCES:

T.G. 38G2-102-2

CONDITIONS CUES:

COND: FIELD

CUE: DIRECTIVE FROM ECD FOR WAR; LOCAL DIRECTIVE FOR TRAINING

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 R 1298 1.78 11.0 10.0 12.0 8.0 3.97 7.0

ACTIVITIES SKILL KNOWLEDGE:

A PLUG IN POWER CABLE  
A PULL STARTING CORD  
A MONITOR METER READINGS FOR VOLTAGE AND FREQUENCY  
A SWITCH LOAD CONTACT

OSR JOB INVENTORY TASK STATEMENTS:

0 R1298 A OPERATE POWER GENERATORS

TASK #: 00790  
INSPECT AND ADJUST AN/GSC-47 MANPACK/DEB RECONSTITUTION PACKAGE TRANSMITTER AND RECEIVER  
DUTY CODE: XO  
TASK STATUS: 3-OJT  
TIMES ANALYZED:

TNOTES:  
CONSEQUENCES: MAJOR, NONE, INJURY  
HOW OFTEN: 84 DAYS  
OJT TRAINABLE: YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): LOCAL JQS  
TTT: NONE  
SME OPINION: 5

EQUIPMENT:  
TRANSMISSION TEST SET (HP3555), TEST OSCILLATOR (HP654),  
VOLT OHM METER (DIGITAL MULTIMETER), FREQUENCY SELECTIVE  
VOLTMETER, SIGNAL GENERATOR, FREQUENCY COUNTER, POWER METER  
WITH BOLOMETER, 60DB ATTENUATION, RF CABLES, BNC CABLES, PHILLIPS  
#0, NON-METALLIC SCREWDRIVER, TOOL KIT, CABLE ADAPTORS, ANALOG  
MULTIMETER, OSCILLOSCOPE

REFERENCES:  
T.O. 31R5-4-192-2-1

CONDITIONS CUES:  
COND: IN SHOP BENCH CHECK  
CUE: PHI

JOB STANDARDS:

IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 S 1389 1.74 6.0 10.0 9.0 9.0 4.90 7.0

ACTIVITIES SKILL KNOWLEDGE:  
A SET UP TRANSMITTER  
A CHECK/ADJUST POWER SUPPLY VOLTAGES  
A CHECK/ADJUST TRANSMITTER POWER  
A CHECK/ADJUST SYNTHESIZER  
A CHECK/ADJUST CARRIER DEVIATION  
A CHECK/ADJUST AUTOMATIC FREQUENCY CONTROL  
A CHECK TRANSMITTER OUTPUT POWER  
A CHECK TRANSMITTER OUTPUT FREQUENCY  
A ESTABLISH RF LOOP  
A CONNECT TRANSMITTER TO RECEIVER  
A CHECK/ADJUST RECEIVER POWER SUPPLY VOLTAGES  
A CHECK RECEIVER AFC  
A TUNE RECEIVER LOCAL OSCILLATOR FREQUENCY TO TRANSMITTER FREQUENCY  
A CHECK/ADJUST RECEIVER SIGNAL STRENGTH  
A CHECK/ADJUST RECEIVER THRESHOLD  
A CHECK/ADJUST RECEIVER DEMODULATION  
A CHECK/ADJUST RECEIVER IF OUTPUT  
A PERFORM RECEIVER SENSITIVITY CURVES  
A CLEAN EQUIPMENT

OSR JOB INVENTORY TASK STATEMENTS:  
0 S1389 A VISUALLY INSPECT INSTALLATION AND INTERCONNECTIONS OF  
INSTALLED EQUIPMENT

TASK #: 00800  
 INSPECT AN/GSC-47 MANPACK/DEB RECONSTITUTION PACKAGE TI-4000  
 DUTY CODE: XO  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED:  
 TNOTES:  
 CONSEQUENCES: MAJOR, NONE, INJURY  
 HOW OFTEN: 28, 56, AND 84 DAY  
 OJT TRAINABLE: YES  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X0-30VA AND AN/FCC-97 MULTIPLEXER SET  
 TTT: NONE  
 SME OPINION: 5  
 EQUIPMENT:  
 PATCHING CABLES, DIGITAL MULTIMETER, CLEANING AND CORROSION  
 CONTROL MATERIALS, OSCILLOSCOPE  
 REFERENCES:  
 T.O. 31W2-4-287-6KC-1  
 CONDITIONS CUES:  
 COND: IN SHOP  
 CUE: PHI  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
           304X0 S 1389 1.74 6.0 10.0 9.0 9.0 4.90 7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
           A CHECK EQUIPMENT FOR AIR CIRCULATION  
           A CHECK FOR NO ALARM INDICATIONS  
           A CHECK INDIVIDUAL PORT CONTINUITY  
           A MEASURE POWER SUPPLY VOLTAGES  
           A TEST OUTPUT SIGNAL QUALITY  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 S1389 A VISUALLY INSPECT INSTALLATION AND INTERCONNECTIONS OF  
 INSTALLED EQUIPMENT

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TASK #: 00810  
 TROUBLESHOOT AN/GSC-47 MANPACK/DEB RECONSTITUTION PACKAGE AND REPLACE PARTS  
 DUTY CODE: XO  
 TASK STATUS: 3R-KP  
 TIMES ANALYZED:  
 TNOTES:  
 CONSEQUENCES: MAJOR, DAMAGE, INJURY  
 HOW OFTEN: SEMI-ANNUALLY  
 OJT TRAINABLE:  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R5-4-192-2-1, T.O. 31R5-4-192-2-2,  
                   T.O. 31W2-4-287-1, AND LOCALLY DEVELOPED  
                   PROCEDURES  
 TTT: NONE  
 SME OPINION: NONE  
 EQUIPMENT:  
 EXTENSION CABLES, SPECTRUM ANALYZER, SIGNAL GENERATOR,  
 POWER METER BOLSMETER, FREQUENCY COUNTER, AUDIO OSCILLATOR,  
 FREQUENCY SELECTIVE VOLTMETER, OSCILLOSCOPE, DIGITAL MULTIMETER,  
 ATTENUATORS, CONNECTORS, RF CABLES, BNC CABLES, TOOL KITS,  
 NON-METALLIC SCREWDRIIVER, PATTERN GENERATOR, JUMPER WIRE, TWINAX  
 PATCHCORD, LOGIC PULSER, SOLDERING KIT  
 REFERENCES:  
 T.O. 31R5-4-192-2-1  
 T.O. 31R5-4-192-2-2  
 T.O. 31W2-4-287-1  
 LOCALLY DEVELOPED PROCEDURES  
 CONDITIONS CUES:  
 COND: SHOP OR FIELD  
 CUE: PMI RESULTS, OPERATIONAL FAILURES  
 JOB STANDARDS:  
 IAW REFERENCE  
 OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
           304X0 Q 1036 3.33 14.0 17.0 16.0 12.0 5.74 11.0  
 ACTIVITIES SKILL KNOWLEDGE:  
           K ISOLATE FAULTY CIRCUIT CARDS, MODULES, AND MINOR  
           PARTS  
           A REMOVE AND REPLACE FAULTY CIRCUIT CARDS, MODULES AND  
           MINOR PARTS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 Q1036 K ISOLATE MALFUNCTIONS IN SOLID-STATE BASEBAND AMPLIFIERS

TASK #: 00820  
ALIGN/ADJUST AN/GSC-47 MANPACK TRANSMITTER AND RECEIVER  
DUTY CODE: XO  
TASK STATUS: 3R-KP  
TIMES ANALYZED:  
TNOTES:  
CONSEQUENCES: MAJOR, DAMAGE, INJURY  
HOW OFTEN: QUARTERLY  
OJT TRAINABLE: YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): LOCAL JQS  
TTT: NONE  
SME OPINION: 5  
EQUIPMENT:  
EXTENSION CABLES, SPECTRUM ANALYZER, SIGNAL GENERATOR,  
POWER METER BOLOMETER, FREQUENCY COUNTER, AUDIO OSCILLATOR,  
FREQUENCY SELECTIVE VOLTMETER, OSCILLOSCOPE, DIGITAL MULTIMETER,  
ATTENUATORS, CONNECTORS, RF CABLES, BNC CABLES, TOOL KITS,  
NON-METALLIC SCREWDRIVER  
REFERENCES:  
T.O. 31R5-4-192-2-1  
CONDITIONS CUES:  
COND: BENCH CHECK  
CUE: PMI RESULTS, REQUIRED PRIOR TO DEPLOYMENT, FOR TRAINING  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 L 0522 3.22 19.0 21.0 19.0 12.0 5.80 11.0  
ACTIVITIES SKILL KNOWLEDGE:  
A ALIGN/ADJUST TRANSMITTER AND RECEIVER AC POWER SUP-  
PLIES  
A ALIGN/ADJUST TRANSMITTER FREQUENCY  
A TUNE TRANSMITTER  
A ALIGN/ADJUST TRANSMITTER AFC  
A ALIGN/ADJUST TRANSMITTER DEVIATION  
A TEST SUBCARRIER AMPLITUDE/DEVIATION  
A ALIGN/ADJUST RECEIVER AFC REFERENCE VOLTAGE  
A ALIGN/ADJUST RECEIVER IF SIGNAL STRENGTH  
A MEASURE RECEIVER RF/IF GAIN  
A MEASURE RECEIVER AFC ERROR/LOCK VOLTAGES  
A CHECK AFC TRACKING RANGE  
A MEASURE RECEIVER DEMODULATION  
A ALIGN/ADJUST BASEBAND LEVELS  
A ALIGN PILOT DETECTION  
OSR JOB INVENTORY TASK STATEMENTS:  
0 L0522 A ADJUST TRANSMITTER INTERMEDIATE FREQUENCY (IF) AMPLI-  
FIER COMPONENTS

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TASK #: 00830  
INSPECT AN/CSM-266 TEST SET FOR AN/GSS-29  
DUTY CODE: XO  
TASK STATUS: 3-KP  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: MINOR, DAMAGE, INJURY  
HOW OFTEN: 84, 168  
OJT TRAINABLE: YES  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X0-30MA (EACH MAJOR SUBASSEMBLY AS IT  
RELATES TO AN/GSS-29)  
TTT: 3  
SME OPINION: 3  
MAJOR SUBASSEMBLIES CAN BE ACCOMPLISHED BECAUSE THEY ARE ALL  
DONE 84 DAYS  
EQUIPMENT:  
CLEANING MATERIALS (FLASHLIGHT, VACUUM, RAGS, CLEANING SOLVENT)  
MACHINE OIL  
REFERENCES:  
T.O. 31S9-2GSS29-6WC-1  
T.O. 31S9-2G-246WC-1  
T.O. 31S9-2G-256WC-1  
T.O. 31S9-2G-266WC-1  
T.O. 31S9-2G-196WC-1  
T.O. 31S9-2G-166WC-1  
T.O. 31S9-2G-146WC-1  
T.O. 31S9-4-42-6WC-1

CONDITIONS CUES:

COND: BISS SHOP, DAY

CUE: SCHEDULED PMI, QUALITY CONTROL EVALUATION, TRAINING PURPOSES

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X0 P   | 0871 | 2.57 | 15.0 | 18.0 | 17.0 | 7.0  | 6.08 | 7.0  |
| 304X0 G   | 0155 | 4.11 | 47.0 | 31.0 | 25.0 | 19.0 | 3.67 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:

- A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS
- A CHECK ALARM MONITOR DECODER STATUS (AMDS)
- A CHECK ALARM MONITOR OPERATOR STATUS (AMOS)
- A RESET INTERNAL CLOCK
- A CLEAN AND LUBRICATE SPRINGS AND GUIDES

OSR JOB INVENTORY TASK STATEMENTS:

- 0 G0155 A OBSERVE STATUS DISPLAY PANELS TO DETERMINE EQUIPMENT OPERATION (SIGNAL QUALITY)
- 0 P0871 K ISOLATE SYSTEM MALFUNCTIONS TO CODER MULTIPLEXER SENSOR DATA

TASK #: 00840

TROUBLESHOOT AN/GSM-266 TEST SET FOR AN/GSS-29

DUTY CODE: X0

TASK STATUS: 3R-KP

TIMES ANALYZED: 3

TNOTES:

CONSEQUENCES: MINOR, NONE, INJURY

HOW OFTEN: SEMIANNUAL

OJT TRAINABLE: YES

QTP ADEQUATE: YES

TNG REFERENCE(S): QTP 304X0-30MA

TTT: 3

SME OPINION: 3

EQUIPMENT:

OSCILLOSCOPE, SENSOR SIMULATOR TEST SET, ELECTRONIC SYSTEM TEST SET, ALARM SYSTEM TEST SET, ELECTRIC POWER TEST SET, TOOL CHEST, INTERCONNECTING CABINET, FAULT LOCATING INDICATOR, TEST PANEL

REFERENCES:

- T.O. 31S9-2G-141
- T.O. 31S9-2G-161
- T.O. 31S9-2G-191
- T.O. 31S9-2G-241
- T.O. 31S9-2G-251
- T.O. 31S9-2G-261
- T.O. 31S9-2G-271
- T.O. 31S9-4-42-1
- T.O. 31S9-2GSS29-7
- T.O. 31S9-2GSS29-11

CONDITIONS CUES:

COND: BISS SHOP, DAY, POWER ON

CUE: PMI FINDINGS, QUALITY CONTROL EVALUATIONS, TRAINING PURPOSES

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X0 P   | 0847 | 2.76 | 23.0 | 20.0 | 18.0 | 8.0  | 6.61 | 11.0 |

ACTIVITIES SKILL KNOWLEDGE:

- K ISOLATE FAULTY LINE REPLACEABLE UNITS (LRU)
- A REMOVE AND REPLACE LINE REPLACEABLE UNITS (LRU)

OSR JOB INVENTORY TASK STATEMENTS:

- 0 P0847 K ISOLATE MALFUNCTIONS IN SECURITY SYSTEM ANNUNCIATORS

TASK #: 00850  
TROUBLESHOOT AN/GSM-266 TEST SET LINE REPLACEABLE UNITS (LRU) TO COMPONENT LEVEL

EL  
DUTY CODE: X0  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 3

TNOTES:  
CONSEQUENCES: MAJOR, DAMAGE, INJURY  
HOW OFTEN: SEMIANNUAL  
OJT TRAINABLE: YES  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X0-30MA  
TTT: 5  
SME OPINION: 3 LVL LRU/5-7 LVL COMPONENT LEVEL

EQUIPMENT:  
4 TRACE STORAGE OSCILLOSCOPE, DIGITAL MULTIMETER, TOOL CHEST  
ELECTRONIC SYSTEM TEST SET, SENSOR SIMULATOR TEST SET,  
ELECTRICAL POWER TEST SET, FREQUENCY COUNTER, SIGNAL GENERATOR  
GROUNDING WRIST STRAP, ELECTRO STATIC DISCHARGE CONTAINER,  
SOLDER KIT, ANTI-STATIC MATTING

REFERENCES:  
T.O. 31S9-4-42-1  
T.O. 31S9-2C-241  
T.O. 31S9-2G-251  
T.O. 31S9-2G-261  
T.O. 31S9-2G-271  
T.O. 31S9-2G-141  
T.O. 31S9-2G-161  
T.O. 31S9-2G-191

CONDITIONS CUES:  
COND: BISS SHOP, DAY, POWER ON  
CUE: PMI FINDINGS, TRAINING, QUALITY CONTROL EVALUATION,  
PANEL INDICATORS, AUDIO ALARMS

JOB STANDARDS:  
IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 P 0870 2.26 10.0 15.0 14.0 6.0 7.04 7.0

ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY CIRCUIT CARDS  
K ISOLATE FAULTY CIRCUIT CARD COMPONENTS  
K ISOLATE FAULTY MINOR HARDWARE  
A REMOVE/REPLACE CIRCUIT CARDS, CIRCUIT CARD COMPONENTS,  
AND MINOR HARDWARE

OSR JOB INVENTORY TASK STATEMENTS:  
0 P0870 K ISOLATE MALFUNCTIONS IN CMSD PRINTED CIRCUIT BOARD TO  
COMPONENTS

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TASK #: 00860  
ALIGN/ADJUST AN/GSM-266 TEST SET POWER SUPPLIES AND PRINTER

DUTY CODE: X0  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 3

TNOTES:  
CONSEQUENCES: MAJOR, DAMAGE, INJURY  
HOW OFTEN: INDEFINITE  
OJT TRAINABLE: YES  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X0-30MA  
TTT: 5  
SME OPINION: 5

EQUIPMENT:  
TOOL CHEST, FREQUENCY COUNTER, THICKNESS GAUGE, INSERTION TOOL,  
EXTRACTION TOOL, DIGITAL MULTIMETER

REFERENCES:  
T.O. 31S9-4-42-1  
T.O. 31S9-2G-241  
T.O. 31S9-2G-251  
T.O. 31S9-2G-261  
T.O. 31S9-2G-191  
T.O. 31S9-2G-161

CONDITIONS CUES:  
COND: BISS SHOP, POWER ON, DAY  
CUE: CONTROL MONITOR SENSOR DATA TROUBLESHOOT FINDINGS,  
QUALITY CONTROL EVALUATIONS, TRAINING PURPOSES

JOB STANDARDS:  
IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 N 0725 2.61 22.0 19.0 16.0 8.0 4.48 7.0  
ACTIVITIES SKILL KNOWLEDGE:  
A ALIGN/ADJUST POWER SUPPLIES  
A ALIGN/ADJUST PRINTER  
OSR JOB INVENTORY TASK STATEMENTS:  
0 N0725 A ADJUST DIRECT CURRENT (DC) POWER SUPPLY COMPONENTS

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TASK #: 00870  
INSPECT AN/GPS-15 INTERIOR MOTION DETECTOR  
DUTY CODE: X0  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 1  
TNOTES:  
CONSEQUENCES: MINOR, DAMAGE, INJURY  
HOW OFTEN: 84  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X0-3ME AND T.O. 31S9-4-49-1  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
DIGITAL MULTIMETER, COMMON SCREWDRIVER, CORROSION PREVENTIVE  
COMPOUND, GENERAL PURPOSE CLEANER, RAGS, KEY, LOGIC CURRENT  
PROBE  
REFERENCES:  
T.O. 31S9-4-4906WC-1  
T.O. 31S9-4-49-1  
CONDITIONS CUES:  
COND: INSIDE, ALL EXTERIOR DOORS CLOSED, LIMITED MOVEMENT IN AREA  
CUE: PHI LISTING, TECHNICAL INSPECTIONS, WORK ORDERS  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 P 0873 2.30 11.0 8.0 7.0 4.0 4.43 7.0  
ACTIVITIES SKILL KNOWLEDGE:  
A PERFORM LOCAL COORDINATION PROCEDURES WITH SP  
A PERFORM BATTERY TEST  
A PERFORM WALK TEST  
A PERFORM 84 DAY SERVICING  
OSR JOB INVENTORY TASK STATEMENTS:  
0 P0873 A PERFORM PHI ON SECURITY SYSTEM ANTIPERSONNEL RADAR  
SYSTEMS

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TASK #: 00880  
ADJUST AN/GPS-15 INTERIOR MOTION DETECTOR AMPLIFIER GAIN  
DUTY CODE: X0  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 1  
TNOTES:  
CONSEQUENCES: MINOR, NONE, NONE  
HOW OFTEN: 14, 21  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X0-3ME  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
COMMON SCREW DRIVERS, KEYS  
REFERENCES:  
T.O. 31S9-4-49-1  
CONDITIONS CUES:  
COND: INSIDE, DOORS CLOSED, LIMITED MOVEMENT IN AREA  
CUE: OPEN WORK ORDER, PROBLEM DISCOVERED DURING PHI  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 P 0820 2.24 11.0 14.0 14.0 6.0 6.32 7.0  
ACTIVITIES SKILL KNOWLEDGE:  
A PERFORM DETECTION CAPABILITY TO ADJUST SENSOR  
A PERFORM DETECTION CAPABILITY TO VERIFY PROPER OPERA-  
TION  
OSR JOB INVENTORY TASK STATEMENTS:  
0 P0820 A ADJUST SECURITY SYSTEM DOPPLER SENSOR SYSTEM COMPO-  
NENTS

TASK #: 00890  
TROUBLESHOOT AN/GPS-15 INTERIOR MOTION DETECTOR  
DUTY CODE: X0  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 1  
TNOTES:  
CONSEQUENCES: MINOR, DAMAGE, INJURY  
HOW OFTEN: MONTHLY  
OJT TRAINABLE: YES, NO, REQUIRES ELECTRONIC BASICS  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X0-3ME  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
DIGITAL MULTIMETER, MICROWAVE FREQUENCY COUNTER, OSCILLOSCOPE,  
COMMON HANDTOOLS, LADDER, KEYS, SUB-MINIATURE RECONNECTORS,  
50 OHM TERMINATION PLUG, TEST ANTENNA, GROUNDING WRIST STRAP,  
HISTORICAL DATA, SOLDERING STATION  
REFERENCES:  
T.O. 31S9-4-49-1  
CONDITIONS CUES:  
COND: ON/OFF EQUIPMENT, LIMITED MOVEMENT WITHIN ROOM, ADVERSE  
WEATHER  
CUE: OPEN WORK ORDER, PROBLEM DURING TROUBLESHOOTING  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 S 1389 1.74 6.0 10.0 9.0 9.0 4.90 7.0  
ACTIVITIES SKILL KNOWLEDGE:  
A PERFORM PROPER COORDINATION PROCEDURES  
A PERFORM DETECTION CAPABILITY TEST TO ISOLATE TO CPS  
OR DETECTOR  
A REMOVE AND REPLACE FAULTY PRINTED CIRCUIT BOARD  
OSR JOB INVENTORY TASK STATEMENTS:  
0 S1389 A VISUALLY INSPECT INSTALLATION AND INTERCONNECTIONS OF  
INSTALLED EQUIPMENT

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TASK #: 00900  
INSPECT AN/GSQ-199 COMMUNICATIONS CENTRAL  
DUTY CODE: X0  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: MAJOR, DAMAGE, INJURY  
HOW OFTEN: 28, 56, 168  
OJT TRAINABLE: NO, BECAUSE OF EXTREME CONSEQUENCES  
QTP ADEQUATE: NO, NOT WRITTEN SO 304X0 CAN UNDERSTAND  
TNG REFERENCE(S): QTP 304X0-30MC  
TTT: 3  
SME OPINION: 5  
EQUIPMENT:  
CLEANING SUPPLIES, NO-OXIDATION GREASE, VACUUM, AIR COMPRESSOR,  
TOOL BAG, TELEPHONE TEST SET, FREQUENCY COUNTER, OSCILLOSCOPE,  
AC VACUUM TUBE VOLTMETER/DIGITAL VOLTMETER, DISTORTION ANALYZER,  
ISOLATION TRANSFORMER, DUMMY LOAD, 560 OHM RESISTOR, 30 VOLT  
VOLT POWER SUPPLY, DC POWER SUPPLY  
REFERENCES:  
T.O. 31S9-2GSQ199-1 (OVERALL)  
T.O. 31S9-2GSQ199-11 (CONSOLE)  
T.O. 31S9-2GSQ199-21 (AMPLIFIER AUDIO FREQUENCY-EQUIP ROOM)  
T.O. 31S9-2GSQ199-31 (RINGER GENERATION-EQUIP ROOM)  
T.O. 35C3-3-117-1C (LORAIN FLOTROL RECTIFIER)  
LOCALLY DEVELOPED PHI FROM 2149CS (T.O. 31S9-2GSQ199-6WC-1)  
BLUEPRINTS  
CONDITIONS CUES:  
COND: FIELD LOCATION, WEAPON STORAGE AREA, SECURITY CENTRAL,  
ALERT FACILITY  
CUE: LOCALLY DEVELOPED PHI SCHEDULE, QUALITY CONTROL EVALUATION,  
AUDIO/VISUAL ALARM SOUNDS  
JOB STANDARDS:  
IAW REFERENCES



OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 Q 1099 1.91 12.0 12.0 10.0 3.0 3.90 7.0

ACTIVITIES SKILL KNOWLEDGE:

A CLEAN AND LUBRICATE  
A CHECK BATTERIES  
A CHECK RING GENERATOR  
A CHECK AUDIO FREQUENCY AMPLIFIER  
A CHECK LORAIN FLOTROL RECTIFIER FLOAT VOLTAGE ADJUST-  
MENTS  
A CHECK LORAIN FLOTROL RECTIFIER EQUALIZATION VOLTAGE  
A CHECK LORAIN FLOTROL RECTIFIER CURRENT LIMITING  
A CHECK LORAIN FLOTROL RECTIFIER OVER VOLTAGE SHUTDOWN  
A INSPECT CONTROL AREA  
A INSPECT STATION TELEPHONE INSTRUMENTS  
A INSPECT EQUIPMENT ROOM  
A CLEAN AND SERVICE EQUIPMENT

OSR JOB INVENTORY TASK STATEMENTS:

0 Q1099 A PERFORM PMI ON PA SYSTEMS

TASK #: 00910

INSPECT AN/GSQ-199 EQUIPMENT ROOM

DUTY CODE: X0

TASK STATUS: 3-OJT

TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: MAJOR, DAMAGE, INJURY  
HOW OFTEN: 28, 56, 168  
OJT TRAINABLE: NO, BECAUSE OF EXTREME CONSEQUENCES  
QTP ADEQUATE: NO, NOT WRITTEN SO 304X0 CAN UNDERSTAND  
TNG REFERENCE(S): QTP 304X0-30MC  
TTT: 3  
SME OPINION: 5

EQUIPMENT:

CLEANING SUPPLIES, NO-OXIDATION GREASE, VACUUM, AIR COMPRESSOR,  
TOOL BAG, OSCILLOSCOPE, FREQUENCY COUNTER, DC POWER SUPPLY,  
AC VACUUM TUBE VOLT METER/DIGITAL VOLTMETER, 30 VOLT POWER  
SUPPLY, DISTORTION ANALYZER, ISOLATION TRANSFORMER, DUMMY  
LOAD, 560 OHM RESISTOR, TOOL CHEST, 30 VOLT POWER SUPPLY

REFERENCES:

T.O. 31S9-2GSQ199-1 (OVERALL)  
T.O. 31S9-2GSQ199-11 (CONSOLE)  
T.O. 31S9-2GSQ199-21 (AMPLIFIER AUDIO FREQUENCY-EQUIP ROOM)  
T.O. 31S9-2GSQ199-31 (RINGER GENERATION-EQUIP ROOM)  
LOCALLY DEVELOPED PMI FROM 2149CS (T.O. 31S9-2GSQ199-6WC-1)  
BLUEPRINTS

CONDITIONS CUES:

COND: WEAPON STORAGE AREA, ALERT FACILITY, INSIDE/OUTSIDE, DAY/  
NIGHT, EQUIPMENT RELEASED, POWER ON  
CUE: SCHEDULED PMI, QUALITY CONTROL EVALUATION, AUDIO/VISUAL  
ALARM SOUNDS

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 P 0872 2.67 27.0 25.0 22.0 10.0 4.68 7.0

ACTIVITIES SKILL KNOWLEDGE:

A INSPECT EQUIPMENT CABINET  
A INSPECT BATTERY CABINET  
A INSPECT AUDIO FREQUENCY AMPLIFIER  
A INSPECT FILTER PANEL  
A INSPECT FUSE PANEL  
A INSPECT KEY SERVICE UNIT PANEL  
A INSPECT RING GENERATOR  
A INSPECT POWER SUPPLY  
A INSPECT TERMINAL BLOCKS  
A INSPECT PUBLIC ADDRESS SYSTEM  
A CLEAN AND SERVICE EQUIPMENT

OSR JOB INVENTORY TASK STATEMENTS:

0 P0872 A PERFORM PREVENTIVE MAINTENANCE INSPECTIONS (PMI) ON  
PERIMETER SECURITY SYSTEMS

TASK #: 00920  
 INSPECT AN/GSQ-199 CONTROL AREA (LOCAL/REMOTE)  
 DUTY CODE: X0  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: MAJOR, DAMAGE, INJURY  
 HOW OFTEN: 28, 56, 168  
 OJT TRAINABLE: NO, BECAUSE OF EXTREME CONSEQUENCES  
 QTP ADEQUATE: NO, NOT WRITTEN SO 304X0 CAN UNDERSTAND  
 TNG REFERENCE(S): QTP 304X0-30MC  
 TTT: 3  
 SME OPINION: 5  
 EQUIPMENT:  
 CLEANING SUPPLIES, TOOL BAG, TELEPHONE TEST SET  
 REFERENCES:  
 T.O. 31S9-2GSQ199-1 (OVERALL)  
 T.O. 31S9-2GSQ199-11 (CONSOLE)  
 T.O. 31S9-2GSQ199-21 (AMPLIFIER AUDIO FREQUENCY-EQUIP ROOM)  
 T.O. 31S9-2GSQ199-31 (RINGER GENERATION-EQUIP ROOM)  
 LOCALLY DEVELOPED PMI FROM 2149CS (T.O. 31S9-2GSQ199-6WC-1)  
 BLUEPRINTS  
 CONDITIONS CUES:  
 COND: ALERT FACILITY, WING SECURITY, DAY/NIGHT, EQUIPMENT  
 RELEASED, POWER ON, INSIDE/OUTSIDE  
 CUE: SCHEDULED PMI, QUALITY CONTROL EVALUATION, AUDIO/VISUAL  
 ALARM SOUNDS  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE IJOB IENL SSKL 7SKL TD ATI  
 304X0 P 0872 2.67 27.0 25.0 22.0 10.0 4.68 7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT COMMUNICATION CONTROL CONSOLE  
 A INSPECT SPEAKER PHONE  
 A INSPECT STANDARD 6 BUTTON TELEPHONE SET  
 A INSPECT TERMINAL CABINETS AND BOARDS  
 A CLEAN AND SERVICE EQUIPMENT  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 P0872 A PERFORM PREVENTIVE MAINTENANCE INSPECTIONS (PMI) ON  
 PERIMETER SECURITY SYSTEMS

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TASK #: 00930  
 INSPECT AN/GSQ-199 STATION TELEPHONE INSTRUMENTS  
 DUTY CODE: X0  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: 28, 56, 168  
 OJT TRAINABLE: YES  
 QTP ADEQUATE: NO, NOT WRITTEN SO 304X0 CAN UNDERSTAND  
 TNG REFERENCE(S): QTP 304X0-30MC  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 TELEPHONE TEST SET, TOOL BAG, CLEANING SUPPLIES, DIGITAL  
 MULTIMETER  
 REFERENCES:  
 T.O. 31S9-2GSQ199-1 (OVERALL)  
 T.O. 31S9-2GSQ199-11 (CONSOLE)  
 T.O. 31S9-2GSQ199-21 (AMPLIFIER AUDIO FREQUENCY-EQUIP ROOM)  
 T.O. 31S9-2GSQ199-31 (RINGER GENERATION-EQUIP ROOM)  
 LOCALLY DEVELOPED PMI FROM 2149CS (T.O. 31S9-2GSQ199-6WC-1)  
 BLUEPRINTS  
 CONDITIONS CUES:  
 COND: WEAPON STORAGE AREA, ALERT FACILITY, OUTSIDE/INSIDE,  
 DAY/NIGHT, EQUIPMENT RELEASED, POWER ON  
 CUE: SCHEDULED PMI, QUALITY CONTROL EVALUATION, AUDIO/VISUAL  
 ALARM SOUNDS  
 JOB STANDARDS:  
 IAW REFERENCES

OSR DATA: TASK TE IJOB IENL 5SKL 7SKL TD ATI  
304X0 P 0872 2.67 27.0 25.0 22.0 10.0 4.68 7.0

ACTIVITIES SKILL KNOWLEDGE:

A INSPECT WATERPROOF OUTSIDE WALL TELEPHONE  
A INSPECT SPEAKERS  
A INSPECT TELEPHONE JACK BOX, HANDSET AND RINGER  
A INSPECT INSIDE WALL TELEPHONE  
A INSPECT DESK TELEPHONE  
A CLEAN AND SERVICE EQUIPMENT

OSR JOB INVENTORY TASK STATEMENTS:

0 P0872 A PERFORM PREVENTIVE MAINTENANCE INSPECTIONS (PHI) ON PERIMETER SECURITY SYSTEMS

TASK #: 00940

TROUBLESHOOT AN/GSQ-199 COMMUNICATION CENTRAL

DUTY CODE: X0

TASK STATUS: 3-OJT

TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: MAJOR, DAMAGE, INJURY

HOW OFTEN: WEEKLY

OJT TRAINABLE: NO, TECHNICALLY OF SYSTEM

QTP ADEQUATE: NO, NOT WRITTEN SO 304X0 CAN UNDERSTAND

TNG REFERENCE(S): QTP 304X0-30MC

TTT: 3

SME OPINION: 5

EQUIPMENT:

NO-OXIDATION GREASE, VACUUM, AIR COMPRESSOR, DC POWER SUPPLY, TOOL BAG, TELEPHONE TEST SET, FREQUENCY COUNTER, OSCILLOSCOPE, AC VACUUM TUBE VOLTMETER/DIGITAL VOLTMETER, DISTORTION ANALYZER, ISOLATION TRANSFORMER, DUMMY LOAD, 560 OHM RESISTOR, 30 VOLT VOLT POWER SUPPLY, DC POWER SUPPLY, CLEANING SUPPLIES, TOOL CHEST, PUNCH TOOL, SOLDERING EQUIPMENT

REFERENCES:

T.O. 31S9-2GSQ199-1 (OVERALL)

T.O. 31S9-2GSQ199-11 (CONSOLE)

T.O. 31S9-2GSQ199-21 (AMPLIFIER AUDIO FREQUENCY-EQUIP ROOM)

T.O. 31S9-2GSQ199-31 (RINGER GENERATION-EQUIP ROOM)

T.O. 35C3-117-1

LOCALLY DEVELOPED PHI FROM 2149CS (T.O. 31S9-2GSQ199-6WC-1)

BLUEPRINTS

CONDITIONS CUES:

COND: FIELD LOCATION, WEAPON STORAGE AREA, SECURITY CENTRAL, ALERT FACILITY, INSIDE/OUTSIDE, DAY/NIGHT, EQUIPMENT RELEASED, POWER ON, KEY TELEPHONE UNIT FAILURE, POWER OFF.

CUE: PHI FINDINGS, QUALITY CONTROL EVALUATION, AUDIO/VISUAL ALARM SOUNDS, NO AUDIO OUTPUT WHICH CAUSES DISTORTION, NO TELEPHONE RING.

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE IJOB IENL 5SKL 7SKL TD ATI  
304X0 P 0869 2.59 7.0 13.0 13.0 5.0 6.33 7.0

ACTIVITIES SKILL KNOWLEDGE:

K ISOLATE FAULTY COMPONENTS  
K ISOLATE FAULTY CIRCUIT CARDS  
A REMOVE/REPLACE CIRCUIT CARDS, COMPONENTS, AND PARTS

OSR JOB INVENTORY TASK STATEMENTS:

0 P0869 K ISOLATE MALFUNCTIONS IN SECURITY SYSTEM VOICE COMMUNICATION SYSTEMS

TASK #: 00950  
 ALIGN/ADJUST AN/GSQ-199 COMMUNICATION CENTRAL  
 DUTY CODE: X0  
 TASK STATUS: 3-0JT  
 TIMES ANALYZED: 2

TNOTES:  
 CONSEQUENCES: MAJOR, DAMAGE, INJURY  
 HOW OFTEN: QUARTERLY  
 OJT TRAINABLE: NO, BECAUSE OF EXTREME CONSEQUENCES  
 QTP ADEQUATE: NO, NOT WRITTEN SO 304X0 CAN UNDERSTAND  
 TNG REFERENCE(S): QTP 304X0-30MC  
 TTT: 3  
 SME OPINION: 5  
 THE FOLLOWING A/A ARE DONE TO THE SYSTEM BUT NOT IN ORDER  
 TO A/A ONE MAJOR SUBASSEMBLY TO ANOTHER, BUT WITHIN THE  
 MAJOR SUBASSEMBLY.

EQUIPMENT:  
 AC VACUUM TUBE VOLT METER/DIGITAL VOLTMETER, FREQUENCY COUNTER,  
 DISTORTION ANALYZER, ISOLATION TRANSFORMER, DUMMY LOAD, 560 OHM  
 RESISTOR, TOOL BAG, 30 VOLT POWER SUPPLY, DC POWER SUPPLY,  
 OSCILLOSCOPE

REFERENCES:  
 T.O. 31S9-2GSQ199-1 (OVERALL)  
 T.O. 31S9-2GSQ199-11 (CONSOLE)  
 T.O. 31S9-2GSQ199-21 (AMPLIFIER AUDIO FREQUENCY-EQUIP ROOM)  
 T.O. 31S9-2GSQ199-31 (RINGER GENERATION-EQUIP ROOM)  
 T.O. 35C3-3-117-1C (LORAIN FLOTROL RECTIFIER)

CONDITIONS CUES:  
 COND: ALERT FACILITY, WEAPON STORAGE AREA, POWER ON, EQUIPMENT  
 RELEASED, INSIDE, DAY/NIGHT  
 CUE: PMI FINDINGS, QUALITY CONTROL EVALUATION, AUDIO/VISUAL  
 ALARM INDICATIONS

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|------|------|------|------|------|------|-----|
| 304X0 P   | 0817 | 2.43 | 15.0 | 16.0 | 15.0 | 6.0  | 5.56 | 7.0 |

ACTIVITIES SKILL KNOWLEDGE:  
 A ALIGN/ADJUST LORAIN FLOTROL RECTIFIER  
 A ALIGN/ADJUST SUB-CYCLE RINGER  
 A ALIGN/ADJUST AUDIO AMPLIFIER  
 A ALIGN/ADJUST CONSOLE

OSR JOB INVENTORY TASK STATEMENTS:  
 0 P0817 A ADJUST SECURITY SYSTEM COMMUNICATION CONTROL CONSOLE  
 COMPONENTS

TASK #: 00960  
 ALIGN/ADJUST AN/GSQ-199 LORAIN FLOTROL RECTIFIER  
 DUTY CODE: X0  
 TASK STATUS: 3-0JT  
 TIMES ANALYZED: 2

TNOTES:  
 CONSEQUENCES: MAJOR, DAMAGE, INJURY  
 HOW OFTEN: QUARTERLY  
 OJT TRAINABLE: NO, BECAUSE OF EXTREME CONSEQUENCES  
 QTP ADEQUATE: NO, NOT WRITTEN SO 304X0 CAN UNDERSTAND  
 TNG REFERENCE(S): QTP 304X0-30MC  
 TTT: 3  
 SME OPINION: 5

EQUIPMENT:  
 TOOL BAG, DIGITAL MULTIMETER, OSCILLOSCOPE, POWER SUPPLY

REFERENCES:  
 T.O. 31S9-2GSQ199-1  
 T.O. 35C3-3-117-1C

CONDITIONS CUES:  
 COND: ALERT FACILITY, WEAPON STORAGE AREA, POWER ON, EQUIPMENT  
 RELEASED, INSIDE, DAY/NIGHT  
 CUE: PMI FINDINGS, QUALITY CONTROL EVALUATION, AUDIO/VISUAL  
 ALARM INDICATIONS

JOB STANDARDS:  
 IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X0 N 0725 2.61 22.0 19.0 16.0 8.0 4.48 7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A ADJUST INPUT VOLTAGE RANGE AND FREQUENCY COMPENSATION  
 A ADJUST BATTERY FLOAT VOLTAGE  
 A ADJUST EQUALIZATION VOLTAGE  
 A ADJUST CURRENT LIMIT  
 A ADJUST OVERVOLTAGE SHUTDOWN  
 A ADJUST ACCESSORY LOAD SHARING  
 A ADJUST HIGH/LOW VOLTAGE ALARM  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 N0725 A ADJUST DIRECT CURRENT (DC) POWER SUPPLY COMPONENTS

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 TASK #: 00970  
 ALIGN/ADJUST AN/GSQ-199 SUB-CYCLE RINGER  
 DUTY CODE: X0  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: MAJOR, DAMAGE, INJURY  
 HOW OFTEN: YEARLY  
 OJT TRAINABLE: NO, BECAUSE OF EXTREME CONSEQUENCES  
 QTP ADEQUATE: NO, NOT WRITTEN SO 304X0 CAN UNDERSTAND  
 TNG REFERENCE(S): QTP 304X0-30MC  
 TTT: 3  
 SME OPINION: 5  
 EQUIPMENT:  
 TOOL BAG, POWER SUPPLY, OSCILLOSCOPE, DIGITAL MULTIMETER,  
 FREQUENCY COUNTER, LOAD RESISTOR  
 REFERENCES:  
 T.O. 31S9-2GSQ199-1  
 T.O. 31S9-2GSQ199-31  
 CONDITIONS CUES:  
 COND: ALERT FACILITY, WEAPON STORAGE AREA, POWER ON, EQUIPMENT  
 RELEASED, INSIDE, DAY/NIGHT  
 CUE: PMI FINDINGS, QUALITY CONTROL EVALUATION, AUDIO  
 INDICATIONS (NO RING)  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X0 P 0834 2.24 10.0 14.0 12.0 5.0 5.13 7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A ADJUST 20 HZ VOLTAGE  
 A ADJUST RING BACK TONE  
 A ADJUST 20 HZ FREQUENCY  
 A ADJUST 600 FREQUENCY  
 A ADJUST WAVEFORM  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 P0834 A ADJUST SECURITY SYSTEM SUBCYCLE RING GENERATOR COMPO-  
 NENTS

TASK #: 00980  
 ALIGN/ADJUST AN/GSQ-199 AUDIO AMPLIFIER  
 DUTY CODE: X0  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: MINOR, DAMAGE, INJURY  
 HOW OFTEN: SEMIANNUAL  
 OJT TRAINABLE: YES  
 QTP ADEQUATE: NO, NOT WRITTEN SO 304X0 CAN UNDERSTAND  
 TNG REFERENCE(S): QTP 304X0-30MC  
 TTT: 3  
 SME OPINION: 5  
 EQUIPMENT:  
 TOOL BAG, OSCILLOSCOPE, DIGITAL MULTIMETER, DISTORTION  
 ANALYZER, ISOLATION TRANSFORMER, AC VOLTMETER, SIGNAL GENERATOR,  
 LOAD RESISTORS  
 REFERENCES:  
 T.O. 31S9-2GSQ199-1  
 T.O. 31S9-2GSQ199-21  
 CONDITIONS CUES:  
 COND: ALERT FACILITY, WEAPON STORAGE AREA, POWER ON, EQUIPMENT  
 RELEASED, INSIDE, DAY/NIGHT  
 CUE: PMI FINDINGS, QUALITY CONTROL EVALUATION, DISTORTION OR  
 INCORRECT OUTPUT FROM SPEAKERS  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE IJOB IENL 5SKL 7SKL TD ATI  
 304X0 P 0817 2.43 15.0 16.0 15.0 6.0 5.56 7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A ADJUST NEGATIVE FEEDBACK  
 A ADJUST BIAS CONTROL  
 A ADJUST OUTPUT CONTROL  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 P0817 A ADJUST SECURITY SYSTEM COMMUNICATION CONTROL CONSOLE  
 COMPONENTS

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TASK #: 00990  
 ALIGN/ADJUST AN/GSQ-199 CONSOLE  
 DUTY CODE: X0  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: MAJOR, DAMAGE, NONE  
 HOW OFTEN: SEMIANNUAL  
 OJT TRAINABLE: YES  
 QTP ADEQUATE: NO, NOT WRITTEN SO 304X0 CAN UNDERSTAND  
 TNG REFERENCE(S): QTP 304X0-30MC  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 TOOL BAG  
 REFERENCES:  
 T.O. 31S9-2GSQ199-1  
 T.O. 31S9-2GSQ199-11  
 CONDITIONS CUES:  
 COND: ALERT FACILITY, WEAPON STORAGE AREA, POWER ON, EQUIPMENT  
 RELEASED, INSIDE, DAY/NIGHT  
 CUE: PMI FINDINGS, QUALITY CONTROL EVALUATION, LAMP LEVEL DIM  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE IJOB IENL 5SKL 7SKL TD ATI  
 304X0 P 0817 2.43 15.0 16.0 15.0 6.0 5.56 7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A ADJUST BRIGHTNESS LIMIT CONTROL  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 P0817 A ADJUST SECURITY SYSTEM COMMUNICATION CONTROL CONSOLE  
 COMPONENTS

TASK #: 01000  
 INSPECT AN/GSS-26A MAGNETIC ANTI-INTRUSION DETECTION/MAGNETIC INTRUSION LINE S  
 ENSOR (MAID/MILES)  
 DUTY CODE: X0  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: SERIOUS, NONE, INJURY  
 HOW OFTEN: 84  
 OJT TRAINABLE: YES  
 QTP ADEQUATE: YES  
 QTP REFERENCE(S): QTP 304X0-30MA  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 DIGITAL MULTIMETER, TOOL BAG, SHOVELS  
 REFERENCES:  
 T.O. 2149ISS-31S9-2GSS26-17 (LOCAL WORK CARD)  
 T.O. 31S9-2GSS26-17  
 T.O. 31S9-2GSS26-17-1  
 CONDITIONS CUES:  
 COND: WEAPON STORAGE AREA, ALERT FACILITY, EQUIPMENT  
 RELEASED, OUTSIDE, DAY/NIGHT  
 CUE: SCHEDULED PMI, QC EVAL, ALARM GOES ON ANNUNCIATOR SYSTEM  
 AN/GSS-26A IS CONNECTED TO, OUTSIDE, DAY/NIGHT  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X0 P 0872 2.67 27.0 25.0 22.0 10.0 4.68 7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 A CHECK BATTERY COVER  
 OSR JOB INVENTORY TASKS:  
 0 P0872 A PERFORM PREVENTIVE MAINTENANCE INSPECTIONS (PMI) ON  
 PERIMETER SECURITY SYSTEMS

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TASK #: 01010  
 TROUBLESHOOT AN/GSS-26A MAGNETIC ANTI-INTRUSION DETECTION MAGNETIC INTRUSION L  
 INE SENSOR (MAID/MILES)  
 DUTY CODE: X0  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, NONE  
 HOW OFTEN: EVERY TWO YEARS  
 OJT TRAINABLE: YES  
 QTP ADEQUATE: YES  
 QTP REFERENCE(S): QTP 304X0-30MA  
 TTT: 3 OR 5  
 SME OPINION: 3 OR 5  
 EQUIPMENT:  
 PICKUP ASSEMBLY KIT, ANNUNCIATOR, ATTENUATOR, DC POWER SUPPLY,  
 FUNCTION GENERATOR, LEAK DETECTOR, OSCILLOSCOPE, DIGITAL  
 MULTIMETER, TOOL KIT, VEHICLE, SHOVELS, PICKS, SHIELDING STRIPS,  
 CABLE LOCATORS, OHM METER, SPLICE KIT, TROWEL, SITE KIT,  
 SOLDERING KIT  
 REFERENCES:  
 T.O. 31S9-2GSS26-17  
 CONDITIONS CUES:  
 COND: WEAPON STORAGE AREA, ALERT FACILITY, EQUIPMENT RELEASED,  
 OUTSIDE, DAY/NIGHT  
 CUE: PMI FINDINGS, ALARM INDICATIONS  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X0 P 0861 2.54 9.0 12.0 11.0 4.0 5.54 7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 K APPLY THEORY OF TRANSPOSITION POINTS  
 K ISOLATE FAULTY CABLES  
 K ISOLATE FAULTY BATTERY  
 A REMOVE/REPLACE MAID UNIT, LINE SENSOR, BATTERY OR  
 PARTS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 P0861 K ISOLATE MALFUNCTIONS IN SECURITY SYSTEM SEISMIC SENSOR  
 SYSTEMS

TASK #: 01020  
 ALIGN/ADJUST AN/GSS-26A MAGNETIC INTRUSION LINE SENSOR (MILES)  
 DUTY CODE: X0  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: MAJOR, DAMAGE, NONE  
 HOW OFTEN: INDEFINITE, MAY NEVER HAVE TO ADJUST. E&I USUALLY DOES INITIAL INSTALLATION AND UPGRADING.  
 OJT TRAINABLE: YES  
 QTP ADEQUATE: YES  
 QTP REFERENCE(S): QTP 304X0-30MA  
 TTT: 5  
 SME OPINION: 5  
 EQUIPMENT:  
 TUNING ROD, SHOVELS, TOOL BAG, SITE KIT, MAGNET SLED  
 REFERENCES:  
 T.O. 31S9-2GSS26-17  
 CONDITIONS CUES:  
 COND: WEAPON STORAGE, ALERT FACILITY, OUTSIDE, FAVORABLE WEATHER, EQUIPMENT RELEASED, DAYLIGHT  
 CUE: RECOGNIZE TRENDS, ALARMS SOUNDING, OUTSIDE INTERFERENCE BASED ON KNOWLEDGE AND CAPABILITIES OF AN/GSS-26A SYSTEM.  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:    TASK    YE    1JOB  1ENL  5SKL  7SKL  TD    ATI  
 304X0 P 0816  2.35  21.0  21.0  19.0  8.0  5.39  7.0  
 304X0 P 0827  2.13  12.0  17.0  15.0  7.0  5.04  7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A TUNE MILES CABLE TO REMOVE ELECTRO-MAGNETIC INTERFERENCE  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 P0816 A ADJUST SECURITY SYSTEM AREA SENSOR SYSTEM COMPONENTS  
 0 P0827 A ADJUST SECURITY SYSTEM LINE SENSOR SYSTEM COMPONENTS

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TASK #: 01030  
 INSPECT AN/GSS-37 MICROWAVE FENCE SENSOR  
 DUTY CODE:  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 4  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: 28, 84, 168  
 OJT TRAINABLE: YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31S9-4-54-1 AND  
                                   T.O. 2149CS-AN/GSS-37-6WC-1 (LOCAL WORK CARD)  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 CLEANING SUPPLIES (RAG, GLASS CLEANER), LADDER, DIGITAL MULTIMETER  
 REFERENCES:  
 T.O. 31S9-4-54-1  
 CONDITIONS CUES:  
 COND: ALERT FACILITY, WEAPON STORAGE, OUTSIDE, LOCATED ABOVE /BETWEEN FENCES, FAVORABLE WEATHER CONDITION, EQUIPMENT RELEASED, POWER ON  
 CUE: SCHEDULED PMI, QUALITY CONTROL EVALUATIONS, ALARM INDICATIONS  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:    TASK    TE    1JOB  1ENL  5SKL  7SKL  TD    ATI  
 304X0 P 0872  2.67  27.0  25.0  22.0  10.0  4.68  7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 A CLEAN EQUIPMENT  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 P0872 A PERFORM PREVENTIVE MAINTENANCE INSPECTIONS (PMI) ON PERIMETER SECURITY SYSTEMS



TASK #: 01040  
TROUBLESHOOT AN/GSS-37 MICROWAVE FENCE SENSOR  
DUTY CODE: X0  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 4  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: YEARLY  
OJT TRAINABLE: YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31S9-4-54-1 AND  
T.O. 2149CS-AN/GSS-37-6WC-1 (LOCAL WORK CARD)  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
STORAGE OSCILLOSCOPE, DIGITAL MULTIMETER, MICROWAVE PULSE  
COUNTER, FEED HORN, MICROWAVE DETECTOR, SIGNAL GENERATOR.  
ANALOG VOLTMETER, FREQUENCY COUNTER, DECADE BOX, STEP  
ATTENUATOR 0-120DB AND 0-12 DB, TOOL BAG, LADDER,  
SOLDERING KIT  
REFERENCES:  
T.O. 31S9-4-54-1  
T.O. 2149CS-AN/GSS-37-6WC-1 (LOCALLY GENERATED PMI)  
CONDITIONS CUES:  
COND: ALERT FACILITY, WEAPON STORAGE, OUTSIDE, LOCATED ABOVE  
/BETWEEN FENCES, FAVORABLE WEATHER CONDITION, EQUIPMENT  
RELEASED, POWER ON  
CUE: PMI FINDINGS, ALARM INDICATORS, QUALITY CONTROL  
EVALUATIONS, WEATHER COMPLICATIONS  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 P 0845 2.65 9.0 8.0 8.0 6.0 6.06 7.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY SUBASSEMBLIES (ANTENNAS) AND COMPO-  
NENTS  
A REMOVE/REPLACE SUBASSEMBLIES (ANTENNAS), COMPONENTS,  
AND PARTS  
OSR JOB INVENTORY TASK STATEMENTS:  
0 P0845 K ISOLATE MALFUNCTIONS IN MICROWAVE FENCE SYSTEMS

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TASK #: 01050  
ALIGN/ADJUST AN/GSS-37 MICROWAVE FENCE SENSOR  
DUTY CODE: X0  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 4  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: YEARLY  
OJT TRAINABLE: YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31S9-4-54-1 AND  
T.O. 2149CS-AN/GSS-37-6WC-1 (LOCAL WORK CARD)  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
STORAGE OSCILLOSCOPE, DIGITAL MULTIMETER, MICROWAVE PULSE  
COUNTER, FEED HORN, MICROWAVE DETECTOR, SIGNAL GENERATOR.  
ANALOG VOLTMETER, FREQUENCY COUNTER, DECADE BOX, STEP  
ATTENUATOR 0-120DB AND 0-12 DB, TOOL BAG, LADDER  
REFERENCES:  
T.O. 31S9-4-54-1  
T.O. 2149CS-AN/GSS-37-6WC-1 (LOCALLY GENERATED PMI)  
CONDITIONS CUES:  
COND: WEAPON STORAGE AREA, ALERT FACILITIES, EQUIPMENT  
RELEASED, POWER ON, DAY  
CUE: PMI FINDINGS, ALARM INDICATIONS, QUALITY CONTROL  
EVALUATION  
JOB STANDARDS:  
IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 P 0840 2.00 10.0 8.0 7.0 4.0 6.58 7.0  
ACTIVITIES SKILL KNOWLEDGE:  
A ALIGN TRANSMITTER WITH RECEIVER  
A ADJUST DETECTION SENSITIVITY  
A ALIGN AUTOMATIC GAIN CONTROL  
A ALIGN MULTIPATH  
A ADJUST TRANSMITTER CURRENT REGUL. TOR  
A ADJUST RELATIVE POWER OUTPUT  
A ADJUST MODULATION FREQUENCY  
A ADJUST PHASE LOCK LOOP  
OSR JOB INVENTORY TASK STATEMENTS:  
0 P0840 A ALIGN SECURITY SYSTEM ANTIPERSONNEL RADAR SYSTEMS

TASK #: 01060  
INSPECT AN/GSS-39 COMMERCIAL SENSORS  
DUTY CODE: XO  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 3  
NOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: 168  
OJT TRAINABLE: YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): LWC 2149CS INFRARED, 6 APRIL 88,  
LWC 2149CS PROTECH, 6 APRIL 88, AND  
COMMERCIAL MANUALS (PROTECH AND SUPER-RED  
SR-2000)

TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
LADDER, TOOL BAG, CLEANING SUPPLIES (SOLVENT, RAGS)  
REFERENCES:  
LWC 2149CS INFRARED, 6 APRIL 88  
LWC 2149CS PROTECH, 6 APRIL 88  
COMMERCIAL MANUALS (PROTECH AND SUPER-RED SR-2000)  
CONDITIONS CUES:  
COND: ALERT FACILITY, WEAPON STORAGE AREA, DAY/NIGHT, INSIDE,  
EQUIPMENT RELEASED, POWER ON/OFF  
CUE: LOCALLY SCHEDULED PHI, QUALITY CONTROL EVALUATION  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 P 0873 2.30 11.0 8.0 7.0 4.0 4.43 7.0  
ACTIVITIES SKILL KNOWLEDGE:  
A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
A CHECK TAMPER SWITCH OPERATION  
A CHECK BATTERIES INSIDE JUNCTION BOX  
K PERFORM CLEANING  
K PERFORM OPS CHECK ON STEREO DOPPLER MICROWAVE INTRUD-  
ER DETECTOR (PROTECH)  
OSR JOB INVENTORY TASK STATEMENTS:  
0 P0873 A PERFORM PHI ON SECURITY SYSTEM ANTIPERSONNEL RADAR  
SYSTEMS

TASK #: 01070  
TROUBLESHOOT AN/GSS-39 COMMERCIAL SENSORS  
DUTY CODE: X0  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: WEEKLY  
OJT TRAINABLE: YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): LWC 2149CS INFRARED, 6 APRIL 88,  
LWC 2149CS PROTECH, 6 APRIL 88, AND  
COMMERCIAL MANUALS (PROTECH AND SUPER-RED  
SR-2000)  
TTT: 5  
SME OPINION: 5  
UNTIL T.O. BECOMES AVAILABLE AND BISS HAS REPAIR AUTHORITY FOR  
THE SUPER-RED SR-2000, PROTECH, AND JUNCTION BOX, REMOVE/  
REPLACE ACTIVITIES CAN ONLY ASSUMED. TO WHAT LEVEL AND WHO  
HAS RESPONSIBILITY FOR REPAIR? BISS HAS HAD THIS SYSTEM SINCE  
1JULY86. WARRANTY EXPIRES MAY 89. APPROX 10 PROTECHS RETURNED  
TO CONTRACTOR, ONLY ON SUPER-RED R/R. ONLY 1 CIRCUIT CARD  
R/R.  
EQUIPMENT:  
TOOL BAG, LADDER, DIGITAL MULTIMETER  
REFERENCES:  
LWC 2149CS INFARAED, 6 APRIL 88  
LWC 2149CS PROTECH, 6 APRIL 88  
COMMERCIAL MANUALS (PROTECH AND SUPER-RED SR-2000)  
CONDITIONS CUES:  
COND: WEAPON STORAGE AREA, ALERT FACILITY, POWER ON, EQUIPMENT  
RELEASED  
CUE: PMI FINDINGS, QUALITY CONTROL EVALUATION, AUDIO/VISUAL  
ALARMS AT ANNUNCIATOR  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 P 0858 2.33 8.0 11.0 11.0 5.0 6.70 7.0  
ACTIVITIES SKILL KNOWLEDGE:  
A ISOLATE FAULTY CIRCUIT BOARDS  
A ISOLATE FAULTY MINOR PARTS (FUSES, WIRING)  
A REMOVE/REPLACE PROTECH, SUPER-RED SR-2000  
(VISIONICS), CIRCUIT CARDS (SEE SPECIAL NOTE ABOVE)  
OSR JOB INVENTORY TASK STATEMENTS:  
0 P0858 K ISOLATE MALFUNCTIONS IN SECURITY SYSTEM MICROWAVE

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TASK #: 01080  
ALIGN/ADJUST AN/GSS-39 COMMERCIAL SENSORS  
DUTY CODE: X0  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: SERIOUS, NONE, INJURY  
HOW OFTEN: WEEKLY  
OJT TRAINABLE: YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): COMMERCIAL MANUAL (PROTECH) AND  
COMMERCIAL MANUAL FOR SR-2000  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
TOOL BAG, LADDER, DIGITAL MULTIMETER  
REFERENCES:  
COMMERCIAL MANUAL (PROTECH)  
COMMERCIAL MANUAL FOR SR-2000  
CONDITIONS CUES:  
COND: WEAPON STORAGE AREA, ALERT FACILITY, POWER ON, EQUIPMENT  
RELEASED  
CUE: PMI FINDINGS, QUALITY CONTROL EVALUATION, AUDIO/VISUAL  
ALARM INDICATIONS  
JOB STANDARDS:  
IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATT  
304X0 P 0820 2.24 11.0 14.0 14.0 6.0 6.32 7.0

ACTIVITIES SKILL KNOWLEDGE:

- A ADJUST SENSITIVITY
- A ADJUST RANGE
- A ADJUST VERTICAL/HORIZONTAL POSITIONING OF PROTECH
- A ADJUST COVERAGE AREA
- A ADJUST LENS
- A ADJUST AGASTAT TIMER RELAY SWITCH

OSR JOB INVENTORY TASK STATEMENTS:

0 P0820 A ADJUST SECURITY SYSTEM DOPPLER SENSOR SYSTEM COMPO-  
NENTS

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TASK #: 01090

INSPECT AN/GXS-2 PERIMETER SURVEILLANCE SYSTEM

DUTY CODE: X0

TASK STATUS: 3-OJT

TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY

HOW OFTEN: 84, 168, ANNUALLY

OJT TRAINABLE: YES

QTP ADEQUATE: YES

QTP REFERENCE(S): QTP 304X0-30MB

TTT: 3

SME OPINION: 3

EQUIPMENT:

CLEANING SUPPLIES (VACUUM CLEANER, GLASS CLEANER, AND RAGS),  
TOOL BAG, STRAIGHT EXTENDER CARD, OFFSET EXTENDER CARD,  
DIGITAL MULTIMETER, OSCILLOSCOPE, MINI-POMONA TEST CLIP  
PRESSURE GAUGE, COUNTERBALANCE KIT, ANTI-FREEZE

REFERENCES:

T.O. 31S9-2GXS2-6WC-1

T.O. 31S9-2GXS2-2

T.O. 31S9-2GXS2-1

T.O. 31S9-2G-201

T.O. 31S9-2G-211

T.O. 31S9-2G-221

T.O. 31S9-G2-231

T.O. 31S9-4-46-1

T.O. 31S9-4-47-7

CONDITIONS CUES:

COND: ALERT FACILITY, WEAPON STORAGE AREA, OUTSIDE  
DAY, FAVORABLE WEATHER (NOT WINDY)

CUE: SCHEDULED PMI, QUALITY CONTROL EVALUATION

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATT  
304X0 P 0874 2.59 20.0 22.0 19.0 7.0 4.97 7.0

ACTIVITIES SKILL KNOWLEDGE:

- A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS
- A PERFORM OPERATIONAL CHECK
- A CHECK POWER SUPPLIES OUTPUT
- A CHECK INPUT VIDEO SIGNAL
- A CHECK VIDEO AND OUTPUT LEVELS OF SWITCHING MATRIX  
CARDS
- A CHECK COMMON MODE NOISE LEVEL
- A SERVICE ANTI-FREEZE

OSR JOB INVENTORY TASK STATEMENTS:

0 P0874 A PERFORM PMI ON TELEVISION SECURITY SYSTEMS

TASK #: 01100  
TROUBLESHOOT AN/GXS-2 PERIMETER SURVEILLANCE SYSTEM  
DUTY CODE: X0  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: QUARTERLY  
OJT TRAINABLE: YES  
QTP ADEQUATE: YES  
QTP REFERENCE(S): QTP 304X0-30MB  
TTT: 3  
SME OPINION: 3 LEVEL TO LRU AND 5 LEVEL TO COMPONENT

EQUIPMENT:

DIGITAL MULTIMETER, OSCILLOSCOPE, TOOL CHEST, AN/GXM-1 TEST SET, TELEVISION MONITOR, SYNC GENERATOR, BAR-DOT GENERATOR, SOLDERING KIT, WRIST STRAP, GROUNDING PROD

REFERENCES:

T.O. 31S9-2G-211  
T.O. 31S9-2GXS2-6WC-1  
T.O. 31S9-2GXS2-2  
T.O. 31S9-2GXS2-1  
T.O. 31S9-G2-231  
T.O. 31S9-2G-221  
T.O. 31S9-2G-201  
T.O. 31S9-4-44-1 (GXM-1 TEST SET)  
T.O. 31S9-4-46-1  
T.O. 31S9-4-47-7

CONDITIONS CUES:

COND: WEAPON STORAGE AREA, ALERT FACILITY, INSIDE, OUTSIDE, DAY, NIGHT, POWER ON/OFF, BISS SHOP, HIGH VOLTAGE HAZARD, EQUIPMENT ON-LINE/RELEASED

CUE: PMI FINDINGS, QUALITY CONTROL EVALUATION, ALARM AND LIGHT INDICATIONS, DISPLAY ON MONITOR DISTORTED, NO PICTURE, SYSTEM MALFUNCTIONS

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 P 0865 2.57 15.0 19.0 17.0 7.0 6.65 7.0

ACTIVITIES SKILL KNOWLEDGE:

K ISOLATE FAULTY CONTROL-INDICATOR ASSEMBLY  
K ISOLATE FAULTY CONTROL MONITOR UNIT  
K ISOLATE FAULTY MONITOR TELEVISION  
K ISOLATE FAULTY CAMERA SET TELEVISION  
K ISOLATE FAULTY LINE REPLACEABLE UNITS (LRU)  
K ISOLATE FAULTY INDIVIDUAL COMPONENTS  
A REMOVE/REPLACE LINE REPLACEABLE UNITS, COMPONENTS, AND PARTS

OSR JOB INVENTORY TASK STATEMENTS:

0 P0865 K ISOLATE MALFUNCTIONS IN SECURITY SYSTEM TELEVISION CAMERAS

TASK #: 01110  
ALIGN/ADJUST AN/GXS-2 PERIMETER SURVEILLANCE SYSTEM  
DUTY CODE: X0  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: 168, AS REQUIRED  
OJT TRAINABLE: YES  
QTP ADEQUATE: YES  
QTP REFERENCE(S): QTP 304X0-30MB  
TTT: 3  
SME OPINION: 5  
EQUIPMENT:  
TOOL BAG, DIGITAL MULTIMETER, OSCILLOSCOPE, COMMON MODE  
GENERATOR,  
REFERENCES:  
T.O. 31S9-2G-201  
T.O. 31S9-2G-211  
T.O. 31S9-2G-221  
T.O. 31S9-2G-231  
CONDITIONS CUES:  
COND: WEAPON STORAGE AREA, ALERT FACILITY, INSIDE, POWER ON,  
BISS SHOP  
CUE: PMI FINDINGS, AFTER ANY MAINTENANCE IS DONE  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 N 0725 2.61 22.0 19.0 16.0 8.0 4.48 7.0  
ACTIVITIES SKILL KNOWLEDGE:  
A ADJUST CONTROL-INDICATOR ASSEMBLY BACK LIGHT DIMMER  
CONTROL  
A ADJUST SWITCHING UNIT VIDEO MATRIX POWER SUPPLY,  
VIDEO SWITCHES, AND OUTPUT AMPLIFIER  
A ADJUST AMPLIFIER UNIT VIDEO SIGNAL EQUALIZERS AND  
POWER SUPPLY  
A ADJUST CONTROL-MONITOR UNIT, VOLTAGE REGULATORS LAMP  
DIMMER, VIDEO PRESENCE DETECTOR, AND POWER SUPPLY  
OSR JOB INVENTORY TASK STATEMENTS:  
0 N0725 A ADJUST DIRECT CURRENT (DC) POWER SUPPLY COMPONENTS

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TASK #: 01120  
ALIGN/ADJUST AN/GXS-2 CAMERA SET TELEVISION  
DUTY CODE: X0  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: 168  
OJT TRAINABLE: YES  
QTP ADEQUATE: YES  
QTP REFERENCE(S): QTP 304X0-30MB  
TTT: 3  
SME OPINION: 5  
EQUIPMENT:  
TRANSFORMER 0-140 VOLT, AMMETER, DIGITAL MULTIMETER,  
OSCILLOSCOPE, TOOL CHEST, ALIGNMENT BENCH, TELEVISION MONITOR  
REFERENCES:  
T.O. 31S9-4-46-1  
CONDITIONS CUES:  
COND: BISS SHOP, INSIDE, DAY/NIGHT, EQUIPMENT RELEASE, POWER  
ON  
CUE: PMI FINDINGS, AFTER ANY MAINTENANCE IS DONE ON SWITCHING  
UNIT VIDEO MATRIX  
JOB STANDARDS:  
IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 T 1403 1.63 13.0 14.0 13.0 5.0 6.04 2.0

ACTIVITIES SKILL KNOWLEDGE:

A ADJUST POWER SUPPLY  
A ADJUST VIDICON POSITION  
A ADJUST LIGHT LEVEL  
A ADJUST TARGET VOLTAGE  
A ADJUST MESH, BEAM CURRENTS  
A ADJUST PEDESTAL  
A ADJUST HORIZONTAL AND VERTICAL SIZE  
A ADJUST HORIZONTAL AND VERTICAL CENTERING  
A ADJUST ELECTRICAL FOCUS  
A ADJUST SYNC AMPLITUDE  
A ADJUST WHITE CLIPPER  
A ADJUST LENS LEVEL  
A ADJUST BACK FOCUS

OSR JOB INVENTORY TASK STATEMENTS:

0 T1403 A ALIGN CAMERA CIRCUITS

TASK #: 01130

ALIGN/ADJUST AN/GXS-2 MONITOR TELEVISION

DUTY CODE: X0

TASK STATUS: 3-OJT

TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY

HOW OFTEN: 168, AS REQUIRED

OJT TRAINABLE: YES

QTP ADEQUATE: YES

QTP REFERENCE(S): QTP 304X0-30MB

TTT: 3

SME OPINION: 5

EQUIPMENT:

TOOL CHEST, BAR-DOT GENERATOR, SYNC GENERATOR, OSCILLOSCOPE,  
DIGITAL MULTIMETER

REFERENCES:

T.O. 31S9-4-47-7

CONDITIONS CUES:

COND: BISS SHOP, INSIDE, DAY/NIGHT, POWER ON, EQUIPMENT  
RELEASED

CUE: PHI FINDINGS, AFTER ANY MAINTENANCE IS DONE ON SWITCHING  
UNIT VIDEO MATRIX

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 T 1401 1.48 10.0 12.0 12.0 5.0 5.44 2.0

ACTIVITIES SKILL KNOWLEDGE:

A ADJUST SCAN SIZE  
A ADJUST HORIZONTAL AND VERTICAL LINEARITY  
A ADJUST HORIZONTAL OSCILLATOR FREQUENCY RANGE  
A ADJUST VERTICAL OSCILLATOR FREQUENCY RANGE  
A ADJUST WIDTH  
A ADJUST VERTICAL SIZE  
A ADJUST FOCUS  
A ADJUST VIDEO AND SYNC GAIN  
A ADJUST CRT GRID VOLTAGE  
A ADJUST ANTI-RINGING PRINTED WIRE ASSEMBLY  
A ADJUST ANTI-RINGING CIRCUIT

OSR JOB INVENTORY TASK STATEMENTS:

0 T1401 A ADJUST VIDEO DISPLAY MONITORS

TASK #: 01140  
 INSPECT MD-674(P)/G LOW SPEED MODEM  
 DUTY CODE: X0  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 3

NOTES:  
 CONSEQUENCES: MINOR, DAMAGE, INJURY  
 HOW OFTEN: 84  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NOT USED  
 TNG REFERENCE(S): T.O. 31W2-2G-46WC-1 AND T.O. 31W2-2G-41  
 TTT: 5  
 SME OPINION: 3

EQUIPMENT:  
 FREQUENCY COUNTER, LEVEL METER, DIGITAL VOLTMETER, OSCILLOSCOPE

REFERENCES:  
 T.O. 31W2-2G-46WC-1  
 T.O. 31W2-2G-41

CONDITIONS CUES:  
 COND: ON EQUIPMENT, EQUIPMENT BYPASSED  
 CUE: PHI

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|------|------|------|------|------|------|-----|
| 304X0 S   | 1389 | 1.74 | 6.0  | 10.0 | 9.0  | 9.0  | 4.90 | 7.0 |

ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 A REMOVE AND CLEAN FILTER  
 A CHECK POWER SUPPLY VOLTAGES  
 A CHECK MODEM MARK AND SPACE FREQUENCIES  
 A CHECK MODEM BAUD RATE  
 A CHECK MODEM TIMING SIGNALS  
 A CHECK MODEM TRANSMIT AND RECEIVE DATA

OSR JOB INVENTORY TASK STATEMENTS:  
 0 S1389 A VISUALLY INSPECT INSTALLATION AND INTERCONNECTIONS OF  
 INSTALLED EQUIPMENT

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TASK #: 01150  
 TROUBLESHOOT MD-674(P)/G LOW SPEED MODEM TO COMPONENT LEVEL  
 DUTY CODE: X0  
 TASK STATUS: 3R-KP  
 TIMES ANALYZED: 3

NOTES:  
 CONSEQUENCES: MINOR, DAMAGE, INJURY  
 HOW OFTEN: SIX MONTHS OR YEARLY  
 OJT TRAINABLE: YES, NO, TEST EQUIPMENT, BASIC ELECTRONICS,  
 FREQUENCY SHIFT KEYING, DIGITAL TECHNIQUES  
 QTP ADEQUATE: NOT USED  
 TNG REFERENCE(S): T.O. 31W2-2G-46WC-1 AND T.O. 31W2-2G-41  
 TTT: 5  
 SME OPINION: 5

EQUIPMENT:  
 FREQUENCY COUNTER, OSCILLOSCOPE, DIGITAL MULTIMETER, LEVEL METER,  
 HAND TOOLS, SOLDERING EQUIPMENT

REFERENCES:  
 T.O. 31W2-2G-46WC-1  
 T.O. 31W2-2G-41

CONDITIONS CUES:  
 COND: ON EQUIPMENT, EQUIPMENT BYPASSED, CIRCUIT CARD ON BENCH  
 CUE: TECH CONTROL COMPLAINT, RESULTS OF TROUBLESHOOTING

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X0 Q   | 1035 | 2.93 | 13.0 | 16.0 | 15.0 | 11.0 | 5.49 | 11.0 |

ACTIVITIES SKILL KNOWLEDGE:  
 A PERFORM LOOPBACK TEST  
 K ISOLATE FAULT TO SEND OR RECEIVE SIDE  
 K ISOLATE TO CIRCUIT CARD OR SUBASSEMBLY USING HALF  
 SPLIT METHOD AND BLOCK DIAGRAMS  
 K ISOLATE TO CIRCUIT CARD COMPONENT USING SCHEMATICS  
 A REMOVE AND REPLACE MODULES, CIRCUIT CARDS, AND COMPO-  
 NENTS

OSR JOB INVENTORY TASK STATEMENTS:  
 0 Q1035 K ISOLATE HALF FUNCTIONS IN SOLID-STATE AUDIO AMPLIFIERS



TASK #: 01160  
 INSPECT THE MD-701 DIGITAL DATA MODEM  
 DUTY CODE: X0  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: SERIOUS, NONE, NONE  
 HOW OFTEN: 14, 50  
 OJT TRAINABLE: YES, NO, ELECTRONIC PRINCIPLES, TEST EQUIPMENT  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31S5-4-90-6WC-1 AND T.O. 31S5-4-90-2  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 MULTIMETER, OSCILLOSCOPE, VACUUM TUBE VOLTMETER  
 REFERENCES:  
 T.O. 31S5-4-90-6WC-1  
 T.O. 31S5-4-90-2  
 CONDITIONS CUES:  
 COND: IN SHOP, EQUIPMENT RELEASED  
 CUE: PMI, EQUIPMENT FAILURE  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB   1ENL   5SKL   7SKL   TD   ATI  
 304X0 0 0602 2.43 11.0 7.0 5.0 3.0 4.52 7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A PERFORM OPERATION CHECKS  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 00802 A PERFORM PREVENTIVE MAINTENANCE INSPECTIONS (PMI) ON  
 DC TO AUDIO FSK MODEMS

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TASK #: 01170  
 ALIGN ADJUST MD-701 DIGITAL DATA MODEM  
 DUTY CODE: X0  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: SERIOUS, NONE, NONE  
 HOW OFTEN: ANNUALLY  
 OJT TRAINABLE: YES, NO, ELECTRONIC PRINCIPLES, TEST EQUIPMENT  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31S5-4-90-6WC-1 AND T.O. 31S5-4-90-6WC-1  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 DIGITAL MULTIMETER, OSCILLOSCOPE, BITE, VACUUM TUBE VOLTMETER  
 REFERENCES:  
 T.O. 31S5-4-90-6WC-1  
 T.O. 31S5-4-90-2  
 CONDITIONS CUES:  
 COND: IN SHOP, EQUIPMENT RELEASED  
 CUE: PMI FAILURE, OUT OF TOLERANCE  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB   1ENL   5SKL   7SKL   TD   ATI  
 304X0 Q 0981 2.50 22.0 22.0 22.0 16.0 4.76 7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A MEASURE AND ALIGN DC OUTPUT VOLTAGE  
 A MEASURE AND ADJUST TRANSMIT OUTPUT LEVEL  
 A MEASURE AND ADJUST RECEIVE LEVEL  
 A ADJUST OUTPUT OF LIMITER DISCRIMINATOR  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 Q0981 A ADJUST GENERAL PURPOSE POWER SUPPLY COMPONENTS

TASK #: 01180  
TROUBLESHOOT THE MD-701 DIGITAL DATA MODEM  
DUTY CODE: X0  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: SERIOUS, NONE, NONE  
HOW OFTEN: ANNUALLY  
OJT TRAINABLE: YES, NO, ELECTRONIC PRINCIPLES, TEST EQUIPMENT  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31S5-4-90-2  
TTT: 3  
SME OPINION: 5  
EQUIPMENT:  
DIGITAL MULTIMETER, OSCILLOSCOPE, CIRCUIT TESTER, VACUUM TUBE  
VOLTMETER, BITE  
REFERENCES:  
T.O. 31S5-4-90-2  
CONDITIONS CUES:  
COND: IN SHOP, EQUIPMENT RELEASED  
CUE: USER COMPLAINT, PMI RESULTS, EQUIPMENT FAILURE  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 0 0794 3.09 14.0 12.0 10.0 6.0 6.72 11.0  
ACTIVITIES SKILL KNOWLEDGE:  
A MEASURE INPUT SIGNAL  
A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
A MEASURE OUTPUT SIGNAL  
K ISOLATE FAULTY COMPONENT  
A REMOVE AND REPLACE CIRCUIT CARDS  
A REMOVE AND REPLACE CIRCUIT CARD COMPONENTS  
OSR JOB INVENTORY TASK STATEMENTS:  
0 00794 K ISOLATE MALFUNCTIONS IN DIGITAL MODEMS

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TASK #: 01190  
INSPECT MDR-8-5N QUAD DIVERSITY MICROWAVE DIGITAL RADIO  
DUTY CODE: X0  
TASK STATUS: 3R-KP  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: 28  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): ROCKWELL INTERNATIONAL  
MDR-8-5N/MDR-11-5N/MDR-12-5 MDR-8-5N QUAD  
DIVERSITY MICROWAVE DIGITAL RADIO  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
VACUUM CLEANER, SOFT BRISTLE BRUSH, ELECTROSTATIC DISCHARGE  
STRAP, LOW VELOCITY BLOWER  
REFERENCES:  
ROCKWELL INTERNATIONAL MDR-8-5N/MDR-11-5N/MDR-12-5 MDR-8-5N  
QUAD DIVERSITY MICROWAVE DIGITAL RADIO  
CONDITIONS CUES:  
COND: ON EQUIPMENT  
CUE: PHI  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 L 0567 1.96 5.0 5.0 5.0 5.0 4.43 7.0  
304X0 K 0418 4.04 18.0 20.0 17.0 10.0 4.22 11.0  
304X0 K 0420 4.52 50.0 39.0 35.0 17.0 4.84 12.0  
ACTIVITIES SKILL KNOWLEDGE:  
A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
A CLEAN INTERIOR/EXTERIOR OF EQUIPMENT  
OSR JOB INVENTORY TASK STATEMENTS:  
0 K0418 A PERFORM PHI ON DIGITAL RECEIVERS  
0 K0420 A PERFORM PHI ON FM RECEIVERS

TASK #: 01200  
OPERATIONALLY CHECK MDR-8-5N QUAD DIVERSITY MICROWAVE DIGITAL RADIO  
DUTY CODE: X0  
TASK STATUS: 3R-KP  
TIMES ANALYZED: 3

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: 84  
OJT TRAINABLE: YES, NO, THEORY OF RADIO OPERATION, SAFETY, TEST  
EQUIPMENT

QTP ADEQUATE: NONE

TNG REFERENCE(S): ROCKWELL INTERNATIONAL  
MDR-8-5N/MDR-11-5N/MDR-12-5 MDR-8-5N  
QUAD DIVERSITY MICROWAVE DIGITAL RADIO

TTT: 5

SME OPINION: 5

REFERENCES:

ROCKWELL INTERNATIONAL MDR-8-5N/MDR-11-5N/MDR-12-5  
MDR-8-5N QUAD DIVERSITY MICROWAVE DIGITAL RADIO

CONDITIONS CUES:

COND: ON EQUIPMENT

CUE: PMI

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 G 0187 4.63 36.0 32.0 29.0 17.0 3.29 12.0

ACTIVITIES SKILL KNOWLEDGE:

- A CHECK FOR MODULE ALARM INDICATIONS
- A CHECK THAT ALL MODULES AND CONNECTORS ARE PROPERLY SEATED
- A CHECK CARRIER FREQUENCIES FROM STATION LICENSE
- A VERIFY RECEIVE/TRANSMIT CRYSTAL FREQUENCIES ARE WITHIN CALCULATED FREQUENCY PARAMETERS
- A ADJUST RECEIVER/TRANSMITTER PHASE LOCK VOLTAGES
- A CHECK AUXILIARY CHANNEL INSERT CLOCK MONITOR
- A CHECK DS-3 INTERFACE SHELF CLOCK MONITOR
- A CHECK INPUT RATE CONVERTER CLOCK MONITORS
- A CHECK MASTER CLOCK FREQUENCIES
- A CHECK TWT HIGH VOLTAGE POWER SUPPLY
- A CHECK TRAVELING WAVE TUBE (TWT) POWER SUPPLY HELIX CURRENT AND BEAM CURRENT
- A CHECK TWT RF POWER OUTPUT
- A CHECK TRANSMITTER POWER INDICATORS
- A CHECK VOLTAGE REGULATORS OUTPUT
- A VERIFY SYSTEM DATA TRANSMISSION
- A VERIFY TRANSMITTER AND RECEIVER SYSTEM SWITCHING

OSR JOB INVENTORY TASK STATEMENTS:

0 G0187 A PERFORM TRANSMISSION LEVEL TESTS

TASK #: 01210

CALIBRATE MDR-8-5N TRANSMIT SECTION ALARM DISPLAY

DUTY CODE: X0

TASK STATUS: 3-OJT

TIMES ANALYZED: 3

TNOTES:

CONSEQUENCES: NONE, NONE, NONE

HOW OFTEN: INDEFINITE

OJT TRAINABLE: YES, YES

QTP ADEQUATE: NONE

TNG REFERENCE(S): ROCKWELL INTERNATIONAL  
MDR-8-5N/MDR-11-5N/MDR-12-5 MDR-8-5N QUAD  
DIVERSITY MICROWAVE DIGITAL RADIO

TTT: 5

SME OPINION: 3

EQUIPMENT:

HANDTOOLS

REFERENCES:

ROCKWELL INTERNATIONAL MDR-8-5N/MDR-11-5N/MDR-12-5 MDR-8-5N QUAD  
DIVERSITY MICROWAVE DIGITAL RADIO

CONDITIONS CUES:

COND. ON EQUIPMENT

CUE: ALARM DISPLAY READING OUT OF T.O. SPECIFICATIONS

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 Q 0963 2.26 17.0 19.0 14.0 7.0 5.19 7.0  
ACTIVITIES SKILL KNOWLEDGE:  
A ADJUST TRANSMIT, POWER AMPLIFIER, AND COMBINER VOLT-  
AGES  
OSR JOB INVENTORY TASK STATEMENTS:  
0 Q0963 A ADJUST AUTOMATIC FAULT SENSING AND SWITCHING NETWORK  
COMPONENTS

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TASK #: 01220  
ADJUST MDR-8-5N DOWNCONVERTER AND ALARM RECEIVE VOLTAGE LEVELS  
DUTY CODE: X0  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: MINOR, DAMAGE, NONE  
HOW OFTEN: INDEFINITE  
OJT TRAINABLE: YES, NO, THEORY OF MODULATION AND AMPLIFICATION  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): ROCKWELL INTERNATIONAL  
MDR-8-5N/MDR-11-5N/MDR-12-5 MDR-8-5N  
QUAD DIVERSITY MICROWAVE DIGITAL RADIO  
TTT: 5  
SME OPINION: 3  
EQUIPMENT:  
ELECTROSTATIC DISCHARGE STRAP, DIGITAL MULTIMETER, FREQUENCY  
COUNTER, SPECTRUM ANALYZER, OSCILLOSCOPE, POWER METER, BIT ERROR  
RATE TESTER  
REFERENCES:  
ROCKWELL INTERNATIONAL MDR-8-5N/MDR-11-5N/MDR-12-5 MDR-8-5N  
QUAD DIVERSITY MICROWAVE DIGITAL RADIO  
CONDITIONS CUES:  
COND: ON EQUIPMENT, EQUIPMENT RELEASED  
CUE: ALARM DISPLAY READING OUT OF T.O. SPECIFICATIONS  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 Q 0970 2.87 14.0 12.0 10.0 8.0 4.93 11.0  
ACTIVITIES SKILL KNOWLEDGE:  
A ADJUST DOWNCONVERTER LOCAL OSCILLATOR DRIVE LEVEL  
CONTROL VOLTAGE  
A CHECK DOWNCONVERTER LOCAL OSCILLATOR DRIVE VOLTAGE  
AND ADJUST ALARM DISPLAY  
A ADJUST RECEIVE SIGNAL LEVEL ALARM LEVEL CONTROL  
A ADJUST SWITCH CONTROL THRESHOLD VOLTAGE LEVELS  
OSR JOB INVENTORY TASK STATEMENTS:  
0 Q0970 A ADJUST BUILT-IN TEST EQUIPMENT (BITE) COMPONENTS

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TASK #: 01230  
TROUBLESHOOT MDR-8-5N TO MODULE OR COMPONENT LEVEL  
DUTY CODE: X0  
TASK STATUS: 3R-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: TWO MONTHS  
OJT TRAINABLE: YES, NO, THEORY OF MODULATION AND AMPLIFICATION,  
TEST EQUIPMENT, THEORY OF MICROWAVE RADIO  
OPERATION, SAFETY PROCEDURES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): ROCKWELL INTERNATIONAL  
MDR-8-5N/MDR-11-5N/MDR-12-5 MDR-8-5N QUAD  
DIVERSITY MICROWAVE DIGITAL RADIO  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
ELECTROSTATIC DISCHARGE STRAP, DIGITAL MULTIMETER, FREQUENCY  
COUNTER, SPECTRUM ANALYZER, OSCILLOSCOPE, POWER METER  
REFERENCES:  
ROCKWELL INTERNATIONAL MDR-8-5N/MDR-11-5N/MDR-12-5 MDR-8-5N QUAD  
DIVERSITY MICROWAVE DIGITAL RADIO  
CONDITIONS CUES:  
COND: ON EQUIPMENT, EQUIPMENT MAY BE RELEASED  
CUE: VISUAL FAULT ALARMS, USER COMPLAINT, AUTOMATIC MASTER  
STATION ALARM REPORT

**JOB STANDARDS:**

**IAW REFERENCES**

**OSR DATA:** TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 I 0218 4.30 46.0 42.0 39.0 25.0 5.82 12.0

**ACTIVITIES SKILL KNOWLEDGE:**

A CHECK FAULT ALARMS WITH TROUBLESHOOTING MATRIX AND FLOW CHART

A LOCATE INDICATED MODULE OR COMPONENT

A PERFORM OPERATIONAL CHECKS OR INPUT/OUTPUT CHECKS INDICATED BY TROUBLESHOOTING MATRIX AND FLOW CHART

**OSR JOB INVENTORY TASK STATEMENTS:**

0 I0218 K ISOLATE MALFUNCTIONS IN SYSTEMS TO SPECIFIC EQUIPMENT

**TASK #: 01240**

REMOVE AND REPLACE MDR-8-5N MODULES OR COMPONENTS

DUTY CODE: X0

TASK STATUS: 3R-KP

TIMES ANALYZED: 3

**TNOTES:**

CONSEQUENCES: SERIOUS, DAMAGE, INJURY

HOW OFTEN: TWO MONTHS

OJT TRAINABLE: YES, YES

QTP ADEQUATE: NONE

TNG REFERENCE(S): ROCKWELL INTERNATIONAL

MDR-8-5N/MDR-11-5N/MDR-12-5 MDR-8-5N QUAD

DIVERSITY MICROWAVE DIGITAL RADIO

TTT: 3

SME OPINION: 3

**EQUIPMENT:**

HANDTOOLS

**REFERENCES:**

ROCKWELL INTERNATIONAL MDR-8-5N/MDR-11-5N/MDR-12-5 MDR-8-5N QUAD DIVERSITY MICROWAVE DIGITAL RADIO

**CONDITIONS CUES:**

COND: ON EQUIPMENT, RF AND HIGH VOLTAGE HAZARDS

CUE: RESULT OF TROUBLESHOOTING

**JOB STANDARDS:**

**IAW REFERENCES**

**OSR DATA:** TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X0 I 0236 3.04 40.0 40.0 40.0 26.0 3.60 12.0

**ACTIVITIES SKILL KNOWLEDGE:**

A ATTACH ELECTROSTATIC GROUNDING STRAP FOR APPLICABLE MODULES

A TURN OFF APPLICABLE CIRCUIT BREAKER

A REFER TO MODULE REPLACEMENT MATRIX FOR OPERATIONAL CHECKS TO BE ACCOMPLISHED AFTER MODULE REPLACEMENT

A REMOVE CABLES OR RIGID COAXIAL CONNECTORS

A REMOVE AND REPLACE MODULE OR COMPONENT

**OSR JOB INVENTORY TASK STATEMENTS:**

0 I0236 A REMOVE ELECTRONIC SUBASSEMBLIES USING METHODS OTHER THAN SOLDERING

TASK #: 01250  
 INSPECT AN/TRC-170 V2 TRANSPORTABLE LOS/TROPO SYSTEM  
 DUTY CODE: X0  
 TASK STATUS: 3R-KP  
 TIMES ANALYZED: 2

TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: 7, 14, 28, 56, 168  
 OJT TRAINABLE: YES, NO, BASIC ELECTRONICS  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 2-2TRC170-16WC-1 AND T.O. 2-2TRC170-6WC-1  
 TTT: 3  
 SME OPINION: 3

EQUIPMENT:  
 CLEANING SUPPLIES, HANDTOOLS, SIGNAL NOISE GENERATOR,  
 FIELD WIRE, GM LCOPBACK

REFERENCES:  
 T.O. 2-2TRC170-16WC-1  
 T.O. 2-2TRC170-6WC-1

CONDITIONS CUES:  
 COND. OUTDOORS  
 CUE: PMI

JOB STANDARDS:  
 IAW REFERENCES

OSR DATA:    TASK    TE    1JOB    1ENL    5SKL    7SKL    TD    ATI  
 304X0 I 0248 3.33 36.0 29.0 29.0 20.0 3.68 11.0

ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 A CLEAN EQUIPMENT  
 A CHECK FREQUENCY-SYNTHESIZER  
 A CHECK RECEIVER NOISE FIGURE  
 A CHECK GAIN EQUALIZATION  
 A SETUP TROPOSCATTER MODEM MODULATOR  
 A CHECK ALARM MONITORS  
 A CHECK ORDERWIRE OPERATION  
 A CHECK REMOTE ORDERWIRE CONTROL UNIT OPERATION

OSR JOB INVENTORY TASK STATEMENTS:  
 O 10248 A REPLACE ELECTRONIC COMPONENTS, OTHER THAN MICROMINIA-  
 TURE COMPONENTS, USING METHODS OTHER THAN SOLDERING

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TASK #: 01260  
 TROUBLESHOOT AN/TRC-170 V2 TRANSPORTABLE LOS/TROPO SYSTEM  
 DUTY CODE: X0  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 2

TNOTES:  
 CONSEQUENCES: SERIOUS, NONE, NONE  
 HOW OFTEN: ? (AS REQUIRED)  
 OJT TRAINABLE: YES, NO, BASIC ELECTRONICS  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 2-2TRC170-1-4 AND T.O. 2-2TRC170-1-5  
 TTT: 5  
 SME OPINION: 5

EQUIPMENT:  
 HANDTOOLS, MULTIMETER, POWER METER, SIGNAL GENERATOR, SOLDERING  
 EQUIPMENT

REFERENCES:  
 T.O. 2-2TRC170-1-4  
 T.O. 2-2TRC170-1-5

CONDITIONS CUES:  
 COND: OUTDOORS  
 CUE: USER COMPLAINT, RESULT OF PMI

JOB STANDARDS:  
 IAW REFERENCES

OSR DATA:    TASK    TE    1JOB    1ENL    5SKL    7SKL    TD    ATI  
 304X0 Q 1026 2.76 30.0 24.0 19.0 12.0 5.73 11.0

ACTIVITIES SKILL KNOWLEDGE:  
 K ISOLATE FAULTY SUBASSEMBLY USING FAULT ALARM MONITOR  
 K ISOLATE FAULTY LRU OR CIRCUIT CARD USING FLOWCHARTS  
 A REMOVE/REPLACE SUBASSEMBLIES, LINE REPLACEABLE UNITS,  
 OR CIRCUIT CARDS

OSR JOB INVENTORY TASK STATEMENTS:  
 O Q1026 K ISOLATE MALFUNCTIONS IN MAIN DISTRIBUTION FRAMES AND  
 ASSOCIATED WIRING

TASK #: 01270  
 INSPECT AN/TSC-102 MOBILE UHF SATELLITE TERMINAL  
 DUTY CODE: X0  
 TASK STATUS: 3R-KP  
 TIMES ANALYZED: 1

TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, NONE  
 HOW OFTEN: 168  
 OJT TRAINABLE: YES, NO, BASIC ELECTRONICS  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 2-2TSC102-1  
 TTT: 5  
 SME OPINION: 5

EQUIPMENT:  
 POWER METER, MULTIMETER, FREQUENCY COUNTER, DUMMY LOAD,  
 CLEANING SUPPLIES

REFERENCES:  
 T.O. 2-2TSC102-1

CONDITIONS CUES:  
 COND:  
 CUE: PMI

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X0 G   | 0181 | 4.65 | 29.0 | 30.0 | 30.0 | 21.0 | 4.21 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:  
 A CLEAN EQUIPMENT  
 A PERFORM AN/UGC-129 BUILT IN TEST  
 A PERFORM WSC-3 BUILT IN TEST  
 A CHECK WSC-3 FREQUENCY  
 A CHECK WSC-3 POWER SUPPLY OUTPUT VOLTAGE  
 A PERFORM AN/UGC-129 LOOP BACK TEST  
 A CHECK NONSECURE VOICE CIRCUIT OPERATION  
 A CHECK SECURE VOICE CIRCUIT OPERATION  
 A CHECK NONSECURE DATA CIRCUIT OPERATION

OSR JOB INVENTORY TASK STATEMENTS:  
 0 G0181 A PERFORM PREOPERATIONAL CHECKS OF EQUIPMENT

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TASK #: 01280  
 TROUBLESHOOT AN/TSC-102 MOBILE UHF SATELLITE TERMINAL  
 DUTY CODE: X0  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 2

TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, NONE  
 HOW OFTEN: ? (AS REQUIRED)  
 OJT TRAINABLE: YES, NO, BASIC ELECTRONICS  
 QTP ADEQUATE: YES, YES  
 TNG REFERENCE(S): T.O. 2-2TSC102-1  
 TTT: 5  
 SME OPINION: 5

EQUIPMENT:  
 MULTIMETER, POWER METER, FREQUENCY COUNTER, OSCILLOSCOPE,  
 DECIBEL METER, SPECTRUM ANALYZER, SIGNAL GENERATOR

REFERENCES:  
 T.O. 2-2TSC102-1

CONDITIONS CUES:  
 COND: IN SHOP, EQUIPMENT REMOVED FROM VEHICLE  
 CUE: USER COMPLAINT, RESULT OF PMI

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X0 G   | 0165 | 5.72 | 49.0 | 43.0 | 40.0 | 25.0 | 5.87 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:  
 A CHECK EQUIPMENT OPERATION  
 A PERFORM AN/UGC-129 BUILT IN TEST  
 A PERFORM AN/WSC-3 BUILT IN TEST  
 A REMOVE AND REPLACE FAULTY LRU INDICATED BY BITE  
 A ISOLATE MISCELLANEOUS SUBASSEMBLIES TO INDIVIDUAL  
 COMPONENT LEVEL. (INTERFACE UNITS, PANEL ASSEMBLIES,  
 BATTERY CHARGER, AND SPEAKER AMPLIFIER)  
 A REMOVE AND REPLACE INDIVIDUAL COMPONENTS IN MISCELLANEOUS  
 SUBASSEMBLIES

OSR JOB INVENTORY TASK STATEMENTS:  
 0 G0165 K PERFORM CIRCUIT FAULT ISOLATION PROCEDURES

TASK #: 01240  
 INSPECT WD15 DEHYDRATOR  
 DUTY CODE: X0  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 2

TNOTES:  
 CONSEQUENCES: NONE, DAMAGE, NONE  
 HOW OFTEN: 28  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): ECA CEMI 1000-15 AND T.O. 34Y11-2-18-2  
 TTT: 5  
 SME OPINION: 3

EQUIPMENT:  
 LEAK DETECTOR SOLUTION, CLEANING SUPPLIES, HAND TOOLS,  
 SET PLUG (DEHYDRATOR TEST ADAPTOR)

REFERENCES:  
 ECA CEMI 1000-15

CONDITIONS CUES:  
 COND: IN SHOP  
 CUE: PMI

JOB STANDARDS:  
 IAW REFERENCES

OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
 304X0 J 0286 3.26 25.0 27.0 29.0 17.0 3.92 11.0

ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 A CHECK PLUMBING FOR LEAKS  
 A CLEAN AIR FILTER  
 A CLEAN EQUIPMENT EXTERIOR  
 A CHECK DEHYDRATOR OPERATION  
 A CHECK WAVEGUIDE PRESSURIZATION  
 A CHECK AND ADJUST LOW AND HIGH PRESSURE ALARMS  
 A CHECK AND ADJUST DEW POINT ALARM  
 A CHECK COMPRESSOR OPERATION  
 A CLEAN SINGLE AND DOUBLE CHECK VALVE

OSR JOB INVENTORY TASK STATEMENTS:  
 0 J0286 A INSPECT WAVEGUIDES

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TASK #: 01300  
 TROUBLESHOOT WD15 DEHYDRATOR  
 DUTY CODE: X0  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 2

TNOTES:  
 CONSEQUENCES: NONE, DAMAGE, INJURY  
 HOW OFTEN: SIX MONTHS  
 OJT TRAINABLE: YES, NO, BASIC ELECTRONICS  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 34Y11-2-18-2  
 TTT: 5  
 SME OPINION: 5

EQUIPMENT:  
 LEAK DETECTOR SOLUTION, TUBE TESTER, VOLTMETER, OHM  
 METER, SET PLUG (DEHYDRATOR TEST ADAPTOR), ANALOG  
 MULTIMETER, DIGITAL MULTIMETER

REFERENCES:  
 T.O. 34Y11-2-18-2

CONDITIONS CUES:  
 COND: IN SHOP  
 CUE: FAULT ALARM, NON OPERATION, CONTINUOUS OPERATION,  
 PRESSURE OUT OF SPECIFICATIONS

JOB STANDARDS:  
 IAW REFERENCES

OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
 304X0 J 0292 1.74 15.0 12.0 11.0  7.0 4.88  7.0

ACTIVITIES SKILL KNOWLEDGE:  
 A CHECK AND ADJUST PRESSURE GAUGES  
 A CHECK PLUMBING FOR LEAKS  
 A CHECK AND ADJUST LOW AND HIGH PRESSURE ALARMS  
 A CHECK AND ADJUST DEW POINT ALARM  
 A INSPECT OPERATION OF MOTOR PARTS  
 A REMOVE AND REPLACE MECHANICAL PARTS  
 A TIGHTEN OR WRAP PLUMBING FITTINGS  
 A REPLACE TUBING  
 A REMOVE AND REPLACE HUMIDISTAT TUBE

OSR JOB INVENTORY TASK STATEMENTS:  
 0 J0292 K ISOLATE MALFUNCTIONS IN DEHYDRATORS



TASK #: 01310  
 INSPECT THE 46A3 MULTIPLEXER  
 DUTY CODE: X0  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 1  
 TNOTES:  
 CONSEQUENCES: NONE, NONE, NONE  
 HOW OFTEN: DAILY, 28  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONICS FUNDAMENTALS)  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): NONE  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 VACUUM CLEANER, LINT-FREE CLOTH, CLEAN ARTIST BRUSH,  
 GENERAL PURPOSE CLEANER, SELECTIVE VOLTMETER, TRANSMISSION  
 AND NOISE MEASURING SET, AUDIO OSCILLATOR  
 REFERENCES:  
 T.O. 31W2-4-340-1  
 T.O. LWC-2049-14-84 (LOCAL WORKCARD DEVELOPED FROM COMMERCIAL  
 CONDITIONS CUES:  
 COND: POWER ON, SPARE CHANNEL MODEMS ALWAYS AVAILABLE  
 CUE: PMI, MULTIPLEXER ALARMS, USER COMPLAINT  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X0 G 0158 4.20 30.0 21.0 16.0 10.0 4.22 11.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A PERFORM NOISE AND LEVEL CHECK  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 A CLEAN INTERIOR AND EXTERIOR OF CABINET  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 G0158 A PERFORM ALTERNATE CIRCUIT ROUTING AT PATCH AND TEST  
 FACILITIES

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TASK #: 01320  
 TROUBLESHOOT 46A3 MULTIPLEXER  
 DUTY CODE: X0  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 1  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: MONTHLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31W2-4-340-1  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 SELECTIVE VOLTMETER, DIGITAL MULTIMETER, TRANSMISSION  
 AND NOISE MEASURING SET, AUDIO OSCILLATOR, FREQUENCY COUNTER,  
 TEST ADAPTOR UNIT, AUDIO MEASURING SET, SOLDERING KIT  
 REFERENCES:  
 T.O. 31W2-4-340-1  
 CONDITIONS CUES:  
 COND: POWER ON, SPARE CHANNEL MODEMS ALWAYS AVAILABLE  
 CUE: PMI FINDING, MULTIPLEXER ALARMS, USER COMPLAINT  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X0 M 0635 4.04 18.0 23.0 23.0 17.0-6.07 11.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 K ISOLATE FAULTY LINE REPLACEABLE UNITS (LRU)  
 A REMOVE AND REPLACE LRU  
 K ISOLATE FAULTY RELAYS  
 A REMOVE AND REPLACE RELAYS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 M0635 K ISOLATE MALFUNCTIONS IN SOLID-STATE FREQUENCY DIVI-  
 SION MULTIPLEXERS

TASK #: 01330  
 ALIGN/ADJUST 46A3 MULTIPLEXER  
 DUTY CODE: X0  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 1  
 TNOTES:  
 CONSEQUENCES: NONE, NONE, NONE  
 HOW OFTEN: BI-MONTHLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31W2-4-340-1  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 SELECTIVE VOLTMETER, DIGITAL MULTIMETER, TRANSMISSION  
 AND NOISE MEASURING SET, AUDIO OSCILLATOR, FREQUENCY COUNTER,  
 TEST ADAPTOR UNIT, HANDTOOLS  
 REFERENCES:  
 T.O. 31W2-4-340-1  
 CONDITIONS CUES:  
 COND: POWER ON, SPARE CHANNEL MODEMS ALWAYS AVAILABLE  
 CUE: PMI FINDING, USER COMPLAINT, MULTIPLEXER ALARMS  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
 304X0 M 0629 4.48 40.0 32.0 29.0 19.0 5.74 12.0  
 ACTIVITIES SKILL KNOWLEDGE:  
   A ALIGN/ADJUST CHANNEL MODEM UNIT  
   A ALIGN/ADJUST CHANNEL MODEM UNIT E AND M SIGNAL  
   A ALIGN/ADJUST CHANNEL MODEM UNIT PILOT TONE OSCILLATOR  
   A ALIGN/ADJUST SYNCHRONIZATION UNIT  
   A ALIGN/ADJUST LINE DELAY EQUALIZER UNIT  
   A ALIGN/ADJUST GROUP PILOT OSCILLATOR UNIT  
   A ALIGN/ADJUST SYNCHRONIZATION SHELF LINE PILOT LEVEL  
   A MEASURE AND RECORD POWER SUPPLY VOLTAGES  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 M0629 A ALIGN FREQUENCY DIVISION MULTIPLEXERS

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TASK #: 01340  
 TROUBLESHOOT 46A3 MULTIPLEXER POWER SUPPLY  
 DUTY CODE: X0  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED:  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: ANNUALLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONICS FUNDAMENTALS)  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31W2-4-340-1  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 DIGITAL MULTIMETER, OSCILLOSCOPE, SOLDERING KIT, HAND TOOLS  
 REFERENCES:  
 T.O. 31W2-4-340-1  
 CONDITIONS CUES:  
 COND: POWER ON FOR REDUNDANT SYSTEM  
 CUE: ALIGNMENT FINDING, MULTIPLEXER ALARMS  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
 304X0 N 0746 2.20 10.0 8.0 7.0 4.0 6.05 7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
   K ISOLATE FAULTY COMPONENTS  
   A REMOVE OR REPLACE INDIVIDUAL COMPONENTS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 0 N0746 K ISOLATE MALFUNCTIONS IN DC POWER SUPPLY LINE ISOLA-  
 TION ASSEMBLIES

TASK #: 01350  
 INSPECT A.F. DIGITAL GRAPHICS SYSTEM (AFDIGS) MODEL 9500 DMDAF  
 DUTY CODE: X4  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: MINOR, DAMAGE, INJURY  
 HOW OFTEN: 28, 56  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: YES  
 QTP REFERENCE(S): QTP 304X4-30Z  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 HANDTOOLS, CLEANING MATERIALS, BLOWER  
 REFERENCES:  
 AFCC COMMUNICATIONS ELECTRONICS MAINTENANCE INSPECTIONS (CEMI)  
 800-1  
 QTP 304X4-30Z  
 ALDEN/DACOM DIGITAL RECEIVE TERMINAL MODEL 9500DMDAF COMMERCIAL  
 MANUAL  
 CONDITIONS CUES:  
 COND: EQUIPMENT RELEASED, ON EQUIPMENT  
 CUE: PMI  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 I 0448 3.55 20.0 18.0 15.0 8.0 3.55 7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS TO  
 INCLUDE PIN CONNECTION AND INDICATOR LAMP OPERATION  
 A PERFORM MARK TEST  
 A PERFORM SELF TEST  
 A CHECK FUNCTIONAL CONTROLS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 I0448 A OPERATIONALLY CHECK AUTOMATIC RECORDING SYSTEMS

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TASK #: 01360  
 ALIGN A.F. DIGITAL GRAPHICS SYSTEM (AFDIGS) MODEL 9500 DMDAF TACHOMETER ASSEMBLY  
 DUTY CODE: X4  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: SERIOUS, NONE, NONE  
 HOW OFTEN: 1 MONTH  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: YES  
 QTP REFERENCE(S): QTP 304X4-30Z  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 HANDTOOLS  
 REFERENCES:  
 ALDEN/DACOM DIGITAL RECEIVE TERMINAL MODEL 9500DMDAF COMMERCIAL  
 MANUAL  
 CONDITIONS CUES:  
 COND: EQUIPMENT RELEASED, ON EQUIPMENT  
 CUE: MAP PRINTING OFF CENTER  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 I 0455 3.22 8.0 8.0 7.0 5.0 3.80 7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A RUN TEST CHART  
 A ROTATE TACHOMETER ASSEMBLY UNTIL CENTERED  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 I0455 A OPERATIONALLY CHECK FACSIMILE SYSTEMS

TASK #: 01370  
 ADJUST A.F. DIGITAL GRAPHICS SYSTEM (AFDIGS) MODEL 9500 DMDAF LOOP BLADE ASSEMBLY

DUTY CODE: X4  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 3

TNOTES:  
 CONSEQUENCES: MINOR, NONE, INJURY  
 HOW OFTEN: 1 MONTH  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: YES  
 QTP REFERENCE(S): QTP 304X4-30Z  
 TTT: 3  
 SME OPINION: 3

EQUIPMENT:  
 HANDTOOLS

REFERENCES:  
 ALDEN/DACOM DIGITAL RECEIVE TERMINAL MODEL 9500DMDAF COMMERCIAL MANUAL

CONDITIONS CUES:  
 COND: EQUIPMENT RELEASED, ON EQUIPMENT  
 CUE: OPERATOR COMPLAINT, CUTTING PAPER INCORRECTLY

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|------|------|------|------|------|------|-----|
| 304X4 I   | 0455 | 3.22 | 8.0  | 8.0  | 7.0  | 5.0  | 3.80 | 7.0 |

ACTIVITIES SKILL KNOWLEDGE:  
 A RUN SELF TEST  
 A ADJUST LOOP BLADE ASSEMBLY THUMBWHEELS FOR SMOOTH PAPER MOVEMENT AND ADEQUATE PAPER MARKING

OSR JOB INVENTORY TASK STATEMENTS:  
 4 I0455 A OPERATIONALLY CHECK FACSIMILE SYSTEMS

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TASK #: 01380  
 ALIGN A.F. DIGITAL GRAPHICS SYSTEM (AFDIGS) MODEL 9500 DMDAF 5 VOLT POWER SUPPLY

DUTY CODE: X4  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 3

TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, NONE  
 HOW OFTEN: YEARLY  
 OJT TRAINABLE: YES, NO, TEST EQUIPMENT USE  
 QTP ADEQUATE: YES  
 QTP REFERENCE(S): QTP 304X4-30Z  
 TTT: 3  
 SME OPINION: 3

EQUIPMENT:  
 HANDTOOLS, OSCILLOSCOPE, DIGITAL VOLTMETER

REFERENCES:  
 ALDEN/DACOM DIGITAL RECEIVE TERMINAL MODEL 9500DMDAF COMMERCIAL MANUAL

CONDITIONS CUES:  
 COND: EQUIPMENT RELEASED, ON EQUIPMENT  
 CUE: EXCESSIVE VOLTAGE, RESULT OF TROUBLESHOOT

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|------|------|------|------|------|------|-----|
| 304X4 I   | 0455 | 3.22 | 8.0  | 8.0  | 7.0  | 5.0  | 3.80 | 7.0 |

ACTIVITIES SKILL KNOWLEDGE:  
 A CONNECT OSCILLOSCOPE  
 A MEASURE AND ADJUST PAPER FEED PULSE LEVEL IN TACHOMETER

OSR JOB INVENTORY TASK STATEMENTS:  
 4 I0455 A OPERATIONALLY CHECK FACSIMILE SYSTEMS

TASK #: 01390  
TROUBLESHOOT A.F. DIGITAL GRAPHICS SYSTEM (AFDIGS) MODEL 9500 DMDAF ELECTRICAL COMPONENTS  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: SERIOUS, NONE, INJURY  
HOW OFTEN: MONTHLY OR 45 DAYS  
OJT TRAINABLE: YES, NO, BASIC ELECTRONICS  
QTP ADEQUATE: NO, DOESN'T COVER THOROUGHLY  
QTP REFERENCE(S): QTP 304X4-30Z  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
HANDTOOLS, OSCILLOSCOPE, DIGITAL VOLTMETER, CARD PULLER  
REFERENCES:  
ALDEN/DACOM DIGITAL RECEIVE TERMINAL MODEL 9500DMDAF COMMERCIAL MANUAL  
CONDITIONS CUES:  
COND: EQUIPMENT RELEASED, ON EQUIPMENT  
CUE: PRINTING SKEWED OR PRINTING INCORRECTLY, OR INCONSISTENT MAP DENSITY  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK  TE  1JOB  1ENL  5SKL  7SKL  TD  ATI  
304X4  I  0425  3.72  4.0  5.0  5.0  4.0  5.98  11.0  
304X4  I  0476  2.10  5.0  4.0  4.0  3.0  4.05  2.0  
ACTIVITIES SKILL KNOWLEDGE:  
A SELF TEST EQUIPMENT  
K ISOLATE FAULT TO CIRCUIT CARD LEVEL WITH T.O. FLOW CHARTS  
A REMOVE OR REPLACE CIRCUIT CARDS  
OSR JOB INVENTORY TASK STATEMENTS:  
4 I0476 A REMOVE OR INSTALL FACSIMILE EQUIPMENT LRU  
4 I0425 K ISOLATE MALFUNCTIONS WITHIN FACSIMILE SYSTEMS TO LRU  
4 T0476 A REMOVE OR INSTALL FACSIMILE EQUIPMENT LRU

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TASK #: 01400  
TROUBLESHOOT A.F. DIGITAL GRAPHICS SYSTEM (AFDIGS) MODEL 9500 DMDAF MECHANICAL COMPONENTS  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: SERIOUS, NONE, INJURY  
HOW OFTEN: 30, BI-ANNUALLY, OR ANNUALLY  
OJT TRAINABLE: YES, NO, COMPLICATED LINKAGES, CONNECTOR FAMILIARITY, SAFETY FACTORS, AND BASIC ELECTRONICS  
QTP ADEQUATE: NO, DOESN'T COVER THOROUGHLY  
QTP REFERENCE(S): QTP 304X4-30Z  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
HANDTOOLS  
REFERENCES:  
ALDEN/DACOM DIGITAL RECEIVE TERMINAL MODEL 9500DMDAF COMMERCIAL MANUAL  
CONDITIONS CUES:  
COND: EQUIPMENT RELEASED, ON EQUIPMENT  
CUE: PHYSICAL DAMAGE TO MAP WHEN PRINTING, MAPS NOT READABLE OR INCONSISTENT DENSITY  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK  TE  1JOB  1ENL  5SKL  7SKL  TD  ATI  
304X4  I  0425  3.72  4.0  5.0  5.0  4.0  5.98  11.0  
ACTIVITIES SKILL KNOWLEDGE:  
A SELF TEST EQUIPMENT  
A ISOLATE FAULT TO MECHANICAL COMPONENT WITH T.O. FLOW CHARTS  
A POSITION TACHOMETER ANTI-BACKSLASH SPRING  
A REMOVE LEFT AND RIGHT SHIM BLOCKS  
A REMOVE HELIX DRIVE BELT  
A REMOVE AND REPLACE HELIX DRUM  
A POSITION ELECTRICAL CONTACT  
A REPLACE DRIVE BELT AND SHIM BLOCKS  
OSR JOB INVENTORY TASK STATEMENTS:  
4 I0425 K ISOLATE MALFUNCTIONS WITHIN FACSIMILE SYSTEMS TO LRU

TASK #: 01410  
 INSPECT CU-547 ANTENNA COUPLER  
 DUTY CODE: X4  
 TASK STATUS: 3-K  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: NONE, NONE, NONE  
 HOW OFTEN: 168, 336  
 OJT TRAINABLE: YES. YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): SEE REFERENCES  
 TTT: 5  
 SME OPINION: 3  
 EQUIPMENT:  
 WATTMETER, DUMMY LOAD, SIGNAL GENERATOR, CLEANING MATERIALS,  
 REFLECTOMETER  
 REFERENCES:  
 T.O. 31R1-2GR-141  
 T.O. 31R1-2GR-142  
 T.O. 31R1-2GR-144  
 T.O. 31R1-2GR-146WC-1  
 T.O. 31R1-2GR-184  
 T.O. 31R1-2GR-149  
 CONDITIONS CUES:  
 COND: WORKCENTER, OFF LINE  
 CUE: PMI  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB   1ENL   5SKL   7SKL   TB   ATI  
 304X4 K 0544 4.25 41.0 39.0 35.0 16.0 6.07 12.0  
 304X4 K 0565 4.00 29.0 29.0 27.0 14.0 5.65 11.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 A ADJUST COUPLER TUNING KNOB  
 A PERFORM OPERATIONAL CHECK ON COUPLER  
 A REPLACE TANDEM CAVITY IF INSERTION LOSS IS OVER  
 LIMITS  
 A ADJUST SQUELCH ON RECEIVER THROUGH ANTENNA COUPLER  
 A REPEAT TEST CHECK FOR REMAINING JACKS ON ANTENNA  
 COUPLER  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 K0544 A ALIGN ANTENNA COUPLER COMPONENTS  
 4 K0565 A BENCH CHECK ANTENNA COUPLERS

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TASK #: 01420  
 TROUBLESHOOT CU-547 ANTENNA COUPLER  
 DUTY CODE: X4  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: SELDOM OCCURS  
 OJT TRAINABLE: YES. NO, BASIC ELECTRONICS REQUIRED  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X4-48C  
 TTT: 5  
 SME OPINION: 5  
 EQUIPMENT:  
 WATTMETER, DUMMY LOAD, SIGNAL GENERATOR, CLEANING MATERIALS  
 HANDTOOLS, REFLECTOMETER,  
 REFERENCES:  
 T.O. 31R1-2GR-141  
 T.O. 31R1-2GR-142  
 T.O. 31R1-2GR-144  
 T.O. 31R1-2GR-146WC-1  
 T.O. 31R1-2GR-184  
 T.O. 31R1-2GR-149  
 CONDITIONS CUES:  
 COND: WORKCENTER, OFF-LINE  
 CUE: USER COMPLAINT, FAILED PMI  
 JOB STANDARDS:  
 IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 K 0585 3.18 21.0 23.0 21.0 12.0 5.36 7.0  
ACTIVITIES SKILL KNOWLEDGE:  
A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
A ISOLATE FAULTY CHANNEL IN COUPLER  
A CHECK INSERTION LOSS  
A CHECK STANDING WAVE RATIO  
A REPLACE DEFECTIVE CAVITY  
OSR JOB INVENTORY TASK STATEMENTS:  
4 K0585 A REMOVE AND REPLACE ANTENNA COUPLER DISCRETE PARTS

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TASK #: 01430  
PERFORMANCE CHECK AN/FSC-82 INTERFACE UNIT  
DUTY CODE: X4  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 3  
NOTES:  
CONSEQUENCES: NONE, NONE, NONE  
HOW OFTEN: 56, 168  
OJT TRAINABLE: YES, NO, BASIC ELECTRONICS, TEST EQUIPMENT, SYSTEM  
KNOWLEDGE  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): LOCAL WORK CARDS 1961CG-FSC-82-0046  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
OSCILLOSCOPE, AUDIO OSCILLATOR, VOLTMETER, FREQUENCY COUNTER,  
DIGITAL MULTIMETER, ANALOG MULTIMETER  
REFERENCES:  
LOCAL WORK CARDS 1961CG-FSC-82-0046  
CONDITIONS CUES:  
COND: EQUIPMENT RELEASED, ON EQUIPMENT  
CUE: PMI  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X6 Q 0670 .00 6.0 6.0 7.0 1.0 4.00  
ACTIVITIES SKILL KNOWLEDGE:  
K RECALL USE OF JACKFIELD  
A CHECK AC POWER SUPPLY VOLTAGE AND ADJUST PER T.O.  
A CHECK 24/43 VOLT DC POWER SUPPLY VOLTAGE AND ADJUST  
PER  
A CHECK RING GENERATOR FREQUENCY AND ADJUST PER T.O.  
A CHECK FUSE PANEL INDICATOR  
A CHECK 6 VOLT POWER SUPPLY VOLTAGE AND ADJUST PER T.O.  
A CHECK RADIO CONNECT SWITCH PANEL INDICATORS AND  
SWITCHE  
A CHECK TELEPHONE PANEL INDICATORS AND SWITCHES  
A CHECK RADIO AUDIO LEVEL AND ADJUST PER T.O.  
A CHECK VOICE OPERATED KEY THRESHOLD AND ADJUST PER  
T.O.  
A CHECK MYSTIC STAR INTERFACE AUDIO LEVEL AND ADJUST  
PER  
A CHECK CRYPTO AND AUTOSEVOCOM INTERFACE AUDIO LEVELS  
AND ADJUST PER T.O.  
OSR JOB INVENTORY TASK STATEMENTS:  
6 Q0670 A PERFORM PMIS ON LINE AMPLIFIERS

TASK #: 01440  
 PERFORMANCE CHECK AN/FSC-82 AN/WSC-3 RADIO  
 DUTY CODE: X4  
 TASK STATUS: 3-K  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: 7, 28  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 5-2WSC3-1-1  
 TTT: 5  
 SME OPINION: 3  
 EQUIPMENT:  
 VOLTMETER, FREQUENCY COUNTER  
 REFERENCES:  
 T.O. 5-2WSC3-1-1  
 CONDITIONS CUES:  
 COND: EQUIPMENT RELEASED, ON EQUIPMENT  
 CUE: PMI  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB   1ENL   5SKL   7SKL   TD   ATI  
 304X6 Q 0668   .90 35.0 38.0 36.0 13.0 4.02  
 ACTIVITIES SKILL KNOWLEDGE:  
 A CONFIGURE RADIO FOR LOCAL OPERATION  
 A PERFORM BITE PERFORMANCE TESTS  
 A CHECK SYNTHESIZER INTERNAL FREQUENCY STANDARD AND  
 ADJUST PER T.O.  
 A CHECK AFC SWEEP VOLTAGE AND ADJUST PER T.O.  
 A CHECK PHASE SHIFT KEY VOLTAGE AND ADJUST PER T.O.  
 A INSPECT VISUALLY FOR CLEANLINESS  
 A CLEAN AIR FILTER  
 OSR JOB INVENTORY TASK STATEMENTS:  
 6 Q0668 A PERFORM PMIS ON FREQUENCY SYNTHESIZERS

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TASK #: 01450  
 TROUBLESHOOT AN/FSC-82 AN/WSC-3 RADIO  
 DUTY CODE: X6  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: THREE MONTHS  
 OJT TRAINABLE: YES, NO, SYSTEM KNOWLEDGE, BASIC ELECTRONICS, TEST  
 EQUIPMENT  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 5-2WSC3-1-1-1  
 TTT: 5  
 SME OPINION: 5  
 EQUIPMENT:  
 VOLTMETER, FREQUENCY COUNTER, OSCILLOSCOPE, DUMMY LOAD  
 REFERENCES:  
 T.O. 5-2WSC3-1-1-1  
 CONDITIONS CUES:  
 COND: EQUIPMENT RELEASED, ON EQUIPMENT  
 CUE: USER COMPLAINT, RESULT OF PERFORMANCE CHECK  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB   1ENL   5SKL   7SKL   TD   ATI  
 304X6 J 0228   .00 35.0 52.0 52.0 23.0 6.45  
 304X6 N 0508   .00 18.0 27.0 28.0 16.0 5.20  
 ACTIVITIES SKILL KNOWLEDGE:  
 A PERFORM BITE CHECKS  
 A REFERENCE T.O. TROUBLESHOOTING CHARTS AND DIAGRAMS TO  
 DETERMINE FAULTY CIRCUIT CARD  
 A SWAP INDICATED CIRCUIT CARD WITH KNOWN GOOD CARD  
 A CONDUCT PERFORMANCE CHECKS TO ISOLATE FAULTY CARD OR  
 COMPONENT  
 OSR JOB INVENTORY TASK STATEMENTS:  
 6 J0228 K ISOLATE MALFUNCTIONS IN ANTENNA CONTROLS  
 6 N0508 K ISOLATE MALFUNCTIONS TO RECEIVER-TRANSMITTER (RT)  
 SUBSYSTEMS



TASK #: 01460  
 REMOVE AND REPLACE AN/FSC-82 RADIO CIRCUIT CARDS, MODULES, AND COMPONENTS  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, INJURY  
 HOW OFTEN: FOUR MONTHS  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 5-2WSC3-1  
 TTT: 5  
 SHE OPINION: 3  
 EQUIPMENT:  
 HAND TOOLS, SOLDERING EQUIPMENT  
 CONDITIONS CUES:  
 COND: EQUIPMENT RELEASED, ON EQUIPMENT  
 CUE: RESULTS OF TROUBLESHOOTING  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:    TASK    TE    1JOB  1ENL  5SKL  7SKL  TD    ATI  
           304X6 I 0218   .00 27.0 39.0 43.0 25.0 3.31  
 ACTIVITIES SKILL KNOWLEDGE:  
           A REMOVE OR REPLACE POWER SUPPLIES  
           A REMOVE OR REPLACE POWER SUPPLY RECTIFIERS  
           A REMOVE OR REPLACE POWER SUPPLY FILTERS  
           A REMOVE OR REPLACE AM RECEIVERS  
           A REMOVE OR REPLACE FM RECEIVERS  
           A REMOVE OR REPLACE AM TRANSMITTERS  
           A REMOVE OR REPLACE FM TRANSMITTERS  
           A REMOVE OR REPLACE VOLTAGE REGULATORS  
 OSR JOB INVENTORY TASK STATEMENTS:  
   6 I0218 A REMOVE OR REPLACE LINE REPLACEABLE UNITS (LRU)

TASK #: 01470  
 CHANGE AN/FSC-82 ANTENNA AZIMUTH AND ELEVATION  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, INJURY  
 HOW OFTEN: TWO MONTHS  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. NOT AVAILABLE  
 TTT: 5  
 SHE OPINION: 3  
 EQUIPMENT:  
 HAND TOOLS  
 CONDITIONS CUES:  
 COND: EQUIPMENT RELEASED, RF HAZARD  
 CUE: OPERATOR DIRECTED  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:    TASK    TE    1JOB  1ENL  5SKL  7SKL  TD    ATI  
           304X6 H 0183   .00 39.0 45.0 43.0 22.0 5.40  
           304X6 H 0186   .00 54.0 57.0 54.0 25.0 4.84  
 ACTIVITIES SKILL KNOWLEDGE:  
           A LOUSEN SECURING BOLTS  
           A ROTATE ANTENNA TO DIRECTED AZIMUTH AND ELEVATION AS  
           INDICATED ON REFERENCE DIALS  
           A ALIGN ANTENNAS  
 OSR JOB INVENTORY TASK STATEMENTS:  
   6 H0183 A PERFORM ACQUISITION FUNCTIONS  
   6 H0186 A PERFORM TRACKING FUNCTIONS

TASK #: 01480  
 INSPECT AN/GRC-171 UHF TRANSCEIVER  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: MINOR, DAMAGE, NONE  
 HOW OFTEN: ANNUAL  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X4-30D  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 TOOL BOX, RF LOAD, RF SIGNAL GENERATOR, DISTORTION ANALYZER,  
 LINE FUSE HOLDER, 600 OHM LOAD, AUDIO TEST FIXTURE, 6 DV PAD,  
 INLINE FUSE HOLDER, DUMMY LOAD, POWER METER, RF MIXER,  
 OSCILLOSCOPE CLEANING SUPPLIES (BRUSHES/RAGS), VARIABLE  
 ATTENUATOR, FREQUENCY COUNTER, AUDIO OSCILLATOR, DIGITAL  
 MULTIMETER, WATTMETER, RF MIXER, OSCILLOSCOPE, SOLDERING KIT  
 REFERENCES:  
 T.O. 31R2-2GRC171-6WC-1  
 CONDITIONS CUES:  
 COND: CONTROL TOWER, MAINTENANCE WORK CENTER, INSIDE,  
 DAY, NIGHT, EQUIPMENT RELEASED  
 CUES: PMI SCHEDULE, SYSTEM MALFUNCTIONS  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK  TE  1JOB  1ENL  5SKL  7SKL  TD  ATI  
 304X4  H  0392  6.63  70.0  64.0  55.0  32.0  4.30  18.0  
 304X4  J  0516  5.40  46.0  41.0  34.0  15.0  6.17  12.0  
 304X4  J  0524  6.45  57.0  51.0  42.0  19.0  6.01  18.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT FOR OBVIOUS DAMAGE  
 A CHECK NORMAL OPERATION OF SYSTEM  
 A CHECK RECEIVER SQUELCH, SENSITIVITY, SIGNAL PLUS  
 NOISE TO NOTICE RATIO  
 A CHECK RECEIVER AND TRANSMITTER FREQUENCY  
 A CHECK TRANSMITTER PERCENT OF MODULATION  
 A CHECK FOR CLEANLINESS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 J0516 A BENCH CHECK MULTIPLE CHANNEL TRANSCEIVERS  
 4 J0524 A BENCH CHECK UHF TRANSCEIVERS  
 4 H0392 A OPERATIONALLY CHECK UHF EQUIPMENT

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TASK #: 01490  
 TROUBLESHOOT AN/GRC-171 UHF TRANSCEIVER  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: MAJOR, DAMAGE, INJURY  
 HOW OFTEN: 180  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X4-30D  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 TOOL BOX, RF LOAD, RF SIGNAL GENERATOR, DISTORTION ANALYZER,  
 LINE FUSE HOLDER, 600 OHM LOAD, AUDIO TEST FIXTURE, 6 DV PAD,  
 INLINE FUSE HOLDER, OSCOPE CLEANING SUPPLIES (BRUSHES/RAGS),  
 VARIABLE ATTENUATOR, FREQUENCY COUNTER, AUDIO OSCILLATOR, DIGITAL  
 MULTIMETER, WATTMETER, RF MIXER, OSCILLOSCOPE, SOLDER KIT  
 REFERENCES:  
 T.O. 31R2-2GRC171-2  
 CONDITIONS CUES:  
 COND: CONTROL TOWER, MAINTENANCE SHOP, INSIDE, DAY, NIGHT  
 EQUIPMENT RELEASED  
 CUE: LOSS OF SIGNAL, DISTORTED SIGNAL, POWER LOSS, JOB  
 CONTROL CONTACTS  
 JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0378 | 6.82 | 63.0 | 60.0 | 51.0 | 28.0 | 6.44 | 18.0 |
| 304X4 J   | 0541 | 5.53 | 62.0 | 57.0 | 49.0 | 25.0 | 5.16 | 18.0 |

ACTIVITIES SKILL KNOWLEDGE:

- K ISOLATE CHASSIS
- K ISOLATE RF POWER AMPLIFIER
- K ISOLATE DC TO DC CONVERTER
- K ISOLATE VOLTAGE REGULATOR
- K ISOLATE KEYSER MODULE
- K ISOLATE RF FILTER
- K ISOLATE AUDIO MODULE
- K ISOLATE RECEIVER
- K ISOLATE FREQUENCY SYNTHESIZER
- X ISOLATE DIGITAL TO ANALOG SERVO AMPLIFIER
- A REMOVE/REPLACE SUBASSEMBLIES, MODULES, CAPACITORS, RESISTORS, TRANSISTORS, DIODES, TRANSFORMERS, AND IC CIRCUITS

OSR JOB INVENTORY TASK STATEMENTS:

- 4 H0378 K ISOLATE MALFUNCTIONS WITHIN ULTRA HIGH FREQUENCY (UHF) EQUIPMENT
- 4 J0541 A REMOVE OR INSTALL UHF EQUIPMENT PARTS

TASK #: 01500

ALIGN/ADJUST AN/GRC-171 UHF TRANSCEIVER

DUTY CODE: X4

TASK STATUS: 3-KP

TIMES ANALYZED: 2

NOTES:

- CONSEQUENCES: MAJOR, DAMAGE, INJURY
- HOW OFTEN: 180
- OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)
- QTP ADEQUATE: YES
- TNG REFERENCE(S): QTP 304X4-30D
- TTT: 3
- SME OPINION: 3

EQUIPMENT:

TOOL BOX, RF LOAD, RF SIGNAL GENERATOR, DISTORTION ANALYZER, LINE FUSE HOLDER, AUDIO TEST FIXTURE, RF MIXER, 6 DV PAD, INLINE FUSE HOLDER, 600 OHM LOAD, RF MIXER, OSCILLOSCOPE, VARIABLE ATTENUATOR, FREQUENCY COUNTER, AUDIO OSCILLATOR, DIGITAL MULTIMETER, WATTMETER, OSCILLOSCOPE CLEANING SUPPLIES (BRUSHES/RAGS)

REFERENCES:

T.O. 31R2-2GRC171-2

CONDITIONS CUES:

COND: MAINTENANCE SHOP, CONTROL TOWER, DAY, NIGHT, EQUIPMENT RELEASED

CUES: PMI FINDINGS, SYSTEM MALFUNCTIONS

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 J   | 0499 | 6.78 | 63.0 | 60.0 | 51.0 | 26.0 | 6.13 | 18.0 |

ACTIVITIES SKILL KNOWLEDGE:

- A ADJUST RECEIVE AUDIO
- A ADJUST SQUELCH
- A ADJUST MODULATION PERCENTAGE
- A ADJUST SIDE TONE

OSR JOB INVENTORY TASK STATEMENTS:

- 4 J0499 A ALIGN VERY HIGH FREQUENCY (VHF) EQUIPMENT

TASK #: 01510  
INSPECT AN/GRC-206 V3 MOBILE HF/VHF/UHF COMMUNICATIONS SYSTEM  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: MINOR, DAMAGE, INJURY  
HOW OFTEN: 60  
OJT TRAINABLE: YES, NO, BASIC ELECTRONICS  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 2-2GRC206-2 AND T.O. 2-2GRC206-2-1  
TTT: 5  
SME OPINION: 5

EQUIPMENT:

HANDTOOLS, OSCILLOSCOPE, REFLECTOMETER, SIGNAL GENERATOR,  
ANALOG MULTIMETER, DIGITAL MULTIMETER, FREQUENCY COUNTER,  
AUDIO FILTER

REFERENCES:

T.O. 2-2GRC206-2  
T.O. 2-2GRC206-2-1

CONDITIONS CUES:

COND:  
CUE: PMI

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0383 | 5.95 | 60.0 | 63.0 | 60.0 | 35.0 | 4.19 | 18.0 |
| 304X4 H   | 0392 | 6.63 | 70.0 | 64.0 | 55.0 | 32.0 | 4.30 | 18.0 |
| 304X4 H   | 0393 | 6.33 | 53.0 | 50.0 | 43.0 | 27.0 | 4.23 | 18.0 |

ACTIVITIES SKILL KNOWLEDGE:

A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
A CLEAN AND LUBRICATE EQUIPMENT  
A CHECK AND ADJUST POWER SUPPLY  
A CHECK REMOTE CAPABILITY  
A CHECK AUDIO INPUT LEVELS  
A CHECK TRANSMIT OUTPUT POWER  
A CHECK TRANSMIT FREQUENCY  
A CHECK RECEIVE SENSITIVITY  
A CHECK AUDIO DEGRADATION (FIBER OPTICS NOISE LEVELS)

OSR JOB INVENTORY TASK STATEMENTS:

4 H0383 A OPERATIONALLY CHECK HF EQUIPMENT  
4 H0392 A OPERATIONALLY CHECK UHF EQUIPMENT  
4 H0393 A OPERATIONALLY CHECK VHF EQUIPMENT

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TASK #: 01520  
TROUBLESHOOT AN/GRC-206 V3 MOBILE HF/VHF/UHF COMMUNICATIONS SYSTEM  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: MINOR, DAMAGE, INJURY  
HOW OFTEN: INDEFINITE (AS REQUIRED)  
OJT TRAINABLE: YES, NO, BASIC ELECTRONICS  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 2-2GRC206-2 AND T.O. 2-2GRC206-2-1  
TTT: 5  
SME OPINION: 5

EQUIPMENT:

HANDTOOLS, ALIGNMENT TOOLS, SOLDERING EQUIPMENT, OSCILLOSCOPE,  
ANALOG MULTIMETER, DIGITAL MULTIMETER, FREQUENCY COUNTER,  
REFLECTOMETER, SIGNAL GENERATOR

REFERENCES:

T.O. 2-2GRC206-2  
T.O. 2-2GRC206-2-1

CONDITIONS CUES:

COND: OPERATIONAL OR GARRISON  
CUE: USER COMPLAINT, RESULT OF PMI CHECK

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0383 | 5.95 | 60.0 | 63.0 | 60.0 | 35.0 | 4.19 | 18.0 |
| 304X4 H   | 0393 | 6.33 | 53.0 | 50.0 | 43.0 | 27.0 | 4.23 | 18.0 |
| 304X4 H   | 0632 | 2.62 | 20.0 | 23.0 | 22.0 | 12.0 | 3.66 | 7.0  |

ACTIVITIES SKILL KNOWLEDGE:

- A OPERATIONALLY CHECK EQUIPMENT
- K ISOLATE FAULTY COMPONENT ON FM PORTION IF IN GARRISON
- K ISOLATE FAULTY RADIO GROUP
- K ISOLATE FAULTY LRU IF IN FIELD
- A REMOVE/REPLACE FAULTY LRU, CIRCUIT CARDS, COMPONENTS, AND ASSOCIATED PARTS

OSR JOB INVENTORY TASK STATEMENTS:

- 4 H0383 A OPERATIONALLY CHECK HF EQUIPMENT
- 4 H0393 A OPERATIONALLY CHECK VHF EQUIPMENT
- 4 H0632 A PERFORM OPERATOR MAINTENANCE ON MOBILE EQUIPMENT

TASK #: 01530

INSPECT AN/GRC-211 VHF TRANSCEIVER

DUTY CODE: X4

TASK STATUS: 3-K

TIMES ANALYZED: 2

TNOTES:

- CONSEQUENCES: MINOR, DAMAGE, NONE
- HOW OFTEN: 336
- OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)
- QTP ADEQUATE: YES
- TNG REFERENCE(S): QTP 304X4-30D
- TTT: 3
- SME OPINION: 3

EQUIPMENT:

TOOL BOX, RF LOAD, RF SIGNAL GENERATOR, DISTORTION ANALYZER, AUDIO TEST FIXTURE, 600 OHM LOAD, VARIABLE ATTENUATOR, FREQUENCY COUNTER, AUDIO OSCILLATOR, DIGITAL MULTIMETER, WATTMETER, RF MIXER, 6 DV PAD, OSCILLOSCOPE, INLINE FUSE HOLDER, CLEANING SUPPLIES (BRUSHES/RAGS), SOLDERING KIT

REFERENCES:

T.O. 31R2-2GRC211-6WC-1

CONDITIONS CUES:

COND: CONTROL TOWER, MAINTENANCE WORK CENTER, INSIDE, DAY, NIGHT, EQUIPMENT RELEASED

CUE: PMI SCHEDULE, SYSTEM MALFUNCTIONS

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 J   | 0516 | 5.40 | 46.0 | 41.0 | 34.0 | 15.0 | 6.17 | 12.0 |
| 304X4 J   | 0528 | 6.37 | 46.0 | 41.0 | 34.0 | 16.0 | 6.08 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:

- A CHECK NORMAL OPERATION OF SYSTEM
- A INSPECT RECEIVER SQUELCH, SENSITIVITY, SIGNAL PLUS NOISE TO NOISE RATIO CHECK
- A CHECK RECEIVER AND TRANSMITTER FREQUENCY
- A CHECK TRANSMITTER PERCENT OF MODULATION
- A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS

OSR JOB INVENTORY TASK STATEMENTS:

- 4 J0516 A BENCH CHECK MULTIPLE CHANNEL TRANSCEIVERS

TASK #: 01540  
TROUBLESHOOT AN/GRC-211 VHF TRANSCEIVER  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
NOTES:  
CONSEQUENCES: MAJOR, DAMAGE, INJURY  
HOW OFTEN: 180  
OJT TRAINABLE: YES  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-30D  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
TOOL BOX, RF LOAD, RF SIGNAL GENERATOR, DISTORTION ANALYZER,  
AUDIO TEST FIXTURE, 600 OHM LOAD, VARIABLE ATTENUATOR, FREQUENCY  
COUNTER, AUDIO OSCILLATOR, DIGITAL MULTIMETER, WATTMETER, RF  
MIXER, 6 DV PAD, OSCILLOSCOPE, INLINE FUSE HOLDER, CLEANING  
SUPPLIES (BRUSHES/RAGS), SOLDERING KIT  
REFERENCES:  
T.O. 31R2-2GRC211-2  
T.O. 31R2-2GRC171-2  
CONDITIONS CUES:  
COND: CONTROL TOWER, MAINTENANCE SHOP, INSIDE, DAY, NIGHT,  
EQUIPMENT RELEASED  
CUE: LOSS/DISTORTED SIGNAL, POWER LOSS, JOB CONTROL  
CONTACTS  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 H 0379 6.55 49.0 47.0 41.0 23.0 6.39 12.0  
304X4 J 0542 5.77 49.0 45.0 39.0 22.0 5.05 12.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE CHASSIS  
K ISOLATE RF POWER AMPLIFIER  
K ISOLATE DC TO DC CONVERTER  
K ISOLATE VOLTAGE REGULATOR  
K ISOLATE KEYSER MODULE  
K ISOLATE RF FILTER  
K ISOLATE AUDIO MODULE  
K ISOLATE RECEIVER  
K ISOLATE FREQUENCY SYNTHESIZER  
K ISOLATE DIGITAL TO ANALOG SERVO AMPLIFIER  
A REMOVE/REPLACE SUBASSEMBLIES, MODULES, AND COMPONENTS  
OSR JOB INVENTORY TASK STATEMENTS:  
4 H0379 K ISOLATE MALFUNCTIONS WITHIN VERY HIGH FREQUENCY (VHF)  
EQUIPMENT  
4 J0542 A REMOVE OR INSTALL VHF EQUIPMENT PARTS

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TASK #: 01550  
ALIGN/ADJUST AN/GRC-211 VHF TRANSCEIVER  
DUTY CODE: X4  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 2  
NOTES:  
CONSEQUENCES: MAJOR, DAMAGE, INJURY  
HOW OFTEN: 180  
OJT TRAINABLE: YES  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-30D  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
TOOL BOX, RF LOAD, RF SIGNAL GENERATOR, DISTORTION ANALYZER,  
AUDIO TEST FIXTURE, 600 OHM LOAD, VARIABLE ATTENUATOR, FREQUENCY  
COUNTER, AUDIO OSCILLATOR, DIGITAL MULTIMETER, WATTMETER, RF  
MIXER, 6 DV PAD, OSCILLOSCOPE, INLINE FUSE HOLDER, CLEANING  
SUPPLIES (BRUSHES/RAGS)  
REFERENCES:  
T.O. 31R2-2GRC211-2  
T.O. 31R2-2GRC171-2  
CONDITIONS CUES:  
COND: MAINTENANCE SHOP, CONTROL TOWER, DAY, NIGHT,  
EQUIPMENT RELEASED  
CUES: PHI FINDINGS, SYSTEM MALFUNCTIONS  
JOB STANDARDS:  
IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 J 0501 2.57 1.0 1.0 2.0 2.0 6.14 7.0  
ACTIVITIES SKILL KNOWLEDGE:  
A ADJUST RECEIVE AUDIO  
A ADJUST SQUELCH  
A ADJUST MODULATION PERCENTAGE  
A ADJUST SIDE TONE  
OSR JOB INVENTORY TASK STATEMENTS:  
4 J0501 A BENCH CHECK DF CONTROL UNITS

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TASK #: 01560  
INSPECT THE AN/GRC-212 HF/ISB COMMAND CONTROL SYSTEM  
DUTY CODE: X4  
TASK STATUS: 3-K?  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: NONE, NONE, NONE  
HOW OFTEN: 7, 56, 84, 168  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31R2-2GRC212-126WC-1  
TTT: 5  
SME OPINION: 3  
EQUIPMENT:  
VACUUM CLEANER, SOFT BRISTLE BRUSH, LINT-FREE CLOTH, CLEANING  
SOLVENT  
REFERENCES:  
T.O. 31R2-2GRC212-126WC-1  
CONDITIONS CUES:  
COND: IN SHOP, EQUIPMENT RELEASED  
CUE: PMI  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 H 0383 5.95 60.0 63.0 60.0 35.0 4.19 18.0  
304X4 H 0391 5.47 42.0 43.0 40.0 21.0 4.29 12.0  
ACTIVITIES SKILL KNOWLEDGE:  
A PERFORM RECEIVER DIAGNOSTIC TEST  
A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
A CLEAN INTERIOR AND EXTERIOR OF EQUIPMENT  
OSR JOB INVENTORY TASK STATEMENTS:  
4 H0391 A OPERATIONALLY CHECK SIDE BAND EQUIPMENT  
4 H0391 A OPERATIONALLY CHECK SIDE BAND EQUIPMENT  
4 H0383 A OPERATIONALLY CHECK HF EQUIPMENT

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TASK #: 01570  
ALIGN AND ADJUST THE AN/GRC-212 HF/ISB COMMAND CONTROL SYSTEM RECEIVER AUTOMAT  
IC GAIN CONTROL (AGC)  
DUTY CODE: X4  
TASK STATUS: 3-K  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: NONE, DAMAGE, NONE  
HOW OFTEN: SEMI-ANNUALLY  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): LOCAL MANUAL  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
VOLTMETER, AUDIO TEST SET, SIGNAL GENERATOR  
REFERENCES:  
LOCAL MANUAL  
CONDITIONS CUES:  
COND: IN SHOP, EQUIPMENT RELEASED  
CUE: USER COMPLAINT, RECEIVER VOLTAGE OUT OF TOLERANCE  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TF 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 J 0497 5.97 41.0 43.0 39.0 21.0 6.38 12.0  
ACTIVITIES SKILL KNOWLEDGE:  
A INSERT RF SIGNAL TO RECEIVE AUDIO  
A CHECK AGC VOLTAGES  
A ADJUST INTERMEDIATE FREQUENCY CARD  
K APPLY SINGLE SIDEBAND THEORY OF OPERATION  
OSR JOB INVENTORY TASK STATEMENTS:  
4 J0497 A ALIGN SIDE BAND EQUIPMENT

TASK #: 01580  
 ALIGN AND ADJUST THE AN/GRC-212 HF/ISB COMMAND CONTROL SYSTEM RECEIVER LINE AU  
 DIO LEVEL  
 DUTY CODE: X4  
 TASK STATUS: 3-K  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: NONE, DAMAGE, NONE  
 HOW OFTEN: SEMI-ANNUALLY  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): LOCAL MANUAL  
 TTT: 5  
 SME OPINION: 5  
 EQUIPMENT:  
 VOLTMETER, AUDIO TEST SET, SIGNAL GENERATOR  
 REFERENCES:  
 LOCAL MANUAL  
 CONDITIONS CUES:  
 COND: IN SHOP, EQUIPMENT RELEASED  
 CUE: USER COMPLAINT, RECEIVER AUDIO OUT OF TOLERANCE  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 J 0497 5.97 41.0 43.0 39.0 21.0 6.38 12.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INSERT AUDIO SIGNAL  
 A CHECK AUDIO OUTPUT LEVEL  
 A ADJUST AUDIO OUTPUT LEVEL  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 J0497 A ALIGN SIDE BAND EQUIPMENT

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TASK #: 01590  
 ALIGN AND ADJUST THE AN/GRC-212 HF/ISB COMMAND CONTROL SYSTEM SOLID STATE VOIC  
 E STORAGE UNIT  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: NONE, DAMAGE, NONE  
 HOW OFTEN: 28  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-2GRC212-32-2  
 TTT: 5  
 SME OPINION: 5  
 EQUIPMENT:  
 LINE MATCHING TRANSFORMER  
 REFERENCES:  
 T.O. 31R2-2GRC212-32-2  
 CONDITIONS CUES:  
 COND: IN SHOP, EQUIPMENT RELEASED  
 CUE: USER COMPLAINT, PMI  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 J 0491 6.47 57.0 59.0 56.0 29.0 5.96 18.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A ADJUST AUDIO AMPLIFIER COMPONENTS  
 A ADJUST AUDIO AMPLIFIERS  
 A ADJUST AUDIO CIRCUITS  
 A ADJUST AMPLITUDE OR LINE EQUALIZER COMPONENTS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 J0491 A ALIGN HIGH FREQUENCY (HF) EQUIPMENT



TASK #: 01600  
ALIGN AND ADJUST THE AN/GRC-212 HF/ISB COMMAND CONTROL SYSTEM DC POWER SUPPLY  
DUTY CODE: X4  
TASK STATUS: 3-K  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: NONE, DAMAGE, NONE  
HOW OFTEN: 168  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31R2-2GRC212-32-2  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
DIGITAL MULTIMETER  
REFERENCES:  
T.O. 31R2-2GRC212-32-2  
CONDITIONS CUES:  
COND: IN SHOP, EQUIPMENT RELEASED  
CUE: USER COMPLAINT, PMI  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 J 0518 5.30 43.0 42.0 41.0 20.0 5.34 12.0  
ACTIVITIES SKILL KNOWLEDGE:  
A CHECK OUTPUT VOLTAGE  
A ADJUST VOLTAGE  
OSR JOB INVENTORY TASK STATEMENTS:  
4 J0518 A BENCH CHECK POWER SUPPLY EQUIPMENT

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TASK #: 01610  
ALIGN AND ADJUST THE AN/GRC-212 HF/ISB COMMAND CONTROL SYSTEM STATION PAK  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: NONE, NONE, NONE  
HOW OFTEN: 168  
OJT TRAINABLE: YES, NO, SYSTEMS KNOWLEDGE AND TEST EQUIPMENT  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31R2-2GRC212-36WC-1  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
DIGITAL MULTIMETER, AUDIO TEST SET  
REFERENCES:  
T.O. 31R2-2GRC212-36WC-1  
CONDITIONS CUES:  
COND: IN SHOP, EQUIPMENT RELEASED  
CUE: PMI, SYSTEM FAILURE  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 J 0491 6.47 57.0 59.0 56.0 29.0 5.96 18.0  
ACTIVITIES SKILL KNOWLEDGE:  
A INSERT AUDIO SIGNAL  
A CHECK AUDIO OUTPUT LEVEL  
A ADJUST AUDIO OUTPUT LEVEL  
OSR JOB INVENTORY TASK STATEMENTS:  
4 J0491 A ALIGN HIGH FREQUENCY (HF) EQUIPMENT

TASK #: 01620  
 ALIGN AND ADJUST THE AN/GRC-212 HF/ISB COMMAND CONTROL SYSTEM MATRIX PRINTER  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: NONE, NONE, NONE  
 HOW OFTEN: INDEFINITE  
 OJT TRAINABLE: YES, NO, (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-2GRC212-36WC-1  
 TTT: 5  
 SME OPINION: 5  
 EQUIPMENT:  
 DIGITAL MULTIMETER, AUDIO TEST SET  
 REFERENCES:  
 T.O. 31R2-2GRC212-36WC-1  
 CONDITIONS CUES:  
 COND: IN SHOP, EQUIPMENT RELEASED  
 CUE: PMI, SYSTEM FAILURE  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 J 0491 6.47 57.0 59.0 56.0 29.0 5.96 18.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INSERT AUDIO SIGNAL  
 A CHECK AUDIO OUTPUT LEVEL  
 A ADJUST AUDIO OUTPUT LEVEL  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 J0491 A ALIGN HIGH FREQUENCY (HF) EQUIPMENT

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TASK #: 01630  
 ALIGN AND ADJUST THE AN/GRC-212 HF/ISB COMMAND CONTROL SYSTEM STANDARD FREQUENCY GROUP  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: NONE, NONE, NONE  
 HOW OFTEN: ONCE EVERY TWO YEARS  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-2GRC212-1151  
 TTT: 5  
 SME OPINION: 5  
 EQUIPMENT:  
 DIGITAL MULTIMETER, OSCILLOSCOPE, 10:1 PROBE, PC BOARD EXTENDER, WAVE ANALYZER, FREQUENCY COUNTER, AC VOLTMETER, OSCILLATOR  
 REFERENCES:  
 T.O. 31R2-2GRC212-1151  
 CONDITIONS CUES:  
 COND: IN SHOP, EQUIPMENT RELEASED  
 CUE: PMI, SYSTEM FAILURE  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 J 0491 6.47 57.0 59.0 56.0 29.0 5.96 18.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A ADJUST REGULATED DC VOLTAGE LEVEL  
 A ADJUST PHASE BALANCE CONTROL  
 A ADJUST AUTOMATIC GAIN CONTROL AMPLIFIER  
 A ADJUST AUTOMATIC GAIN CONTROL THRESHOLD (DEPOT ONLY)  
 A ADJUST DELAY GENERATOR (DEPOT ONLY)  
 A ADJUST 10 MHZ CRYSTAL FILTER  
 A ADJUST FREQUENCY DIVIDER (DEPOT ONLY)  
 A ADJUST AUTOMATIC GAIN CONTROL THRESHOLD (DEPOT ONLY)  
 A ADJUST PHASE DETECTOR/VCO BIAS BALANCE (DEPOT ONLY)  
 A ADJUST VOLTAGE CONTROLLED OSCILLATOR FREQUENCY  
 A ADJUST PHASE MODULATION (DEPOT ONLY)  
 A ADJUST PHASE SPLITTING AMPLIFIER (DEPOT ONLY)  
 A ADJUST IMAGE REJECTION (DEPOT ONLY)  
 A ADJUST PREAMPLIFIER GAIN  
 A ADJUST IF AMPLIFIER/AGC DETECTOR  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 J0491 A ALIGN HIGH FREQUENCY (HF) EQUIPMENT

TASK #: 01640  
 ALIGN AND ADJUST THE AN/GRC-212 HF/ISB COMMAND CONTROL SYSTEM DUAL LINE AMPLIFIER

DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 3

TNOTES:  
 CONSEQUENCES: NONE, NONE, NONE  
 HOW OFTEN: ANNUALLY  
 OJT TRAINABLE: YES, NO, (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-2GRC212-32-2  
 TTT: 5  
 SME OPINION: 5

EQUIPMENT:  
 AUDIO TEST SET

REFERENCES:  
 T.O. 31R2-2GRC212-32-2

CONDITIONS CUES:  
 COND: IN SHOP, EQUIPMENT RELEASED  
 CUE: PHI, SYSTEM FAILURE, OPERATOR COMPLAINT

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI       |
|-----------|------|------|------|------|------|------|------|-----------|
| 304X4     | J    | 0504 | 6.38 | 40.0 | 39.0 | 35.0 | 16.0 | 5.87 12.0 |

ACTIVITIES SKILL KNOWLEDGE:  
 A INSERT AUDIO SIGNAL TO AMPLIFIER INPUT  
 A CHECK AMPLIFIER OUTPUT  
 A ADJUST AMPLIFIER EQUALIZER CONTROL

OSR JOB INVENTORY TASK STATEMENTS:  
 4 J0504 A BENCH CHECK HF POWER AMPLIFIERS OR SUBASSEMBLIES

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TASK #: 01650  
 ALIGN AND ADJUST THE AN/GRC-212 HF/ISB COMMAND CONTROL SYSTEM SINGLE FREQUENCY SIGNAL UNIT

DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 3

TNOTES:  
 CONSEQUENCES: NONE, NONE, NONE  
 HOW OFTEN: ANNUALLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-2GRC212-162  
 TTT: 5  
 SME OPINION: 5

EQUIPMENT:  
 AUDIO TEST SET

REFERENCES:  
 T.O. 31R2-2GRC212-162

CONDITIONS CUES:  
 COND: IN SHOP, EQUIPMENT RELEASED  
 CUE: SYSTEM FAILURE, OPERATOR COMPLAINT

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI       |
|-----------|------|------|------|------|------|------|------|-----------|
| 304X4     | J    | 0491 | 6.47 | 57.0 | 59.0 | 56.0 | 29.0 | 5.96 18.0 |

ACTIVITIES SKILL KNOWLEDGE:  
 A INSERT AUDIO SIGNAL  
 A CHECK SINGLE FREQUENCY SIGNAL OUTPUT  
 A ADJUST AUDIO ATTENUATION LEVEL

OSR JOB INVENTORY TASK STATEMENTS:  
 4 J0491 A ALIGN HIGH FREQUENCY (HF) EQUIPMENT

TASK #: 01660  
TROUBLESHOOT THE AN/GRC-212 HF/ISB COMMAND CONTROL SYSTEM STATION  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 3

TNOTES:

CONSEQUENCES: MINOR, DAMAGE, NONE  
HOW OFTEN: DAILY, MONTHLY  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): SEE REFERENCES:  
TTT: 5

SME OPINION: 5

EQUIPMENT:

BITE, SIGNAL GENERATOR, DIGITAL MULTIMETER, AUDIO TEST SET,  
HANDTOOLS

REFERENCES:

T.O. 31R2-2GRC212-2  
T.O. 31R2-2GRC212-12  
T.O. 31R2-2GRC212-62  
T.O. 31R2-2GRC212-32-2  
T.O. 31R2-2GRC212-122  
T.O. 31R2-2GRC212-16WC-1  
T.O. 31R2-2GRC212-36WC-1  
T.O. 31R2-2GRC212-66WC-1  
T.O. 31R2-2GRC212-116WC-1  
T.O. 31R2-2GRC212-126WC-1  
T.O. 31R2-2GRC212-286WC-1  
T.O. 31R2-2GRC212-306WC-1  
T.O. 31R2-2GRC212-316WC-1  
T.O. 31R2-2GRC212-326WC-1  
T.O. 31R2-2GRC212-356WC-1  
T.O. 31R2-2GRC212-366WC-1  
T.O. 31R2-2GRC212-376WC-1  
T.O. 31R2-2GRC212-416WC-1  
T.O. 31R2-2GRC212-426WC-1  
T.O. 31R2-2GRC212-436WC-1  
T.O. 31R2-2GRC212-446WC-1  
T.O. 31R2-2GRC212-456WC-1

LOCALLY DEVELOPED FLOW CHART

CONDITIONS CUES:

COND: IN SHOP, EQUIPMENT RELEASED  
CUE: PMI RESULTS, USER COMPLAINT

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK   | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|--------|------|------|------|------|------|------|------|
| 304X4     | H 0377 | 6.07 | 43.0 | 44.0 | 41.0 | 20.0 | 6.55 | 12.0 |
| 304X4     | H 0404 | 4.58 | 22.0 | 22.0 | 23.0 | 13.0 | 4.02 | 11.0 |

ACTIVITIES SKILL KNOWLEDGE:

A PERFORM OPERATION CHECK  
K ISOLATE TO FAULTY CARD  
A REMOVE/REPLACE ASSEMBLIES, SUBASSEMBLIES, CIRCUIT  
CARDS AND ASSOCIATED PARTS

OSR JOB INVENTORY TASK STATEMENTS:

4 H0377 K ISOLATE MALFUNCTIONS WITHIN SIDE BAND EQUIPMENT  
4 H0404 A REMOVE OR INSTALL SIDE BAND SYSTEM LRU

TASK #: 01670  
 INSPECT AN/GRC-212 HF/ISB OPERATOR CONSOLE  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 2

TNOTES:  
 CONSEQUENCES: MINOR, DAMAGE, INJURY  
 HOW OFTEN: 28, 168  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NO, INSUFFICIENT DETAIL AND TESTS  
 TNG REFERENCE(S): QTP 304X4-30NA  
 TTT: NONE  
 SME OPINION: 3

EQUIPMENT:  
 VACUUM, SOFT BRISTLE BRUSH, TOOL KIT, CLEAN LINT FREE CLOTH,  
 DRY CLEANING SOLVENT

REFERENCES:  
 T.O. 31R2-2GRC212-146WC-1

CONDITIONS CUES:  
 COND: IN OPERATION ROOM, POWER ON  
 CUE: PMI

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0383 | 5.95 | 60.0 | 63.0 | 60.0 | 35.0 | 4.19 | 18.0 |

ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 A CLEAN INTERIOR/EXTERIOR OF ALL CONSOLE SUBASSEMBLIES  
 K APPLY ELECTROSTATIC DISCHARGE CONTROL (ESD) PRECAUTIONS  
 K INTERPRET FUNCTIONALLY ORIENTATED MAINTENANCE MANUALS (PECULIAR TO AN/GRC-212 GIANT TALK SYSTEM)

OSR JOB INVENTORY TASK STATEMENTS:  
 4 H0383 A OPERATIONALLY CHECK HF EQUIPMENT

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TASK #: 01680  
 TROUBLESHOOT AN/GRC-212 HF/ISB SB-4142 VOX PHONE PATCH PANEL  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 2

TNOTES:  
 CONSEQUENCES: MINOR, DAMAGE, NONE  
 HOW OFTEN: MONTHLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: NO, INSUFFICIENT DETAIL AND TESTS  
 TNG REFERENCE(S): QTP 304X4-30NA  
 TTT: NONE  
 SME OPINION: 3

EQUIPMENT:  
 AC VOLTMETER, OSCILLOSCOPE, AUDIO OSCILLATOR, DUAL POWER SUPPLIES, FREQUENCY COUNTER, DIGITAL MULTIMETER, TOOL KIT

REFERENCES:  
 T.O. 31R2-2GRC212-202  
 T.O. 31R2-2GRC212-46WC-1

CONDITIONS CUES:  
 COND: IN OPERATORS ROOM, POWER ON/OFF  
 CUE: PMI FINDING, OPERATOR COMPLAINT

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 I   | 0423 | 4.62 | 22.0 | 24.0 | 22.0 | 12.0 | 5.29 | 11.0 |
| 304X4 I   | 0432 | 3.17 | 11.0 | 13.0 | 13.0 | 6.0  | 5.22 | 7.0  |
| 304X4 I   | 0482 | 2.03 | 7.0  | 9.0  | 9.0  | 5.0  | 3.82 | 2.0  |

ACTIVITIES SKILL KNOWLEDGE:

- A CHECK LIGHTS AND LAMPS
- A CHECK POTENTIOMETERS
- A CHECK VU-METERS
- A CHECK VOLTAGES AND FREQUENCIES
- A ISOLATE FAULTY LINE INTERFACE CIRCUIT CARD ASSEMBLY
- A ISOLATE FAULTY OPERATOR INTERFACE CIRCUIT CARD ASSEMBLY
- A ISOLATE FAULTY 5 WAY CONFERENCE CIRCUIT CARD ASSEMBLY
- A ISOLATE FAULTY VOX/AVOX CIRCUIT CARD ASSEMBLY
- A ISOLATE FAULTY DEVOX/DCMS GENERATOR CIRCUIT CARD ASSEMBLY
- A ISOLATE FAULTY CHASSIS AND FRONT PANEL
- A REMOVE REPLACE VOX PHONE PATCH PANEL CIRCUIT CARDS, ASSEMBLIES, AND COMPONENTS/PARTS
- A ALIGN/ADJUST PHONE PATCH LEVEL
- K INTERPRET FUNCTIONALLY ORIENTATED MAINTENANCE MANUALS (PECULIAR TO AN/GRC-212 GIANT TALK SYSTEM)
- K INTERPRET MAINTENANCE DEPENDENCY CHART

OSR JOB INVENTORY TASK STATEMENTS:

- 4 I0423 K ISOLATE MALFUNCTIONS WITHIN COMMUNICATIONS PATCH PANELS TO LRU
- 4 I0432 K ISOLATE MALFUNCTIONS WITHIN PHONE PATCH SYSTEMS TO LRU
- 4 I0482 A REMOVE OR INSTALL PHONE PATCH EQUIPMENT LRU

TASK #: 01690

TROUBLESHOOT AN/GRC-212 HF/ISB C-11014 CONTROL MONITOR  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: MINOR, DAMAGE, NONE  
 HOW OFTEN: BI-MONTHLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: NO, INSUFFICIENT DETAIL AND TESTS  
 TNG REFERENCE(S): QTP 304X4-30NA  
 TTT: NONE  
 SME OPINION: 3

EQUIPMENT:

TGOL KIT, AUDIO OSCILLATOR, DIGITAL MULTIMETER, ATTENUATOR, DC POWER SUPPLIES

REFERENCES:

1.0. 31RW-2GRC212-192

CONDITIONS CUES:

COND: IN OPERATION ROOM, POWER ON/OFF  
 CUE: PHI FINDING, OPERATOR COMPLAINT

JOB STANDARDS:

IAW REFERENCES

| USR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0373 | 6.45 | 56.0 | 60.0 | 57.0 | 30.0 | 6.48 | 18.0 |
| 304X4 H   | 0396 | 4.78 | 29.0 | 31.0 | 34.0 | 22.0 | 3.82 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:

- A PERFORM OPERATION CHECK OF CONTROL MONITOR
- A CHECK HEADSET VOLUME ADJUSTMENT
- A CHECK LIGHTS AND LAMPS
- A CHECK AC SIGNAL VOLTAGES
- A CHECK CHECK VU-METER OPERATION
- K ISOLATE FAULTY SWITCH MATRIX A1
- K ISOLATE FAULTY SWITCH MATRIX A2
- K ISOLATE FAULTY MASTER CONTROL PANEL (MCP) CIRCUIT CARD ASSEMBLY
- A REMOVE/REPLACE SWITCH MATRIXES, MCP CIRCUIT CARD, AND RELATED COMPONENTS
- K INTERPRET FUNCTIONALLY ORIENTATED MAINTENANCE MANUALS (PECULIAR TO AN/GRC-212 GIANT TALK SYSTEM)

OSR JOB INVENTORY TASK STATEMENTS:

- 4 H0373 K ISOLATE MALFUNCTIONS WITHIN HIGH FREQUENCY (HF) EQUIPMENT
- 4 H0396 A REMOVE OR INSTALL HF SYSTEM LRU

TASK #: 01700  
TROUBLESHOOT AN/GRC-212 HF/ISB CONSOLE 24 VOLT POWER SUPPLY  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: MINOR, NONE, INJURY  
HOW OFTEN: QUARTERLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: NO, INSUFFICIENT DETAIL AND TESTS  
TNG REFERENCE(S): QTP 304X4-30NA  
TTT: NONE  
SME OPINION: 3  
COMPONENT REPAIR RECENTLY AUTHORIZED BUT NOT YET PERFORMED  
EQUIPMENT:  
TOOL KIT, DIGITAL MULTIMETER, OSCILLOSCOPE, RIPPLE METER, VARIAC,  
DIFFERENTIAL METER (VTEN), VACUUM TUBE VOLTMETER, LOAD, SOLDERING  
KIT  
REFERENCES:  
INSTRUCTION MANUAL LJS-11 SERIES (LAMBDA ELECTRONICS -  
MELVILLE, LONG ISLAND NEW YORK)  
CONDITIONS CUES:  
COND: IN-RACK AND ON-BENCH, POWER ON/OFF  
CUE: PHX FINDING, OPERATOR COMPLAINT, ASSEMBLY FAILURE,  
AUDIO ALARM  
JOB STANDARDS:  
IAW REFERENCES:  
OSR DATA:    TASK    YE    1JOB   1EML   5SKL   7SKL   TD    ATI  
304X4 J 0518   2.50   45.0   42.0   41.0   28.0   5.34   12.0  
304X4 J 0537   4.73   42.0   44.0   41.0   20.0   4.81   12.0  
304X4 K 0593   3.67   32.0   31.0   30.0   13.0   4.98   12.0  
ACTIVITIES SKILL KNOWLEDGE:  
A PERFORM OPERATION CHECK OF ASSEMBLIES POWERED BY  
POWER SUPPLY  
A CHECK RIPPLE AND REGULATION OF POWER SUPPLY  
A CHECK POWER SUPPLY LOAD REGULATION ACCURACY  
A CHECK POWER SUPPLY LINE REGULATION ACCURACY  
A CALIBRATE VOLTAGE AND CURRENT CONTROLS  
K ISOLATE FAULTY POWER SUPPLY/PARTS  
A REMOVE/REPLACE 24 VOLT POWER SUPPLY/PARTS  
K INTERPRET FUNCTIONALLY ORIENTATED MAINTENANCE MANUALS  
(PECULIAR TO AN/GRC-212 GIANT TALK SYSTEM)  
OSR JOB INVENTORY TASK STATEMENTS:  
4 J0518 A BENCH CHECK POWER SUPPLY EQUIPMENT  
4 J0537 A REMOVE OR INSTALL POWER SUPPLY EQUIPMENT PARTS  
4 K0593 A REMOVE OR INSTALL EQUIPMENT POWER SUPPLY UNIT DIS-  
CRETE PARTS

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TASK #: 01710  
TROUBLESHOOT AN/GRC-212 HF/ISB CONTROL CONSOLE MONITOR PANEL  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: MINOR, NONE, NONE  
HOW OFTEN: ANNUALLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: NO, INSUFFICIENT DETAIL AND TESTS  
TNG REFERENCE(S): QTP 304X4-30NA  
TTT: NONE  
SME OPINION: 3  
EQUIPMENT:  
TOOL KIT, AUDIO OSCILLATOR WITH ELECTRONIC COUNTER TO VERIFY  
FREQUENCY OR TRANSMISSION TEST SET, DIGITAL MULTIMETER, DC  
POWER SUPPLIES, SOLDERING KIT  
REFERENCES:  
T.O. 31R2-2GRC212-182  
CONDITIONS CUES:  
COND: IN-RACK, POWER ON/OFF  
CUE: PMI FINDING, OPERATOR COMPLAINT  
JOB STANDARDS:  
IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 H 0373 6.45 56.0 60.0 57.0 30.0 6.48 18.0  
304X4 H 0396 4.78 29.0 31.0 34.0 22.0 3.82 12.0

ACTIVITIES SKILL KNOWLEDGE:

- A ISOLATE FAULTY MODULE SHELF
- A ISOLATE FAULTY MONITOR MODULE
- A REMOVE/REPLACE MODULES, SWITCHES, POTENTIOMETERS, AND RELATED COMPONENTS
- K INTERPRET FUNCTIONALLY ORIENTATED MAINTENANCE MANUALS (PECULIAR TO AN/GRC-212 GIANT TALK SYSTEM)

OSR JOB INVENTORY TASK STATEMENTS:

- 4 H0373 K ISOLATE MALFUNCTIONS WITHIN HIGH FREQUENCY (HF) EQUIPMENT
- 4 H0396 A REMOVE OR INSTALL HF SYSTEM LRU

TASK #: 01720

TROUBLESHOOT AN/GRC-212 HF/ISB VIDEO DISPLAY TERMINAL (VDT)

DUTY CODE: X4

TASK STATUS: 3-KP

TIMES ANALYZED: 2

NOTES:

CONSEQUENCES: MINOR, DAMAGE, INJURY

HOW OFTEN: SEMI-ANNUALLY

OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)

QTP ADEQUATE: NO, INSUFFICIENT DETAIL AND TESTS

TNG REFERENCE(S): QTP 304X4-30NA

TTT: NONE

SME OPINION: 5

VDTs ARE INTERCHANGEABLE BETWEEN TRANSMIT, RECEIVE, AND CONSOLE

EQUIPMENT:

TOOL KIT, DIGITAL MULTIMETER, OSCILLOSCOPE

REFERENCES:

T.O. 31R2-2GRC212-1061

CONDITIONS CUES:

COND: IN-SHOP OR ON-EQUIPMENT, POWER ON/OFF

CUE: OPERATOR COMPLAINT, FAILURE TO DISPLAY TEST INFORMATION

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 J 0537 4.73 42.0 44.0 41.0 20.0 4.81 12.0

ACTIVITIES SKILL KNOWLEDGE:

- A CHECK POWER SUPPLY VOLTAGES
- A RESET DIP SWITCHES TO ADJUST OPERATION
- A CHECK FOR OPERATOR ERROR
- A INSPECT VDT FOR FAULTY FUSES, TRANSFORMER STRAPPING, POWER SUPPLY WIRE HARNESSSES, AND CABLING
- A CHECK INPUT/OUTPUT (RS-232)
- A CHECK AND ADJUST CRT SCREEN CONTROLS FOR MONITORS CAPABLE OF ADJUSTMENT
- K ISOLATE FAULTY CRT
- K ISOLATE FAULTY LOGIC BOARD CIRCUIT CARD
- K ISOLATE FAULTY POWER SUPPLY
- K ISOLATE FAULTY KEYBOARD
- A REMOVE/REPLACE MODULES, ASSEMBLIES, AND RELATED COMPONENTS
- K INTERPRET FUNCTIONALLY ORIENTATED MAINTENANCE MANUALS (PECULIAR TO AN/GRC-212 GIANT TALK SYSTEM)

OSR JOB INVENTORY TASK STATEMENTS:

- 4 J0537 A REMOVE OR INSTALL POWER SUPPLY EQUIPMENT PARTS



TASK #: 01730  
 INSPECT AN/GRC-212 HF/ISB CONTROL MONITOR (C11012 LEVEL DECODER)  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED:  
 TNOTES:  
 CONSEQUENCES: MINOR, DAMAGE, INJURY  
 HOW OFTEN: 168  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NO (INADEQUATE INFORMATION)  
 TNG REFERENCE(S): QTP 304X4-30NA  
 TTT: NONE  
 SME OPINION: 3  
 EQUIPMENT:  
 TOOL KIT, VACUUM CLEANER, DUST RAG, SOFT BRISTLE BRUSH  
 REFERENCES:  
 T.O. 31R2-2GRC212-66WC-1  
 CONDITIONS CUES:  
 COND: IN-SHOP ON RACK, POWER ON  
 CUE: PMI  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 K 0579 4.55 44.0 43.0 39.0 15.0 5.05 12.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 A CLEAN INTERIOR/EXTERIOR OF CONTROL MONITOR (IN-RACK)  
 K INTERPRET FUNCTIONALLY ORIENTATED MAINTENANCE MANUALS  
 (PECULIAR TO AN/GRC-212 STRIKE TALK SYSTEM)  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 K0579 A BENCH CHECK POWER SUPPLY AND IS

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TASK #: 01740  
 TROUBLESHOOT AN/GRC-212 HF/ISB CONTROL MONITOR (C11012 LEVEL DECODER)  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED:  
 TNOTES:  
 CONSEQUENCES: MINOR, DAMAGE, INJURY  
 HOW OFTEN: MONTHLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: NO (INADEQUATE INFORMATION)  
 TNG REFERENCE(S): QTP 304X4-30NA  
 TTT: NONE  
 SME OPINION: 5  
 EQUIPMENT:  
 TOOL KIT, DIGITAL MULTIMETER, 5 VOLT POWER SUPPLY, AC VOLTMETER,  
 OSCILLOSCOPE, VIDEO DISPLAY TERMINAL, FREQUENCY COUNTER,  
 SOLDERING KIT  
 REFERENCES:  
 T.O. 31R2-2GRC212-62  
 T.O. 31R2-2GRC212-64  
 CONDITIONS CUES:  
 COND: IN-SHOP AND ON-RACK, POWER ON/OFF  
 CUE: OPERATOR COMPLAINT, FAILED CIRCUIT CARD OR OTHER PARTS  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 H 0373 6.45 56.0 60.0 57.0 30.0 6.48 18.0  
 304X4 H 0396 4.78 29.0 31.0 34.0 22.0 3.82 12.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A CHECK INPUT/OUTPUT CIRCUIT CARD LED DISPLAY  
 A MEASURE I/O CARD VOLTAGES, SYMMETRY, AUDIO OUTPUT  
 LEVEL  
 A ALIGN/ADJUST I/O CARD VOLTAGE, SYMMETRY, AND AUDIO  
 OUTPUT LEVEL AND/OR REPLACE I/O CARD  
 K INTERPRET BITE LED DISPLAY CODES  
 K ISOLATE FAULTY INPUT/OUTPUT CIRCUIT CARD  
 K ISOLATE FAULTY 6K EPROM CIRCUIT CARD  
 K ISOLATE FAULTY 16K EPROM CIRCUIT CARD  
 K ISOLATE FAULTY CPU CIRCUIT CARD  
 K ISOLATE FAULTY POWER SUPPLY ASSEMBLY  
 A REMOVE/REPLACE CIRCUIT CARDS AND OTHER PARTS EXCEPT  
 INPUT/OUTPUT (I/O) CIRCUIT CARD  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 H0373 K ISOLATE MALFUNCTIONS WITHIN HIGH FREQUENCY (HF)  
 EQUIPMENT  
 4 H0396 A REMOVE OR INSTALL HF SYSTEM LRU

TASK #: 01750  
 INSPECT AN/GRC-212 HF/ISB AM-7125 LINEAR POWER AMPLIFIER (LPA)  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 2

TNOTES:  
 CONSEQUENCES: MINOR, NONE, INJURY  
 HOW OFTEN: 7, 56, 168,  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NO, INSUFFICIENT DETAIL AND TESTS  
 TNG REFERENCE(S): QTP 304X4-30NA  
 TTT: NONE  
 SME OPINION: 3

EQUIPMENT:  
 BITE, TOOL KIT, 8021 TEST SET, CLEANING SUPPLIES, VACUUM CLEANER,  
 DIGITAL MULTIMETER, BURNISHING TOOL

REFERENCES:  
 T.O. 31R2-2GRC212-96WC-1  
 T.O. 31R2-2GRC212-26WC-1

CONDITIONS CUES:  
 COND: IN-SHOP, POWER ON/OFF, 2 MAN TEAM  
 CUE: PMI

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0383 | 5.95 | 60.0 | 63.0 | 60.0 | 35.0 | 4.19 | 18.0 |
| 304X4 H   | 0391 | 5.47 | 42.0 | 43.0 | 40.0 | 21.0 | 4.29 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:  
 A TRANSFER CONTROL OF LPA (OPERATORS)  
 A PERFORM OPERATION CHECK WITH BITE  
 A VERIFY OPERATION OF HF-8014A EXCITER  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 A CHECK RF SHIELD MATERIAL  
 A CLEAN INTERIOR/EXTERIOR OF CABINET  
 A CHECK AIR FILTERS AND/OR REPLACE FILTER PAPER  
 A CHECK BLOWER FAN MOTOR  
 A CHECK SHORTING STICKS  
 A CHECK PRIMARY AND LOAD SERVO ASSEMBLY COIL, COIL  
 SHAFT ASSEMBLIES, GEARS, COIL ROLLERS, THE PRIMARY  
 SERVO ASSEMBLY, AND THE LOAD COIL  
 A CHECK THE SECONDARY SERVO-DRIVE ASSEMBLY GEAR TRAIN  
 A LUBRICATE DRIVE AND COIL ASSEMBLIES  
 A CLEAN RELAY CONTACTS  
 A CLEAN AMPLIFIER TUBE SOCKETS (REMOVE/REPLACE TUBES)  
 A CLEAN COILS  
 K INTERPRET BITE ERROR CODES AND DETERMINE FALSE OR  
 ERRONEOUS CODES  
 K INTERPRET COMMERCIAL MAINTENANCE MANUALS (PECULIAR TO  
 GRC-21 2 GIANT TALK SYSTEM)

OSR JOB INVENTORY TASK STATEMENTS:  
 4 H0383 A OPERATIONALLY CHECK HF EQUIPMENT  
 4 H0391 A OPERATIONALLY CHECK SIDE BAND EQUIPMENT

TASK #: 01760  
 TROUBLESHOOT AN/GRC-212 HF/ISB AM-7125 LINEAR POWER AMPLIFIER (LPA)  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 2

TNOTES:  
 CONSEQUENCES: MINOR, DAMAGE, INJURY  
 HOW OFTEN: BI-MONTHLY  
 OJT TRAINABLE: YES (COMPLEXITY OF EQUIPMENT REQUIRES 24-30  
 MONTHS WITHOUT COURSE E3AZR30454-039), NO  
 (EQUIPMENT REQUIRES ELECTRONIC FUNDAMENTALS  
 AND TEST EQUIPMENT)  
 QTP ADEQUATE: NO, INSUFFICIENT DETAIL AND TESTS  
 TNG REFERENCE(S): QTP 304X4-30NA  
 TTT: NONE  
 SME OPINION: 5

EQUIPMENT:  
 TOOL KIT, SOLDERING KIT, TS-3021 TEST SET, DIGITAL MULTIMETER,  
 SIGNAL GENERATOR, DUMMY LOADS, AUDIO OSCILLATOR, SPECTRUM  
 ANALYZER, HF-8014A EXCITER, CONTROL CABLE, CARD EXTENDER,  
 RF VOLTMETER, RF VECTOR IMPEDANCE METER, MICROMANOMETER, TEST  
 ADAPTERS, DIRECTIONAL COUPLER, 50 OHM TERMINATOR, OSCILLOSCOPE

REFERENCES:  
 T.O. 31R2-2-GRC212-92  
 T.O. 31R2-2-GRC212-94

CONDITIONS CUES:

COND: IN-SHOP, ON-BENCH, POWER ON/OFF, 2-MAN

CUE: PMI FINDING, OPERATION COMPLAINT

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0377 | 6.07 | 43.0 | 44.0 | 41.0 | 20.0 | 6.55 | 12.0 |
| 306X4 H   | 0404 | 4.58 | 22.0 | 22.0 | 23.0 | 13.0 | 4.02 | 11.0 |

ACTIVITIES SKILL KNOWLEDGE:

- A ISOLATE FAULTY MODULES AND LINE REPLACEABLE UNITS (LRU)
- A REMOVE/REPLACE LPA MODULES, CIRCUIT CARDS, AND ASSOCIATED SUPPORTING COMPONENTS/PARTS
- A PERFORM OPERATION CHECK WITH BITE
- A VERIFY OPERATION OF HF-8014A EXCITER
- A PERFORM BITE SELF-CHECK
- K INTERPRET BITE ERROR CODES AND DETERMINE FALSE OR ERRONEOUS CODES
- K RECOGNIZE CARBON ARCING OF HIGH POWER ELECTRON TUBE SOCKETS
- K INTERPRET COMMERCIAL MAINTENANCE MANUALS (PECULIAR TO AN/GRC-212 GIANT TALK SYSTEM)
- K PERFORM ALGEBRAIC EQUATIONS

OSR JOB INVENTORY TASK STATEMENTS:

- 4 H0377 K ISOLATE MALFUNCTIONS WITHIN SIDE BAND EQUIPMENT
- 4 H0404 A REMOVE OR INSTALL SIDE BAND SYSTEM LRU

TASK #: 01770

ALIGN/ADJUST AN/GRC-212 HF/ISB AM-7125 LINEAR POWER AMPLIFIER (LPA)

DUTY CODE: X4

TASK STATUS: 3-KP

TIMES ANALYZED: 2

TNOTES:

- CONSEQUENCES: MINOR, DAMAGE, INJURY
- HOW OFTEN: BI-MONTHLY
- OJT TRAINABLE: YES, NO, BASIC ELECTRONICS
- QTP ADEQUATE: NO, INSUFFICIENT DETAIL AND TESTS
- TNG REFERENCE(S): QTP 304X4-30NA
- TTT: NONE
- SME OPINION: 5

EQUIPMENT:

TOOL KIT, TS-8021 TEST SET, DIGITAL MULTIMETER, SIGNAL GENERATOR, DUMMY LOADS, AUDIO OSCILLATOR, SPECTRUM ANALYZER, HF-8014A EXCITER, CONTROL CABLE, CARD EXTENDER, RF VOLTMETER, RF VECTOR IMPEDANCE METER, MICROMANOMETER, TEST ADAPTERS, 50 OHM TERMINATOR

REFERENCES:

T.O. 31R2-2-GRC212-92

CONDITIONS CUES:

COND: IN-SHOP, ON-BENCH, POWER ON/OFF, 2-MAN IN-SHOP

CUE: PMI FINDING, OPERATOR COMPLAINT, PARTS REPLACEMENT, FOLLOW-UP POTENTIOMETER FAILURE

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 J   | 0497 | 5.97 | 41.0 | 43.0 | 39.0 | 21.0 | 6.38 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:

- A PERFORM STATIC TUBE ADJUSTMENT
- A ALIGN/ADJUST PA TUBE NEUTRALIZATION
- A ALIGN/ADJUST RF FEEDBACK
- A ALIGN/ADJUST TUNE POWER
- A ALIGN/ADJUST COIL LOADING
- A ALIGN/ADJUST RF DETECTOR VOLTAGE
- A ALIGN/ADJUST LIMITER/LEVEL CONTROL (ADL/ALC)
- A ALIGN/ADJUST TRANSMITTER GAIN CONTROL
- A ALIGN/ADJUST RF OVER-VOLTAGE DETECTOR
- A ALIGN/ADJUST LOAD COIL OVERVOLTAGE DETECTOR
- A ALIGN/ADJUST VSWR OVERLOAD
- A ALIGN/ADJUST AIR PRESSURE SWITCH
- A ALIGN/ADJUST DRIVER TUNING DRIVE
- A ALIGN/ADJUST PRIMARY TUNING DRIVE
- A ALIGN/ADJUST SECONDARY TUNING DRIVE
- A ALIGN/ADJUST LOADING COIL DRIVE
- A ALIGN/ADJUST DRIVE-PA INTERSTAGE SYNCHRONIZATION
- A ALIGN/ADJUST RF TUNING COIL ASSEMBLY SYNCHRONIZATION
- A ALIGN/ADJUST SECONDARY CAPACITOR IC14 TO 1A15 SUBASSEMBLY SYNCHRONIZATION
- A ALIGN/ADJUST LOADING COIL SYNCHRONIZATION
- A ALIGN/ADJUST BLOWER PULLEY
- K INTERPRET COMMERCIAL MAINTENANCE MANUALS (PECULIAR TO AN/GRC-212 GIANT TALK SYSTEM)

OSR JOB INVENTORY TASK STATEMENTS:

- 4 J0497 A ALIGN SIDE BAND EQUIPMENT

TASK #: 01780  
TROUBLESHOOT AN/GRC-212 HF/ISB AM-7125 LINEAR POWER AMPLIFIER (LPA) POWER SUPPLY UNIT 2  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: MINOR, DAMAGE, INJURY  
HOW OFTEN: MONTHLY  
OJT TRAINABLE: YES, NO, BASIC ELECTRONICS  
QTP ADEQUATE: NO, INSUFFICIENT DETAIL AND TESTS  
TNG REFERENCE(S): QTP 304X4-30NA  
TTT: NONE  
SME OPINION: 5  
EQUIPMENT:  
TOOL KIT, DIGITAL MULTIMETER, SOLDERING KIT, BITE, ANALOG MULTIMETER  
REFERENCES:  
T.O. 31R2-2-GRC212-92  
T.O. 31R2-2-GRC212-94  
CONDITIONS CUES:  
COND: IN-SHOP, ON-BENCH, POWER ON/OFF  
CUE: PHI FINDING, FAILED LPA COMPONENT, OPERATOR COMPLAINT  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
304X4 J 0537 4.73 42.0 44.0 41.0 20.0 4.81 12.0  
ACTIVITIES SKILL KNOWLEDGE:  
A PERFORM OPERATION CHECK WITH BITE  
A INTERPRET BITE ERROR CODES AND DETERMINE LOCATION OF PROBLEM (LPA/POWER SUPPLY)  
A REMOVE REPLACE POWER SUPPLY SUBASSEMBLIES, COMPONENTS, AND ASSOCIATED PARTS  
A ALIGN/ADJUST LPA LRU, ASSEMBLIES, AND/OR COMPONENTS EFFECTED BY POWER SUPPLY ASSEMBLY REPLACEMENT  
K INTERPRET COMMERCIAL MAINTENANCE MANUALS (PECULIAR TO AN/GRC-212 GIANT TALK SYSTEM)  
OSR JOB INVENTORY TASK STATEMENTS:  
4 J0537 A REMOVE OR INSTALL POWER SUPPLY EQUIPMENT PARTS

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TASK #: 01790  
TROUBLESHOOT AN/GRC-212 HF/ISB MP-100 COMPUTER SYSTEM  
DUTY CODE: X4  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: MINOR, DAMAGE, NONE  
HOW OFTEN: MONTHLY  
OJT TRAINABLE: YES, NO  
QTP ADEQUATE: NO, INSUFFICIENT DETAIL AND TESTS  
TNG REFERENCE(S): QTP 304X4-30NA  
TTT: NONE  
SME OPINION: 3  
EQUIPMENT:  
TOOL KIT, DISK DRIVE WITH DIAGNOSTIC SOFTWARE AND COMPUTER  
REFERENCES:  
T.O. 31R2-2-2GRC212-1171  
CONDITIONS CUES:  
COND: IN-SHOP, POWER ON  
CUE: OPERATOR COMPLAINT, FAILURE OF COMPUTER SYSTEM TO DETECT PROBLEMS  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
304X4 L 0613 1.98 8.0 12.0 12.0 9.0 4.17 2.0  
ACTIVITIES SKILL KNOWLEDGE:  
A RUN DIAGNOSTIC SOFTWARE AND EVALUATE RESULTS  
K INTERPRET ERROR CODES AND IDENTIFY LOCATION OF CIRCUIT CARDS  
K ISOLATE FAULTY DISK DRIVE  
K ISOLATE FAULTY DM-30 VIDEO DISPLAY TERMINAL  
K ISOLATE FAULTY COMPUTER  
K ISOLATE FAULTY PRINTER  
K ISOLATE FAULTY MODEM  
K ISOLATE FAULTY TRANSMIT BITE SWITCH  
K ISOLATE FAULTY IEEE INTERFACE  
A REMOVE/REPLACE COMPUTER CIRCUIT CARDS AND ASSOCIATED COMPONENTS  
K INTERPRET COMMERCIAL MAINTENANCE MANUALS (PECULIAR TO AN/GRC-212 GIANT TALK SYSTEM)  
OSR JOB INVENTORY TASK STATEMENTS:  
4 L0613 A REMOVE OR INSTALL BUILT-IN OR SPECIAL TEST EQUIPMENT COMPONENTS

TASK #: 01800  
TROUBLESHOOT AN/GRC-212 HF/ISB 580 DSS ELECTRONIC SWITCH  
DUTY CODE: X4  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 2

TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, NONE  
HOW OFTEN: WEEKLY  
OJT TRAINABLE: YES, NO, BASIC ELECTRONICS  
QTP ADEQUATE: NO, INSUFFICIENT DETAIL AND TESTS  
TNG REFERENCE(S): QTP 304X4-30NA  
TTT: NONE  
SME OPINION: 5  
NO INSPECTION EXCEPT FOR CORROSION ON DAY 56. COMPUTERIZED BITE  
MANAGES SYSTEM AND REPORTS PROBLEMS. ALL SUBASSEMBLIES ARE  
REDUNDANT. NO EQUIPMENT ALIGNMENTS

EQUIPMENT:  
COMPUTERIZED BITE (WITH PRINTER), WIRE WRAPPING MATERIAL,  
DIGITAL MULTIMETER (CHECK BAD CABLES), DM-30 VIDEO DISPLAY  
TERMINAL (VDT), TOOL KIT

REFERENCES:  
T.O. 31R2-2GRC212-1081

CONDITIONS CUES:  
COND: IN-SHOP, POWER ON  
CUE: BITE COMPUTER PRINTOUT, OPERATOR COMPLAINT

JOB STANDARDS:  
IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|------|------|------|------|------|------|-----|
| 304X4 H   | 0402 | 3.17 | 7.0  | 7.0  | 8.0  | 5.0  | 3.89 | 7.0 |

ACTIVITIES SKILL KNOWLEDGE:  
A DETERMINE IF PROBLEM IS SOFTWARE/HARDWARE (INTERFACE,  
COMMON, OR ATTENDANT TURRET)  
A CHECK AND CORRECT LOCKOUT CONDITION  
A REBOOT COMPUTER SOFTWARE AND MONITOR RESULTS  
A PERFORM SWITCH FAULT ISOLATION TO IDENTIFY CIRCUIT  
CARD OPERATIONAL CHECKS (MANUAL CIRCUIT CARD TEST)  
K INTERPRET COMPUTER BITE ERROR CODES FROM PRINTOUT AND  
LOCATE BITE IDENTIFIED CIRCUIT CARDS  
K TROUBLESHOOT DMARK (TERMINAL TEST POINT)  
K ISOLATE FAULTY CABLES OR CONNECTORS  
K ISOLATE FAULTY SOFTWARE  
K ISOLATE FAULTY CIRCUIT CARDS  
K ISOLATE FAULTY CLOCKS  
K ISOLATE FAULTY PERIPHERAL COMPUTER EQUIPMENT  
A REMOVE/REPLACE SWITCH CIRCUIT CARDS, TURRET, AND  
ASSOCIATED COMPONENTS  
K INTERPRET FUNCTIONALLY ORIENTATED MAINTENANCE MANUALS  
(PECULIAR TO AN/GRC-212 GIANT TALK SYSTEM)

OSR JOB INVENTORY TASK STATEMENTS:  
4 H0402 A REMOVE OR INSTALL RADIO-TELEPHONE SYSTEM LRU

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TASK #: 01810  
INSPECT AN/GRR-23 VHF RECEIVER  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2

TNOTES:  
CONSEQUENCES: MAJOR, DAMAGE, NONE  
HOW OFTEN: 336  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
QTP REFERENCE(S): QTP 304X4-30C  
TTT: 3  
SME OPINION: 3

EQUIPMENT:  
SIGNAL GENERATOR, 427A VOLTMETER, DIGITAL VOLTMETER, 600 OHM  
HEADPHONE, FREQUENCY COUNTER, SUBMINIATURE RF CONNECTOR/  
ADAPTER, TOOL BOX, CLEANING SUPPLIES

REFERENCES:  
T.O.31R2-2GRR-116WC-1

CONDITIONS CUES:  
COND: CONTROL TOWER, RECEIVER SITE, DAY, NIGHT, EQUIPMENT  
RELEASED  
CUES: PHI SCHEDULE, SYSTEM MALFUNCTIONS

JOB STANDARDS:  
IAW REFERENCE

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0393 | 6.33 | 53.0 | 50.0 | 43.0 | 27.0 | 4.23 | 18.0 |
| 304X4 J   | 0527 | 6.35 | 38.0 | 33.0 | 28.0 | 15.0 | 5.94 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:

- A INSPECT POWER SUPPLY
- A CHECK TEST POINT READINGS
- A INSPECT ELECTRICAL FREQUENCY SYNTHESIZER FREQUENCY
- A INSPECT EQUIPMENT FOR OBVIOUS DEFECTS TO INCLUDE CABLE CONNECTORS AND LEADS
- A INSPECT CABLE CONNECTORS/LEADS

OSR JOB INVENTORY TASK STATEMENTS:

- 4 J0527 A BENCH CHECK VHF RECEIVERS
- 4 H0393 A OPERATIONALLY CHECK VHF EQUIPMENT

TASK #: 01820

TROUBLESHOOT AN/GRR-23 VHF RECEIVER

DUTY CODE: X4

TASK STATUS: 3-K

TIMES ANALYZED: 2

TNOTES:

- CONSEQUENCES: MAJOR, DAMAGE, NONE
- HOW OFTEN: 180
- OJT TRAINABLE: YES
- QTP ADEQUATE: YES
- QTP REFERENCE(S): QTP 304X4-30C
- TTT: 3
- SME OPINION: 3

EQUIPMENT:

DISTORTION ANALYZER, SIGNAL GENERATOR, 427A VOLTMETER, DIGITAL VOLTMETER, 600 OHM HEADSET, FREQUENCY COUNTER, SUBMINIATURE RF CONNECTOR/ADAPTER, TOOL BOX, AUDIO OSCILLATOR, EXTENSION CABLE SET, SOLDERING KIT

REFERENCES:

T.O. 31R2-2GRR-112

CONDITIONS CUES:

COND: CONTROL TOWER, RECEIVER SITE, MAINTENANCE SHOP, DAY, NIGHT, EQUIPMENT RELEASED

CUES: PMI FINDINGS, SYSTEM MALFUNCTIONS

JOB STANDARDS:

IAW REFERENCE

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0379 | 6.55 | 49.0 | 47.0 | 41.0 | 23.0 | 6.39 | 12.0 |
| 304X4 J   | 0542 | 5.77 | 49.0 | 45.0 | 39.0 | 22.0 | 5.05 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:

- K ISOLATE FAULTY SUBASSEMBLIES
- K ISOLATE FAULTY CIRCUITS
- K ISOLATE FAULTY COMPONENTS OR PARTS
- A REMOVE AND REPLACE SUBASSEMBLIES
- A REMOVE AND REPLACE COMPONENTS OR PARTS

OSR JOB INVENTORY TASK STATEMENTS:

- 4 H0379 K ISOLATE MALFUNCTIONS WITHIN VERY HIGH FREQUENCY (VHF) EQUIPMENT
- 4 J0542 A REMOVE OR INSTALL VHF EQUIPMENT PARTS

TASK #: 01830  
 ALIGN/ADJUST AN/GRR-23 VHF RECEIVER  
 DUTY CODE: X4  
 TASK STATUS: 3-K  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: MAJOR, DAMAGE, NONE  
 HOW OFTEN: 180  
 OJT TRAINABLE: YES  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X4-30C  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 SIGNAL GENERATOR, 427A VOLTMETER, DIGITAL MULTIMETER, 600 OHM  
 HEADPHONE, FREQUENCY COUNTER, SUBMINIATURE RF CONNECTOR/  
 ADAPTER, TOOL BOX, CLEANING SUPPLIES  
 REFERENCES:  
 T.O. 31R2-2GRR-112  
 CONDITIONS CUES:  
 COND: CONTROL TOWER, RECEIVER SITE, DAY, NIGHT, EQUIPMENT  
 RELEASED  
 CUES: PMI SCHEDULE, SYSTEM MALFUNCTIONS  
 JOB STANDARDS:  
 IAW REFERENCE  
 OSR DATA:   TASK   TE   1JOB  1ENL  5SKL  7SKL  TD   ATI  
 304X4 J 0500  6.72 50.0  47.0  40.0  22.0  6.10 12.0  
 ACTIVITIES SKILL KNOWLEDGE:  
   A ADJUST SQUELCH  
   A ADJUST AUTOMATIC GAIN CONTROL (AGC)  
   A ADJUST AUDIO MAIN LEVEL  
   A ADJUST AF PREAMPLIFIER  
   A ADJUST COMPRESSION LEVEL  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 J0500 A ALIGN VERY HIGH FREQUENCY (VHF) EQUIPMENT

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TASK #: 01840  
 INSPECT AN/GRR-24 UHF RECEIVER  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: MAJOR, DAMAGE, NONE  
 HOW OFTEN: 336  
 OJT TRAINABLE: YES  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X4-30C  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 SIGNAL GENERATOR, 427A VOLTMETER, DIGITAL VOLTMETER, 600 OHM  
 HEADPHONE, FREQUENCY COUNTER, SUBMINIATURE RF CONNECTOR,  
 ADAPTER, TOOL BOX, CLEANING SUPPLIES  
 REFERENCES:  
 T.O. 31R2-2GRR-116WC-1  
 CONDITIONS CUES:  
 COND: CONTROL TOWER, RECEIVER SITE, DAY, NIGHT, EQUIPMENT  
 RELEASED  
 CUES: PMI SCHEDULE, SYSTEM MALFUNCTIONS  
 JOB STANDARDS:  
 IAW REFERENCE  
 OSR DATA:   TASK   TE   1JOB  1ENL  5SKL  7SKL  TD   ATI  
 304X4 H 0392  6.63 70.0  64.0  55.0  32.0  4.30 18.0  
 304X4 J 0523  6.60 52.0  44.0  36.0  19.0  5.87 12.0  
 ACTIVITIES SKILL KNOWLEDGE:  
   A INSPECT POWER SUPPLY  
   A CHECK TEST POINT READINGS  
   A INSPECT ELECTRICAL FREQUENCY SYNTHESIZER FREQUENCY  
   A INSPECT EQUIPMENT FOR OBVIOUS DEFECT TO INCLUDE CABLE  
   CONNECTORS AND LEADS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 J0523 A BENCH CHECK UHF RECEIVERS  
 4 H0392 A OPERATIONALLY CHECK UHF EQUIPMENT

TASK #: 01850  
TROUBLESHOOT AN/GRR-24 UHF RECEIVER  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, NONE  
HOW OFTEN: 180  
OJT TRAINABLE: YES  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-30C  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
DISTORTION ANALYZER, SIGNAL GENERATOR, 427A VOLTMETER, DIGITAL  
VOLTMETER, 600 OHM HEADPHONE, FREQUENCY COUNTER, SUBMINIATURE  
RF CONNECTOR, ADAPTER, TOOL BOX, AUDIO OSCILLATOR, EXTENSION  
CABLE SET, SOLDERING KIT  
REFERENCES:  
T.O. 31R2-2GRR-112  
CONDITIONS CUES:  
COND: CONTROL TOWER, RECEIVER SITE, MAINTENANCE SHOP, DAY,  
NIGHT, EQUIPMENT RELEASED  
CUES: PMI FINDINGS, SYSTEM MALFUNCTIONS  
JOB STANDARDS:  
IAW REFERENCE  
OSR DATA: TASK TE 1'OB 1ENL 5SKL 7SKL TD ATI  
304X4 H 0378 6.82 6 7 60.0 51.0 28.0 6.44 18.0  
304X4 J 0541 5.53 12.0 57.0 49.0 25.0 5.16 18.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE AF AMPLIFIER  
K ISOLATE POWER SUPPLY  
K ISOLATE IF AMPLIFIER  
K ISOLATE MIXER/MULTIPLIER  
K ISOLATE LIMITER  
K ISOLATE PREAMPLIFIER  
K ISOLATE SYNTHESIZER  
A REMOVE/REPLACE SUBASSEMBLIES, CIRCUIT CARDS, AND  
RELATED COMPONENTS  
OSR JOB INVENTORY TASK STATEMENTS:  
4 H0378 K ISOLATE MALFUNCTIONS WITHIN ULTRA HIGH FREQUENCY  
(UHF) EQUIPMENT  
4 J0541 A REMOVE OR INSTALL UHF EQUIPMENT PARTS

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TASK #: 01860  
ALIGN/ADJUST AN/GRR-24 UHF RECEIVER  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: MAJOR, DAMAGE, NONE  
HOW OFTEN: 180  
OJT TRAINABLE: YES  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-30C  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
SIGNAL GENERATOR, 427A VOLTMETER, DIGITAL VOLTMETER, 600 OHM  
HEADPHONE, FREQUENCY COUNTER, SUBMINIATURE RF CONNECTOR,  
ADAPTER, TOOL BOX, CLEANING SUPPLIES  
REFERENCES:  
T.O. 31R2-2GRR-112  
CONDITIONS CUES:  
COND: CONTROL TOWER, RECEIVER SITE, DAY, NIGHT, EQUIPMENT  
RELEASED  
CUES: PMI SCHEDULE, SYSTEM MALFUNCTIONS  
JOB STANDARDS:  
IAW REFERENCE  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 J 0499 6.78 63.0 60.0 51.0 26.0 6.13 18.0  
ACTIVITIES SKILL KNOWLEDGE:  
A ADJUST SQUELCH  
A ADJUST AUTOMATIC GAIN CONTROL (AGC)  
A ADJUST AUDIO MAIN LEVEL  
A ADJUST AF PREAMPLIFIER  
A ADJUST COMPRESSION LEVEL  
OSR JOB INVENTORY TASK STATEMENTS:  
4 J0499 A ALIGN UHF EQUIPMENT



TASK #: 01870  
 INSPECT AN/GRT-21 VHF AND AN/GRT-22 UHF TRANSMITTERS  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 2

TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: 168, 336  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NO (INACCURATE 168/336 DAY PMI PREREQUISITES)  
 TNG REFERENCE(S): QTP 304X4-30B  
 TTT: 3  
 SME OPINION: 3

EQUIPMENT:  
 FREQUENCY COUNTER, TOOL KIT, RF WATTMETER, DUMMY LOAD, AUDIO  
 OSCILLATOR, CABLES, VARIABLE ATTENUATOR, OSCILLOSCOPE,  
 RF GENERATOR

REFERENCES:  
 T.O. 31R2-2GRT-106WC-1

CONDITIONS CUES:  
 COND: ON BENCH/USER SITE, POWER ON/OFF, TRANSMITTER DOWN  
 CUE: PMI

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK   | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|--------|------|------|------|------|------|------|------|
| 304X4     | J 0525 | 6.50 | 49.0 | 39.0 | 31.0 | 15.0 | 5.97 | 12.0 |
| 304X4     | J 0529 | 6.15 | 36.0 | 30.0 | 23.0 | 11.0 | 6.00 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 A PERFORM MINIMUM PERFORMANCE TEST  
 A PERFORM FREQUENCY CHECK  
 A CLEAN EXTERIOR OF TRANSMITTER ON RACK

OSR JOB INVENTORY TASK STATEMENTS:  
 4 J0525 A BENCH CHECK UHF TRANSMITTERS  
 4 J0529 A BENCH CHECK VHF TRANSMITTERS

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TASK #: 01880  
 TROUBLESHOOT AN/GRT-21 VHF AND AN/GRT-22 UHF TRANSMITTERS  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 2

TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: BI-MONTHLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X4-30B  
 TTT: 3  
 SME OPINION: 3  
 DEPOT REPAIRS CARRIER MODULES TO COMPONENT LEVEL

EQUIPMENT:  
 TOOL KIT, DUMMY LOAD, ELECTRONIC PLUG-IN UNITS, RF POWER  
 METER WITH ELEMENTS, OSCILLOSCOPE, FREQUENCY COUNTER, DIGITAL  
 MULTIMETER, CAPACITOR TESTER (NON T.O. EQUIPMENT), QUARTZ CRYSTAL  
 CARD EXTENDER, RF GENERATOR, AUDIO OSCILLATOR, VARIABLE  
 ATTENUATOR, DOUBLE BALANCED MIXER, SOLDERING STATION

REFERENCES:  
 31R2-2GRT-102

CONDITIONS CUES:  
 COND: IN-SHOP/USER SITE, POWER ON/OFF, EQUIPMENT OFF-LINE  
 CUE: PMI FINDING, USER COMPLAINT

JOB STANDARDS:  
 IAW REFERENCES, OPTIMIZE TRANSMITTER BEYOND T.O. PARAMETERS

| OSR DATA: | TASK   | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|--------|------|------|------|------|------|------|------|
| 304X4     | H 0378 | 6.82 | 63.0 | 60.0 | 51.0 | 28.0 | 6.44 | 18.0 |
| 304X4     | H 0379 | 6.55 | 49.0 | 47.0 | 41.0 | 23.0 | 6.39 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:  
 K ISOLATE FAULTY LRU  
 K ISOLATE FAULTY CIRCUIT CARDS  
 K ISOLATE FAULTY COMPONENTS OR MINOR HARDWARE  
 A REMOVE/REPLACE LRU  
 A REMOVE/REPLACE CIRCUIT CARDS  
 A REMOVE/REPLACE COMPONENTS OR MINOR HARDWARE

OSR JOB INVENTORY TASK STATEMENTS:  
 4 H0378 K ISOLATE MALFUNCTIONS WITHIN ULTRA HIGH FREQUENCY  
 (UHF) EQUIPMENT  
 4 H0379 K ISOLATE MALFUNCTIONS WITHIN VERY HIGH FREQUENCY (VHF)  
 EQUIPMENT

TASK #: 01890  
 ALIGN/ADJUST AN/GRT-21 VHF AND AN/GRT-22 UHF TRANSMITTERS  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 1

TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: BI-MONTHLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X4-30B  
 TTT: 3  
 SME OPINION: 3

EQUIPMENT:  
 TOOL KIT, DUMMY LOAD, RF POWER METER WITH ELEMENTS, OSCILLOSCOPE,  
 FREQUENCY COUNTER, DIGITAL MULTIMETER, CAPACITOR TESTER, (NON  
 T.O EQUIPMENT), QUARTZ CRYSTAL, CARD EXTENDER, RF GENERATOR,  
 AUDIO OSCILLATOR, VARIABLE ATTENUATOR, DOUBLE BALANCED MIXER

REFERENCES:  
 T.O. 31R2-2GRT-102

CONDITIONS CUES:  
 COND: IN-SHOP/USER SITE, POWER ON/OFF, TRANSMITTER OFF-LINE  
 CUE: PMI FINDING, USER COMPLAINT, FAILED MODULE/COMPONENT

JOB STANDARDS:  
 OPTIMIZE (TUNE) TRANSMITTER BEYOND T.O. PARAMETERS

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |      |
|-----------|------|------|------|------|------|------|------|------|------|
| 304X4     | J    | 0499 | 6.78 | 63.0 | 60.0 | 51.0 | 26.0 | 6.13 | 18.0 |
| 304X4     | J    | 0500 | 6.72 | 50.0 | 47.0 | 40.0 | 22.0 | 6.10 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:  
 A ALIGN/ADJUST A1 AUDIO AMPLIFIER OR COMPRESSOR CIRCUIT  
 CARD/PARTS  
 A ALIGN/ADJUST A4 FILTER AMPLIFIER DETECTOR CIRCUIT  
 CARD/PARTS  
 A ALIGN/ADJUST A5 BUFFER MODULATOR CIRCUIT CARD/PARTS  
 A ALIGN/ADJUST A6 RADIO FREQUENCY CONTROL MODULATOR  
 CIRCUIT CARD/PARTS  
 A ALIGN/ADJUST A7 CONTROL THERMAL DETECTOR MODULATION  
 PERCENTAGE/COAXIAL RELAY CONTROL/KEYER INHIBIT CIR-  
 CUIT CARD/PART  
 A ALIGN/ADJUST A8 OSCILLATOR SYNTHESIZER MODULE  
 A ALIGN/ADJUST A9 RADIO FREQUENCY MULTIPLIER MODULE  
 A ALIGN/ADJUST A10 DRIVER POWER AMPLIFIER MODULE  
 A ALIGN/ADJUST PS1A2 AND PS1A3 POWER SUPPLY CIRCUIT  
 CARDS

OSR JOB INVENTORY TASK STATEMENTS:  
 4 J0499 A ALIGN UHF EQUIPMENT  
 4 J0500 A ALIGN VERY HIGH FREQUENCY (VHF) EQUIPMENT

TASK #: 01900  
 INSPECT GSB-900/R PORTABLE HF RADIO  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 1

TNOTES:  
 CONSEQUENCES: MINOR, DAMAGE, NONE  
 HOW OFTEN: 336  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NO  
 TNG REFERENCE(S): COMMERCIAL MANUAL; LWC 1985CS-GSB 900/R  
 TTT: 5  
 SME OPINION: 3  
 THIS SYSTEM IS SIMILAR TO URC-92.

EQUIPMENT:  
 DIGITAL VOLTMETER, RF SIGNAL GENERATOR, AUDIO UTUM, IN LINE FUSE,  
 COAXIAL CABLE-RG 58, REMOTE UNIT INTERCONNECTS, JUMP WIRES,  
 BANANA TO PHONE PLUG TEST CABLE, RF VTVM, AUDIO OSCILLATOR,  
 EXTENDER CARDS, CW KEYS, RF WATTMETER, COMMON SCREWDRIVER, LINT  
 FREE CLOTH, DENATURED ALCOHOL, NON-METALLIC TIPPED VACUUM,  
 REFLECTOMETER

REFERENCES:  
 COMMERCIAL MANUAL; LWC 1985CS-GSB 900/R

CONDITIONS CUES:  
 COND: INSIDE  
 CUE: PMI LISTING

JOB STANDARDS:  
 IAW REFERENCES

OSR DATA: TASK TE IJOB IENL 5SKL 7SKL TD ATI  
304X4 H 0383 5.95 60.0 63.0 60.0 35.0 4.19 18.0  
ACTIVITIES SKILL KNOWLEDGE:  
A CHECK UPPER/LOWER SIDE BAND SENSITIVITY  
A CHECK AM SENSITIVITY  
A CHECK AGC CONTROL  
A CHECK 600 OHM AUDIO OUTPUT  
OSR JOB INVENTORY TASK STATEMENTS:  
4 H0383 A OPERATIONALLY CHECK HF EQUIPMENT

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TASK #: 01910  
TROUBLESHOOT GSB-900/R PORTABLE HF RADIO  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 1  
TNOTES:  
CONSEQUENCES: MINOR, DAMAGE, INJURY  
HOW OFTEN: ONCE A YEAR  
OJT TRAINABLE: YES, NO  
QTP ADEQUATE: NO  
TNG REFERENCE(S): COMMERCIAL MANUAL  
TTT: 5  
SME OPINION: 3  
EQUIPMENT:  
SIGNAL GENERATOR, DIGITAL VOLTMETER, AC VOLTMETER, UTUM,  
WATT METER, DUMMY LOAD, RF CABLES, INTERCONNECT CABLES,  
EXTENDER CARD, SPEAKER, CARD PULLER, HANDTOOLS,  
SOLDERING EQUIPMENT, CARD HOLDER, GOGGLES, REFLECTOMETER  
REFERENCES:  
COMMERCIAL MANUAL  
CONDITIONS CUES:  
COND: INSIDE, REMOVE TO SHOP; GROUNDED  
CUE: NO TRANSMIT/RECEIVE  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE IJOB IENL 5SKL 7SKL TD ATI  
304X4 J 0505 6.23 28.0 31.0 32.0 17.0 5.65 12.0  
304X4 J 0534 5.00 53.0 54.0 51.0 25.0 5.00 18.0  
ACTIVITIES SKILL KNOWLEDGE:  
A CHECK POWER OUTPUT TO IDENTIFY TROUBLE  
A CHECK TO SEE IF UNIT IS RECEIVING  
K ISOLATE FAULTY CARD USING FLOW CHART  
A REMOVE AND REPLACE FAULTY CARD  
A REMOVE AND REPLACE FAULTY COMPONENT  
OSR JOB INVENTORY TASK STATEMENTS:  
4 J0505 A BENCH CHECK HF RECEIVERS  
4 J0534 A REMOVE OR INSTALL HF EQUIPMENT PARTS

TASK #: 01920  
INSPECT AN/GSC-37 COMMUNICATIONS TERMINAL  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: SERIOUS, NONE, NONE  
HOW OFTEN: 28, 84, 168, 336  
OJT TRAINABLE: YES, NO, REQUIRES ELECTRONICS BACKGROUND AND USE  
OF TEST EQUIPMENT  
QTP ADEQUATE: NO.  
TNG REFERENCE(S): AFCC CEMI 321-32, T.O. 31W2-2GSC37-2  
TTT: 5  
SME OPINION: 5  
NOTE: THE ANGSC-37 COMMUNICATION CONTROL AND DISTRIBUTION SYSTEM  
(CCDS) CONSISTS OF SEVERAL OPERATOR POSITIONS; ASR, PAR,  
MAINT, AND ASSISTANT OPERATOR POSITIONS. THEIR  
SUBCOMPONENTS IDENTICAL, SO ONLY ONE OPERATOR POSITION  
WAS ANALYZED.

EQUIPMENT:

LINT FREE CLOTH, VACUUMS, BRUSH, DIGITAL VOLTMETER, TEST BOX 1,  
BRIDGING TRANSFORMERS(6), AUDIO OSCILLATOR, DISTORTION ANALYZER,  
VACUUM TUBE VOLTMETER OR EQUIVALENT(5), SPRAY AND WIPE SOLUTION,  
TRI-PACK TELEPHONE TEST SET, TEST CABLES, REQUEST/ACKNOWLEDGE  
INTERCOM, HANDTOOLS, ANALOG MULTIMETER, CAPACITOR TESTER,  
OSCILLOSCOPE, SOLDERING KIT

REFERENCES:

AFCC CEMI 321-32  
T.O. 31W2-2GSC37-2

CONDITIONS CUES:

COND: INDOORS, EQUIPMENT MUST BE DOWN (RELEASED BY OPERATION)  
CUE: PMI SCHEDULE

JOB STANDARDS:

IAW REFERENCES:

| OSR DATA: | TASK | TE   | IJOB | LENL | SSKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0386 | 4.67 | 48.0 | 46.0 | 39.0 | 20.0 | 4.32 | 12.0 |
| 304X4 I   | 0452 | 4.42 | 41.0 | 37.0 | 31.0 | 15.0 | 3.44 | 12.0 |
| 304X4 I   | 0462 | 3.40 | 18.0 | 18.0 | 18.0 | 10.0 | 3.31 | 7.0  |

ACTIVITIES SKILL KNOWLEDGE:

- A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS
- A CLEAN EQUIPMENT
- A CHECK INTERCOM CIRCUIT
- A CHECK MONITOR CIRCUIT
- A CHECK PBX LINE
- A CHECK AUTOMATIC SIGNALING UNIT
- A CHECK VOICE PAGE LINE
- A CHECK SELECTIVE SIGNALING LINE
- A CHECK REQUEST/ACKNOWLEDGE CIRCUIT
- A CHECK REQUEST/ACKNOWLEDGE INTERCOM AUDIO AND LIGHT TEST
- A CHECK BATTERY BACKUP OPERATIONAL TEST
- A CHECK POWER SUPPLY
- A CHECK TRANSMIT SYSTEM PERFORMANCE
- A CHECK RECEIVE SYSTEM PERFORMANCE
- A CHECK RECEIVE AMPLIFIER UNIT PERFORMANCE
- A CHECK HEADPHONE AMPLIFIER PERFORMANCE
- A CHECK SPEAKER AMPLIFIER PERFORMANCE
- A CHECK MONITOR AMPLIFIER PERFORMANCE
- A CHECK MICROPHONE AMPLIFIER PERFORMANCE
- A CHECK LINE AMPLIFIER/TERMINATOR UNIT TRANSMIT PERFORMANCE
- A CHECK LINE AMPLIFIER/TERMINATOR UNIT RECEIVE PERFORMANCE

OSR JOB INVENTORY TASK STATEMENTS:

- 4 I0452 A OPERATIONALLY CHECK COMMUNICATIONS PATCH PANELS
- 4 H0386 A OPERATIONALLY CHECK MULTIPLE CHANNEL EQUIPMENT
- 4 I0462 A OPERATIONALLY CHECK PHONE PATCH SYSTEMS

TASK #: 01930  
TROUBLESHOOT AN/GSC-37 COMMUNICATIONS TERMINAL OPERATOR POSITION LANDLINE SELECTOR UNIT  
DUTY CODE: X4  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: MINOR, DAMAGE, NONE  
HOW OFTEN: AS REQUIRED  
OJT TRAINABLE: YES, NO, REQUIRES ELECTRONICS PRINCIPLES  
QTP ADEQUATE: NO  
TNG REFERENCE(S): T.O. 31WZ-2GSC37-2  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
DIGITAL MULTIMETER, HANDTOOLS, SOLDERING EQUIPMENT,  
TRANSISTOR CHECKER, TEST EQUIPMENT, ANALOG MULTIMETER  
REFERENCES:  
T.O. 31WZ-2GSC37-2  
CONDITIONS CUES:  
COND: INDOORS, EQUIPMENT MUST BE DOWN (RELEASED BY OPERATION)  
CUE: PMI SCHEDULE  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB  1ENL  5SKL  7SKL  TD   ATI  
304X4 I 0430  3.33  9.0  11.0  11.0  7.0  4.95  7.0  
304X4 I 0481  2.17  7.0   9.0   8.0   5.0  3.69  7.0  
ACTIVITIES SKILL KNOWLEDGE:  
A PERFORM OPERATIONAL CHECK OF LANDLINE SELECTOR UNIT  
K ISOLATE FAULTY PRINTED CIRCUIT BOARD  
K ISOLATE FAULTY COMPONENTS  
A REMOVE AND REPLACE PRINTED CIRCUIT BOARD  
A REMOVE AND REPLACE FAULTY COMPONENT  
K RECALL PARTS REQUISITION  
OSR JOB INVENTORY TASK STATEMENTS:  
4 I0430 K ISOLATE MALFUNCTIONS WITHIN INTERCOM SYSTEMS TO LRU  
4 I0481 A REMOVE OR INSTALL INTERCOM EQUIPMENT LRU

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TASK #: 01940  
TROUBLESHOOT AN/GSC-37 COMMUNICATIONS TERMINAL OPERATOR POSITION (INCLUDES MAINT, ASR, PAR, SUP)  
DUTY CODE: X4  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 1  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: DAILY  
OJT TRAINABLE: YES, NO, REQUIRES ELECTRONIC PRINCIPLES, KNOWLEDGE OF HOW TO USE T.O., AND SYSTEM THEORY OF OPERATION  
QTP ADEQUATE: NO  
TNG REFERENCE(S): T.O. 31W2-2GSC37-2  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
COMMON HANDTOOLS, DIGITAL MULTIMETER, AUDIO OSCILLATOR,  
TRI-PACK TELEPHONE TEST SET, OSCILLOSCOPE  
REFERENCES:  
T.O. 31W2-2GSC37-2  
CONDITIONS CUES:  
COND: INDOORS, IF MAINTENANCE ON ONE POSITION AFFECTS OTHER POSITIONS, MAINTENANCE IS DEFERRED UNTIL MISSION WILL ALLOW RELEASE OF ALL POSITIONS. WEATHER-NO MAINTENANCE PERFORMED WITH LIGHTNING IN AREA. FLYING MISSION DICTATES WHETHER OR NOT EQUIPMENT CAN BE RELEASED FOR MAINTENANCE.  
CUE: EQUIPMENT MALFUNCTION (REPORTED BY JOB CONTROL) OR AS NOTED DURING PMI.  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB  1ENL  5SKL  7SKL  TD   ATI  
304X4 I 0430  3.33  9.0  11.0  11.0  7.0  4.95  7.0  
304X4 I 0481  2.17  7.0   9.0   8.0   5.0  3.69  7.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY SUBASSEMBLIES  
K ISOLATE FAULTY LINE REPLACEABLE UNITS (LRU)  
K ISOLATE FAULTY MECHANICAL PARTS  
A REMOVE AND REPLACE LRU AND MECHANICAL PARTS  
OSR JOB INVENTORY TASK STATEMENTS:  
4 I0430 K ISOLATE MALFUNCTIONS WITHIN INTERCOM SYSTEMS TO LRU  
4 I0481 A REMOVE OR INSTALL INTERCOM EQUIPMENT LRU

TASK #: 01950  
TROUBLESHOOT AN/GSC-37 COMMUNICATION TERMINAL POSITION CONSOLE AMPLIFIER  
DUTY CODE: X4  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 1

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: AS REQUIRED  
OJT TRAINABLE: YES, NO, REQUIRES THEORY OF OPERATION AND EXPERIENCE

QTP ADEQUATE: NO  
TNG REFERENCE(S): T.O. 31W2-2GSC37-2  
TTT: 5

SME OPINION: 5

EQUIPMENT:

FLATBLADE SCREWDRIVER, DIGITAL MULTIMETER, TRANSISTOR CHECKER, OSCILLOSCOPE (DUAL TRAN), SOLDERING EQUIPMENT, TEST EQUIPMENT, ANALOG MULTIMETER

REFERENCES:

T.O. 31W2-2GSC37-2

CONDITIONS CUES:

COND: INDOORS, IF MAINTENANCE ON ONE POSITION AFFECTS OTHER POSITIONS, MAINTENANCE IS DEFERRED UNTIL MISSION WILL ALLOW RELEASE OF ALL POSITIONS. WEATHER-NO MAINTENANCE PERFORMED WITH LIGHTNING IN THE AREA. FLYING MISSION DICTATES WHETHER OR NOT EQUIPMENT CAN BE RELEASED FOR MAINTENANCE.

CUE: EQUIPMENT MALFUNCTION (REPORTED BY JOB CONTROL) OR AS NOTED DURING PMI.

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|------|------|------|------|------|------|-----|
| 304X4 I   | 0432 | 3.17 | 11.0 | 13.0 | 13.0 | 6.0  | 5.22 | 7.0 |

ACTIVITIES SKILL KNOWLEDGE:

K ISOLATE FAULTY PCB  
K ISOLATE FAULTY MOTHERBOARD  
K ISOLATE PATCH CONNECTORS  
A REQUISITION PARTS

OSR JOB INVENTORY TASK STATEMENTS:

4 I0432 K ISOLATE MALFUNCTIONS WITHIN PHONE PATCH SYSTEMS TO LRU

TASK #: 01960

TROUBLESHOOT AN/GSC-37 COMMUNICATION TERMINAL OPERATOR POSITION RADIOPHONE SELECTOR MODULE

DUTY CODE: X4  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, NONE  
HOW OFTEN: WEEKLY  
OJT TRAINABLE: YES, NO, REQUIRES ELECTRONIC PRINCIPLES

QTP ADEQUATE: NO.  
TNG REFERENCE(S): T.O. 31W2-2GSC37-2  
TTT: 5

SME OPINION: 5

EQUIPMENT:

DIGITAL MULTIMETER, HANDSET, HANDTOOLS, SOLDERING EQUIPMENT, BUTT SET, CAPACITOR TESTER, OSCILLOSCOPE

REFERENCES:

T.O. 31W2-2GSC37-2

CONDITIONS CUES:

COND: INDOORS, IF MAINTENANCE ON ONE POSITION AFFECTS OTHER POSITIONS, MAINTENANCE IS DEFERRED UNTIL MISSION WILL ALLOW RELEASE OF ALL POSITIONS. WEATHER-NO MAINTENANCE PERFORMED WITH LIGHTNING IN THE AREA. FLYING MISSION DICTATES WHETHER OR NOT EQUIPMENT CAN BE RELEASED FOR MAINTENANCE.

CUE: EQUIPMENT MALFUNCTION (REPORTED BY JOB CONTROL) OR AS NOTED DURING PMI.

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|------|------|------|------|------|------|-----|
| 304X4 K   | 0578 | 3.30 | 8.0  | 9.0  | 10.0 | 5.0  | 5.19 | 7.0 |
| 304X4 K   | 0599 | 3.28 | 26.0 | 24.0 | 21.0 | 3.0  | 4.87 | 7.0 |

ACTIVITIES SKILL KNOWLEDGE:

A REQUISITION PARTS  
Y ISOLATE FAULTY PRINTED CIRCUIT BOARD, OR PATCHCORD  
A REMOVE/REPLACE CIRCUIT BOARD AND PARTS

OSR JOB INVENTORY TASK STATEMENTS:

4 K0578 A BENCH CHECK PHONE PATCH SYSTEM COMPONENTS  
4 K0599 A REMOVE OR INSTALL OPERATOR CONSOLE DISCRETE PARTS

TASK #: 01970  
TROUBLESHOOT AN/GSC-37 COMMUNICATION TERMINAL OPERATOR POSITION INTERCOM SELEC  
TOR UNIT 1  
DUTY CODE: X4  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: NONE, DAMAGE, NONE  
HOW OFTEN: AS REQUIRED  
OJT TRAINABLE: YES, NO, REQUIRES ELECTRONIC PRINCIPLES  
QTP ADEQUATE: NO  
TNG REFERENCE(S): T.O. 31W2-2GSC37-2  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
DIGITAL MULTIMETER, SOLDERING EQUIPMENT, TRANSISTOR CHECKER,  
HANDTOOLS, OSCILLOSCOPE, CAPACITOR TESTER  
REFERENCES:  
T.O. 31W2-2GSC37-2  
CONDITIONS CUES:  
COND: INDOORS, IF MAINTENANCE ON ONE POSITION AFFECTS OTHER  
POSITIONS, MAINTENANCE IS DEFERRED UNTIL MISSION WILL ALLOW  
RELEASE OF ALL POSITIONS. FLYING MISSION DICTATES  
WHETHER OR NOT EQUIPMENT CAN BE RELEASED FOR MAINTENANCE.  
CUE: EQUIPMENT MALFUNCTION (REPORTED BY JOB CONTROL) OR AS NOTED  
DURING PHI.  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 N 0648 1.52 .0 1.0 1.0 1.0 6.71 2.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY CIRCUIT BOARD  
K ISOLATE FAULTY MOTHERBOARD  
K ISOLATE FAULTY CONNECTORS  
K ISOLATE FAULTY RELAY IN CONSOLE AMPLIFIER SUBASSEMBLY  
K TROUBLESHOOT DEFECTIVE COMPONENTS  
A REMOVE AND REPLACE CIRCUIT CARDS  
A REMOVE AND REPLACE DEFECTIVE COMPONENTS AND PARTS  
(OSR JOB INVENTORY TASK STATEMENTS:  
4 N0648 K ISOLATE MALFUNCTIONS WITHIN RADIO TYPE MAINTENANCE NETWORK (RTMN)

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TASK #: 01980  
TROUBLESHOOT AN/GSC-37 COMMUNICATION TERMINAL OPERATOR POSITION OPERATOR'S JACKBOX  
DUTY CODE: X4  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: MINOR, DAMAGE, NONE  
HOW OFTEN: AS REQUIRED  
OJT TRAINABLE: YES, NO, REQUIRES ELECTRONIC PRINCIPLES  
QTP ADEQUATE: NO  
TNG REFERENCE(S): T.O. 31W2-2GSC37-2  
TTT: 5  
SME OPINION: 3  
EQUIPMENT:  
HANDTOOLS, SOLDERING KIT, DIGITAL MULTIMETER, TEST EQUIPMENT  
REFERENCES:  
T.O. 31W2-2GSC37-2  
CONDITIONS CUES:  
COND: INDOORS, IF MAINTENANCE ON ONE POSITION AFFECTS OTHER  
POSITIONS, MAINTENANCE IS DEFERRED UNTIL MISSION WILL ALLOW  
RELEASE OF ALL POSITIONS. FLYING MISSION DICTATES  
WHETHER OR NOT EQUIPMENT CAN BE RELEASED FOR MAINTENANCE.  
CUE: EQUIPMENT MALFUNCTION (REPORTED BY JOB CONTROL) OR AS NOTED  
DURING PHI.  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 K 0599 3.23 26.0 24.0 21.0 8.0 4.87 7.0  
304X4 K 0576 3.67 23.0 21.0 17.0 8.0 5.15 11.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE DEFECTIVE COMPONENTS  
A REMOVE AND REPLACE DEFECTIVE COMPONENTS  
A REQUISITION PARTS  
(OSR JOB INVENTORY TASK STATEMENTS:  
4 K0576 A BENCH CHECK OPERATOR CONSOLE COMPONENTS  
4 K0599 A REMOVE OR INSTALL OPERATOR CONSOLE DISCRETE PARTS

TASK #: 01990  
TROUBLESHOOT AN/GSC-37 COMMUNICATION TERMINAL OPERATOR POSITION MONITOR SELECT  
OR UNIT  
DUTY CODE: X4  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: MINOR, DAMAGE, NONE  
HOW OFTEN: AS REQUIRED  
OJT TRAINABLE: YES, NO, REQUIRES ELECTRONICS PRINCIPLES  
QTP ADEQUATE: NO  
TNG REFERENCE(S): T.O. 31W2-2GSC47-2  
TTT: 5  
SHE OPINION: 5  
EQUIPMENT:  
DIGITAL MULTIMETER, HANDTOOLS, SOLDERING EQUIPMENT,  
TRANSISTOR CHECKER  
REFERENCES:  
T.O. 31W2-2GSC47-2  
CONDITIONS CUES:  
COND: INDOORS, IF MAINTENANCE ON ONE POSITION AFFECTS OTHER  
POSITIONS, MAINTENANCE IS DEFERRED UNTIL MISSION WILL ALLOW  
RELEASE OF ALL POSITIONS. FLYING MISSION DICTATES  
WHETHER OR NOT EQUIPMENT CAN BE RELEASED FOR MAINTENANCE.  
CUE: EQUIPMENT MALFUNCTION (REPORTED BY JOB CONTROL) OR AS NOTED  
DURING PMI.  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 K 0599 3.28 26.0 24.0 21.0 8.0 4.87 7.0  
304X4 K 0576 3.67 23.0 21.0 17.0 8.0 5.15 11.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY DISRIBUTION PANEL  
K ISOLATE FAULTY MOTHERBOARD  
K ISOLATE FAULTY CIRCUIT BOARD  
A REMOVE AND REPLACE CIRCUIT BOARDS  
A REMOVE AND REPLACE COMPONENTS AND PARTS  
A REQUISTION PARTS  
OSR JOB INVENTORY TASK STATEMENTS:  
4 K0576 A BENCH CHECK OPERATOR CONSOLE COMPONENTS  
4 K0599 A REMOVE OR INSTALL OPERATOR CONSOLE DISCRETE PARTS

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TASK #: 02000  
TROUBLESHOOT AN/GSC-37 COMMUNICATION TERMINAL OPERATOR POSITION TOUCH TONE UNIT  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: MINOR, DAMAGE, NONE  
HOW OFTEN: AS REQUIRED  
OJT TRAINABLE: YES, NO, REQUIRES ELECTRONICS PRINCIPLES  
QTP ADEQUATE: NO  
TNG REFERENCE(S): T.O. 31W2-2GSC37-2  
TTT: 5  
SHE OPINION: 5  
EQUIPMENT:  
DIGITAL MULTIMETER, TRANSISTOR CHECKER, HANDTOOLS,  
SOLDERING EQUIPMENT  
REFERENCES:  
T.O. 31W2-2GSC37-2  
CONDITIONS CUES:  
COND: INDOORS, IF MAINTENANCE ON ONE POSITION AFFECTS OTHER  
POSITIONS, MAINTENANCE IS DEFERRED UNTIL MISSION WILL ALLOW  
RELEASE OF ALL POSITIONS. FLYING MISSION DICTATES  
WHETHER OR NOT EQUIPMENT CAN BE RELEASED FOR MAINTENANCE.  
CUE: EQUIPMENT MALFUNCTION (REPORTED BY JOB CONTROL) OR AS NOTED  
DURING PMI.  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 J 0543 4.75 78.0 75.0 69.0 36.0 5.05 10.0  
304X4 K 0576 3.67 23.0 21.0 17.0 8.0 5.15 11.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY PRINTED CIRCUIT BOARD  
A REMOVE AND REPLACE CIRCUIT BOARD  
A REMOVE REPLACE CIRCUIT BOARD COMPONENTS  
OSR JOB INVENTORY TASK STATEMENTS:  
4 J0543 S SOLDER COMMUNICATIONS EQUIPMENT COMPONENTS  
4 K0576 A BENCH CHECK OPERATOR CONSOLE COMPONENTS



TASK #: 02010  
TROUBLESHOOT/REPAIR AN/GSC-37 COMMUNICATION TERMINAL OPERATOR POSITION REQUEST  
/ACKNOWLEDGE UNIT SUBASSEMBLY  
DUTY CODE: X4  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: AS REQUIRED  
OJT TRAINABLE: YES, NO, REQUIRES ELECTRONIC PRINCIPLES AND  
THEORY OF OPERATION  
QTP ADEQUATE: NO  
TNG REFERENCE(S): T.O 31W2-2GSC37-2  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
FLATBLADE SCREWDRIVER, BUTT SET(TELEPHONE HEADSET),  
DIGITAL MULTIMETER, SOLDERING EQUIPMENT, TRANSISTOR TESTER,  
SAFETY GOGGLES, SIGNAL GENERATOR (AUDIO) AND TEST CABLES  
REFERENCES:  
T.O 31W2-2GSC37-2  
CONDITIONS CUES:  
COND: INDOORS, IF MAINTENANCE ON ONE POSITION AFFECTS OTHER  
POSITIONS, MAINTENANCE IS DEFERRED UNTIL MISSION WILL ALLOW  
RELEASE OF ALL POSITIONS. WEATHER-NO MAINTENANCE PERFORMED  
WITH LIGHTENING IN THE AREA. FLYING MISSION DICTATES  
WHETHER OR NOT EQUIPMENT CAN BE RELEASED FOR MAINTENANCE.  
CUE: EQUIPMENT MALFUNCTION (REPORTED BY JOB CONTROL) OR AS NOTED  
DURING PHI.  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 K 0596 2.75 10.0 11.0 11.0 7.0 4.65 7.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY PRINTED CIRCUIT BOARD  
K ISOLATE FAULTY TRANSMISSION LINE(S)  
A REMOVE AND REPLACE DEFECTIVE CIRCUIT CARD COMPONENTS  
K INTERPRET TELEPHONE CIRCUIT DIAGRAMS  
OSR JOB INVENTORY TASK STATEMENTS:  
4 K0596 A REMOVE OR INSTALL INTERCOM EQUIPMENT DISCRETE PARTS

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TASK #: 02020  
INSPECT RP-343/GSH REPRODUCER  
DUTY CODE: X4  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: MINOR, DAMAGE, NONE  
HOW OFTEN: 14, 84, 336  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-32A  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
DEMAGNETIZER, TEXWIPES, COMMON SCREWDRIVER, VACUUM/DUST OFF, TEST  
TAPE, LINT FREE CLOTH, DENATURED ALCOHOL, HEADSET  
REFERENCES:  
T.O. 31S3-4-122-1  
LWC 1985 CS-RP343  
CONDITIONS CUES:  
COND: INSIDE, EQUIPMENT NOT IN USE  
CUE: PHI LOG  
JOB STANDARDS:  
IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 H 0366 3.17 7.0 9.0 9.0 4.0 5.72 7.0

ACTIVITIES SKILL KNOWLEDGE:

- A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS
- A CLEAN EQUIPMENT
- K IDENTIFY COMPONENT LOCATION, NOMENCLATURE, FUNCTION
- A CLEAN TAKE-UP AND SUPPLY BRAKE DRUMS
- A CHECK PINCH WHEEL ARM AND TAPE LIFTER ROD FOR PROPER ENGAGEMENT
- A CHECK TO ENSURE BRAKES ARE CLEAR OF BRAKE DRUMS
- A PRESS PLAY TO ENSURE BRAKE SOLENOIDS ENGAGE RELEASING BRAKE WITHOUT BINDING
- K ENSURE RECORD LED BLINKS DURING RECORDING
- A PLAY TAPE ENSURING TIME ADVANCES AND AUDIO (TIME CODE) ON CH 18
- A HOLD TAKE-UP REEL TO ENSURE UPPER DECK FAILS(9-15 SEC)
- A CHECK SEARCH KNOB FUNCTION BOTH IN ADVANCE AND REWIND OBSERVING TIME CODE ADVANCEMENT OR DIGRESSION WITH TAPE MOVEMENT
- A SELECT TIME ON THUMB WHEEL SWITCHES AND ACTIVATE DIDI-TIME ON TAPE
- A CHECK TO ENSURE TRANSPORT MOVES WITHIN 10 SEC OF DESIRE TIME AND ENGAGES PLAY MODE
- A CHECK TO ENSURE SEVERAL CHANNEL LED ILLUMINATES

OSR JOB INVENTORY TASK STATEMENTS:

4 H0366 A ADJUST RADIO-TELETYPE SYSTEMS

TASK #: 02030

INSPECT OA-9034(V)/GYC-8(V) RADIO INTERFACE GROUP

DUTY CODE: X4

TASK STATUS: 3-KP

TIMES ANALYZED: 3

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, NONE

HOW OFTEN: 28, 168

OJT TRAINABLE: YES, YES

QTP ADEQUATE: NONE

TNG REFERENCE(S): T.O. MB-23-106-WC AND T.O. MB-23-105-WC

TTT: 3

SME OPINION: 3

EQUIPMENT:

CLEANING SUPPLIES

REFERENCES:

T.O. MB-23-106-WC

T.O. MB-23-105-WC

CONDITIONS CUES:

COND: ON EQUIPMENT

CUE: PMI

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI

304X4 J 0531 6.15 67.0 66.0 61.0 28.0 4.37 18.0

ACTIVITIES SKILL KNOWLEDGE:

- A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS
- A CLEAN INTERIOR AND EXTERIOR OF EQUIPMENT

OSR JOB INVENTORY TASK STATEMENTS:

4 J0531 A PERFORM CORROSION PREVENTION ON GROUND RADIO COMMUNICATIONS EQUIPMENT (GRCE)

TASK #: 02040  
 PERFORMANCE CHECK OA-9034(V)/GYC-8(V) RADIO INTERFACE GROUP  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: SERIOUS, NONE, NONE  
 HOW OFTEN: 28  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. MB-23-105-WC, T.O. MB-23-105(2),  
 T.O. MB-23-106-WC AND T.O. MB-23-106  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 DIGITAL MULTIMETER, AUDIO VOLTMETER, AUDIO OSCILLATOR  
 REFERENCES:  
 T.O. MB-23-105-WC  
 T.O. MB-23-105  
 T.O. MB-23-106-WC  
 T.O. MB-23-105(2)  
 T.O. MB-23-106  
 CONDITIONS CUES:  
 COND: ON EQUIPMENT  
 CUE: PMI  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 J 0518 5.30 43.0 42.0 41.0 20.0 5.34 12.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A CHECK POWER SUPPLY VOLTAGES ON WIRE LINE MODEM,  
 PROGRAMMABLE COMMUNICATIONS PROCESSOR, AND RADIO  
 INTERFACE  
 A CHECK ALIGNMENT VOLTAGES ON DIGITAL DATA MODEM CHAN-  
 NELS  
 A CHECK TRANSMISSION AUDIO LEVELS ON RADIO INTERFACE  
 CHANNELS  
 A CHECK VOLTAGES AND AUDIO LEVELS ON RADIO INTERFACE  
 GROUP LEVELS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 J0518 A BENCH CHECK POWER SUPPLY EQUIPMENT

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TASK #: 02050  
 ADJUST OA-9034(V)/GYC-8(V) RADIO INTERFACE GROUP QUANTIZED FREQUENCY MODULATION  
 (QFM) MODEM  
 DUTY CODE: X4  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: SIX MONTHS  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. MB-23-105(1)  
 TTT: 5  
 SME OPINION: 3  
 EQUIPMENT:  
 VOLTMETER, HAND TOOLS  
 REFERENCES:  
 T.O. MB-23-105(1)  
 CONDITIONS CUES:  
 COND: ON EQUIPMENT, EQUIPMENT RELEASED  
 CUE: FAILURE OF PMI CHECK, RESULTS OF TROUBLESHOOTING  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 J 0490 4.88 15.0 21.0 21.0 13.0 6.07 11.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A CHECK INDICATOR LIGHTS  
 A PERFORM SELF TEST  
 A ADJUST AUDIO OUT SIGNAL LEVEL  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 J0490 A ALIGN FREQUENCY MODULATION (FM) EQUIPMENT

TASK #: 02060  
 ADJUST OA-9034(V)/GYC-8(V) RADIO INTERFACE UNIT  
 DUTY CODE: X4  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, NONE  
 HOW OFTEN: SIX MONTHS  
 OJT TRAINABLE: YES, NO, BASIC ELECTRONICS  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. MB-23-106(1)  
 TTT: 5  
 SME OPINION: 3  
 EQUIPMENT:  
 AUDIO OSCILLATOR, AUDIO METER, MATCHING TRANSFORMER, HAND TOOLS  
 DIGITAL MULTIMETER  
 REFERENCES:  
 T.O. MB-23-106(1)  
 CONDITIONS CUES:  
 COND: ON EQUIPMENT, EQUIPMENT RELEASED  
 CUE: FAILURE OF PMI CHECK, RESULTS OF TROUBLESHOOTING  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 J 0490 4.88 15.0 21.0 21.0 13.0 6.07 11.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INJECT AUDIO SIGNAL TO RADIO INTERFACE UNIT  
 A CHECK DB LEVEL AND VOLTAGE ON RADIO INTERFACE UNIT  
 CIRCUIT CARD  
 A ADJUST AUDIO OUT SIGNAL AND VOLTAGE LEVELS  
 A CHECK AUDIO SIGNAL FROM QUANTIZED FREQUENCY MODULATION (QFM) MODEM  
 A ADJUST QFM AUDIO SIGNAL ON RADIO INTERFACE UNIT  
 CIRCUIT CARD  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 J0490 A ALIGN FREQUENCY MODULATION (FM) EQUIPMENT

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TASK #: 02070  
 TROUBLESHOOT OA-9034(V)/GYC-8(V) RADIO INTERFACE GROUP TO SUBASSEMBLY LEVEL  
 DUTY CODE: X4  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: SERIOUS, NONE, NONE  
 HOW OFTEN: 2 MONTHS  
 OJT TRAINABLE: YES, NO, BASIC ELECTRONICS, SYSTEM KNOWLEDGE  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. MB-23-106(1), T.O. MB-23-105(1),  
 T.O. MB-23-105(2)  
 TTT: 5  
 SME OPINION: 5  
 EQUIPMENT:  
 AUDIO OSCILLATOR, AC VOLTMETER, MATCHING TRANSFORMER, DIGITAL  
 MULTIMETER, OSCILLOSCOPE  
 REFERENCES:  
 T.O. MB-23-106(1)  
 T.O. MB-23-105(1)  
 T.O. MB-23-105(2)  
 CONDITIONS CUES:  
 COND: ON EQUIPMENT, EQUIPMENT RELEASED  
 CUE: USER COMPLAINT, FAILURE OF PMI PERFORMANCE CHECK, INABILITY  
 TO OVERRIDE SYSTEM  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 I 0424 2.78 2.0 4.0 4.0 2.0 6.03 7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A PERFORM SELF TESTS ON PROCESSOR, QFM MODEM, RADIO  
 INTERFACE UNIT, AND WIRE LINE MODEM  
 A PERFORM LOOPBACK TESTS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 I0424 K ISOLATE MALFUNCTIONS WITHIN DATA LINK SYSTEMS TO LRU

TASK #: 02080  
TROUBLESHOOT OA-9034(V)/GYC-8(V) RADIO INTERFACE GROUP FROM SUBASSEMBLY LEVEL  
TO CIRCUIT CARD LEVEL  
DUTY CODE: X4  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, NONE  
HOW OFTEN: 2 MONTHS  
OJT TRAINABLE: YES, NO, BASIC ELECTRONICS, SYSTEM KNOWLEDGE  
QYP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. MB-23-106(1), T.O. MB-23-105(1),  
T.O. MB-23-105(2)  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
AUDIO OSCILLATOR, AC VOLTMETER, MATCHING TRANSFORMER, DIGITAL  
MULTIMETER, OSCILLOSCOPE, ELECTROSTATIC DISCHARGE EQUIPMENT  
REFERENCES:  
T.O. MB-23-106(1)  
T.O. MB-23-105(1)  
T.O. MB-23-105(2)  
CONDITIONS CUES:  
COND: ON EQUIPMENT, EQUIPMENT RELEASED  
CUE: RESULTS OF TROUBLESHOOTING TO SUBASSEMBLY LEVEL  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 K 0603 2.82 22.0 22.0 19.0 8.0 5.04 7.0  
ACTIVITIES SKILL KNOWLEDGE:  
A PERFORM PMI PERFORMANCE CHECKS  
A REFERENCE T.O. TROUBLESHOOTING SIGNAL FLOW CHART TO  
ISOLATE FAULTY CIRCUIT CARD  
A REMOVE AND REPLACE CIRCUIT CARD  
OSR JOB INVENTORY TASK STATEMENTS:  
4 K0603 A REMOVE OR INSTALL REMOTE CONTROL UNIT DISCRETE PARTS

-----  
TASK #: 02090  
INSPECT MDL-850 R/T HARRIS LASERFAX  
DUTY CODE: X4  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: 7, 28  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): 850-RMM-G13 MAINTENANCE MANUAL FOR HARRIS  
LASERFAX RECORDER AND 850-TMM-G01 MAINTENANCE  
MANUAL FOR HARRIS LASERFAX TRANSMITTER  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
HANDTOOLS, BLOWER, CLEANING SUPPLIES, DIGITAL MULTIMETER,  
ANALOG MULTIMETER  
REFERENCES:  
850-RMM-G13 MAINTENANCE MANUAL FOR HARRIS LASERFAX RECORDER  
850-TMM-G01 MAINTENANCE MANUAL FOR HARRIS LASERFAX TRANSMITTER  
CONDITIONS CUES:  
COND: EQUIPMENT RELEASED  
CUE: PMI  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 I 0455 3.22 8.0 8.0 7.0 5.0 3.60 7.0  
ACTIVITIES SKILL KNOWLEDGE:  
A INSPECT RECORDER VISUALLY FOR OVERHEATING, LEAKAGE,  
CLEANLINESS CORROSION, COPY QUALITY AND PROPER CIRCUIT CARD INSERTION  
A LOAD FILM AND RAPID ADVANCE TO CHECK FOR BINDING OR SLIPPING  
A CHECK OUTPUT TEST COPY FOR CORRECT NUMBER OF STEPS AND DENSITY  
A ADJUST CONTRAST CONTROL AS REQUIRED  
A CLEAN OUTSIDE RECORDER SURFACE  
A CLEAN AIR FILTERS  
A REMOVE AND CLEAN THE PLATEN ASSEMBLY, DEVELOPER ROLLER,  
AND, CAPSTAN DRIVE  
A CHECK TRANSMITTER OUTPUT FOR CORRECT RESOLUTION AND DENSITY  
OSR JOB INVENTORY TASK STATEMENTS:  
4 I0455 A OPERATIONALLY CHECK FACSIMILE SYSTEMS

TASK #: 02100  
TROUBLESHOOT MDL-850 R/T HARRIS LASERFAX  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: WEEKLY  
OJT TRAINABLE: YES, NO, BASIC ELECTRONICS  
QTP ADEQUATE: NONE  
TNG REFERENCES: 850-RMM-G13 MAINTENANCE MANUAL FOR HARRIS  
LASERFAX RECORDER AND 850-TMM-G01 MAINTENANCE  
MANUAL FOR HARRIS LASERFAX TRANSMITTER  
TTT: 3  
SME OPINION: 5  
EQUIPMENT:  
DIGITAL VOLTMETER, OSCILLOSCOPE, FREQUENCY COUNTER,  
THERMO-COUPLE SENSOR, EXTENDER BOARD, LASER EYE PROTECTION  
GOGGLES, VARIABLE ATTENUATOR, FUNCTION GENERATOR, HANDTOOLS  
REFERENCES:  
850-RMM-G13 MAINTENANCE MANUAL FOR HARRIS LASERFAX RECORDER  
850-TMM-G01 MAINTENANCE MANUAL FOR HARRIS LASERFAX TRANSMITTER  
CONDITIONS CUES:  
COND: EQUIPMENT RELEASED, ON EQUIPMENT  
CUE: OPERATOR COMPLAINT  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 I 0425 3.72 4.0 5.0 5.0 4.0 5.98 11.0  
304X4 I 0476 2.10 5.0 4.0 4.0 3.0 4.05 2.0  
ACTIVITIES SKILL KNOWLEDGE:  
A RUN SELF TEST  
A CHECK FOR BINDING PARTS, FILM JAM  
A CHECK FOR BAD PHONE LINES  
A CHECK FILM PROCESSOR OPERATION  
A CHECK CIRCUIT CARD OPERATION  
OSR JOB INVENTORY TASK STATEMENTS:  
4 I0425 K ISOLATE MALFUNCTIONS WITHIN FACSIMILE SYSTEMS TO LRU  
4 I0476 A REMOVE OR INSTALL FACSIMILE EQUIPMENT LRU

-----  
TASK #: 02110  
REMOVE/REPLACE MDL-850 R/T HARRIS LASERFAX OPTICS BENCH  
DUTY CODE: X4  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: 6 MONTHS  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): 850-RMM-G13 MAINTENANCE MANUAL FOR HARRIS  
LASERFAX RECORDER  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
HANDTOOLS  
REFERENCES:  
850-RMM-G13 MAINTENANCE MANUAL FOR HARRIS LASERFAX RECORDER  
CONDITIONS CUES:  
COND: EQUIPMENT RELEASED, ON EQUIPMENT  
CUE: BLANK MAPS  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 I 0476 2.10 5.0 4.0 4.0 3.0 4.05 2.0  
ACTIVITIES SKILL KNOWLEDGE:  
A REMOVE PROCESSOR TRAY  
A REMOVE AND REPLACE OPTICS BENCH  
A REPLACE PROCESSOR TRAY  
OSR JOB INVENTORY TASK STATEMENTS:  
4 I0476 A REMOVE OR INSTALL FACSIMILE EQUIPMENT LRU

TASK #: 02120  
REMOVE AND REPLACE MDL-850 R/T LASERFAX PROCESSOR TRAY MECHANICAL COMPONENTS  
DUTY CODE: X4  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 3

TNOTES:  
CONSEQUENCES: MINOR, NONE, NONE  
HOW OFTEN: 6 MONTHS  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): 850-RMM-G13 MAINTENANCE MANUAL FOR HARRIS  
LASERFAX RECORDER AND 850-TMM-G01 MAINTENANCE  
MANUAL FOR HARRIS LASERFAX TRANSMITTER

TTT: 3  
SME OPINION: 3

EQUIPMENT:  
HANDTOOLS, HEX KEY TORQUE WRENCH

REFERENCES:  
850-TMM-G01 MAINTENANCE MANUAL FOR HARRIS LASERFAX TRANSMITTER  
850-RMM-G13 MAINTENANCE MANUAL FOR HARRIS LASERFAX RECORDER

CONDITIONS CUES:  
COND: EQUIPMENT RELEASED, IN SHOP  
CUE: OPERATOR COMPLAINT, RESULTS OF TROUBLESHOOT

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 M 0634 1.72 2.0 3.0 3.0 2.0 5.05 2.0

ACTIVITIES SKILL KNOWLEDGE:

A REMOVE PROCESSOR TRAY  
A REMOVE AND REPLACE BELTS, ROLLERS, FOAM PINCH ROLL-  
ERS, BEARINGS, GEARS, AND SCREWS  
A REMOVE OR REPLACE DC MOTORS

OSR JOB INVENTORY TASK STATEMENTS:

4 M0634 A REMOVE OR INSTALL FACSIMILE SYSTEM DISCRETE PARTS

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TASK #: 02130  
ALIGN MDL-850 R/T HARRIS LASERFAX  
DUTY CODE: X4  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 3

TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: 360  
OJT TRAINABLE: YES, NO  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): 850-RMM-G13 MAINTENANCE MANUAL FOR HARRIS  
LASERFAX RECORDER AND 850-TMM-G01 MAINTENANCE  
MANUAL FOR HARRIS LASERFAX TRANSMITTER

TTT: 5  
SME OPINION: 5

EQUIPMENT:  
DIGITAL VOLTMETER, OSCILLOSCOPE, FREQUENCY COUNTER, SWEEP TOOL  
FIXTURE THERMO-COUPLE SENSOR, EXTENDER BOARD, LASER EYE  
PROTECTION GOGGLES, VARIABLE ATTENUATOR, FUNCTION GENERATOR,  
HANDTOOLS

REFERENCES:  
850-RMM-G13 MAINTENANCE MANUAL FOR HARRIS LASERFAX RECORDER  
850-TMM-G01 MAINTENANCE MANUAL FOR HARRIS LASERFAX TRANSMITTER

CONDITIONS CUES:  
COND: EQUIPMENT RELEASED, ON EQUIPMENT  
CUE: PMI OR TROUBLESHOOTING RESULTS

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|------|------|------|------|------|------|-----|
| 304X4 K   | 0572 | 3.62 | 4.0  | 5.0  | 5.0  | 4.0  | 6.02 | 7.0 |
| 304X4 I   | 0455 | 3.22 | 8.0  | 8.0  | 7.0  | 5.0  | 3.80 | 7.0 |

ACTIVITIES SKILL KNOWLEDGE:

- A CHECK AND ADJUST LOW VOLTAGE POWER SUPPLY AS REQUIRED
- A CHECK AND ADJUST TEMPERATURE AND TIMING OF TEMPERATURE CONTROLLER AS REQUIRED
- A CHECK AND ADJUST TEMPERATURE WARNING INDICATOR AS REQUIRED
- A CHECK AND ADJUST OSCILLATOR AS REQUIRED
- A CHECK AND ADJUST LASER SWEEP AS REQUIRED
- A CHECK AND ADJUST STEP WEDGE OUTPUT AS REQUIRED
- A CHECK AND ADJUST BLACK HIGH OFFSET AS REQUIRED
- A CHECK AND ADJUST START TONE DECODER FREQUENCY AS REQUIRED
- A CHECK AND ADJUST STOP TONE DECODER FREQUENCY AS REQUIRED
- A CHECK AND ADJUST TONE CARRIER DETECTOR FREQUENCY AS REQUIRED
- A CHECK AND ADJUST AGC MULTIPLIER FEED THROUGH, DEMODULATOR AND COMPENSATED VIDEO OFFSET AS REQUIRED
- A CHECK AND ADJUST MTF
- A CHECK AND ADJUST FM DEMODULATOR AS REQUIRED
- A CHECK AND ADJUST NON-LINEAR AMPLIFIER FOR PAPER OR FILM AS REQUIRED
- A CHECK AND ADJUST CONTRAST AND MODULATOR POWER AS REQUIRED

OSR JOB INVENTORY TASK STATEMENTS:

- 4 I0455 A OPERATIONALLY CHECK FACSIMILE SYSTEMS
- 4 K0572 A BENCH CHECK FACSIMILE SYSTEMS

TASK #: 02140

ALIGN MDL-850 R/T HARRIS LASERFAX MECHANICAL COMPONENTS

DUTY CODE: X4

TASK STATUS: 3-OJT

TIMES ANALYZED: 3

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY

HOW OFTEN: 3 MONTHS

OJT TRAINABLE: YES, YES

QTP ADEQUATE: NONE

TNG REFERENCE(S): 850-RHM-G13 MAINTENANCE MANUAL FOR HARRIS LASERFAX RECORDER

TTT: 3

SME OPINION: 5

EQUIPMENT:

HEX KEY TORQUE WRENCH, HANDTOOLS, OSCILLOSCOPE, FREQUENCY COUNTER

REFERENCES:

850-RHM-G13 MAINTENANCE MANUAL FOR HARRIS LASERFAX RECORDER

CONDITIONS CUES:

COND: EQUIPMENT RELEASED, ON EQUIPMENT

CUE: PAPER OR FILM NOT FEEDING OR CUTTING CORRECTLY

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|------|------|------|------|------|------|-----|
| 304X4 K   | 0572 | 3.62 | 4.0  | 5.0  | 5.0  | 4.0  | 6.02 | 7.0 |
| 304X4 I   | 0455 | 3.22 | 8.0  | 8.0  | 7.0  | 5.0  | 3.80 | 7.0 |

ACTIVITIES SKILL KNOWLEDGE:

- A ADJUST PUSH ROD LENGTH
- A ADJUST CUT LEVER ANGLE
- A ADJUST CUTTER STOP POSITION
- A ADJUST VERTICAL BLADE SEPARATION
- A ADJUST PROCESSOR ROLLER RETAINER RING FOR CORRECT TENSION

OSR JOB INVENTORY TASK STATEMENTS:

- 4 K0572 A BENCH CHECK FACSIMILE SYSTEMS
- 4 I0455 A OPERATIONALLY CHECK FACSIMILE SYSTEMS



TASK #: 02150  
 INSPECT MD-1061 DIGITAL DATA MODEM  
 DUTY CODE: X4  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: 7, 28, 56, 168  
 OJT TRAINABLE: YES, NO BASIC ELECTRONICS REQUIRED  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31W2-2USC-1  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 CLEANING MATERIALS, AN/UGC-129 (TELETYPE), HANDTOOLS  
 REFERENCES:  
 T.O. 31W2-2USC-1  
 CONDITIONS CUES:  
 COND: INSIDE EQUIPMENT SHELTER, POWER ON, SAFETY OBSERVER  
 CUE: PMI, PRE-DEPLOYMENT INSPECTION, POST-DEPLOYMENT  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK  TE  1JOB  1ENL  5SKL  7SKL  TD  ATI  
 304X4  M  0632  2.62  20.0  23.0  22.0  12.0  3.66  7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 A CHECK POWER SUPPLY VOLTAGES  
 A PERFORM LOOP BACK TEST  
 A CHECK OUTPUT LEVELS  
 A CLEAN EQUIPMENT  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 M0632 A PERFORM OPERATOR MAINTENANCE ON MOBILE EQUIPMENT

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TASK #: 02160  
 TROUBLESHOOT MD-1061 DIGITAL DATA MODEM  
 DUTY CODE: X4  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: SERIOUS, NONE, NONE  
 HOW OFTEN: YEARLY  
 OJT TRAINABLE: YES, NO BASIC ELECTRONICS  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31W2-2USC-1  
 TTT: 3  
 SME OPINION: 5  
 EQUIPMENT:  
 FREQUENCY COUNTER, OSCILLOSCOPE, DIGITAL MULTIMETER, TRUE RMS  
 VOLTMETER, SOLDERING KIT, COMMON HANDTOOLS  
 REFERENCES:  
 T.O. 31W2-2USC-1  
 CONDITIONS CUES:  
 COND: INSIDE EQUIPMENT SHELTER, POWER ON, SAFETY OBSERVER  
 CUE: NO DATA OUTPUT, INDICATOR LIGHT, GARBLED DATA OUTPUT  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK  TE  1JOB  1ENL  5SKL  7SKL  TD  ATI  
 304X4  K  0545  2.82  9.0  11.0  10.0  7.0  6.33  7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DAMAGE  
 A ADJUST TRANSMITTER OUTPUT LEVEL  
 A ADJUST MASTER OSCILLATOR CENTER FREQUENCY LEVEL  
 A ADJUST FREQUENCY CORRECTOR PRINTED WIRING BOARD  
 A ADJUST RECEIVER INPUT LEVEL  
 A ADJUST CODEWORD SYNC TONE DEMODULATOR  
 K ISOLATE MALFUNCTIONS TO POWER SUPPLIES  
 K ISOLATE MALFUNCTIONS TO CONTROL AND INDICATOR CIR-  
 CUIITS  
 K ISOLATE MALFUNCTIONS TO PRINTED WIRING BOARDS (CIR-  
 CUIT CARDS)  
 A REMOVE AND REPLACE DEFFECTIVE SUBASSEMBLIES  
 A REMOVE AND REPLACE CIRCUIT CARDS  
 A PERFORM LOOP BACK TESTS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 K0545 A ALIGN ANTENNA TUNING UNIT DISCRETE PARTS

TASK #: 02170  
 INSPECT AN/MRC-107 MOBILE HF/VHF/UHF COMMUNICATIONS SYSTEM  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 1  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: 56  
 OJT TRAINABLE: YES, NO, BASIC ELECTRONICS  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-2MRC107-4 AND T.O. 31R2-2MRC107-6WC  
 TTT: 5  
 SME OPINION: 5  
 EQUIPMENT:  
 POWER SUPPLY, SIGNAL GENERATOR (RF AND AUDIO), DISTORTION ANALYZER, UHF TEST SET, VHF TEST SET, ALIGNMENT TOOLS, WATTMETER, ANTENNA DUMMY LOAD, AUDIO POWER METER, DIGITAL MULTIMETER, VTVM, TUBE TESTER, OSCILLOSCOPE, CLEANING SUPPLIES, FREQUENCY COUNTER, REFLECTOMETER, HANDTOOLS, ANALOG MULTIMETER  
 REFERENCES:  
 T.O.31R2-2MRC107-4  
 T.O.31R2-2MRC107-6WC  
 CONDITIONS CUES:  
 COND: INDOORS  
 CUE: PMI  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:    TASK    TE    LJOB  LENL  5SKL  7SKL  TD    ATI  
 304X4 J 0493 4.95 37.0 35.0 29.0 11.0 6.38 12.0  
 304X4 J 0499 6.78 63.0 60.0 51.0 26.0 6.13 18.0  
 304X4 J 0500 6.72 50.0 47.0 40.0 22.0 6.10 12.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 A CLEAN EQUIPMENT  
 A CHECK RADIO GROUPS TRANSMIT OPERATION  
 A CHECK RADIO GROUPS RECEIVE OPERATION  
 A CHECK RADIO GROUPS AUDIO OPERATION  
 A PERFORM OPERATION CHECK OF AN/MRC-107 TRANSCEIVER  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 J0493 A ALIGN MULTIPLE CHANNEL TRANSMISSION EQUIPMENT  
 4 J0499 A ALIGN UHF EQUIPMENT  
 4 J0499 A ALIGN UHF EQUIPMENT  
 4 J0500 A ALIGN VFRY HIGH FREQUENCY (VHF) EQUIPMENT

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TASK #: 02180  
 TROUBLESHOOT AN/MRC-107 MOBILE HF/VHF/UHF COMMUNICATIONS SYSTEM  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 1  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: ? (AS REQUIRED)  
 OJT TRAINABLE: YES, NO, BASIC ELECTRONICS  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-2MRC107-4  
 TTT: 5  
 SME OPINION: 5  
 EQUIPMENT:  
 POWER SUPPLY, SIGNAL GENERATOR (RF AND AUDIO), DISTORTION ANALYZER, UHF TEST SET, VHF TEST SET, ALIGNMENT TOOLS, WATTMETER, ANTENNA DUMMY LOAD, AUDIO POWER METER, DIGITAL MULTIMETER, VTVM, TUBE TESTER, OSCILLOSCOPE, HANDTOOLS, ANALOG MULTIMETER, FREQUENCY COUNTER, SPECTRUM ANALYZER, SOLDERING KIT  
 REFERENCES:  
 T.O. 31R2-2MRC107-4  
 CONDITIONS CUES:  
 COND: INDOORS OR IN FIELD  
 CUE: USER COMPLAINT OR RESULT OF PMI  
 JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0375 | 5.22 | 50.0 | 48.0 | 41.0 | 19.0 | 6.61 | 12.0 |
| 304X4 H   | 0383 | 5.95 | 60.0 | 63.0 | 60.0 | 35.0 | 4.19 | 12.0 |
| 304X4 I   | 0462 | 3.40 | 18.0 | 18.0 | 18.0 | 10.0 | 3.31 | 7.0  |

ACTIVITIES SKILL KNOWLEDGE:

- A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS
- A PERFORM OPERATION CHECK OF AN/MRC-107 TRANSCEIVER
- A ISOLATE FAULTY LRU
- A REMOVE AND REPLACE WITH KNOWN GOOD LRU WHEN IN FIELD
- A ISOLATE FAULTY COMPONENT
- A REMOVE AND REPLACE FAULTY COMPONENT WHEN IN GARRISON
- A PERFORM OPERATION CHECK OF AN/HRC-107 TRANSCEIVER

OSR JOB INVENTORY TASK STATEMENTS:

- 4 H0383 A OPERATIONALLY CHECK HF EQUIPMENT
- 4 I0462 A OPERATIONALLY CHECK PHONE PATCH SYSTEMS
- 4 H0375 K ISOLATE MALFUNCTIONS WITHIN MULTIPLE CHANNEL EQUIPMENT

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TASK #: 02190  
 INSPECT AM/MRC-117 RADIO SET  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 3

TNOTES:

- CONSEQUENCES: SERIOUS, DAMAGE, INJURY
- HOW OFTEN: 7, 28
- OJT TRAINABLE: YES, NO, TEST EQUIPMENT, BASIC ELECTRONICS
- QTP ADEQUATE: NONE
- TNG REFERENCE(S): T.O. 31R2-2-141
- TTT: 5
- SME OPINION: 5

EQUIPMENT:

- RF VOLTMETER OR WATTMETER, DUMMY LOAD, DIGITAL MULTIMETER, HANDTOOLS, ANALOG MULTIMETER

REFERENCES:

- T.O. EISD CEMI 600-19

CONDITIONS CUES:

- COND: HEAVY WINDS MAY LIMIT PHI
- CUE: PHI

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0391 | 5.47 | 42.0 | 43.0 | 40.0 | 21.0 | 4.29 | 12.0 |
| 304X4 M   | 0630 | 2.30 | 23.0 | 25.0 | 23.0 | 14.0 | 3.98 | 7.0  |

ACTIVITIES SKILL KNOWLEDGE:

- A CHECK METER READINGS
- A CHECK RADIO OPERATION
- A CHECK VOLTAGE REGULATOR AND BATTERY VOLTAGES
- A CHECK BANDPASS FILTER VOLTAGES
- A CHECK BANDPASS FILTER OPERATION
- A CHECK TRANSCEIVER POWER OUTPUT
- A CHECK ANTENNA COUPLER INTERLOCK OPERATION
- A CHECK ANTENNA SWITCH ASSEMBLY OPERATION
- A CHECK ANTENNA BASE INPUT TO OUTPUT CONTINUITY
- A CHECK POWER CONVERTER VOLTAGES
- A CHECK BATTERY WATER LEVEL
- A PERFORM GENERAL CLEANING
- A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS

OSR JOB INVENTORY TASK STATEMENTS:

- 4 M0630 A OPERATIONALLY CHECK MOBILE ANTENNA SYSTEMS
- 4 H0391 A OPERATIONALLY CHECK SIDE BAND EQUIPMENT

TASK #: 02200  
TROUBLESHOOT AN/MRC-117 RADIO SET TO MAJOR COMPONENT LEVEL  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 3  
NOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: SEMI-ANNUALLY  
OJT TRAINABLE: YES, NO, TEST EQUIPMENT, BASIC ELECTRONICS  
BASIC RADIO COMPONENT FUNCTIONS  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31R2-2-141  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
DIGITAL MULTIMETER, DUMMY LOAD, SOLDERING KIT, ANALOG MULTIMETER  
REFERENCES:  
T.O. 31R2-2-141  
CONDITIONS CUES:  
COND: MAY BE TIME CRITICAL, IN FIELD  
CUE: NO RF OUTPUT, LOW RF OUTPUT, LOW SENSITIVITY, NO POWER  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:    TASK    TE    1JOB   1ENL   5SKL   7SKL   TD    ATI  
304X4 H 0373   6.45 56.0 60.0 57.0 30.0 6.48 18.0  
304X4 H 0377   6.07 43.0 44.0 41.0 20.0 6.55 12.0  
ACTIVITIES SKILL KNOWLEDGE:  
A CHECK RF OUTPUT OF RADIOS  
A CHECK RADIO INPUT VOLTAGE  
A CHECK ELECTRICAL CABINET VOLTAGES  
A CHECK ELECTRICAL CABINET CONTINUITY  
A REMOVE AND REPLACE MAJOR SUBASSEMBLIES, MINOR PARTS,  
AND COMPONENTS  
OSR JOB INVENTORY TASK STATEMENTS:  
4 H0373 K ISOLATE MALFUNCTIONS WITHIN HIGH FREQUENCY (HF)  
EQUIPMENT  
4 H0377 K ISOLATE MALFUNCTIONS WITHIN SIDE BAND EQUIPMENT

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TASK #: 02210  
TROUBLESHOOT AN/MRC-117 RADIO SET TO MODULE AND INDIVIDUAL COMPONENT LEVEL  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
NOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: SEMI-ANNUALLY  
OJT TRAINABLE: YES, NO, TEST EQUIPMENT, BASIC ELECTRONICS  
BASIC RADIO COMPONENT FUNCTIONS  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31R2-4-42-2  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
SIGNAL GENERATOR, FREQUENCY COUNTER, VTVM, DIGITAL MULTIMETER,  
DUMMY LOAD, DISTORTION ANALYZER, THROUGH-LINE WATTMETER, T-  
CONNECTOR, AUDIO METER, CAPACITOR DIVIDER, OSCILLOSCOPE,  
678P1 TEST SET, AUDIO OSCILLATOR, ATTENUATOR, VARIABLE DC POWER  
SUPPLY, RF MILLIVOLTMETER, ANALOG MULTIMETER, SOLDERING KIT  
REFERENCES:  
T.O. 31R2-4-42-2  
CONDITIONS CUES:  
COND: MAY BE TIME CRITICAL, IN SHOP  
CUE: NO RF OUTPUT, NO AUDIO OUTPUT, NO VOLTAGE LOW OR HIGH,  
FREQUENCY DRIFT  
JOB STANDARDS:  
IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0373 | 6.45 | 56.0 | 60.0 | 57.0 | 30.0 | 6.48 | 18.0 |
| 304X4 N   | 0648 | 1.52 | .0   | 1.0  | 1.0  | 1.0  | 6.71 | 2.0  |

ACTIVITIES SKILL KNOWLEDGE:

- A CHECK FRONT PANEL METER VOLTAGES
- A CHECK LOW VOLTAGE POWER SUPPLY VOLTAGES
- A CHECK AUDIO AMPLIFIER VOLTAGES
- A CHECK IF TRANSLATOR VOLTAGES
- A CHECK IF TRANSLATOR AUDIO SIGNAL AND IF FREQUENCY
- A CHECK RF TRANSLATOR VOLTAGES
- A CHECK RF TRANSLATOR METER READINGS
- A CHECK RF TRANSLATOR FREQUENCY
- A CHECK POWER AMPLIFIER VOLTAGES
- A CHECK POWER AMPLIFIER METER READINGS
- A CHECK RECEIVER SENSITIVITY
- A CHECK IF AMPLIFIER VOLTAGES
- A REMOVE AND REPLACE INDICATED MODULE
- K ISOLATE CIRCUIT THROUGH AUDIO/IF/RF SIGNAL INJECTION AND CIRCUIT TRACING
- A REMOVE AND REPLACE INDICATED COMPONENT

OSR JOB INVENTORY TASK STATEMENTS:

- 4 H0373 K ISOLATE MALFUNCTIONS WITHIN HIGH FREQUENCY (HF) EQUIPMENT
- 4 N0648 K ISOLATE MALFUNCTIONS WITHIN RADIO TYPE MAINTENANCE NETWORK (RTMN) OR COMPONENTS

TASK #: 02220

ALIGN OR ADJUST AN/MRC-117 RADIO SET

DUTY CODE: X4

TASK STATUS: 3-KP

TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY

HOW OFTEN: SEMI-ANNUALLY

OJT TRAINABLE: YES, NO, TEST EQUIPMENT, BASIC ELECTRONICS BASIC RADIO COMPONENT FUNCTIONS

QTP ADEQUATE: NONE

TNG REFERENCE(S): T.O. 12R2-4-42-2

TTT: 5

SME OPINION: 5

EQUIPMENT:

SIGNAL GENERATOR, FREQUENCY COUNTER, VTVM, DIGITAL MULTIMETER, DUMMY LOAD, DISTORTION ANALYZER, THROUGH-LINE WATTMETER, T-CONNECTOR, AUDIO METER, CAPACITOR DIVIDER, OSCILLOSCOPE, 678PI TEST SET, AUDIO OSCILLATOR, ATTENUATOR, VARIABLE DC POWER SUPPLY, RF MILLI-VOLTMETER, ANALOG MULTIMETER

REFERENCES:

T.O. 12R2-4-42-2

CONDITIONS CUES:

COND: MAY BE TIME CRITICAL, IN SHOP, ENTIRE UNIT IS REPLACED IN FIELD

CUE: RESULTS OF TROUBLESHOOTING

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 J   | 0494 | 2.25 | 1.0  | 2.0  | 2.0  | 2.0  | 5.71 | 7.0  |
| 304X4 J   | 0497 | 5.97 | 41.0 | 43.0 | 39.0 | 21.0 | 6.38 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:

- A ADJUST OSCILLATORS
- A ADJUST VARIABLE CAPACITORS
- A ADJUST VARIABLE INDUCTORS (COIL)
- A ADJUST VARIABLE RESISTORS
- A ALIGN ELECTROMECHANICAL ASSEMBLIES

OSR JOB INVENTORY TASK STATEMENTS:

- 4 J0494 A ALIGN RADIO-TELEGRAPH EQUIPMENT
- 4 J0497 A ALIGN SIDE BAND EQUIPMENT

TASK #: 02230  
PERFORMANCE TEST AN/MRC-117 RADIO SET 618T TRANSCEIVER  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: SEMI ANNUALLY  
OJT TRAINABLE: YES, NO, TEST EQUIPMENT, BASIC ELECTRONICS  
BASIC RADIO COMPONENT FUNCTIONS

QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 12R2-4-42-2  
TTT: 5

SME OPINION: 5

EQUIPMENT:

SIGNAL GENERATOR, FREQUENCY COUNTER, VTVH, DIGITAL MULTIMETER,  
DUMMY LOAD, DISTORTION ANALYZER, THROUGH-LINE WATTMETER, T-  
CONNECTOR, AUDIO METER, CAPACITOR DIVIDER, O-SCOPE, 678P1 TEST  
SET, AUDIO OSCILLATOR, ATTENUATOR, VARIABLE DC POWER SUPPLY,  
ANALOG MULTIMETER

REFERENCES:

T.O. 12R2-4-42-2

CONDITIONS CUES:

COND: MAY BE TIME CRITICAL, IN SHOP ONLY  
CUE: FOLLOWS ANY REPAIR ACTION

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |      |
|-----------|------|------|------|------|------|------|------|------|------|
| 304X4     | H    | 0391 | 5.47 | 42.0 | 43.0 | 40.0 | 21.0 | 4.29 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:

- A CHECK POWER SUPPLY AND POWER AMPLIFIER PLATE CURRENT
- A CHECK LOW VOLTAGE POWER SUPPLY OUTPUT
- A CHECK MHZ FREQUENCY STABILIZER
- A CHECK VARIABLE FREQUENCY OSCILLATOR TRACKING
- A CHECK VFO CAPTURE RANGE
- A CHECK DIGIT OSCILLATOR
- A CHECK RECEIVER AM GAIN AND SENSITIVITY
- A CHECK RECEIVER SSB GAIN AND SENSITIVITY,
- A CHECK RECEIVER AGC CHARACTERISTICS, SELECTIVITY, AND  
AUDIO DISTORTION
- A CHECK TRANSMITTER AM POWER OUTPUT AND RESIDUAL OUTPUT  
VOLTAGE
- A CHECK TRANSMITTER SSB POWER OUTPUT, FREQUENCY ACCURA-  
CY, AND MODULATION CHARACTERISTICS
- A CHECK SYSTEM INTERFACE +260 VOLT OUTPUT, 115V/400HZ  
OUTPUT, 27.5 VOLT OUTPUT, RECYCLE LINE OUTPUT AND  
TUNE POWER
- A CHECK RECEIVER AUDIO OUTPUT
- A CHECK SIDETONE OUTPUT LEVEL

OSR JOB INVENTORY TASK STATEMENTS:

4 H0391 A OPERATIONALLY CHECK ~~REPAIR~~ BAND EQUIPMENT

TASK #: 02240  
PERFORMANCE TEST AN/MRC-117 RADIO SET 490T-1 ANTENNA COUPLER  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: ANNUALLY  
OJT TRAINABLE: YES, NO, TEST EQUIPMENT, BASIC ELECTRONICS  
BASIC RADIO COMPONENT FUNCTIONS

QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 12R2-4-92-3  
TTT: 5

SME OPINION: 5

EQUIPMENT:

DUMMY LOAD, RF VOLTMETER, DIGITAL MULTIMETER, ANALOG MULTIMETER

REFERENCES:

T.O. 12R2-4-92-3

CONDITIONS CUES:

COND: MAY BE TIME CRITICAL, IN SHOP ONLY  
CUE: FOLLOWS ANY REPAIR ACTION

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 K 0565 4.00 29.0 29.0 27.0 14.0 5.65 11.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A PERFORM GO/NO GO FUNCTIONAL TESTS  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 A CHECK VARICOIL OPERATION  
 A BENCH TEST ANTENNA COUPLER  
 A CHECK VSWR  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 K0565 A BENCH CHECK ANTENNA COUPLERS

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TASK #: 02250  
 PREPARE AN/MRC-117 RADIO SET FOR MOBILE OPERATION  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: ANNUALLY  
 OJT TRAINABLE: YES, NO, TEST EQUIPMENT, BASIC ELECTRONICS  
 BASIC RADIO COMPONENT FUNCTIONS  
 QYP ADEQUATE: NONE  
 TNG REFERENCE(S): LOCAL CHECKLIST  
 TTT: 5  
 SME OPINION: 5  
 EQUIPMENT:  
 DUMMY LOAD, DIGITAL MULTIMETER, HAND TOOLS, ANALOG MULTIMETER  
 REFERENCES:  
 LOCAL CHECKLIST  
 CONDITIONS CUES:  
 COND: MAY BE TIME CRITICAL, IN FIELD  
 CUE: CONTINGENCY ACTION  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 H 0383 5.95 60.0 63.0 60.0 35.0 4.19 18.0  
 304X4 H 0391 5.47 42.0 43.0 40.0 21.0 4.29 12.0  
 304X4 H 0632 2.62 20.0 23.0 22.0 12.0 3.66 7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A SITE AN/MRC-117 RADIO SET  
 A CONNECT PU666/G POWER UNIT  
 A DETERMINE ANTENNA TYPE REQUIRED  
 A CONSTRUCT REQUIRED ANTENNA  
 OSR JOB INVENTORY STATEMENTS:  
 4 H0383 A OPERATIONALLY CHECK HF EQUIPMENT  
 4 H0632 A PERFORM OPERATOR MAINTENANCE ON MOBILE EQUIPMENT  
 4 H0391 A OPERATIONALLY CHECK SIDE BAND EQUIPMENT

TASK #: 02260  
INSPECT OJ-314 SYSTEM  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: 28, 84, 168, 336  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONICS FUNDAMENTALS)  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31W2-2FSC-157, T.O. 31W2-2FSC-167,  
AND T.O. AFCC-CEMI321-32

TTT: 5

SME OPINION: 5

PERFORMANCE OF OPERATION CHECKS MAY REQUIRE EQUIPMENT SYSTEM ALIGNMENTS. SEVERAL DIFFERENT MODELS OF OJ-314 EXIST. PRIMARY DIFFERENCES ARE SIZE TO CONTROL TOWER SIZE AND SYSTEM UPGRADES FOR NEWER EQUIPMENT.

EQUIPMENT:

TOOL KIT, CABLES AND ADAPTER, AUDIO OSCILLATOR, ANALOG MULTIMETER, DISTORTION ANALYZER, DIGITAL VOLTMETER, OSCILLOSCOPE, BRIDGING TRANSFORMER, AC-VTVM (VACUUM TUBE VOLTMETER), TELEPHONE TEST SET, AUDIO TEST SET, ELECTRONIC CIRCUIT TEST SET (TS-3822 AND TS-3679) CAPACITANCE DECADE, HANDSET, ELECTRONIC COUNTER, VACUUM CLEANER, CLEANING SUPPLIES, FREQUENCY COUNTER

REFERENCES:

T.O. 31W2-2FSC-157  
T.O. 31W2-2FSC-167  
T.O. AFCC-CEMI321-32

CONDITIONS CUES:

COND: INDOORS, POWER ON/OFF, 2-MAN  
CUE: PMI, USER COMPLAINT

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0389 | 3.53 | 13.0 | 13.0 | 13.0 | 7.0  | 4.18 | 7.0  |
| 304X4 I   | 0449 | 2.27 | 7.0  | 6.0  | 5.0  | 3.0  | 3.54 | 7.0  |
| 304X4 I   | 0452 | 4.42 | 41.0 | 37.0 | 31.0 | 15.0 | 3.44 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:

A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
A CLEAN INTERIOR AND EXTERIOR OF CABINETS AND COMMUNICATIONS CONSOLE POSITIONS  
A PERFORM RADIO INDICATOR LAMP TEST  
A PERFORM ILLUMINATION CONTROL PERFORMANCE TEST  
A PERFORM ALARM CIRCUIT TEST  
A PERFORM FUSE INDICATOR LAMP TEST  
A PERFORM INTERCOM CIRCUIT TEST  
A PERFORM MONITOR CIRCUIT TEST  
A PERFORM PBX LINE CHECK  
A PERFORM AUTOMATIC SIGNALING UNIT TEST  
A PERFORM VOICE PAGE LINE TEST  
A PERFORM SELECT SIGNALING LINE TEST  
A PERFORM REQUEST/ACKNOWLEDGE CIRCUIT TEST  
A PERFORM REQUEST/ACKNOWLEDGE INTERCOM AUDIO TEST  
A PERFORM BACKUP BATTERY OPERATIONAL TEST  
A PERFORM POWER SUPPLY PERFORMANCE TEST  
A PERFORM TRANSMIT SYSTEM PERFORMANCE TEST  
A PERFORM RECEIVE SYSTEM PERFORMANCE TEST  
A PERFORM RECEIVER AMPLIFIER UNIT 121E PERFORMANCE TEST  
A PERFORM HEADPHONE AMPLIFIER PERFORMANCE TEST  
A PERFORM SPEAKER AMPLIFIER PERFORMANCE TEST  
A PERFORM MONITOR AMPLIFIER PERFORMANCE TEST  
A PERFORM MICROPHONE AMPLIFIER PERFORMANCE TEST  
A PERFORM LINE AMPLIFIER/TERMINATOR UNIT TRANSMIT TEST

A PERFORM LINE AMPLIFIER/TERMINATOR UNIT RECEIVE TEST  
A SERVICE POWER DISTRIBUTION PANEL NICAD BATTERIES  
S FABRICATE CABLES AND CONNECTORS  
S FABRICATE TEST BOXES

OSR JOB INVENTORY TASK STATEMENTS:

4 I0449 A OPERATIONALLY CHECK AUTOMATIC SWITCHBOARDS  
4 I0452 A OPERATIONALLY CHECK COMMUNICATIONS PATCH PANELS  
4 H0389 A OPERATIONALLY CHECK RADIO-TELEPHONE SYSTEMS



TASK #: 02270  
TROUBLESHOOT OJ-314 CONSOLE POSITIONS  
DUTY CODE: X4  
TASK STATUS: 3 OJT  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: WEEKLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31W2-2FSC-157 AND T.O. 31W2-2FSC-167  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
TOOL KIT, CABLES AND ADAPTER, AUDIO OSCILLATOR, ANALOG  
MULTIMETER, DISTORTION ANALYZER, DIGITAL VOLTMETER, OSCILLOSCOPE,  
BRIDGING TRANSFORMER, AC-VTVM (VACUUM TUBE VOLTMETER), TELEPHONE  
TEST SET, AUDIO TEST SET, ELECTRONIC CIRCUIT TEST SET (TS-3822  
AND TS-3679) CAPACITANCE DECADE, HANDSET, ELECTRONIC COUNTER,  
SOLDERING KIT, CAPACITOR TESTER, SIGNAL GENERATOR, FREQUENCY  
COUNTER, CAPACITOR SUBSTITUTION BOX, DC RESTORER,  
REFERENCES:  
T.O. 31W2-2FSC-157  
T.O. 31W2-2FSC-167  
CONDITIONS CUES:  
COND: IN-TOWER, POWER ON/OFF, SYSTEM PARTIALLY DISABLED, 2-MAN  
CUE: PHI FINDING, USER COMPLAINT  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 G 0282 2.33 10.0 10.0 9.0 6.0 5.75 7.0  
304X4 G 0290 2.38 12.0 12.0 10.0 7.0 4.67 7.0  
ACTIVITIES SKILL KNOWLEDGE:  
A CHECK INDICATOR LAMPS, FUSES, AND ALARM PANEL FOR  
TROUBLE INDICATIONS  
A PERFORM OPERATION CHECK OF MALFUNCTIONING EQUIPMENT  
AND SUBASSEMBLIES  
A CHECK EXTENT OF PROBLEM ACROSS MULTIPLE POSITIONS  
K ISOLATE FAULTY SUBASSEMBLY, MODULE, CIRCUIT CARD, OR  
MINOR PART  
A REMOVE/REPLACE FAULTY MODULE, CIRCUIT CARD, OR PART  
K ISOLATE FAULTY COMPONENT ON CIRCUIT CARD  
A REMOVE AND REPLACE FAULTY CIRCUIT CARD COMPONENT  
A CHECK VOLTAGES AND AUDIO FREQUENCY DISTORTION  
K READ AND FOLLOW FLOW CHARTS AND SCHEMATIC DIAGRAMS  
FOR FAULT ISOLATION AND TROUBLESHOOTING  
OSR JOB INVENTORY TASK STATEMENTS:  
4 G0282 A INSTALL COMMUNICATIONS PATCH PANELS  
4 G0290 A INSTALL INTERCOM SYSTEMS

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TASK #: 02280  
ALIGN/ADJUST OJ-314 CONSOLE  
DUTY CODE: X4  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: BI-ANNUALLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31W2-2FSC-157 AND T.O. 31W2-2FSC-167  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
TOOL KIT, CABLES AND ADAPTER, AUDIO OSCILLATOR, ANALOG  
MULTIMETER, DISTORTION ANALYZER, DIGITAL VOLTMETER, OSCILLOSCOPE,  
BRIDGING TRANSFORMER, AC-VTVM (VACUUM TUBE VOLTMETER), TELEPHONE  
TEST SET, AUDIO TEST SET  
REFERENCES:  
T.O. 31W2-2FSC-157  
T.O. 31W2-2FSC-167  
CONDITIONS CUES:  
COND: IN-TOWER, POWER ON, SYSTEM PARTIALLY DISABLED, 2-MAN  
CUE: PHI FINDING, USER COMPLAINT, COMPONENT REPLACEMENT  
JOB STANDARDS:  
IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|------|------|------|------|------|------|-----|
| 304X4 I   | 0410 | 3.38 | 14.0 | 17.0 | 16.0 | 9.0  | 4.01 | 7.0 |
| 304X4 K   | 0555 | 2.48 | 9.0  | 10.0 | 9.0  | 5.0  | 5.14 | 7.0 |
| 304X4 I   | 0415 | 2.92 | 10.0 | 11.0 | 11.0 | 5.0  | 4.24 | 7.0 |

ACTIVITIES SKILL KNOWLEDGE:

- A ALIGN/ADJUST CONSOLE AMPLIFIER MINOR AMPLIFIER GAIN
- A ALIGN/ADJUST CONSOLE AMPLIFIER RECEIVE AMPLIFIER GAIN
- A ALIGN/ADJUST RECEIVE AMPLIFIER LEVEL CONTROL
- A ALIGN/ADJUST RECEIVE AMPLIFIER BOX AMPLIFIER
- A ALIGN/ADJUST LINE AMPLIFIER TERMINATION UNIT TRANSMIT
- A ALIGN/ADJUST LINE AMPLIFIER TERMINATION UNIT RECEIVE
- A ALIGN/ADJUST LINE AMPLIFIER TERMINATION UNIT SIDETONE
- A ALIGN/ADJUST HYBRID BALANCE NETWORK VOICE PAGE AND AUTO SIGNALING
- A ALIGN/ADJUST HYBRID BALANCE NETWORK TRANSMIT AUDIO RETURN
- A ALIGN/ADJUST HYBRID BALANCE NETWORK SIGNALING UNIT
- K READ AND FOLLOW FLOW CHARTS AND SCHEMATIC DIAGRAMS FOR FAULT ISOLATION AND TROUBLESHOOTING

OSR JOB INVENTORY TASK STATEMENTS:

- 4 I0410 A ADJUST INTERCOM SYSTEMS
- 4 K0555 A ALIGN INTERCOM EQUIPMENT DISCRETE PARTS
- 4 I0415 A ALIGN INTERCOM SYSTEMS

TASK #: 02290

TROUBLESHOOT OJ-314 POWER SUPPLIES

DUTY CODE: X4

TASK STATUS: 3-KP

TIMES ANALYZED: 2

NOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: INDEFINITE  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31W2-2FSC-157 AND T.O. 31W2-2FSC-167  
 TTT: 5  
 SME OPINION: 5

EQUIPMENT:

TOOL KIT, VACUUM TUBE VOLTMETER (VTVM), OSCILLOSCOPE, DIGITAL MULTIMETER

REFERENCES:

T.O. 31W2-2FSC-157  
 T.O. 31W2-2FSC-167

CONDITIONS CUES:

COND: IN-TOWER, POWER ON/OFF, 2-MAN, EQUIPMENT OFF-LINE  
 CUE: PMI FINDING, USER COMPLAINT, POWER SUPPLY FAILURE

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 J   | 0518 | 5.30 | 43.0 | 42.0 | 41.0 | 20.0 | 5.34 | 12.0 |
| 304X4 J   | 0537 | 4.73 | 42.0 | 44.0 | 41.0 | 20.0 | 4.81 | 12.0 |
| 304X4 K   | 0593 | 3.67 | 32.0 | 31.0 | 30.0 | 13.0 | 4.98 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:

- A CHECK AUDIO ALARM, CONSOLE BUTTON LIGHTS, AND POWER SUPPLY METERS (FOR LOW/NO INDICATION)
- A CHECK EXTENT OF PROBLEM ACROSS CONSOLE POSITIONS
- A CHECK NEGATIVE/POSITIVE OUTPUT VOLTAGES OF POWER SUPPLY SUBASSEMBLIES
- K READ AND FOLLOW FLOW CHARTS AND SCHEMATIC DIAGRAMS FOR FAULT ISOLATION AND TROUBLESHOOTING
- K ISOLATE FAULTY NEGATIVE 27 VOLT SYSTEM
- K ISOLATE FAULTY NEGATIVE 12 VOLT SYSTEM
- K ISOLATE FAULTY POSITIVE 27 VOLT SYSTEM
- A REMOVE/REPLACE POWER SUPPLY SUPPLY COMPONENTS

OSR JOB INVENTORY TASK STATEMENTS:

- 4 J0518 A BENCH CHECK POWER SUPPLY EQUIPMENT
- 4 J0537 A REMOVE OR INSTALL POWER SUPPLY EQUIPMENT PARTS
- 4 K0593 A REMOVE OR INSTALL EQUIPMENT POWER SUPPLY UNIT DISCRETE PARTS

TASK #: 02300  
 ALIGN/ADJUST OJ-314 POWER SUPPLIES  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 2

TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: INDEFINITE  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31W2-2FSC-157 AND T.O. 31W2-2FSC-167  
 TTT: 5  
 SNE OPINION: 5

EQUIPMENT:  
 TOOL KIT, DIGITAL VOLTMETER, VACUUM TUBE VOLTMETER (VTVM),  
 OSCILLOSCOPE

REFERENCES:  
 T.O. 31W2-2FSC-157  
 T.O. 31W2-2FSC-167

CONDITIONS CUES:  
 COND: IN-TOWER, POWER ON/OFF, EQUIPMENT OFF-LINE, 2-MAN  
 CUE: PMI FINDING, USER COMPLAINT, POWER SUPPLY COMPONENT  
 REPLACEMENT

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK   | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|--------|------|------|------|------|------|------|------|
| 304X4     | K 0579 | 4.55 | 44.0 | 43.0 | 39.0 | 18.0 | 5.05 | 12.0 |
| 304X4     | K 0548 | 3.40 | 11.0 | 12.0 | 12.0 | 8.0  | 5.43 | 7.0  |
| 304X4     | K 0549 | 2.45 | 7.0  | 6.0  | 5.0  | 3.0  | 5.43 | 7.0  |

ACTIVITIES SKILL KNOWLEDGE:  
 A ALIGN/ADJUST BATTERY FLOAT VOLTAGE  
 A ALIGN/ADJUST EQUALIZE VOLTAGE  
 A ALIGN/ADJUST POWER INVERTER  
 A ALIGN/ADJUST LOW VOLTAGE DISCONNECT

OSR JOB INVENTORY TASK STATEMENTS:  
 4 K0548 A ALIGN AUXILIARY EQUIPMENT POWER SUPPLY UNIT DISCRETE  
 PARTS  
 4 K0549 A ALIGN BACKUP POWER EQUIPMENT DISCRETE PARTS  
 4 K0579 A BENCH CHECK POWER SUPPLY UNITS

TASK #: 02310  
 INSPECT PACERBOUNCE RT-1446 TRANSCEIVER  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 1

TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: 14, 28, 336  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 32R2-2URC-86 AND T.O. 31R2-2URC-81  
 TTT: 3  
 SNE OPINION: 3

EQUIPMENT:  
 BITE, WATTMETER, DUMMY LOAD, FREQUENCY COUNTER, TOOL KIT

REFERENCES:  
 T.O. 32R2-2URC-86WC-1  
 T.O. 31R2-2URC-81

CONDITIONS CUES:  
 COND: INDOORS/OUTDOORS, POWER ON, SAFETY OBSERVER  
 CUE: PMI, OPERATOR COMPLAINT, FAILED MODULE COMPONENT

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK   | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|--------|------|------|------|------|------|------|------|
| 304X4     | H 0383 | 5.95 | 60.0 | 63.0 | 60.0 | 35.0 | 4.19 | 18.0 |

ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 A PERFORM BITE CHECK  
 A PERFORM FREQUENCY CHECK  
 K INTERPRET BITE ERROR CODES  
 K RECOGNIZE WHEN TO PERFORM MANUAL TROUBLESHOOTING  
 A INSPECT DC OPERATION

OSR JOB INVENTORY TASK STATEMENTS:  
 4 H0383 A OPERATIONALLY CHECK HF EQUIPMENT

TASK #: 02320

TROUBLESHOOT PACERBOUNCE RT-1446 TRANSCEIVER

DUTY CODE: X4

TASK STATUS: 3-KP

TIMES ANALYZED: 1

NOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY

HOW OFTEN: QUARTERLY OR INDEFINITE

OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)

QTP ADEQUATE: NONE

TNG REFERENCE(S): T.O. 31R2-2URC-86 AND T.O. 31R2-2URC-81

TTT: NONE

SME OPINION: 3

EQUIPMENT:

WATTMETER, DUMMY LOAD, TOOL KIT, FREQUENCY COUNTER, BITE,

SIGNAL GENERATOR, DIGITAL VOLTMETER, SOLDERING EQUIPMENT

REFERENCES:

T.O. 31R2-2URC-86HC-1

T.O. 31R2-2URC-81

CONDITIONS CUES:

COND: INDOORS/OUTDOORS, POWER ON/OFF, SAFETY OBSERVER

CUE: PMI FINDING, OPERATOR COMPLAINT, SYSTEM MODULE FAILURE

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK   | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|--------|------|------|------|------|------|------|------|
| 304X4     | H 0373 | 6.45 | 56.0 | 60.0 | 57.0 | 30.0 | 6.48 | 18.0 |
| 304X4     | H 0377 | 6.07 | 43.0 | 44.0 | 41.0 | 20.0 | 6.55 | 12.0 |
| 304X4     | H 0396 | 4.78 | 29.0 | 31.0 | 34.0 | 22.0 | 3.82 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:

K ISOLATE FAULTY POWER SUPPLY ASSEMBLY CIRCUIT CARDS AND COMPONENTS

K ISOLATE FAULTY AFSK CIRCUIT CARD

K ISOLATE FAULTY AGC/TGC ASSEMBLY CIRCUIT CARD

K ISOLATE FAULTY FIRST CONVERTER CIRCUIT CARD

K ISOLATE FAULTY REF/BFO CIRCUIT CARD

K ISOLATE FAULTY SYNTHESIZER ASSEMBLY

K ISOLATE FAULTY XCVR CONTROL ASSEMBLY

K ISOLATE FAULTY RC INTERFACE ASSEMBLY

K ISOLATE FAULTY FRONT PANEL ASSEMBLY

K ISOLATE FAULTY DISPLAY ASSEMBLY

K ISOLATE FAULTY 100 WATT PA 12 VOLT CIRCUIT CARD

K ISOLATE FAULTY OSCILLATOR ASSEMBLY RF

K ISOLATE FAULTY INTERCONNECT ASSEMBLY (DEPOT ONLY)

K ISOLATE FAULTY LPA/CPLR INTERFACE ASSEMBLY

K ISOLATE FAULTY LOW PASS FILTER ASSEMBLY

K ISOLATE FAULTY IF FILTER ASSEMBLY

K ISOLATE FAULTY MULTI-VOLTAGE SUPPLY ASSEMBLY

K ISOLATE FAULTY EXCITER ASSEMBLY

K ISOLATE FAULTY RECEIVER ASSEMBLY

K ISOLATE FAULTY AUDIO INTERFACE ASSEMBLY

A REMOVE/REPLACE RT-1446 CIRCUIT CARDS AND RELATED PARTS

OSR JOB INVENTORY TASK STATEMENTS:

4 H0373 K ISOLATE MALFUNCTIONS WITHIN HIGH FREQUENCY (HF) EQUIPMENT

4 H0377 K ISOLATE MALFUNCTIONS WITHIN SIDE BAND EQUIPMENT

4 H0396 A REMOVE OR INSTALL HF SYSTEM LRU

TASK #: 02330  
 ALIGN/ADJUST PACERBOUNCE RT-1446 TRANSCEIVER  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 1

TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: QUARTERLY OR INDEFINITE  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-2URC-86 AND T.O. 31R2-2URC-81  
 TTT: NONE  
 SME OPINION: 5

EQUIPMENT:  
 WATTMETER, DUMMY LOAD, TOOL KIT, FREQUENCY COUNTER, BITE,  
 SPECTRUM ANALYZER, SIGNAL GENERATOR (RF AND AF) AC VOLTMETER,  
 RF MILLIVAC, DIGITAL VOLTMETER

REFERENCES:  
 T.O. 31R2-2URC-86WC-1  
 T.O. 31R2-2URC-81

CONDITIONS CUES:  
 COND: INDOORS/OUTDOORS, POWER ON/OFF, SAFETY OBSERVER  
 CUE: PHI FINDING, OPERATOR COMPLAINT, MODULE REPLACEMENT

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK   | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|--------|------|------|------|------|------|------|------|
| 304X4     | J 0497 | 5.97 | 41.0 | 43.0 | 39.0 | 21.0 | 6.38 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:  
 A ALIGN/ADJUST EXICITER ASSEMBLY  
 A ALIGN/ADJUST FRONT PANEL ASSEMBLY  
 A ALIGN/ADJUST POWER SUPPLY  
 A ALIGN/ADJUST RECEIVER ASSEMBLY  
 K ALIGN/ADJUST AFSK CIRCUIT CARD  
 K ALIGN/ADJUST AGC/TGC ASSEMBLY CIRCUIT CARD  
 K ALIGN/ADJUST AUDIO INTERFACE ASSEMBLY  
 K ALIGN/ADJUST FIRST CONVERTER CIRCUIT CARD  
 K ALIGN/ADJUST IF FILTER ASSEMBLY  
 K ALIGN/ADJUST LOW PASS FILTER ASSEMBLY  
 K ALIGN/ADJUST MULTI-VOLTAGE SUPPLY ASSEMBLY  
 K ALIGN/ADJUST OSCILLATOR ASSEMBLY RF  
 K ALIGN/ADJUST REF/BFO CIRCUIT CARD  
 K ALIGN/ADJUST SYNTHESIZER ASSEMBLY  
 K ALIGN/ADJUST XCVR CONTROL ASSEMBLY  
 K ALIGN/ADJUST 100 WATT PA 12 VOLT CIRCUIT CARD (DEPOT ONLY)

OSR JOB INVENTORY TASK STATEMENTS:  
 4 J0497 A ALIGN SIDE BAND EQUIPMENT

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TASK #: 02340  
 TROUBLESHOOT PACERBOUNCE AM7223/URC LINEAR POWER AMPLIFIER (LPA) (500W)  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 1

TNOTES:  
 CONSEQUENCES: MINOR, DAMAGE, INJURY  
 HOW OFTEN: BI-MONTHLY  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-2URC-101  
 TTT: NONE  
 SME OPINION: 3  
 THIS ITEM IS INSPECTED IN CONJUNCTION WITH THE RT-1446.

EQUIPMENT:  
 WATTMETER, DUMMY LOAD, TOOL KIT, BITE

REFERENCES:  
 T.O. 31R2-2URC-101

CONDITIONS CUES:  
 COND: POWER ON, INDOORS OR FIELD CONDITIONS, SAFETY OBSERVER  
 CUE: PHI FINDING, OPERATOR PROBLEMS, FAILED MODULE

JOB STANDARDS:  
 IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 H 0373 6.45 56.0 60.0 57.0 30.0 6.48 18.0  
304X4 H 0396 4.78 29.0 31.0 34.0 22.0 3.82 12.0

ACTIVITIES SKILL KNOWLEDGE:

A PERFORM OPERATION CHECK  
K ISOLATE FAULTY AM7223/URC MODULES/PARTS  
K ISOLATE FAULTY LOW VOLTAGE FILTER SUPPLY  
K ISOLATE FAULTY RECTIFIER BLEEDER BOARD  
K ISOLATE FAULTY POWER CONTROL POWERBOARD  
K ISOLATE FAULTY LOW VOLTAGE POWER SUPPLY  
K ISOLATE FAULTY TUBE POWERBOARD ASSEMBLY  
K ISOLATE FAULTY FRONT PANEL ASSEMBLY  
K ISOLATE FAULTY MICRO CONTROL ASSEMBLY  
K ISOLATE FAULTY DC CONTROL ASSEMBLY  
K ISOLATE FAULTY OUPUT FILTER ASSEMBLY  
K ISOLATE FAULTY THERMAL SENSOR ASSEMBLY  
K ISOLATE FAULTY TANK ASSEMBLY  
A REMOVE/REPLACE FAULTY LPA MODULES/PARTS  
K INTERPRET FAULT ERROR CODES

OSR JOB INVENTORY TASK STATEMENTS:

4 H0373 K ISOLATE MALFUNCTIONS WITHIN HIGH FREQUENCY (HF)  
EQUIPMENT  
4 H0396 A REMOVE OR INSTALL HF SYSTEM LRU

TASK #: 02350

ALIGN/ADJUST PACERBOUNCE AM7223/URC LINEAR POWER AMPLIFIER (LPA) (500W)

DUTY CODE: X4

TASK STATUS: 3-KP

TIMES ANALYZED: 1

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY

HOW OFTEN: INDEFINITE

OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)

QTP ADEQUATE: YES

TNG REFERENCE(S): T.O. 31R2-2URC-101

TTT: NONE

SME OPINION: 5

EQUIPMENT:

DUMMY LOAD, ELECTRONIC VOLTMETER, DIGITAL MULTIMETER, 100 WATT  
TRANSCEIVER, TOOL KIT

REFERENCES:

T.O. 31R2-2URC-101

CONDITIONS CUES:

COND: INDOORS OR IN FIELD, POWER ON, SAFETY OBSERVER

CUE: DEGRADATION OF EQUIPMENT, MODULE/ASSEMBLY REPLACEMENT

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 J 0491 6.47 57.0 59.0 56.0 29.0 5.96 18.0

ACTIVITIES SKILL KNOWLEDGE:

A ALIGN/ADJUST NULL ADJUSTMENT  
A ALIGN/ADJUST FORWARD POWER SAMPLE  
A ALIGN/ADJUST + 13.5 VOLTS DC  
A ALIGN/ADJUST LOOP GAIN CONTROL  
A ALIGN/ADJUST CW/FSK POWER  
A ALIGN/ADJUST COUPLER TUNE POWER  
A ALIGN/ADJUST POWER CONTROL  
A ALIGN/ADJUST MAX PLATE CURRENT

OSR JOB INVENTORY TASK STATEMENTS:

4 J0491 A ALIGH HIGH FREQUENCY (HF) EQUIPMENT

TASK #: 02360  
TROUBLESHOOT PACERBOUNCE PP7913/URC POWER SUPPLY AND EXTERNAL GENERATOR  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 1  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: INDEFINITE  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: N/A  
TNG REFERENCE(S): T.O. 35C1-2-892-1  
TTT:  
SME OPINION: 3 OR 5  
EQUIPMENT:  
TOOL KIT, ANALOG MULTIMETER  
REFERENCES:  
T.O. 35C1-2-892-1  
CONDITIONS CUES:  
COND: ON-SITE OR IN-SHOP, POWER OFF, TWO-MAN TEAM  
CUE: POWER FAILURE  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:    TASK    TE    1JOB  1ENL  5SKL  7SKL  TD    ATI  
304X4 J 0537 4.73 42.0 44.0 41.0 20.0 4.81 12.0  
304X4 K 0579 4.55 44.0 43.0 39.0 18.0 5.05 12.0  
ACTIVITIES SKILL KNOWLEDGE:  
A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
A ISOLATE FAULTY TRANSFORMERS AND THREE PHASE  
A ISOLATE FAULTY RELAYS  
A ISOLATE FAULTY RESISTORS  
A ISOLATE FAULTY SEMICONDUCTORS DEVICES  
A ISOLATE FAULTY FAN ASSEMBLY  
A ISOLATE FAULTY CIRCUIT BREAKERS  
A REMOVE/REPLACE POWER SUPPLY PARTS  
A TURN OFF POWER  
A REMOVE/INSTALL POWER SUPPLY ASSEMBLY  
OSR JOB INVENTORY TASK STATEMENTS:  
4 J0537 A REMOVE OR INSTALL POWER SUPPLY EQUIPMENT PARTS  
4 K0579 A BENCH CHECK POWER SUPPLY UNITS

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TASK #: 02370  
TROUBLESHOOT PACERBOUNCE AM7224/URC LINEAR POWER AMPLIFIER (LPA) (1KW)  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 1  
TNOTES:  
CONSEQUENCES: MINOR, DAMAGE, NONE  
HOW OFTEN: MONTHLY  
OJT TRAINABLE: YES, YES (AS LONG AS PROBLEM DOESN'T INVOLVE TEST  
EQUIPMENT BEYOND THE BITE)  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31R2-2URC-121  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
TOOL KIT, FREQUENCY COUNTER, DUMMY LOAD, WATTMETER, BITE (MANUAL  
AND AUTO), CONNECTING CABLES AND ADAPTORS, SOLDERING KIT  
REFERENCES:  
T.O. 31R2-2URC-121  
CONDITIONS CUES:  
COND: IN-SHOP OR ON-SITE, POWER ON/OFF, OFF-LINE  
CUE: PMI FINDING, USER COMPLAINT  
JOB STANDARDS:  
IAW REFERENCES

OSR DATA: TASK TE IJOB IENL 5SKL 7SKL TD ATI  
304X4 H 0373 6.45 56.0 60.0 57.0 30.0 6.48 18.0

ACTIVITIES SKILL KNOWLEDGE:

A PERFORM OPERATION CHECK  
K ISOLATE FAULTY AM7224/URC MODULES/PARTS  
K ISOLATE FAULTY POWER CONTROL POWERBOARD  
K ISOLATE FAULTY FRONT PANEL ASSEMBLY  
K ISOLATE FAULTY MICRO CONTROL ASSEMBLY  
K ISOLATE FAULTY THERMAL SENSOR ASSEMBLY  
X ISOLATE FAULTY TANK ASSEMBLY  
K ISOLATE FAULTY TUNE CAP ASSEMBLY  
K ISOLATE FAULTY ELECTRON TUBE ASSEMBLY  
K ISOLATE FAULTY VSWR/XMFR POWER BOARD ASSEMBLY  
K ISOLATE FAULTY FAN INVERTER POWER BOARD ASSEMBLY  
K ISOLATE FAULTY INTERCONNECT POWER ASSEMBLY  
K ISOLATE FAULTY LOW PASS FILTER ASSEMBLY  
K ISOLATE FAULTY CONNECTOR POWER BOARD ASSEMBLY  
K ISOLATE FAULTY FAN ASSEMBLY  
A REMOVE/REPLACE FAULTY LPA MODULES/PARTS  
K INTERPRET FAULT ERROR CODES

OSR JOB INVENTORY TASK STATEMENTS:

4 H0373 K ISOLATE MALFUNCTIONS WITHIN HIGH FREQUENCY (HF) EQUIPMENT

TASK #: 02380

ALIGN/ADJUST PACERBOUNCE AM7224/URC LINEAR POWER AMPLIFIER (LPA) (1KW)

DUTY CODE: X4

TASK STATUS: 3-KP

TIMES ANALYZED: 1

TNOTES:

CONSEQUENCES: MINOR, DAMAGE, INJURY  
HOW OFTEN: ANNUALLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: N/A  
TNG REFERENCE(S): T.O. 31R2-2URC-121  
TTT: NONE  
SME OPINION: 3

EQUIPMENT:

TOOL KIT, ELECTRONIC VOLTMETER 410C, DIGITAL MULTIMETER, WATTMETER, DUMMY LOAD, SPECIALIZED CONNECTING CABLES

REFERENCES:

T.O. 31R2-2URC-121

CONDITIONS CUES:

COND: IN-SHOP, POWER ON/OFF, EQUIPMENT OFF-LINE  
CUE: PMI FINDING, USER COMPLAINT, FAILED LRU'S

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE IJOB IENL 5SKL 7SKL TD ATI  
304X4 J 0491 6.47 57.0 59.0 56.0 29.0 5.96 18.0

ACTIVITIES SKILL KNOWLEDGE:

A ALIGN/ADJUST RF PLATE SAMPLE  
A ALIGN/ADJUST NULL  
A ALIGN/ADJUST FORWARD POWER SAMPLE  
A ALIGN/ADJUST REFLECTIVE SAMPLE  
A ALIGN/ADJUST LOOP GAIN CONTROL  
A ALIGN/ADJUST CW/FSK POWER  
A ALIGN/ADJUST COUPLER TUNE POWER  
A ALIGN/ADJUST POWER CONTROL  
A ALIGN/ADJUST MAX PLATE CURRENT  
S FABRICATE PUSH ON MINIATURE CONNECTORS/CABLES (PROBABLY UNDER FIELD CONDITIONS)

OSR JOB INVENTORY TASK STATEMENTS:

4 J0491 A ALIGN HIGH FREQUENCY (HF) EQUIPMENT



TASK #: 02390  
 INSPECT PACERBOUNCE CU2310/URC ANTENNA COUPLER  
 DUTY CODE: X4  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 1  
 TNOTES:  
 CONSEQUENCES: MINOR, DAMAGE, NONE  
 HOW OFTEN: 28, 180  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-2URC-116 AND T.O. 31R2-2URC-111  
 TTT: 5  
 SME OPINION: 3  
 EQUIPMENT:  
 DUMMY LOAD, WATTMETER (THRULINE)  
 REFERENCES:  
 T.O. 31R2-2URC-116WC-1  
 T.O. 31R2-2URC-111  
 CONDITIONS CUES:  
 COND: NORMALLY OUTDOORS, POWER ON  
 CUE: PMI, ANTENNA COUPLER MALFUNCTION,  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
 304X4 I 0456 3.30 18.0 18.0 17.0 12.0 3.65 7.0  
 304X4 M 0630 2.30 23.0 25.0 23.0 14.0 3.98 7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
   A PERFORM BITE CHECK OF SYSTEM  
   A INSPECT VISUALLY FOR OBVIOUS DEFECTS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 I0456 A OPERATIONALLY CHECK FIXED ANTENNA SYSTEMS  
 4 M0630 A OPERATIONALLY CHECK MOBILE ANTENNA SYSTEMS

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TASK #: 02400  
 TROUBLESHOOT PACERBOUNCE CU2310/URC ANTENNA COUPLER  
 DUTY CODE: X4  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 1  
 TNOTES:  
 CONSEQUENCES: MINOR, DAMAGE, NONE  
 HOW OFTEN: INDEFINITE  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-2URC-111  
 TTT: 5  
 SME OPINION: 3  
 EQUIPMENT:  
 RT1446 BIT TEST, DUMMY LOAD, WATTMETER, TOOL KIT  
 REFERENCES:  
 T.O. 31R2-2URC-111  
 CONDITIONS CUES:  
 COND: OUTDOORS, SAFETY OBSERVER  
 CUE: PMI FINDING, USER COMPLAINT, FAILED MODULE/SYSTEM PART  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
 304X4 K 0565 4.00 29.0 29.0 27.0 14.0 5.65 11.0  
 ACTIVITIES SKILL KNOWLEDGE:  
   K ISOLATE FAULTY ANTENNAS  
   K ISOLATE FAULTY LOGIC ASSEMBLY  
   K ISOLATE FAULTY LOWER SHELF ASSEMBLY  
   K ISOLATE FAULTY DC MOTORS  
   K ISOLATE FAULTY LOGIC CIRCUITS  
   A REMOVE/REPLACE ANTENNA COUPLER/PARTS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 K0565 A BENCH CHECK ANTENNA COUPLERS

TASK #: 02410  
 ALIGN/ADJUST PACERBOUNCE CU2310/URC  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 1  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: INDEFINITE  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-2URC-111  
 TTT: 5  
 SME OPINION: 3  
 EQUIPMENT:  
 DIGITAL MULTIMETER, DUMMY LOAD, ELECTRONIC VOLTMETER WITH  
 AC PROBE & T-CONNECTOR, 100 WATT TRANSCEIVER, TOOL KIT  
 REFERENCES:  
 T.O. 31R2-2URC-111  
 CONDITIONS CUES:  
 COND: INDOORS, WORKBENCH  
 CUE: PMI FINDING, USER COMPLAINT, FAILED MODULE OR SYSTEM PART  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 K 0544 4.25 41.0 39.0 35.0 16.0 6.07 12.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A ALIGN/ADJUST LOGIC ASSEMBLY CIRCUIT  
 A ALIGN/ADJUST LOWER SHELF ASSEMBLY  
 A ALIGN/ADJUST BALL GAP ASSEMBLY  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 K0544 A ALIGN ANTENNA COUPLER COMPONENTS

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TASK #: 02420  
 TROUBLESHOOT PACERBOUNCE C-11329/URC REMOTE CONTROL UNIT  
 DUTY CODE: X4  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 1  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: INDEFINITE  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-2URC-91 AND T.O. 31R2-2URC-96WC-1  
 TTT: NONE  
 SME OPINION: 3  
 ITEM IS INSPECTED IN CONJUNCTION WITH RT-1446  
 EQUIPMENT:  
 RT-1446 BITE, DUMMY LOAD, WATTMETER, TOOL KIT  
 REFERENCES:  
 T.O. 31R2-2URC-91  
 T.O. 31R2-2URC-96WC-1  
 CONDITIONS CUES:  
 COND: AT OPERATORS POSITION, POWER ON, SAFETY OBSERVER  
 CUE: PMI FINDING, USER COMPLAINT, MODULE/SYSTEM MALFUNCTION  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 K 0581 3.52 30.0 29.0 25.0 11.0 5.17 7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A PERFORM RT-1446 BITE CHECK  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 K ISOLATE FAULTY FRONT PANEL ASSEMBLY  
 K ISOLATE FAULTY DISPLAY ASSEMBLY  
 K ISOLATE FAULTY FRONT PANEL POWER ASSEMBLY  
 K ISOLATE FAULTY AUDIO MICROPROCESSOR ASSEMBLY  
 K ISOLATE FAULTY AUDIO INTERFACE ASSEMBLY  
 K ISOLATE FAULTY MULTIVOLTAGE CONVERTER ASSEMBLY  
 A REMOVE/REPLACE REMOTE CONTROL UNIT/PARTS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 K0581 A BENCH CHECK REMOTE CONTROL UNITS

TASK #: 02430  
 ALIGN/ADJUST PACERBOUNCE C-11329/URC REMOTE CONTROL UNIT  
 DUTY CODE: X4  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 1  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: INDEFINITE  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-2URC-91  
 TTT: NONE  
 SME OPINION: 3  
 EQUIPMENT:  
 RT-1446 BITE, DUMMY LOAD, WATTMETER, TOOL KIT  
 REFERENCES:  
 T.O. 31R2-2URC-91  
 CONDITIONS CUES:  
 COND: AT OPERATORS POSITION OR IN-SHOP, POWER ON/OFF, SAFETY  
 OBSERVER  
 CUE: MODULE REPLACEMENT  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 K 0560 2.97 18.0 19.0 16.0 8.0 5.60 7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A ALIGN/ADJUST MULTI-VOLTAGE SUPPLY ASSEMBLY  
 A ALIGN/ADJUST AUDIO INTERFACE ASSEMBLY  
 A ALIGN/ADJUST AUDIO MICROPROCESSOR ASSEMBLY  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 K0560 A ALIGN REMOTE CONTROL UNIT DISCRETE PARTS

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TASK #: 02440  
 INSPECT AN/PRC-25 AN/PRC-77  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: NONE, NONE, INJURY  
 HOW OFTEN: NOT DETERMINED FOR THIS WORKCENTER  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: YES, BUT NOT USED  
 TNG REFERENCE(S): QTP 304X4-30Q AND T.O. 31R2-2PRC77-1  
 TTT: 5  
 SME OPINION: 5  
 EQUIPMENT:  
 ANOTHER AN/PRC-77 RADIO SET, FREQUENCY COUNTER, FREQUENCY  
 GENERATOR, WATTMETER, DISTORTION ANALYZER, DIGITAL VOLTMETER,  
 ANALOG MULTIMETER  
 REFERENCES:  
 T.O. 31R2-2PRC77-1  
 CONDITIONS CUES:  
 COND: IN SHOP  
 CUE: PMI  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 H 0382 4.82 22.0 26.0 26.0 17.0 4.07 11.0  
 304X4 H 0392 6.63 70.0 64.0 55.0 32.0 4.30 18.0  
 304X4 H 0393 6.33 53.0 50.0 43.0 27.0 4.23 18.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT VISUALLY FOR CLEANLINESS AND DAMAGE  
 A CHECK TRANSMIT FREQUENCY  
 A CHECK RECEIVE ACCURACY  
 A CHECK POWER OUTPUT  
 A CHECK RECEIVE SQUELCH  
 A CHECK AUDIO RECEIVE DISTORTION  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 H0392 A OPERATIONALLY CHECK UHF EQUIPMENT  
 4 H0393 A OPERATIONALLY CHECK VHF EQUIPMENT  
 4 H0362 A OPERATIONALLY CHECK FM EQUIPMENT

TASK #: 02450  
TROUBLESHOOT AN/PRC-25 AN/PRC-77  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 3  
NOTES:  
CONSEQUENCES: MINOR, DAMAGE, NONE  
HOW OFTEN: TWO WEEKS OR SIX MONTHS  
OJT TRAINABLE: YES, NO, TEST EQUIPMENT  
QTP ADEQUATE: YES, BUT NOT USED  
TNG REFERENCE(S): QTP 304X4-30Q AND T.O. 31R2-2PRC77-1  
TTT: 5  
SME OPINION: 5  
SOME TASK STEPS NOT YET PERFORMED BY MAINTENANCE PERSONS  
EQUIPMENT:  
AUDIO OSCILLATOR, SIGNAL GENERATOR, ANALOG MULTIMETER,  
DIGITAL VOLTMETER, FREQUENCY COUNTER, OSCILLOSCOPE,  
WATTMETER, DUMMY LOAD, POWER SUPPLY, MODULATION METER,  
CAPACITOR TESTER, TOOL KIT, SOLDERING KIT  
REFERENCES:  
T.O. 31R2-2PRC77-1  
CONDITIONS CUES:  
COND: IN SHOP  
CUE: USER COMPLAINT OR RESULT OF TROUBLESHOOTING  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 H 0372 4.60 16.0 21.0 21.0 13.0 6.61 11.0  
ACTIVITIES SKILL KNOWLEDGE:  
A CHECK BATTERY POWER  
A CHECK TRANSMIT FREQUENCY  
A CHECK RECEIVE ACCURACY  
A CHECK POWER OUTPUT  
A CHECK RECEIVE SQUELCH  
A CHECK AUDIO RECEIVE DISTORTION  
K ISOLATE FAULTY SUBASSEMBLIES, CIRCUIT CARDS, AND  
COMPONENT PARTS  
A REMOVE/REPLACE SUBASSEMBLIES, CIRCUIT CARDS, AND  
COMPONENT PARTS  
OSR JOB INVENTORY TASK STATEMENTS:  
4 H0372 K ISOLATE MALFUNCTIONS WITHIN FREQUENCY MODULATION (FM)  
EQUIPMENT

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TASK #: 02460  
ALIGN AN/PRC-25 AN/PRC-77 TUNING CAPACITORS  
DUTY CODE: X4  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 3  
NOTES:  
CONSEQUENCES: MINOR, NONE, NONE  
HOW OFTEN: SIX MONTHS  
OJT TRAINABLE: YES, NO, TEST EQUIPMENT, SYSTEM KNOWLEDGE  
QTP ADEQUATE: YES, BUT NOT USED  
TNG REFERENCE(S): QTP 304X4-30Q AND T.O. 31R2-2PRC77-1  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
CAPACITOR CHECKER  
REFERENCES:  
T.O. 31R2-2PRC77-1  
CONDITIONS CUES:  
COND: IN SHOP  
CUE: TUNED FREQUENCY DOES NOT MATCH MEASURED FREQUENCY  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 J 0490 4.88 15.0 21.0 21.0 13.0 6.07 11.0  
ACTIVITIES SKILL KNOWLEDGE:  
A ADJUST TUNING CAPACITOR  
A CHECK CAPACITANCE RANGE  
OSR JOB INVENTORY TASK STATEMENTS:  
4 J0490 A ALIGN FREQUENCY MODULATION (FM) EQUIPMENT

TASK #: 02470  
 ALIGN AN/PRC-25 AN/PRC-77 TONE GENERATOR  
 DUTY CODE: X4  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: THREE MONTHS  
 OJT TRAINABLE: YES, NO, TEST EQUIPMENT  
 QTP ADEQUATE: YES, BUT NOT USED  
 TNG REFERENCE(S): QTP 304X4-30Q AND T.O 31R2-2PRC77-1  
 TTT: 5  
 SME OPINION: 5  
 EQUIPMENT:  
 AUDIO OSCILLATOR, SIGNAL GENERATOR, ANALOG MULTIMETER,  
 DIGITAL VOLTMETER  
 REFERENCES:  
 T.O. 31R2-2PRC77-1  
 CONDITIONS CUES:  
 COND: IN SHOP  
 CUE: TRANSMIT SQUELCH FUNCTION DOES NOT WORK  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 J 0490 4.88 15.0 21.0 21.0 13.0 6.07 11.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A CHECK RF OUTPUT  
 A ADJUST TONE GENERATOR FREQUENCY  
 K APPLY OSCILLATOR CIRCUIT THEORY OF OPERATION  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 J0490 A ALIGN FREQUENCY MODULATION (FM) EQUIPMENT

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TASK #: 02480  
 INSPECT R-2174 (P)/URR HF RADIO RECEIVER  
 DUTY CODE: X4  
 TASK STATUS: 3-K  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: 28, 336  
 OJT TRAINABLE: YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-2URR-256WC-1  
 TTT: 5  
 SME OPINION: 3  
 EQUIPMENT:  
 SIGNAL GENERATOR, HEADPHONE SET, SPECIAL CLEANING SOLVENT,  
 TOOL KIT  
 REFERENCES:  
 T.O. 31R2-2URR-256WC-1  
 CONDITIONS CUES:  
 COND: INDOORS, TWO MAN TEAM  
 CUE: PMI  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 J 0505 6.23 28.0 31.0 32.0 17.0 5.65 12.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A CLEAN RECEIVER  
 A CHECK STATUS LITE BULBS FOR LIT CONDITION  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS TO  
 INCLUDE CHECKING RECEIVER AND CIRCUIT BOARDS FOR  
 CORROSION  
 A CHECK FOR BLOWN FUSES  
 A PERFORM AGC CHECK  
 A CHECK LCD BITE METER READINGS  
 A PERFORM TURN/OFF PROCEDURES  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 J0505 A BENCH CHECK HF RECEIVERS

TASK #: 02490  
TROUBLESHOOT R-2174 (P)/URR HF RADIO RECEIVER  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: MINOR, DAMAGE, INJURY  
HOW OFTEN: BI-MONTHLY  
OJT TRAINABLE: YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31R2-2URR-251  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
SIGNAL GENERATOR, BITE TEST LOGIC CIRCUIT, HEADPHONE SET,  
ANALOG MULTIMETER, OSCILLOSCOPE, FREQUENCY COUNTER, TOOL KIT  
REFERENCES:  
T.O. 31R2-2URR-251  
CONDITIONS CUES:  
COND: INSIDE, 2 MAN TEAM  
CUE: PMI SYSTEM FINDING, RECEIVER MALFUNCTION, RECEIVER FAILURE,  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 J 0505 6.23 28.0 31.0 32.0 17.0 5.65 12.0  
ACTIVITIES SKILL KNOWLEDGE:  
A PERFORM BITE CHECK  
A ISOLATE FAULTY A2 FIRST MIXER CIRCUIT CARD  
A ISOLATE FAULTY A3 SECOND MIXER CIRCUIT CARD  
A ISOLATE FAULTY A4 MAIN IF/AF CIRCUIT CARD  
A ISOLATE FAULTY A5 INDEPENDENT SIDEBAND CIRCUIT CARD  
A ISOLATE FAULTY A6A2 MICROCOMPUTER (MEMORY PORTION)  
CIRCUIT CARD  
A ISOLATE FAULTY A7 FIRST AND THIRD LO SYNTHESIZER  
CIRCUIT CARD  
A ISOLATE FAULTY A8 SECOND LO SYNTHESIZER CIRCUIT CARD  
A ISOLATE FAULTY A9 CIRCUIT CARD (FRONT PANEL)  
A ISOLATE FAULTY IF BANDWIDTH FILTERS  
A ISOLATE FAULTY POWER SUPPLY  
A ISOLATE FAULTY BITE  
A ISOLATE FAULTY KEYPAD  
A REMOVE/REPLACE SUBASSEMBLIES, CIRCUIT CARDS, AND  
PARTS  
K INTERPRET BITE ERROR CODES  
OSR JOB INVENTORY TASK STATEMENTS:  
4 J0505 A BENCH CHECK HF RECEIVERS

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TASK #: 02500  
ALIGN/ADJUST R-2174 (P)/URR HF RADIO RECEIVER  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: MINOR, NONE, NONE  
HOW OFTEN: 28  
OJT TRAINABLE: YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31R2-2URR-256WC-1  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
SIGNAL GENERATOR, HEADPHONE SET, TOOL KIT  
REFERENCES:  
T.O. 31R2-2URR-256WC-1  
CONDITIONS CUES:  
COND: INDOORS, TWO MAN TEAM  
CUE: PMI, CIRCUIT CARD REPLACEMENT  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 J 0491 6.47 57.0 59.0 56.0 29.0 5.96 18.0  
ACTIVITIES SKILL KNOWLEDGE:  
A ALIGN/ADJUST AUDIO FREQUENCY GAIN CONTROL  
OSR JOB INVENTORY TASK STATEMENTS:  
4 J0491 A ALIGN HIGH FREQUENCY (HF) EQUIPMENT

TASK #: 02510  
 INSPECT R-2174 (P)/URR HF RADIO RECEIVER FRONT PANEL  
 DUTY CODE: X4  
 TASK STATUS: 3-K  
 TIMES ANALYZED: 1  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: ANNUALLY  
 OJT TRAINABLE: YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-2URR-251  
 TTT: 5  
 SME OPINION: 3  
 EQUIPMENT:  
 COMMON HAND TOOLS, CLEANING SOLVENT  
 REFERENCES:  
 T.O. 31R2-2URR-251  
 CONDITIONS CUES:  
 COND: INDOORS, 2 MAN TEAM  
 CUE: INCLUDED IN 336 PMI  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
 304X4 K 0562 2.42 2.0  2.0  3.0  4.0 5.90 7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 A CLEAN FRONT PANEL AS NEEDED  
 A CHECK ENCODER FOR DAMAGE/SCRATCH MARKS  
 A CHECK ENCODER DISK FOR SCRATCHES, MARS, DENTS, WAR-  
 PAGE, AND ASSEMBLED SHAFT FOR EXCESS PLAY  
 A CHECK IF/AF GAIN CONTROLS FOR FREEDOM OF OPERATION  
 AND DAMAGE  
 A CHECK THE PHONE JACKS AND POWER-ON SWITCH FOR DAMAGE  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 K0562 ALIGN SIGNAL CONDITIONING EQUIPMENT PARTS

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TASK #: 02520  
 TROUBLESHOOT R-2174 (P)/URR HF RADIO RECEIVER FRONT PANEL  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 1  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: UNKNOWN  
 OJT TRAINABLE: YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-2URR-251  
 TTT: 5  
 SME OPINION: 5  
 EQUIPMENT:  
 ANALOG MULTIMETER, TOOL KIT  
 REFERENCES:  
 T.O. 31R2-2URR-251  
 CONDITIONS CUES:  
 COND: INDOORS, 2 MAN TEAM  
 CUE: FRONT PANEL ASSEMBLY FAILURE, PMI  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
 304X4 J 0505 6.23 28.0 31.0 32.0 17.0 5.65 12.0  
 304X4 H 0373 6.45 56.0 60.0 57.0 30.0 6.48 18.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A CHECK RESISTANCE OF IF AND AF GAIN CONTROL  
 A ISOLATE FAULTY POWER ON SWITCH  
 A CHECK RESISTANCE AND CONTINUITY OF KEYPAD S3 AND S4  
 (UNDERPLATE)  
 A ISOLATE FAULTY EDGE LIGHTING ASSEMBLY  
 A ISOLATE FAULTY PHONES JACK  
 A ISOLATE FAULTY CABLE W20  
 A ISOLATE FAULTY ENCODER ASSEMBLY  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 K0373 K ISOLATE MALFUNCTIONS WITHIN HIGH FREQUENCY (HF)  
 EQUIPMENT  
 4 J0505 A BENCH CHECK HF RECEIVERS

TASK #: 02530  
 REPAIR R-2174 (P)/URR RECEIVER FRONT PANEL ASSEMBLY  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 1

TNOTES:  
 CONSEQUENCES: MINOR, DAMAGE, NONE  
 HOW OFTEN: UNKNOWN  
 OJT TRAINABLE: YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-2URR-251  
 TTT: 5  
 SME OPINION: 5

EQUIPMENT:  
 COMMON HAND TOOLS

REFERENCES:  
 T.O. 31R2-2URR-251

CONDITIONS CUES:  
 COND: INDOORS, TWO MAN TEAM  
 CUE: PMI FINDING, FAILURE OF FRONT PANEL COMPONENT

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |      |
|-----------|------|------|------|------|------|------|------|------|------|
| 304X4     | J    | 0534 | 5.00 | 53.0 | 54.0 | 51.0 | 25.0 | 5.00 | 18.0 |

ACTIVITIES SKILL KNOWLEDGE:  
 A REMOVE/REPLACE FAULTY A-9 CIRCUIT CARD  
 A REMOVE/REPLACE/REPAIR POWER ON SWITCH  
 A REMOVE/REPLACE/REPAIR KEYPAD S4 (UNDERPLATE)  
 A REMOVE/REPLACE/REPAIR IF GAIN CONTROL  
 A REMOVE/REPLACE/REPAIR AF GAIN CONTROL  
 A REMOVE/REPLACE/REPAIR EDGE LIGHTING ASSEMBLY  
 A REMOVE/REPLACE/REPAIR KEYPAD S3 (UNDERPLATE)  
 A REMOVE/REPLACE/REPAIR PHONES JACK  
 A REMOVE/REPLACE/REPAIR CABLE W20  
 A REMOVE/REPLACE/REPAIR ENCODER ASSEMBLY

OSR JOB INVENTORY TASK STATEMENTS:  
 4 J0534 A REMOVE OR INSTALL HF EQUIPMENT PARTS

TASK #: 02540  
 INSPECT THE SW-3600 4 WIRE SWITCHING SYSTEM  
 DUTY CODE: X4  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 1

TNOTES:  
 CONSEQUENCES: MINOR, DAMAGE, INJURY  
 HOW OFTEN: 28  
 OJT TRAINABLE: YES, YES,  
 QTP ADEQUATE: N/A  
 TNG REFERENCE(S): T.O. 31W2-4-156-6WC1  
 TTT: 5  
 SME OPINION: 3

EQUIPMENT:  
 OSCILLOSCOPE, TELEPHONE TEST SET, LINE MATCHING TRANSFORMER,  
 VTVM, AUDIO OSCILLATOR, SIGNAL GENERATOR, FREQUENCY COUNTER

REFERENCES:  
 T.O. 31W2-4-156-6WC-1

CONDITIONS CUES:  
 COND: IN-SHOP, EQUIPMENT RELEASED  
 CUE: PMI

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |     |
|-----------|------|------|------|------|------|------|------|------|-----|
| 304X4     | G    | 0360 | 3.00 | 14.0 | 13.0 | 12.0 | 10.0 | 6.25 | 7.0 |
| 304X4     | H    | 0389 | 3.53 | 13.0 | 13.0 | 13.0 | 7.0  | 4.18 | 7.0 |
| 304X4     | I    | 0463 | 2.35 | 4.0  | 4.0  | 5.0  | 3.0  | 3.99 | 7.0 |

ACTIVITIES SKILL KNOWLEDGE:  
 K PERFORM EQUIPMENT OPERATION CHECKS  
 K PERFORM REGISTER AND ATTENDANT OPERATION CHECK  
 A CHECK TIMEOUT CIRCUITS  
 A CHECK TONE EQUIPMENT  
 A CLEAN EQUIPMENT  
 A LUBRICATE STEPPING SWITCH  
 A INSPECT EQUIPMENT FOR OBVIOUS DEFECTS

OSR JOB INVENTORY TASK STATEMENTS:  
 4 H0389 A OPERATIONALLY CHECK RADIO-TELEPHONE SYSTEMS  
 4 I0463 A OPERATIONALLY CHECK SIGNAL CONDITIONING OR SHAPING  
 EQUIPMENT  
 4 G0360 A TEST AND INSPECT FIXED COMMUNICATIONS SITES



TASK #: 02550  
TROUBLESHOOT SW-3600 4 WIRE SWITCHBOARD  
DUTY CODE: X4  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 1  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: MONTHLY  
OJT TRAINABLE: YES, NO, THEORY REQUIRED  
QTP ADEQUATE: N/A  
TNG REFERENCE(S): T.O. 31W2-4-156-2, T.O. 31W2-4-156-3,  
AND T.O. 31W2-4-156-6WC-1  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
OSCILLOSCOPE, AUDIO OSCILLATOR, MATCHING TRANSFORMER,  
DIGITAL MULTIMETER, FREQUENCY COUNTER, TRANSISTOR TESTER,  
AC PRECISION VOLTMETER, VTVM  
REFERENCES:  
T.O. 31W2-4-156-2  
T.O. 31W2-4-156-3  
T.O. 31W2-4-156-6WC-1  
CONDITIONS CUES:  
COND: IN SHOP, EQUIPMENT RELEASED,  
CUE: SYSTEM MALFUNCTION, NO DIAL TONE, SYSTEM FAULT INDICATION  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB   IENL   SSKL   7SKL   TD   ATI  
304X4 I 0419 2.70 7.0 5.0 5.0 2.0 6.65 7.0  
304X4 I 0434 2.97 2.0 3.0 5.0 3.0 5.93 7.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY SUBASSEMBLIES AND PARTS  
A REMOVE/REPLACE SUBASSEMBLIES AND PARTS  
OSR JOB INVENTORY TASK STATEMENTS:  
4 I0419 K ISOLATE MALFUNCTIONS WITHIN AUTOMATIC SWITCHBOARDS  
4 I0434 K ISOLATE MALFUNCTIONS WITHIN SIGNAL CONDITIONING OR  
SHAPING EQUIPMENT TO LRU

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TASK #: 02560  
ALIGN OR ADJUST SW-3600 4 WIRE SWITCHBOARD  
DUTY CODE: X4  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 1  
TNOTES:  
CONSEQUENCES: MINOR, NONE, INJURY  
HOW OFTEN: QUARTERLY  
OJT TRAINABLE: YES, NO, THEORY REQUIRED  
QTP ADEQUATE: N/A  
TNG REFERENCE(S): T.O. 31W2-4-156-2  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
OSCILLOSCOPE, AUDIO OSCILLATOR, MATCHING TRANSFORMER,  
DIGITAL MULTIMETER, VTVM, FREQUENCY COUNTER, AC PRECISION  
VOLTMETER  
REFERENCES:  
T.O. 31W2-4-156-2  
CONDITIONS CUES:  
COND: IN SHOP, EQUIPMENT RELEASED, EQUIPMENT FAILURE  
CUE: SYSTEM MALFUNCTION  
JOB STANDARDS:  
IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 K 0562 2.42 2.0 2.0 3.0 4.0 5.90 7.0

ACTIVITIES SKILL KNOWLEDGE:

A ALIGN TELETYPE MULTIVIBRATOR A15  
A ALIGN TELETYPE MULTIVIBRATOR A12  
A ALIGN FSK RECEIVER A2  
A ALIGN FSK RECEIVER A4  
A ALIGN DIAL TONE GENERATOR  
A ALIGN 1000/20 HZ GENERATOR  
A ALIGN POWER AMPLIFIER CARD  
A ALIGN 1-6 SEC TIMER CARD A17  
A ALIGN 1-6 SEC TIMER CARDS A18 AND A19  
A ALIGN 10-75 SEC TIMER CARD  
A ALIGN 10-75 SEC TIMER CARD A6  
A ALIGN 10-75 SEC TIMER CARD A7  
A ALIGN WIDEBAND DETECTORS  
A ALIGN DUAL FSK TRANSMITTERS  
A ALIGN STEPPING SWITCH ADJUSTMENT  
A ALIGN RELAY ADJUSTMENT

OSR JOB INVENTORY TASK STATEMENTS:

4 K0562 A ALIGN SIGNAL CONDITIONING EQUIPMENT PARTS

TASK #: 02570

TROUBLESHOOT SW-3600 4 WIRE SWITCHBOARD DISPLAY SECTION

DUTY CODE: X4

TASK STATUS: 3-OJT

TIMES ANALYZED: 1

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY

HOW OFTEN: MONTHLY

OJT TRAINABLE: YES, NO, THEORY REQUIRED

QTP ADEQUATE: N/A

TNG REFERENCE(S): T.O. 31W2-4-156-2, T.O. 31W2-4-156-3, AND  
AND T.O. 31W2-4-156-WC-1

TTT: 5

SME OPINION: 5

EQUIPMENT:

OSCILLOSCOPE, MATCHING TRANSFORMER, FREQUENCY COUNTER,  
DIGITAL MULTIMETER, AUDIO OSCILLATOR, AC PRECISION VOLTMETER,  
TRANSISTOR TESTER, VTVM

REFERENCES:

T.O. 31W2-4-156-2

T.O. 31W2-4-156-3

T.O. 31W2-4-156-6WC-1

CONDITIONS CUES:

COND: IN SHOP, EQUIPMENT RELEASED,

CUE: SYSTEM MALFUNCTION, NO DIAL TONE, SYSTEM FAULT INDICATION

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 I 0419 2.70 7.0 5.0 5.0 2.0 6.65 7.0

ACTIVITIES SKILL KNOWLEDGE:

K ISOLATE FAULTY SUBASSEMBLIES AND PARTS  
A REMOVE/REPLACE SUBASSEMBLIES AND PARTS

OSR JOB INVENTORY TASK STATEMENTS:

4 I0419 K ISOLATE MALFUNCTIONS WITHIN AUTOMATIC SWITCHBOARDS

TASK #: 02580  
TROUBLESHOOT SW-3600 4 WIRE SWITCHBOARD REGISTER DRAWER  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 1  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: BI-MONTHLY  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: N/A  
TNG REFERENCE(S): T.O. 31W2-4-156-2, T.O. 31W2-4-156-3,  
AND T.O. 31W2-4-156-6WC-1  
TTT: 5  
SME OPINION: 3  
EQUIPMENT:  
VTVM, OSCILLATOR, TRANSFORMER, DIGITAL MULTIMETER,  
ANALOG MULTIMETER  
REFERENCES:  
T.O. 31W2-4-156-2  
T.O. 31W2-4-156-3  
T.O. 31W2-4-156-6WC-1  
CONDITIONS CUES:  
COND: IN SHOP, EQUIPMENT RELEASED,  
CUE: SYSTEM MALFUNCTION, DELAYED ACCESS TIME, TROUBLE DIALING  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 I 0419 2.70 7.0 5.0 5.0 2.0 6.65 7.0  
304X4 I 0469 1.87 3.0 3.0 3.0 2.0 4.37 2.0  
304X4 J 0543 6.75 78.0 75.0 69.0 36.0 5.05 18.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY SUBASSEMBLIES AND PARTS  
A REMOVE/REPLACE SUBASSEMBLIES AND PARTS  
OSR JOB INVENTORY TASK STATEMENTS:  
4 I0419 K ISOLATE MALFUNCTIONS WITHIN AUTOMATIC SWITCHBOARDS  
4 I0469 A REMOVE OR INSTALL AUTOMATIC SWITCHBOARD COMPONENTS  
4 J0543 S SOLDER COMMUNICATIONS EQUIPMENT COMPONENTS

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TASK #: 02599  
TROUBLESHOOT SW-3600 4 WIRE SWITCHBOARD ATTENDANT DRAWER  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 1  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: BI-MONTHLY  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: N/A  
TNG REFERENCE(S): T.O. 31W2-4-156-2, T.O. 31W2-4-156-3  
AND T.O. 31W2-4-156-6WC-1  
TTT: 5  
SME OPINION: 3  
EQUIPMENT:  
VTVM, OSCILLATOR, TRANSFORMER, DIGITAL MULTIMETER,  
ANALOG MULTIMETER  
REFERENCES:  
T.O. 31W2-4-156-2  
T.O. 31W2-4-156-3  
T.O. 31W2-4-156-6WC-1  
CONDITIONS CUES:  
COND: IN SHOP, EQUIPMENT RELEASED,  
CUE: SYSTEM MALFUNCTION, DELAYED ACCESS TIME, TROUBLE DIALING  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 I 0419 2.70 7.0 5.0 5.0 2.0 6.65 7.0  
304X4 I 0469 1.87 3.0 3.0 3.0 2.0 4.37 2.0  
304X4 J 0543 6.75 78.0 75.0 69.0 36.0 5.05 18.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY SUBASSEMBLIES AND PARTS  
A REMOVE/REPLACE SUBASSEMBLIES AND PARTS  
OSR JOB INVENTORY TASK STATEMENTS:  
4 I0419 K ISOLATE MALFUNCTIONS WITHIN AUTOMATIC SWITCHBOARDS  
4 I0469 A REMOVE OR INSTALL AUTOMATIC SWITCHBOARD COMPONENTS  
4 I0419 K ISOLATE MALFUNCTIONS WITHIN AUTOMATIC SWITCHBOARDS

TASK #: 02600  
TROUBLESHOOT SW-3600 4 WIRE SWITCHBOARD LINE DRAWER  
DUTY CODE: X0  
TASK STATUS: 3-KP  
TIMES ANALYZED: 1  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: WEEKLY  
OJT TRAINABLE: YES, NO, THEORY OF CIRCUIT CARD OPERATION  
QTP ADEQUATE: N/A  
TNG REFERENCE(S): T.O. 31W2-4-156-2 AND T.O. 31W2-4-156-3  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
VTVM, OSCILLATOR, TRANSFORMER, DIGITAL MULTIMETER,  
FREQUENCY COUNTER, OSCILLOSCOPE, ANALOG MULTIMETER,  
TRANSISTOR TESTER  
REFERENCES:  
T.O. 31W2-4-156-2  
T.O. 31W2-4-156-3  
CONDITIONS CUES:  
COND: IN SHOP, EQUIPMENT RELEASED,  
CUE: SYSTEM MALFUNCTION, UNABLE TO ACCESS, CONSTANT BUSY,  
CONSTANTLY RINGING TO OPERATOR  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 I 0419 2.70 7.0 5.0 5.0 2.0 6.65 7.0  
304X4 I 0469 1.87 3.0 3.0 3.0 2.0 4.37 2.0  
304X4 J 0543 6.75 78.0 75.0 69.0 36.0 5.05 18.0  
ACTIVITIES SKILL KNOWLEDGE:  
A ISOLATE FAULTY SUBASSEMBLIES AND PARTS  
A REMOVE/REPLACE SUBASSEMBLIES AND PARTS  
OSR JOB INVENTORY TASK STATEMENTS:  
4 I0419 K ISOLATE MALFUNCTIONS WITHIN AUTOMATIC SWITCHBOARDS  
4 I0469 A REMOVE OR INSTALL AUTOMATIC SWITCHBOARD COMPONENTS

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TASK #: 02610  
TROUBLESHOOT SW-3600 4 WIRE SWITCHBOARD LINK DRAWER  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 1  
TNOTES:  
CONSEQUENCES: MINOR, DAMAGE, INJURY  
HOW OFTEN: MONTHLY  
OJT TRAINABLE: YES, NO, SOLDERING TECHNIQUES  
QTP ADEQUATE: N/A  
TNG REFERENCE(S): T.O. 31W2-4-156-2, T.O. 31W2-4-156-3,  
AND T.O. 31W2-4-156-4  
TTT: 5  
SME OPINION: 3  
EQUIPMENT:  
VTVM, OSCILLATOR, TRANSFORMER, DIGITAL MULTIMETER,  
FREQUENCY COUNTER, SOLDERING KIT, ANALOG MULTIMETER  
REFERENCES:  
T.O. 31W2-4-156-2  
T.O. 31W2-4-156-3  
T.O. 31W2-4-156-4  
CONDITIONS CUES:  
COND: IN SHOP, EQUIPMENT RELEASED,  
CUE: SYSTEM MALFUNCTION, UNABLE TO ACCESS, CONSTANT BUSY,  
SINGLE LINE MALFUNCTION  
JOB STANDARDS:  
CIRCUIT CARD PROPERLY SEATED, LINE FUNCTIONS  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 I 0419 2.70 7.0 5.0 5.0 2.0 6.65 7.0  
304X4 I 0469 1.87 3.0 3.0 3.0 2.0 4.37 2.0  
304X4 J 0543 6.75 78.0 75.0 69.0 36.0 5.05 18.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY SUBASSEMBLIES, CIRCUIT CARDS, AND  
COMPONENT PARTS  
A REMOVE/REPLACE SUBASSEMBLIES, CIRCUIT CARDS, AND  
PARTS  
S PERFORM HIGH RELIABILITY SOLDERING OF INTEGRATED  
CIRCUITS  
OSR JOB INVENTORY TASK STATEMENTS:  
4 I0419 K ISOLATE MALFUNCTIONS WITHIN AUTOMATIC SWITCHBOARDS  
4 I0469 A REMOVE OR INSTALL AUTOMATIC SWITCHBOARD COMPONENTS  
4 J0543 S SOLDER COMMUNICATIONS EQUIPMENT COMPONENTS

TASK #: 02620  
 INSPECT TA-312/PT TELEPHONE SET  
 DUTY CODE: X4  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: 56  
 OJT TRAINABLE: YES  
 QTP ADEQUATE: N/A  
 TNG REFERENCE(S): T.O. 31W1-2PT-292 AND T.O. 31W1-2PT-294  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 DUPLICATE TA-312/PT, TWO PIECES OF WIRE, FOUR D-TYPE CELL BATTERIES, CLEANING BRUSH, CLEANING RAGS AND AGENTS  
 REFERENCES:  
 T.O. 31W1-2PT-292  
 T.O. 31W1-2PT-294  
 CONDITIONS CUES:  
 COND: INDOORS/OUTDOORS  
 CUE: PMI SCHEDULE, BEFORE OR AFTER A MISSION  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB   1ENL   5SKL   7SKL   TD   ATI  
 304X4 M 0632 2.62 20.0 23.0 22.0 12.0 3.66 7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A CHECK AUDIO  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DAMAGE  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 M0632 A PERFORM OPERATOR MAINTENANCE ON MOBILE EQUIPMENT

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TASK #: 02630  
 TROUBLESHOOT TA-312/PT TELEPHONE SET  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, INJURY  
 HOW OFTEN: INDEFINITE  
 OJT TRAINABLE: YES  
 QTP ADEQUATE: N/A  
 TNG REFERENCE(S): T.O. 31W1-2PT-292 AND T.O. 31W1-2PT-294  
 TTT: 5  
 SME OPINION: 3  
 EQUIPMENT:  
 SIGNAL GENERATOR WITH THOUSAND HERTZ TONE, COMMON HANDTOOLS, INDUCTIVE PROBE TO TRACE 1000HZ TONE, OSCILLOSCOPE, DIGITAL MULTIMETER, SOLDERING KIT  
 REFERENCES:  
 T.O. 31W1-2PT-292  
 T.O. 31W1-2PT-294  
 CONDITIONS CUES:  
 COND: INDOORS  
 CUE: PMI SCHEDULE, RADIO OR FIELDPHONE FAILURE  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB   1ENL   5SKL   7SKL   TD   ATI  
 304X4 J 0543 6.75 78.0 75.0 69.0 56.0 5.05 18.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A CLEAN BATTERY TERMINALS  
 A CHECK FOR BAD WIRES WITHIN THE CASING  
 A CHECK FOR BAD SOLDER JOINTS  
 A CHECK FOR LOOSE SCREWS INTERNALLY  
 A CLEAN CONTACTS  
 A REMOVE/REPLACE ASSEMBLIES, COMPONENTS, AND PARTS  
 A LABEL WIRES FOR REMOVAL/REPLACEMENT OF PARTS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 J0543 A SOLDER COMMUNICATIONS EQUIPMENT COMPONENTS

TASK #: 02640  
 ALIGN AND ADJUST TA-312/PT TELEPHONE SET  
 DUTY CODE: X4  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: NONE, NONE, NONE  
 HOW OFTEN: INDEFINITE  
 OJT TRAINABLE: YES  
 QTP ADEQUATE: N/A  
 TNG REFERENCE(S): T.O. 31W1-2PT-292 AND T.O. 31W1-2PT-294  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 COMMON HANDTOOLS, ALLEN WRENCHES  
 REFERENCES:  
 T.O. 31W1-2PT-292 AND 294  
 CONDITIONS CUES:  
 COND: INDOORS OR OUTDOORS  
 CUE: PHI OR RADIO FAILURE  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
           304X4 M 0632 2.62 20.0 23.0 22.0 12.0 3.66 7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
           A ALIGN/ADJUST RINGER  
 OSR JOB INVENTORY TASK STATEMENTS:  
           4 M0632 A PERFORM OPERATOR MAINTENANCE ON MOBILE EQUIPMENT

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TASK #: 02650  
 INSPECT TD-2903 TAPE DEGAUSSER  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: NONE, DAMAGE, NONE  
 HOW OFTEN: 28, 56, 84, 168  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31S3-4-52-6WC-1  
 TTT: 3  
 SME OPINION: 3  
 DEGAUSSER CAN RUIN TAPE BY MAGNETISM  
 EQUIPMENT:  
 TOOL KIT, OIL, CLEANING SUPPLIES, TAPE (PRERECORDED)  
 REFERENCES:  
 T.O. 31S3-4-52-6WC-1  
 CONDITIONS CUES:  
 COND: USER SITE, POWER ON/OFF  
 CUE: PHI  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
           304X4 H 0380 4.97 67.0 65.0 57.0 25.0 3.61 18.0  
           304X4 I 0466 4.20 36.0 34.0 31.0 18.0 3.71 12.0  
 ACTIVITIES SKILL KNOWLEDGE:  
           A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
           A VERIFY RELIABILITY OF POWER METER M1 (NON-T.O. ITEM)  
           A PERFORM OPERATION CHECK OF TAPE DEGAUSSER  
           A CLEAN INTERIOR AND EXTERIOR OF DEGAUSSER  
           A CHECK CHASSIS  
           A CHECK FAN  
           A CHECK REEL HUB ASSEMBLY ROLLER  
           A CHECK REEL HUB ASSEMBLY GEARS  
           A CHECK TRAVELER ASSEMBLY AND GEAR  
           A LUBRICATE GEARS FOR MODELS NOT EQUIPPED WITH BELT  
           DRIVE  
 OSR JOB INVENTORY TASK STATEMENTS:  
           4 H0380 A LUBRICATE MECHANICAL PARTS OF GROUND RADIO EQUIPMENT  
           4 I0466 A PERFORM OPERATIONAL CHECKS OF AUDIO RECORDERS AND  
           REPRODUCERS

TASK #: 02660  
TROUBLESHOOT TD-2903 TAPE DEGAUSSER  
DUTY CODE: X4  
TASK STATUS: 3-K  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: NONE, DAMAGE, INJURY  
HOW OFTEN: INDEFINITE  
OJT TRAINABLE: YES, NO, BASIC ELECTRONICS  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31S3-4-52-11  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
TOOL KIT, DIGITAL MULTIMETER, SOLDERING KIT  
REFERENCES:  
T.O. 31S3-4-52-11  
CONDITIONS CUES:  
COND: USER SITE OR IN-SHOP, POWER ON/OFF  
CUE: PMI FINDING, USER COMPLAINT TAPES NOT ERASED  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
304X4 I 0483 3.40 20.0 18.0 17.0 11.0 3.97 7.0  
304X4 K 0587 4.15 31.0 31.0 27.0 13.0 5.31 12.0  
ACTIVITIES SKILL KNOWLEDGE:  
A ISOLATE FAULTY ELECTROMAGNETS  
A ISOLATE FAULTY AC POWER  
A ISOLATE FAULTY THERMOSTATIC DELAY RELAY  
A ISOLATE FAULTY DRIVE MOTOR, GEAR BOX, AND HUB ASSEMBLY  
A ISOLATE FAULTY TRAVELLER ASSEMBLY  
A REMOVE/REPLACE DEGAUSSER ELECTRICAL COMPONENTS AND MECHANICAL COMPONENTS  
A CHECK DEGAUSSER ELECTRICAL VOLTAGES  
OSR JOB INVENTORY TASK STATEMENTS:  
4 I0483 A REMOVE OR INSTALL RECORDER AND REPRODUCER LRU  
4 K0587 A REMOVE OR INSTALL AUDIO RECORDER-REPRODUCER DISCRETE PARTS

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TASK #: 02670  
ALIGN/ADJUST TD-2903 TAPE DEGAUSSER  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: NONE, DAMAGE, INJURY  
HOW OFTEN: INDEFINITE  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31S3-4-52-11  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
TOOL KIT  
REFERENCES:  
T.O. 31S3-4-52-11  
CONDITIONS CUES:  
COND: USER SITE OR IN-SHOP, POWER OFF  
CUE: RECONFIGURATION OF EQUIPMENT  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
304X4 K 0546 4.80 34.0 35.0 30.0 15.0 5.96 12.0  
ACTIVITIES SKILL KNOWLEDGE:  
A CHANGE JUMPERS TO MATCH VOLTAGE REQUIREMENTS  
A RESPACE MAGNETIC COILS FOR 2 INCH TAPE  
OSR JOB INVENTORY TASK STATEMENTS:  
4 K0546 A ALIGN AUDIO RECORDER-REPRODUCER DISCRETE PARTS

TASK #: 02680  
 INSPECT AN/TRC-176 UHF/VHF TRANSCEIVER  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 1

TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: 28, 168  
 OJT TRAINABLE: YES  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): T.O. 31R2-2TRC176-6 AND T.O. 31R2-2TRC176-1  
 TTT: NONE  
 SME OPINION: 5

EQUIPMENT:  
 DIGITAL MULTIMETER, POWER SUPPLY HP-6268B, WATT METER, RADIO TEST SET AN/GRM-115, 30 DB ATTENUATOR, 6 DB ATTENUATOR, BALANCED MIXER, DISTORTION ANALYZER, OSCILLOSCOPE, SIGNAL GENERATOR

REFERENCES:  
 T.O. 31R2-2TRC176-6HC-1  
 T.O. 31R2-2TRC176-1

CONDITIONS CUES:  
 COND: TWO-MAN TEAM  
 CUE: PMI

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0392 | 6.63 | 70.0 | 64.0 | 55.0 | 32.0 | 4.30 | 18.0 |
| 304X4 H   | 0393 | 6.33 | 53.0 | 50.0 | 43.0 | 27.0 | 4.23 | 18.0 |

ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 A PERFORM LOCAL CONTROL TEST  
 A PERFORM REMOTE CONTROL TEST  
 A PERFORM POWER OUTPUT TEST  
 A PERFORM MODULATION PERCENTAGE TEST  
 A PERFORM MAIN RECEIVER SENSITIVITY TEST  
 A PERFORM GUARD RECEIVER SENSITIVITY TEST  
 A PERFORM AUDIO OUTPUT TEST  
 A PERFORM ECCH TALK TEST  
 A PERFORM TWO ADJACENT CHANNEL CAPABILITY  
 A PERFORM POWER SUPPLY TEST

OSR JOB INVENTORY TASK STATEMENTS:  
 4 H0392 A OPERATIONALLY CHECK UHF EQUIPMENT  
 4 H0393 A OPERATIONALLY CHECK VHF EQUIPMENT

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TASK #: 02690  
 TROUBLESHOOT AN/TRC-176 UHF/VHF TRANSCEIVER  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 1

TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: INDEFINITE, DEGRADATION OF EQUIPMENT  
 OJT TRAINABLE: YES  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): T.O. 31R2-2URC-62 AND T.O. 31R2-2TRC176-2  
 TTT: NONE  
 SME OPINION: 5

EQUIPMENT:  
 DIGITAL MULTIMETER, POWER SUPPLY HP-6268B, WATT METER, RADIO TEST SET AN/GRM-115, 30 DB ATTENUATOR, 6 DB ATTENUATOR, BALANCED MIXER, DISTORTION ANALYZER, OSCILLOSCOPE, SIGNAL GENERATOR, AUDIO OSCILLATOR, DUMMY LOAD, TEST CABLES, TOOL KIT

REFERENCES:  
 T.O. 31R2-2URC-62  
 T.O. 31R2-2TRC176-2

CONDITIONS CUES:  
 COND: TWO-MAN TEAM  
 CUE: EQUIPMENT FAILURE, FAULTY EQUIPMENT

JOB STANDARDS:  
 IAW REFERENCES



| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 J   | 0524 | 6.45 | 57.0 | 51.0 | 42.0 | 19.0 | 6.01 | 18.0 |
| 304X4 J   | 0528 | 6.37 | 46.0 | 41.0 | 34.0 | 16.0 | 6.08 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:

- A VERIFY RT PERFORMANCE
- K ISOLATE FAULTY A2A1A2 PS HEAT SINK REGULATOR ASSEMBLY
- K ISOLATE FAULTY CABLES
- K ISOLATE FAULTY A2A1CB1 CARD
- K ISOLATE FAULTY HOUSING ASSEMBLY
- K ISOLATE FAULTY A2A1A1 CARD
- K ISOLATE FAULTY INPUT FILTERS, FL11 AND FL12
- K ISOLATE FAULTY LOUDSPEAKER
- K ISOLATE FAULTY RADIO SET CONTROL A3 CARD
- K ISOLATE FAULTY A3A2-RSC CARD
- K ISOLATE FAULTY KEYBOARD
- K ISOLATE FAULTY LCD A3A1 CARD
- K ISOLATE FAULTY A1A1A7 POWERED REGULATOR CARD
- K ISOLATE FAULTY A1A1A8 CHASSIS CARD
- K ISOLATE FAULTY A1A1A9 POWER SWITCH CARD
- K ISOLATE FAULTY A1A1A1 DATA CONVERTER CARD
- K ISOLATE FAULTY A1A2 TRANSMITTER CARD
- K ISOLATE FAULTY A1A1A3 MODULATOR CARD
- K ISOLATE FAULTY A1A1A6 SYNTHESIZER CARD
- K ISOLATE FAULTY A1A1A4 GUARD RECEIVER CARD
- K ISOLATE FAULTY A1A1A4 MAIN RECEIVER CARD
- A REMOVE FAULTY COMPONENTS OR CARDS
- A REPLACE FAULTY COMPONENTS OR CARDS
- A TURN OFF POWER
- A DISCONNECT POWER

OSR JOB INVENTORY TASK STATEMENTS:

- 4 J0528 A BENCH CHECK VHF TRANSCEIVERS
- 4 J0524 A BENCH CHECK UHF TRANSCEIVERS

TASK #: 02700

ALIGN/ADJUST AN/TRC-176 UHF/VHF TRANSCEIVER

DUTY CODE: X4

TASK STATUS: 3-KP

TIMES ANALYZED: 1

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY

HOW OFTEN: DEGRADATION OF EQUIPMENT

OJT TRAINABLE: YES

QTP ADEQUATE: YES

TNG REFERENCE(S): T.O. 31R2-2URC-62

TTT: NONE

SME OPINION: 5

EQUIPMENT:

RF SIGNAL GENERATOR, AUDIO OSCILLATOR, 6DB ATTENUATOR, RADIO TEST SET, AN/GRM-115, DISTORTION ANALYZER, POWER SUPPLY, DIGITAL VOLTMETER, WATT METER, DUMMY LOAD, BALANCE MIXER, 30DB ATTENUATOR, TEST CABLES, STANDARD TOOL BOX, OSCILLOSCOPE, FREQUENCY COUNTER

REFERENCES:

T.O. 31R2-2URC-62

CONDITIONS CUES:

COND: TWO-MAN TEAM

CUE: FAULTY EQUIPMENT

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 J   | 0499 | 6.78 | 63.0 | 60.0 | 51.0 | 26.0 | 6.13 | 18.0 |

ACTIVITIES SKILL KNOWLEDGE:

- A TURN OFF POWER
- A CONNECT TEST EQUIPMENT
- A ALIGN AND ADJUST GUARD SQUELCH
- A ALIGN AND ADJUST CARRIER LEVEL AND PERCENT OF MODULATION
- A ALIGN AND ADJUST SIDETONE LEVEL
- A RETURN EQUIPMENT TO NORMAL OPERATING CONDITION

OSR JOB INVENTORY TASK STATEMENTS:

- 4 J0499 A ALIGN UHF EQUIPMENT

TASK #: 02710  
 INSPECT AN/TSC-107 (HF TRANSCEIVER) AN/URC-92  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: 7, 28, 56, 168  
 OJT TRAINABLE: YES, NO, REQUIRES BASIC ELECTRONICS  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): LWC 5 CISG 31R2-2TSC107-1, LWC 5 CISG URC-92-1,  
 AND T.O. 31R2-2TSC107-1  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 RF SIGNAL GENERATOR, DUMMY LOAD, THRU LINE WATTMETER,  
 TRANSMISSIONS TEST SET, MULTIMETER, RF VOLTMETER,  
 DIGITAL VOLTMETER, OSCILLOSCOPE, FREQUENCY COUNTER  
 REFERENCES:  
 LWC 5 CISG 31R2-2TSC107-1  
 LWC 5 CISG URC-92-1  
 T.O. 31R2-2TSC107-1  
 CONDITIONS CUES:  
 COND: INSIDE EQUIPMENT SHELTER, POWER ON, SAFETY OBSERVER  
 CUE: PMI, PRE/POST DEPLOYMENT INSPECTION  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:    TASK    TE    1JOB    1ENL    5SKL    7SKL    TD    ATI  
 304X4    H    0383    5.95    60.0    63.0    60.0    35.0    4.19    18.0  
 304X4    M    0632    2.62    20.0    23.0    22.0    12.0    3.66    7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DAMAGE  
 A CHECK POWER SUPPLY VOLTAGES  
 A CHECK RECEIVER SENSITIVITY  
 A CHECK RECEIVER FREQUENCY ACCURACY  
 A CHECK AUDIO OUTPUT LEVELS OF RECEIVER  
 A CHECK RECEIVER SELECTIVITY  
 A CHECK AMPLITUDE MODULATION (AM) TRANSMIT POWER  
 A CHECK SIDEBAND TRANSMIT POWER  
 A CHECK CONTINUOUS WAVE (CW) TRANSMIT POWER  
 A CHECK TRANSMIT FREQUENCY ACCURACY WHEN IN (AM) MODE  
 A CHECK CARRIER SUPPRESSION WHEN IN SIDEBAND MODE  
 A CLEAN TRANSCEIVER  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 H0383 A OPERATIONALLY CHECK HF EQUIPMENT  
 4 H0632 A PERFORM OPERATOR MAINTENANCE ON MOBILE EQUIPMENT

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 TASK #: 02720  
 INSPECT AN/TSC-107 (UHF TRANSCEIVER) AN/ARC-164  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: SERIOUS, NONE, NONE  
 HOW OFTEN: 7, 28, 56, 168  
 OJT TRAINABLE: YES, NO, REQUIRES BASIC ELECTRONICS  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): LWC 5 CISG 12R2-2ARC164-2 AND  
 T.O. 31R2-2TSC107-1  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 RF SIGNAL GENERATOR, DUMMY LOAD, THRU LINE WATTMETER,  
 TRANSMISSIONS TEST SET, MULTIMETER, RF VOLTMETER, HANDTOOLS  
 FREQUENCY COUNTER  
 REFERENCES:  
 LWC 5 CISG 12R2-2ARC164-2  
 T.O. 31R2-2TSC107-1  
 CONDITIONS CUES:  
 COND: INSIDE EQUIPMENT SHELTER, POWER ON, SAFETY OBSERVER  
 CUE: PMI, PRE/POST DEPLOYMENT INSPECTION  
 JOB STANDARDS:  
 IAW REFERENCES

OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
 304X4 H 0392 6.63 70.0 64.0 55.0 32.0 4.30 18.0  
 304X4 M 0632 2.62 20.0 23.0 22.0 12.0 3.66  7.0

ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DAMAGE  
 A CHECK RECEIVER SENSITIVITY  
 A CHECK RECEIVER FREQUENCY ACCURACY  
 A CHECK AUDIO OUTPUT LEVELS OF RECEIVER  
 A CHECK AMPLITUDE MODULATION (AM) TRANSMIT POWER  
 A CHECK TRANSMIT FREQUENCY ACCURACY WHEN IN (AM) MODE  
 A CLEAN TRANSCEIVER

OSR JOB INVENTORY TASK STATEMENTS:  
 4 H0392 A OPERATIONALLY CHECK UHF EQUIPMENT  
 4 M0632 A PERFORM OPERATOR MAINTENANCE ON MOBILE EQUIPMENT

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TASK #: 02730  
 INSPECT AN/TSC-107 (VHF TRANSCEIVER) AN/ARC-186  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 3

TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: 7, 28, 56, 168  
 OJT TRAINABLE: YES, NO, REQUIRES BASIC ELECTRONICS  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): LWC 5 CISG 12R2-2ARC186-2 AND  
                   T.O. 31R2-2TSC107-1

TTT: 3  
 SME OPINION: 3

EQUIPMENT:  
 RF SIGNAL GENERATOR, DUMMY LOAD, THRU LINE WATTMETER,  
 TRANSMISSIONS TEST SET, DIGITAL MULTIMETER, RF VOLTMETER,  
 FREQUENCY COUNTER, HANDTOOLS

REFERENCES:  
 LWC 5 CISG 12R2-2ARC186-2  
 T.O. 31R2-2TSC107-1

CONDITIONS CUES:  
 COND: INSIDE EQUIPMENT SHELTER, POWER ON, SAFETY OBSERVER  
 CUE: PHI, PRE/POST DEPLOYMENT INSPECTION

JOB STANDARDS:  
 IAW REFERENCES

OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
 304X4 H 0393 6.33 53.0 50.0 43.0 27.0 4.23 18.0

ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DAMAGE  
 A CHECK AM RECEIVER SENSITIVITY  
 A CHECK FM RECEIVER SENSITIVITY  
 A CHECK AM RECEIVER SELECTIVITY  
 A CHECK FM RECEIVER SELECTIVITY  
 A CHECK RECEIVER FREQUENCY ACCURACY  
 A CHECK AUDIO OUTPUT LEVELS OF RECEIVER  
 A CHECK AMPLITUDE MODULATION (AM) TRANSMIT POWER  
 A CHECK FREQUENCY MODULATION (FM) TRANSMIT POWER  
 A CHECK TRANSMIT FREQUENCY ACCURACY WHEN IN (AM) MODE  
 A CLEAN TRANSCEIVER

OSR JOB INVENTORY TASK STATEMENTS:  
 4 H0393 A OPERATIONALLY CHECK VHF EQUIPMENT

TASK #: 02740  
 INSPECT AN/TSC-107 (HF INDEPENDENT SIDEBAND TRANSMITTER)GSE-924, GSL-1900  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: 7, 28, 56, 168  
 OJT TRAINABLE: YES, NO, REQUIRES BASIC ELECTRONICS  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-4-494-2, T.O. 31R2-4-496-2,  
 AND T.O. 31R2-2TSC107-1  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 DUMMY LOAD, THRULINE WATTMETER, OSCILLOSCOPE, FREQUENCY COUNTER,  
 TRANSMISSION TEST SET, MULTIMETER, RF VOLTMETER, HANDTOOLS  
 REFERENCES:  
 T.O. 31R2-4-494-2  
 T.O. 31R2-4-496-2  
 T.O. 31R2-2TSC107-1  
 CONDITIONS CUES:  
 COND: INSIDE EQUIPMENT SHELTER, POWER ON, SAFETY OBSERVER  
 CUE: PMI, PRE/POST DEPLOYMENT INSPECTION  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 H 0383 5.95 60.0 63.0 60.0 35.0 4.19 18.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DAMAGE  
 A CHECK TUNE POWER  
 A CHECK AMPLITUDE MODULATION (AM) TRANSMIT POWER  
 A CHECK SIDEBAND TRANSMIT POWER  
 A CHECK CONTINUOUS WAVE (CW) TRANSMIT POWER  
 A CHECK METER READINGS ON FRONT PANEL  
 A CHECK FORWARD POWER FROM TRANSMITTER SET  
 A CHECK REFLECTED POWER FROM DUMMY LOAD  
 A CHECK POWER AMPLIFIER (LPA) TUBE  
 A CHECK CARRIER SUPPRESSION  
 A CHECK TRANSMIT FREQUENCY ACCURACY WHEN IN (AM) MODE  
 A CLEAN TRANSMITTER  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 H0383 A OPERATIONALLY CHECK HF EQUIPMENT

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TASK #: 02750  
 INSPECT AN/TSC-107 (HF INDEPENDENT SIDEBAND RECEIVER) GRS-920  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: SERIOUS, NONE, NONE  
 HOW OFTEN: 7, 28, 56, 168  
 OJT TRAINABLE: YES, NO, REQUIRES BASIC ELECTRONICS  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-2TSC107-1  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 TRANSMISSIONS TEST SET, RF SIGNAL GENERATOR, HANDTOOLS,  
 CLEANING MATERIALS  
 REFERENCES:  
 T.O. 31R2-2TSC107-1  
 CONDITIONS CUES:  
 COND: INSIDE EQUIPMENT SHELTER, POWER ON, SAFETY OBSERVER  
 CUE: PMI, PRE/POST DEPLOYMENT INSPECTION  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 H 0383 5.95 60.0 63.0 60.0 35.0 4.19 18.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DAMAGE  
 A CHECK RECEIVE SENSITIVITY IN SIDEBAND MODE  
 A CHECK RECEIVE SENSITIVITY IN AM MODE  
 A CHECK RECEIVER SELECTIVITY IN SIDEBAND MODE  
 A CHECK AUDIO LEVEL OUTPUT  
 A CLEAN RECEIVER  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 H0383 A OPERATIONALLY CHECK HF EQUIPMENT

TASK #: 02760  
 INSPECT AN/TSC-107 (MODEMS),MPC-1000/T, MD-674D, 1290/VFT, MD-1142, MD-1061  
 DUTY CODE: X4  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: SERIOUS, NONE, NONE  
 HOW OFTEN: 7, 28, 56, 168  
 OJT TRAINABLE: YES, NO, REQUIRES BASIC ELECTRONICS  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): SEE REFERENCES  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 TRANSMISSION TEST SET, AM/UGC-129 TELETYPEWRITER, AM/GGM-21A  
 TELETYPE TEST SET, HANDTOOLS, CLEANING MATERIALS, PATCH CORDS,  
 SIGNAL GENERATOR  
 REFERENCES:  
 LWC 5 CISG 1061 MODEM, LWC 5 CISG MPC-1000T/LOC  
 LWC 5 CISG 6029 MODEM, LWC 5 CISG 31W2-2G-41  
 T.O. 31W2-2G-46WC-1, T.O. 31S1-4-234-1  
 T.O. 31R2-2TSC107-1  
 CONDITIONS CUES:  
 COND: INSIDE EQUIPMENT SHELTER, POWER ON, SAFETY OBSERVER  
 CUE: PHI, PRE/POST DEPLOYMENT INSPECTION  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
 304X4 H 0387 3.23 6.0 6.0 7.0 5.0 4.46 7.0  
 304X4 I 0457 2.50 7.0 9.0 10.0 6.0 3.75 7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DAMAGE  
 A CHECK AUDIO OUTPUT FREQUENCY ACCURACY  
 A CHECK AUDIO FREQUENCY OUTPUT LEVEL  
 A CHECK DC OUTPUT LEVEL  
 A PERFORM OPERATIONAL CHECK OF MODEMS  
 A CHECK DISTORTION  
 A CLEAN MODEMS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 I0457 A OPERATIONALLY CHECK FREQUENCY SHIFT CONVERTERS  
 4 H0387 A OPERATIONALLY CHECK MULTIPLEX EQUIPMENT

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TASK #: 02770  
 INSPECT AN/TSC-107 (TELETYPEWRITER) AN/UGC-29(V)1  
 DUTY CODE: X4  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: SERIOUS, NONE, NONE  
 HOW OFTEN: 7, 28, 56, 168  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): LWC 5 CCGP MU-734/UGC AND T.O. 31R2-2TSC107-1  
 TTT: 5  
 SME OPINION: 3  
 EQUIPMENT:  
 MAGNETIC DATA TAPES, PATCH CORDS, HANDTOOLS, CLEANING MATERIALS  
 REFERENCES:  
 LWC 5 CCGP MU-734/UGC  
 T.O. 31R2-2TSC107-1  
 CONDITIONS CUES:  
 COND: INSIDE EQUIPMENT SHELTER, POWER ON, SAFETY OBSERVER  
 CUE: PHI, PRE/POST DEPLOYMENT INSPECTION  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
 304X4 H 0390 3.15 8.0 10.0 11.0 5.0 4.40 7.0  
 304X4 J 0520 2.90 6.0 8.0 8.0 4.0 5.70 7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DAMAGE  
 A PERFORM BYTF CHECK OF TELETYPEWRITER (SELF TEST)  
 A OPERATIONALLY CHECK TELETYPEWRITERS AND MAGNETIC TAPE UNITS  
 A CHECK STRAPPING OPTIONS  
 A CLEAN MAGNETIC TAPE HEADS  
 S TYPING ABILITY  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 H0390 A OPERATIONALLY CHECK RADIO-TELETYPE SYSTEMS  
 4 J0520 A BENCH CHECK RADIO-TELETYPE EQUIPMENT

TASK #: 02780  
 INSPECT AN/TSC-107 (TELEPHONE SWITCHBOARD), SB-3614  
 DUTY CODE: X4  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: 7, 28, 56, 168  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): LWC 5 CISG 31W2-2TT-22 AND T.O. 31R2-2TSC107-1  
 TTT: 5  
 SME OPINION: 3  
 EQUIPMENT:  
 FIELD PHONE, DIAL/PULSE PHONE, DTMF (PUSH BUTTON PHONE), POWER  
 SUPPLY, INSULATED WIRE, HANDTOOLS, CLEANING MATERIALS  
 REFERENCES:  
 LWC 5 CISG 31W2-2TT-22, T.O. 31R2-2TSC107-1  
 CONDITIONS CUES:  
 COND: IN SHOP, ON BENCH, POWER ON, SAFETY OBSERVER  
 CUE: PMI, PRE/POST DEPLOYMENT INSPECTION  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 I 0449 2.27 7.0 6.0 5.0 3.0 3.54 7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DAMAGE  
 A CHECK CIRCUIT CARD CONFIGURATION  
 A PERFORM OPERATIONAL CHECK OF CIRCUIT CARDS  
 A CLEAN CONTACTS, PINS, CONNECTORS, AND FRONT PANEL  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 I0449 A OPERATIONALLY CHECK AUTOMATIC SWITCHBOARDS

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TASK #: 02790  
 INSPECT AN/TSC-107 (TELEPHONE TERMINATING SYSTEM), AN/FTA-28, STU-5A, AN/TSC-1  
 07 WESCOM  
 DUTY CODE: X4  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: 7, 28, 56, 168  
 OJT TRAINABLE: YES, NO, REQUIRES BASIC ELECTRONICS  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): SEE REFERENCES  
 TTT: 5  
 SME OPINION: 5  
 EQUIPMENT:  
 TRANSMISSION TEST SET, COMMUNICATIONS TEST SET (3901), TA-312  
 FIELD PHONE, DIGITAL VOLTMETER, POWER SUPPLY, 10K OHM RESISTOR,  
 PATCH CORDS, HANDTOOLS, CLEANING MATERIALS, DIGITAL MULTIMETER,  
 FREQUENCY COUNTER  
 REFERENCES:  
 LWC 5 CISG WESCOM, LWC 5 CISG AUTOVON CIRCUIT  
 LWC 5 CISG AN/STU-5, LWC 5 CISG AN/FTA-28  
 T.O. 31R2-2TSC107-1  
 CONDITIONS CUES:  
 COND: INSIDE EQUIPMENT SHELTER, POWER ON, SAFETY OBSERVER  
 CUE: PMI, PRE/POST DEPLOYMENT INSPECTION  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 H 0389 3.53 13.0 13.0 13.0 7.0 4.18 7.0  
 304X4 I 0462 3.40 18.0 18.0 18.0 10.0 3.31 7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DAMAGE  
 A CHECK STRAPPING POSITIONS  
 A CHECK TRANSMIT AUDIO LEVEL  
 A PERFORM 20 HERTZ RING DOWN TEST  
 A CHECK SEND SIGNAL FREQUENCY  
 A CHECK AUTOVON CONTROL CIRCUITS  
 A CHECK TRANSMIT VOICE OPERATED KEYING SWITCH (VOX)  
 A CHECK RECEIVE VOICE OPERATED KEYING SWITCH TEST  
 A CHECK HYBRID RESISTORS  
 A CLEAN TELEPHONE TERMINATING SYSTEM  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 I0462 A OPERATIONALLY CHECK PHONE PATCH SYSTEMS  
 4 H0389 A OPERATIONALLY CHECK RADIO-TELEPHONE SYSTEMS

PART2C

TASK #: 02800

INSPECT AN/TSC-107 (ANTENNA COUPLERS), GCU-935, GCU-1935

DUTY CODE: X4

TASK STATUS: 3-KP

TIMES ANALYZED: 4

TNOTES:

CONSEQUENCES: MINOR, DAMAGE, NONE

HOW OFTEN: 7, 28, 56, 168

OJT TRAINABLE: YES, NO, REQUIRES BASIC ELECTRONICS

QTP ADEQUATE: NONE

TNG REFERENCE(S): T.O. 31R2-4-497-1, T.O. 31R2-2URC-92-1, T.O. 31R2 2TSC107 1

TTT: 5

SME OPINION: 5

EQUIPMENT:

HF INDEPENDENT SIDEBAND SYSTEM, HF SINGLE SIDEBAND RECEIVER, HAND TOOLS  
DUMMY LOADS, HF SINGLE SIDEBAND TRANSCEIVER, WIRE/CABLE, CLEANING MATERIALS

REFERENCES:

T.O. 31R2-4-497-1, T.O. 31R2-2URC-92-1, T.O. 31R2-2TSC107-1

CONDITIONS CUES:

COND: OUTSIDE SHELTER, POWER ON, SAFETY OBSERVER

CUE: PMI, PRE/POST DEPLOYMENT INSPECTION

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK   | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|--------|------|------|------|------|------|------|------|
| 304X4     | H 0383 | 5.95 | 60.0 | 63.0 | 60.0 | 35.0 | 4.19 | 18.0 |
| 304X4     | H 0391 | 5.47 | 42.0 | 43.0 | 40.0 | 21.0 | 4.29 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:

- A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DAMAGE
- A CONNECT CONTROL CABLE TO COUPLER
- A CONNECT RF CABLE TO COUPLER
- A TUNE LINEAR POWER AMPLIFIER (LPA)
- A TUNE ANTENNA COUPLERS (GCU-935, GCU-1935)
- A PERFORM OPERATION CHECK OF ANTENNA COUPLER
- A CLEAN CONNECTORS OF THE ANTENNA COUPLER

OSR JOB INVENTORY TASK STATEMENTS:

- 4 H0383 A OPERATIONALLY CHECK HF EQUIPMENT
- 4 H0391 A OPERATIONALLY CHECK SIDE BAND EQUIPMENT

TASK #: 02810

TROUBLESHOOT AN/TSC-107 (HF TRANSCEIVER) URC-92

DUTY CODE: X4

TASK STATUS: 3-KP

TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: MINOR, DAMAGE, INJURY

HOW OFTEN: MONTHLY

OJT TRAINABLE: YES, NO, REQUIRES BASIC ELECTRONICS

QTP ADEQUATE: NONE

TNG REFERENCE(S): T.O. 31R2-2URC92-2

TTT: 3

SME OPINION: 5

EQUIPMENT:

OSCILLOSCOPE, THRU LINE WATTMETER, DIGITAL MULTIMETER,  
RF VOLTMETER, FREQUENCY COUNTER, DUMMY LOAD, SIGNAL GENERATOR,  
HAND TOOLS, CAPACITOR TESTER, SOLDERING KIT

REFERENCES:

T.O. 31R2-2URC92-2

CONDITIONS CUES:

COND: IN SHOP, ON BENCH, POWER ON, SAFETY OBSERVER

CUE: LOW POWER OUTPUT, NO TRANSMIT, POOR SENSITIVITY

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK   | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|--------|------|------|------|------|------|------|------|
| 304X4     | H 0373 | 6.45 | 56.0 | 60.0 | 57.0 | 30.0 | 6.48 | 18.0 |
| 304X4     | J 0497 | 5.97 | 41.0 | 43.0 | 39.0 | 21.0 | 6.38 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:

- A FAULT ISOLATE AN/TSC-107 MALFUNCTION TO HF TRANSCEIVER
- A ALIGN AND ADJUST FILTER MODULE
- A ALIGN AND ADJUST SYNTHESIZER
- A ALIGN RECEIVER/EXCITER
- A FAULT ISOLATE MALFUNCTION TO HF TRANSCEIVER SUBASSEMBLIES
- A REMOVE AND REPLACE CIRCUIT CARDS AND ASSOCIATED PARTS
- A REMOVE AND REPLACE FILTER MODULES
- A REMOVE AND REPLACE POWER AMPLIFIERS
- A REMOVE AND REPLACE CRYSTALS

OSR JOB INVENTORY TASK STATEMENTS:

- 4 J0497 A ALIGN SIDE BAND EQUIPMENT
- 4 H0373 K ISOLATE MALFUNCTIONS WITHIN HIGH FREQUENCY (HF) EQUIPMENT

TASK #: 02820  
TROUBLESHOOT AN/TSC-107 (VHF TRANSCEIVER) AN/ARC-186  
DUTY CODE: X4  
TASK STATUS: 3-K  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: MINOR, DAMAGE, NONE  
HOW OFTEN: YEARLY  
OJT TRAINABLE: YES, NO, REQUIRES BASIC ELECTRONICS  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 12R2-2ARC186-2, T.O. 12R2-2ARC186-4,  
AND T.O. 31R2-2TSC107-1  
TTT: 5  
SME OPINION: 3  
EQUIPMENT:  
THRULINE WATTMETER, DIGITAL MULTIMETER, FREQUENCY COUNTER,  
DB METER, DUMMY LOAD, SIGNAL GENERATOR, HAND TOOLS, SOLDERING  
KIT  
REFERENCES:  
T.O. 12R2-2ARC186-2  
T.O. 12R2-2ARC186-4  
T.O. 31R2-2TSC107-1  
CONDITIONS CUES:  
COND: INSIDE EQUIPMENT SHELTER, POWER ON, SAFETY OBSERVER  
CUE: LOW POWER OUTPUT, NO TRANSMIT, POOR SENSITIVITY  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB   1ENL   5SKL   7SKL   TD   ATI  
304X4 H 0379 6.55 49.0 47.0 41.0 23.0 6.39 12.0  
304X4 H 0404 4.58 22.0 22.0 23.0 13.0 4.02 11.0  
ACTIVITIES SKILL KNOWLEDGE:  
K FAULT ISOLATE AN/TSC-107 MALFUNCTION TO VHF TRANS-  
CEIVER  
K ISOLATE MALFUNCTION TO RACK ADAPTER (CA-218R)  
K ISOLATE MALFUNCTION TO POWER SUPPLY  
K ISOLATE MALFUNCTION TO AUDIO AMPLIFIER BOARD  
A ALIGN/ADJUST AUDIO AMPLIFIER BOARD  
K ISOLATE MALFUNCTION TO COMPONENT  
A REMOVE/REPLACE TRANSCEIVER  
A REMOVE/REPLACE CIRCUIT BOARDS  
A REMOVE/REPLACE COMPONENT  
OSR JOB INVENTORY TASK STATEMENTS:  
4 H0379 K ISOLATE MALFUNCTIONS WITHIN VERY HIGH FREQUENCY (VHF)  
EQUIPMENT

-----  
TASK #: 02830  
TROUBLESHOOT AN/TSC-107 (UHF TRANSCEIVER) AN/ARC-164  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: MINOR, DAMAGE, NONE  
HOW OFTEN: YEARLY  
OJT TRAINABLE: YES, NO, REQUIRES BASIC ELECTRONICS  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 12R2-2ARC164-2, T.O. 12R2-2ARC164-4,  
AND T.O. 31R2-2TSC107-1  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
THRULINE WATTMETER, DIGITAL MULTIMETER, FREQUENCY COUNTER,  
DB METER, DUMMY LOAD, SIGNAL GENERATOR, HAND TOOLS,  
SOLDERING KIT  
REFERENCES:  
T.O. 12R2-2ARC164-2, T.O. 12R2-2ARC164-4, T.O. 31R2-2TSC107-1  
CONDITIONS CUES:  
COND: INSIDE EQUIPMENT SHELTER, POWER ON, SAFETY OBSERVER  
CUE: LOW POWER OUTPUT, NO TRANSMIT, POOR SENSITIVITY  
JOB STANDARDS:  
IAW REFERENCES



| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0378 | 6.82 | 63.0 | 60.0 | 51.0 | 28.0 | 6.44 | 18.0 |
| 304X4 J   | 0541 | 5.53 | 62.0 | 57.0 | 49.0 | 25.0 | 5.16 | 18.0 |

ACTIVITIES SKILL KNOWLEDGE:

- A FAULT ISOLATE AN/TSC-107 MALFUNCTION TO UHF TRANSCEIVER
- A ISOLATE MALFUNCTION TO RACK ADAPTER (CA-218R)
- K ISOLATE MALFUNCTION TO POWER SUPPLY
- K ISOLATE MALFUNCTION TO AUDIO AMPLIFIER BOARD
- A ALIGN/ADJUST AUDIO AMPLIFIER BOARD
- K ISOLATE MALFUNCTION TO COMPONENT
- A REMOVE/REPLACE TRANSCEIVER
- A REMOVE/REPLACE CIRCUIT BOARDS
- A REMOVE/REPLACE COMPONENT

OSR JOB INVENTORY TASK STATEMENTS:

- 4 J0541 A REMOVE OR INSTALL UHF EQUIPMENT PARTS
- 4 H0378 K ISOLATE MALFUNCTIONS WITHIN ULTRA HIGH FREQUENCY (UHF) EQUIPMENT

TASK #: 02840  
 TROUBLESHOOT AN/TSC-107 (HF INDEPENDENT SIDEBAND TRANSMITTER) GSE-924, GSL-190  
 0A AND PS-1900

DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: WEEKLY  
 OJT TRAINABLE: YES, NO, REQUIRES BASIC ELECTRONICS  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): SEE REFERENCES  
 TTT: 3  
 SME OPINION: 5

EQUIPMENT:

THRULINE WATTMETER, DIGITAL MULTIMETER, FREQUENCY COUNTER,  
 DB METER, DUMMY LOAD, VECTOR IMPEDANCE METER, RF VOLTMETER,  
 OSCILLOSCOPE, HAND TOOLS, SOLDERING KIT

REFERENCES:

T.O. 31R2-4-494-1  
 T.O. 31R2-4-494-4  
 T.O. 31R2-4-496-1  
 T.O. 31R2-4-496-4  
 T.O. 31R2-4-1-121  
 T.O. 31R2-2TSC107-1

CONDITIONS CUES:

COND: INSIDE SHELTER/ON BENCH, POWER ON, SAFETY OBSERVER  
 CUE: LOW POWER OUTPUT, NO TRANSMIT, OFF FREQUENCY, FAULT  
 INDICATOR LIGHTS

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0373 | 6.45 | 56.0 | 60.0 | 57.0 | 30.0 | 6.48 | 18.0 |
| 304X4 J   | 0491 | 6.47 | 57.0 | 59.0 | 56.0 | 29.0 | 5.96 | 18.0 |
| 304X4 J   | 0534 | 5.00 | 53.0 | 54.0 | 51.0 | 25.0 | 5.00 | 18.0 |

ACTIVITIES SKILL KNOWLEDGE:

- K FAULT ISOLATE AN/TSC-107 MALFUNCTION TO HF INDEPENDENT SINGLE SIDEBAND TRANSMITTER
- K ISOLATE MALFUNCTION TO EXCITER
- K ISOLATE MALFUNCTION TO LINEAR POWER AMPLIFIER
- K ISOLATE MALFUNCTION TO POWER SUPPLY
- A CHECK TRANSMIT POWER OUTPUT
- A CHECK LINEAR POWER AMPLIFIER FRONT PANEL METER READINGS
- A CHECK TRANSMIT POWER FROM EXCITER
- A ALIGN SYNTHESIZER
- A ALIGN EXCITER
- A ALIGN FILTER
- A CHECK OUTPUT FROM HIGH STABILITY OSCILLATOR
- A CHECK VOLTAGES FROM POWER SUPPLY
- A ADJUST REMOTE AUDIO CONTROL
- A INPUT VOLTAGE TO HIGH VOLTAGE POWER SUPPLY
- A CHECK OUTPUT FROM HIGH VOLTAGE POWER SUPPLY
- A CHECK PRE-POSITION ALIGNMENTS OF LINEAR POWER AMPLIFIER
- A ALIGN CIRCUIT CARDS
- A REPLACE DEFECTIVE COMPONENTS
- A CHECK MECHANICAL ASSEMBLIES

OSR JOB INVENTORY TASK STATEMENTS:

- 4 J0534 A REMOVE OR INSTALL HF EQUIPMENT PARTS
- 4 J0491 A ALIGN HIGH FREQUENCY (HF) EQUIPMENT
- 4 H0373 K ISOLATE MALFUNCTIONS WITHIN HIGH FREQUENCY (HF) EQUIPMENT

TASK #: 02850  
TROUBLESHOOT AN/TSC-107 (HF INDEPENDENT SIDEBAND RECEIVER) GSR-920  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: SERIOUS, NONE, NONE  
HOW OFTEN: WEEKLY  
OJT TRAINABLE: YES, NO, REQUIRES BASIC ELECTRONICS  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31R2-2TSC107-1, T.O. 31R2-4-495-1,  
AND T.O. 31R2-4-495-4  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
OSCILLOSCOPE, DIGITAL MULTIMETER, FREQUENCY COUNTER, SIGNAL  
GENERATOR, DB METER, HAND TOOLS, SOLDERING KIT  
REFERENCES:  
T.O. 31R2-2TSC107-1  
T.O. 31R2-4-495-1  
T.O. 31R2-4-495-4  
CONDITIONS CUES:  
COND: INSIDE SHELTER OR IN SHOP, ON BENCH, POWER ON, SAFETY  
OBSERVER  
CUE: POOR RECEIVE SENSITIVITY, OFF FREQUENCY, NO RECEIVE  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   LJOB  1ENL  5SKL  7SKL  TD   ATI  
304X4 G  0299  2.38  11.0  12.0  11.0   5.0  4.88  7.0  
304X4 J  0534  5.00  53.0  54.0  51.0  25.0  5.00  18.0  
ACTIVITIES SKILL KNOWLEDGE:  
K FAULT ISOLATE AN/TSC-107 MALFUNCTION TO HF INDEPEND-  
ENT SIDEBAND (ISB) RECEIVER  
K FAULT ISOLATE MALFUNCTION TO ISB RECEIVER SUBASSEM-  
BLIES  
A CHECK CIRCUIT CARDS  
A REPLACE DEFECTIVE CIRCUIT CARDS  
A REMOVE AND REPLACE RECEIVER  
A ALIGN AND ADJUST SYNTHESIZER  
A ALIGN RECEIVER  
A ALIGN PRESELECTOR  
OSR JOB INVENTORY TASK STATEMENTS:  
4 G0299 A INSTALL MULTIPLE CHANNEL HF RECEIVERS  
4 J0534 A REMOVE OR INSTALL HF EQUIPMENT PARTS

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TASK #: 02860  
TROUBLESHOOT AN/TSC-107 (MODEMS) MD-674, MD-1142, 1290VFT, MD-1061, MPC-1000T  
DUTY CODE: X4  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: MINOR, NONE, NONE  
HOW OFTEN: MONTHLY  
OJT TRAINABLE: YES, NO, REQUIRES BASIC ELECTRONICS  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): SEE REFERENCES  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
OSCILLOSCOPE, DIGITAL MULTIMETER, FREQUENCY COUNTER, DB METER,  
AN/UGC-129 (TELETYPE), AN/GGM-21A (TELETYPE TEST SET),  
HAND TOOLS, SIGNAL GENERATOR, SPECTRUM ANALYZER,  
SOLDERING KIT  
REFERENCES:  
T.O. 31W1-4-260-1  
T.O. 31W1-4-260-4  
T.O. 31W2-2G-41  
T.O. 31W2-2G-54-1  
T.O. 31W2-2G-54-2  
T.O. 31W2-2USC-1  
T.O. 31W2-4-357-1  
T.O. 31S1-4-234-1  
CONDITIONS CUES:  
COND: INSIDE SHELTER OR IN SHOP, ON BENCH, POWER ON, SAFETY  
OBSERVER  
CUE: ERRATIC DATA TRANSMISSION, NO DATA RECEIVED  
JOB STANDARDS:  
IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|------|------|------|------|------|------|-----|
| 304X4 I   | 0427 | 2.60 | 7.0  | 8.0  | 9.0  | 5.0  | 5.61 | 7.0 |
| 304X4 I   | 0478 | 1.85 | 4.0  | 5.0  | 6.0  | 3.0  | 3.82 | 2.0 |
| 304X4 K   | 0564 | 2.42 | 7.0  | 7.0  | 7.0  | 4.0  | 5.62 | 7.0 |

ACTIVITIES SKILL KNOWLEDGE:

K FAULT ISOLATE AN/TSC-107 MALFUNCTION TO MODEM  
 A CHECK FREQUENCY OUTPUTS  
 A CHECK AUDIO LEVEL OUTPUTS  
 A CHECK CIRCUIT CARDS  
 A REPLACE DEFECTIVE CIRCUIT CARDS  
 A ALIGN AND ADJUST MODEM

OSR JOB INVENTORY TASK STATEMENTS:

4 I0478 A REMOVE OR INSTALL FREQUENCY SHIFT CONVERTER LRU  
 4 K0564 A ALIGN TONE KEYS AND CONVERTER PARTS  
 4 I0427 K ISOLATE MALFUNCTIONS WITHIN FREQUENCY SHIFT CONVERTERS TO LRU

TASK #: 02870

TROUBLESHOOT AN/TSC-107 (TELETYPEWRITER) AN/UGC-29(V)1, MTUT-734

DUTY CODE: X4

TASK STATUS: 3-OJT

TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: SERIOUS, NONE, NONE  
 HOW OFTEN: QUARTERLY  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31W4-2UGC129-31, T.O. 31W4-2UGC129-34,  
 AND T.O. 31W4-2UGC129-41

TTT: 5

SME OPINION: 3

EQUIPMENT:

DIGITAL MULTIMETER, BLANK MAGNETIC TAPE, HANDTOOLS,  
 SOLDERING KIT

REFERENCES:

T.O. 31W4-2UGC129-31

T.O. 31W4-2UGC129-34

T.O. 31W4-2UGC129-41

CONDITIONS CUES:

COND: INSIDE SHELTER OR IN SHOP, ON BENCH, POWER ON, SAFETY  
 OBSERVER

CUE: GARBLED MESSAGES, NO RECEIVE

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|------|------|------|------|------|------|-----|
| 304X4 I   | 0474 | 1.78 | 1.0  | 3.0  | 2.0  | 1.0  | 4.19 | 2.0 |
| 304X4 K   | 0592 | 2.20 | 2.0  | 2.0  | 2.0  | 1.0  | 5.47 | 7.0 |
| 304X4 M   | 0625 | 3.08 | 19.0 | 20.0 | 19.0 | 11.0 | 4.37 | 7.0 |

ACTIVITIES SKILL KNOWLEDGE:

K FAULT ISOLATE AN/TSC-107 MALFUNCTION TO TELETYPEWRITER  
 K FAULT ISOLATE AN/TSC-107 MALFUNCTION TO MAGNETIC TAPE UNIT  
 A PERFORM BITE TEST  
 A CHECK CIRCUIT CARDS  
 A REPLACE DEFECTIVE CIRCUIT CARDS  
 A REMOVE AND REPLACE MAGNETIC TAPE UNIT  
 A REMOVE AND REPLACE TELETYPEWRITER UNIT  
 A CHECK INTERCONNECT CABLES

OSR JOB INVENTORY TASK STATEMENTS:

4 M0625 A INSTALL VEHICLE MOUNTED GROUND RADIO COMMUNICATIONS  
 EQUIPMENT (GRCE)  
 4 K0592 A REMOVE OR INSTALL DATA LINK SYSTEM DISCRETE PARTS  
 4 I0474 A REMOVE OR INSTALL DATA LINK SYSTEM LRU

TASK #: 02880  
TROUBLESHOOT AN/TSC-107 (TELEPHONE SWITCHBOARD) SB-3614  
DUTY CODE: X4  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 2

NOTES:  
CONSEQUENCES: MINOR, NONE, NONE  
HOW OFTEN: SEMI-ANNUALLY  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31W2-2TT-21, T.O. 31W2-2TT-22, T.O. 31W2-2TT-24  
TTT: 5  
SME OPINION: 3

EQUIPMENT:  
PUSH BUTTON PHONE, FIELD PHONE, DIGITAL MULTIMETER, HAND TOOLS,  
WIRING

REFERENCES:  
T.O. 31W2-2TT-21, T.O. 31W2-2TT-22, T.O. 31W2-2TT-24

CONDITIONS CUES:  
COND: IN SHOP, ON BENCH, POWER ON, SAFETY OBSERVER  
CUE: NO RING, FAILURE TO OPERATE, WILL NOT HOLD PROGRAMING

JOB STANDARDS:  
IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|------|------|------|------|------|------|-----|
| 304X4 I   | 0419 | 2.70 | 7.0  | 5.0  | 5.0  | 2.0  | 6.65 | 7.0 |
| 304X4 I   | 0469 | 1.87 | 3.0  | 3.0  | 3.0  | 2.0  | 4.37 | 2.0 |

ACTIVITIES SKILL KNOWLEDGE:  
K FAULT ISOLATE AN/TSC-107 MALFUNCTION TO TELEPHONE SWITCHBOARD  
K FAULT ISOLATE MALFUNCTION TO CIRCUIT CARDS  
A REPLACE DEFECTIVE CIRCUIT CARDS  
A PERFORM OPERATIONAL CHECK

OSR JOB INVENTORY TASK STATEMENTS:  
4 I0469 A REMOVE OR INSTALL AUTOMATIC SWITCHBOARD COMPONENTS  
4 I0419 K ISOLATE MALFUNCTIONS WITHIN AUTOMATIC SWITCHBOARDS

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TASK #: 02890  
TROUBLESHOOT AN/TSC-107 (TELEPHONE TERMINATING SYSTEMS) AN/FTA-28, STU-5A, AN/  
TSC-107 WESCOM  
DUTY CODE: X4  
TASK STATUS: ?-OJT  
TIMES ANALYZED: 2

NOTES:  
CONSEQUENCES: MINOR, NONE, NONE  
HOW OFTEN: SEMI-ANNUALLY  
OJT TRAINABLE: YES, NO, REQUIRES BASIC ELECTRONICS  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): SEE REFERENCES  
TTT: 5  
SME OPINION: 5

EQUIPMENT:  
DIGITAL VOLTMETER, FIELD PHONE, PATCH PANEL, PATCH CORDS,  
HANDTOOLS, TRANSMISSION TEST SET, SOLDERING KIT

REFERENCES:  
T.O. 31W1-2FTA28-1, T.O. 31W2-4-333-1, T.O. 31R2-2TSC107-1  
WESCOM 401-00, WESCOM 417, WESCOM 443-00/01, WESCOM 4201/03, WESCOM 4522/00

CONDITIONS CUES:  
COND: INSIDE EQUIPMENT SHELTER, POWER ON, SAFETY OBSERVER  
CUE: NO POWER, NO TRANSMIT OR RECEIVE

JOB STANDARDS:  
IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|------|------|------|------|------|------|-----|
| 304X4 I   | 0417 | 3.35 | 8.0  | 8.0  | 6.0  | 2.0  | 5.85 | 7.0 |
| 304X4 J   | 0495 | 3.58 | 10.0 | 12.0 | 12.0 | 6.0  | 5.74 | 7.0 |
| 304X4 J   | 0539 | 2.67 | 10.0 | 10.0 | 11.0 | 5.0  | 4.92 | 7.0 |

ACTIVITIES SKILL KNOWLEDGE:  
K FAULT ISOLATE AN/TSC-107 MALFUNCTION TO TELEPHONE TERMINATING SYSTEM  
A CHECK STRAPPING OPTIONS  
A CHECK OUTPUT LEVELS  
A CHECK SIGNALING FREQUENCIES  
A ALIGN CIRCUIT CARDS  
A REPLACE DEFECTIVE CIRCUIT CARDS  
A REPLACE TELEPHONE TERMINATING SET

OSR JOB INVENTORY TASK STATEMENTS:  
4 I0417 K ISOLATE MALFUNCTIONS WITHIN AUTOMATIC KEYING SYSTEMS  
TO LINE REPLACEABLE UNITS (LRU)  
4 J0539 A REMOVE OR INSTALL RADIO-TELEPHONE EQUIPMENT PARTS  
4 J0495 A ALIGN RADIO-TELEPHONE EQUIPMENT  
4 I0417 K ISOLATE MALFUNCTIONS WITHIN AUTOMATIC KEYING SYSTEMS  
TO LINE REPLACEABLE UNITS (LRU)

TASK #: 02900  
TROUBLESHOOT AN/TSC-107 (ANTENNA COUPLER) GCU-935, GCU-1935  
DUTY CODE: X4  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: MINOR, DAMAGE, INJURY  
HOW OFTEN: QUARTERLY  
OJT TRAINABLE: YES, NO, REQUIRES BASIC ELECTRONICS  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): SEE REFERENCES  
TTT: 3  
SME OPINION: 5  
EQUIPMENT:  
DUMMY LOAD, THRLINE WATTMETER, HF TRANSMITTER, DIGITAL  
MULTIMETER, RF VOLTMETER, HAND TOOLS, SOLDERING KIT  
REFERENCES:  
T.O. 31R2-2URC92-1, T.O. 31R2-2URC92-2, T.O. 31R2-2URC92-4  
T.O. 31R2-4-497-1, T.O. 31R2-4-497-4  
CONDITIONS CUES:  
COND: OUTSIDE SHELTER, POWER ON, SAFETY OBSERVER  
CUE: HIGH REFLECTED POWER TO TRANSMITTER  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
304X4 I 0431 2.85 12.0 15.0 15.0  8.0 5.26 7.0  
304X4 M 0617 2.65 18.0 22.0 21.0 13.0 4.57 7.0  
ACTIVITIES SKILL KNOWLEDGE:  
K FAULT ISOLATE AN/TSC-107 MALFUNCTION TO ANTENNA COUPLERS  
A CHECK FORWARD POWER OUTPUT  
A CHECK REFLECTED POWER  
A CHECK INTERCONNECTING CABLES  
A CHECK ANTENNA COUPLER SUBASSEMBLIES  
A REPLACE DEFECTIVE ANTENNA SUBASSEMBLIES  
OSR JOB INVENTORY TASK STATEMENTS:  
4 M0617 A ADJUST MOBILE ANTENNA SYSTEMS  
4 I0431 K ISOLATE MALFUNCTIONS WITHIN MOBILE ANTENNA SYSTEMS TO LRU

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TASK #: 02910  
TROUBLESHOOT AN/TSC-107 SYSTEM TO IDENTIFY DEFECTIVE MAJOR SUBSYSTEMS  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: DAILY  
OJT TRAINABLE: YES, NO, REQUIRES BASIC ELECTRONICS  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31R2-2TSC107-1  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
DUMMY LOAD, THRLINE WATTMETER, RF SIGNAL GENERATOR, FREQUENCY  
COUNTER, TRANSMISSION TEST SET, COMMUNICATIONS TEST SET, TELE-  
TYPE TEST SET, OSCILLOSCOPE, AN/PSM-2A (MEGOMETER), RF VOLTMETER  
TELEPHONES, BLANK MAGNETIC TAPE, DIGITAL MULTIMETER, HAND TOOLS,  
COAXIAL CABLES, SOLDERING KIT  
REFERENCES:  
T.O. 31R2-2TSC107-1  
CONDITIONS CUES:  
COND: INSIDE EQUIPMENT SHELTER, POWER ON, SAFETY OBSERVER  
CUE: OPERATOR COMPLAINT, FAILURE TO COMMUNICATE WITH DISTANT  
STATIONS  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
304X4 H 0399 3.92 20.0 19.0 18.0 11.0 4.08 11.0  
304X4 H 0403 2.45  4.0  6.0  8.0  4.0 4.18  7.0  
304X4 M 0636 1.65 11.0 12.0 11.0  6.0 4.09  2.0  
ACTIVITIES SKILL KNOWLEDGE:  
K FAULT ISOLATE SYSTEM BY SUBSTITUTION METHOD  
K FAULT ISOLATE DEFECTIVE SUBSYSTEM TO MAJOR COMPONENT  
A REMOVE AND REPLACE DEFECTIVE SUBSYSTEM  
A PERFORM OPERATIONAL CHECK OF REPAIRED SUBSYSTEM  
OSR JOB INVENTORY TASK STATEMENTS:  
4 M0636 A REMOVE OR INSTALL LRU OF MOBILE ANTENNA SYSTEMS  
4 H0399 A REMOVE OR INSTALL MULTIPLE CHANNEL SYSTEM LRU  
4 H0403 A REMOVE OR INSTALL RADIO-TELETYPE SYSTEM LRU

TASK #: 02920  
 SET UP/TEAR DOWN AN/TSC-107 SYSTEM  
 DUTY CODE: X4  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: QUARTERLY  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-2TSC107-1  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 HAND TOOLS, M889 SUPPORT VEHICLE, MJQ18 GENERATOR (POWER SUPPLY)  
 M889 CARRIES ANTENNAS, SAFETY EQUIPMENT, GROUND RODS, DRIVERS,  
 CABLES, TOOLS, ENVIRONMENTAL CONTROL UNITS (AIR CONDITIONING)  
 REFERENCES:  
 T.O. 31R2-2TSC107-1  
 CONDITIONS CUES:  
 COND: FILED SITE, POWER OFF, SAFETY OBSERVER  
 CUE: MISSION DIRECTED, DEPLOYMENT EXERCISES  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   YE   LJOB   LENL   5SKL   7SKL   TD   ATI  
 304X4 G 0285 1.87 10.0 11.0 10.0 5.0 3.74 2.0  
 304X4 M 0621 2.80 25.0 28.0 26.0 15.0 4.63 7.0  
 304X4 M 0622 2.92 19.0 23.0 23.0 12.0 3.59 7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A PREPOSITION EQUIPMENT  
 A DETERMINE TRANSMIT PATH REQUIREMENTS  
 A INSTALL GROUND SYSTEM A CHECK GROUNDING  
 A INSTALL ENVIRONMENTAL CONDITIONING UNITS (ECU)  
 A INSTALL GENERATORS (MJQ18)  
 A INSTALL HF SINGLE SIDEBAND SYSTEM  
 A INSTALL ANTENNAS  
 A PERFORM OPERATIONAL CHECK OF TELETYPE, MODEMS, AND RADIO SYSTEMS  
 A INSTALL TELEPHONE SYSTEM  
 A PERFORM OPERATIONAL CHECK OF TELEPHONE SYSTEM  
 A PACK EQUIPMENT ONTO PALLETS WHEN DEPLOYMENT IS TERMINATED  
 S USE DRIVERS  
 S USE CABLES  
 S USE ENVIRONMENTAL CONTROL UNITS (AIR CONDITIONING)  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 G0285 A INSTALL FIELD TELEPHONE SYSTEMS  
 4 M0621 A INSTALL MOBILE ANTENNA SYSTEMS  
 4 M0622 A INSTALL STATION GROUNDS ON VANS OR SHELTERS

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TASK #: 02930  
 INSPECT AN/TSC-60(V)5 COMMUNICATIONS CENTRAL (407L/485L)  
 DUTY CODE: X4  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: 7, 14, 28, 56, 84, 168  
 OJT TRAINABLE: YES, BASIC ELECTRONICS  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): SEE REFERENCES  
 TTT: 5  
 SME OPINION: 5  
 EQUIPMENT:  
 TRANSMISSION TEST SET, RADIO FREQUENCY (RF) SIGNAL GENERATOR,  
 FREQUENCY COUNTER, BUILT-IN TEST EQUIPMENT IN POWER AMPLIFIER,  
 TELEGRAPH SIGNAL ANALYZER, EXTENDER CARDS, OSCILLOSCOPE,  
 RF MILLIVOLTMETER, DIGITAL MULTIMETER, PATCH CORDS, TEST  
 CONNECTORS, CLEANING AND LUBRICATING MATERIALS, HAND TOOLS,  
 REFLECTOMETER, ANALOG MULTIMETER  
 REFERENCES:  
 T.O. 31S1-2TSC60-196WC-1, T.O. 31S1-2TSC60-236WC-1  
 T.O. 31S1-2TSC60-246WC-1, T.O. 31S1-2TSC60-191  
 T.O. 31S1-2TSC60-201, T.O. 31S1-2TSC60-211, T.O. 31S1-2TSC60-223  
 T.O. 31S1-2TSC60-231, T.O. 31S1-2TSC60-241, T.O. 31S1-2TSC60-253  
 T.O. 31S1-2TSC60-261, T.O. 31S1-2TSC60-271, T.O. 31S1-2TSC60-273  
 CONDITIONS CUES:  
 COND: INSIDE EQUIPMENT SHELTER (COMPACT SPACE), POWER ON, SAFETY  
 OBSERVER  
 CUE: PHI

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0382 | 4.82 | 22.0 | 26.0 | 26.0 | 17.0 | 4.07 | 11.0 |
| 304X4 H   | 0389 | 3.53 | 13.0 | 13.0 | 13.0 | 7.0  | 4.18 | 7.0  |
| 304X4 J   | 0496 | 2.95 | 7.0  | 9.0  | 10.0 | 4.0  | 5.77 | 7.0  |

ACTIVITIES SKILL KNOWLEDGE:

- A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS
- A CHECK DC VOLTAGE
- A CHECK AC VOLTAGE
- A CHECK SIGNAL LEVELS
- A CHECK CONTROLS AND INDICATORS
- A ALIGN ASSOCIATED EQUIPMENT (POWER AMPLIFIERS, RECEIVERS, EXCITERS, TELETYPE UNIT)
- A CLEAN AND LUBRICATE MOTORS, GEARS, AIR FILTERS AND BEARINGS
- A ALIGN ANTENNAS
- A MEASURE TRANSMISSION POWER

OSR JOB INVENTORY TASK STATEMENTS:

- 4 H0382 A OPERATIONALLY CHECK FM EQUIPMENT
- 4 H0389 A OPERATIONALLY CHECK RADIO-TELEPHONE SYSTEMS
- 4 J0496 A ALIGN RADIO-TELETYPE EQUIPMENT

TASK #: 02940

TROUBLESHOOT AN/TSC-60(V)5 COMMUNICATIONS CENTRAL (407L/485L)

DUTY CODE: X4

TASK STATUS: 3-OJT

TIMES ANALYZED: 3

TNOTES:

- CONSEQUENCES: MINOR, NONE, NONE
- HOW OFTEN: QUARTERLY
- OJT TRAINABLE: YES, NO, BASIC ELECTRONICS
- QTP ADEQUATE: NONE
- TNG REFERENCE(S): T.O. 31S1-2TSC60-191; T.O. 31S1-2TSC60-32, AND T.O. CEMI-1300-1

TTT: 5

SHE OPINION: 5

EQUIPMENT:

- DIGITAL MULTIMETER, RF WATTMETER, AUDIO OSCILLATOR, FREQUENCY COUNTER, BUILT-IN CONTROL MONITOR (SPEAKERS), HAND TOOLS
- ANALOG MULTIMETER, SIGNAL GENERATOR, REFLECTOMETER

REFERENCES:

- T.O. 31S1-2TSC60-191
- T.O. 31S1-2TSC60-32
- T.O. CEMI-1300-1

CONDITIONS CUES:

- COND: INSIDE/OUTSIDE EQUIPMENT SHELTER, POWER ON, SAFETY OBSERVER
- CUE: OPERATOR COMPLAINT, HIGH DATA ERROR RATES

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 I   | 0422 | 2.78 | 5.0  | 5.0  | 4.0  | 2.0  | 5.73 | 7.0  |
| 304X4 I   | 0423 | 4.62 | 22.0 | 24.0 | 22.0 | 12.0 | 5.29 | 11.0 |

ACTIVITIES SKILL KNOWLEDGE:

- A INSPECT EQUIPMENT VISUALLY FOR SIGNS OF OBVIOUS DEFECTS
- A CHECK POWER SOURCE
- A CHECK MINIMUM PERFORMANCE STANDARD OF RECEIVER
- A CHECK REFLECTED POWER FROM TRANSMIT ANTENNA
- A CHECK ANTENNA POSITIONING
- A CHECK MINIMUM PERFORMANCE STANDARDS OF TRANSMITTER
- A CHECK MINIMUM PERFORMANCE STANDARD OF POWER AMPLIFIER
- A CHECK RESISTANCE/CONTINUITY OF PATCH PANEL JACKS
- A CHECK FREQUENCIES OF TELETYPE CHANNELS
- A CHECK SIGNAL LEVELS IN AND OUT OF TELETYPE CHANNELS
- A CHECK TRANSMISSION LINES
- A CHECK VAN INTERCONNECTS

OSR JOB INVENTORY TASK STATEMENTS:

- 4 I0422 K ISOLATE MALFUNCTIONS WITHIN BROADCASTING SYSTEMS TO LRU
- 4 I0423 K ISOLATE MALFUNCTIONS WITHIN COMMUNICATIONS PATCH PANELS TO LRU

TASK #: 02950  
TROUBLESHOOT AN/TSC-60(V)5 COMMUNICATIONS CENTRAL (RECEIVER) HF 8054  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 3

TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, NONE  
HOW OFTEN: SEMI-ANNUALLY  
OJT TRAINABLE: YES, BASIC ELECTRONICS, DIGITAL TECHNIQUES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31S1-2TSC60-191 ANJ T.O. 31S1-2TSC60-201  
TTT: 7  
SME OPINION: 5

EQUIPMENT:  
TRANSMISSION TEST SET, RF SIGNAL GENERATOR, OSCILLOSCOPE,  
DIGITAL VOLTMETER, RF VOLTMETER, ATTENUATOR, HAND TOOLS,  
CLEANING MATERIALS, ANALOG MULTIMETER, DIGITAL LOGIC PROBE,  
FREQUENCY COUNTER

REFERENCES:  
T.O. 31S1-2TSC60-191  
T.O. 31S1-2TSC60-201

CONDITIONS CUES:  
COND: INSIDE EQUIPMENT SHELTER (COMPACT SPACE)  
CUE: ABNORMAL SIGNAL LEVELS, FAULT LIGHT INDICATORS

JOB STANDARDS:  
IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0373 | 6.45 | 56.0 | 50.0 | 57.0 | 30.0 | 6.48 | 18.0 |
| 304X4 H   | 0396 | 4.78 | 29.0 | 31.0 | 34.0 | 22.0 | 3.82 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:  
K FAULT ISOLATE MALFUNCTION TO RECEIVER  
A CHECK FAULT INDICATORS  
A INSPECT VISUALLY FOR SIGNS OF OBVIOUS DAMAGE  
A INPUT FREQUENCIES TO RECEIVER FROM SIGNAL GENERATOR  
A CHECK SIGNAL LEVELS  
A CHECK SIGNAL AND INJECTION FREQUENCIES  
A CHECK CONNECTORS  
A CHECK CIRCUIT CARD SEATING  
A REPLACE FAULTY CARD(S)  
A OPERATIONALLY CHECK RECEIVER  
A ALIGN SIGNAL LEVELS  
A ALIGN SIGNAL FREQUENCIES

OSR JOB INVENTORY TASK STATEMENTS:  
4 H0373 K ISOLATE MALFUNCTIONS WITHIN HIGH FREQUENCY (HF)  
EQUIPMENT  
4 H0396 A REMOVE OR INSTALL HF SYSTEM LRU

TASK #: 02960  
TROUBLESHOOT AN/TSC-60(V)5 COMMUNICATIONS CENTRAL (EXCITER) HF 8014  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2

TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: SEMI-ANNUALLY  
OJT TRAINABLE: YES, NO, BASIC ELECTRONICS, DIGITAL TECHNIQUES  
ELECTROSTATIC CONTROL  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31S1-2TSC60-191 AND T.O. 31S1-2TSC60-211  
TTT: 5  
SME OPINION: 5

EQUIPMENT:  
TRANSMISSION TEST SET, RF VOLTMETER, ATTENUATORS, DC POWER  
SUPPLY, FREQUENCY COUNTER, DIGITAL VOLTMETER, OSCILLOSCOPE  
CLEANING MATERIALS, HAND TOOLS, ANALOG MULTIMETER,  
DIGITAL LOGIC PROBE, REFLECTOMETER, SIGNAL GENERATOR

REFERENCES:  
T.O. 31S1-2TSC60-191  
T.O. 31S1-2TSC60-211

CONDITIONS CUES:  
COND: INSIDE EQUIPMENT SHELTER  
CUE: NO TRANSMIT, LOW POWER OUTPUT, FAULT INDICATORS

JOB STANDARDS:  
IAW REFERENCES



| OSR DATA: | TASK   | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|--------|------|------|------|------|------|------|------|
| 304X4     | H 0373 | 6.45 | 56.0 | 60.0 | 57.0 | 30.0 | 6.48 | 18.0 |
| 304X4     | H 0396 | 4.78 | 29.0 | 31.0 | 34.0 | 22.0 | 3.82 | 12.0 |
| 304X4     | J 0534 | 5.00 | 53.0 | 54.0 | 51.0 | 25.0 | 5.00 | 18.0 |

ACTIVITIES SKILL KNOWLEDGE:

- K FAULT ISOLATE MALFUNCTION TO EXCITER
- A INSPECT VISUALLY FOR SIGNS OF OBVIOUS DAMAGE
- A INJECT FREQUENCIES INTO EXCITER FROM FREQUENCY GENERATOR
- A CHECK SIGNAL LEVELS
- A CHECK SIGNAL AND INJECTION FREQUENCIES
- A CHECK CONNECTORS
- A CHECK CARD SEATING
- A ISOLATE MALFUNCTION TO FAULTY CARD(S)
- A REPLACE FAULTY CARD(S)
- A ALIGN SIGNAL LEVELS
- A ALIGN SIGNAL FREQUENCIES

OSR JOB INVENTORY TASK STATEMENTS:

- 4 H0373 K ISOLATE MALFUNCTIONS WITHIN HIGH FREQUENCY (HF) EQUIPMENT
- 4 J0534 A REMOVE OR INSTALL HF EQUIPMENT PARTS
- 4 H0396 A REMOVE OR INSTALL HF SYSTEM LRU

TASK #: 02970

TROUBLESHOOT AN/TSC-60(V)5 COMMUNICATIONS CENTRAL (POWER AMPLIFIER) HF 8021, H F 8022

DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: MONTHLY  
 OJT TRAINABLE: YES, NO, BASIC ELECTRONICS, DIGITAL TECHNIQUES  
 ESD, ELECTROMECHANICAL OPERATION THEORY AND  
 SAFETY PRECAUTIONS

QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31S1-2TSC60-191, T.O. 31S1-2TSC60-231,  
 AND T.O. 31S1-2TSC60-261

TTT: 5  
 SME OPINION: 5

EQUIPMENT:

RF SIGNAL GENERATOR, DIGITAL VOLTMETER, VECTOR IMPEDANCE METER,  
 RF VOLTMETER, OSCILLOSCOPE, SPECTRUM ANALYZER, BUILT IN TEST SET  
 DUMMY LOAD, HAND TOOLS, CLEANING MATERIALS, ANALOG MULTIMETER,  
 DIGITAL LOGIC PROBE, FIELD STRENGTH TESTER, FREQUENCY COUNTER,  
 REFLECTOMETER, SOLDERING KIT

REFERENCES:

T.O. 31S1-2TSC60-191, T.O. 31S1-2TSC60-231, T.O. 31S1-2TSC60-261

CONDITIONS CUES:

COND: INSIDE EQUIPMENT SHELTER  
 CUE: LOW POWER OUTPUT, FAILURE TO TUNE, HIGH REFLECTED POWER,  
 FAULT INDICATORS

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK   | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|--------|------|------|------|------|------|------|------|
| 304X4     | H 0373 | 6.45 | 56.0 | 60.0 | 57.0 | 30.0 | 6.48 | 18.0 |
| 304X4     | J 0534 | 5.00 | 53.0 | 54.0 | 51.0 | 25.0 | 5.00 | 18.0 |
| 304X4     | J 0537 | 4.73 | 42.0 | 44.0 | 41.0 | 20.0 | 4.81 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:

- K FAULT ISOLATE MALFUNCTION TO POWER AMPLIFIER
- A INSPECT VISUALLY SIGNS FOR OBVIOUS DAMAGE
- A CHECK INPUT SIGNALS TO POWER AMPLIFIER
- A CHECK SERVO SYSTEM ALIGNMENTS
- A CHECK COURSE TUNE POSITIONING
- A CHECK FINE TUNE POSITIONING
- A CHECK DC VOLTAGE LEVELS
- A CHECK AC VOLTAGE LEVELS
- A CHECK SIGNAL LEVELS
- A CHECK CONTROL VOLTAGES
- A CHECK CONNECTORS
- A CHECK CARD SEATS
- A SIGNAL TRACE TO FAULTY COMPONENT, MODULE, OR CARD
- A REPLACE DEFECTIVE COMPONENT, MODULE, OR CARD
- A ALIGN SERVO SYSTEMS
- A SET CONTROL VOLTAGES
- A PERFORM POWER AMPLIFIER NEUTRALIZATION ALIGNMENTS
- A PERFORM OPERATIONAL CHECK OF SYSTEM

OSR JOB INVENTORY TASK STATEMENTS:

- 4 H0373 K ISOLATE MALFUNCTIONS WITHIN HIGH FREQUENCY (HF) EQUIPMENT
- 4 J0534 A REMOVE OR INSTALL HF EQUIPMENT PARTS
- 4 J0537 A REMOVE OR INSTALL POWER SUPPLY EQUIPMENT PARTS

TASK #: 02980  
TROUBLESHOOT AN/TSC-60(V)5 COMMUNICATIONS CENTRAL (TELETYPE/SPEECH PLUS) UCC-3  
A(V)1, 3  
DUTY CODE: X4  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 3

TNOTES:

CONSEQUENCES: MINOR, DAMAGE, NONE  
HOW OFTEN: BIENNIAL  
OJT TRAINABLE: YES, NO, BASIC ELECTRONICS  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): SEE REFERENCES  
TTT: 5  
SME OPINION: 5

EQUIPMENT:

TRANSMISSION TEST SET, TELETYPEWRITER TEST SET, OSCILLOSCOPE,  
DIGITAL MULTIMETER, CLEANING MATERIALS, HAND TOOLS, ANALOG  
MULTIMETER, FREQUENCY COUNTER

REFERENCES:

T.O. 31S1-2TSC60-191  
T.O. 31W2-4-194-2  
T.O. 31W2-4-195-2  
T.O. 31W2-4-196-2  
T.O. 31W2-4-197-2

CONDITIONS CUES:

COND: INSIDE EQUIPMENT SHELTER  
CUE: GARBLED MESSAGE TRAFFIC RECEIVED

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|------|------|------|------|------|------|-----|
| 304X4 I   | 0434 | 2.97 | 2.0  | 3.0  | 5.0  | 3.0  | 5.93 | 7.0 |
| 304X4 I   | 0478 | 1.85 | 4.0  | 5.0  | 6.0  | 3.0  | 3.82 | 2.0 |
| 304X4 I   | 0482 | 2.03 | 7.0  | 9.0  | 9.0  | 5.0  | 3.82 | 2.0 |

ACTIVITIES SKILL KNOWLEDGE:

K FAULT ISOLATE MALFUNCTION TO TELETYPE CARD  
A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DAMAGE  
A CHECK OUTPUT FREQUENCY  
A CHECK OUTPUT LEVEL  
A CHECK INPUT FREQUENCY  
A CHECK INPUT LEVEL  
A CHECK CONNECTORS  
A INPUT SIGNAL THROUGH CARDS  
A TRACE SIGNAL THROUGH CARDS  
A REPLACE FAULTY CARD(S)  
A ALIGN FREQUENCY  
A ADJUST OUTPUT LEVELS  
A PERFORM OPERATIONAL CHECK

OSR JOB INVENTORY TASK STATEMENTS:

4 I0434 K ISOLATE MALFUNCTIONS WITHIN SIGNAL CONDITIONING OR  
SHAPING EQUIPMENT TO LRU  
4 I0478 A REMOVE OR INSTALL FREQUENCY SHIFT CONVERTER LRU  
4 I0482 A REMOVE OR INSTALL PHONE PATCH EQUIPMENT LRU

-----  
TASK #: 02990  
TROUBLESHOOT AN/TSC-60(V)5 COMMUNICATIONS CENTRAL (SIGNAL CONVERTER) STU-2A  
DUTY CODE: X4  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 3

TNOTES:

CONSEQUENCES: MINOR, DAMAGE, NONE  
HOW OFTEN: BIENNIAL  
OJT TRAINABLE: YES, NO, BASIC ELECTRONICS  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31W1-2TSC60-2, T.O. 31S1-2TSC60-191,  
AND T.O. 31S1-2TSC60-193  
TTT: 5  
SME OPINION: 5

EQUIPMENT:

TRANSMISSION TEST SET, TELETYPEWRITER TEST SET, OSCILLOSCOPE  
DIGITAL MULTIMETER, CLEANING MATERIALS, HANDTOOLS, ANALOG  
MULTIMETER, FREQUENCY COUNTER

REFERENCES:

T.O. 31W1-2TSC60-2, T.O. 31S1-2TSC60-191, T.O. 31S1-2TSC60-193

CONDITIONS CUES:

COND: INSIDE EQUIPMENT SHELTER  
CUE: NO RING DOWN CAPABILITIES

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK   | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|--------|------|------|------|------|------|------|-----|
| 304X4     | I 0427 | 2.60 | 7.0  | 8.0  | 9.0  | 5.0  | 5.61 | 7.0 |
| 304X4     | I 0435 | 2.18 | 1.0  | 1.0  | 1.0  | 1.0  | 5.78 | 7.0 |
| 304X4     | I 0478 | 1.85 | 4.0  | 5.0  | 6.0  | 3.0  | 3.82 | 2.0 |

ACTIVITIES SKILL KNOWLEDGE:

- A FAULT ISOLATE MALFUNCTION TO SIGNAL CONVERTER UNITS
- A INSPECT VISUALLY EQUIPMENT FOR SIGNS OF DAMAGE
- A CHECK OUTPUT FREQUENCY
- A CHECK OUTPUT LEVEL
- A CHECK INPUT FREQUENCY
- A CHECK INPUT LEVEL
- A CHECK CONNECTORS
- A INPUT SIGNAL THROUGH CARDS
- A TRACE SIGNAL THROUGH CARDS
- A REPLACE FAULTY CARD(S)
- A ALIGN FREQUENCY
- A ADJUST OUTPUT LEVELS
- A PERFORM OPERATIONAL CHECK

OSR JOB INVENTORY TASK STATEMENTS:

- 4 I0427 K ISOLATE MALFUNCTIONS WITHIN FREQUENCY SHIFT CONVERTERS TO LRU
- 4 I0435 K ISOLATE MALFUNCTIONS WITHIN SIGNAL SHIFTERS TO LRU
- 4 I0478 A REMOVE OR INSTALL FREQUENCY SHIFT CONVERTER LRU

TASK #: 03000

TROUBLESHOOT AN/TSC-60(V)5 COMMUNICATIONS CENTRAL (ANTENNA SYSTEMS) OE-85, OE-86, AS-2481 AND AS-2482

DUTY CODE: X4

TASK STATUS: 3-OJT

TIMES ANALYZED: 3

TNOTES:

- CONSEQUENCES: MINOR, DAMAGE, INJURY
- HOW OFTEN: QUARTERLY
- OJT TRAINABLE: YES, NO, BASIC ELECTRONICS AND ANTENNA OPERATION
- QTP ADEQUATE: NONE
- TNG REFERENCE(S): T.O. 31S1-2TSC60-191, T.O. 31S1-2TSC60-32, AND T.O. AFCC-CEMI-1300-1

TTT: 5

SME OPINION: 3

EQUIPMENT:

- INSULATION TEST SET, DIGITAL VOLTMETER, ANTENNA TEST SET, OSCILLOSCOPE, WATTMETER, HAND TOOLS, ANALOG MULTIMETER, FIELD STRENGTH TESTER

REFERENCES:

- T.O. 31S1-2TSC60-191
- T.O. 31S1-2TSC60-32
- T.O. AFCC-CEMI-1300-1

CONDITIONS CUES:

- COND: OPEN FIELD
- CUE: HIGH REFLECTED POWER, INTERLOCK FAULT, LACK OR RECEIVED SIGNAL

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK   | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|--------|------|------|------|------|------|------|-----|
| 304X4     | L 0614 | 2.20 | 17.0 | 17.0 | 16.0 | 8.0  | 3.60 | 7.0 |
| 304X4     | M 0636 | 1.65 | 11.0 | 12.0 | 11.0 | 6.0  | 4.09 | 2.0 |

ACTIVITIES SKILL KNOWLEDGE:

- A INSPECT EQUIPMENT FOR OBVIOUS DEFECTS TO INCLUDE LOOSE GUY WIRES
- K ISOLATE FAULTY ANTENNA PARTS
- A CHECK ANTENNA AND CABLE IMPEDANCE
- A REPAIR OR REPLACE TERMINATING RESISTORS, BALUN, INSULATORS, COUPLING UNITS, AND CABLE WHEN DEFECTIVE

OSR JOB INVENTORY TASK STATEMENTS:

- 4 L0614 A REMOVE OR INSTALL DUMMY LOAD ANTENNA PARTS
- 4 M0636 A REMOVE OR INSTALL LRU OF MOBILE ANTENNA SYSTEMS

TASK #: 03010  
TROUBLESHOOT AN/TSC-60(V)5 COMMUNICATIONS CENTRAL PATCH PANEL  
DUTY CODE: X4  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 2

TNOTES:  
CONSEQUENCES: MINOR, DAMAGE, NONE  
HOW OFTEN: YEARLY  
OJT TRAINABLE: YES, NO, BASIC ELECTRONICS AND SYSTEM  
CONFIGURATION RELATIONSHIPS  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31S1-2TSC60-181 AND T.O. 31S1-2TSC60-191  
TTT: 5  
SME OPINION: 3

EQUIPMENT:  
SIGNAL GENERATOR, STEP ATTENUATOR, TRANSMISSION TEST SET,  
DIGITAL VOLTMETER, DB METER, TERMINATION PLUGS, CLEANING  
MATERIALS, HAND TOOLS, ANALOG MULTIMETER, SOLDERING KIT,  
FREQUENCY COUNTER

REFERENCES:  
T.O. 31S1-2TSC60-181

CONDITIONS CUES:  
COND: INSIDE EQUIPMENT SHELTER  
CUE: LOW SIGNAL LEVELS, POOR QUALITY PATCHES

JOB STANDARDS:  
IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 I   | 0423 | 4.62 | 22.0 | 24.0 | 22.0 | 12.0 | 5.29 | 11.0 |
| 304X4 K   | 0591 | 3.32 | 18.0 | 17.0 | 16.0 | 8.0  | 4.90 | 7.0  |

ACTIVITIES SKILL KNOWLEDGE:  
A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
A CHECK CONTINUITY OF PATCH PANEL  
A CHECK CONTINUITY OF PATCH PANEL TO THE EQUIPMENT  
A REPLACE FAULTY WIRING  
A REPAIR POORLY SOLDERED JOINTS  
A INPUT SIGNALS TO PATCH PANEL  
A CHECK SIGNAL LEVELS AT ASSOCIATED EQUIPMENT (I.E.  
RECEIVER, EXCITER, ETC)  
A CLEAN CONTACTS WITHIN PATCH PANEL

OSR JOB INVENTORY TASK STATEMENTS:  
4 I0423 K ISOLATE MALFUNCTIONS WITHIN COMMUNICATIONS PATCH PANELS TO LRU  
4 K0591 A REMOVE OR INSTALL COMMUNICATION PATCH PANEL DISCRETE PARTS

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TASK #: 03020  
REPAIR CARDS ASSOCIATED WITH AN/TSC-60(V)5 COMMUNICATIONS CENTRAL SYSTEM  
DUTY CODE: X4  
TASK STATUS: 3-K  
TIMES ANALYZED: 2

TNOTES:  
CONSEQUENCES: NONE, NONE, NONE  
HOW OFTEN: WEEKLY  
OJT TRAINABLE: YES, NO, ESD CONTROL, DIGITAL TECHNIQUES,  
MICROMINIATURE AND HIGH RELIABILITY SOLDERING AND  
BASIC ELECTRONIC REQUIRED  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): SEE REFERENCES  
TTT: 5  
SME OPINION: 5

EQUIPMENT:  
OSCILLOSCOPE, DIGITAL VOLTMETER, RF MILLIVOLTMETER, TRANSMISSION  
TEST SET, RF SIGNAL GENERATOR, DIGITAL LOGIC-PROBE, DB METER, ESD  
SOLDERING STATION, HAND TOOLS, CLEANING MATERIALS, ANALOG  
MULTIMETER, FREQUENCY COUNTER

REFERENCES:  
T.O. 31S1-2TSC60-32, T.O. 31S1-2TSC60-72, T.O. 31S1-2TSC60-92  
T.O. 31S1-2TSC60-181, T.O. 31S1-2TSC60-191, T.O. 31S1-2TSC60-193  
T.O. 31S1-2TSC60-201, T.O. 31S1-2TSC60-211, T.O. 31S1-2TSC60-241  
T.O. 31S1-2TSC60-261, T.O. 31S1-2TSC60-271, T.O. 31S1-2TSC60-223  
T.O. 31S1-2TSC60-231

CONDITIONS CUES:  
COND: IN SHOP BENCH  
CUE: TURN IN OF FAULTY CARDS

JOB STANDARDS:  
IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 J   | 0532 | 6.65 | 30.0 | 35.0 | 37.0 | 20.0 | 6.33 | 12.0 |
| 304X4 K   | 0598 | 2.18 | 4.0  | 3.0  | 4.0  | 2.0  | 5.12 | 7.0  |

ACTIVITIES SKILL KNOWLEDGE:

- A INSPECT VISUALLY CARD FOR SIGNS OF DAMAGE
- A CHECK SEMICONDUCTORS
- A CHECK RESISTORS
- A CHECK CAPACITORS
- A CHECK TRANSFORMERS
- A CHECK INTEGRATED CIRCUITS
- A CHECK TERMINAL CONNECTIONS
- A DESOLDER DEFECTIVE COMPONENTS
- A REPLACE DEFECTIVE COMPONENTS
- A CHECK POWER INPUTS FROM ASSOCIATED CIRCUITS
- A PLACE CARD IN EQUIPMENT FROM WHICH IT WAS TAKEN
- A CHECK INPUTS ON CIRCUIT CARD PINS
- A CHECK OUTPUT FROM CARD
- A TRACE SIGNAL USING SCHEMATIC TO FIND FAULT(S)
- A OPERATIONALLY CHECK CARD
- A REMOVE CARD
- A PLACE CARD BACK INTO SUPPLY SYSTEM

OSR JOB INVENTORY TASK STATEMENTS:

- 4 J0532 A PERFORM HIGH RELIABILITY SOLDERING OF INTEGRATED CIRCUITS
- 4 K0598 A REMOVE OR INSTALL MULTIPLEX EQUIPMENT DISCRETE PARTS

TASK #: 03030

OPERATE AN/TSC-60(V)5 COMMUNICATIONS CENTRAL

DUTY CODE: X4

TASK STATUS: 3-OJT

TIMES ANALYZED: 2

TNOTES:

- CONSEQUENCES: MINOR, NONE, NONE
- HOW OFTEN: QUARTERLY
- OJT TRAINABLE: YES, YES
- QTP ADEQUATE: NONE
- TNG REFERENCE(S): AFCCR 28-1 VOL II, ACP 123, AND ACP 121
- TTT: 3
- SME OPINION: 3

EQUIPMENT:

NONE

REFERENCES:

- AFCCR 28-1 VOL II
- ACP 123
- ACP 121

CONDITIONS CUES:

- COND: INSIDE EQUIPMENT SHELTER
- CUE: MISSION DIRECTED TO ESTABLISH AND MAINTAIN COMMUNICATIONS

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|------|------|------|------|------|------|-----|
| 304X4 I   | 0446 | 1.98 | 3.0  | 4.0  | 3.0  | 1.0  | 3.24 | 2.0 |

ACTIVITIES SKILL KNOWLEDGE:

- A SET EQUIPMENT TO OPERATING FREQUENCIES
- A ESTABLISH COMMUNICATIONS WITH DISTANT END
- A AUTHENTICATE WITH DISTANT END
- A MAINTAIN COMMUNICATIONS
- K RECALL OPERATION PROCEDURES
- K RECALL AUTHENTICATION PROCEDURES

OSR JOB INVENTORY TASK STATEMENTS:

- 4 I0446 A MONITOR DATA LINK SYSTEMS

TASK #: 03040  
 SET UP/TEAR DOWN AN/TSC-60(V)5 COMMUNICATIONS CENTRAL SYSTEM  
 DUTY CODE: X4  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: QUARTERLY  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31S1-2TSC60-32, T.O. 31S1-2TSC60-191,  
 AND AFCC-CEMI-1300-1  
 TTT: 5  
 SME OPINION: 5  
 EQUIPMENT:  
 COMPASS, VIBRO-GROUND (GROUND CHECKER), HAND TOOLS, DIGITAL  
 MULTIMETER, FIELD STRENGTH PROBE, REFLECTOMETER  
 REFERENCES:  
 T.O. 31S1-2TSC60-32  
 T.O. 31S1-2TSC60-191  
 AFCC-CEMI-1300-1  
 CONDITIONS CUES:  
 COND: OPEN FIELD (DEPLOYMENT SITE)  
 CUE: MISSION DIRECTED  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:    TASK   TE   1JOB   1ENL   5SKL   7SKL   TD   ATI  
 304X4 A 0005   .42   3.0   4.0   6.0   12.0   6.80   2.0  
 304X4 M 0621   2.80   25.0   28.0   26.0   15.0   4.63   7.0  
 304X4 M 0622   2.92   19.0   23.0   23.0   12.0   3.59   7.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A SELECT SITE  
 A SELECT LAYOUT FOR ANTENNA PLACEMENT  
 A UNPACK EQUIPMENT PALLETS  
 A POSITION EQUIPMENT ( SHELTER)  
 A INSTALL ANTENNAS  
 A INSTALL GROUNDING SYSTEM  
 A INSTALL POWER GENERATORS  
 A CONNECT ENVIRONMENTAL CONTROL UNIT CABLES TO EQUIP-  
 MENT SHELTER  
 A INTERCONNECT CABLES BETWEEN REMOTED EQUIPMENT SHEL-  
 TERS (CRYPTO, TELETYPE, TECH CONTROL, ETC)  
 A PERFORM OPERATIONAL CHECK OF SYSTEM  
 A RECEIVE DIRECTION FOR DEACTIVATION OF DEPLOYMENT  
 A DISASSEMBLE ALL CONNECTIONS  
 A DISASSEMBLE POWER GENERATORS  
 A DISASSEMBLE GROUNDING SYSTEM  
 A DISASSEMBLE ANTENNAS  
 A PACK EQUIPMENT PALLETS FOR MOBILITY  
 A CHECK SYSTEM GROUNDING (IF REQUIRED)  
 K USE COMPASS (TRANSIT)  
 K PREPARE EQUIPMENT PALLETS FOR MOBILITY  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 A0005 A CONDUCT REQUIREMENTS SURVEYS FOR INSTALLATION OF  
 MOBILE COMMUNICATIONS SYSTEMS  
 4 M0621 A INSTALL MOBILE ANTENNA SYSTEMS  
 4 M0622 A INSTALL STATION GROUNDS ON VANS OR SHELTERS

-----  
 TASK #: 03050  
 INSPECT AN/TSW-7 MOBILE CONTROL TOWER  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: 168  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-2TSW7-6WC  
 TTT: 5  
 SME OPINION: 5  
 EQUIPMENT:  
 HAND TOOLS, SIGNAL GENERATOR, WATTMETER, DIGITAL VOLTMETER,  
 CLEANING SUPPLIES  
 REFERENCES:  
 T.O. 31R2-2TSW7-6WC  
 CONDITIONS CUES:  
 COND: ON EQUIPMENT  
 CUE: PMI

**JOB STANDARDS:**

**IAW REFERENCES**

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 I   | 0450 | 3.07 | 18.0 | 20.0 | 19.0 | 12.0 | 3.26 | 7.0  |
| 304X4 I   | 0466 | 4.20 | 36.0 | 34.0 | 31.0 | 18.0 | 3.71 | 12.0 |

**ACTIVITIES SKILL KNOWLEDGE:**

- A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS
- A CLEAN EQUIPMENT
- A CHECK INDICATOR LIGHTS
- A CHECK POWER SUPPLY OUTPUT VOLTAGE
- A CHECK RF CHANNELS
- A CHECK CHECK WEATHER EQUIPMENT
- A CHECK TELEPHONE SYSTEMS OPERATION
- A CHECK RECORDER REPRODUCER OPERATION
- A CHECK BATTERY CHARGER OUTPUT VOLTAGE

**OSR JOB INVENTORY TASK STATEMENTS:**

- 4 I0450 A OPERATIONALLY CHECK BATTERY CHARGERS
- 4 I0466 A PERFORM OPERATIONAL CHECKS OF AUDIO RECORDERS AND REPRODUCERS

**TASK #: 03060**

TROUBLESHOOT AN/TSW-7 MOBILE CONTROL TOWER

DUTY CODE: X4

TASK STATUS: 3-KP

TIMES ANALYZED: 2

**TNOTES:**

- CONSEQUENCES: SERIOUS, DAMAGE, INJURY
- HOW OFTEN: ? (AS REQUIRED)
- OJT TRAINABLE: YES, NO, BASIC ELECTRONICS
- QTP ADEQUATE: NONE
- TNG REFERENCE(S): T.O. 31R2-2TSW7-2, T.O. 31R2-2TSW7-3 AND T.O. 31R2-2TSW7-4

TTT: 5

SME OPINION: 5

THE AN/TSW-7 MOBILE CONTROL TOWER PROVIDES FIELD AIR TRAFFIC CONTROL CAPABILITY. IT IS COMPOSED OF THE FOLLOWING SUBASSEMBLIES WITH MAINTENANCE PERFORMED TO THE LEVEL INDICATED. TASK ANALYSIS ON SEVERAL OF THE SUBASSEMBLIES BELOW CAN BE FOUND LISTED UNDER THE INDIVIDUAL SUBASSEMBLY NAME.

- LRU AN/GRC-171 UHF TRANSCEIVER
- COMPONENT 807B UHF TRANSCEIVER
- LRU AN/GRR-23 VHF RECEIVER
- LRU AN/GRR-24 UHF RECEIVER
- COMPONENT TELEPHONE CIRCUITRY UNIT
- COMPONENT AN/GSH-56 RECORDER REPRODUCER
- COMPONENT AN/TMQ-15 WIND VELOCITY MEASURING DEVICE
- COMPONENT OP45 BATTERY CHARGER
- CE MAINT. MEP5 GENERATOR
- COMPONENT AT197 UHF ANTENNA
- COMPONENT AS1181 VHF ANTENNA

**EQUIPMENT:**

HAND TOOLS, SIGNAL GENERATOR (RF AND AUDIO), OSCILLOSCOPE, WATTMETER, DIGITAL VOLTMETER, DECIBEL METER, MILLIVOLTMETER, FREQUENCY COUNTER, 807B TEST BOX, AMMETER, BRIDGING TRANSFORMERS, WIND EQUIPMENT TEST BOX, DISTORTION ANALYZER, HEG C/M METER, ANALOG MULTIMETER, REFLECTOMETER

**REFERENCES:**

- T.O. 31R2-2TSW7-2
- T.O. 31R2-2TSW7-3
- T.O. 31R2-2TSW7-4

**CONDITIONS CUES:**

- COND: ON EQUIPMENT
- CUE: USER COMPLAINT OR RESULT OF PHI

**JOB STANDARDS:**

**IAW REFERENCES**

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0378 | 6.82 | 63.0 | 60.0 | 51.0 | 28.0 | 6.44 | 18.0 |
| 304X4 H   | 0392 | 6.63 | 70.0 | 64.0 | 55.0 | 32.0 | 4.30 | 18.0 |
| 304X4 I   | 0420 | 2.87 | 6.0  | 8.0  | 8.0  | 5.0  | 5.34 | 7.0  |

**OSR JOB INVENTORY TASK STATEMENTS:**

- 4 H0392 A OPERATIONALLY CHECK UHF EQUIPMENT
- 4 I0420 K ISOLATE MALFUNCTIONS WITHIN BATTERY CHARGERS TO LRU
- 4 H0378 K ISOLATE MALFUNCTIONS WITHIN ULTRA HIGH FREQUENCY (UHF) EQUIPMENT

TASK #: 03070  
 INSPECT AN/UGC-129 TELETYPEWRITER SET  
 DUTY CODE: X4  
 TASK STATUS: 3-0.1T  
 TIMES ANALYZED: 2

TNOTES:  
 CONSEQUENCES: MINOR, DAMAGE, NONE  
 HOW OFTEN: 7, 28  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31W4-2UGC129-1 AND T.O. 31W4-2UGC129-31  
 TTT: 3  
 SME OPINION: 3

EQUIPMENT:  
 CLEANING SUPPLIES, BRUSH, BACK-TO-BACK PLUG

REFERENCES:  
 T.O. 31W4-2UGC129-1  
 T.O. 31W4-2UGC129-31

CONDITIONS CUES:  
 COND: IN-SHOP OR USER SITE, POWER OFF  
 CUE: PMI

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|------|------|------|------|------|------|-----|
| 304X4 M   | 0632 | 2.62 | 20.0 | 23.0 | 22.0 | 12.0 | 3.66 | 7.0 |

ACTIVITIES SKILL KNOWLEDGE:  
 A PERFORM OPERATION CHECK OF TELETYPEWRITER WITH BITE  
 A CLEAN INTERIOR/EXTERIOR OF CABINET  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 A CHECK OPERATION OF AUDIO ALARM

OSR JOB INVENTORY TASK STATEMENTS:  
 4 M0632 A PERFORM OPERATOR MAINTENANCE ON MOBILE EQUIPMENT

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TASK #: 03080  
 TROUBLESHOOT AN/UGC-129 TELETYPEWRITER SET  
 DUTY CODE: X4  
 TASK STATUS: 3-0JT  
 TIMES ANALYZED: 2

TNOTES:  
 CONSEQUENCES: MINOR, DAMAGE, NONE  
 HOW OFTEN: SEMI-ANNUALLY  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31W4-2UGC129-31 (UGC-129 V1) AND  
 T.O. 31W4-2UGC129-1 (UGC-129)

TTT: 3  
 SME OPINION: 3

NOTE: AN/UGC-129(V1) DUPLICATES THE 129. CIRCUIT CARDS USE  
 SAME/SIMILAR NAMES AND PERFORM SAME FUNCTIONS. V1 USES  
 DOT MATRIX PRINT HEAD AND 40 CHARACTER DISPLAY.

EQUIPMENT:  
 TOOL KIT, DIGITAL MULTIMETER, OSCILLOSCOPE, SOLDERING KIT

REFERENCES:  
 T.O. 31W4-2UGC129-31 (UGC-129 V1)  
 T.O. 31W4-2UGC129-1 (UGC-129)

CONDITIONS CUES:  
 COND: IN-SHOP, USER SITE, POWER ON/OFF  
 CUE: PMI FINDING, USER COMPLAINT

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|------|------|------|------|------|------|-----|
| 304X4 H   | 0390 | 3.15 | 8.0  | 10.0 | 11.0 | 5.0  | 4.40 | 7.0 |
| 304X4 H   | 0403 | 2.45 | 4.0  | 6.0  | 8.0  | 4.0  | 4.18 | 7.0 |
| 304X4 J   | 0540 | 2.23 | 7.0  | 9.0  | 9.0  | 3.0  | 4.87 | 7.0 |

ACTIVITIES SKILL KNOWLEDGE:  
 K ISOLATE FAULTY MODULES, CIRCUIT CARDS, AND COMPONENTS  
 A REMOVE/REPLACE TELETYPEWRITER AND/OR MODULES, CIRCUIT  
 CARDS, AND PRINTER ASSEMBLY COMPONENTS  
 A PERFORM BITE CHECK OF CIRCUIT CARDS  
 A PERFORM LOOP FEEDBACK TEST TO CHECK A3 BOARD  
 A CHECK PRINT QUALITY OF PAGE PRINTER ASSEMBLY  
 K CHECK MECHANICAL OPERATION OF PAGE PRINTER ASSEMBLY

OSR JOB INVENTORY TASK STATEMENTS:  
 4 H0390 A OPERATIONALLY CHECK RADIO-TELETYPE SYSTEMS  
 4 H0403 A REMOVE OR INSTALL RADIO-TELETYPE SYSTEM LRU  
 4 H0403 A REMOVE OR INSTALL RADIO-TELETYPE SYSTEM LRU  
 4 J0540 A REMOVE OR INSTALL RADIO-TELETYPE EQUIPMENT PARTS



TASK #: 03090

ALIGN/ADJUST AN/UGC-129 TELETYPEWRITER SET

DUTY CODE: X4

TASK STATUS: 3-OJT

TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: MAJOR, DAMAGE, NONE

HOW OFTEN: MONTHLY FOR (V1), -129 INDEFINITE

OJT TRAINABLE: YES, YES

QTP ADEQUATE: NONE

TNG REFERENCE(S): T.O. 31W4-2UGC129-31 (UGC-129 V1) AND

T.O. 31W4-2UGC129-1 (UGC-129)

TTT: 3

SME OPINION: 3

EQUIPMENT:

TOOL KIT, GRAHM GAGE ASSEMBLY (ADJUST BELT TENSION), MOTOR

ADJUSTMENT TOOL

REFERENCES:

T.O. 31W4-2UGC129-31 (UGC-129 V1)

T.O. 31W4-2UGC129-1 (UGC-129)

CONDITIONS CUES:

COND: IN-SHOP OR USER SITE, POWER ON/OFF

CUE: PMI FINDING, USER COMPLAINT

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD  | ATI  |     |
|-----------|------|------|------|------|------|------|-----|------|-----|
| 304X4     | H    | 0370 | 2.97 | 7.0  | 9.0  | 8.0  | 4.0 | 5.93 | 7.0 |

ACTIVITIES SKILL KNOWLEDGE:

A ALIGN/ADJUST PRINT PLATTER GAP (V1 ONLY)

A ALIGN/ADJUST TIMING BELT TRACKING MECHANISM (V1 ONLY)

A ALIGN/ADJUST PRINT HEAD BELT

A ALIGN/ADJUST FONT TRANSLATION MOTOR TIMING

A ALIGN/ADJUST FONT ROTATION TIMING

A ALIGN/ADJUST LINE FEED TIMING

A ALIGN/ADJUST PRINT HAMMER TIMING BELT

A ALIGN/ADJUST PRINT QUALITY ADJUSTMENT

K APPLY ELECTROMECHANICAL THEORY OF OPERATION

OSR JOB INVENTORY TASK STATEMENTS:

4 H0370 A ALIGN RADIO-TELETYPE SYSTEMS

TASK #: 03100

INSPECT AN/URC-92 HF/SSE TRANSCEIVER

DUTY CODE: X4

TASK STATUS: 3-KP

TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY

HOW OFTEN: 1, 64

OJT TRAINABLE: YES, NO, BASIC ELECTRONICS

QTP ADEQUATE: NONE

TNG REFERENCE(S): T.O. 2-2URC92-2

TTT: 5

SME OPINION: 5

EQUIPMENT:

HAND TOOLS, ALIGNMENT TOOLS, SOLDERING EQUIPMENT, CLEANING

SUPPLIES, VACUUM, OSCILLOSCOPE, REFLECTOMETER, SIGNAL GENERATOR

ANALOG MULTIMETER, DIGITAL MULTIMETER, FREQUENCY COUNTER

REFERENCES:

T.O. 2URC92-2

CONDITIONS CUES:

COND:

CUE: PMI

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |      |
|-----------|------|------|------|------|------|------|------|------|------|
| 304X4     | H    | 0373 | 6.45 | 56.0 | 60.0 | 57.0 | 30.0 | 6.48 | 18.0 |
| 304X4     | H    | 0383 | 5.95 | 60.0 | 63.0 | 60.0 | 35.0 | 4.19 | 18.0 |

ACTIVITIES SKILL KNOWLEDGE:

A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS

A CLEAN EQUIPMENT

A CHECK POWER SUPPLY VOLTAGE

A CHECK OPERATING CONTROLS

A CHECK TRANSMIT INPUT, OUTPUT AND FREQUENCY

A CHECK RECEIVE SENSITIVITY AND AUDIO LEVEL

A CHECK ANTENNA COUPLER TUNING

OSR JOB INVENTORY TASK STATEMENTS:

4 H0383 A OPERATIONALLY CHECK HF EQUIPMENT

4 H0373 K ISOLATE MALFUNCTIONS WITHIN HIGH FREQUENCY (HF) EQUIPMENT

TASK #: 03110  
TROUBLESHOOT AN/URC-92 HF/SSB TRANSCEIVER  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: INDEFINITE, AS REQUIRED  
OJT TRAINABLE: YES, NO, BASIC ELECTRONICS  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 2-2URC92-2  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
HAND TOOLS, ALIGNMENT TOOLS, SOLDERING EQUIPMENT, OSCILLOSCOPE  
ANALOG MULTIMETER, DIGITAL MULTIMETER, FREQUENCY COUNTER,  
REFLECTOMETER, SIGNAL GENERATOR  
REFERENCES:  
T.O. 2-2URC92-2  
CONDITIONS CUES:  
COND: OPERATIONAL OR GARRISON  
CUE: USER COMPLAINT  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB   1ENL   5SKL   7SKL   TD   ATI  
304X4 H 0373 6.45 56.0 60.0 57.0 30.0 6.48 18.0  
304X4 J 0491 6.47 57.0 59.0 56.0 29.0 5.96 18.0  
304X4 J 0516 5.40 46.0 41.0 34.0 15.0 6.17 12.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY LINE REPLACEABLE UNIT IF OPERATIONAL  
K ISOLATE FAULTY COMPONENT IN FM PORTION IF IN GARRISON  
A REMOVE/REPLACE LRU, CIRCUIT CARDS, AND PARTS  
A OPERATIONALLY CHECK EQUIPMENT  
A ALIGN/ADJUST AS NECESSARY  
OSR JOB INVENTORY TASK STATEMENTS:  
4 J0516 A BENCH CHECK MULTIPLE CHANNEL TRANSCEIVERS  
4 H0373 K ISOLATE MALFUNCTIONS WITHIN HIGH FREQUENCY (HF)  
EQUIPMENT  
4 J0491 A ALIGN HIGH FREQUENCY (HF) EQUIPMENT

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TASK #: 03120  
INSPECT 184Z-1 ANTENNA MATRIX  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: 28, 56  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 2-4-373-6WC-1  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
CLEANING SUPPLIES  
REFERENCES:  
T.O. 2-4-373-6WC-1  
CONDITIONS CUES:  
COND: ON AND OFF EQUIPMENT, EQUIPMENT RELEASED  
CUE: PHI  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB   1ENL   5SKL   7SKL   TD   ATI  
304X4 I 0456 3.30 18.0 18.0 17.0 12.0 3.65 7.0  
304X4 H 0383 5.95 60.0 63.0 60.0 35.0 4.19 18.0  
ACTIVITIES SKILL KNOWLEDGE:  
A INSPECT VISUALLY FOR OBVIOUS DEFECTS  
A OPERATIONALLY CHECK UNISWITCHES  
A CHECK UNISWITCH INDICATOR LIGHT OPERATION  
OSR JOB INVENTORY TASK STATEMENTS:  
4 I0456 A OPERATIONALLY CHECK FIXED ANTENNA SYSTEMS  
4 H0383 A OPERATIONALLY CHECK HF EQUIPMENT

TASK #: 03130  
PERFORMANCE CHECK 184Z-1 ANTENNA MATRIX UNISWITCH  
DUTY CODE: X4  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: SERIOUS, NONE, INJURY  
HOW OFTEN: MONTHLY  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 2-4-373-2  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
POWER SUPPLY, RF MATRIX UNISWITCH TEST SET  
REFERENCES:  
T.O. 2-4-373-2  
CONDITIONS CUES:  
COND: IN SHOP BENCH WORK  
CUE: UNISWITCH INCOPERABLE, FAILURE OF PMI OPERATIONAL CHECK  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1EML 5SKL 7SKL TD ATI  
304X4 I 0456 3.30 18.0 18.0 17.0 12.0 3.65 7.0  
ACTIVITIES SKILL KNOWLEDGE:  
A CHECK MECHANICAL OPERATION OF UNISWITCH  
A CHECK UNISWITCH SELECTION INDICATOR LIGHTS  
A CHECK UNISWITCH DIODE CONTINUITY  
OSR JOB INVENTORY TASK STATEMENTS:  
4 I0456 A OPERATIONALLY CHECK FIXED ANTENNA SYSTEMS

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TASK #: 03140  
ADJUST 184Z-1 ANTENNA MATRIX UNISWITCH  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: SERIOUS, NONE, NONE  
HOW OFTEN: MONTHLY  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 2-4-373-2  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
DIGITAL MULTIMETER  
REFERENCES:  
T.O. 2-4-373-2  
CONDITIONS CUES:  
COND: IN SHOP BENCH WORK  
CUE: ANTENNA WILL NOT SELECT, UNISWITCH OPERATES CONTINUOUSLY  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 J 0491 6.47 57.0 59.0 56.0 29.0 5.96 18.0  
ACTIVITIES SKILL KNOWLEDGE:  
A CHECK OPERATION OF UNISWITCH MICROSWITCHES  
A ADJUST MICROSWITCH  
OSR JOB INVENTORY TASK STATEMENTS:  
4 J0491 A ALIGN HIGH FREQUENCY (HF) EQUIPMENT

TASK #: 03150  
TROUBLESHOOT 184Z-1 ANTENNA MATRIX  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: THREE MONTHS  
OJT TRAINABLE: YES, NO, BASIC ELECTRONICS, THEORY OF RELAY  
OPERATION, SAFETY PROCEDURES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 2-4-373-2  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
DIGITAL MULTIMETER, POWER SUPPLY, HAND TOOLS, SOLDERING EQUIPMENT  
REFERENCES:  
T.O. 2-4-373-2  
CONDITIONS CUES:  
COND: ON EQUIPMENT, EQUIPMENT RELEASED  
CUE: LEVEL (RADIO SYSTEM) WILL NOT TUNE OR ANTENNA WILL NOT  
SELECT  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB  1ENL  5SKL  7SKL  TD   ATI  
304X4 H  0373  6.45  56.0  60.0  57.0  30.0  6.48  18.0  
304X4 J  0534  5.00  53.0  54.0  51.0  25.0  5.00  18.0  
ACTIVITIES SKILL KNOWLEDGE:  
A CHECK TRANSMIT RECEIVE RELAY PATH CONTINUITY AND  
OPERATION  
A CHECK TRANSMISSION LINE CONTINUITY  
K ISOLATE FAULTY LINE REPLACEABLE UNITS (LRU)  
K ISOLATE FAULTY COMPONENTS  
A REMOVE AND REPLACE LRU  
A REMOVE AND REPLACE COMPONENTS  
A ADJUST UNISWITCH MICROSWITCHES  
A PERFORMANCE TEST UNISWITCH WITH UNISWITCH TEST SET  
OSR JOB INVENTORY TASK STATEMENTS:  
4 H0373 K ISOLATE MALFUNCTIONS WITHIN HIGH FREQUENCY (HF)  
EQUIPMENT  
4 J0534 A REMOVE OR INSTALL HF EQUIPMENT PARTS

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TASK #: 03160  
INSPECT URG 208U-10 LINEAR POWER AMPLIFIER  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: DAILY, 7, 14, 28, 56, 84, 168, 336  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JA TO QTP 304X4-31JA4N  
TTT: 3  
SME OPINION: 3  
UPC 208U-10 CAN BE CONFIGURED WITH A TRANSMITTER. PERFORMANCE  
OF 28 DAY TRANSMITTER SCOPE CONTROL/GCCS PHI IS CRITICAL TO  
OPERATION.  
EQUIPMENT:  
RF SIGNAL GENERATOR, HIGH IMPEDENCE VOLTMETER, DUMMY LOADS,  
DIGITAL MULTIMETER, VACUUM CLEANER, GENERAL PURPOSE CLEANER,  
GREASE (MIL-L-25681), LUBE OIL (MIL 7870), HAND TOOLS, PAINT  
BRUSH, HAND OILER, BITE WATTMETER, LOW PRESSURE AIR SOURCE, LINE  
MATCHING TRANSFORMER, WATTMETER, BITE MULTIMETER, SPECTRUM  
ANALYZER, TWO TONE GENERATOR, FREQUENCY COUNTER, AUDIO  
OSCILLATOR, DISTORTION ANALYZER, TRANSMISSION IMPAIRMENT  
MEASUREMENT SET, LOW PASS FILTER, BITE AMPRE METER, ANALOG  
MULTIMETER  
REFERENCES:  
T.O. 31R2-4-200-6WC-1, T.O. 31Z1-6-6WC-2 (TRANSMITTER/GCCS)  
CONDITIONS CUES:  
COND: SYSTEM OUT OF SERVICE, PATCH OFF USERS, SAFETY OBSERVER  
CUE: PHI, TROUBLESHOOTING, COMPONENT REPLACEMENT, OR SYSTEM ALIGNMENT  
JOB STANDARDS:  
IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 H 0383 5.95 60.0 63.0 60.0 35.0 4.19 18.0

ACTIVITIES SKILL KNOWLEDGE:

- A PERFORM POWER OUTPUT AND INTERMODULATION DISTORTION TEST (-2 T.O.)
- A PERFORM TUNING TIME TEST (-2 T.O.)
- A PERFORM FRONT PANEL BITE METER OPERATIONAL CHECKS
- A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECT TO INCLUDE FRONT PANEL INDICATOR LIGHTS AND THE VARIABLE TRANSFORMER BRUSH
- A PERFORM TURN-ON/TURN-OFF PROCEDURES
- A PERFORM DYNAMIC OPERATIONAL CHECK OF AUTO-TUNE CIRCUITS AND POWER OUTPUT
- A PERFORM RF SENSITIVITY TEST
- A PERFORM TRANSMIT GAIN CONTROL TEST
- A PERFORM AUTOMATIC LOAD CONTROL TEST
- A PERFORM INTERLOCK AND SHORTING SWITCH TEST
- A CLEAN EQUIPMENT AND INTERIOR/EXTERIOR OF CABINET
- A LUBE TUNING ASSEMBLIES, TUNING COIL, AND LOADING COIL
- A CLEAN BROADBAND AMPLIFIER, DRIVER, AND POWER AMPLIFIER TUBES BY REMOVING/REPLACING
- A LUBE VARIABLE TRANSFORMER DRIVE ASSEMBLY
- A LUBE TRANSMITTER BLOWER MOTOR
- A PERFORM OPERATIONAL TEST OF AUTO TUNE CIRCUITS (-2 T.O.)
- A CHECK BITE METER READINGS (-2 T.O.)
- A PERFORM AUTOMATIC LOAD AND GAIN CONTROL CHECKS (-2 T.O.)
- A CHECK PHASE JITTER READING
- A CHECK SIGNAL TO NOISE RATIO
- A CHECK EXCITER INPUT LEVEL IN DBM
- K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE ELECTRICAL EQUIPMENT
- K RECOGNIZE TARNISH CORROSION OF SILVER COMPONENTS
- K APPLY THEORY OF OPERATION OF ELECTROMECHANICAL ASSEMBLIES
- K RECOGNIZE PROPER OPERATION OR MALFUNCTION OF INTERLOCK SWITCHES OR SHORTING SWITCHES
- K APPLY THEORY OF OPERATION OF VACUUM TUBE LIMITER CIRCUITS

OSR JOB INVENTORY TASK STATEMENTS:

- 4 H0383 A OPERATIONALLY CHECK HF EQUIPMENT

TASK #: 03170

TROUBLESHOOT URG 208U-10 LINEAR POWER AMPLIFIER TO SUBASSEMBLY LEVEL

DUTY CODE: X4

TASK STATUS: 3-KP

TIMES ANALYZED: 2

TNOTES:

- CONSEQUENCES: SERIOUS, DAMAGE, INJURY
- HOW OFTEN: DAILY
- OJT TRAINABLE: YES, NO (REQUIRES ELECTRONIC FUNDAMENTALS)
- QTP ADEQUATE: YES
- TNG REFERENCE(S): QTP 304X4-31JA TO QTP 304X4-31JA4N
- TTT: 3
- SME OPINION: 3 OR 5

EQUIPMENT:

- RF SIGNAL GENERATOR, HIGH IMPEDENCE VOLTMETER, DUMMY LOADS, DIGITAL MULTIMETER, HAND TOOLS, BITE WATTMETER, USE LINE MATCHING TRANSFORMER, WATTMETER, CAPACITOR TESTER, TRANSISTOR TESTER, INDUCTOR TESTER, HIGH VOLTAGE INSULATION BREAKDOWN TESTER, OSCILLOSCOPE, RF VOLTMETER, HIGH VOLTAGE PROBE, TUBE TESTER, SPECTRUM ANALYZER, BITE MULTIMETER, TWO TONE GENERATOR, TRANSMISSION IMPAIRMENT MEASUREMENT SET, DISTORTION ANALYZER, TUBE TESTER

REFERENCES:

T.O. 31R2-4-200-2

CONDITIONS CUES:

- COND: SYSTEM OUT OF SERVICE, PATCH OFF USERS, SAFETY OBSERVER
- CUE: PMI FINDING, TRANSMITTER FAILURE

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 J 0522 6.43 46.0 37.0 30.0 14.0 6.02 12.0  
304X4 H 0378 6.82 63.0 60.0 51.0 28.0 6.44 18.0  
304X4 H 0392 6.63 70.0 64.0 55.0 32.0 4.30 18.0

ACTIVITIES SKILL KNOWLEDGE:

- K ISOLATE FAULTY SUBASSEMBLIES
- K APPLY THEORY OF OPERATION OF ELECTROMECHANICAL ASSEMBLIES

OSR JOB INVENTORY TASK STATEMENTS:

- 4 H0378 K ISOLATE MALFUNCTIONS WITHIN ULTRA HIGH FREQUENCY (UHF) EQUIPMENT
- 4 J0522 A BENCH CHECK UHF POWER AMPLIFIERS

TASK #: 03180  
TROUBLESHOOT URG 208U-10 RF AMPLIFIER UNIT 2 2A140L  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2

TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: DAILY OR QUARTERLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JA TO QTP 304X4-31JA4N  
TTT: NONE  
SME OPINION: 3

EQUIPMENT:  
DIGITAL MULTIMETER, HANDTOOLS, RELAY BURNISHING TOOL, RF SIGNAL GENERATOR, BITE MULTIMETER, SOLDERING KIT

REFERENCES:  
T.O. 31R2-4-200-2

CONDITIONS CUES:  
COND: POWER ON/OFF, SAFETY OBSERVER  
CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE, FAILED CONTROL AMPLIFIER COMPONENTS

JOB STANDARDS:  
IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0378 | 6.82 | 63.0 | 60.0 | 51.0 | 28.0 | 6.44 | 18.0 |
| 304X4 J   | 0541 | 5.53 | 62.0 | 57.0 | 49.0 | 25.0 | 5.16 | 18.0 |

ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY AMPLIFIER CONTROL RELAYS  
K ISOLATE FAULTY AMPLIFIER CONTROL ROTARY SWITCHES  
K ISOLATE FAULTY AMPLIFIER CONTROL DC MOTOR  
K ISOLATE FAULTY AMPLIFIER CONNECTOR  
K ISOLATE TO FAULTY ROTARY SWITCHES  
K APPLY THEORY OF OPERATION OF ROTARY SWITCHES  
K TROUBLESHOOT ROTARY SWITCHES  
A REMOVE/REPLACE ASSEMBLY COMPONENTS AND PARTS  
K APPLY THEORY OF OPERATION OF ELECTROMECHANICAL ASSEMBLIES

OSR JOB INVENTORY TASK STATEMENTS:  
4 H0378 K ISOLATE MALFUNCTIONS WITHIN ULTRA HIGH FREQUENCY (UHF) EQUIPMENT  
4 J0541 A REMOVE OR INSTALL UHF EQUIPMENT PARTS

TASK #: 03190  
TROUBLESHOOT URG 208U-10 RF AMPLIFIER UNIT 2 2A13 KEYINGBIAS SUPPLY  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 3

TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: DAILY OR BI-MONTHLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JA TO QTP 304X4-31JA4N  
TTT: NONE  
SME OPINION: 3

EQUIPMENT:  
HIGH VOLTAGE PROBE, HANDTOOLS, DIGITAL MULTIMETER, RF SIGNAL GENERATOR, RELAY BURNISHING TOOL, BITE MULTIMETER, SOLDERING KIT

REFERENCES:  
T.O. 31R2-4-200-2

CONDITIONS CUES:  
COND: CHECKED ON BENCH OR CABINET, POWER ON/OFF, SAFETY OBSERVER  
CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE, FAILED KEYING BIAS SUPPLY COMPONENTS

JOB STANDARDS:  
IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0378 | 6.82 | 63.0 | 60.0 | 51.0 | 28.0 | 6.44 | 18.0 |
| 304X4 J   | 0541 | 5.53 | 62.0 | 57.0 | 49.0 | 25.0 | 5.16 | 18.0 |

ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY BIAS SUPPLY RELAYS  
K ISOLATE FAULTY BIAS SUPPLY CAPACITORS  
A REMOVE/REPLACE ASSEMBLY COMPONENTS AND PARTS  
K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE ELECTRICAL EQUIPMENT

OSR JOB INVENTORY TASK STATEMENTS:  
4 H0378 K ISOLATE MALFUNCTIONS WITHIN ULTRA HIGH FREQUENCY (UHF) EQUIPMENT  
4 J0541 A REMOVE OR INSTALL UHF EQUIPMENT PARTS

TASK #: 03200  
 ALIGN/ADJUST 208U-10 RF AMPLIFIER UNIT 2 KEYING BIAS SUPPLY  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: DAILY OR MONTHLY  
 QJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X4-31JA TO QTP 304X4-31JA4N  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 HANDTOOLS, DIGITAL MULTIMETER, RF SIGNAL GENERATOR,  
 BITE MULTIMETER  
 REFERENCES:  
 T.O. 31R2-4-200-2  
 CONDITIONS CUES:  
 COND: POWER ON, SAFETY OBSERVER  
 CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:    TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
           304X4 J 0499 6.78 63.0 60.0 51.0 26.0 6.13 18.0  
 ACTIVITIES SKILL KNOWLEDGE:  
   A ALIGN/ADJUST POWER AMPLIFIER STATIC PLATE CURRENTS  
   A ALIGN/ADJUST DRIVER AMPLIFIER PLATE CURRENTS  
   A ALIGN/ADJUST AUTOMATIC LOAD CONTROL  
   A ALIGN/ADJUST TUNING POWER  
   A ALIGN/ADJUST AUTOMATIC DISIPATION LIMITER  
   A ALIGN/ADJUST REFLECTIVE POWER OVERLOAD CIRCUIT  
   K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE  
     ELECTRICAL EQUIPMENT  
 OSR JOB INVENTORY TASK STATEMENTS:  
   4 J0499 A ALIGN UHF EQUIPMENT

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TASK #: 03210  
 TROUBLESHOOT URG 208U-10 RF AMPLIFIER UNIT 2 2A18 DRIVERAMPLIFIER  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: DAILY OR BI-MONTHLY  
 QJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X4-31JA TO QTP 304X4-31JA4N  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 RF SIGNAL GENERATOR, HIGH IMPEDENCE VOLTMETER, DUMMY LOADS,  
 DIGITAL MULTIMETER, HAND TOOLS, BITE WATTMETER, WATTMETER,  
 CAPACITOR TESTER, OSCILLOSCOPE, RF VOLTMETER, HIGH VOLTAGE PROBE,  
 TUBE TESTER, INDUCTOR TESTER, BITE MULTIMETER, SOLDERING KIT  
 REFERENCES:  
 T.O. 31R2-4-200-2  
 CONDITIONS CUES:  
 COND: POWER ON/OFF, EQUIPMENT ON CABINET, SAFETY OBSERVER  
 CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:    TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
           304X4 H 0378 6.82 63.0 60.0 51.0 28.0 6.44 18.0  
           304X4 J 0541 5.53 62.0 57.0 49.0 25.0 5.16 18.0  
 ACTIVITIES SKILL KNOWLEDGE:  
   K ISOLATE FAULTY SEMICONDUCTOR DEVICES  
   A REMOVE/REPLACE ASSEMBLY COMPONENTS AND PARTS  
   K APPLY THEORY OF OPERATION OF ELECTROMECHANICAL ASSEM-  
     BLIES  
   K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE  
     ELECTRICAL EQUIPMENT  
 OSR JOB INVENTORY TASK STATEMENTS:  
   4 H0378 K ISOLATE MALFUNCTIONS WITHIN ULTRA HIGH FREQUENCY  
     (UHF) EQUIPMENT  
   4 J0541 A REMOVE OR INSTALL UHF EQUIPMENT PARTS

TASK #: 03220  
 ALIGN/ADJUST URG 208U-10 RF AMPLIFIER UNIT 2 2A18 DRIVERAMPLIFIER  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: WEEKLY OR MONTHLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X4-31JA TO QTP 304X4-31JA4N  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 RF SIGNAL GENERATOR, HAND TOOLS, BITE WATTMETER, BITE  
 MULTIMETER  
 REFERENCE:  
 T.O. 31R2-4-200-2  
 CONDITIONS CUES:  
 COND: POWER ON, EQUIPMENT ON CABINET, SAFETY OBSERVER  
 CUE: REPLACE DRIVER ASSEMBLY COMPONENT, TRANSMITTER FAILURE,  
 PHI FINDING  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 J 0499 6.78 63.0 60.0 51.0 26.0 6.13 18.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A ALIGN/ADJUST COURSE TUNING DISCRIMINATOR  
 CAPACITOR/RESISTOR AT SPECIFIC RADIO FREQUENCIES  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 J0499 A ALIGN UHF EQUIPMENT

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TASK #: 03230  
 SYNCHRONIZE URG 208U-10 RF AMPLIFIER UNIT 2 DRIVER PLATETUNING ASSEMBLY  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: QUARTERLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONICS FUNDAMENTALS)  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X4-31JA TO QTP 304X4-31JA4N  
 TTT: NONE  
 SME OPINION: 3  
 EQUIPMENT:  
 HANDTOOLS, SOLDERING KIT  
 REFERENCES:  
 T.O. 31R2-4-200-2  
 CONDITIONS CUES:  
 COND: POWER OFF, EQUIPMENT ON CABINET, SAFETY OBSERVER  
 CUE: PHI FINDING, USER COMPLAINT, TRANSMITTER FAILURE  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 J 0499 6.78 63.0 60.0 51.0 26.0 6.13 18.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A SYNCHRONIZE MOVEMENT OF TUNING CAPACITOR AND INDUCTOR  
 COIL  
 K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE  
 ELECTRICAL EQUIPMENT  
 K APPLY THEORY OF OPERATION OF ELECTROMECHANICAL ASSEM-  
 BLIES  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 J0499 A ALIGN UHF EQUIPMENT



TASK #: 03240  
TROUBLESHOOT URG 208U-10 RF AMPLIFIER UNIT 2 2A8, 2A9, 2A10, 2A11 DRIVE ASSEMBLIES  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: WEEKLY, MONTHLY OR QUARTERLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JA TO QTP 304X4-31JA4N  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
RF SIGNAL GENERATOR, DIGITAL MULTIMETER, BITE WATTMETER, HAND TOOLS, SOLDERING KIT, BITE MULTIMETER, GRID-PIP METER, OILER, OIL  
REFERENCES:  
T.O. 31R2-4-200-2  
CONDITIONS CUES:  
COND: POWER ON/OFF, EQUIPMENT ON/OFF CABINET OR ON BENCH, SAFETY OBSERVER  
CUE: PMI FINDING, TRANSMITTER FAILURE, FAILED DRIVER PLATE TUNING ASSEMBLY COMPONENTS, FAILED DRIVE COMPONENTS, OUT OF SYNCHRONIZATION  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
304X4 H 0380 4.97 67.0 65.0 57.0 25.0 3.61 18.0  
ACTIVITIES SKILL KNOWLEDGE:  
A LUBE DRIVE MECHANISMS  
K ISOLATE FAULTY MECHANICAL ASSEMBLIES  
K ISOLATE FAULTY COMPONENTS  
K CHECK FOR ADEQUATE LUBRICATION  
A REMOVE/REPLACE ASSEMBLY PARTS AND COMPONENTS  
K APPLY THEORY OF OPERATION OF ELECTROMECHANICAL ASSEMBLIES  
K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE ELECTRICAL EQUIPMENT  
OSR JOB INVENTORY TASK STATEMENTS:  
4 H0380 A LUBRICATE MECHANICAL PARTS OF GROUND RADIO EQUIPMENT

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TASK #: 03250  
SYNCHRONIZE URG 208U-10 RF AMPLIFIER UNIT 2 2A8, 2A9, 2A10, 2A11 DRIVE ASSEMBLIES  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: MONTHLY OR QUARTERLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JA TO QTP 304X4-31JA4N  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
DIGITAL MULTIMETER, HANDTOOLS  
REFERENCES:  
T.O. 31R2-4-200-2  
CONDITIONS CUES:  
COND: POWER OFF, EQUIPMENT ON CABINET, SAFETY OBSERVER  
CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  ~   ATI  
304X4 J 0499 6.78 63.0 60.0 51.0 26.0 6.13 18.0  
ACTIVITIES SKILL KNOWLEDGE:  
A ADJUST FOLLOW-ON POTENTIOMETERS  
A SYNCHRONIZE DRIVE ASSEMBLIES WITH DRIVEN UNITS  
K APPLY THEORY OF OPERATION OF ELECTROMECHANICAL ASSEMBLIES  
OSR JOB INVENTORY TASK STATEMENTS:  
4 J0499 A ALIGN UHF EQUIPMENT

TASK #: 03260  
TROUBLESHOOT URG 208U-10 RF AMPLIFIER UNIT 2 2A7 DIRECTIONAL COUPLER AND LOW PASS FILTER ASSEMBLY  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: ANNUALLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JA TO QTP 304X4-31JA4N  
TTT: NONE  
SME OPINION: 3 OR 5  
EQUIPMENT:  
WATTMETER, RF SIGNAL GENERATOR, CAPACITOR TESTER, INDUCTOR TESTER, HANDTOOLS, DIGITAL MULTIMETER, SOLDERING KIT, SPECTRUM ANALYZER, INSULATION BREAKDOWN TESTER, BITE MULTIMETER  
REFERENCES:  
T.O. 31R2-4-200-2  
CONDITIONS CUES:  
COND: POWER ON/OFF, EQUIPMENT ON CABINET/BENCH, SAFETY OBSERVER  
CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE, FAILED DIRECTIONAL COUPLER OR LOW PASS FILTER ASSEMBLY COMPONENTS  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB   1ENL   5SKL   7SKL   TD   ATI  
304X4   H   0378   6.82   63.0   60.0   51.0   28.0   6.44   18.0  
304X4   J   0541   5.53   62.0   57.0   49.0   25.0   5.16   18.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY COMPONENTS  
K ISOLATE FAULTY PARTS  
A REMOVE/REPLACE ASSEMBLY PARTS AND COMPONENTS  
K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE ELECTRICAL EQUIPMENT  
OSR JOB INVENTORY TASK STATEMENTS:  
4 H0378 K ISOLATE MALFUNCTIONS WITHIN ULTRA HIGH FREQUENCY (UHF) EQUIPMENT  
4 J0541 A REMOVE OR INSTALL UHF EQUIPMENT PARTS

TASK #: 03270  
ALIGN/ADJUST 208U-10 RF AMPLIFIER UNIT 2 2A7 DIRECTIONAL COUPLER AND LOWPASS FILTER ASSEMBLY  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: ANNUALLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JA TO QTP 304X4-31JA4N  
TTT: NONE  
SME OPINION: 3 OR 5  
EQUIPMENT:  
WATTMETER, RF SIGNAL GENERATOR, BITE WATTMETER, HANDTOOLS, CAPACITOR TESTER, DIGITAL MULTIMETER  
REFERENCES:  
T.O. 31R2-4-200-2  
CONDITIONS CUES:  
COND: POWER ON, EQUIPMENT ON CABINET, SAFETY OBSERVER  
CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB   1ENL   5SKL   7SKL   TD   ATI  
304X4   J   0499   6.78   63.0   60.0   51.0   26.0   6.13   18.0  
ACTIVITIES SKILL KNOWLEDGE:  
A CALIBRATE BITE WATTMETER TO READ THE SAME AS EXTERNAL WATTMETER  
K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE ELECTRICAL EQUIPMENT  
OSR JOB INVENTORY TASK STATEMENTS:  
4 J0499 A ALIGN ULTRA HIGH FREQUENCY (UHF) EQUIPMENT

TASK #: 03280  
TROUBLESHOOT URG 208U-10 RF AMPLIFIER UNIT 2 2A20 POWER AMPLIFIER SUBASSEMBLY  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2

TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: WEEKLY OR SEMI-ANNUALLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JA TO QTP 304X4-31JA4N  
TTT: NONE  
SME OPINION: 5

EQUIPMENT:  
RF SIGNAL GENERATOR, BITE WATTMETER OR WATTMETER, CAPACITOR  
ANALYZER, INSULATION BREAKDOWN TESTER, DIGITAL MULTIMETER,  
HIGH VOLTAGE PROBE, BITE MULTIMETER, HAND TOOLS, SOLDERING KIT

REFERENCES:  
T.O. 31R2-4-200-2

CONDITIONS CUES:  
COND: POWER ON, EQUIPMENT ON CABINET, SAFETY OBSERVER  
CUE: PHI FINDING, USER COMPLAINT, TRANSMITTER FAILURE

JOB STANDARDS:  
IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0378 | 6.82 | 63.0 | 60.0 | 51.0 | 28.0 | 6.44 | 18.0 |
| 304X4 J   | 0541 | 5.53 | 62.0 | 57.0 | 49.0 | 25.0 | 5.16 | 18.0 |

ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY CONTROL GRID COUPLING NETWORK  
K ISOLATE FAULTY OUTPUT COUPLING NETWORKS  
K ISOLATE FAULTY CATHODE DECOUPLING NETWORKS  
K ISOLATE FAULTY HEATER CATHODE TRANSFORMER  
K ISOLATE FAULTY NEUTRALIZATION NETWORK  
K ISOLATE FAULTY FEEDBACK NETWORK  
K ISOLATE FAULTY TUBE SOCKET  
K ISOLATE FAULTY PLATE DECOUPLING NETWORK  
A REMOVE/REPLACE ASSEMBLY PARTS AND COMPONENTS  
K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE ELECTRICAL EQUIPMENT

OSR JOB INVENTORY TASK STATEMENTS:  
4 H0378 K ISOLATE MALFUNCTIONS WITHIN ULTRA HIGH FREQUENCY (UHF) EQUIPMENT  
4 J0541 A REMOVE OR INSTALL UHF EQUIPMENT PARTS

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TASK #: 03290  
ALIGN/ADJUST 208U-10 RF AMPLIFIER UNIT 2 2A20 POWER AMPLIFIER SUBASSEMBLY  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2

TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: WEEKLY OR SEMIANNUALLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JA TO QTP 304X4-31JA4N  
TTT: 3  
SME OPINION: 3

EQUIPMENT:  
RF SIGNAL GENERATOR, BITE WATTMETER OR WATTMETER, RF VOLTMETER,  
BITE MULTIMETER, HAND TOOLS, CAPACITOR TESTER, DIGITAL  
MULTIMETER, OSCILLOSCOPE

REFERENCES:  
T.O. 31R2-4-200-2

CONDITIONS CUES:  
COND: POWER ON, EQUIPMENT ON CABINET, SAFETY OBSERVER  
CUE: PHI FINDING, USER COMPLAINT, TRANSMITTER FAILURE

JOB STANDARDS:  
IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 J   | 0499 | 6.78 | 63.0 | 60.0 | 51.0 | 26.0 | 6.13 | 18.0 |

ACTIVITIES SKILL KNOWLEDGE:  
A ALIGN/ADJUST FILAMENT VOLTAGE  
A ALIGN/ADJUST STATIC PLATE CURRENT  
A PERFORM RF FEEDBACK CHECK  
A ALIGN/ADJUST NEUTRALIZATION  
K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE ELECTRICAL EQUIPMENT

OSR JOB INVENTORY TASK STATEMENTS:  
4 J0499 A ALIGN UHF EQUIPMENT

TASK #: 03300  
TROUBLESHOOT URG 208U-10 RF AMPLIFIER UNIT 2 SERVO AMPLIFIERS  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: MONTHLY OR QUARTERLY, 14  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JA TO QTP 304X4-31JA4N  
TTT: NONE  
SME OPINION: 3 OR 5  
EQUIPMENT:  
RF SIGNAL GENERATOR, BITE WATTMETER OR WATTMETER, DIGITAL  
MULTIMETER, TRANSISTOR TESTER, CAPACITOR TESTER, OSCILLOSCOPE,  
BITE MULTIMETER, HAND TOOLS, SOLDERING KIT  
REFERENCES:  
T.O. 31R2-4-200-2  
CONDITIONS CUES:  
COND: POWER ON/OFF, EQUIPMENT ON CABINET/BENCH, SAFETY OBSERVER  
CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
304X4 H 0378  6.82 63.0 60.0 51.0 28.0 6.44 18.0  
304X4 J 0541  5.53 62.0 57.0 49.0 25.0 5.16 18.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY SERVO AMPLIFIERS BY MONITORING SERVO  
MOTOR MOVEMENT  
K ISOLATE FAULTY SEMICONDUCTOR DEVICES  
K ISOLATE FAULTY SERVO AMPLIFIER RESISTORS  
A REMOVE/RPLACE ASSEMBLY COMPONENTS AND PARTS  
K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE  
ELECTRICAL EQUIPMENT  
OSR JOB INVENTORY TASK STATEMENTS:  
4 H0378 K ISOLATE MALFUNCTIONS WITHIN ULTRA HIGH FREQUENCY  
(UHF) EQUIPMENT  
4 J0541 A REMOVE OR INSTALL UHF EQUIPMENT PARTS

TASK #: 03310  
TROUBLESHOOT URG 208U-10 RF AMPLIFIER UNIT 2 METER BOX  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: DAILY, MONTHLY, OR QUARTERLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JA TO QTP 304X4-31JA4N  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
DIGITAL MULTIMETER, CAPACITOR TESTER, INDUCTOR TESTER, RF SIGNAL  
GENERATOR, BITE WATTMETER OR WATTMETER, OSCILLOSCOPE, BITE  
MULTIMETER, TUBE TESTER, HAND TOOLS, SOLDERING KIT  
REFERENCES:  
T.O. 31R2-4-200-2  
CONDITIONS CUES:  
COND: POWER ON, EQUIPMENT ON CABINET, SAFETY OBSERVER  
CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE, FAILURE  
OF METER BOX COMPONENTS  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
304X4 H 0378  6.82 63.0 60.0 51.0 28.0 6.44 18.0  
304X4 J 0541  5.53 62.0 57.0 49.0 25.0 5.16 18.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY DUAL DIODE VACUUM TUBE  
K ISOLATE FAULTY METER SELECTOR SWITCH  
A REMOVE/REPLACE ASSEMBLY COMPONENTS AND PARTS  
K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE  
ELECTRICAL EQUIPMENT  
OSR JOB INVENTORY TASK STATEMENTS:  
4 H0378 K ISOLATE MALFUNCTIONS WITHIN ULTRA HIGH FREQUENCY  
(UHF) EQUIPMENT  
4 J0541 A REMOVE OR INSTALL UHF EQUIPMENT PARTS

TASK #: 03320  
 ALIGN/ADJUST 208U-10 RF AMPLIFIER UNIT 2 METER BOX  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: DAILY OR QUARTERLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X4-31JA TO QTP 304X4-31JA4N  
 TTT: NONE  
 SME OPINION: 3  
 EQUIPMENT:  
 RF SIGNAL GENERATOR, DIGITAL MULTIMETER, BITE WATTMETER,  
 BITE MULTIMETER, HAND TOOLS  
 REFERENCES:  
 T.O. 31R2-4-200-2  
 CONDITIONS CUES:  
 COND: POWER ON, EQUIPMENT ON CABINET, SAFETY OBSERVER  
 CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 J 0499 6.78 63.0 60.0 51.0 26.0 6.13 18.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A CALIBRATE PA PLATE RF VOTMETER  
 A CALIBRATE PA GRID RF VOLT METER  
 A ALIGN/ADJUST LOADING COMPARATOR  
 A ALIGN/ADJUST TRANSMIT GAIN CONTROL  
 A ALIGN/ADJUST AUTOMATIC LOAD CONTROL  
 A ZERO METER MOVEMENTS  
 A ALIGN/ADJUST AUTOMATIC DISPATION LIMITER  
 A ALIGN/ADJUST DRIVER STATIC PLATE CURRENTS  
 A ALIGN/ADJUST POWER AMPLIFIER PLATE CURRENT  
 K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE  
 ELECTRICAL EQUIPMENT  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 J0499 A ALIGN UHF EQUIPMENT

TASK #: 03330  
 TROUBLESHOOT 208U-10 RF AMPLIFIER UNIT 2 MINUS 1250 VOLT ZENER DIODE VOLTAGE DI  
 VIDER  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: DAILY, BI-MONTHLY, OR MONTHLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X4-31JA TO QTP 304X4-31JA4N  
 TTT: NONE  
 SME OPINION: 5  
 EQUIPMENT:  
 DIGITAL MULTIMETER, HIGH VOLTAGE PROBE, HAND TOOLS, SOLDERING  
 KIT, ZENER DIODE TESTER (LOCAL MANUFACTURE)  
 REFERENCES:  
 T.O. 31R2-4-200-2  
 CONDITIONS CUES:  
 COND: POWER ON/OFF, EQUIPMENT ON CABINET/BENCH, SAFETY OBSERVER  
 CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE, FAILURE  
 OF MINUS 1250 VOLT ZENER DIODE VOLTAGE DIVIDER COMPONENTS  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK YE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 K 0593 3.67 32.0 31.0 30.0 13.0 4.98 12.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 K ISOLATE FAULTY INSULATORS  
 K ISOLATE FAULTY MICA INSULATORS  
 K ISOLATE FAULTY VOLTAGE DIVIDER ZENER DIODES  
 A REMOVE/REPLACE ASSEMBLY PARTS AND COMPONENTS  
 K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE  
 ELECTRICAL EQUIPMENT  
 K APPLY THEORY OF OPERATION OF INSULATION BREAKDOWN  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 K0593 A REMOVE OR INSTALL EQUIPMENT POWER SUPPLY UNIT DIS-  
 CRETE PARTS

TASK #: 03349  
TROUBLESHOOT 208U-10 RF AMPLIFIER UNIT 2 PA TUNING COMPONENTS  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2

NOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: DAILY OR QUARTERLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JA TO QTP 304X4-31JA4N  
TTT: NONE  
SME OPINION: 3

EQUIPMENT:  
RF SIGNAL GENERATOR, BITE WATTMETER, WATTMETER, INSULATION  
BREAKDOWN TEST SET, HAND TOOLS, DIGITAL MULTIMETER

REFERENCES:  
T.O. 31R2-4-200-2

CONDITIONS CUES:  
COND: POWER ON, EQUIPMENT ON CABINET, SAFETY OBSERVER, FAILED  
PA TUNING COMPONENTS

JOB STANDARDS:  
IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0378 | 6.82 | 63.0 | 60.0 | 51.0 | 28.0 | 6.44 | 18.0 |
| 304X4 J   | 0541 | 5.53 | 62.0 | 57.0 | 49.0 | 25.0 | 5.16 | 18.0 |

ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY PA TUNING COIL  
K ISOLATE FAULTY PA TUNING/LOADING CAPACITORS  
K ISOLATE FAULTY LOADING COIL  
K ISOLATE FAULTY LOADING COIL SHORTING SWITCHES  
K ISOLATE FAULTY MECHANICAL SYNCHRONIZATIONS  
K ISOLATE FAULTY MECHANICAL DRIVE COUPLINGS  
K ISOLATE FAULTY PARASYTIC SUPPRESSOR  
K ISOLATE FAULTY PA TUNING INSULATORS  
A REMOVE/REPLACE ASSEMBLY COMPONENTS AND PARTS  
K APPLY THEORY OF OPERATION OF ELECTROMECHANICAL ASSEMBLIES  
K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE ELECTRICAL EQUIPMENT

OSR JOB INVENTORY TASK STATEMENTS:  
4 H0378 K ISOLATE MALFUNCTIONS WITHIN ULTRA HIGH FREQUENCY (UHF) EQUIPMENT  
4 J0541 A REMOVE OR INSTALL UHF EQUIPMENT PARTS

TASK #: 03350  
ALIGN/ADJUST 208U-10 RF AMPLIFIER UNIT 2 PA TUNING COMPONENTS  
DUTY CODE: X0  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2

NOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: MONTHLY OR QUARTERLY  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JA TO QTP 304X4-31JA4N  
TTT: NONE  
SME OPINION: 3

EQUIPMENT:  
HANDTOOLS

REFERENCES:  
T.O. 31R2-4-200-2

CONDITIONS CUES:  
COND: POWER OFF, EQUIPMENT ON CABINET, SAFETY OBSERVER  
CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE

JOB STANDARDS:  
IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 J   | 0499 | 6.78 | 63.0 | 60.0 | 51.0 | 26.0 | 6.13 | 18.0 |

ACTIVITIES SKILL KNOWLEDGE:  
A SYNCHRONIZE PA TUNING COIL WITH ITS DRIVE  
A SYNCHRONIZE TUNING CAPACITORS WITH EACH OTHER AND WITH ITS DRIVE  
A SYNCHRONIZE PA LOADING COIL ROLLERS TO ITS DRIVE  
A SYNCHRONIZE PA LOADING COIL SHORTING SWITCHES TO ITS DRIVE  
K APPLY THEORY OF OPERATION OF ELECTROMECHANICAL ASSEMBLIES

OSR JOB INVENTORY TASK STATEMENTS:  
4 J0499 A ALIGN UHF EQUIPMENT

TASK #: 03360  
TROUBLESHOOT 200U-10 RF AMPLIFIER UNIT 2 PA CHOPPER BOARD AND LOADING LOCKOUT ASSEMBLIES  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
NOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: WEEKLY OR QUARTERLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
YNG REFERENCE(S): QTP 304X4-31JA TO QTP 304X4-31JA4N  
TTY: NONE  
SME OPINION: 3  
EQUIPMENT:  
RF SIGNAL GENERATOR, BITE WATTMETER, WATTMETER, DIGITAL MULTIMETER, BITE MULTIMETER, OSCILLOSCOPE, SOLDERING KIT, HAND TOOLS  
REFERENCES:  
T.O. 31R2-4-200-2  
CONDITIONS CUES:  
COND: POWER ON, EQUIPMENT ON CABINET, SAFETY OBSERVER  
CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   YE   1JOB   1ENL   5SKL   7SKL   TD   ATI  
304X4 H 0378 6.82 63.0 60.0 51.0 28.0 6.44 18.0  
304X4 J 0541 5.53 62.0 57.0 49.0 25.0 5.16 18.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY CHOPPER POWER SUPPLY  
K ISOLATE FAULTY CHOPPERS  
K ISOLATE FAULTY SERVO SUMMARY CIRCUITS  
K ISOLATE FAULTY LOADING LOCKOUT CIRCUIT  
K ISOLATE FAULTY TEC ADJUST CIRCUIT  
K ISOLATE FAULTY SERVO AMPLIFIER SIGNAL INPUT COUPLING NETWORKS  
K ISOLATE FAULTY CHOPPER BOARD AND LOCKOUT RESISTORS  
K ISOLATE FAULTY CHOPPER BOARD AND LOCKOUT RELAYS  
K ISOLATE FAULTY CHOPPER BOARD AND LOCKOUT SILICON CONTROL RECTIFIERS  
A REMOVE/ REPLACE ASSEMBLY COMPONENTS AND PARTS  
K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE ELECTRICAL EQUIPMENT  
OSR JOB INVENTORY TASK STATEMENTS:  
4 W0378 K ISOLATE MALFUNCTIONS WITHIN ULTRA HIGH FREQUENCY (UHF) EQUIPMENT  
4 J0541 A REMOVE OR INSTALL UHF EQUIPMENT PARTS

TASK #: 03370  
ALIGN/ADJUST 200U-10 RF AMPLIFIER UNIT 2 PA CHOPPER BOARD AND LOADING LOCKOUT ASSEMBLIES  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
NOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: DAILY OR MONTHLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
YNG REFERENCE(S): QTP 304X4-31JA TO QTP 304X6-31JA4N  
TTY: 3  
SME OPINION: 3  
EQUIPMENT:  
HAND TOOLS, WATTMETER, BITE WATTMETER, DIGITAL MULTIMETER, BITE MULTIMETER, OSCILLOSCOPE  
REFERENCES:  
T.O. 31R2-4-200-2  
CONDITIONS CUES:  
COND: POWER ON, EQUIPMENT ON CABINET, SAFETY OBSERVER  
CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB   1ENL   5SKL   7SKL   TD   ATI  
304X4 J 0499 6.78 63.0 60.0 51.0 26.0 6.13 18.0  
ACTIVITIES SKILL KNOWLEDGE:  
A ALIGN/ADJUST TRANSMIT GAIN CONTROL  
A MONITOR BEHAVIOR OF PA FINE TUNE PHASE DETECTOR HIGH FREQUENCY COMPENSATION ADJUSTMENT  
K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE ELECTRICAL EQUIPMENT  
OSR JOB INVENTORY TASK STATEMENTS:  
4 J0499 A ALIGN UHF EQUIPMENT

TASK #: 03380  
ALIGN/ADJUST URG 208U-10 LINEAR POWER AMPLIFIER  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: DAILY OR MONTHLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JA TO QTP 304X4-31JA4N  
TTT: NONE  
SNE OPINION: 3

EQUIPMENT:

RF SIGNAL GENERATOR, DIGITAL MULTIMETER, BITE MULTIMETER,  
BITE WATTMETER, WATTMETER, OSCILLOSCOPE, RF VOLTMETER,  
DUMMYLOAD

REFERENCES:

T.O. 31R2-4-200-2

CONDITIONS CUES:

COND: POWER ON, EQUIPMENT ON CABINET, USERS PATCHED OFF, SAFETY  
OBSERVER

CUE: PHI FINDING, USER COMPLAINT, TRANSMITTER FAILURE

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL YD ATI  
304X4 J 0499 6.78 63.0 60.0 51.0 26.0 6.12 18.0

ACTIVITIES SKILL KNOWLEDGE:

A ALIGN/ADJUST POWER AMPLIFIER STATIC PLATE CURRENTS  
A ALIGN/ADJUST DRIVER AMPLIFIER PLATE CURRENTS  
A ALIGN/ADJUST AUTOMATIC LOAD CONTROL  
A ALIGN/ADJUST TUNING POWER  
A ALIGN/ADJUST AUTOMATIC DISIPATION LIMITER  
A ALIGN/ADJUST REFLECTIVE POWER OVERLOAD CIRCUIT  
A ALIGN/ADJUST COURSE TUNING DISCRIMINATOR  
CAPACITOR/RESISTOR AT SPECIFIC RADIO FREQUENCIES  
A SYNCHRONIZE MOVEMENT OF TUNING CAPACITOR AND INDUCTOR  
COIL  
A ADJUST FOLLOW-ON POTENTIOMETERS  
A CALIBRATE BITE WATTMETER TO READ THE SAME AS EXTERNAL  
WATTMETER  
A ALIGN/ADJUST FILAMENT VOLTAGE  
A ALIGN/ADJUST STATIC PLATE CURRENT  
A PERFORM RF FEEDBACK CHECK  
A ALIGN/ADJUST NEUTRALIZATION  
A CALIBRATE PA PLATE RF VOLTMETER  
A CALIBRATE PA GRID RF VOLTMETER  
A ALIGN/ADJUST LOADING COMPARATOR  
A ALIGN/ADJUST TRANSHIT GAIN CONTROL  
A ALIGN/ADJUST AUTOMATIC LOAD CONTROL  
A ZERO METER MOVEMENTS  
A ALIGN/ADJUST AUTOMATIC DISPATION LIMITER  
A ALIGN/ADJUST DRIVER STATIC PLATE CURRENTS  
A ALIGN/ADJUST POWER AMPLIFIER PLATE CURRENT  
A MONITOR BEHAVIOR OF PA FINE TUNE PHASE DETECTOR HIGH  
FREQUENCY COMPENSATION ADJUSTMENT  
K APPLY THEORY OF OPERATION OF ELECTROMECHANICAL ASSEM-  
BLIES  
K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE  
ELECTRICAL EQUIPMENT

OSR JOB INVENTORY TASK STATEMENTS:

4 J0499 A ALIGN UHF EQUIPMENT



TASK #: 03390

INSPECT URG 208U-10 POWER SUPPLY UNIT 1

DUTY CODE: X4

TASK STATUS: 3-KP

TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY

HOW OFTEN: DAILY, 7, 14, 28, 56, 84, 168, 336

OJT TRAINABLE: YES, YES

QTP ADEQUATE: YES

TRNG REFERENCE(S): QTP 304X4-31JA TO QTP 304X4-31JA4N

TTT: 3

SME OPINION: 3

EQUIPMENT:

VACUUM CLEANER, GENERAL PURPOSE CLEANER, DIGITAL MULTIMETER,

HAND TOOLS, PAINT BRUSH, LOW PRESSURE AIR SOURCE, BITE

MULTIMETER, LUBRICATING OIL

REFERENCES:

T.O. 31R2-4-200-6WC-1

T.O. 31Z1-6-6WC-2 (TRANSMITTER/GCCS)

CONDITIONS CUES:

COND: SYSTEM OUT OF SERVICE, PATCH OFF USERS, SAFETY OBSERVER

CUE: PMI, USER COMPLAINT, TRANSMITTER FAILURE

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 1SKL 7SKL TD AT  
304X4 H 0383 5.95 60.0 63.0 60.0 67.0 - 17 18.0

ACTIVITIES SKILL KNOWLEDGE:

A PERFORM TURN-ON/TURN-OFF PROCEDURES

A PERFORM INTERLOCK AND SHORTING SWITCH TEST

A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS TO

INCLUDE VARIABLE TRANSFORMER BRUSH AND THE POWER

SUPPLY CONTROL PANEL INDICATOR LIGHTS

A CLEAN INTERIOR/EXTERIOR OF CABINET AND SLOW OUT LOOSE

DUST AND DEBRIS

A LUBE VARIABLE TRANSFORMER DRIVE ASSEMBLY

A LUBE TRANSMITTER BLOWER MOTOR

A CHECK BITE METER READINGS (-2 T.O.)

A PERFORM FRONT PANEL POWER SUPPLY BITE METER OPERA-

TIONAL CHECKS

K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE

ELECTRICAL EQUIPMENT

K APPLY THEORY OF OPERATION OF VACUUM TUBE LIMITER

CIRCUITS

K APPLY THEORY OF OPERATION FOR STATIC ELECTRIC VOLTAGE

DISCHARGE ASSEMBLIES

K RECOGNIZE PROPER OPERATION OR MALFUNCTION OF INTER-

LOCK/SHORTING SWITCHES

K APPLY THEORY OF OPERATION OF ELECTROMECHANICAL ASSEM-

BLIES

OSR JOB INVENTORY TASK STATEMENTS:

4 H0383 A OPERATIONALLY CHECK HF EQUIPMENT

TASK #: 03400

TROUBLESHOOT URG 208U-10 POWER SUPPLY UNIT 1

DUTY CODE: X4

TASK STATUS: 3-KP

TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY

HOW OFTEN: DAILY OR BI-MONTHLY

OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)

QTP ADEQUATE: YES

TRNG REFERENCE(S): QTP 304X4-31JA TO QTP 304X4-31JA4N

TTT: NONE

SME OPINION: 3

EQUIPMENT:

BITE MULTIMETER, DIGITAL MULTIMETER, HIGH VOLTAGE PROBE, HAND

TOOLS

REFERENCES:

T.O. 31R2-4-200-2

CONDITIONS CUES:

COND: EQUIPMENT ON CABINET, PATCH OFF USERS, SAFETY OBSERVER

CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 J 0537 4.73 42.0 44.0 41.0 20.0 4.81 12.0  
 304X4 H 0383 5.95 60.0 63.0 60.0 35.0 4.19 18.0

ACTIVITIES SKILL KNOWLEDGE:

- K ISOLATE FAULTY 28 VOLT POWER SUPPLY
- K ISOLATE FAULTY 1A8 PA BIAS SUPPLY
- K ISOLATE FAULTY PA POWER CONTROL CIRCUITS
- K ISOLATE FAULTY PA INTERLOCK CIRCUITS
- K ISOLATE FAULTY 1A10 PA AUTOMATIC FILAMENT VOLTAGE REGULATOR
- K ISOLATE FAULTY 6250 VOLT/1250 VOLT POWER SUPPLIES
- K ISOLATE FAULTY 1A7 LOCAL CONTROL PANEL
- K ISOLATE FAULTY 1TB6 PA PLATE CURRENT OVERLOAD CIRCUITS
- A REMOVE/ REPLACE ASSEMBLY COMPONENTS AND PARTS
- K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE ELECTRICAL EQUIPMENT

OSR JOB INVENTORY TASK STATEMENTS:

- 4 H0383 A OPERATIONALLY CHECK HF EQUIPMENT
- 4 J0537 A REMOVE OR INSTALL POWER SUPPLY EQUIPMENT PARTS

TASK #: 03410

TROUBLESHOOT URG 208U-10 POWER SUPPLY UNIT 1 28 VOLT POWER SUPPLY

DUTY CODE: X4

TASK STATUS: 3-KP

TIMES ANALYZED: 2

TNOTES:

- CONSEQUENCES: SERIOUS, DAMAGE, INJURY
- HOW OFTEN: MONTHLY OR ANNUALLY
- OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)
- QTP ADEQUATE: YES
- TNG REFERENCE(S): QTP 304X4-31JA TO QTP 304X4-31JA4N
- TTT: NONE
- SME OPINION: 3

EQUIPMENT:

DIGITAL MULTIMETER, BITE MULTIMETER, HAND TOOLS, SOLDERING KIT

REFERENCES:

T.O. 31R2-4-200-2

CONDITIONS CUES:

- COND: POWER ON/OFF, EQUIPMENT ON CABINET, SAFETY OBSERVER
- CUE: PHI FINDING, USER COMPLAINT, TRANSMITTER FAILURE, FAILED 28 VOLT POWER SUPPLY COMPONENTS

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 H 0383 5.95 60.0 63.0 60.0 35.0 4.19 18.0  
 304X4 J 0537 4.73 42.0 44.0 41.0 20.0 4.81 12.0

ACTIVITIES SKILL KNOWLEDGE:

- K ISOLATE FAULTY 28 VOLT POWER SUPPLY TRANSFORMER
- K ISOLATE FAULTY SUPPLY BRIDGE RECTIFIER
- K ISOLATE FAULTY FILTER CAPACITORS
- K ISOLATE FAULTY FILTER CHOKE
- K ISOLATE FAULTY 28 VOLT POWER SUPPLY FUSES
- A REMOVE/REPLACE ASSEMBLIES, COMPONENTS AND PARTS
- K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE ELECTRICAL EQUIPMENT

OSR JOB INVENTORY TASK STATEMENTS:

- 4 J0537 A REMOVE OR INSTALL POWER SUPPLY EQUIPMENT PARTS

TASK #: 03420  
TROUBLESHOOT URG 208U-10 POWER SUPPLY UNIT 1 1A8 BIAS SUPPLY  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
NOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: MONTHLY, QUARTERLY, OR SEMI-ANNUALLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JA TO QTP 304X4-31JA4N  
TTT: NONE  
SME OPINION: 3  
EQUIPMENT:  
BITE MULTIMETER, DIGITAL MULTIMETER, HAND TOOLS, SOLDERING KIT,  
TUBE TESTER  
REFERENCES:  
T.O. 31R2-4-200-2  
CONDITIONS CUES:  
COND: POWER ON/OFF, EQUIPMENT ON CABINET/BENCH, SAFETY OBSERVER  
CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE, FAILED  
PA BIAS POWER SUPPLY COMPONENTS  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
304X4 J 0518 5.30 43.0 42.0 41.0 20.0 5.34 12.0  
304X4 K 0593 3.67 32.0 31.0 30.0 13.0 4.98 12.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY BIAS SUPPLY TRANSFORMER  
K ISOLATE FAULTY BIAS SUPPLY RECTIFIER DIODES  
K ISOLATE FAULTY FILTER CAPACITORS  
K ISOLATE FAULTY BIAS SUPPLY RESISTORS  
K ISOLATE FAULTY BIAS SUPPLY ELECTRON TUBE  
A REMOVE/REPLACE ASSEMBLY COMPONENTS AND PARTS  
K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE  
ELECTRICAL EQUIPMENT  
OSR JOB INVENTORY TASK STATEMENTS:  
4 J0518 A BENCH CHECK POWER SUPPLY EQUIPMENT  
4 K0593 A REMOVE OR INSTALL EQUIPMENT POWER SUPPLY UNIT DIS-  
CRETE PARTS

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TASK #: 03430  
TROUBLESHOOT URG 208U-10 POWER SUPPLY UNIT 1 PA POWER CONTROL AND INTERLOCK CI  
RCUITS  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
NOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: MONTHLY OR SEMI-ANNUALLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JA TO QTP 304X4-31JA4N  
TTT: NONE  
SME OPINION: 3  
EQUIPMENT:  
DIGITAL MULTIMETER, HAND TOOLS, SOLDERING KIT  
REFERENCES:  
T.O. 31R2-4-200-2  
CONDITIONS CUES:  
COND: POWER ON/OFF, EQUIPMENT ON CABINET, SAFETY OBSERVER  
CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE, FAILED  
POWER CONTROL CIRCUIT COMPONENTS  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
304X4 K 0593 3.67 32.0 31.0 30.0 13.0 4.98 12.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY TIME DELAY CIRCUITS  
K ISOLATE FAULTY INDICATOR LAMP CIRCUITS  
K APPLY THEORY OF OPERATION OF ELECTRICAL SWITCHES  
K ISOLATE FAULTY ELECTRICAL SWITCHES  
K TROUBLESHOOT ELECTRICAL SWITCHES  
K ISOLATE FAULTY FUSES  
A REMOVE/REPLACE ASSEMBLY COMPONENTS AND PARTS  
K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE  
ELECTRICAL EQUIPMENT  
OSR JOB INVENTORY TASK STATEMENTS:  
4 K0593 A REMOVE OR INSTALL EQUIPMENT POWER SUPPLY UNIT DISCRETE PARTS

TASK #: 03440  
TROUBLESHOOT URG 208U-10 POWER SUPPLY UNIT 1 1A10 AUTOMATIC FILAMENT VOLTAGE R  
EGULATOR  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: MONTHLY, SEMI-ANNUALLY, OR ANNUALLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JA TO QTP 304X4-31JA4N  
TTT: NONE  
SME OPINION: 3  
EQUIPMENT:  
DIGITAL MULTIMETER, SOLDERING KIT, HAND TOOLS  
REFERENCES:  
T.O. 31R2-4-200-2  
CONDITIONS CUES:  
COND: POWER ON/OFF, EQUIPMENT ON CABINET, SAFETY OBSERVER  
CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE, FAILED  
AUTOMATIC FILAMENT VOLTAGE REGULATOR COMPONENTS  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 K 0593 3.67 32.0 31.0 30.0 13.0 4.98 12.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY SEMICONDUCTOR DEVICES  
A REMOVE/REPLACE ASSEMBLY COMPONENTS AND PARTS  
K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE  
ELECTRICAL EQUIPMENT  
OSR JOB INVENTORY TASK STATEMENTS:  
4 K0593 A REMOVE OR INSTALL EQUIPMENT POWER SUPPLY UNIT DIS-  
CRETE PARTS

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TASK #: 03450  
ALIGN/ADJUST URG 208U-10 POWER SUPPLY UNIT 1 1A10 AUTOMATIC FILAMENT VOLTAGE R  
EGULATOR  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: MONTHLY OR ANNUALLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JA TO QTP 304X4-31JA4N  
TTT: NONE  
SME OPINION: 3  
EQUIPMENT:  
HANDTOOLS, DIGITAL MULTIMETER  
REFERENCES:  
T.O. 31R2-4-200-2  
CONDITIONS CUES:  
COND: POWER ON, EQUIPMENT ON CABINET, SAFETY OBSERVER  
CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE,  
FILAMENT VOLTAGE REGULATOR COMPONENT FAILURE  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 J 0499 6.78 63.0 60.0 51.0 26.0 6.13 18.0  
ACTIVITIES SKILL KNOWLEDGE:  
A ALIGN/ADJUST FILAMENT VOLTAGE RANGE  
K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE  
ELECTRICAL EQUIPMENT  
OSR JOB INVENTORY TASK STATEMENTS:  
4 J0499 A ALIGN UHF EQUIPMENT

TASK #: 03460  
TROUBLESHOOT URG 208U-10 POWER SUPPLY UNIT 1 6250 VOLT/1250 VOLT DC POWER SUPPLY

DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2

TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: MONTHLY, SEMI-ANNUALLY, OR ANNUALLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JA TO QTP 304X4-31JA4N  
TTT: NONE  
SME OPINION: 3

EQUIPMENT:  
BITE MULTIMETER, DIGITAL MULTIMETER, HIGH VOLTAGE PROBE, HAND TOOLS, SOLDERING KIT

REFERENCES:  
T.O. 31R2-4-200-2

CONDITIONS CUES:  
COND: POWER ON/OFF, EQUIPMENT ON CABINET, SAFETY OBSERVER  
CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE, FAILED POWER SUPPLY COMPONENTS

JOB STANDARDS:  
IAW REFERENCES

| OSR DATA:    | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|--------------|------|------|------|------|------|------|------|------|
| 304X4 K 0593 |      | 3.67 | 32.0 | 31.0 | 30.0 | 13.0 | 4.98 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY FUSES  
K ISOLATE FAULTY POWER TRANSFORMER  
K ISOLATE FAULTY POWER SUPPLY FILTER CHOKES  
A REMOVE/REPLACE ASSEMBLY COMPONENTS AND PARTS  
K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE ELECTRICAL EQUIPMENT

OSR JOB INVENTORY TASK STATEMENTS:  
4 K0593 A REMOVE OR INSTALL EQUIPMENT POWER SUPPLY UNIT DISCRETE PARTS

TASK #: 03470  
TROUBLESHOOT URG 208U-10 POWER SUPPLY UNIT 1 1TB6 PLATE CURRENT OVERLOAD CIRCUIT

DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2

TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: ANNUALLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JA TO QTP 304X4-31JA4N  
TTT: NONE  
SME OPINION: 3

EQUIPMENT:  
BITE MULTIMETER, BITE WATTMETER, TRANSISTOR TESTER, HAND TOOLS, SOLDERING KIT, CAPACITOR TESTER, PORTABLE POWER SUPPLIES, DIGITAL MULTIMETER

REFERENCES:  
T.O. 31R2-4-200-2

CONDITIONS CUES:  
COND: POWER ON/OFF, EQUIPMENT ON CABINET, SAFETY OBSERVER  
CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE. FAILED PLATE CURRENT OVERLOAD CIRCUIT COMPONENTS

JOB STANDARDS:  
IAW REFERENCES

| OSR DATA:    | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|--------------|------|------|------|------|------|------|------|------|
| 304X4 K 0593 |      | 3.67 | 32.0 | 31.0 | 30.0 | 13.0 | 4.98 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY COMPONENTS AND PARTS  
A REMOVE/REPLACE ASSEMBLY COMPONENTS AND PARTS  
K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE ELECTRICAL EQUIPMENT

OSR JOB INVENTORY TASK STATEMENTS:  
4 K0593 A REMOVE OR INSTALL EQUIPMENT POWER SUPPLY UNIT DISCRETE PARTS

TASK #: 03480  
 ALIGN/ADJUST URG 208U-10 POWER SUPPLY UNIT 1 1TB6 PLATE CURRRENT OVERLOAD CIRC  
 UIT  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: SEMI-ANNUALLY OR ANNUALLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X4-31JA TO QTP 304X4-31JA4N  
 TTT: NONE  
 SME OPINION: 3  
 EQUIPMENT:  
 HAND TOOLS, PORTABLE POWER SUPPLIES  
 REFERENCES:  
 T.O. 31R2-4-200-2  
 CONDITIONS CUES:  
 COND: POWER OFF, EQUIPMENT ON CABINET, SAFETY OBSERVER  
 CUE: PMI FINDING, USER COMPLAINT, FAILURE OF PLATE CURRENT  
 OVERLOAD CIRCUIT COMPONENT  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
 304X4 J 0499 6.78 63.0 60.0 51.0 26.0 6.13 18.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A ALIGN/ADJUST PA PLATE CURRENT OVERLOAD THRESHOLD  
 K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE  
 ELECTRICAL EQUIPMENT  
 K APPLY THEORY OF OPERATION OF TRANSISTOR CONTROLLED  
 RELAY CIRCUITS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 J0499 A ALIGN UHF EQUIPMENT

TASK #: 03490  
INSPECT URG 208U-3 LINEAR POWER AMPLIFIER  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 1

NOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: DAILY, 7, 14, 28, 56, 84, 168  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JB THROUGH 304X4-B4Q  
TTT: 3  
SHE OPINION: 3  
URG 208U-3 CAN BE CONFIGURED WITH A TRANSMITTER. PERFORMANCE OF 28 DAY TRANSMITTER SCOPE CONTROL/GCCS PHI IS CRITICAL TO OPERATION.

EQUIPMENT:

RF SIGNAL GENERATOR, HIGH IMPEDANCE VOLTMETER, DUMMY LOADS, DIGITAL MULTIMETER, VACUUM CLEANER, GENERAL PURPOSE CLEANER, GREASE (MIL-L-25681), LUBE OIL (MIL 7870), HAND TOOLS, PAINT BRUSH, HAND OILER, BITE WATTMETER, LOW PRESSURE AIR SOURCE, USE LINE MATCHING TRANSFORMER, WATTMETER, BITE MULTIMETER, FREQUENCY COUNTER, SPECTRUM ANALYZER LOW PASS FILTER, TRANSMISSION IMPERAMENT MEASUREMENT SET, TWO TONE GENERATOR, AUDIO OSCILLATOR, DISTORTION ANALYZER

REFERENCES:

T.O. 31R2-4-316-6WC-1  
T.O. 31Z1-6-6WC-2 (TRANSMITTER/GCCS)

CONDITIONS CUES:

COND: SYSTEM OUT OF SERVICE, PATCH OFF USERS, SAFETY OBSERVER  
CUE: PHI, TROUBLESHOOTING, COMPONENT REPLACEMENT, OR SYSTEM ALIGNMENT

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE IJOB IENL 5SKL 7SKL TD ATI  
304X4 H 0383 5.95 60.0 63.0 60.0 35.0 4.19 18.0

ACTIVITIES SKILL KNOWLEDGE:

- A PERFORM FRONT PANEL BITE METER OPERATIONAL CHECKS
- A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS INCLUDING THE VARIABLE TRANSFORMER BRUSH
- A PERFORM TURN-ON/TURN-OFF PROCEDURES
- A PERFORM DYNAMIC OPERATIONAL CHECK OF AUTO-TUNE CIRCUITS AND POWER OUTPUT
- A PERFORM RF SENSITIVITY TEST
- A PERFORM TRANSMIT GAIN CONTROL TEST
- A PERFORM AUTOMATIC LOAD CONTROL TEST
- A PERFORM POWER AMPLIFIER DISCRIMINATOR TESTS
- A PERFORM INTERLOCK AND SHORTING SWITCH TEST
- A CLEAN INTERIOR/EXTERIOR OF CABINET AND EQUIPMENT
- A LUBE TUNING ASSEMBLIES, TUNING COIL, AND LOADING COIL
- A CLEAN INPUT AMPLIFIER, DRIVER, AND POWER AMPLIFIER TUBES BY REMOVING/REPLACING
- A PERFORM OPERATIONAL TEST OF AUTO TUNE CIRCUITS (-2 T.O.)
- A CHECK BITE METER READINGS (-2 T.O.)
- A PERFORM AUTOMATIC LOAD AND GAIN CONTROL CHECKS (-2 T.O.)
- A PERFORM POWER OUTPUT AND INTERMODULATION DISTORTION TEST (-2 T.O.)
- A PERFORM TUNING TIME TEST (-2 T.O.)
- A PERFORM PHASE-JITTER TEST
- A PERFORM SIGNAL TO NOISE RATIO TEST
- A ADJUST EXCITER INPUT AND DBM LEVEL
- K APPLY THEORY OF OPERATION OF ELECTROMECHANICAL ASSEMBLIES
- K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE ELECTRICAL EQUIPMENT
- K RECOGNIZE TARNISH CORROSION OF SILVER COMPONENTS
- K RECOGNIZE PROPER OPERATION OR MALFUNCTION OF INTERLOCK SWITCHES OR SHORTING SWITCHES
- K APPLY THEORY OF OPERATION OF VACUUM TUBE LIMITER CIRCUITS

OSR JOB INVENTORY TASK STATEMENTS:

4 H0383 A OPERATIONALLY CHECK HF EQUIPMENT

TASK #: 03500  
TROUBLESHOOT URG 208U-3 LINEAR POWER AMPLIFIER  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 1

NOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: DAILY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JB THROUGH 304X4-B4Q  
TTT: NONE  
SME OPINION: 5

EQUIPMENT:

RF SIGNAL GENERATOR, HIGH IMPEDANCE VOLTMETER, DUMMY LOADS,  
DIGITAL MULTIMETER, HAND TOOLS, BITE WATTMETER,  
USE LINE MATCHING TRANSFORMER, WATTMETER, CAPACITOR  
TESTER, TRANSISTOR TESTER, INDUCTOR TESTER, HIGH VOLTAGE  
INSULATION BREAKDOWN TESTER, OSCILLOSCOPE, RF VOLTMETER,  
HIGH VOLTAGE PROBE, TUBE TESTER, SPECTRUM ANALYZER,  
BITE MULTIMETER

REFERENCES:

T.O. 31R2-4-316-2

CONDITIONS CUES:

COND: SYSTEM OUT OF SERVICE, PATCH OFF USERS, SAFETY OBSERVER  
CUE: PMI FINDING, TRANSMITTER FAILURE

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0378 | 6.8  | 63.0 | 60.0 | 51.0 | 28.0 | 6.44 | 18.0 |
| 304X4 J   | 0541 | 5.53 | 62.0 | 57.0 | 49.0 | 25.0 | 5.16 | 18.0 |

ACTIVITIES SKILL KNOWLEDGE:

- K ISOLATE FAULTY 1A19 TUNE CYCLE CONTROL
- K ISOLATE FAULTY INPUT AMPLIFIER /DRIVER CHASSIS
- K ISOLATE FAULTY 1A15 PA TUNE GRID DRIVE ASSEMBLY
- K ISOLATE FAULTY 1A17 PA TUNE NUMBER 2 DRIVE ASSEMBLY
- K ISOLATE FAULTY 1A16 PA PLATE TUNING NUMBER 1 DRIVE ASSEMBLY
- K ISOLATE FAULTY 1A18 PA LOADING COIL DRIVE ASSEMBLY
- K ISOLATE FAULTY 1A13 DIRECTIONAL COUPLER
- K ISOLATE FAULTY 1A27 LOW PASS FILTER ASSEMBLY
- K ISOLATE FAULTY POWER AMPLIFIER COMPARTMENT
- K ISOLATE FAULTY 1A9, 1A10, 1A11, AND 1A12 SERVO AMPLIFIERS
- K ISOLATE FAULTY 1A20 METER PANEL
- K ISOLATE FAULTY L21 AND L22 PA TUNING COIL ASSEMBLY
- K ISOLATE FAULTY L23 PA LOADING COIL ASSEMBLY
- K ISOLATE FAULTY ADJUSTMENT AND SERVO SUMMARY CONTROL PANELS
- K ISOLATE FAULTY REFLECTED POWER OVERLOAD AND LOADING AND LOCKOUT CONTROL
- K ISOLATE FAULTY COURSE POSITIONING CONTROL AND INTERMEDIATE GAIN CONTROL (IGC) CIRCUITS
- K ISOLATE FAULTY 1A22 DIGITAL DISCRIMINATOR
- K ISOLATE FAULTY 1A14 DETECTOR ASSEMBLY
- A REMOVE AND REPLACE FAULTY ASSEMBLIES, COMPONENTS, AND PARTS
- K APPLY THEORY OF OPERATION OF ELECTROMECHANICAL ASSEMBLIES

OSR JOB INVENTORY TASK STATEMENTS:

- 4 H0378 K ISOLATE MALFUNCTIONS WITHIN ULTRA HIGH FREQUENCY (UHF) EQUIPMENT
- 4 J0541 A REMOVE OR INSTALL UHF EQUIPMENT PARTS



TASK #: 03510  
TROUBLESHOOT URG 208U-3 RF AMPLIFIER UNIT 1A19 TUNE CYCLE CONTROL  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 1

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: DAILY OR QUARTERLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JB THROUGH 304X4-B4Q  
TTT: NONE  
SME OPINION: 3

EQUIPMENT:

DIGITAL MULTIMETER, HANDTOOLS, RELAY BURNISHING TOOL, RF SIGNAL GENERATOR, BITE MULTIMETER, SOLDERING KIT

REFERENCES:

T.O. 31R2-4-316-2

CONDITIONS CUES:

COND: POWER ON/OFF, SAFETY OBSERVER  
CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0378 | 6.82 | 63.0 | 60.0 | 51.0 | 28.0 | 6.44 | 18.0 |
| 304X4 J   | 0541 | 5.53 | 62.0 | 57.0 | 49.0 | 25.0 | 5.16 | 18.0 |

ACTIVITIES SKILL KNOWLEDGE:

K ISOLATE TO FAULTY ROTARY SWITCHES  
K TROUBLESHOOT ROTARY SWITCHES  
K ISOLATE FAULTY AMPLIFIER CONNECTOR  
K ISOLATE FAULTY AMPLIFIER CONTROL RELAYS  
K ISOLATE FAULTY AMPLIFIER CONTROL DC MOTOR  
A REMOVE/REPLACE COMPONENTS AND PARTS  
K APPLY THEORY OF OPERATION OF ROTARY SWITCHES

OSR JOB INVENTORY TASK STATEMENTS:

4 H0378 K ISOLATE MALFUNCTIONS WITHIN ULTRA HIGH FREQUENCY (UHF) EQUIPMENT  
4 J0541 A REMOVE OR INSTALL UHF EQUIPMENT PARTS

TASK #: 03520

TROUBLESHOOT URG 208U-3 RF AMPLIFIER UNIT 1A15 INPUT AMPLIFIER/DRIVER CHASSIS  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 1

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: DAILY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JB THROUGH 304X4-B4Q  
TTT:  
SME OPINION: 3

EQUIPMENT:

RF SIGNAL GENERATOR, HIGH IMPEDANCE VOLTMETER, DUMMY LOADS, DIGITAL MULTIMETER, HAND TOOLS, BITE WATTMETER, WATTMETER, CAPACITOR TESTER, OSCILLOSCOPE, RF VOLTMETER, HIGH VOLTAGE PROBE, TUBE TESTER, INDUCTOR TESTER, BITE MULTIMETER, SOLDERING KIT

REFERENCES:

T.O. 31R2-4-316-2

CONDITIONS CUES:

COND: POWER ON/OFF, EQUIPMENT ON CABINET, SAFETY OBSERVER  
CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0378 | 6.82 | 63.0 | 60.0 | 51.0 | 28.0 | 6.44 | 18.0 |
| 304X4 J   | 0541 | 5.53 | 62.0 | 57.0 | 49.0 | 25.0 | 5.16 | 18.0 |

ACTIVITIES SKILL KNOWLEDGE:

K ISOLATE FAULTY DRIVER AMPLIFIER TRANSFORMERS  
K ISOLATE FAULTY DRIVER AMPLIFIER DISCRIMINATOR CIRCUITS  
K ISOLATE FAULTY DRIVER AMPLIFIER MICROSCHWITCHES  
K ISOLATE FAULTY DRIVER AMPLIFIER INSULATORS  
K ISOLATE FAULTY DRIVER AMPLIFIER TUBE SOCKETS/CONNECTORS  
A REMOVE/REPLACE RF AMPLIFIER UNIT COMPONENTS AND PARTS  
K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE ELECTRICAL EQUIPMENT  
K APPLY THEORY OF OPERATION OF ELECTROMECHANICAL ASSEMBLIES

OSR JOB INVENTORY TASK STATEMENTS:

4 H0378 A ISOLATE MALFUNCTIONS WITHIN ULTRA HIGH FREQUENCY (UHF) EQUIPMENT  
4 J0541 A REMOVE OR INSTALL UHF EQUIPMENT PARTS

TASK #: 03530  
 ALIGN/ADJUST URG 208U-3 RF AMPLIFIER UNIT INPUT/DRIVER AMPLIFIER  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 1  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: WEEKLY OR MONTHLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X4-31JB THROUGH 304X4-B4Q  
 TTT: NONE  
 SME OPINION: 3  
 EQUIPMENT:  
 RF SIGNAL GENERATOR, HAND TOOLS, BITE WATTMETER,  
 BITE MULTIMETER  
 REFERENCES:  
 T.O. 31R2-4-316-2  
 CONDITIONS CUES:  
 COND: POWER ON, EQUIPMENT IN CABINET, SAFETY OBSERVER  
 CUE: REPLACE DRIVER ASSEMBLY COMPONENT, TRANSMITTER FAILURE,  
 PMI FINDING  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 J 0499 6.78 63.0 60.0 51.0 26.0 6.13 18.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A ALIGN/ADJUST COURSE TUNING DISCRIMINATOR  
 CAPACITOR/RESISTOR AT SPECIFIC RADIO FREQUENCIES  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 J0499 A ALIGN UHF EQUIPMENT

TASK #: 03540  
 TROUBLESHOOT URG 208U-3 RF AMPLIFIER UNIT 1A15, 1A16, 1A17, 1A18 DRIVE ASSEMBLIES  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 1  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: MONTHLY OR QUARTERLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X4-31JB THROUGH 304X4-B4Q  
 TTT: NONE  
 SME OPINION: 3 OR 5  
 EQUIPMENT:  
 DIGITAL MULTIMETER, HAND TOOLS, SOLDERING KIT, RF SIGNAL  
 GENERATOR, BITE WATTMETER, BITE MULTIMETER, OILER WITH OIL  
 REFERENCES:  
 T.O. 31R2-4-316-2  
 CONDITIONS CUES:  
 COND: POWER ON/OFF, EQUIPMENT ON/OFF CABINET, SAFETY OBSERVER  
 CUE: PMI FINDING, TRANSMITTER FAILURE, FAILED DRIVE OR DRIVER  
 PLATE TUNING ASSEMBLY, OUT OF SYNCHRONIZATION  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 H 0380 4.97 67.0 65.0 57.0 25.0 3.61 18.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 K ISOLATE FAULTY DRIVE ASSEMBLY POTENTIOMETER  
 K ISOLATE FAULTY DRIVE ASSEMBLY DRIVE MOTOR  
 K ISOLATE FAULTY SYNCHRONIZATION OF DRIVE MECHANISMS  
 K ISOLATE FAULTY DRIVE ASSEMBLY CONNECTOR  
 K ISOLATE FAULTY DRIVE ASSEMBLY GEARS  
 K ISOLATE FAULTY PA GRID TUNING ASSEMBLY TRANSFORMER  
 K ISOLATE FAULTY PA GRID TUNING ASSEMBLY INDUCTOR  
 K ISOLATE FAULTY PA GRID TUNING ASSEMBLY CAPACITOR  
 A REMOVE/REPLACE ASSEMBLIES, COMPONENTS, AND PARTS  
 A LUBE DRIVE MECHANISMS  
 K APPLY THEORY OF OPERATION OF ELECTROMECHANICAL ASSEMBLIES  
 K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE ELECTRICAL EQUIPMENT  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 H0380 A LUBRICATE MECHANICAL PARTS OF GROUND RADIO EQUIPMENT

TASK #: 03550  
 SYNCHRONIZE URG 208U-3 RF AMPLIFIER UNIT 1A15, 1A16, 1A17, 1A18, DRIVE ASSEMBLIES

DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 1

TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: MONTHLY OR QUARTERLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X4-31JB THROUGH 304X4-B4Q  
 TTT: 3  
 SME OPINION: 3

EQUIPMENT:  
 DIGITAL MULTIMETER, HANDTOOLS

REFERENCES:  
 T.O. 31R2-4-316-2

CONDITIONS CUES:  
 COND: POWER OFF, EQUIPMENT ON CABINET, SAFETY OBSERVER  
 CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0380 | 4.97 | 67.0 | 65.0 | 57.0 | 25.0 | 3.61 | 18.0 |

ACTIVITIES SKILL KNOWLEDGE:  
 A ADJUST FOLLOW-ON POTENTIOMETERS  
 A SYNCHRONIZE DRIVE ASSEMBLIES WITH DRIVEN UNITS  
 A APPLY OIL  
 A SYNCHRONIZE MOVEMENT OF TUNING CAPACITOR AND INDUCTOR COIL  
 K APPLY THEORY OF OPERATION OF ELECTROMECHANICAL ASSEMBLIES  
 K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE ELECTRICAL EQUIPMENT

OSR JOB INVENTORY TASK STATEMENTS:  
 4 H0380 A LUBRICATE MECHANICAL PARTS OF GROUND RADIO EQUIPMENT

TASK #: 03560  
 TROUBLESHOOT URG 208U-3 RF AMPLIFIER UNIT 1A13 DIRECTIONAL COUPLER AND 1A27 LOW PASS FILTER ASSEMBLY

DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 1

TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: ANNUALLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): 304X4-31JB THROUGH 304X4-B4Q  
 TTT: NONE  
 SME OPINION: 3 OR 5

EQUIPMENT:  
 WATTMETER, RF SIGNAL GENERATOR, CAPACITOR TESTER, INDUCTOR TESTER, HANDTOOLS, DIGITAL MULTIMETER, SOLDERING KIT, SPECTRUM ANALYZER, INSULATION BREAKDOWN TESTER, BITE MULTIMETER

REFERENCES:  
 T.O. 31R2-4-316-2

CONDITIONS CUES:  
 COND: POWER ON/OFF, EQUIPMENT ON CABINET/BENCH, SAFETY OBSERVER  
 CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE, FAILED DIRECTIONAL COUPLER OR LOW PASS FILTER ASSEMBLY COMPONENTS

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0378 | 6.82 | 63.0 | 60.0 | 51.0 | 28.0 | 6.44 | 18.0 |
| 304X4 J   | 0541 | 5.53 | 62.0 | 57.0 | 49.0 | 25.0 | 5.16 | 18.0 |

ACTIVITIES SKILL KNOWLEDGE:  
 K ISOLATE FAULTY COUPLER/FILTER INDUCTORS  
 K ISOLATE FAULTY COUPLER/FILTER CAPACITORS  
 K ISOLATE FAULTY COUPLER/FILTER INSULATORC  
 K ISOLATE FAULTY COUPLER/FILTER ELECTRONIC SUBSECTION OF THE DIRECTIONAL COUPLER  
 K ISOLATE FAULTY COUPLER/FILTER CONNECTIONS  
 A REMOVE/REPLACE ASSEMBLIES, COMPONENTS, AND PARTS  
 K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE ELECTRICAL EQUIPMENT

OSR JOB INVENTORY TASK STATEMENTS:  
 4 H0378 K ISOLATE MALFUNCTIONS WITHIN ULTRA HIGH FREQUENCY (UHF) EQUIPMENT  
 4 J0541 A REMOVE OR INSTALL UHF EQUIPMENT PARTS

TASK #: 03570  
 ALIGN/ADJUST 208U-3 RF AMPLIFIER UNIT 1A137 DIRECTIONAL COUPLER AND 1A27 LOW P  
 ASS FILTER ASSEMBLY  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 1  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: ANNUALLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X4-31JB THROUGH 304X4-84Q  
 TTT: NONE  
 SME OPINION: 5  
 EQUIPMENT:  
 WATTMETER, RF SIGNAL GENERATOR, BITE WATTMETER  
 HANDTOOLS,  
 REFERENCES:  
 T.O. 31K2-4-316-2  
 CONDITIONS CUES:  
 COND: POWER ON, EQUIPMENT ON CABINET, SAFETY OBSERVER  
 CUE: PHI FINDING, USER COMPLAINT, TRANSMITTER FAILURE  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL YD ATI  
 304X4 J 0499 6.78 63.0 60.0 51.0 26.0 6.13 18.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A CALIBRATE BITE WATTMETER TO READ THE SAME AS EXTERNAL  
 WATTMETER  
 K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE  
 ELECTRICAL EQUIPMENT  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 J0499 A ALIGN UHF EQUIPMENT

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TASK #: 03580  
 TROUBLESHOOT URG 208U-3 RF AMPLIFIER UNIT POWER AMPLIFIER COMPARTMENT  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 1  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: WEEKLY OR QUARTERLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X4-31JB THROUGH 304X4-84Q  
 TTT: NONE  
 SME OPINION: 5  
 EQUIPMENT:  
 RF SIGNAL GENERATOR, BITE WATTMETER OR WATTMETER, CAPACITOR  
 ANALYZER, INSULATION BREAKDOWN TESTER, DIGITAL MULTIMETER,  
 HIGH VOLTAGE PROBE, HANDTOOLS, BITE MULTIMETER, SOLDERING KIT  
 REFERENCES:  
 T.O. 31R2-4-316-2  
 CONDITIONS CUES:  
 COND: POWER ON, EQUIPMENT ON CABINET, SAFETY OBSERVER  
 CUE: PHI FINDING, USER COMPLAINT, TRANSMITTER FAILURE,  
 FAILED POWER AMPLIFIER SUBASSEMBLY COMPONENTS  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL YD ATI  
 304X4 H 0378 6.82 63.0 60.0 51.0 28.0 6.44 18.0  
 304X4 J 0541 5.53 62.0 57.0 49.0 25.0 5.16 18.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 K ISOLATE FAULTY CONTROL GRID COUPLING NETWORK  
 K ISOLATE FAULTY OUTPUT COUPLING NETWORKS  
 K ISOLATE FAULTY POWER AMPLIFIER TUBE  
 K ISOLATE FAULTY CATHODE DECOUPLING NETWORKS  
 K ISOLATE FAULTY HEATER CATHODE TRANSFORMER  
 K ISOLATE FAULTY NEUTRALIZATION NETWORK  
 K ISOLATE FAULTY FEEDBACK NETWORK  
 K ISOLATE FAULTY TUBE SOCKET  
 K ISOLATE FAULTY PLATE DECOUPLING NETWORK  
 A REMOVE/REPLACE ASS'NBLIES, COMPONENTS, AND PARTS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 H0378 K ISOLATE MALFUNCTIONS WITHIN ULTRA HIGH FREQUENCY  
 (UHF) EQUIPMENT  
 4 J0541 A REMOVE OR INSTALL UHF EQUIPMENT PARTS

TASK #: 03590  
 ALIGN/ADJUST 208U-3 RF AMPLIFIER UNIT POWER AMPLIFIER COMPARTMENT  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 1

TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: WEEKLY OR SEMI-ANNUALLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X4-31JB THROUGH 304X4-B4Q  
 TTT: NONE  
 SME OPINION: 3

EQUIPMENT:  
 RF SIGNAL GENERATOR, BITE WATTMETER OR WATTMETER, RF VOLTMETER,  
 BITE MULTIMETER, TOOL KIT

REFERENCES:  
 T.O. 31R2-4-316-2

CONDITIONS CUES:  
 COND: POWER ON, EQUIPMENT ON CABINET, SAFETY OBSERVER  
 CUE: PHI FINDING, USER COMPLAINT, TRANSMITTER FAILURE

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 J   | 0499 | 6.78 | 63.0 | 60.0 | 51.0 | 26.0 | 6.13 | 18.0 |

ACTIVITIES SKILL KNOWLEDGE:  
 A ALIGN/ADJUST FILAMENT VOLTAGE  
 A ALIGN/ADJUST STATIC PLATE CURRENT  
 A PERFORM RF FEEDBACK CHECK  
 A ALIGN/ADJUST NEUTRALIZATION  
 K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE ELECTRICAL EQUIPMENT

OSR JOB INVENTORY TASK STATEMENTS:  
 4 J0499 ALLIGN ULTRA HIGH FREQUENCY (UHF) EQUIPMENT

TASK #: 03600  
 TROUBLESHOOT URG 208U-3 RF AMPLIFIER UNIT SERVO AMPLIFIERS AND ASSEMBLY  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 1

TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: MONTHLY OR QUARTERLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X4-31JB THROUGH 304X4-B4Q  
 TTT: NONE  
 SME OPINION: 3 OR 5

EQUIPMENT:  
 RF SIGNAL GENERATOR, BITE WATTMETER OR WATTMETER, DIGITAL  
 MULTIMETER, TRANSISTOR TESTER, CAPACITOR TESTER, OSCILLOSCOPE,  
 BITE MULTIMETER, HAND TOOLS, SOLDERING KIT

REFERENCES:  
 T.O. 31R2-4-316-2

CONDITIONS CUES:  
 COND: POWER ON/OFF, EQUIPMENT ON CABINET/BENCH, SAFETY OBSERVER  
 CUE: PHI FINDING, USER COMPLAINT, TRANSMITTER FAILURE

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0378 | 6.82 | 63.0 | 60.0 | 51.0 | 28.0 | 6.44 | 18.0 |
| 304X4 J   | 0541 | 5.53 | 62.0 | 57.0 | 49.0 | 25.0 | 5.16 | 18.0 |

ACTIVITIES SKILL KNOWLEDGE:  
 A ISOLATE FAULTY SERVO AMPLIFIERS BY MONITORING SERVO MOTOR MOVEMENT  
 A ISOLATE FAULTY SERVO AMPLIFIER CHOPPERS  
 A ISOLATE FAULTY CHOPPER POWER SUPPLY  
 A ISOLATE FAULTY SERVO AMPLIFIER RESISTORS  
 A ISOLATE FAULTY SERVO AMPLIFIER CAPACITORS  
 A ISOLATE FAULTY SERVO AMPLIFIER INDUCTORS  
 A ISOLATE FAULTY SERVO AMPLIFIER TRANSFORMERS  
 A ISOLATE FAULTY SERVO AMPLIFIER CONNECTORS  
 A ISOLATE FAULTY SERVO AMPLIFIER INSULATORS OPERATION  
 A REMOVE/REPLACE ASSEMBLIES, COMPONENTS, AND PARTS  
 K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE ELECTRICAL EQUIPMENT

OSR JOB INVENTORY TASK STATEMENTS:  
 4 H0378 K ISOLATE MALFUNCTIONS WITHIN ULTRA HIGH FREQUENCY (UHF) EQUIPMENT  
 4 J0541 A REMOVE OR INSTALL UHF EQUIPMENT PARTS

TASK #: 03610  
TROUBLESHOOT URG 208U-3 RF AMPLIFIER UNIT METER PANEL  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 1  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, NONE  
HOW OFTEN: DAILY OR SEMI-ANNUALLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JB THROUGH 304X4-B4Q  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
DIGITAL MULTIMETER, CAPACITOR TESTER, INDUCTOR TESTER, RF SIGNAL  
GENERATOR, BITE WATTMETER OR WATTMETER, OSCILLOSCOPE, BITE  
MULTIMETER, TUBE TESTER, HAND TOOLS, SOLDERING KIT  
REFERENCES:  
T.O. 31R2-4-316-2  
CONDITIONS CUES:  
COND: POWER ON, EQUIPMENT ON CABINET, SAFETY OBSERVER  
CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE,  
FAILURE OF METER PANEL COMPONENTS  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB   1ENL   5SKL   7SKL   TD   ATI  
304X4 H 0378 6.82 63.0 60.0 51.0 28.0 6.44 18.0  
304X4 J 0541 5.53 62.0 57.0 49.0 25.0 5.16 18.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY METER PANEL COMPONENTS  
A REMOVE/REPLACE ASSEMBLIES, COMPONENTS, AND PARTS  
K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE  
ELECTRICAL EQUIPMENT  
OSR JOB INVENTORY TASK STATEMENTS:  
4 H0378 K ISOLATE MALFUNCTIONS WITHIN ULTRA HIGH FREQUENCY (UHF) EQUIPMENT  
4 J0541 A REMOVE OR INSTALL UHF EQUIPMENT PARTS

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TASK #: 03620  
ALIGN/ADJUST 208U-3 RF AMPLIFIER UNIT METER PANEL  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 1  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, NONE  
HOW OFTEN: DAILY OR MONTHLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JB THROUGH 304X4-B4Q  
TTT: NONE  
SME OPINION: 3  
EQUIPMENT:  
RF SIGNAL GENERATOR, DIGITAL MULTIMETER, BITE WATTMETER OR  
WATTMETER, BITE MULTIMETER, HAND TOOLS  
REFERENCES:  
T.O. 31R2-4-316-2  
CONDITIONS CUES:  
COND: POWER ON, EQUIPMENT ON CABINET, SAFETY OBSERVER  
CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB   1ENL   5SKL   7SKL   TD   ATI  
304X4 J 0499 6.78 63.0 60.0 51.0 26.0 6.13 18.0  
ACTIVITIES SKILL KNOWLEDGE:  
A CALIBRATE PA FILAMENT VOLTMETER  
A ZERO METER MOVEMENTS  
A CALIBRATE BITE WATTMETER  
K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE  
ELECTRICAL EQUIPMENT  
OSR JOB INVENTORY TASK STATEMENTS:  
4 J0499 A ALIGN UHF EQUIPMENT

TASK #: 03630  
TROUBLESHOOT 208U-3 RF AMPLIFIER UNIT 1A22 DIGITAL DISCRIMINATOR  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 1  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: SEMIANNUALLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): 304X4-31JB THROUGH 304X4-B4Q  
ITT: NONE  
SME OPINION: 3  
EQUIPMENT:  
DIGITAL MULTIMETER, TRANSISTOR TESTER, CAPACITOR TESTER, HAND  
TOOLS, SOLDERING KIT, INDUCTOR TESTER, OSCILLOSCOPE, RF SIGNAL  
GENERATOR, BITE MULTIMETER  
REFERENCES:  
T.O. 31R2-4-316-2  
CONDITIONS CUES:  
COND: POWER ON/OFF, EQUIPMENT ON CABINET/BENCH, SAFETY OBSERVER  
CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE, FAILED  
DIGITAL DISCRIMINATOR COMPONENTS  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
304X4 H 0378  6.82 63.0 60.0 51.0 28.0 6.44 18.0  
304X4 J 0541  5.53 62.0 57.0 49.0 25.0 5.16 18.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY DIGITAL DISCRIMINATOR CIRCUIT CARDS  
AND COMPONENT PARTS  
A REMOVE/REPLACE ASSEMBLIES, COMPONENTS, AND PARTS  
OSR JOB INVENTORY TASK STATEMENTS:  
4 H0378 K ISOLATE MALFUNCTIONS WITHIN ULTRA HIGH FREQUENCY  
(UHF) EQUIPMENT

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T/ASK #: 03640  
ALIGN/ADJUST URG 208U-3 RF AMPLIFIER UNIT 1A22 DIGITAL DISCRIMINATOR  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: 28  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JB THROUGH 304X4-B4Q  
TTT: NONE  
SME OPINION: 3  
EQUIPMENT:  
HANDTOOLS, RF SIGNAL GENERATOR, DIGITAL MULTIMETER  
REFERENCES:  
T.O. 31R2-4-316-2  
CONDITIONS CUES:  
COND: POWER ON, EQUIPMENT ON CABINET, SAFETY OBSERVER  
CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE, DIGITAL  
DISCRIMINATOR COMPONENT REPLACEMENT  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
304X4 J 0499  6.78 63.0 60.0 51.0 26.0 6.13 18.0  
ACTIVITIES SKILL KNOWLEDGE:  
A ADJUST DIGITAL DISCRIMINATOR  
OSR JOB INVENTORY TASK STATEMENTS:  
4 J0499 A ALIGN UHF EQUIPMENT

TASK #: 03650  
TROUBLESHOOT URG 208U-3 RF AMPLIFIER UNIT 1A14 DETECTOR ASSEMBLY  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 1

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: SEMI-ANNUALY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JB THROUGH 304X4-B4Q  
TTT: NONE  
SME OPINION: 3

EQUIPMENT:

BITE MULTIMETER, RF SIGNAL GENERATOR, CAPACITOR TESTER, INDUCTOR  
TESTER, INSULATION TESTER, HAND TOOLS, SOLDERING KIT, TUBE  
TESTER, DIGITAL MULTIMETER

REFERENCES:

T.O. 31R2-4-316-2

CONDITIONS CUES:

COND: POWER ON/OFF, EQUIPMENT ON CABINET/BENCH, SAFETY OBSERVER  
CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE, FAILED  
DETECTOR ASSEMBLY COMPONENTS

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0378 | 6.82 | 63.0 | 60.0 | 51.0 | 28.0 | 6.44 | 18.0 |
| 304X4 J   | 0541 | 5.53 | 62.0 | 57.0 | 49.0 | 25.0 | 5.16 | 18.0 |

ACTIVITIES SKILL KNOWLEDGE:

K ISOLATE FAULTY RESISTORS  
K ISOLATE FAULTY DETECTOR ASSEMBLY DUAL DIODE VACUUM  
TUBE  
K ISOLATE FAULTY DETECTOR ASSEMBLY CONNECTORS  
A REMOVE/REPLACE ASSEMBLIES, COMPONENTS, AND PARTS  
OSR JOB INVENTORY TASK STATEMENTS:  
4 H0378 K ISOLATE MALFUNCTIONS WITHIN ULTRA HIGH FREQUENCY  
(UHF) EQUIPMENT  
4 J0541 A REMOVE OR INSTALL UHF EQUIPMENT PARTS

TASK #: 03660  
TROUBLESHOOT 208U-3 RF AMPLIFIER UNIT PA TUNING COMPONENTS  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 1

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: DAILY OR QUARTERLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JB THROUGH 304X4-B4Q  
TTT: NONE  
SME OPINION: 3

EQUIPMENT:

RF SIGNAL GENERATOR, BITE WATTMETER, WATTMETER, INSULATION  
BREAKDOWN TEST SET, HAND TOOLS, DIGITAL MULTIMETER

REFERENCES:

T.O. 31R2-4-316-2

CONDITIONS CUES:

COND: POWER ON, EQUIPMENT ON CABINET, SAFETY OBSERVER

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0378 | 6.82 | 63.0 | 60.0 | 51.0 | 28.0 | 6.44 | 18.0 |
| 304X4 J   | 0541 | 5.53 | 62.0 | 57.0 | 49.0 | 25.0 | 5.16 | 18.0 |

ACTIVITIES SKILL KNOWLEDGE:

K ISOLATE FAULTY PA TUNING COIL  
K ISOLATE FAULTY PA TUNING/LOADING CAPACITORS  
K ISOLATE FAULTY LOADING COIL  
K ISOLATE FAULTY LOADING COIL SHORTING SWITCHES  
K ISOLATE FAULTY MECHANICAL SYNCHRONIZATIONS  
K ISOLATE FAULTY MECHANICAL DRIVE COUPLINGS  
K ISOLATE FAULTY PARASYTIC SUPPRESSOR  
K ISOLATE FAULTY PA TUNING INSULATORS  
A REMOVE AND REPLACE COMPONENTS AND PARTS  
K APPLY THEORY OF OPERATION OF ELECTROMECHANICAL ASSEMBLIES  
K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE ELECTRICAL EQUIPMENT  
OSR JOB INVENTORY TASK STATEMENTS:  
4 H0378 K ISOLATE MALFUNCTIONS WITHIN ULTRA HIGH FREQUENCY (UHF) EQUIPMENT  
4 J0541 A REMOVE OR INSTALL UHF EQUIPMENT PARTS



TASK #: 03670  
 ALIGN/ADJUST 208U-3 RF AMPLIFIER UNIT PA TUNING COMPONENTS  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 1  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: MONTHLY OR QUARTERLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X4-31JB THROUGH 304X4-B4Q  
 TTT: NONE  
 SME OPINION: 3  
 EQUIPMENT:  
 HANDTOOLS:  
 REFERENCES:  
 T.O. 31R2-4-316-2  
 CONDITIONS CUES:  
 COND: POWER OFF, EQUIPMENT ON CABINET, SAFETY OBSERVER  
 CUE: PHI FINDING, USER COMPLAINT, TRANSMITTER FAILURE  
 JOB STANDARDS:  
 IAW REFERENCES:  
 OSR DATA:   TASK   TE   1JOB   1EML   5SKL   7SKL   TD   ATI  
 304X4 J 0499 6.78 63.0 60.0 51.0 26.0 6.13 18.0  
 ACTIVITIES SKILL KNOWLEDGE:  
   A SYNCHRONIZE PA TUNING COIL WITH ITS DRIVE  
   A SYNCHRONIZE TUNING CAPACITORS WITH EACH OTHER AND  
   WITH ITS DRIVE  
   A SYNCHRONIZE PA LOADING COIL ROLLERS TO ITS DRIVE  
   A SYNCHRONIZE PA LOADING COIL SHORTING SWITCHES TO ITS  
   DRIVE  
   K APPLY THEORY OF OPERATION OF ELECTROMECHANICAL ASSEM-  
   BLIES  
 OSR JOB INVENTORY TASK STATEMENTS:  
   4 J0499 A ALIGN UHF EQUIPMENT

TASK #: 03680  
 ALIGN/ADJUST URG 208U-3 LINEAR POWER AMPLIFIER  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 1

NOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: DAILY, WEEKLY, OR MONTHLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X4-31JB THROUGH 304X4-B4Q  
 TTT: 3  
 SME OPINION: 3

EQUIPMENT:  
 RF SIGNAL GENERATOR, DIGITAL MULTIMETER, BITE MULTIMETER,  
 BITE WATTMETER, WATTMETER, OSCILLOSCOPE, RF VOLTMETER

REFERENCES:  
 T.O. 31R2-4-316-2

CONDITIONS CUES:  
 COND: POWER ON, EQUIPMENT ON CABINET, USERS PATCHED OFF,  
 SAFETY OBSERVER  
 CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |      |
|-----------|------|------|------|------|------|------|------|------|------|
| 304X4     | J    | 0499 | 6.78 | 63.0 | 60.0 | 51.0 | 26.0 | 6.13 | 18.0 |

ACTIVITIES SKILL KNOWLEDGE:

- A ALIGN/ADJUST TUNING POWER
- A ALIGN/ADJUST REFLECTIVE POWER OVERLOAD CIRCUIT
- A ALIGN/ADJUST COURSE TUNING DIGITAL DISCRIMINATOR AT SPECIFIC RADIO FREQUENCIES
- A SYNCHRONIZE MOVEMENT OF TUNING CAPACITOR AND INDUCTOR COIL
- A ADJUST FOLLOW-ON POTENTIOMETERS
- A SYNCHRONIZE DRIVE ASSEMBLIES WITH DRIVEN UNITS
- A ALIGN/ADJUST FILAMENT VOLTAGE
- A ALIGN/ADJUST STATIC PLATE CURRENT
- A ALIGN/ADJUST RF FEEDBACK CHECK
- A ALIGN/ADJUST NEUTRALIZATION
- A CALIBRATE PA GRID RF VOLTMETER
- A ALIGN/ADJUST LOADING COMPARATOR
- A ALIGN/ADJUST AUTOMATIC LOAD CONTROL
- A ZERO METER MOVEMENTS
- A ALIGN/ADJUST AUTOMATIC DISIPATION LIMITER
- A ALIGN/ADJUST INPUT AMPLIFIER PLATE CURRENTS
- A ALIGN/ADJUST DRIVER STATIC PLATE CURRENTS
- A ALIGN/ADJUST POWER AMPLIFIER PLATE CURRENT
- A CALIBRATE BITE WATTMETER
- A SYNCHRONIZE PA TUNING COIL WITH ITS DRIVE
- A SYNCHRONIZE TUNING CAPACITORS WITH ITS DRIVE
- A SYNCHRONIZE PA LOADING COIL ROLLERS TO ITS DRIVE
- A SYNCHRONIZE PA LOADING COIL SHORTING SWITCHES TO ITS DRIVE
- A ALIGN/ADJUST TRANSMIT GAIN CONTROL
- A MONITOR BEHAVIOR OF PA FINE TUNE PHASE DETECTOR HIGH FREQUENCY COMPENSATION ADJUSTMENT
- A ALIGN/ADJUST PA GRID FINE TUNE PHASE DETECTOR HF FREQUENCY COMPENSATION
- K APPLY THEORY OF OPERATION OF ELECTROMECHANICAL ASSEMBLIES
- K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE ELECTRICAL EQUIPMENT

OSR JOB INVENTORY TASK STATEMENTS:  
 4 J0499 A ALIGN UHF EQUIPMENT

TASK #: 03690  
 INSPECT URG 208U-3 POWER SUPPLY UNIT  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 1

TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: DAILY, 7, 14, 28, 56, 84, 168, 336  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X4-31JB THROUGH 304X4-B4Q  
 TTT: 3  
 SME OPINION: 3

EQUIPMENT:  
 VACUUM CLEANER, GENERAL PURPOSE CLEANER, HAND TOOLS, PAINT BRUSH,  
 LOW PRESSURE AIR SOURCE, BITE MULTIMETER, DIGITAL MULTIMETER

REFERENCES:  
 T.O. 31R2-4-316-6WC-1  
 T.O. 31Z1-6-6WC-2 (TRANSMITTER/GCCS)

CONDITIONS CUES:  
 COND: SYSTEM OUT OF SERVICE, PATCH OFF USERS, SAFETY OBSERVER  
 CUE: PMI, USER COMPLAINT, TRANSMITTER FAILURE

JOB STANDARDS:  
 IAW REFERENCES

OSR DATA:   TASK   TE   1JOB   1ENL   5SKL   7SKL   TD   ATI  
 304X4   H   0383   5.95   60.0   63.0   60.0   35.0   4.19   18.0

ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 A PERFORM FRONT PANEL POWER SUPPLY BITE METER OPERATIONAL CHECKS  
 A PERFORM TURN-ON/TURN-OFF PROCEDURES  
 A PERFORM CORROSION CONTROL PROCEDURES  
 A PERFORM INTERLOCK AND SHORTING SWITCH TEST  
 A CHECK VARIABLE TRANSFORMER BRUSH  
 A CLEAN INTERIOR/EXTERIOR OF CABINET AND EQUIPMENT  
 A LUBE TRANSMITTER BLOWER MOTOR  
 A CHECK BITE METER READINGS (-2 T.O.)  
 K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE ELECTRICAL EQUIPMENT  
 K APPLY THEORY OF OPERATION OF VACUUM TUBE LIMITER CIRCUITS  
 K RECOGNIZE PROPER OPERATION OR MALFUNCTION OF INTERLOCK SWITCHES OR SHORTING SWITCHES

OSR JOB INVENTORY TASK STATEMENTS:  
 4 H0383 A OPERATIONALLY CHECK HF EQUIPMENT

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TASK #: 03700  
 TROUBLESHOOT URG 208U-3 POWER SUPPLY UNIT  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 1

TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: DAILY OR QUARTERLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X4-31JB THROUGH 304X4-B4Q  
 TTT: NONE  
 SME OPINION: 3

EQUIPMENT:  
 BITE MULTIMETER, DIGITAL MULTIMETER, HIGH VOLTAGE PROBE, HAND TOOLS

REFERENCES:  
 T.O. 31R2-4-316-2

CONDITIONS CUES:  
 COND: EQUIPMENT ON CABINET, USERS PATCHED OFF, SAFETY OBSERVER  
 CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0378 | 6.82 | 63.0 | 60.0 | 51.0 | 28.0 | 6.44 | 18.0 |
| 304X4 J   | 0541 | 5.53 | 62.0 | 57.0 | 49.0 | 25.0 | 5.16 | 18.0 |

ACTIVITIES SKILL KNOWLEDGE:

- K ISOLATE FAULTY 28 VOLT POWER SUPPLY
- K ISOLATE FAULTY 1A3 PA BIAS SUPPLY
- K ISOLATE FAULTY 1A2 DRIVER POWER SUPPLY
- K ISOLATE FAULTY PA POWER CONTROL CIRCUITS
- K ISOLATE FAULTY PA INTERLOCK CIRCUITS
- K ISOLATE FAULTY 1A7 PA INPUT VOLTAGE REGULATOR
- K ISOLATE FAULTY 3250 VOLT/800 VOLT POWER SUPPLIES
- K ISOLATE FAULTY 1A7 LOCAL CONTROL PANEL
- K ISOLATE FAULTY PA CATHODE/SCREE CURRENT
- K ISOLATE FAULTY 1A3 BIAS AND KEYSER SUPPLY
- K ISOLATE FAULTY OVERLOAD RECYCLE TIMER
- A REMOVE AND REPLACE SUBASSEMBLIES
- A REMOVE AND REPLACE COMPONENTS AND PARTS
- K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE ELECTRICAL EQUIPMENT

OSR JOB INVENTORY TASK STATEMENTS:

- 4 H0378 K ISOLATE MALFUNCTIONS WITHIN ULTRA HIGH FREQUENCY (UHF) EQUIPMENT
- 4 J0541 A REMOVE OR INSTALL UHF EQUIPMENT PARTS

TASK #: 03710

TROUBLESHOOT URG 208U-3 POWER SUPPLY UNIT 28 VOLT POWER SUPPLY

DUTY CODE: X4

TASK STATUS: 3-KP

TIMES ANALYZED: 1

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: MONTHLY OR SEMI-ANNUALLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X4-31JB THROUGH 304X4-B4Q  
 TTT: NONE  
 SME OPINION: 3

EQUIPMENT:

DIGITAL MULTIMETER, BITE MULTIMETER, HAND TOOLS, SOLDERING KIT

REFERENCES:

T.O. 31R2-4-316-2

CONDITIONS CUES:

COND: POWER ON/OFF, EQUIPMENT ON CABINET, SAFETY OBSERVER  
 CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE, FAILED 28 VOLT POWER SUPPLY COMPONENTS

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 K   | 0593 | 3.67 | 32.0 | 31.0 | 30.0 | 13.0 | 4.98 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:

- K ISOLATE FAULTY 28 VOLT POWER SUPPLY TRANSFORMER
- K ISOLATE FAULTY SUPPLY BRIDGE RECTIFIER
- K ISOLATE FAULTY FILTER CHOKE
- K ISOLATE FAULTY 28 VOLT POWER SUPPLY FUSES
- A REMOVE AND REPLACE ASSEMBLIES, COMPONENTS, AND PARTS
- K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE ELECTRICAL EQUIPMENT

OSR JOB INVENTORY TASK STATEMENTS:

- 4 K0593 A REMOVE OR INSTALL EQUIPMENT POWER SUPPLY UNIT DISCRETE PARTS

TASK #: 03720  
TROUBLESHOOT URG 208U-3 POWER SUPPLY UNIT 1A3 BIAS KEYPower SUPPLY  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 1  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: MONTHLY, QUARTERLY, OR ANNUALLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JB THROUGH 304X4-B4Q  
TTT: NONE  
SME OPINION: 3  
EQUIPMENT:  
BITE MULTIMETER, DIGITAL MULTIMETER, HAND TOOLS, SOLDERING KIT,  
TUBE TESTER  
REFERENCES:  
T.O. 31R2-4-316-2  
CONDITIONS CUES:  
COND: POWER ON/OFF, EQUIPMENT ON CABINET/BENCH, SAFETY OBSERVER  
CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE, FAILED  
PA BIAS POWER SUPPLY COMPONENTS  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
304X4 J 0518 5.30 43.0 42.0 41.0 20.0 5.34 12.0  
304X4 K 0593 3.67 32.0 31.0 30.0 13.0 4.98 12.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY BIAS SUPPLY COMPONENTS AND PARTS  
K ISOLATE FAULTY BIAS SUPPLY ELECTRON TUBE  
A REMOVE/REPLACE BIAS SUPPLY ASSEMBLIES, COMPONENTS,  
AND PARTS  
K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE  
ELECTRICAL EQUIPMENT  
OSR JOB INVENTORY TASK STATEMENTS:  
4 J0518 A BENCH CHECK POWER SUPPLY EQUIPMENT  
4 K0593 A REMOVE OR INSTALL EQUIPMENT POWER SUPPLY UNIT DIS-  
CRETE PARTS

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TASK #: 03730  
TROUBLESHOOT URG 208U-3 POWER SUPPLY UNIT PA POWER CONTROL AND INTERLOCK CIRCU  
ITS  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 1  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: MONTHLY OR SEMI-ANNUALLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JB THROUGH 304X4-B4Q  
TTT: NONE  
SME OPINION: 3  
EQUIPMENT:  
DIGITAL MULTIMETER, HAND TOOLS, SOLDERING KIT  
REFERENCES:  
T.O. 31R2-4-316-2  
CONDITIONS CUES:  
COND: POWER ON/OFF, EQUIPMENT ON CABINET, SAFETY OBSERVER  
CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE, FAILED  
POWER CONTROL CIRCUIT COMPONENTS  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
304X4 K 0593 3.67 32.0 31.0 30.0 13.0 4.98 12.0  
ACTIVITIES SKILL KNOWLEDGE:  
K APPLY THEORY OF OPERATION OF ELECTRICAL SWITCHES  
K ISOLATE FAULTY ELECTRICAL SWITCHES  
K TROUBLESHOOT ELECTRICAL SWITCHES  
K ISOLATE FAULTY FUSES  
K ISOLATE FAULTY TIME DELAY CIRCUITS  
K ISOLATE FAULTY INDICATOR LAMP CIRCUITS  
A REMOVE/REPLACE ASSEMBLIES, COMPONENTS, AND PARTS  
K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE  
ELECTRICAL EQUIPMENT  
OSR JOB INVENTORY TASK STATEMENTS:  
4 K0593 A REMOVE OR INSTALL EQUIPMENT POWER SUPPLY UNIT DIS-  
CRETE PARTS

TASK #: 03740  
TROUBLESHOOT URG 208U-3 POWER SUPPLY UNIT A7 AUTOMATIC INPUT VOLTAGE REGULATOR  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 1  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: MONTHLY, QUARTERLY, OR SEMI-ANNUALLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JB THROUGH 304X4-B4Q  
TTT: NONE  
SME OPINION: 3  
EQUIPMENT:  
DIGITAL MULTIMETER, SOLDERING KIT, HAND TOOLS  
REFERENCES:  
T.O. 31R2-4-316-2  
CONDITIONS CUES:  
COND: POWER ON/OFF, EQUIPMENT ON CABINET, SAFETY OBSERVER  
CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 J 0537 4.73 42.0 44.0 41.0 20.0 4.81 12.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY TRANSFORMERS  
K ISOLATE FAULTY REGULATOR TRANSFORMER  
K ISOLATE FAULTY REGULATOR DRIVE MOTOR  
K ISOLATE FAULTY VARIABLE POWER TRANSFORMER  
K ISOLATE FAULTY BUCK-BOOST TRANSFORMER  
A REMOVE/REPLACE ASSEMBLIES, COMPONENTS, AND PARTS  
K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE  
ELECTRICAL EQUIPMENT  
OSR JOB INVENTORY TASK STATEMENTS:  
4 J0537 A REMOVE OR INSTALL POWER SUPPLY EQUIPMENT PARTS

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TASK #: 03750  
ALIGN/ADJUST URG 208U-3 POWER SUPPLY UNIT 1A7 AUTOMATIC INPUT VOLTAGE REGULATOR  
R  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 1  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: MONTHLY OR SEMI-ANNUALLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JB THROUGH 304X4-B4Q  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
HANDTOOLS, DIGITAL MULTIMETER  
REFERENCES:  
T.O. 31R2-4-316-2  
CONDITIONS CUES:  
COND: POWER ON, EQUIPMENT ON CABINET, SAFETY OBSERVER  
CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE,  
FILAMENT VOLTAGE REGULATOR COMPONENT FAILURE  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 J 0499 6.78 63.0 60.0 51.0 26.0 6.13 18.0  
ACTIVITIES SKILL KNOWLEDGE:  
A ALIGN/ADJUST INPUT VOLTAGE CONTROL RANGE  
K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE  
ELECTRICAL EQUIPMENT  
OSR JOB INVENTORY TASK STATEMENTS:  
4 J0499 A ALIGN UHF EQUIPMENT

TASK #: 03760  
TROUBLESHOOT URG 208U-3 RF AMPLIFIER UNIT 1A2 DRIVER POWER SUPPLY UNIT  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 1  
NOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: MONTHLY OR ANNUALLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JB THROUGH 304X4-B4Q  
TTT: NONE  
SHE OPINION: 3  
EQUIPMENT:  
DIGITAL MULTIMETER, BITE MULTIMETER, ZENER DIODE TESTER, HAND  
TOOLS, CAPACITOR TESTER, INDUCTOR TESTER, SOLDERING KIT  
REFERENCES:  
T.O. 31R2-4-316-2  
CONDITIONS CUES:  
COND: POWER ON/OFF, EQUIPMENT ON CABINET/BENCH, SAFETY OBSERVER  
CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER FAILURE  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 J 0518 5.30 43.0 42.0 41.0 20.0 5.34 12.0  
304X4 K 0593 3.67 32.0 31.0 30.0 13.0 4.98 12.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY VARISTORS  
K ISOLATE FAULTY DRIVER POWER VARISTOR  
A REMOVE/REPLACE ASSEMBLIES, COMPONENTS, AND PARTS  
OSR JOB INVENTORY TASK STATEMENTS:  
4 J0518 A BENCH CHECK POWER SUPPLY EQUIPMENT  
4 K0593 A REMOVE OR INSTALL EQUIPMENT POWER SUPPLY UNIT DIS-  
CRETE PARTS

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TASK #: 03770  
TROUBLESHOOT URG 208U-3 POWER SUPPLY UNIT +3250 VOLT/-1250 VOLT DC POWER SUPPL  
Y  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 1  
NOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: MONTHLY OR SEMI-ANNUALLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JB THROUGH 304X4-B4Q  
TTT: NONE  
SHE OPINION: 3  
EQUIPMENT:  
BITE MULTIMETER, DIGITAL MULTIMETER, HIGH VOLTAGE PROBE, HAND  
TOOLS, SOLDERING KIT  
REFERENCES:  
T.O. 31R2-4-316-2  
CONDITIONS CUES:  
COND: POWER ON/OFF, EQUIPMENT ON CABINET, SAFETY OBSERVER  
CUE: PMI FINDING, USER COMPLAINT, TRANSMITTER COMPLAINT  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 K 0593 3.67 32.0 31.0 30.0 13.0 4.98 12.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY POWER TRANSFORMER  
K ISOLATE FAULTY POWER SUPPLY FILTER CHOKES  
A REMOVE/REPLACE ASSEMBLIES, COMPONENTS, AND PARTS  
K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE  
ELECTRICAL EQUIPMENT  
OSR JOB INVENTORY TASK STATEMENTS:  
4 K0593 A REMOVE OR INSTALL EQUIPMENT POWER SUPPLY UNIT DIS-  
CRETE PARTS

TASK #: 03780  
TROUBLESHOOT URG 208U-3 POWER SUPPLY UNIT PA CATHODE SCREEN/CURRENT AND OVERLO  
AD RECYCLE TIMER CIRCUIT  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 1  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: ANNUALLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JB THROUGH 304X4-B4Q  
TTT: NONE  
SME OPINION: 3  
EQUIPMENT:  
BITE MULTIMETER, BITE WATTMETER, TRANSISTOR TESTER, HAND TOOLS,  
SOLDERING KIT, CAPACITOR TESTER, PORTABLE POWER SUPPLIES  
REFERENCES:  
T.O. 31R2-4-316-2  
CONDITIONS CUES:  
COND: POWER ON/OFF, EQUIPMENT ON CABINET, SAFETY OBSERVER  
CUE: PHI FINDING, USER COMPLAINT, TRANSMITTER FAILURE  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 K 0593 3.67 32.0 31.0 30.0 13.0 4.98 12.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY COMPONENTS AND PARTS  
A REMOVE/REPLACE ASSEMBLIES, COMPONENTS, AND PARTS  
K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE  
ELECTRICAL EQUIPMENT  
OSR JOB INVENTORY TASK STATEMENTS:  
4 K0593 A REMOVE OR INSTALL EQUIPMENT POWER SUPPLY UNIT DIS-  
CRETE PARTS

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TASK #: 03790  
ALIGN/ADJUST URG 208U-3 POWER SUPPLY UNIT PA CATHODE SCREEN/CURRENT AND OVERLO  
AD RECYCLE TIMER CIRCUIT  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 1  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: ANNUALLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X4-31JB THROUGH 304X4-B4Q  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
HAND TOOLS, PORTABLE POWER SUPPLIES  
REFERENCES:  
T.O. 31R2-4-316-2  
CONDITIONS CUES:  
COND: POWER OFF, EQUIPMENT ON CABINET, SAFETY OBSERVER  
CUE: PHI FINDING, USER COMPLAINT, FAILURE OF PLATE CURRENT  
OVERLOAD CIRCUIT COMPONENT  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 J 0499 6.78 63.0 60.0 51.0 26.0 6.13 18.0  
ACTIVITIES SKILL KNOWLEDGE:  
A ALIGN/ADJUST PA PLATE CURRENT OVERLOAD THRESHOLD  
K APPLY TRANSISTOR CONTROLLED RELAY CIRCUIT THEORY OF  
OPERATION  
K OBSERVE MAINTENANCE PRECAUTIONS OF HIGH VOLTAGE  
ELECTRICAL EQUIPMENT  
OSR JOB INVENTORY TASK STATEMENTS:  
4 J0499 A ALIGN ULTRA HIGH FREQUENCY (UHF) EQUIPMENT



TASK #: 03800

INSPECT 618T-1 RECEIVER-TRANSMITTER RADIO

DUTY CODE: X4

TASK STATUS: 3-KP

TIMES ANALYZED: 1

NOTES:

CONSEQUENCES: SERIOUS, NONE, INJURY

HOW OFTEN: 28, 56

OJT TRAINABLE: YES

QTP ADEQUATE: NONE

TNG REFERENCE(S): T.O. 12R2-4-42-2, T.O. 12R2-4-42-4, AND  
T.O. 12R2--2MRC108-2

TTT: NONE

SME OPINION: NONE T.O. 31R2-2MRC108-2 (SPECIFIES PMI FOR MRC-108  
EQUIPMENT:

AC VTVM, VOM, DC VOLTAGE DIVIDER, PROBE COAXIAL T-CONNECTOR,  
RF VTVM, DIGITAL MULTIMETER, AUDIO OUTPUT METER,  
SIGNAL GENERATOR, AUDIO OSCILLATOR, ATTENUATOR 6-DB, TORQUE  
METER, FREQUENCY COUNTER, OSCILLOSCOPE, TRANSISTOR TESTER,  
PREAMPLIFIER, SPECTRUM ANALYZER, VARIABLE VOLTAGE DC POWER  
SUPPLY ELECTRICAL DUMMY LOAD, MAINTENANCE KIT (COLLINS 678Y-1/3),  
FUNCTIONS TEST SET (COLLINS 678Z-1), RADIO TEST HARNESS (COLLINS  
678P-12, TIMEPIECE WITH SECOND COUNTER, DECADE CAPACITOR,  
COMMON HANDTOOLS

REFERENCES:

T.O. 12R2-4-42-2

T.O. 12R2-4-42-4

T.O. 31R2-2MRC108-2 (SPECIFIES PMI FOR MRC-108 SYSTEMS)

CONDITIONS CUES:

COND: INDOORS IN SHOP, UNDER FIELD CONDITIONS

CUE: PMI IN CONJUNCTION WITH MRC 108

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |      |
|-----------|------|------|------|------|------|------|------|------|------|
| 304X4     | H    | 0391 | 5.47 | 42.0 | 43.0 | 40.0 | 21.0 | 4.29 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:

- A PERFORM POSITIVE 18 VOLT CHECK
- A PERFORM RF OSCILLATOR CHECK
- A PERFORM MHZ FREQUENCY STABILIZER CHECK
- A PERFORM VFO TRACKING CHECK
- A PERFORM VFO CAPTURE RANGE CHECK
- A PERFORM DIGIT OSCILLATOR CHECK
- A PERFORM RECEIVER TESTS
- A PERFORM AM GAIN AND SENSITIVITY TEST
- A ADJUST AUDIO AMPLIFIER ADJUSTMENT
- A PERFORM SSB GAIN AND SENSITIVITY TEST
- A PERFORM AGC CHARACTERISTICS TEST
- A PERFORM SELECTIVITY TEST
- A PERFORM AUDIO DISTORTION TEST
- A PERFORM AM POWER OUTPUT TEST
- A PERFORM RESIDUAL OUTPUT VOLTAGE TEST
- A PERFORM SINGLE SIDEBAND OUTPUT POWER TEST
- A PERFORM FREQUENCY ACCURACY TEST
- A PERFORM MODULATION CAPABILITY TEST
- A PERFORM CW OUTPUT TEST
- A PERFORM SIDETONE OPERATION TEST
- A ADJUST TRANSMIT GAIN CONTROL (TGC)
- A PERFORM POSITIVE 260 VOLTS DC OUTPUT TEST
- A PERFORM 115 VOLT 400 HZ OUTPUT TEST
- A PERFORM POSITIVE 27.5 VOLT DC OUTPUT TEST
- A PERFORM CHOPPER ENABLE TEST
- A PERFORM RECYCLE LINE OUTPUT TEST
- A PERFORM TUNE POWER CHECK
- A ADJUST RECEIVE AUDIO OUTPUT
- A ADJUST SIDE TONE OUTPUT LEVEL ADJUSTMENT
- A PERFORM POWER SUPPLY AND POWER AMPLIFIER CURRENT  
PLATE CHECK

OSR JOB INVENTORY TASK STATEMENTS:

4 H0391 A OPERATIONALLY CHECK SIDE BAND EQUIPMENT

TASK #: 03810  
TROUBLESHOOT 618T-1 RECEIVER-TRANSMITTER RADIO/PARTS  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 1

TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: SEMI-ANNUALLY  
OJT TRAINABLE: YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 12R2-4-42-2 AND T.O. 12R2-4-42-4  
TTT: 5  
SME OPINION: 5

EQUIPMENT:  
AC VTVM, VOM, DC VOLTAGE DIVIDER, PROBE COAXIAL T-CONNECTOR,  
RF VTVM, AUDIO OUTPUT METER, TRANSISTOR TESTER,  
SIGNAL GENERATOR, AUDIO OSCILLATOR, ATTENUATOR 6-DB, TORQUE  
METER, FREQUENCY COUNTER, OSCILLOSCOPE, DIGITAL MULTIMETER  
PREAMPLIFIER, SPECTRUM ANALYZER, VARIABLE VOLTAGE DC POWER  
SUPPLY ELECTRICAL DUMMY LOAD, MAINTENANCE KIT (COLLINS 678Y-1/3),  
FUNCTIONS TEST SET (COLLINS 678Z-1), RADIO TEST HARNESS (COLLINS  
678P-12, TIMEPIECE WITH SECOND COUNTER, DECADE CAPACITOR  
SOLDERING KIT, HANDTOOLS

REFERENCES:  
T.O. 12R2-4-42-2  
T.O. 12R2-4-42-4

CONDITIONS CUES:  
COND: INDOORS, UNDER FIELD CONDITIONS  
CUE: PHI FINDING, MODULE MALFUNCTIONS, UNDER OPERATION OF  
RECEIVER-TRANSMITTER, CHASSIS COMPONENT/PARTS FAILURE

JOB STANDARDS:  
IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 J   | 0505 | 6.23 | 28.0 | 31.0 | 32.0 | 17.0 | 5.65 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY FREQUENCY DIVIDER A1  
K ISOLATE FAULTY RF OSCILLATOR A2  
K ISOLATE FAULTY IF TRANSLATOR A3  
K ISOLATE FAULTY KILOCYCLE-FREQUENCY STABILIZER A4  
K ISOLATE FAULTY LOW-VOLTAGE POWER SUPPLY A5  
K ISOLATE FAULTY ELECTRONIC CONTROL AMPLIFIER A6  
K ISOLATE FAULTY AM/AUDIO AMPLIFIER A9  
K ISOLATE FAULTY MEGACYCLE-FREQUENCY STABILIZER  
K ISOLATE FAULTY CHASSIS COMPONENTS AND PARTS  
K ISOLATE FAULTY RF OSCILLATOR A2  
K ISOLATE FAULTY IF TRANSLATOR A3  
K ISOLATE FAULTY KILOCYCLE-FREQUENCY STABILIZER A4  
K ISOLATE FAULTY LOW-VOLTAGE POWER SUPPLY A5  
K ISOLATE FAULTY ELECTRONIC CONTROL AMPLIFIER A6  
K ISOLATE FAULTY AM/AUDIO AMPLIFIER A9  
K ISOLATE FAULTY MEGACYCLE-FREQUENCY STABILIZER  
A REMOVE/REPLACE FREQUENCY DIVIDER A1  
A REMOVE/REPLACE CHASSIS COMPONENTS AND PARTS  
S USE MAINTENANCE KIT (COLLINS 678Y-1/3)  
S USE HEAT SHRINK MATERIAL ON SEMICONDUCTOR COMPONENTS

OSR JOB INVENTORY TASK STATEMENTS:  
4 J0505 A BENCH CHECK HF RECEIVERS

TASK #: 03820  
ALIGN/ADJUST 618T-1 RECEIVER-TRANSMITTER RADIO  
DUTY CODE: X4  
TASK STATUS: 3-K  
TIMES ANALYZED: 1

NOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: SEMIANNUALLY  
OJT TRAINABLE: YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 12R2-4-42-2  
TTT: 5  
SME OPINION: 5

EQUIPMENT:

AC VTVM, VOM, DC VOLTAGE DIVIDER, PROBE COAXIAL T-CONNECTOR,  
RF VTVM, AUDIO OUTPUT METER, TRANSISTOR TESTER,  
SIGNAL GENERATOR, AUDIO OSCILLATOR, ATTENUATOR 6-DB, TORQUE  
METER, FREQUENCY COUNTER, OSCILLOSCOPE, DIGITAL MULTIMETER  
PREAMPLIFIER, SPECTRUM ANALYZER, VARIABLE VOLTAGE DC POWER  
SUPPLY ELECTRICAL DUMMY LOAD, MAINTENANCE KIT (COLLINS 678Y-1/3),  
FUNCTIONS TEST SET (COLLINS 678Z-1), RADIO TEST HARNESS (COLLINS  
678P-12, TIMEPIECE WITH SECOND COUNTER, DECADE CAPACITOR,  
HANDTOOLS

REFERENCES:

T.O. 12R2-4-42-2

CONDITIONS CUES:

COND: INDOORS, UNDER FIELD CONDITIONS  
CUE: PHI FINDING, MODULE OR CHASSIS FAILURE, OUT OF TOLERANCE  
CONDITION

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK   | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|--------|------|------|------|------|------|------|------|
| 304X4     | J 0491 | 6.47 | 57.0 | 59.0 | 56.0 | 29.0 | 5.96 | 18.0 |
| 304X4     | J 0497 | 5.97 | 41.0 | 43.0 | 39.0 | 21.0 | 6.38 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:

A ALIGN/ADJUST FREQUENCY DIVIDER A1  
A ALIGN/ADJUST RF OSCILLATOR A2  
A ALIGN/ADJUST IF TRANSLATOR A3  
A ALIGN/ADJUST KILOCYCLE-FREQUENCY STABILIZER A4  
A ALIGN/ADJUST LOW-VOLTAGE POWER SUPPLY A5  
A ALIGN/ADJUST AM/AUDIO AMPLIFIER A9  
A ALIGN/ADJUST MEGACYCLE-FREQUENCY STABILIZER A10  
A ALIGN/ADJUST POWER AMPLIFIER A-11  
A ALIGN/ADJUST RF TRANSLATOR A12

OSR JOB INVENTORY TASK STATEMENTS:

4 J0497 A ALIGN SIDE BAND EQUIPMENT

TASK #: 03830  
TROUBLESHOOT 618T-1 RECEIVER-TRANSMITTER RADIO POWER AMPLIFIER A11  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 1

TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: SEMIANNUALLY  
OJT TRAINABLE: YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 12R2-4-42-2  
TTT: 5  
SME OPINION: 5

EQUIPMENT:  
AC VTVM, VOM

REFERENCES:  
T.O. 12R2-4-42-2

CONDITIONS CUES:  
COND: INDOORS, FIELD CONDITIONS  
CUE: FAILED POWER AMPLIFIER A11 MODULE SECTION

JOB STANDARDS:  
IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X4 H   | 0373 | 6.45 | 56.0 | 60.0 | 57.0 | 30.0 | 6.48 | 18.0 |
| 304X4 H   | 0377 | 6.07 | 43.0 | 44.0 | 41.0 | 20.0 | 6.55 | 12.0 |

ACTIVITIES SKILL KNOWLEDGE:  
A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
K ISOLATE FAULTY PEAK ENVELOPE POWER LIMITER CIRCUIT  
A REMOVE AND REPLACE SUBASSEMBLIES, COMPONENTS, AND PARTS  
K INTERPRET TEST DATA FOR INDICATIONS OF FAULTS IN  
OTHER RECEIVER-TRANSMITTER MODULES

OSR JOB INVENTORY TASK STATEMENTS:  
4 H0377 K ISOLATE MALFUNCTIONS WITHIN SIDE BAND EQUIPMENT  
4 H0377 K ISOLATE MALFUNCTIONS WITHIN SIDE BAND EQUIPMENT

TASK #: 03840  
 ALIGN/ADJUST 618T-1 RECEIVER-TRANSMITTER RADIO POWER AMPLIFIER A11  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 1  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: SEMI-ANNUALLY  
 OJT TRAINABLE: YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 12R2-4-42-2  
 TTT: 5  
 SME OPINION: 5  
 EQUIPMENT:  
 AC VTVM, VOM  
 REFERENCES:  
 T.O. 12R2-4-42-2  
 CONDITIONS CUES:  
 COND: INDOORS, UNDER FIELD CONDITIONS, 2 MAN TEAM  
 CUE: OUT OF TOLERANCE CONDITION, REPLACED COMPONENT, POWER  
 AMPLIFIER FAILURE  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 J 0491 6.47 57.0 59.0 56.0 79.0 5.96 18.0  
 304X4 J 0497 5.97 41.0 43.0 39.0 21.0 6.38 12.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A ALIGN/ADJUST PEAK ENVELOPE POWER CIRCUIT  
 A ALIGN/ADJUST TRANSMIT GAIN CONTROL (TGC)  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 J0497 A ALIGN SIDE BAND EQUIPMENT

TASK #: 03850  
 INSPECT 618T-1 RECEIVER-TRANSMITTER RADIO RF TRANSLATOR A12  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 1  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: SEMI-ANNUALLY  
 OJT TRAINABLE: YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 12R2-4-42-2  
 TTT: NONE  
 SME OPINION: 3  
 EQUIPMENT:  
 HANDTOOLS  
 REFERENCES:  
 T.O. 12R2-4-42-2  
 CONDITIONS CUES:  
 COND: INDOORS, UNDER FIELD CONDITIONS, 2 MAN TEAM  
 CUE: PMI FINDING, UNDER OPERATING CONDITIONS, MODULE FAILURE  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 H 0383 5.95 60.0 63.0 60.0 35.0 4.19 18.0  
 304X4 H 0391 5.47 42.0 43.0 40.0 21.0 4.29 12.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT GEARS AND COUPLINGS VISUALLY FOR ENGAGEMENT  
 A CHECK INSTALLATION OF TUBE SHIELDS AND COVERS IN  
 MODULE  
 A INSPECT TUBES VISUALLY FOR OBVIOUS DEFECTS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 H0383 A OPERATIONALLY CHECK HF EQUIPMENT  
 4 H0391 A OPERATIONALLY CHECK SIDE BAND EQUIPMENT

TASK #: 03960  
TROUBLESHOOT 618T-1 RECEIVER-TRANSMITTER RADIO RF TRANSLATOR A12  
DUTY CODE: X4  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 1

TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, IN."JRY  
HOW OFTEN: SEMI-ANNUALLY  
OJT TRAINABLE: YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 12R2-4-42-2  
TTT: 5  
SME OPINION: 5

EQUIPMENT:  
DIGITAL MULTIMETER, MAINTENANCE KIT (COLLINS 678Y-1/3), FREQUENCY  
COUNTER, SIGNAL GENERATOR, AC VTVM, RF VTVM, RADIO SET TEST  
HARNESS (COLLINS 678P-1/2), TUBE PULLER, SOLDERING KIT,  
HANDTOOLS, ANALOG MULTIMETER

REFERENCES:  
T.O. 12R2-4-42-2

CONDITIONS CUES:  
COND: INDOORS, UNDER FIELD CONDITIONS, 2 MAN TEAM  
CUE: PHI FINDING, UNDER OPERATING CONDITIONS, FAILED MODULE

JOB STANDARDS:  
IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|------|------|------|------|------|------|-----|
| 304X4 G   | 0340 | 2.12 | 3.0  | 2.0  | 1.0  | 1.0  | 4.94 | 2.0 |

ACTIVITIES SKILL KNOWLEDGE:  
A ISOLATE FAULTY VFO OUTPUT LEVEL  
A ISOLATE FAULTY 17.5-MC OSCILLATOR  
A ISOLATE FAULTY BAND-PASS FILTER OUTPUT AND TRANSMIT  
MODE  
A ISOLATE FAULTY HF OSCILLATOR OUTPUT  
A ISOLATE FAULTY SIGNAL LEVEL AT RF AMPLIFIER GRID  
DURING TRANSMIT  
A ISOLATE FAULTY SIGNAL LEVEL AT DRIVER GRID DURING  
TRANSMIT  
A ISOLATE FAULTY VFO TRACKING ACCURACY  
A ISOLATE FAULTY VFO PHASE LOCK  
A ISOLATE FAULTY PHASE LOCKING CAPABILITY OF 17.5-MC  
OSCILLATOR  
A ISOLATE FAULTY PHASE LOCKING CAPABILITY OF HF OSCIL-  
LATOR  
A ISOLATE FAULTY RECEIVE/TRANSMIT GAIN  
A ISOLATE FAULTY TRANSMIT GAIN  
A ISOLATE FAULTY TRANSMIT SPURIOUS RESPONSE  
A ISOLATE FAULTY TRANSMIT MIXER BALANCE  
A ISOLATE FAULTY VARIABLE IF AND BAND-PASS IF  
A REMOVE AND REPLACE COMPONENTS  
A REMOVE AND REPLACE PARTS

OSR JOB INVENTORY TASK STATEMENTS:  
4 G0340 A INSTALL SINGLE CHANNEL SIDE BAND RECEIVERS

TASK #: 03870  
 ALIGN/ADJUST 618T-1 RECEIVER-TRANSMITTER RADIO RF TRANSLATOR A12  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 1  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: SEMI-ANNUALLY  
 OJT TRAINABLE: YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 12R2-4-42-2  
 TTT: 5  
 SME OPINION: 5  
 EQUIPMENT:  
 DIGITAL MULTIMETER, MAINTENANCE KIT (COLLINS 678Y-1/3), FREQUENCY  
 COUNTER, SIGNAL GENERATOR, AC VTVM, RF VTVM, RADIO SET TEST  
 HARNESS (COLLINS 678P-1/2), FUNCTIONS TEST SET (COLLINS 678Z-1),  
 TUBE TESTER, ANALOG MULTIMETER, HANDTOOLS  
 REFERENCES:  
 T.O. 12R2-4-42-2  
 CONDITIONS CUES:  
 COND: INDOORS, UNDER FIELD CONDITIONS, 2 MAN TEAM  
 CUE: PHI FINDING, FAILED MODULE, UNDER OPERATION OF RADIO  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
 304X4 J 0491 6.47 57.0 59.0 56.0 29.0 5.96 18.0  
 304X4 J 0497 5.97 41.0 43.0 39.0 21.0 6.38 12.0  
 ACTIVITIES SKILL KNOWLEDGE:  
   A ALIGN/ADJUST VFO OUTPUT LEVEL  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 J0491 A ALIGN HIGH FREQUENCY (HF) EQUIPMENT

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TASK #: 03880  
 INSPECT 635W-1 HARMONIC FILTER  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: 7, 14, 56, 168, 336  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-4-382-6WC1-1  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 RF SIGNAL GENERATOR, DUMMY LOAD  
 REFERENCES:  
 T.O. 31R2-4-382-6WC-1  
 CONDITIONS CUES:  
 COND: ON EQUIPMENT, EQUIPMENT RELEASED  
 CUE: PHI  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
 304X4 H 0383 5.95 60.0 63.0 60.0 35.0 4.19 18.0  
 ACTIVITIES SKILL KNOWLEDGE:  
   A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
   A CLEAN CABINET AIR FILTER  
   A CHECK HARMONIC FILTER TRACKING COMPATIBILITY AND  
   ADJUST PER T.O.  
   A LUBRICATE MECHANICAL COMPONENTS  
   A REPLACE CABINET AIR FILTER  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 H0383 A OPERATIONALLY CHECK HF EQUIPMENT

TASK #: 03890  
 ALIGN 635W-1 HARMONIC FILTER  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: TWO MONTHS  
 OJT TRAINABLE: YES, NO, THEORY OF TRANSMIT POWER OPERATION,  
 INDUCTOR CAPACITOR CIRCUITS  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-4-382-2  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 RF SIGNAL GENERATOR, DUMMY LOAD, 208U-10 LINEAR POWER AMPLIFIER  
 REFERENCES:  
 T.O. 31R2-4-382-2  
 CONDITIONS CUES:  
 COND: ON EQUIPMENT, EQUIPMENT RELEASED  
 CUE: HIGH REVERSE POWER, LEVEL (RADIO SYSTEM) WILL NOT TUNE OR  
 REQUIRES EXCESSIVE TIME TO TUNE, FAULT INDICATION ON 914J-4  
 CONTROL HEAD  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 J 0491 6.47 57.0 59.0 56.0 29.0 5.96 18.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A CHECK LOW END OF FOLLOW UP POTENTIOMETER AND ADJUST  
 PER T.O.  
 A CHECK MECHANICAL ALIGNMENT OF HARMONIC FILTER INDUC-  
 TORS AND  
 A ADJUST POTENTIOMETER PER T.O.  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 J0491 A ALIGN HIGH FREQUENCY (HF) EQUIPMENT

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TASK #: 03900  
 TROUBLESHOOT 635W-1 HARMONIC FILTER TO DISCREET COMPONENT LEVEL  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: TWO MONTHS  
 OJT TRAINABLE: YES, NO, BASIC ELECTRONICS, SAFETY PROCEDURES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-4-382-2  
 TTT: 5  
 SME OPINION: 5  
 EQUIPMENT:  
 RF SIGNAL GENERATOR, RF VOLTMETER, DIGITAL MULTIMETER, DUMMY  
 LOAD, CAPACITOR CHECKER, HANDTOOLS, SOLDERING KIT  
 CONDITIONS CUES:  
 COND: ON EQUIPMENT, EQUIPMENT RELEASED  
 CUE: HIGH REVERSE POWER, LEVEL (RADIO SYSTEM) WILL NOT TUNE OR  
 REQUIRES EXCESSIVE TIME TO TUNE, FAULT INDICATION ON 914J-4  
 CONTROL HEAD, VISIBLE DAMAGE  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 H 0373 6.45 56.0 60.0 57.0 30.0 6.48 18.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A CHECK FOR VISIBLE MECHANICAL MALFUNCTION  
 K ISOLATE FAULT TO DISCREET COMPONENT  
 A REMOVE AND REPLACE COMPONENTS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 H0373 K ISOLATE MALFUNCTIONS WITHIN HIGH FREQUENCY (HF)  
 EQUIPMENT



TASK #: 03910  
 INSPECT 651G-1 RECEIVER FILTER  
 DUTY CODE: X4  
 TASK STATUS: 3 KP  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: 14, 28, 56, 336  
 OJT TRAINABLE: YES, NO, TEST EQUIPMENT, FILTER THEORY OF OPERATION  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-4-311-6WC-1  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 RF SIGNAL GENERATOR, FREQUENCY COUNTER, RF VOLTMETER, ATTENUATOR  
 REFERENCES:  
 T.O. 31R2-4-311-6WC-1  
 CONDITIONS CUES:  
 COND: ON EQUIPMENT, REST OF RADIO SYSTEM BYPASSED  
 CUE: PMI  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 H 0383 5.95 60.0 63.0 60.0 35.0 4.19 18.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 A CHECK RECEIVER FILTER GAIN AND SENSITIVITY AND ADJUST PER T.O.  
 A CHECK RECEIVER FILTER BAND PASS AND ADJUST PER T.O.  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 H0383 A OPERATIONALLY CHECK HF EQUIPMENT

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TASK #: 03920  
 TROUBLESHOOT 651G-1 RECEIVER FILTER TO DISCREET COMPONENT LEVEL  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: MINOR, DAMAGE, NONE  
 HOW OFTEN: ONE MONTH, THREE MONTHS  
 OJT TRAINABLE: YES, NO, THEORY OF FILTER CIRCUIT OPERATION,  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-4-304-2 AND T.O. 31R2-4-304-11  
 TTT: 5  
 SME OPINION: 5  
 EQUIPMENT:  
 RF SIGNAL GENERATOR, FREQUENCY COUNTER, RF VOLTMETER,  
 DIGITAL MULTIMETER, ANALOG MULTIMETER, SOLDERING EQUIPMENT,  
 HANDTOOLS  
 REFERENCES:  
 T.O. 31R2-4-304-2  
 T.O. 31R2-4-304-11  
 CONDITIONS CUES:  
 COND: ON EQUIPMENT, EQUIPMENT RELEASED  
 CUE: NO RECEIVE SIGNAL, NO RECEIVE WITHIN A CERTAIN BANDWIDTH,  
 WEAK RECEIVE  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X4 H 0373 6.45 56.0 60.0 57.0 30.0 6.48 18.0  
 304X4 J 0534 5.00 53.0 54.0 51.0 25.0 5.00 18.0  
 ACTIVITIES SKILL KNOWLEDGE:  
 K ISOLATE FAULTY SUBASSEMBLIES  
 K ISOLATE FAULTY CIRCUITS AND COMPONENTS  
 K REMOVE AND REPLACE COMPONENTS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 4 H0373 K ISOLATE MALFUNCTIONS WITHIN HIGH FREQUENCY (HF)  
 EQUIPMENT  
 4 J0534 A REMOVE OR INSTALL HF EQUIPMENT PARTS

TASK #: 03930  
 ALIGN 651G-1 RECEIVER FILTER  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, NONE  
 HOW OFTEN: ONE MONTH  
 OJT TRAINABLE: YES, NO, THEORY OF ELECTRON TUBE OPERATION  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-4-304-2  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 RF SIGNAL GENERATOR, FREQUENCY COUNTER, RF VOLTMETER, ATTENUATOR  
 REFERENCES:  
 T.O. 31R2-4-304-2  
 CONDITIONS CUES:  
 COND: ON EQUIPMENT, EQUIPMENT RELEASED  
 CUE: WEAK RECEIVED SIGNAL, OPERATOR COMPLAINT  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK  TE  1JOB  1ENL  5SKL  7SKL  TD  ATI  
           304X4  J  0491  6.47  57.0  59.0  56.0  29.0  5.96  18.0  
 ACTIVITIES SKILL KNOWLEDGE:  
           A ADJUST 651G-1 RECEIVER FILTER BANDS FOR MAXIMUM  
                   OUTPUT  
           A ADJUST ON-FREQUENCY PROTECTION CIRCUIT THRESHOLD  
           A ADJUST OFF-FREQUENCY PROTECTION CIRCUIT THRESHOLD  
 OSR JOB INVENTORY TASK STATEMENTS:  
   4 J0491 A ALIGN HIGH FREQUENCY (HF) EQUIPMENT

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TASK #: 03940  
 INSPECT 671B-1 RECEIVER/EXCITER  
 DUTY CODE: X4  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, NONE  
 HOW OFTEN: 7, 14, 28, 56, 84  
 OJT TRAINABLE: YES, NO, SYSTEM KNOWLEDGE  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-4-426-6WC-1 AND PCD CEMI 600-1  
 TTT: 5  
 SME OPINION: 3  
 EQUIPMENT:  
 DIGITAL MULTIMETER, RMS VOLTMETER, VTVM, AUDIO OSCILLATOR,  
 BRIDGING TRANSFORMER, HF SIGNAL GENERATOR, AC PROBE, RF  
 ATTENUATOR, OSCILLOSCOPE, RF DUMMY LOAD, POWER SUPPLY, FREQUENCY  
 COUNTER, 971X-1 TEST SET, SPECTRUM ANALYZER, TONE GENERATOR,  
 DISTORTION ANALYZER  
 REFERENCES:  
 T.O. 31R2-4-426-6WC-1  
 PCD CEMI 600-1  
 CONDITIONS CUES:  
 COND: IN SHOP  
 CUE: PMI  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK  TE  1JOB  1ENL  5SKL  7SKL  TD  ATI  
           304X4  H  0383  5.95  60.0  63.0  60.0  35.0  4.19  18.0  
 ACTIVITIES SKILL KNOWLEDGE:  
           A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
           A CHECK RECEIVER GAIN  
           A CHECK TRANSMITTER GAIN CONTROL CIRCUIT RF OUTPUT  
           A CHECK INTERMEDIATE FREQUENCY (IF) TRANSLATOR IF  
                   OUTPUT  
           A CHECK INDICATOR LIGHT OPERATION  
           A CHECK RECEIVER AUDIO FREQUENCY TRANSLATION ACCURACY  
           A CHECK AUDIO RECEIVE DISTORTION  
           A CHECK AUTOMATIC GAIN CONTROL AND AUDIO LEVEL LIMITING  
           A CHECK TRANSMITTER FREQUENCY ACCURACY  
           A CLEAN INTERIOR/EXTERIOR OF EQUIPMENT AND FILTERS  
 OSR JOB INVENTORY TASK STATEMENTS:  
   4 H0383 A OPERATIONALLY CHECK HF EQUIPMENT

TASK #: 03950

ALIGN 671B-1 RECEIVER/EXCITER

DUTY CODE: X4

TASK STATUS: 3-KP

TIMES ANALYZED: 3

TNOTES:

CONSEQUENCES: MINOR, DAMAGE, NONE

HOW OFTEN: ONE MONTH

OJT TRAINABLE: YES, NO, TEST EQUIPMENT, BLOCK DIAGRAMS, SYSTEM KNOWLEDGE

QTP ADEQUATE: NONE

TNG REFERENCE(S): PCD CEMI 600-1

TTT: 5

SME OPINION: 5

EQUIPMENT:

AC DIFFERENTIAL VOLTMETER, FREQUENCY COUNTER, AC VTVM, DC VTVM, OSCILLOSCOPE, RF VTVM, 979X-1 TEST SET

REFERENCES:

PCD CEMI 600-1

CONDITIONS CUES:

COND: IN SHOP

CUE: TRANSMITTER OFF FREQUENCY, USER COMPLAINT, NO RECEIVE/TRANSMIT, LOW RF LEVEL, NO PEAK POWER OUT,

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 J 0491 6.47 57.0 59.0 56.0 29.0 5.96 18.0

ACTIVITIES SKILL KNOWLEDGE:

A ADJUST 618Z VOLTAGE REGULATOR OUTPUT VOLTAGE

A ADJUST 618Z RF OSCILLATOR OUTPUT FREQUENCY AND ACCURACY

A ADJUST 789X-1 AUDIO AMPLIFIER GAIN

A ADJUST 789X-1 DUAL BALANCE MODULATOR AUDIO OUTPUT

A ADJUST 789X-1 SIGNAL CONTROL MODULE AUDIO OUTPUT, SIGNAL COMPRESSION

A COMPARE 789X-1 SIGNAL CONTROL MODULE BIAS VOLTAGE VARIANCE TO THE 618Z RF OUTPUT VARIANCE

A ADJUST 789X-1 SIGNAL CONTROL MODULE BIAS VOLTAGE

A CHECK 789X-1 AMPLIFIER CONVERTER T MODULE IF GAIN OUTPUT

A CHECK 789X-1 TRANSMIT GAIN CONTROL THRESHOLD

A CHECK 789X-1 TRANSMIT GAIN CONTROL DOWN COUNT

A ADJUST 789X-1 TRANSMIT GAIN CONTROL THRESHOLD

A CHECK 789X-1 AUDIO OUTPUT FREQUENCY

A CHECK 789X-1 AMPLIFIER CONVERTER R AUDIO OUTPUT LEVEL

A ADJUST 789X-1 AMPLIFIER CONVERTER R GAIN

A CHECK 789X-1 SENSITIVITY

A CHECK RF OSCILLATOR AND FREQUENCY STABILIZER MODULES FOR FREQUENCY STABILIZATION

A ADJUST 789X-1 RF OSCILLATOR MODULE FREQUENCY

A CHECK 618Z RF OSCILLATOR OUTPUT FREQUENCY WITH 789X-1 INPUT

A CHECK 789X-1 AUDIO OUTPUT FREQUENCY WITH 618Z INPUT

A CHECK COMBINED 618Z AND 789X-1 NOISE OUTPUT

A CHECK 789X-1 AUTOMATIC GAIN CONTROL THRESHOLD

A ADJUST DUAL AF AMPLIFIER THRESHOLD

OSR JOB INVENTORY TASK STATEMENTS:

4 J0491 A ALIGN HIGH FREQUENCY (HF) EQUIPMENT

TASK #: 03960  
TROUBLESHOOT 671B-1 RECEIVER/EXCITER TO SUBASSEMBLY LEVEL  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: MINOR, DAMAGE, NONE  
HOW OFTEN: ONE MONTH  
OJT TRAINABLE: YES, NO, BASIC ELECTRONICS, TEST EQUIPMENT  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31R2-4-426-2  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
FREQUENCY COUNTER, AC VTVM, DC VTVM, SIGNAL GENERATOR, BRIDGING  
TRANSFORMER, DISTORTION ANALYZER, DIGITAL MULTIMETER,  
OSCILLOSCOPE, RF VTVM, 979X-1 TEST SET  
CONDITIONS CUES:  
COND: IN SHOP  
CUE: NO OUTPUT, FREQUENCY OUTPUT OFF, USER COMPLAINT, NO  
RECEIVE/TRANSMIT, LOW RF LEVEL, NO PEAK POWER OUT,  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 H 0373 6.45 56.0 60.0 57.0 30.0 6.48 18.0  
ACTIVITIES SKILL KNOWLEDGE:  
A CHECK 789X-1 IF OUTPUT  
K ISOLATE FAULT TO 789X-1 OR 618Z BOXES  
OSR JOB INVENTORY TASK STATEMENTS:  
4 H0373 K ISOLATE MALFUNCTIONS WITHIN HIGH FREQUENCY (HF)  
EQUIPMENT

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TASK #: 03970  
TROUBLESHOOT 671B-1 TRANSLATOR AND IF TRANSLATOR TO CIRCUIT CARD OR MODULE LEV  
EL OR COMPONENT LEVEL  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: MINOR, DAMAGE, NONE  
HOW OFTEN: ONE MONTH  
OJT TRAINABLE: YES, NO, BASIC ELECTRONICS, TEST EQUIPMENT  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31R2-4-195-51  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
FREQUENCY COUNTER, AC VTVM, DC VTVM, SIGNAL GENERATOR, BRIDGING  
TRANSFORMER, DISTORTION ANALYZER, OSCILLOSCOPE, RF VTVM,  
979X-1 TEST SET  
REFERENCES:  
T.O. 31R2-4-195-51  
CONDITIONS CUES:  
COND: IN SHOP  
CUE: NO OUTPUT, FREQUENCY OUTPUT OFF, USER COMPLAINT, NO  
RECEIVE/TRANSMIT, LOW RF LEVEL, NO PEAK POWER OUT,  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 H 0373 6.45 56.0 60.0 57.0 30.0 6.48 18.0  
304X4 H 0377 6.07 43.0 44.0 41.0 20.0 6.55 12.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULT TO 618Z OR 789X-1 CIRCUIT CARD, MODULE,  
OR CHASSIS MOUNTED CIRCUIT LEVEL  
K ISOLATE FAULT FROM CIRCUIT CARD OR MODULE LEVEL TO  
DISCREET COMPONENT LEVEL  
A REMOVE AND REPLACE FAULTY COMPONENT OR MODULE  
A REMOVE AND REPLACE FAULTY CIRCUIT CARD OR MODULE  
OSR JOB INVENTORY TASK STATEMENTS:  
4 H0373 K ISOLATE MALFUNCTIONS WITHIN HIGH FREQUENCY (HF)  
EQUIPMENT  
4 H0377 K ISOLATE MALFUNCTIONS WITHIN SIDE BAND EQUIPMENT

TASK #: 03980  
TROUBLESHOOT 671B-1 RECEIVER/EXCITER FROM CIRCUIT CARD OR MODULE LEVEL TO DISC  
REET COMPONENT OR CHASSIS MOU  
DUTY CODE: X4  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: MINOR, DAMAGE, NONE  
HOW OFTEN: WEEKLY, ONE MONTH  
OJT TRAINABLE: YES, NO, BASIC ELECTRONICS, TEST EQUIPMENT  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31R2-4-19 AND T.O.31R2-4-195-51  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
AC VTVM, DC VTVM, BRIDGING TRANSFORMER, DIGITAL MULTIMETER,  
OSCILLOSCOPE, RF VTVM, 979X-1 TEST SET, CAPACITOR TESTER,  
SOLDERING KIT, HANDTOOLS  
CONDITIONS CUES:  
COND: IN SHOP  
CUE: NO OUTPUT, FREQUENCY OUTPUT OFF, USER COMPLAINT, NO  
RECEIVE/TRANSMIT, LOW RF LEVEL, NO PEAK POWER OUT,  
RESULTS OF TROUBLESHOOTING  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 J 0534 5.00 53.0 54.0 51.0 25.0 5.00 18.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULT TO 618Z OR 789X-1 CIRCUIT CARD, MODULE,  
OR CHASSIS MOUNTED CIRCUIT LEVEL  
K ISOLATE FAULT FROM CIRCUIT CARD OR MODULE LEVEL TO  
COMPONENT LEVEL  
A REMOVE 618Z OR 789X-1 BOX  
A REMOVE FAULTY CIRCUIT CARD OR MODULE  
A REMOVE AND REPLACE CIRCUIT CARD OR MODULE  
A REMOVE AND REPLACE COMPONENTS  
OSR JOB INVENTORY TASK STATEMENTS:  
4 J0534 A REMOVE OR INSTALL HF EQUIPMENT PARTS

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TASK #: 03990  
INSPECT AN/GSH-56  
DUTY CODE: X4  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, NONE  
HOW OFTEN: 7,84  
OJT TRAINABLE: YES, ADEQUATE TRAINING IS GIVEN ALTHOUGH AT A  
RAPID PACE. NO, NO HANDS ON IN TECH SCHOOL  
QTP ADEQUATE: YES. NO, HAVE NOT USED QTP YET  
TNG REFERENCE(S): QTP 304X4 -32A  
TTT: 5  
SME OPINION: 3  
EQUIPMENT:  
HEAD CLEANER KIT, SCREWDRIVER, RECORDING TAPE, BLANK REEL,  
DEMAGNETIZER, TRAINING TAPE, CLEANING SUPPLIES  
REFERENCES:  
T.O. 31S3-4-122-1  
CONDITIONS CUES:  
COND: INSIDE, ELECTRICAL HAZARDS, PREFERRED DURING NON-FLYING  
HOURS, POWER ON/OFF  
CUE: P:1 MASTER LIST  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 I 0448 3.55 20.0 18.0 15.0 8.0 3.55 7.0  
ACTIVITIES SKILL KNOWLEDGE:  
A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
A DEMAGNETIZE HEAD OR TAPES  
A CLEAN HEADS  
A CHECK OPERATION OF CUE ARM AND LINKAGES  
A LOAD/ UNLOAD TAPES  
A PERFORM OPERATION CHECK  
OSR JOB INVENTORY TASK STATEMENTS:  
4 I0448 A OPERATIONALLY CHECK AUTOMATIC RECORDING SYSTEMS

TASK #: 04000  
TROUBLESHOOT AN/GSH-56  
DUTY CODE: X4  
TASK STATUS: 3-K  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES:  
HOW OFTEN: MONTHLY  
OJT TRAINABLE: YES. NO, REQUIRES ELECTRONICS BACKGROUND AND SYSTEM KNOWLEDGE  
QTP ADEQUATE: NO  
TNG REFERENCE(S): QTP 304X4-32A  
TTT:  
SME OPINION: 5  
EQUIPMENT:  
TAPE (RECORDING, TEST), HEAD CLEANING KIT, HEXANE, LINT FREE CLOTH, STOP WATCH, TOOL KIT, DEMAGNETIZER  
REFERENCES:  
T.O. 31S3-4-122-1  
CONDITIONS CUES:  
COND: INSIDE, POWER ON/OFF  
CUE: PMI FINDING, USER COMPLAINT, HUB ASSEMBLY, HEAD, OR PARTS FAILURE  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 K 0587 4.15 31.0 31.0 27.0 13.0 5.31 12.0  
304X4 K 0588 2.85 9.0 7.0 7.0 4.0 5.42 7.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY MECHANICAL COMPONENTS  
A REMOVE/REPLACE HUB ASSEMBLY, HEADS, AND OTHER PARTS  
OSR JOB INVENTORY TASK STATEMENTS:  
4 K0587 A REMOVE OR INSTALL AUDIO RECORDER-REPRODUCER DISCRETE PARTS  
4 K0588 A REMOVE OR INSTALL AUTOMATIC RECORDING EQUIPMENT DISCRETE PARTS

TASK #: 04010  
ADJUST AN/GSH-56 MECHANICAL ASSEMBLIES  
DUTY CODE: X4  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, NONE  
HOW OFTEN: QUARTERLY  
OJT TRAINABLE: YES, NO, BASIC ELECTRONICS  
QTP ADEQUATE: YES, NO, HAVE NOT USED QTP YET.  
TNG REFERENCE(S): QTP 304X4-32A  
TTT: 5  
SME OPINION: 3  
EQUIPMENT:  
TOOL KIT, TAPE, SOFT CLOTH, ALCOHOL  
REFERENCES:  
T.O. 31S3-4-122-1  
CONDITIONS CUES:  
COND: INSIDE, ELECTRICAL HAZARDS, PREFERRED DURING NON-FLYING  
CUE: SLACK IN TAPE, FAIL-SAFE LIGHT,  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X4 K 0547 3.32 10.0 10.0 8.0 5.0 6.08 7.0  
ACTIVITIES SKILL KNOWLEDGE:  
A REMOVE TRANSPORT  
A REMOVE TAPE  
A CLEAN BRAKE ASSEMBLIES  
A ADJUST BRAKE STOP NUT  
A ADJUST PINCH WHEEL ARM  
A CHECK FOR SLACK IN TAPE  
A TIGHTEN SPRING TENSION ON TAKE UP MOTOR  
OSR JOB INVENTORY TASK STATEMENTS:  
4 K0547 A ALIGN AUTOMATIC RECORDING EQUIPMENT DISCRETE PARTS

TASK #: 04020  
ADJUST AN/GSH-56 ELECTRICAL COMPONENTS  
DUTY CODE: X4  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, NONE  
HOW OFTEN: QUARTERLY  
OJT TRAINABLE: YES, NO, BASIC ELECTRONICS  
QTP ADEQUATE: YES, BUT HAVE NOT USED QTP YET.  
TNG REFERENCE(S): QTP 304X4-32A  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
VOLTMETER, TOOL KIT, TAPE, SOLDERING KIT, OSCILLOSCOPE,  
PUNCH BLOCK, SHORTING CLIP  
REFERENCES:  
T.O. 31S3-4-122-1  
CONDITIONS CUES:  
COND: INSIDE, ELECTRICAL HAZARDS, PREFERRED DURING FLYING DOWN  
TIME  
CUE: SLACK IN TAPE, FAIL-SAFE LIGHT, BEEP IS TOO LOUD OR  
INAUDIBLE  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
304X4 K 0547 3.32 10.0 10.0 8.0 5.0 6.08 7.0  
ACTIVITIES SKILL KNOWLEDGE:  
  A ADJUST TAPE TENSION  
  A ADJUST TAPE SENSOR  
  A ADJUST CAPSTAN SERVO  
  A ADJUST BEEP AND NULL TONE LEVEL  
OSR JOB INVENTORY TASK STATEMENTS:  
  4 K0547 A ALIGN AUTOMATIC RECORDING EQUIPMENT DISCRETE PARTS

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TASK #: 04030  
INSPECT CV-3034 CONVERTER  
DUTY CODE: X6  
TASK STATUS: 3-K  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: 1, 90  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O.31R5-2G-101 AND T.O.31R5-2G-104  
TTT: 5  
SME OPINION: 5  
DEFENSE COMMUNICATIONS AGENCY MESSAGE PACDEFSTA 10 88 SETS  
ALIGN/ADJUSTMENT PROCEDURES FOR CV-3034 AND OVERRIDES TECH  
DATA FOR 90 DAY PMI.  
EQUIPMENT:  
ELECTRONIC DIGITAL COUNTER, AUDIO SIGNAL GENERATOR, WIDE  
RANGE OSCILLATOR, OSCILLOSCOPE, DIGITAL/ANALOG MULTIMETER,  
CABLES/CONNECTORS/TERMINATORS, EXTENDER BOARD, TOOL KIT,  
VACUUM CLEANER, DB METER, FREQUENCY COUNTER  
REFERENCES:  
T.O. 31R5-2G-101, T.O. 31R5-2G-104  
CONDITIONS CUES:  
COND: IN-RACK OR OM-BENCH, POWER ON, EQUIPMENT ON/OFF-LINE  
CUE: PHI  
JOB STANDARDS:  
IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X6 Q 0662 .00 15.0 14.0 12.0 3.0 4.52

ACTIVITIES SKILL KNOWLEDGE:

- A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS
- A CLEAN INTERIOR/EXTERIOR OF CABINET
- A CHECK STATUS LITES AND INDICATOR LAMPS
- A CHECK OR RESET CONVERTER TO HI-MODE OPERATION FOR USE WITH EARTH-GROUND SATELLITE SYSTEMS
- A CHECK POWER SUPPLY COMPONENTS AND REPLACE AS NEEDED
- A ALIGN/ADJUST CLOCK FREQUENCY
- A ALIGN/ADJUST INPUT/OUTPUT LEVELS
- A ALIGN/ADJUST TRANSMITTER CARD WAVEFORM
- A ALIGN/ADJUST RECEIVER HIGHBRED OUTPUT
- A ALIGN/ADJUST RECEIVER HIGHBRED FREQUENCY
- A ALIGN/ADJUST DIGITAL-ANALOG CHANGE POINT
- A PERFORM FREQUENCY RESPONSE TEST
- A PERFORM BIT ERROR RATE TEST (BER) ON CONVERTER
- A PERFORM END-TO-END SIGNAL LEVEL TEST AND BER TEST WITH DISTANT END

OSR JOB INVENTORY TASK STATEMENTS:

- 6 Q0662 A PERFORM PREVENTIVE MAINTENANCE INSPECTIONS (PMI) ON ANALOG-TO-DIGITAL CONVERTERS

TASK #: 04040

TROUBLESHOOT CV-3034 CONVERTER

DUTY CODE: X6

TASK STATUS: 3-K

TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY

HOW OFTEN: ANNUALLY

OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)

QTP ADEQUATE: NONE

TNG REFERENCE(S): T.O.31R5-2G-101 AND T.O. 31R5-2G-104

TTT: 5

SME OPINION: 5

EQUIPMENT:

ELECTRONIC DIGITAL COUNTER, AUDIO SIGNAL GENERATOR, WIDE RANGE OSCILLATOR, OSCILLOSCOPE, DIGITAL/ANALOG MULTIMETER, CABLES/CONNECTORS/TERMINATORS, EXTENDER BOARD, TOOL KIT, DB METER, SOLDERING KIT, FREQUENCY COUNTER

REFERENCES:

T.O. 31R5-2G-101

T.O. 31R5-2G-104

CONDITIONS CUES:

COND: ON-BENCH, POWER ON/OFF, EQUIPMENT OFF-LINE

CUE: PMI FINDING, USER COMPLAINT

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI

304X6 Q 0625 .00 8.0 9.0 10.0 6.0

304X6 Q 0648 .00 7.0 11.0 13.0 7.0

ACTIVITIES SKILL KNOWLEDGE:

- A CHECK INDICATOR LAMPS AND STATUS LITES
- A PERFORM OPERATION CHECK OF CONVERTER
- A DETERMINE IF PROBLEM IS TRANSMIT, RECEIVE, OR POWER SUPPLY
- A REMOVE/REPLACE CIRCUIT CARDS, PARTS AND CONVERTER COMPONENTS
- A ISOLATE FAULTY CONVERTER CIRCUIT CARDS/COMPONENTS
- A ISOLATE FAULTY FRONT PANEL/PARTS
- K APPLY THEORY OF OPERATION OF ANALOG-TO-DIGITAL AND DIGITAL-TO-ANALOG CONVERTERS
- K ISOLATE ANALOG-TO-DIGITAL AND DIGITAL-TO-ANALOG CONVERTERS
- K TROUBLESHOOT ANALOG-TO-DIGITAL AND DIGITAL-TO-ANALOG CONVERTERS

OSR JOB INVENTORY TASK STATEMENTS:

6 Q0625 K ISOLATE MALFUNCTIONS IN ANALOG-TO-DIGITAL CONVERTERS

6 Q0648 K ISOLATE MALFUNCTIONS TO ANALOG-TO-DIGITAL CONVERTERS



TASK #: 04050  
 ALIGN/ADJUST CV-3034 CONVERTER  
 DUTY CODE: X6  
 TASK STATUS: 3-K  
 TIMES ANALYZED: 2

TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: INDEFINITE  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R5-2G-101 AND T.O. 31R5-2G-104  
 TTT: 5  
 SME OPINION: 5

EQUIPMENT:  
 ELECTRONIC DIGITAL COUNTER, AUDIO SIGNAL GENERATOR, WIDE RANGE OSCILLATOR, OSCILLOSCOPE, DIGITAL/ANALOG MULTIMETER, CABLES/CONNECTORS/TERMINATORS, EXTENDER BOARD, TOOL KIT, DB METER, FREQUENCY COUNTER

REFERENCES:  
 T.O. 31R5-2G-101  
 T.O. 31R5-2G-104

CONDITIONS CUES:  
 COND: ON-BENCH, POWER ON, EQUIPMENT OFF-LINE  
 CUE: USER COMPLAINT, FAILED COMPONENT FROM TROUBLESHOOTING

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA:    | TASK | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|--------------|------|-----|------|------|------|------|------|-----|
| 304X6 Q 0608 |      | .00 | 10.0 | 10.0 | 10.0 | 4.0  | 5.35 |     |

ACTIVITIES SKILL KNOWLEDGE:  
 A ADJUST FRONT PANEL RESISTORS  
 A ALIGN/ADJUST CLOCK FREQUENCY  
 A ALIGN/ADJUST INPUT/OUTPUT LEVELS  
 A ALIGN/ADJUST TRANSMITTER CARD WAVEFORM  
 A ALIGN/ADJUST RECEIVER HIGHBRED OUTPUT  
 A ALIGN/ADJUST RECEIVER HIGHBRED FREQUENCY  
 A ALIGN/ADJUST DIGITAL-ANALOG CHANGE POINT  
 A PERFORM FREQUENCY RESPONSE TEST  
 A PERFORM BIT ERROR RATE TEST (BER) ON CONVERTER  
 A PERFORM END-TO-END SIGNAL LEVEL TEST AND BER TEST WITH DISTANT END

OSR JOB INVENTORY TASK STATEMENTS:  
 6 Q0608 A ALIGN ANALOG-TO-DIGITAL CONVERTER COMPONENTS

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TASK #: 04060  
 INSPECT AN/FRC-175 GROUND SATELLITE TERMINAL  
 DUTY CODE: X6  
 TASK STATUS: 3-K  
 TIMES ANALYZED: 2

TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: 28, 168  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NO, NOT USED  
 TNG REFERENCE(S): LOCAL OPERATING INSTRUCTION AND T.O. 31R5-2UGSC-116WC-1 (ANTENNA)  
 TTT: 3  
 SME OPINION: 3

EQUIPMENT:  
 TOOL KIT, BITE

REFERENCES:  
 LOCAL OPERATING INSTRUCTION  
 T.O. 31R5-2UGSC-116WC-1 (ANTENNA)

CONDITIONS CUES:  
 COND: ON-SITE IN RACK, POWER ON  
 CUE: LOCAL OI

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|-----|------|------|------|------|------|-----|
| 304X6 J   | 0251 | .00 | 4.0  | 3.0  | 3.0  | 1.0  | 3.89 |     |
| 304X6 K   | 0301 | .00 | 11.0 | 12.0 | 11.0 | 3.0  | 4.39 |     |
| 304X6 L   | 0402 | .00 | 8.0  | 10.0 | 10.0 | 4.0  | 4.13 |     |

ACTIVITIES SKILL KNOWLEDGE:

- A CLEAN INTERIOR/EXTERIOR OF EQUIPMENT
- A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS
- A CHECK INDICATOR LAMPS
- A CHECK FILTER CLEANLINESS AND FAN OPERATION
- A PERFORM OPERATION AND MAINTENANCE CHECK OF SYSTEM BY TESTING TRANSMIT AND RECEIVE PATH
- A CHECK OPERATION OF KEYBOARD AND AN/UGC-129
- A CHECK EAM ALARM
- A CHECK SATCOM CONTROL
- A INSPECT ANTENNA AND ANTENNA COUPLER VISUALLY FOR OBVIOUS DEFECTS
- A PERFORM A BITE CHECK OF SYSTEM

OSR JOB INVENTORY TASK STATEMENTS:

- 6 J0251 A PERFORM PHIS ON HELIX ANTENNAS
- 6 K0301 A PERFORM PHIS ON UHF RECEIVE RF AMPLIFIERS
- 6 L0402 A PERFORM PHIS ON UHF TRANSMITTERS

TASK #: 04070

TROUBLESHOOT AN/FRC-175 GROUND SATELLITE TERMINAL

DUTY CODE: X6

TASK STATUS: 3-KP

TIMES ANALYZED: 2

NOTES:

- CONSEQUENCES: SERIOUS, DAMAGE, INJURY
- HOW OFTEN: INDEFINITE
- OJT TRAINABLE: YES, (NO TASK REQUIRES ELECTRONIC FUNDAMENTALS)
- QTP ADEQUATE: NO, NOT USED
- TNG REFERENCE(S): T.O. 31R5-2GSC-111-1-5
- TTT: 5
- SME OPINION: 5

EQUIPMENT:

BITE, TOOL KIT, DIGITAL MULTIMETER,

REFERENCES:

T.O. 31R5-2GSC-111-1-5

CONDITIONS CUES:

- COND: EQUIPMENT IN-RACK, POWER ON
- CUE: PMI FINDING, OPERATOR COMPLAINT

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|-----|------|------|------|------|------|-----|
| 304X6 J   | 0238 | .00 | 5.0  | 4.0  | 4.0  | 2.0  | 5.01 |     |
| 304X6 L   | 0404 | .00 | 12.0 | 12.0 | 15.0 | 10.0 | 3.44 |     |
| 304X6 L   | 0418 | .00 | 21.0 | 31.0 | 31.0 | 10.0 | 6.07 |     |

ACTIVITIES SKILL KNOWLEDGE:

- A PERFORM OPERATION AND MAINTENANCE CHECK OF SYSTEM BY TESTING TRANSMIT AND RECEIVE PATH
- A CHECK OPERATION OF KEYBOARD AND AN/UGC-129
- A PERFORM A BITE CHECK OF SYSTEM
- A REMOVE/REPLACE TERMINAL LRUS AND ASSOCIATED COMPONENTS
- K ISOLATE FAULTY CONTROL DEVICE
- K ISOLATE FAULTY SWITCHING RELAYS
- K ISOLATE FAULTY ANTENNA AND/OR ANTENNA COUPLER
- K ISOLATE FAULTY RECEIVER/TRANSMITTER
- K ISOLATE FAULTY KEYBOARD
- K ISOLATE FAULTY SATCOM CONTROL
- K ISOLATE FAULTY EAM ALARM
- K ISOLATE FAULTY 28 VOLT POWER SUPPLY

OSR JOB INVENTORY TASK STATEMENTS:

- 6 J0238 K ISOLATE MALFUNCTIONS IN HELIX ANTENNAS
- 6 L0404 A REMOVE OR REPLACE ASR UNITS
- 6 L0418 A REMOVE OR REPLACE KLYSTRON AMPLIFIERS

TASK #: 04080  
TROUBLESHOOT AN/FSC-78 SYSTEM  
DUTY CODE: X6  
TASK STATUS: 3-KP  
TIMES ANALYZED: 4  
TNOTES:  
CONSEQUENCES: MINOR, NONE, NONE  
HOW OFTEN: WEEKLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES AND NO (TEXT REDUNDANT OF T.O., SOME ITEMS NOT REFLECTED FOR FIELD CONDITIONS)  
TNG REFERENCE(S): QTP 304X6-30L/M/N/O/P AND 304X6-30GA  
TTT: 3  
SME OPINION: 5  
EQUIPMENT:  
TOOL KIT, ANALOG MULTIMETER, DIGITAL MULTIMETER, FREQUENCY COUNTER, OSCILLOSCOPE, SIGNAL GENERATOR, SPECTRUM ANALYZER BITE  
REFERENCES:  
T.O. 31R5-2FSC78-1-1  
CONDITIONS CUES:  
COND: EQUIPMENT UP OR DOWN  
CUE: VISUAL INDICATIONS  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
304X6 G 0162   .00 73.0 76.0 72.0 33.0 5.06  
304X6 G 0168   .00 81.0 81.0 76.0 43.0 3.82  
ACTIVITIES SKILL KNOWLEDGE:  
A ANALYZE FRONT PANEL INDICATORS AT CONTROL CONSUL  
A ISOLATE FAULTY UPLINK SUBSYSTEM  
A ISOLATE FAULTY DOWNLINK SUBSYSTEM  
A ISOLATE FAULTY TRACKING SUBSYSTEM  
A ISOLATE FAULTY FREQUENCY STANDARD SUBSYSTEM  
A ISOLATE FAULTY MONITOR AND SWITCHING SUBSYSTEM  
A ISOLATE FAULTY TESTING SUBSYSTEM  
A ISOLATE FAULTY LIQUID COOLING SYSTEM  
OSR JOB INVENTORY TASK STATEMENTS:  
6 G0162 A PERFORM PREOPERATIONAL OR OPERATIONAL CHECKS OF EQUIPMENT  
6 G0168 A READ METERS OR PERFORM BITE TESTS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY

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TASK #: 04090  
TROUBLESHOOT AN/FSC-78 DOWNLINK  
DUTY CODE: X6  
TASK STATUS: 3-KP  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: MINOR, NONE, NONE  
HOW OFTEN: WEEKLY, SEMI-MONTHLY, OR MONTHLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP-304X6-30H  
TTT: 3  
SME OPINION: 5  
EQUIPMENT:  
TOOL KIT, ANALOG MULTIMETER, DIGITAL MULTIMETER, FREQUENCY COUNTER, OSCILLOSCOPE, SIGNAL GENERATOR, SPECTRUM ANALYZER, CRYOGENIC TOOL KIT, SOLDERING KIT,  
REFERENCES:  
T.O. 31R5-2G-132, T.O. 31R5-2G-142  
T.O. 31R5-2MSC46-42, T.O. 31R5-2FSC78-1-1  
CONDITIONS CUES:  
COND: EQUIPMENT UP OR DOWN, FAILED EQUIPMENT OFF-LINE  
CUE: VISUAL INDICATIONS ON FAULT PANEL, RESULTS OF TROUBLESHOOTING  
JOB STANDARDS:  
IAW REFERENCES

| OSR DATA: | TASK   | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|--------|-----|------|------|------|------|------|-----|
| 304X6     | K 0285 | .00 | 52.0 | 60.0 | 59.0 | 28.0 | 5.67 |     |
| 304X6     | K 0293 | .00 | 7.0  | 13.0 | 15.0 | 11.0 | 5.28 |     |
| 304X6     | P 0574 | .00 | 15.0 | 22.0 | 20.0 | 11.0 | 6.85 |     |

ACTIVITIES SKILL KNOWLEDGE:

K ISOLATE FAULTY PARAMETRIC AMPLIFIER  
 K ISOLATE FAULTY RECEIVE IFLA  
 K ISOLATE FAULTY DOWN CONVERTER  
 K ISOLATE FAULTY SYNTHESIZER  
 A REMOVE/REPLACE SUBASSEMBLIES, MODULES, LINE REPLACE-  
 ABLE UNITS, CIRCUIT CARDS, AND PARTS

OSR JOB INVENTORY TASK STATEMENTS:

6 K0285 K ISOLATE MALFUNCTIONS IN DOWN CONVERTERS  
 6 P0574 K ISOLATE MALFUNCTIONS IN TRACKING RECEIVERS  
 6 K0293 K ISOLATE MALFUNCTIONS TO RECEIVE IFLAS

TASK #: 04100  
 TROUBLESHOOT AN/FSC-78 UPLINK

DUTY CODE: X6  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 4

TNOTES:

CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: WEEKLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 30476-30L  
 TTT: 3  
 SME OPINION: 5

EQUIPMENT:

TOOL KIT, ANALOG MULTIMETER, DIGITAL MULTIMETER, FREQUENCY  
 COUNTER, OSCILLOSCOPE, SIGNAL GENERATOR, SPECTRUM ANALYZER  
 SOLDERING KIT,

REFERENCES:

T.O. 31R5-2-102  
 T.O. 31R5-2-112  
 T.O. 31P5-2FSC78-1-1  
 T.O. 31R5-2G-112  
 T.O. 31R5-2G-12  
 T.O. 31R5-2G-142  
 T.O. 31R5-2G-202  
 T.O. 31R5-2MSC46-12  
 T.O. 31R5-2MSC46-2  
 T.O. 31R5-2G-142

CONDITIONS CUES:

COND: EQUIPMENT ON OR OFF LINE, FAILED EQUIPMENT DOWN  
 CUE: VISUAL INDICATIONS ON FAULT AND SYSTEM STATUS PANEL,  
 RESULTS OF TROUBLESHOOTING

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK   | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|--------|-----|------|------|------|------|------|-----|
| 304X6     | L 0333 | .00 | 11.0 | 16.0 | 15.0 | 8.0  | 6.41 |     |
| 304X6     | L 0336 | .00 | 9.0  | 19.0 | 19.0 | 11.0 | 5.37 |     |
| 304X6     | N 0508 | .00 | 18.0 | 27.0 | 28.0 | 16.0 | 5.28 |     |

ACTIVITIES SKILL KNOWLEDGE:

K ISOLATE FAULTY UP CONVERTER  
 K ISOLATE FAULTY TRANSMIT INTERFACILITY LINK AMPLIFIER  
 (IFLA)  
 K ISOLATE FAULTY RF AMPLIFIER  
 K ISOLATE FAULTY CARRIER LEVEL CONTROL MODULE  
 K ISOLATE FAULTY SYNTHESIZER  
 A REMOVE/REPLACE SUBASSEMBLIES, MODULES, LINE REPLACE-  
 ABLE UNITS, AND PARTS

OSR JOB INVENTORY TASK STATEMENTS:

6 L0333 K ISOLATE MALFUNCTIONS IN TRANSMIT GAIN, AUTOMATIC  
 LOAD, OR AUTOMATIC LEVELING CONTROLS  
 6 L0336 K ISOLATE MALFUNCTIONS IN UPLINK WAVEGUIDE SWITCHING  
 NETWORKS  
 6 N0508 K ISOLATE MALFUNCTIONS TO RECEIVER-TRANSMITTER (RT)  
 SUBSYSTEMS

TASK #: 04110  
 INSPECT AN/FSC-78 SIGNAL GENERATOR GROUP  
 DUTY CODE: X6  
 TASK STATUS: 3-K  
 TIMES ANALYZED: 4  
 TNOTES:  
 CONSEQUENCES: NONE, NONE, NONE  
 HOW OFTEN: DAILY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: NO, DOESN'T COVER THIS TASK  
 TNG REFERENCE(S): QTP 304X6-300  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 TOOL KIT, DISTILLED WATER, FUNNEL, VENT VALVE REMOVAL TOOL,  
 NONMETALLIC BRISTLE BRUSH, VACUUM CLEANER, LINT-FREE RAGS,  
 OSCILLOSCOPE, TEST LEADS, VOLTMETER, SAFETY EQUIPMENT  
 (RUBBER GLOVES, FACE MASK, APRON), BITE, DIGITAL MULTIMETER  
 REFERENCES:  
 T.O. 31R5-2G-152  
 T.O. 31R5-2FSC78-6WC-1  
 DCAC 800-E70-9  
 CONDITIONS CUES:  
 COND: ON OR OFF EQUIPMENT  
 CUE: PMI  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X6 Q 0664 .00 27.0 31.0 30.0 12.0 4.18  
 ACTIVITIES SKILL KNOWLEDGE:  
 A REMOVE, CLEAN, AND REPLACE BATTERIES  
 A CLEAN CESIUM AND INSPECT PHYSICAL CONDITION  
 A CHECK CESIUM BEAM FREQUENCY STANDARD RAIL AND RACK  
 CABLE CONDITION  
 A CHECK CESIUM BEAM FREQUENCY STANDARD FOR WAVE SHAPE  
 AND AMPLITUDE  
 A CHECK STANDBY POWER SUPPLY RAIL AND RACK CONDITION  
 A CHECK CESIUM BEAM FRONT PANEL  
 A MEASURE TIME OFFSET  
 OSR JOB INVENTORY TASK STATEMENTS:  
 6 Q0664 A PERFORM PMIS ON CESIUM BEAM FREQUENCY STANDARDS  
 6 Q0664 A PERFORM PMIS ON CESIUM BEAM FREQUENCY STANDARDS

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TASK #: 04120  
 TROUBLESHOOT AN/FSC-78 SIGNAL GENERATOR GROUP  
 DUTY CODE: X6  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: YEARLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: NO, DOESN'T COVER THIS TASK  
 TNG REFERENCE(S): QTP 304X6-300 AND QTP 304X6-30P  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 ADAPTERS, DC MULTIRANGE, AMMETER, SPECTRUM ANALYZER, VARIABLE  
 ATTENUATOR, FREQUENCY COUNTER, MULTIFUNCTION METER, RF SAMPLING  
 VOLTMETER, OHM METER, DUAL TRACE OSCILLOSCOPE,  
 POWER SUPPLY, OSCILLOSCOPE PROBE, CARBON COMPRESSION RHEOSTAT,  
 50 OHM TERMINATION, TEST LEADS, VARIABLE TRANSFORMER, HANDTOOLS,  
 SOLDERING KIT, SIGNAL GENERATOR, CAPACITOR TESTER, DIGITAL  
 MULTIMETER, ANALOG MULTIMETER, CRIMPING TOOLS  
 REFERENCES:  
 T.O. 31R5-2G-152  
 T.O. 31R5-2G-154  
 CONDITIONS CUES:  
 COND: ON OR OFF EQUIPMENT  
 CUE: AUDIBLE AND VISUAL ALARM OR FAILED PMI  
 TROUBLESHOOTING RESULTS  
 JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|-----|------|------|------|------|------|-----|
| 304X6 Q   | 0633 | .00 | 33.0 | 39.0 | 40.0 | 16.0 | 6.02 |     |
| 304X6 Q   | 0650 | .00 | 13.0 | 23.0 | 27.0 | 13.0 | 5.57 |     |

ACTIVITIES SKILL KNOWLEDGE:

- K ISOLATE FAULTY RADIO FREQUENCY AMPLIFIERS
- K ISOLATE FAULTY RADIO FREQUENCY AMPLIFIER WIRING
- K ISOLATE FAULTY RF AMPLIFIER FILTER
- K ISOLATE FAULTY CONTROL INDICATOR
- K ISOLATE FAULTY CESIUM BEAM FREQUENCY STANDARD
- K ISOLATE FAULTY STANDBY POWER SUPPLIES
- K ISOLATE FAULTY RECTIFIER CIRCUIT
- K ISOLATE FAULTY RECTIFIER CONTROL CIRCUITS
- K ISOLATE FAULTY RECTIFIER BATTERY CELLS
- K ISOLATE FAULTY RECTIFIER MONITOR (METER) CIRCUITS
- K ISOLATE FAULTY CIRCUIT CARDS
- A REMOVE/REPLACE SUBASSEMBLIES, MODULES, LINE REPLACE-ABLE UNITS, CIRCUIT CARDS AND PARTS

OSR JOB INVENTORY TASK STATEMENTS:

- 6 Q0633 K ISOLATE MALFUNCTIONS IN FREQUENCY SYNTHESIZERS
- 6 Q0650 K ISOLATE MALFUNCTIONS TO CESIUM BEAM FREQUENCY STANDARDS

TASK #: 04130

ALIGN OR ADJUST AN/FSC-78 SIGNAL GENERATOR GROUP

DUTY CODE: X6

TASK STATUS: 3-K

TIMES ANALYZED: 4

TNOTES:

- CONSEQUENCES: SERIOUS, DAMAGE, INJURY
- HOW OFTEN: MONTHLY
- OJT TRAINABLE: YES
- QJT ADEQUATE: NO, TASK NOT COVERED COMPLETELY
- TNG REFERENCE(S): QTP 304X6-300
- TTT: NONE
- SME OPINION: 3

EQUIPMENT:

ALIGNMENT TOOL KIT, TOOL KIT, OSCILLOSCOPE, DIGITAL VOLTMETER

REFERENCES:

- T.O. 31R5-2G-152
- T.O. 33A1-5-318-11
- T.O. 31R2-2USC28-1-2

CONDITIONS CUES:

- COND: ON EQUIPMENT
- CUE: REPAIR ACTION, PHI, EQUIPMENT FAILURE

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|-----|------|------|------|------|------|-----|
| 304X6 Q   | 0605 | .00 | 11.0 | 21.0 | 23.0 | 13.0 | 5.43 |     |
| 304X6 Q   | 0616 | .00 | 21.0 | 24.0 | 21.0 | 7.0  | 5.59 |     |

ACTIVITIES SKILL KNOWLEDGE:

- A ALIGN/ADJUST AN/FRC-78 SIGNAL GENERATOR GROUP STANDBY POWER CHARGING CIRCUITS
- A ALIGN/ADJUST AN/FRC-78 SIGNAL GENERATOR GROUP RF AMPLIFIERS
- A ALIGN/ADJUST AN/FRC-78 SIGNAL GENERATOR GROUP CESIUM BEAM FREQUENCY STANDARDS

OSR JOB INVENTORY TASK STATEMENTS:

- 6 Q0605 A ADJUST CESIUM BEAM FREQUENCY STANDARDS
- 6 Q0616 A ALIGN FREQUENCY SYNTHESIZER COMPONENTS

TASK #: 04140  
INSPECT AN/FSC-78 MONITOR AND SWITCHING FUNCTION  
DUTY CODE: X6  
TASK STATUS: 3-KP  
TIMES ANALYZED: 4

TNOTES:

CONSEQUENCES: MINOR, DAMAGE, NONE  
HOW OFTEN: DAILY, WEEKLY  
OJT TRAINABLE: YES  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X6-30P  
TTT: 3  
SME OPINION: 3

EQUIPMENT:

ANALOG MULTIMETER, OSCILLOSCOPE, TOOL KIT, ADAPTERS, TEST LEADS,  
LIQUID DETERGENT, VARIABLE ATTENUATOR, VACUUM CLEANER, CLEAN  
RAGS, DIGITAL MULTIMETER, SPECTRUM ANALYZER

REFERENCES:

T.O. 31R5-2FSC78-1-1  
T.O. 31R5-2FSC-78-6WC-1  
T.O. 31R5-2G-202  
T.O. 31R5-2G-122  
T.O. 31R5-2-122  
T.O. 31R5-2G-162  
T.O. 31R5-2G-212  
T.O. 31R5-2G-182  
T.O. 31R5-2G-202  
T.O. 31R5-2G-172  
T.O. 31R5-2G-222

CONDITIONS CUES:

COND: EQUIPMENT UP/DOWN, POWER ON  
CUE: PMI

JOB STANDARDS:

JAW REFERENCES

| OSR DATA: | TASK | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|-----|------|------|------|------|------|-----|
| 304X6 G   | 0164 | .00 | 62.0 | 67.0 | 64.0 | 31.0 | 4.14 |     |
| 304X6 Q   | 0663 | .00 | 7.0  | 10.0 | 12.0 | 3.0  | 4.72 |     |
| 304X6 Q   | 0672 | .00 | 5.0  | 4.0  | 5.0  | 2.0  | 3.85 |     |

ACTIVITIES SKILL KNOWLEDGE:

A VERIFY RF MONITOR STATUS INDICATOR LAMPS  
A VERIFY LOW/HIGH PILOT FAULTS INDICATORS  
A ANALYZE MONITORING AND SWITCHING FUNCTION  
A VERIFY TRACKING DOWN CONVERTER  
A VERIFY TRACKING DEMODULATOR  
A VERIFY TRACKING RECEIVER  
A VERIFY ANTENNA CONTROL PANEL  
A VERIFY FAULT AND STATUS PANEL  
A VERIFY TRANSMITTER POWER MONITOR  
A VERIFY RECEIVE GAIN MONITOR  
A VERIFY RF SELECTOR-INDICATOR  
A VERIFY SPECTRUM DISPLAY AMPLIFIER  
A VERIFY RF/RF TRANSLATOR

OSR JOB INVENTORY TASK STATEMENTS:

6 Q0663 A PERFORM PHIS ON AUTOMATIC FAULT SENSING AND SWITCHING NETWORKS  
6 Q0672 A PERFORM PHIS ON MANUAL TRANSFER UNITS OR SWITCHING PANELS  
6 G0164 A PERFORM SWITCHOVERS OF EQUIPMENT SUBASSEMBLIES TO REDUNDANT EQUIPMENT

TASK #: 04150  
TROUBLESHOOT AN/FSC-78 MONITOR AND SWITCHING FUNCTION  
DUTY CODE: X6  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 4

TNOTES:  
CONSEQUENCES: MINOR, NONE, NONE  
HOW OFTEN: WEEKLY, SEMIANNUALLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X6-30P  
TTT: 3  
SME OPINION: 5

EQUIPMENT:  
HANDTOOLS, ANALOG MULTIMETER, DIGITAL MULTIMETER,  
FREQUENCY COUNTER, SIGNAL GENERATOR, OSCILLOSCOPE,  
SPECTRUM ANALYZER, SOLDERING KIT

REFERENCES:  
T.O. 31R5-2FSC78-1-1  
T.O. 31R5-2G-162  
T.O. 31R5-2G-172  
T.O. 31R5-2G-182  
T.O. 31R5-2G-202  
T.O. 31R5-2G-212  
T.O. 31R5-2G-222  
T.O. 331R5-2FSC78-1-1  
T.O. 331R5-2G-162  
T.O. 331R5-2G-172  
T.O. 331R5-2G-182  
T.O. 331R5-2G-202  
T.O. 331R5-2G-222  
T.O. 331R5-2G-212

CONDITIONS CUES:  
COND: EQUIPMENT UP OR DOWN  
CUE: VISUAL INDICATIONS ON FAULT AND SYSTEM STATUS PANEL,  
RESULTS OF TROUBLESHOOTING

JOB STANDARDS:  
IAW REFERENCES

| OSR DATA: | TASK | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|-----|------|------|------|------|------|-----|
| 304X6 L   | 0348 | .00 | 11.0 | 13.0 | 15.0 | 13.0 | 4.94 |     |
| 304X6 Q   | 0627 | .00 | 4.0  | 6.0  | 8.0  | 4.0  | 5.53 |     |

ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY SYSTEM STATUS LOGIC UNIT  
K ISOLATE FAULTY RECEIVE GAIN MONITOR UNIT  
K ISOLATE FAULTY FAULT AND STATUS PANEL  
K ISOLATE FAULTY SPECTRUM DISPLAY AMPLIFIER  
K ISOLATE FAULTY RF SELECTOR-INDICATOR PANEL  
K ISOLATE FAULTY RF/RF TRANSLATOR  
A REMOVE/REPLACE SUBASSEMBLIES, MODULES, CIRCUIT CARDS,  
AND ASSOCIATED PARTS

OSR JOB INVENTORY TASK STATEMENTS:  
6 Q0627 K ISOLATE MALFUNCTIONS IN AUTOMATIC FAULT SENSING AND  
SWITCHING NETWORKS  
6 L0348 K ISOLATE MALFUNCTIONS TO FORWARD POWER MONITORS



TASK #: 04160  
 ALIGN/ADJUST AN/FSC-78 CARRIER LEVEL CONTROL/DETECTOR  
 DUTY CODE: X6  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 4  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: MONTHLY  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X6-30L  
 TTT: 3  
 SME OPINION: 3  
 DIFFICULT TASK REQUIRING HIGHLY SKILLED TRAINER  
 EQUIPMENT:  
 FREQUENCY COUNTER, SPECTRUM ANALYZER, FREQUENCY GENERATOR,  
 ATTENUATORS, ADAPTERS, CABLES, MULTIFUNCTION METER, DIGITAL  
 MULTIMETER, ANALOG MULTIMETER, POWER SUPPLIES, TOOL KIT  
 REFERENCES:  
 T.O. 31R5-2FSC78-6WC-1  
 T.O. 31R5-2G-202  
 CONDITIONS CUES:  
 COND: EQUIPMENT OFFLINE  
 CUE: VISUAL INDICATION OF SUBASSEMBLY FAILURE  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X6 L 0316 .00 11.0 19.0 22.0 13.0 4.68  
 ACTIVITIES SKILL KNOWLEDGE:  
 A SET UP TEST EQUIPMENT  
 A MEASURE/ADJUST VARIABLE ATTENUATOR AT1 OUTPUT  
 A MEASURE VIDEO AMPLIFIER A1 OUTPUT  
 A MEASURE/ADJUST VARIABLE ATTENUATORS AT2 AND AT3  
 OUTPUT  
 A MEASURE/ADJUST POWER LEVEL DETECTOR INPUT AND OUTPUT  
 OSR JOB INVENTORY TASK STATEMENTS:  
 6 L0316 A ALIGN FORWARD POWER MONITORS

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TASK #: 04170  
 ALIGN/ADJUST AN/FSC-78 RECEIVER GAIN MONITOR UNIT  
 DUTY CODE: X6  
 TASK STATUS: 3-K  
 TIMES ANALYZED: 4  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, NONE  
 HOW OFTEN: QUARTERLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X6-30P  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 TOOL KIT, BITE  
 REFERENCES:  
 T.O. 31R5-2FSC78-6WC-1  
 CONDITIONS CUES:  
 COND: EQUIPMENT ON LINE  
 CUE: VISUAL INDICATION  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X6 K 0282 .00 24.0 26.0 23.0 9.0 6.33  
 ACTIVITIES SKILL KNOWLEDGE:  
 A REMOVE ACCESS PANEL  
 A ADJUST DOWNLINK 1 AND 2 PILOT INDICATIONS  
 A ADJUST MINOR ALARM FOR PILOTS  
 A ADJUST MAJOR ALARMS FOR PILOTS  
 A RETURN TO NORMAL OPERATION  
 OSR JOB INVENTORY TASK STATEMENTS:  
 6 K0282 A INSTALL COMMUNICATIONS PATCH PANEL

TASK #: 04180  
 ALIGN/ADJUST AN/FSC-78 TRANSMITTER POWER MONITOR METER  
 DUTY CODE: X6  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 4  
 TNOTES:  
 CONSEQUENCES: SERIOUS, NONE, NONE  
 HOW OFTEN: SEMIANNUALLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X6-30P  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 PRECISION POWER SUPPLY, TEST LEADS AND CABLES, TOOL KIT  
 REFERENCES:  
 T.O. 31R5-2G-212  
 CONDITIONS CUES:  
 COND: EQUIPMENT ON-LINE  
 CUE: VISUAL INDICATION  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X6 L 0321 .00 13.0 19.0 21.0 11.0 5.44  
 ACTIVITIES SKILL KNOWLEDGE:  
 A CONNECT TEST EQUIPMENT  
 A ADJUST FEEDPOWER METER  
 A CALIBRATE PA1/PA2 METERS  
 A RESTORE EQUIPMENT TO OPERATING CONFIGURATION  
 OSR JOB INVENTORY TASK STATEMENTS:  
 6 L0321 A ALIGN TRANSMIT POWER MONITORS

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TASK #: 04190  
 TROUBLESHOOT AN/FSC-78 TRACKING FUNCTION  
 DUTY CODE: X6  
 TASK STATUS: 3-K  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: WEEKLY OR SEMIANNUALLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X6-30N, T.O. 31R5-2FSC-1-1,  
 AND T.O. 31R5-2G-122  
 TTT: 3  
 SME OPINION: 5  
 EQUIPMENT:  
 TOOL KIT, ANALOG MULTIMETER, DIGITAL MULTIMETER, FREQUENCY  
 COUNTER, OSCILLOSCOPE, SIGNAL GENERATOR, SPECTRUM ANALYZER  
 REFERENCES:  
 T.O. 31R5-2-122  
 T.O. 31R5-2FSC78-1-1  
 CONDITIONS CUES:  
 COND: EQUIPMENT UP OR DOWN  
 CUE: VISUAL INDICATION ON FAULT AND SYSTEM STATUS PANEL,  
 RESULTS OF TROUBLESHOOTING  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X6 P 0584 .00 11.0 17.0 16.0 8.0 5.53  
 304X6 P 0585 .00 27.0 35.0 35.0 13.0 5.43  
 304X6 P 0586 .00 12.0 19.0 21.0 12.0 5.77  
 ACTIVITIES SKILL KNOWLEDGE:  
 K ISOLATE FAULTY TRACKING RECEIVER  
 K ISOLATE FAULTY TRACKING DEMODULATOR  
 K ISOLATE FAULTY SERVO CONTROL GROUP  
 K ISOLATE FAULTY TRACKING DOWN CONVERTER  
 A REMOVE/REPLACE SUBASSEMBLIES, MODULES, LINE REPLACE-  
 ABLE UNITS, CIRCUIT CARDS, AND PARTS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 6 P0584 K ISOLATE MALFUNCTIONS TO TRACKING DEMODULATORS  
 6 P0585 K ISOLATE MALFUNCTIONS TO TRACKING DOWN CONVERTERS  
 6 P0586 K ISOLATE MALFUNCTIONS TO TRACKING RECEIVERS

TASK #: 04200  
ALIGN/ADJUST AN/FSC-78 TRACKING FUNCTION  
DUTY CODE: X6  
TASK STATUS: 3-K  
TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: MINOR, NONE, NONE  
HOW OFTEN: QUARTERLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X6-30N  
TTT: 3  
SME OPINION: 5

EQUIPMENT:

DIGITAL MULTIMETER, OSCILLOSCOPE, SPECTRUM ANALYZER, TOOL KIT

REFERENCES:

T.O. 31R5-2G-122

CONDITIONS CUES:

COND: POWER ON, EQUIPMENT ON LINE  
CUE: ALARM, TRACKING OUT OF PARAMETERS, COMPONENT REPLACEMENT

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|-----|------|------|------|------|------|-----|
| 304X6 P   | 0561 | .00 | 8.0  | 15.0 | 15.0 | 8.0  | 6.45 |     |
| 304X6 P   | 0562 | .00 | 33.0 | 37.0 | 34.0 | 12.0 | 5.75 |     |
| 304X6 P   | 0563 | .00 | 14.0 | 22.0 | 22.0 | 11.0 | 6.70 |     |

ACTIVITIES SKILL KNOWLEDGE:

A PERFORM TEST SIGNAL CHECK  
A ALIGN/ADJUST TRACKING DEMODULATOR, TRACKING RECEIVER,  
AND TRACKING DOWN CONVERTER VOLTAGES  
A ALIGN/ADJUST TRACKING DEMODULATOR, TRACKING RECEIVER,  
AND TRACKING DOWN CONVERTER SIGNAL LEVELS

OSR JOB INVENTORY TASK STATEMENTS:

6 P0561 A ALIGN TRACKING DEMODULATOR COMPONENTS  
6 P0562 A ALIGN TRACKING DOWN CONVERTER COMPONENTS  
6 P0563 A ALIGN TRACKING RECEIVER COMPONENTS  
6 P0563 A ALIGN TRACKING RECEIVER COMPONENTS

TASK #: 04210  
 INSPECT AN/FSC-78 ANTENNA, OE-170 (V)/FSC  
 DUTY CODE: X6  
 TASK STATUS: 3-K  
 TIMES ANALYZED: 4  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: DAILY VISUAL INSPECTIONS; 28, 56, 84, 168, AND 336-DAY  
 PHIS  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X6-30K  
 TTT: 3  
 SME OPINION: 3

EQUIPMENT:  
 TOOL KIT, LINT-FREE RAGS, VACUUM CLEANER, CLEANING FLUID,  
 LUBRICATING OIL, OIL FILTERS, TRANSMISSION FLUID

REFERENCES:  
 T.O. 31R5-2FSC78-6WC-1  
 T.O. 31R5-2G-102

CONDITIONS CUES:  
 COND: EQUIPMENT UP OR DOWN  
 CUE: PHI

JOB STANDARDS:

IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB  1ENL  5SKL  7SKL  TD   ATI  
 304X6 J 0253   .00 28.0 33.0 31.0  9.0  4.40  
 304X6 P 0589   .00 25.0 29.0 29.0  9.0  4.37  
 304X6 P 0590   .00  7.0 10.0 13.0  7.0  4.42

ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT ANTENNA EXTERIOR FOR GENERAL CONDITION  
 A INSPECT ANTENNA INTERIOR FOR GENERAL CONDITION  
 A VERIFY AIR CONDITIONING UNIT IS OPERATIONAL  
 A VERIFY AIR DRYER IS OPERATING  
 A CHECK NITROGEN BOTTLE FOR PROPER INDICATIONS  
 A VERIFY AZIMUTH/ELEVATION DRIVE MOTORS FOR PROPER  
 OPERATION  
 A CHECK ANTENNA GROUP LIGHTING FOR PROPER OPERATION  
 A CHECK ANTENNA GROUP CABLE ENTRANCE PANELS FOR LOOSE  
 CONNECTIONS  
 A CHECK ANTENNA GROUP GROUNDING SYSTEM FOR LOOSE CON-  
 NECTIONS  
 A CHECK ANTENNA GROUP WAVEGUIDE COMPONENTS FOR PRESSUR-  
 IZATION  
 A CHECK ANTENNA GROUP FEED ASSEMBLY PRESSURIZATION  
 A INSPECT ELEVATED EQUIPMENT ROOM DOOR FINGER STOCK FOR  
 GENERAL CONDITION  
 A REPLACE AZIMUTH/ELEVATION GEARBOX OIL FILTERS  
 A CHECK AZIMUTH/ELEVATION DRIVE MOTOR ASSEMBLY BLOWERS  
 FOR CLEANLINESS  
 A PERFORMANCE TEST NITROGEN LOW-PRESSURE CONTROL PANEL  
 A PERFORMANCE TEST DRY AIR LOW-PRESSURE CONTROL PANEL  
 A CLEAN DIRECT CURRENT CONTROL RADIO FREQUENCY INTER-  
 FERENCE (RFI) FILTERS  
 A REPLACE AIR DRYER FELT FILTERS  
 A CHECK ANTENNA HOIST FOR GENERAL CONDITION  
 A SERVICE SHOCK ABSORBERS WITH TRANSMISSION FLUID  
 A LUBRICATE AZIMUTH/ELEVATION GEARBOX HANDBRAKES  
 A CHANGE AZIMUTH/ELEVATION GEARBOX OIL  
 A VERIFY THAT AZIMUTH/ELEVATION STOPPIN IS OPERATIONAL  
 A GREASE PILLOW-BLOCK BEARINGS  
 A LUBRICATE AZIMUTH UPPER/LOWER BEARINGS  
 A LUBRICATE AZIMUTH/ELEVATION GEARBOX FLEXIBLE GEAR  
 COUPLING

OSR JOB INVENTORY TASK STATEMENTS:

6 P0590 A PERFORM PHIS ON ANTENNA DRIVE TRANSMISSIONS  
 6 J0253 A PERFORM PHIS ON PARABOLIC ANTENNAS  
 6 P0589 A PERFORM PREVENTIVE MAINTENANCE INSPECTIONS (PHI) ON  
 ANTENNA DRIVE MOTORS

TASK #: 04220

TROUBLESHOOT AN/FSC-78 ANTENNA, OE-170(V)/FSC

DUTY CODE: X6

TASK STATUS: 3-OJT

TIMES ANALYZED: 4

TNOTES:

CONSEQUENCES: MINOR, NONE, NONE

HOW OFTEN: MONTHLY

OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)

QTP ADEQUATE: NO, REFERS TO T.O. FOR REMOVING/REPLACING PARTS

TNG REFERENCE(S): QTP 304X6-30K

TTT: 3

SME OPINION: 5

EQUIPMENT:

CLAMP-ON AMMETER, ANALOG MULTIMETER, CABLE REPAIR KIT,

HUMIDISTAT SET PLUG, SPECIAL ANTENNA TOOL KITS, DIGITAL

MULTIMETER, CABLE REPAIR KIT, TOOL KIT, EXTENSION CORD

WITH DROP LIGHT, TORQUE WRENCHES, BLOCK AND TACKLE, SOLDERING KIT

REFERENCES:

T.O. 31R5-2G-102

CONDITIONS CUES:

COND: EQUIPMENT UP OR DOWN

CUE: VISUAL INDICATION FROM STATUS PANEL OR PHI, RESULTS OF TROUBLESHOOTING

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK   | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|--------|-----|------|------|------|------|------|-----|
| 304X6     | J 0237 | .00 | 13.0 | 15.0 | 16.0 | 11.0 | 6.45 |     |
| 304X6     | J 0239 | .00 | 17.0 | 19.0 | 22.0 | 10.0 | 6.08 |     |

ACTIVITIES SKILL KNOWLEDGE:

K ISOLATE FAULTY FEEDHORN RAIN DEFLECTOR

K ISOLATE FAULTY ANTENNA POWER DISTRIBUTION

K ISOLATE FAULTY STOW PIN

K ISOLATE FAULTY STOW PIN ACTUATORS

K ISOLATE FAULTY AZIMUTH/ELEVATION GEARBOXES

K ISOLATE FAULTY ANTENNA HOISTS

K ISOLATE FAULTY ANTENNA ELECTRIC LIGHT/OBSTRUCTION LIGHT

K ISOLATE FAULTY AIR DRYER

K ISOLATE FAULTY SPACE HEATER

K ISOLATE FAULTY WAVEGUIDE PRESSURIZATION AND LOW-PRESSURE CONTROL PANEL

A REMOVE/REPLACE SUBASSEMBLIES, MODULES, LINE REPLACEABLE UNITS, CIRCUIT CARDS, AND PARTS

OSR JOB INVENTORY TASK STATEMENTS:

6 J0237 K ISOLATE MALFUNCTIONS IN FEEDHORN ASSEMBLIES

6 J0239 K ISOLATE MALFUNCTIONS IN PARABOLIC ANTENNAS

TASK #: 04230  
 ALIGN OR ADJUST AN/FSC-78 ANTENNA  
 DUTY CODE: X6  
 TASK STATUS: 3-K  
 TIMES ANALYZED: 4  
 TNOTES:  
 HOW OFTEN: DAILY, WEEKLY, BI-WEEKLY, MONTHLY, SEMI-ANNUALLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: NO  
 TNG REFERENCE(S): QTP 304X6-30K  
 TTT: NONE  
 SME OPINION: 5  
 EQUIPMENT:  
 TOOL KITS, ANALOG MULTIMETER, DIGITAL MULTIMETER  
 REFERENCES:  
 T.O. 31R5-2G-102  
 CONDITIONS CUES:  
 COND: EQUIPMENT UP OR DOWN  
 CUE: AFTER REPLACEMENT OF PARTS  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
 304X6 J 0224   .00 27.0 36.0 34.0 13.0 3.35  
 304X6 J 0225   .00 18.0 27.0 25.0 17.0 5.26  
 ACTIVITIES SKILL KNOWLEDGE:  
 A ALIGN/ADJUST STOW PIN SWITCHES  
 A ALIGN/ADJUST LIMIT SWITCHES  
 A ALIGN/ADJUST OIL PRESSURE SWITCH  
 A ALIGN/ADJUST GEAR BOX OIL HEATERS  
 A ALIGN/ADJUST HAND CRANK SAFETY SWITCH  
 A ALIGN/ADJUST HOIST DISK BRAKE  
 A ALIGN/ADJUST ELECTRIC LIGHT CONTROL  
 A ALIGN/ADJUST AIR DRYER  
 A ALIGN/ADJUST FLOW RATE ALARM  
 A ALIGN/ADJUST PRESSURE REGULATOR/ALARM  
 OSR JOB INVENTORY TASK STATEMENTS:  
 6 J0224 A ADJUST DEHYDRATOR OR PRESSURIZER COMPONENTS  
 6 J0225 A ALIGN ANTENNA POSITIONING CIRCUIT COMPONENTS

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TASK #: 04250  
 INSPECT AN/GSC-24(V) DIGITAL MULTIPLEXER  
 DUTY CODE: X6  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: 1, 7, 14, 28, 56, 168  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X6-30GA AND QTP 304X6-30GE  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 TOOL KIT, FREQUENCY COUNTER, AUDIO OSCILLATOR, AC VOLTMETER,  
 BITE, DIGITAL DATA TEST SET  
 REFERENCES:  
 T.O. 31W2-2GSC24-2  
 T.O. 31W2-2GSC24-4  
 CONDITIONS CUES:  
 COND: POWER ON, EQUIPMENT ON/OFF LINE  
 CUE: PMI  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
 304X6 M 0502   .00 31.0 28.0 25.0  9.0 4.40  
 ACTIVITIES SKILL KNOWLEDGE:  
 A PERFORM (MULTIPLEXER) LAMP AND DIAGNOSTICS SELF TEST  
 A PERFORM SYSTEM VISUAL INSPECTION FOR OBVIOUS DEFECTS  
 A CLEAN COOLING AIR FILTERS  
 A CALIBRATE REFERENCE TIMER ASSEMBLY  
 A CALIBRATE TRANSITION ENCODER/TIMING RECOVERY ASSEMBLY  
 A ALIGN/ADJUST REFERENCE TIMER ASSEMBLY  
 A ALIGN/ADJUST TRANSITION ENCODER/TIMING RECOVERY  
 ASSEMBLY  
 A TUNE OR ADJUST MICROWAVE OSCILLATORS OR AMPLIFIERS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 6 M0502 A PERFORM PHIS ON TIME DIVISION MULTIPLEXERS

TASK #: 04260  
TROUBLESHOOT DCSS AN/GSC-24(V) DIGITAL MULTIPLEXER  
DUTY CODE: X6  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: MINOR, NONE, NONE,  
HOW OFTEN: SEMI-ANNUALLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: NO (TASK NOT ADEQUATELY COVERED)  
TNG REFERENCE(S): QTP 304X6-30GA AND 304X6-30GE  
TTT: 3  
SME OPINION: 5  
EQUIPMENT:  
FREQUENCY COUNTER, AUDIO OSCILLATOR, AC VOLTMETER, BITE, DIGITAL  
DATA TEST SET, TOOL KIT, TORQUE WRENCH, WIRE WRAPPING TOOL  
REFERENCES:  
T.O. 31W2-2GSC24-2  
T.O. 31W2-2GSC24-3  
T.O. 31W2-2GSC24-4  
CONDITIONS CUES:  
COND: EQUIPMENT UP OR DOWN, POWER ON/OFF  
CUE: FRONT PANEL INDICATIONS AND SELF TEST INDICATIONS, FAILED  
PHI  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X6 M 0479 .00 27.0 23.0 24.0 9.0 5.83  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY PRINTED CIRCUIT CARDS  
K ISOLATE FAULTY LRU  
K ISOLATE FAULTY MINOR HARDWARE  
A REMOVE/REPLACE PRINTED CIRCUIT CARDS  
A REMOVE/REPLACE LRU  
A REMOVE/REPLACE MINOR HARDWARE  
A PERFORM OPERATION CHECK OF SYSTEM  
OSR JOB INVENTORY TASK STATEMENTS:  
6 M0479 K ISOLATE MALFUNCTIONS IN TIME DIVISION MULTIPLEXERS

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TASK #: 04270  
ALIGN OR ADJUST DCSS AN/GSC-24(V) DIGITAL MULTIPLEXER  
DUTY CODE: X6  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: MINOR, NONE, NONE  
HOW OFTEN: MONTHLY  
OJT TRAINABLE: YES  
QTP ADEQUATE: NO (INCLUDES ANALYSIS ONLY)  
TNG REFERENCE(S): QTP 304X6-30GA  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
AUDIO OSCILLATOR, FREQUENCY COUNTER, TOOL KIT  
REFERENCES:  
T.O. 31W2-2GSC24-2  
T.O. 31W2-2GSC24-3  
T.O. 31W2-2GSC24-4  
CONDITIONS CUES:  
COND: EQUIPMENT UP OR DOWN  
CUE: TROUBLESHOOTING RESULTS, REMOVE OR REPLACE, PHI  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X6 M 0457 .00 29.0 28.0 26.0 8.0 5.66  
ACTIVITIES SKILL KNOWLEDGE:  
A ALIGN/ADJUST REFERENCE TIMER ASSEMBLY  
A ALIGN/ADJUST TRANSITION ENCODER/TIMING RECOVERY  
ASSEMBLY  
A TUNE OR ADJUST MICROWAVE OSCILLATORS OR AMPLIFIERS  
A INSPECT CIRCUIT CARD STRAP ARRANGEMENT AND ADJUST FOR  
LINK REQUIREMENTS  
OSR JOB INVENTORY TASK STATEMENTS:  
6 M0457 A ALIGN TIME DIVISION MULTIPLEXERS

TASK #: 04280  
 INSPECT THE AN/GSC-39(V) ANTENNA GROUP OE-222/G  
 DUTY CODE: X6  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 1  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: 1, 7, 28, 84, 168, AND AS REQUIRED  
 OJT TRAINABLE: YES, NO, SYSTEM KNOWLEDGE, SAFETY  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): T.O. 31R5-2G-351  
 TTT: 5  
 SME OPINION: 5  
 EQUIPMENT:  
 FIRE HOSES, HAND TOOLS, SAFETY HARNESS, VACUUM CLEANER, OIL PUMPS  
 REFERENCES:  
 T.O. 31R5-2G-351  
 CONDITIONS CUES:  
 COND: ON EQUIPMENT, 28 AND 84 DAY EQUIPMENT DOWN, HIGH PRESSURE GAS AND CRYOGENIC PRESSURE LINES POSE SPECIAL SAFETY HAZARDS  
 CUE: PMI  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:    TASK    TE    1JOB   1ENL   5SKL   7SKL   TD    ATI  
 304X6    J    0253    .00   28.0   33.0   31.0   9.0   4.40  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT VISUALLY FOR CLEANLINESS, DETERIORATION, MALFUNCTION, UNUSUAL SIGHTS, SOUNDS, OR ODORS  
 A CHECK METER READINGS  
 A LUBRICATE ANTENNA GROUP MECHANICAL PARTS  
 A CHANGE OIL IN ANTENNA GROUP SPEED DECREASERS  
 A CHANGE EQUIPMENT OIL  
 A LUBRICATE EQUIPMENT  
 OSR JOB INVENTORY TASK STATEMENTS:  
 6 J0253 A PERFORM PMIS ON PARABOLIC ANTENNAS

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TASK #: 04290  
 ADJUST AN/GSC-39(V) ANTENNA GROUP OE-222/G SERVO AMPLIFIER CONTROL CARDS BIAS  
 DUTY CODE: X6  
 TASK STATUS: 3-K  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: SIX MONTHS  
 OJT TRAINABLE: YES, NO, BASIC ELECTRONICS, SYSTEM KNOWLEDGE  
 QTP ADEQUATE: NO, DOES NOT COVER  
 TNG REFERENCE(S): T.O. 31R5-2G-351  
 TTT: 5  
 SME OPINION: 7  
 EQUIPMENT:  
 OSCILLOSCOPE  
 REFERENCES:  
 T.O. 31R5-2G-351  
 CONDITIONS CUES:  
 COND: EQUIPMENT DOWN OR SPECIAL MAINTENANCE PROCEDURE NOT IN TO HIGH VOLTAGE HAZARD  
 CUE: IMPROPER ANTENNA TRACKING, RESULTS OF TROUBLESHOOTING  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:    TASK    TE    1JOB   1ENL   5SKL   7SKL   TD    ATI  
 304X6    P    0564    .00   16.0   19.0   16.0   8.0   6.62  
 ACTIVITIES SKILL KNOWLEDGE:  
 A ADJUST AZIMUTH NUMBER 1 AND 2 CONTROL CARD RESISTORS  
 A ADJUST ELEVATION CONTROL CARD RESISTOR  
 A ADJUST AZIMUTH NUMBER 1 AND 2 SYNC CARD RESISTORS  
 A ADJUST ELEVATION SYNC CARD RESISTOR  
 OSR JOB INVENTORY TASK STATEMENTS:  
 6 P0564 A ALIGN TRACKING SERVO CONTROL COMPONENTS



TASK #: 04300  
 ADJUST AN/GSC-39(V) ANTENNA GROUP OE-222/G ANTENNA DRIVEMOTOR BRAKE  
 DUTY CODE: X6  
 TASK STATUS: 3-K  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, NONE  
 HOW OFTEN: QUARTERLY  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NO, DOES NOT COVER  
 TNG REFERENCE(S): T.O. 31R5-2G-351  
 TTT: 5  
 SWE OPINION: 5  
 EQUIPMENT:  
 HAND TOOLS  
 REFERENCES:  
 T.O. 35R5-2G-351  
 CONDITIONS CUES:  
 COND: OIN SHOP  
 CUE: ANTENNA DRIVE BRAKE LOCKS  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB  1ENL  5SKL  7SKL  TD   ATI  
 304X6 J  0225   .00  18.0  27.0  25.0  17.0  5.26  
 304X6 P  0558   .00  19.0  24.0  24.0  11.0  6.71  
 ACTIVITIES SKILL KNOWLEDGE:  
   A MANUALLY RELEASE BRAKE  
   A REMOVE MOTOR  
   A ADJUST BRAKE MAGNET GAP PER T.O.  
 OSR JOB INVENTORY TASK STATEMENTS:  
 6 J0225 A ALIGN ANTENNA POSITIONING CIRCUIT COMPONENTS  
 6 P0558 A ALIGN ANTENNA TRACKING CONTROL DRAWER COMPONENTS

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TASK #: 04310  
 ADJUST AN/GSC-39(V) ANTENNA GROUP OE-222/G POWER SUPPLY  
 DUTY CODE: X6  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, NONE  
 HOW OFTEN: ANNUALLY  
 OJT TRAINABLE: YES, NO, BASIC ELECTRONICS  
 QTP ADEQUATE: NO, DOES NOT COVER  
 TNG REFERENCE(S): T.O. 31R5-2G-351  
 TTT: 5  
 SWE OPINION: 5  
 EQUIPMENT:  
 OSCILLOSCOPE, MULTIMETER, VARIABLE TRANSFORMER  
 REFERENCES:  
 T.O. 31R5-2G-351  
 CONDITIONS CUES:  
 COND: IN SHOP BENCH CHECK  
 CUE: RESULT OF TROUBLESHOOT, TRACKING PROBLEMS  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB  1ENL  5SKL  7SKL  TD   ATI  
 304X6 M  0441   .00  13.0  18.0  19.0   9.0  4.24  
 ACTIVITIES SKILL KNOWLEDGE:  
   A REMOVE POWER SUPPLY  
   A ADJUST VARIABLE RESISTORS AND CAPACITORS TO CORRECT  
   OUTPUT  
   A ADJUST BRAKE MAGNET GAP PER T.O.  
 OSR JOB INVENTORY TASK STATEMENTS:  
 6 M0441 A ALIGN DIRECT CURRENT (DC) POWER SUPPLY UNITS

TASK #: 04320  
 ALIGN AN/GSC-39(V) ANTENNA GROUP OE-222/G ELEVATION AND AZIMUTH DATA BOXES  
 DUTY CODE: X6  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 2  
 NOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, NONE  
 HOW OFTEN: ANNUALLY  
 OJT TRAINABLE: YES, NO, BASIC ELECTRONICS, SYSTEM KNOWLEDGE  
 QTP ADEQUATE: NO, DOES NOT COVER  
 TNG REFERENCE(S): T.O. 31R5-2G-351  
 TTT: 5  
 SME OPINION: 7  
 EQUIPMENT:  
 HAND TOOLS  
 REFERENCES:  
 T.O. 31R5-2G-351  
 CONDITIONS CUES:  
 COND: ON EQUIPMENT, EQUIPMENT RELEASED, TIME CRITICAL  
 CUE: CONTROL PANEL INDICATION DOES NOT MATCH ANTENNA LOCATION  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X6 P 0566 .00 14.0 18.0 19.0 11.0 6.90  
 ACTIVITIES SKILL KNOWLEDGE:  
 A ADJUST AZIMUTH AND ELEVATION TO KNOWN ENGINEERING BENCHMARK  
 A ADJUST REFLECTOR PER T.O.  
 A ADJUST AZIMUTH AND ELEVATION DATA BOXES PER T.O.  
 OSR JOB INVENTORY TASK STATEMENTS:  
 6 P0566 A ALIGN TRACKING SYSTEMS

TASK #: 04330  
 ALIGN AN/GSC-39(V) ANTENNA GROUP OE-222/G PARAMETRIC AMPLIFIER GROUP OC-133/C  
 DUTY CODE: X6  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 2  
 NOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: MONTHLY  
 OJT TRAINABLE: YES, NO, BASIC ELECTRONICS, SYSTEM KNOWLEDGE  
 TEST EQUIPMENT, ADVANCED MATH  
 QTP ADEQUATE: NO, DOES NOT COVER  
 TNG REFERENCE(S): T.O. 31R5-2G-351 AND T.O. 31R5-2G-132  
 TTT: 5  
 SME OPINION: 7  
 EQUIPMENT:  
 OSCILLOSCOPE, SIGNAL GENERATOR, VARIABLE ATTENUATOR, POWER  
 METER, STICK ATTENUATOR, X-Y RECORDER, NETWORK ANALYZER,  
 HANDTOOLS, ELECTRONIC TOOL KIT, CRYOGENIC MAINTENANCE KIT  
 REFERENCES:  
 T.O. 31R5-2G-351, T.O. 31R5-2G-132  
 CONDITIONS CUES:  
 COND: ON EQUIPMENT, EQUIPMENT RELEASED, TIME CRITICAL  
 CUE: PUMP POWER, BIAS VOLTAGE, GAIN VOLTAGE, RECEIVE GAIN  
 MONITOR UNIT METER READINGS OUT OF T.O. SPECIFICATIONS  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X6 K 0280 .00 41.0 44.0 39.0 19.0 7.27  
 ACTIVITIES SKILL KNOWLEDGE:  
 A ADJUST TEMPERATURE METER  
 A ADJUST VACUUM GAUGE METER  
 A ADJUST PARAMPLIFIER POWER SUPPLY  
 A ALIGN LEVELING LOOP AMPLIFIER CARD GAINS AND VOLTAGES  
 A ADJUST REFRIGERATOR CONTROL VARIAC (VARIABLE TRANSFORMER)  
 A ADJUST AMPLIFIER TEMPERATURE STABILIZATION Y SENSITV  
 A EVALUATE AND RECHARGE CRYOGENIC REFRIGERATION COMPONENT  
 A INJECT RF SIGNAL TO PARAMETRIC AMPLIFIER  
 A MEASURE INSERTION LOSS OF PARAMETRIC AMPLIFIER  
 A ADJUST BIAS AND GAIN VOLTAGES OF PARAMETRIC AMPLIFIER  
 A COMPUTE STAGE TWO INSERTION LOSS  
 A ADJUST STAGE TWO BIAS AND GAIN VOLTAGES  
 A COMPUTE INSERTION LOSS FOR STAGE THREE  
 A ADJUST STAGE THREE BIAS AND GAIN VOLTAGES  
 A ADJUST STAGES ONE AND TWO BIAS AND GAIN VOLTAGES OF PARAMETRIC AMPLIFIER  
 A ADJUST STAGES ONE, TWO, AND THREE BIAS AND GAIN VOLTAGES OF PARAMETRIC AMPLIFIER  
 OSR JOB INVENTORY TASK STATEMENTS:  
 6 K0280 A ALIGN PARAMETRIC OR LOW NOISE AMPLIFIER (LNA) COMPONENTS

TASK #: 04340  
ADJUST AN/GSC-39(V) ANTENNA GROUP OE-222/G ELECTRIC DESSICANT DEHUMIDIFIER  
DUTY CODE: X6  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: MONTHLY  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: YES, BUT NOT USED  
TNG REFERENCE(S): T.O. 31R5-2G-102  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
HAND TOOLS, ANALOG MULTIMETER, DIGITAL MULTIMETER,  
REFERENCES:  
T.O. 31R5-2G-102  
CONDITIONS CUES:  
COND: ON EQUIPMENT  
CUE: TANK PRESSURE AND OUTLET PRESSURE METER READINGS OUT OF  
SPECIFICATIONS, EXCESSIVE COMPRESSOR OPERATION  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X6 J 0224 .00 27.0 36.0 34.0 13.0 3.35  
ACTIVITIES SKILL KNOWLEDGE:  
A ADJUST AIR COMPRESSOR PRESSURE SWITCH  
A ADJUST CAPACITY CONTROL VALVE  
OSR JOB INVENTORY TASK STATEMENTS:  
6 J0224 A ADJUST DEHYDRATOR OR PRESSURIZER COMPONENTS

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TASK #: 04350  
SERVICE AN/GSC-39(V) ANTENNA GROUP OE-222/G HD-955B/GR HEAT EXCHANGER (DEHYDRATOR)  
DUTY CODE: X6  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: DAILY  
OJT TRAINABLE: YES, NO, BASIC ELECTRONICS  
QTP ADEQUATE: YES, BUT NOT USED  
TNG REFERENCE(S): T.O. 31R5-2G-112  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
HAND TOOLS, ANALOG MULTIMETER, DIGITAL MULTIMETER  
REFERENCES:  
T.O. 31R5-2G-112  
CONDITIONS CUES:  
COND: ON EQUIPMENT  
CUE: PHI OR AS NEEDED  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X6 J 0224 .00 27.0 36.0 34.0 13.0 3.35  
ACTIVITIES SKILL KNOWLEDGE:  
A ADD COOLANT  
A CHANGE IN-LINE AND PURITY FILTERS  
OSR JOB INVENTORY TASK STATEMENTS:  
6 J0224 A ADJUST DEHYDRATOR OR PRESSURIZER COMPONENTS

TASK #: 04360  
 REMOVE AND REPLACE AN/GSC-39(V) ANTENNA GROUP OE-222/G HD-955B/GR HEAT EXCHANGER MOTOR AND FAN MOTOR  
 DUTY CODE: X6  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: SIX MONTHS  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NO, DOES NOT COVER  
 TNG REFERENCE(S): T.O. 31R5-2G-112  
 TTT: 5  
 SME OPINION: 5  
 EQUIPMENT:  
 HAND TOOLS, ANALOG MULTIMETER, DIGITAL MULTIMETER, SOLDERING KIT  
 REFERENCES:  
 T.O. 31R5-2G-112  
 CONDITIONS CUES:  
 COND: ON EQUIPMENT, EQUIPMENT RELEASED  
 CUE: HIGH TEMPERATURE FAULT, NO COOLANT FLOW  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:    TASK   TE   1JOB   1ENL   5SKL   7SKL   TD    ATI  
 304X6 I 0220   .00 32.0 36.0 40.0 18.0 4.72  
 ACTIVITIES SKILL KNOWLEDGE:  
 A SHUT OFF COOLANT FLOW  
 A DISCONNECT COOLANT LINES  
 A REMOVE AND REPLACE MOTOR AND PUMP ASSEMBLY  
 A REMOVE AND REPLACE FAN MOTOR  
 OSR JOB INVENTORY TASK STATEMENTS:  
 6 I0220 A REMOVE OR REPLACE MECHANICAL SUBASSEMBLIES

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TASK #: 04370  
 INSPECT AN/GSC-39(V) ELECTRONIC FREQUENCY CONVERTER CV-3655/G (MINI-CONVERTER)  
 DUTY CODE: X6  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 1  
 TNOTES:  
 CONSEQUENCES: SERIOUS, NONE, INJURY  
 HOW OFTEN: 1, 186  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NO, DOES NOT COVER  
 TNG REFERENCE(S): T.O. 31S1-2G-241  
 TTT: 5  
 SME OPINION: 5  
 EQUIPMENT:  
 HAND TOOLS, MULTIMETER, SWEEP GENERATORS, OSCILLOSCOPE, POWER METER, ATTENUATORS, FREQUENCY COUNTERS, FREQUENCY METERS, SPECTRUM ANALYZER  
 REFERENCES:  
 T.O. 31S1-2G-241  
 CONDITIONS CUES:  
 COND: ON EQUIPMENT, EQUIPMENT RELEASED  
 CUE: PHI  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:    TASK   TE   1JOB   1ENL   5SKL   7SKL   TD    ATI  
 304X6 K 0297   .00 56.0 56.0 51.0 17.0 3.84  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT VISUALLY ALARM INDICATORS AND METER INDICATIONS  
 A INJECT RF SIGNAL  
 A CHECK FOR GAIN, FREQUENCY RESPONSE, BANDWIDTH, AND SPURIOUS NOISE  
 OSR JOB INVENTORY TASK STATEMENTS:  
 6 K0297 A PERFORM PHIS ON DOWN CONVERTERS

TASK #: 04380  
 REMOVE AND REPLACE AN/GSC-39(V) ELECTRONIC FREQUENCY CONVERTER CV-3655/G (MINI-CONVERTER) MODULES  
 DUTY CODE: X6  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 1  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: ONCE EVERY NINE MONTHS  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NO, DOES NOT COVER  
 TNG REFERENCE(S): T.O. 31S1-2G-241  
 TTT: 5  
 SME OPINION: 5  
 EQUIPMENT:  
 TORQUE WRENCH, SOLDERING IRON, HAND TOOLS  
 REFERENCES:  
 T.O. 31S1-2G-241  
 CONDITIONS CUES:  
 COND: IN SHOP, EQUIPMENT RELEASED  
 CUE: RESULT OF TROUBLESHOOTING  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB  1ENL  5SKL  7SKL  TD   ATI  
 304X6 I  0217  .00  35.0  44.0  45.0  25.0  3.73  
 304X6 K  0304  .00  41.0  49.0  50.0  22.0  3.88  
 ACTIVITIES SKILL KNOWLEDGE:  
   A REMOVE MINI-CONVERTER FROM RACK  
   A REMOVE CABLES AND FASTENERS  
   A REMOVE AND REPLACE MINI-CONVERTER MODULES  
   A REPLACE CABLES AND FASTENERS  
   A REPLACE MINI-CONVERTER IN RACK  
 OSR JOB INVENTORY TASK STATEMENTS:  
 6 K0304 A REMOVE OR REPLACE DOWN CONVERTERS  
 6 I0217 A REMOVE OR REPLACE FREQUENCY CONVERTERS

-----

TASK #: 04390  
 TROUBLESHOOT AN/GSC-39(V) ELECTRONIC FREQUENCY CONVERTER CV-3655/C AND CV-3654 (MINI-CONVERTER)  
 DUTY CODE: X6  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 1  
 TNOTES:  
 CONSEQUENCES: SERIOUS, NONE, INJURY  
 HOW OFTEN: THREE MONTHS  
 OJT TRAINABLE: YES, NO, BASIC ELECTRONICS, SYSTEM KNOWLEDGE  
 QTP ADEQUATE: NO, DOES NOT COVER  
 TNG REFERENCE(S): T.O. 31S1-2G-241  
 TTT: 5  
 SME OPINION: 5  
 EQUIPMENT:  
 BITE  
 REFERENCES:  
 T.O. 31S1-2G-241  
 CONDITIONS CUES:  
 COND: ON EQUIPMENT, EQUIPMENT RELEASED  
 CUE: FAULT INDICATIONS, USER COMPLAINT OF INCREASED DATA TRANSMISSION ERRORS, DCSS MODEMS LOSING SYNCHRONIZATION  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB  1ENL  5SKL  7SKL  TD   ATI  
 304X6 I  0201  .00  42.0  51.0  48.0  26.0  5.92  
 304X6 K  0285  .00  52.0  60.0  59.0  28.0  5.67  
 ACTIVITIES SKILL KNOWLEDGE:  
   A DETERMINE FAULT USING CONVERTER BUILT IN TEST SYSTEM AND T.O. TROUBLESHOOTING CHART  
 OSR JOB INVENTORY TASK STATEMENTS:  
 6 K0285 K ISOLATE MALFUNCTIONS IN DOWN CONVERTERS  
 6 I0201 K ISOLATE MALFUNCTIONS IN FREQUENCY CONVERTERS

TASK #: 04400  
TROUBLESHOOT AN/GSC-39(V) ANTENNA GROUP OE-222/G  
DUTY CODE: X6  
TASK STATUS: 3-K  
TIMES ANALYZED: 1

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: MONTHLY OR EVERY FOUR MONTHS  
QJT TRAINABLE: YES, NO, SYSTEM KNOWLEDGE, TEST EQUIPMENT  
QTP ADEQUATE: NO, DOES NOT COVER  
TNG REFERENCE(S): T.O. 31R5-2G-351 AND T.O. 31R5-2G-132  
TTT: 5  
SHE OPINION: 5

EQUIPMENT:

OSCILLOSCOPE, SIGNAL GENERATOR, VARIABLE ATTENUATOR, POWER METER,  
STICK ATTENUATOR, NETWORK ANALYZER, HAND TOOLS, ELECTRONIC TOOL  
KIT, CRYOGENIC MAINTENANCE KIT

REFERENCES:

T.O. 31R5-2G-351  
T.O. 31R5-2G-132

CONDITIONS CUES:

COND: ON EQUIPMENT OR IN SHOP, EQUIPMENT RELEASED  
CUE: FAULT INDICATIONS, FAILURE OF PMI OR OPERATIONAL CHECK,  
RESULTS OF TROUBLESHOOTING, AND LOST SATELLITE LINK

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|-----|------|------|------|------|------|-----|
| 304X6 J   | 0237 | .00 | 13.0 | 15.0 | 16.0 | 11.0 | 6.45 |     |
| 304X6 K   | 0284 | .00 | 8.0  | 17.0 | 19.0 | 13.0 | 7.12 |     |

ACTIVITIES SKILL KNOWLEDGE:

K ISOLATE FAULTY SUBSYSTEM  
K DETERMINE FAULT USING ANTENNA SUBSYSTEM T.O.  
A REMOVE/REPLACE BRAKE ASSEMBLY, CIRCUIT CARDS, AND  
PARTS

OSR JOB INVENTORY TASK STATEMENTS:

6 K0284 K ISOLATE MALFUNCTIONS IN CRYOGENIC REFRIGERATION  
SYSTEMS  
6 J0237 K ISOLATE MALFUNCTIONS IN FEEDHORN ASSEMBLIES

TASK #: 04410  
OPERATIONALLY CHECK AN/GSC-39 (V) ANTENNA GROUP  
DUTY CODE: X6  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: SEVERAL TIMES A DAY  
OJT TRAINABLE: YES, NO, SYSTEM KNOWLEDGE, SAFETY, TEST EQUIPMENT  
QTP ADEQUATE: YES  
TNG REFERENCE(S): T.O. 31R5-2G-356WC-1 AND T.O. 31R5-2GSC39-6WC-1  
TTT: 5  
SME OPINION: 5

EQUIPMENT:

SIGNAL GENERATOR, SWEEP GENERATOR, FREQUENCY METERS, FREQUENCY COUNTERS, ANALOG MULTIMETER, OSCILLOSCOPES, POWER METER, SPECTRUM ANALYZER, BIT ERROR RATE TEST SET, NOISE TEST SET, HIGH VOLTAGE PROBE, X-Y RECORDER, POWER SUPPLIES, DIGITAL MULTIMETER  
SIGNAL GENERATOR, SWEEP GENERATOR, FREQUENCY METERS, FREQUENCY COUNTERS, ANALOG MULTIMETER, OSCILLOSCOPES, POWER METERS, SPECTRUM ANALYZER, BIT ERROR RATE TEST SET, NOISE TEST SET, HIGH VOLTAGE PROBE, X-Y RECORDER, POWER SUPPLIES, DIGITAL MULTIMETER

REFERENCES:

T.O. 31R5-2G-356WC-1  
T.O. 31R5-2GSC39WC-1

CONDITIONS CUES:

COND: MAINTENANCE HAZARDOUS CONDITION FOR CRITICAL FUNCTIONS  
HIGH VOLTAGE HAZARD  
CUE: PHI, AFTER EQUIPMENT REPLACEMENT,

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK   | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|--------|-----|------|------|------|------|------|-----|
| 304X6     | K 0278 | .00 | 49.0 | 52.0 | 51.0 | 25.0 | 4.59 |     |
| 304X6     | L 0403 | .00 | 51.0 | 52.0 | 50.0 | 18.0 | 4.05 |     |
| 304X6     | K 0297 | .00 | 56.0 | 56.0 | 51.0 | 17.0 | 3.84 |     |

ACTIVITIES SKILL KNOWLEDGE:

- A PERFORM UP CONVERTER GAIN AND COMPRESSION TEST
- A INJECT IF SIGNAL TO UP CONVERTER
- A ADJUST UP CONVERTER GAIN PER T.O. SPECIFICATIONS
- A INJECT IF SIGNAL TO UP CONVERTER
- A MEASURE RF OUTPUT FROM UP CONVERTER FOR PROPER BAND-WIDTH AND AMPLITUDE RESPONSE
- A CHECK VOLTAGE OF INTERCONNECT ASSEMBLY FAULT LOGIC CIRCUIT CARD
- A INSERT SIGNAL TO UP CONVERTER INTERCONNECT ASSEMBLY
- A ALIGN INTERCONNECT ASSEMBLY PIN DIODE MGTORIZED ATTENUATOR
- A ADJUST INTERCONNECT ASSEMBLY PIN DIODE ATTENUATION LEVEL
- A ADJUST RF DETECTOR LOCAL OSCILLATOR LEVEL AND FREQUENCY
- A INJECT RF SIGNAL TO UP CONVERTER ASSEMBLY CARRIER LEVEL CONTROL MODULE
- A CHECK CARRIER LEVEL CONTROL ADJUSTS UP CONVERTER OUTPUT POWER AT PROPER LEVEL AND AUTOMATICALLY COMPENSATES FOR VARIANCE IN UP CONVERTER OUTPUT POWER
- A CHECK OPERATION OF WAVEGUIDE SWITCHES, MAINTENANCE LIGHTS, ON/OFF INDICATORS
- A INJECT RF SIGNAL TO IFLA CONTROL PANEL
- A CHECK AMPLITUDE RESPONSE AND GAIN OF IFLA CONTROL PANEL
- A CHECK POWER CONTROL FUNCTIONAL GROUP METER INDICATIONS, CIRCUIT BREAKERS, LINE VOLTAGE REGULATORS, FAULT LAMPS, SHUTDOWN SWITCH AND EMERGENCY OFF SWITCH OPERATION
- A CHECK OPERATION OF FAULT CIRCUITRY OF LOW POWER AMPLIFIER
- A CHECK AC LINE VOLTAGE REGULATION AND OVERRIDE SWITCHES AND MAGNET OVERRIDE SWITCH
- A CHECK LOW POWER AMPLIFIER OPERATING TEMPERATURES AND COOLANT FLOW RATES
- A CHECK VOLTAGE OF BEAM VOLTAGE REGULATOR AND FAULT CIRCUITRY
- A INJECT SINGLE CARRIER SIGNAL TO LOW POWER AMPLIFIER
- A CHECK PROPER GAIN, OUTPUT POWER, REFLECTIVE POWER, INPUT POWER, INTERMEDIATE POWER AMPLIFIER OUTPUT, VOLTAGE STANDING WAVE RATIO (VSWR)
- A CHECK BANDWITH OF LOW POWER AMPLIFIER FOR PROPER AMPLITUDE AND RESPONSE
- A CHECK HEAT EXCHANGER SUPPLY PRESSURE, INLET AND OUTLET PURITY, SUPPLY TEMPERATURE, AND NITROGEN PRESSURE, STRAINER CLEANLINESS PRESSURE, STRAINER CLEANLINESS
- A CHECK AIR DRYER VOLTAGE, TANK PRESSURE, AND HUMIDITY ALARM INDICATION
- A CHECK LOW PRESSURE CONTROL PANEL WAVEGUIDE PRESSURE AND NITROGEN PRESSURE

OSR JOB INVENTORY TASK STATEMENTS:

- 6 K0278 A ALIGN DOWN CONVERTER COMPONENTS FOR REQUIRED OUTPUT LEVELS
- 6 K0297 A PERFORM PHIS ON DOWN CONVERTERS
- 6 L0403 A PERFORM PHIS ON UP CONVERTERS

TASK #: 04420  
 PERFORM OPERATIONAL CHECKS ON AN/GSC-39 (V) UPLINK FUNCTION  
 DUTY CODE: X6  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 3

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: SEVERAL TIMES A DAY  
 OJT TRAINABLE: YES, NO, SYSTEM KNOWLEDGE, SAFETY, TEST EQUIPMENT  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): T.O. 31R5-2G-356WC-1 AND T.O. 31R5-2GSC39-6WC-1  
 TTT: 5  
 SME OPINION: 5

EQUIPMENT:

SIGNAL GENERATOR, SWEEP GENERATOR, FREQUENCY METERS, FREQUENCY COUNTERS, ANALOG MULTIMETER, OSCILLOSCOPES, POWER METERS, SPECTRUM ANALYZER, BIT ERROR RATE TEST SET, NOISE TEST SET, HIGH VOLTAGE PROBE, X-Y RECORDER, POWER SUPPLIES, DIGITAL MULTIMETER

REFERENCES:

T.O. 31R5-2G-356WC-1  
 T.O. 31R5-2GSC39-6WC-1

CONDITIONS CUES:

COND: MAINTENANCE HAZARDOUS CONDITION FOR CRITICAL FUNCTIONS  
 HIGH VOLTAGE HAZARD  
 CUE: PMI, AFTER EQUIPMENT REPLACEMENT,

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE  | IJOB | LENL | SSKL | 7SKL | TD   | ATI |
|-----------|------|-----|------|------|------|------|------|-----|
| 304X6 G   | 0166 | .00 | 48.0 | 56.0 | 56.0 | 33.0 | 4.73 |     |
| 304X6 G   | 0169 | .00 | 25.0 | 37.0 | 40.0 | 22.0 | 4.32 |     |
| 304X6 O   | 0541 | .00 | 13.0 | 24.0 | 25.0 | 12.0 | 6.37 |     |

ACTIVITIES SKILL KNOWLEDGE:

- A PERFORM UPCONVERTER GAIN AND COMPRESSION TEST
- A INJECT IF SIGNAL TO UPCONVERTER
- A ADJUST UPCONVERTER GAIN PER T.O. SPECIFICATIONS
- A INJECT IF SIGNAL TO UPCONVERTER
- A MEASURE RF OUTPUT FROM UPCONVERTER FOR PROPER BANDWIDTH AND AMPLITUDE RESPONSE
- A CHECK VOLTAGE OF INTERCONNECT ASSEMBLY FAULT LOGIC CIRCUIT CARD
- A INSERT SIGNAL TO UPCONVERTER INTERCONNECT ASSEMBLY
- A ALIGN INTERCONNECT ASSEMBLY PIN DIODE MOTORIZED ATTENUATOR
- A ADJUST INTERCONNECT ASSEMBLY PIN DIODE ATTENUATION LEVEL
- A ADJUST RF DETECTOR LOCAL OSCILLATOR LEVEL AND FREQUENCY
- A INJECT RF SIGNAL TO UPCONVERTER ASSEMBLY CARRIER LEVEL CONTROL MODULE
- A CHECK CARRIER LEVEL CONTROL
- A ADJUSTS UPCONVERTER OUTPUT POWER
- A CHECK OPERATION OF WAVEGUIDE SWITCHES, MAINTENANCE LIGHTS, ON/OFF INDICATORS
- A INJECT RF SIGNAL TO IFLA CONTROL PANEL
- A CHECK AMPLITUDE RESPONSE AND GAIN OF IFLA CONTROL PANEL
- A CHECK POWER CONTROL FUNCTIONAL GROUP METER INDICATIONS, CIRCUIT BREAKERS, LINE VOLTAGE REGULATORS, FAULT LAMPS, SHUTDOWN SWITCH AND EMERGENCY OFF SWITCH OPERATION
- A CHECK OPERATION OF FAULT CIRCUITRY OF LOW POWER AMPLIFIER
- A CHECK AC LINE VOLTAGE REGULATION AND OVERRIDE SWITCHES AND MAGNET OVERRIDE SWITCH
- A CHECK LOW POWER AMPLIFIER OPERATING TEMPERATURES AND COOLANT FLOW RATES
- A CHECK VOLTAGE OF BEAM VOLTAGE REGULATOR AND FAULT CIRCUITRY
- A INJECT SINGLE CARRIER SIGNAL TO LOW-POWER AMPLIFIER
- A CHECK PROPER GAIN, OUTPUT POWER, REFLECTIVE POWER, INPUT POWER, INTERMEDIATE POWER AMPLIFIER OUTPUT, VOLTAGE STANDING WAVE RATIO (VSWR)
- A CHECK BANDWIDTH OF LOW POWER AMPLIFIER FOR PROPER AMPLITUDE AND RESPONSE
- A CHECK HEAT EXCHANGER SUPPLY PRESSURE, INLET AND OUTLET PURITY, SUPPLY TEMPERATURE, AND NITROGEN PRESSURE, STRAINER CLEANLINESS
- A CHECK AIR DRYER VOLTAGE, TANK PRESSURE, AND HUMIDITY ALARM INDICATION
- A CHECK LOW PRESSURE CONTROL PANEL WAVEGUIDE PRESSURE AND NITROGEN PRESSURE

OSR JOB INVENTORY TASK STATEMENTS:

- 6 G0169 A RUN DIAGNOSTIC TESTS
- 6 G0166 A PERFORM UPLINK RF FREQUENCY AND LEVEL CHECKS
- 6 O0541 A PERFORM LINK CHARACTERIZATION TESTS ON MODEMS
- 6 G0166 A PERFORM UPLINK RF FREQUENCY AND LEVEL CHECKS



TASK #: 04430  
 INSPECT AN/GSC-42 AIR FORCE SATELLITE COMMUNICATIONS (AFSATCOM) TERMINAL  
 DUTY CODE: X6  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 3

NOTES:

CONSEQUENCES: MINOR, DAMAGE, INJURY  
 HOW OFTEN: 7, 28, 84, 168  
 OJT TRAINABLE: YES  
 QTP ADEQUATE: NO, ONLY COVERS BASIC OPERATION, NOT INSPECTION TASKS

TNG REFERENCE(S): QTP 304X6-30W

TTT: 3

SME OPINION: 3

7 DAY INSPECTION IS MAINLY VISUAL/CLEANING; 28 DAY IS MORE CLEANING AND OPS CHECK; 84 DAY IS ACTUALLY INSPECTING ELECTRICAL COMPONENTS FOR CONDITION; 168 DAY IS BASICALLY CLEANING THE WHOLE SYSTEM

EQUIPMENT:

CLEANING SUPPLIES (RAGS, Q-TIPS, BRUSHES, ALCOHOL, GENERAL PURPOSE CLEANER), VACUUM, ASPIRATOR, TOOL BOX

REFERENCES:

T.O. 31R5-2GSC42-6WC-1

T.O. 31R5-2GSC42-1

CONDITIONS CUES:

COND: COMMAND POST, DAY, POWER OFF/ON, SYSTEM RELEASED FROM STRATEGIC COMMUNICATION DIVISION (SCD)

CUE: SCHEDULED PMI, QUALITY CONTROL EVALUATION

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|-----|------|------|------|------|------|-----|
| 304X6 G   | 0162 | .00 | 73.0 | 76.0 | 72.0 | 33.0 | 5.06 |     |
| 304X6 X   | 0295 | .00 | 7.0  | 13.0 | 15.0 | 5.0  | 4.58 |     |
| 304X6 L   | 0390 | .00 | 12.0 | 15.0 | 18.0 | 9.0  | 4.17 |     |

ACTIVITIES SKILL KNOWLEDGE:

- A CHECK LAMP
- A CHECK PRINTER HEADS
- A CHECK BELTS
- A CHECK FOR CLEANLINESS
- A CHECK BLOWERS
- A CHECK CIRCUIT BREAKERS
- A CHECK ELECTRICAL COMPONENTS (CABLES, WIRING, TERMINAL BOARDS)
- A CHECK EQUIPMENT CASES
- A INSPECT FOR HARDWARE
- A INSPECT CONNECTORS
- A CHECK CAPACITORS
- A INSPECT RELAYS
- A INSPECT SEMI-CONDUCTORS
- A INSPECT JACKS
- A INSPECT SWITCHES
- A INSPECT INDICATOR LAMPS
- A INSPECT PANEL CONTROLS
- A INSPECT PANEL COVERS/CHASSIS
- A INSPECT PRINTED CIRCUIT BOARDS
- A INSPECT TRANSFORMER
- A INSPECT SOLDERED TERMINALS
- A INSPECT OPEN/LACED WIRING
- A INSPECT WIRES
- A INSPECT RESISTORS FOR CRACKED/DAMAGED CASES OR BAD CONNECTIONS
- A INSPECT RF COILS
- A INSPECT GROUNDING RODS FOR PROPER CONNECTIONS AND INSTALLATION
- A INSPECT ANTENNA ASSEMBLIES
- A INSPECT RF AMPLIFIER
- A INSPECT TRANSFER/BY-PASS RELAYS
- A INSPECT RF LOAD
- A INSPECT VOLTAGE POWER SUPPLIES
- A INSPECT BANDPASS FILTER
- A INSPECT CIRCUIT BREAKER PANELS
- A INSPECT CONTROL POWER SUPPLY
- A INSPECT EMERGENCY MESSAGE AUDIBLE ALARM
- A INSPECT CONTROL-INDICATOR
- A INSPECT KEY BOARD CONTROL INDICATOR
- A INSPECT TELEPRINTER
- A INSPECT TELEGRAPH MODEM
- A INSPECT MEMORY UNIT
- A INSPECT RADIO RECEIVER TRANSMITTER

OSR JOB INVENTORY TASK STATEMENTS:

- 6 L0390 A PERFORM OPERATIONAL TESTS ON RECEIVER TRANSMITTER CONTROLS
- 6 K0295 A PERFORM OPERATIONAL TESTS ON EAM EQUIPMENT
- 6 G0162 A PERFORM PREOPERATIONAL OR OPERATIONAL CHECKS OF EQUIPMENT

TASK #: 04440  
TROUBLESHOOT AN/GSC-42 AIR FORCE SATELLITE COMMUNICATION(AFSATCOM) TERMINAL  
DUTY CODE: X6  
TASK STATUS: 3-KP  
TIMES ANALYZED: 4

TNOTES:

CONSEQUENCES: MAJOR, DAMAGE, NONE  
HOW OFTEN: WEEKLY  
OJT TRAINABLE: YES  
QTP ADEQUATE: NO, ONLY COVERS BASIC OPERATION, NOT TROUBLESHOOT  
OR FAULT ISOLATIONS

TNG REFERENCE(S): QTP 304X6-30W

TTT: 3

SME OPINION: 3

BITE ONLY ISOLATES ELECTRICAL MALFUNCTIONS, TECHNICIANS  
ISOLATES MECHANICAL MALFUNCTIONS

EQUIPMENT:

BUILT-IN TEST EQUIPMENT (BITE), TOOL BOX, WRIST STRAP

REFERENCES:

T.O. 31R5-2GSC42-1

CONDITIONS CUES:

COND: COMMAND POST, DAY/NIGHT, POWER ON/OFF, SYSTEM RELEASED  
FROM STRATEGIC COMMUNICATION DIVISION (SCD)

CUE: PMI FINDINGS, AUDIO/VISUAL ALARMS, QUALITY CONTROL  
EVALUATIONS, BITE INDICATIONS RECEIVER-TRANSMITTER  
MALFUNCTIONS

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE  | IJOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|-----|------|------|------|------|------|-----|
| 304X6 I   | 0218 | .00 | 27.0 | 39.0 | 43.0 | 25.0 | 3.31 |     |
| 304X6 L   | 0404 | .00 | 12.0 | 12.0 | 15.0 | 10.0 | 3.44 |     |

ACTIVITIES SKILL KNOWLEDGE:

K ISOLATE FAULTY RF AMPLIFIER  
K ISOLATE FAULTY VOLTAGE POWER SUPPLIES  
K ISOLATE FAULTY BANDPASS FILTER  
K ISOLATE FAULTY CIRCUIT BREAKER PANELS  
K ISOLATE FAULTY CONTROL POWER SUPPLY  
K ISOLATE FAULTY EMERGENCY MESSAGE AUDIBLE ALARM  
K ISOLATE FAULTY CONTROL-INDICATOR  
K ISOLATE FAULTY KEY BOARD CONTROL INDICATOR  
K ISOLATE FAULTY TELEPRINTER  
K ISOLATE FAULTY TELEGRAPH MODEM  
K ISOLATE FAULTY MEMORY UNIT  
K ISOLATE FAULTY RADIO RECEIVER TRANSMITTER  
K ISOLATE FAULTY TRANSFER/BY-PASS RELAYS  
K ISOLATE FAULTY RF LOAD

OSR JOB INVENTORY TASK STATEMENTS:

6 L0404 A REMOVE OR REPLACE ASR UNITS  
6 I0218 A REMOVE OR REPLACE LINE REPLACEABLE UNITS (LRU)

TASK #: 04450

TROUBLESHOOT AN/GSC-42 RF AMPLIFIER

DUTY CODE: X6

TASK STATUS: 3-OJT

TIMES ANALYZED: 3

TNOTES:

CONSEQUENCES: MINOR, DAMAGE, NONE  
HOW OFTEN: QUARTERLY, SEMI-ANNUAL (OPS CHECK FOR SUPPLY ASSETS)  
OJT TRAINABLE: YES  
QTP ADEQUATE: NO, ONLY COVERS BASIC OPERATION, NOT TROUBLESHOOT  
OR FAULT ISOLATIONS

TNG REFERENCE(S): QTP 304X6-30W

TTT: 3

SME OPINION: 3

EQUIPMENT:

TOOL BOX, SIGNAL GENERATOR, SPECTRUM ANALYZER, POWER METER,  
ATTENUATOR, RADIO BENCH MAINTENANCE TEST SET (AN-URN-205V4)

REFERENCES:

T.O. 12R2-4-201-8-1

T.O. 12R2-2U-262

T.O. 12R2-2U-322

CONDITIONS CUES:

COND: AFSAT SHOP, DAY/NIGHT, EQUIPMENT NOT RELEASED (R/R PART  
ON SYSTEM IN FIELD), POWER ON

CUE: PMI FINDINGS, BIT INDICATION, NONE/DISTORTED RECEPTION

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X6 Q 0643 .00 5.0 8.0 10.0 5.0 5.61

ACTIVITIES SKILL KNOWLEDGE:

K ISOLATE FAULTY GAIN  
K ISOLATE FAULTY DISTORTION  
K ISOLATE BAND WIDTH  
K ISOLATE VOLTAGE STANDING WAVE RATIO  
K PERFORM ALGEBRAIC MATH

OSR JOB INVENTORY TASK STATEMENTS:

6 Q0643 K ISOLATE MALFUNCTIONS IN RF DISTRIBUTION AMPLIFIERS

TASK #: 04460

TROUBLESHOOT AN/GSC-42 CONTROL POWER SUPPLY

DUTY CODE: X6

TASK STATUS: 3-K

TIMES ANALYZED: 3

TNOTES:

CONSEQUENCES: MINOR OR MAJOR, DAMAGE, INJURY  
HOW OFTEN: ANUALLY OR EVERY OTHER YEAR  
OJT TRAINABLE: YES  
QTP ADEQUATE: NO, ONLY COVERS BASIC OPERATION, NOT TROUBLESHOOT  
OR FAULT ISOLATIONS

TNG REFERENCE(S): QTP 304X6-30W

TNG: 3

SME OPINION: 5

EQUIPMENT:

OSCILLOSCOPE, DIGITAL MULTIMETER, LOGIC STATE ANALYZER,  
TOOL BOX, ESD WRIST STRAP

REFERENCES:

T.O. 12R2-2A-422

T.O. 12R2-4-201-8-1

CONDITIONS CUES:

COND: AFSAT SHOP, DAY/NIGHT, POWER ON

CUE: PHI FINDINGS, QUALITY CONTROL EVALUATION, TELEPRINTER  
MALFUNCTIONS

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X6 Q 0634 .00 15.0 16.0 19.0 11.0 5.54

ACTIVITIES SKILL KNOWLEDGE:

K ISOLATE FAULTY CIRCUIT CARDS  
K ISOLATE FAULTY AC/DC CIRCUITS  
A REMOVE/REPLACE CIRCUIT CARDS

OSR JOB INVENTORY TASK STATEMENTS:

6 Q0634 K ISOLATE MALFUNCTIONS IN GENERAL PURPOSE POWER SUPPLIES

TASK #: 04470  
TROUBLESHOOT AN/GSC-42 EMERGENCY ACTION MESSAGE ALARM  
DUTY CODE: X6  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: MINOR, DAMAGE, NONE  
HOW OFTEN: QUARTERLY  
OJT TRAINABLE: YES  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X6-30W  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
RADIO MAINTENANCE TEST BENCH SET (URM-205(V) 3), TOOL BOX,  
SOLDERING KIT  
REFERENCES:  
T.O. 12R2-4-201-8-1  
T.O. 12R2-2U-252  
CONDITIONS CUES:  
COND: AFSAT SHOP, DAY/NIGHT, POWER ON/OFF  
CUE: PMI FINDINGS, QUALITY CONTROL EVALUATION, NO AUDIO TONE,  
CANNOT TURN EMERGENCY ACTION MESSAGE ALARM OFF  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
          304X6 K 0292 .00  6.0  8.0  9.0  3.0 5.12  
          304X6 K 0294 .00  4.0  9.0 10.0  4.0 5.13  
ACTIVITIES SKILL KNOWLEDGE:  
          K ISOLATE FAULTY CIRCUIT CARD  
          A REMOVE/REPLACE CIRCUIT CARD.  
OSR JOB INVENTORY TASK STATEMENTS:  
          6 K0292 K ISOLATE MALFUNCTIONS TO EMERGENCY ACTION MESSAGE  
                  (EAM) ALARMS  
          6 K0294 K ISOLATE MALFUNCTIONS WITHIN EAM EQUIPMENT

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TASK #: 04480  
TROUBLESHOOT AN/GSC-42 CONTROL-INDICATOR  
DUTY CODE: X6  
TASK STATUS: 3-K  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: MINOR, DAMAGE, INJURY  
HOW OFTEN: MONTHLY OR QUARTERLY  
OJT TRAINABLE: YES  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X6-30W  
TTT: 3  
SME OPINION: 3  
THIS CONTROL-INDICATOR IS THE DIAGNOSTICS OR BITE FOR THE  
WHOLE AN/GSC-42 SYSTEM  
EQUIPMENT:  
TEST BENCH, OSCILLOSCOPE, DUAL MODEM TEST SET, DIGITAL  
MULTIMETER, TOOL BOX, ESD WRIST STRAPS  
REFERENCES:  
T.O. 12R2-2A-492  
CONDITIONS CUES:  
COND: AFSAT SHOP, DAY/NIGHT, POWER ON/OFF  
CUE: PMI FINDINGS, QUALITY CONTROL EVALUATION, BITE WON'T  
FUNCTION PROPERLY  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
          304X6 O 0527 .00 12.0 16.0 18.0  5.0 6.09  
ACTIVITIES SKILL KNOWLEDGE:  
          K ISOLATE FAULTY CIRCUIT CARDS  
          A REMOVE OR REPLACE CIRCUIT CARDS OR PARTS  
OSR JOB INVENTORY TASK STATEMENTS:  
          6 O0527 K ISOLATE MALFUNCTIONS TO DUAL MODEM CONTROLS

TASK #: 04490  
TROUBLESHOOT AN/GSC-42 TELEPRINTER  
DUTY CODE: X6  
TASK STATUS: 3-K  
TIMES ANALYZED: 3

TNOTES:  
CONSEQUENCES: MAJOR OR MINOR, DAMAGE, INJURY  
HOW OFTEN: MONTHLY  
OJT TRAINABLE: YES, R/R IS TO TECHNICAL  
QTP ADEQUATE: NO, ONLY COVERS BASIC OPERATION AND NOT  
REMOVE/REPLACE TASKS  
TNG REFERENCE(S): QTP 304X6-30W  
TTT: 3  
SME OPINION: 5

EQUIPMENT:  
TELEPRINTER TEST SET, BENCH TEST SET (URN-205), DIGITAL  
MULTIMETER, PRINT HEAD ALIGNMENT SET, TOOL BOX, SOLDER KIT,  
ESD WRIST STRAP

REFERENCES:  
T.O. 12R2-4-201-8-1  
T.O. 12R2-2A-422

CONDITIONS CUES:  
COND: AFSAT SHOP, DAY/NIGHT, POWER ON/OFF  
CUE: PMI FINDINGS, QUALITY CONTROL EVALUATIONS, TELEPRINTER NOT  
PRINTING CORRECTLY

JOB STANDARDS:  
IAW REFERENCES

| OSR DATA:    | TASK | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|--------------|------|-----|------|------|------|------|------|-----|
| 304X6 L 0337 |      | .00 | 7.0  | 12.0 | 14.0 | 8.0  | 5.48 |     |

ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY PRINTER  
K ISOLATE FAULTY CIRCUIT CARD  
K ISOLATE FAULTY MODULES  
K ISOLATE FAULTY SYNCHRO-SERVO  
K ISOLATE FAULTY PRINT HEAD  
K ISOLATE FAULTY HAMMER ASSEMBLY  
K ISOLATE FAULTY BELTS  
K ISOLATE FAULTY SWITCHES  
K ISOLATE FAULTY FAN  
A REMOVE/REPLACE MODULES, CIRCUIT CARDS, AND PARTS

OSR JOB INVENTORY TASK STATEMENTS:  
6 L0337 K ISOLATE MALFUNCTIONS TO AUTOMATIC SEND/RECEIVE (ASR)  
UNITS

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TASK #: 04500  
ALIGN/ADJUST AN/GSC-42 TELEPRINTER  
DUTY CODE: X6  
TASK STATUS: 3-K  
TIMES ANALYZED: 3

TNOTES:  
CONSEQUENCES: MAJOR OR MINOR, DAMAGE, INJURY  
HOW OFTEN: MONTHLY  
OJT TRAINABLE: YES  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X6-30W  
TTT: 3  
SME OPINION: 5

EQUIPMENT:  
TOOL BOX, PRINT HEAD ALIGNMENT SET, TEST BENCH, DIGITAL  
MULTIMETER

REFERENCES:  
T.O. 12R2-2A-422

CONDITIONS CUES:  
COND: AFSAT SHOP, DAY/NIGHT, POWER ON  
CUE: PMI FINDINGS, QUALITY CONTROL EVALUATION, RATCHETING,  
PCOR PRINTING QUALITY

JOB STANDARDS:  
IAW REFERENCES

| OSR DATA:    | TASK | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|--------------|------|-----|------|------|------|------|------|-----|
| 304X6 Q 0618 |      | .00 | 1.0  | 3.0  | 3.0  | 1.0  | 5.57 |     |

ACTIVITIES SKILL KNOWLEDGE:  
A ADJUST SYNCHRO-SERVO

OSR JOB INVENTORY TASK STATEMENTS:  
6 Q0618 A ALIGN HIGH SPEED PRINTERS

TASK #: 04510  
TROUBLESHOOT AN/GSC-42 TELEGRAPH MODEM  
DUTY CODE: X6  
TASK STATUS: 3-KP  
TIMES ANALYZED: 3  
NOTES:  
CONSEQUENCES: MAJOR OR MINOR, DAMAGE, INJURY  
HOW OFTEN: MONTHLY  
OJT TRAINABLE: YES  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X6-30W  
TTT: 3  
SME OPINION: 5  
EQUIPMENT:  
DUAL MODEM TEST SET, OSCILLOSCOPE, FREQUENCY COUNTER, SIGNAL  
GENERATOR, POWER METER, DIGITAL MULTIMETER, TOOL CHEST  
REFERENCES:  
T.O. 12R2-2A-492  
CONDITIONS CUES:  
COND: AFSAT SHOP, DAY/NIGHT, POWER ON/OFF  
CUE: PHI FINDINGS, QUALITY CONTROL EVALUATION, BIT INDICATION,  
TRANSMITTER-RECEIVER FAULTS  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
304X6 0 0539 .00 43.0 47.0 47.0 20.0 5.46  
304X6 0 0541 .00 13.0 24.0 25.0 12.0 6.37  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY CIRCUIT CARDS  
K ISOLATE FAULTY LOGIC CIRCUITS  
A REMOVE/REPLACE CIRCUIT CARDS  
OSR JOB INVENTORY TASK STATEMENTS:  
6 00539 A PERFORM BIT ERROR RATE TESTS ON MODEMS  
6 00541 A PERFORM LINK CHARACTERIZATION TESTS ON MODEMS

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TASK #: 04520  
TROUBLESHOOT AN/GSC-42 MEMORY UNIT  
DUTY CODE: X6  
TASK STATUS: 3-K  
TIMES ANALYZED: 3  
NOTES:  
CONSEQUENCES: MAJOR, DAMAGE, NONE  
HOW OFTEN: MONTHLY  
OJT TRAINABLE: YES  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X6-30W  
TTT: 3  
SME OPINION: 5  
EQUIPMENT:  
DUAL MODEM TEST SET, OSCILLOSCOPE, FREQUENCY COUNTER, SIGNAL  
GENERATOR, POWER METER, DIGITAL MULTIMETER, TOOL CHEST,  
ESD WRIST STRAP  
REFERENCES:  
T.O. 12R2-2A-492  
CONDITIONS CUES:  
COND: AFSAT SHOP, DAY/NIGHT, POWER ON, EQUIPMENT NOT RELEASED  
CUE: PHI FINDINGS, QUALITY CONTROL EVALUATION, BITE INDICATIONS  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL  TD   ATI  
304X6 0 0527 .00 12.0 16.0 18.0  5.0  6.09  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY INTEGRATED CIRCUITS  
A REMOVE/REPLACE INTEGRATED CIRCUITS  
OSR JOB INVENTORY TASK STATEMENTS:  
6 00527 K ISOLATE MALFUNCTIONS TO DUAL MODEM CONTROLS

TASK #: 04530  
TROUBLESHOOT AN/GSC-42 RADIO RECEIVER-TRANSMITTER  
DUTY CODE: X6  
TASK STATUS: 3-K  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: MAJOR OR MINOR, DAMAGE, NONE  
HOW OFTEN: QUARTERLY  
OJT TRAINABLE: YES  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X6-30W  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
DUAL MODEM TEST SET, TEST BENCH, OSCILLOSCOPE, TOOL BOX,  
ESD WRIST STRAP  
REFERENCES:  
T.O. 12R2-4-201-8-1  
T.O. 12R2-2A-412  
CONDITIONS CUES:  
COND: AFSAT SHOP, DAY/NIGHT, POWER ON/OFF  
CUE: PMI FINDINGS, QUALITY CONTROL EVALUATION, PROBLEMS  
TRANSMITTING/RECEIVING  
JOB STANDARDS:  
JAW REFERENCES  
OSR DATA:    TASK    TE    1JOB   1ENL   5SKL   7SKL   TD    ATI  
304X6 N 0508   .00 18.0 27.0 28.0 16.0 5.28  
304X6 N 0512   .00 11.0 21.0 23.0 15.0 6.14  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY CIRCUIT CARDS  
K ISOLATE FAULTY MODULES  
K ISOLATE FAULTY POWER SUPPLIES  
A REMOVE/REPLACE MODULES, CIRCUIT CARDS, AND PARTS  
OSR JOB INVENTORY TASK STATEMENTS:  
6 N0508 K ISOLATE MALFUNCTIONS TO RECEIVER-TRANSMITTER (RT)  
SUBSYSTEMS  
6 N0512 K ISOLATE MALFUNCTIONS WITHIN RT SUBSYSTEMS

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TASK #: 04540  
ALIGN/ADJUST AN/GSC-42 RADIO RECEIVER/TRANSMITTER  
DUTY CODE: X6  
TASK STATUS: 3-K  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: MAJOR OR MINOR/DAMAGE/INJURY  
HOW OFTEN: QUARTERLY  
OJT TRAINABLE: YES  
QTP ADEQUATE: NO, JUST GENERAL SYSTEM TAUGHT IN QTP  
TNG REFERENCE(S): QTP 304X6-30I  
TTT: 3  
SME OPINION: 5  
EQUIPMENT:  
TEST BENCH, DIGITAL MULTIMETER, TOOL BOX, SIGNAL GENERATOR,  
FREQUENCY COUNTER, POWER METER, DISTORTION ANALYZER, AUDIO  
OSCILLATOR  
REFERENCES:  
T.O. 12R2-4-201-8-1  
T.O. 12R2-2A-412  
CONDITTONS CUES:  
COND: AFSAT SHOP, DAY/NIGHT, POWER ON  
CUE: PMI FINDINGS, QUALITY CONTROL EVALUATION, DEGRADED  
RECEIVER-TRANSMITTER SIGNAL, INCORRECT WAVEFORMS  
OSR DATA:    TASK    TE    1JOB   1ENL   5SKL   7SKL   TD    ATI  
304X6 K 0277   .00 13.0 18.0 18.0 5.0 4.35  
ACTIVITIES SKILL KNOWLEDGE:  
A ADJUST RESISTORS  
A ADJUST CAPACITOR  
A ADJUST OSCILLATORS  
S USE TEST BENCH  
S USE POWER METER  
S USE DISTORTION ANALYZER  
S USE AUDIO OSCILLATOR  
OSR JOB INVENTORY TASK STATEMENTS:  
6 K0277 A ADJUST ULTRA HIGH FREQUENCY (UHF) RECEIVE RADIO  
FREQUENCY (RF) AMPLIFIER COMPONENTS

TASK #: 04550  
TROUBLESHOOT AN/GSC-42 VOLTAGE POWER SUPPLY  
DUTY CODE: X6  
TASK STATUS: 3-K  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: MAJOR OR MINOR, DAMAGE, INJURY  
HOW OFTEN: ANNUALLY  
OJT TRAINABLE: YES  
QTP ADEQUATE: NO  
TNG REFERENCE(S): QTP 304X6-30W  
TTT: 3  
SME OPINION: 5  
EQUIPMENT:  
TEST BENCH, DIGITAL MULTIMETER, TOOL BOX, ESD WRIST STRAP  
REFERENCES:  
T.O. 12R2-4-201-8-1  
T.O. 31R2-2G-211  
CONDITIONS CUES:  
COND: AFSAT SHOP, DAY/NIGHT, POWER ON  
CUE: PMI FINDINGS, QUALITY CONTROL EVALUATION, GSC-42 SYSTEM  
MALFUNCTION  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X6 Q 0634 .00 15.0 16.0 19.0 11.0 5.54 1.0  
ACTIVITIES SKILL KNOWLEDGE:  
K ISOLATE FAULTY CIRCUIT CARDS  
A REMOVE/REPLACE CIRCUIT CARDS  
OSR JOB INVENTORY TASK STATEMENTS:  
6 Q0634 K ISOLATE MALFUNCTIONS IN GENERAL PURPOSE POWER SUP-  
PLIES

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TASK #: 04560  
ALIGN/ADJUST AN/GSC-42 VOLTAGE POWER SUPPLY  
DUTY CODE: X6  
TASK STATUS: 3-K  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: MAJOR, DAMAGE, INJURY  
HOW OFTEN: ANNUALLY  
OJT TRAINABLE: YES  
QTP ADEQUATE: YES  
TNG REFERENCE(S): QTP 304X6-30W  
TTT: 3  
SME OPINION: 5  
EQUIPMENT:  
DIGITAL MULTIMETER, TOOL BOX, TEST BENCH  
REFERENCES:  
T.O. 31R2-2G-211  
T.O. 31R2-4-477-1  
CONDITIONS CUES:  
COND: AFSAT SHOP, DAY/NIGHT, POWER ON  
CUE: PMI FINDINGS, QUALITY CONTROL EVALUATION, VOLTAGE LEVELS  
OUT OF TOLERANCE  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X6 L 0317 .00 20.0 28.0 28.0 15.1 5.84  
ACTIVITIES SKILL KNOWLEDGE:  
A ALIGN/ADJUST RESISTORS POTS  
OSR JOB INVENTORY TASK STATEMENTS:  
6 L0317 A ALIGN HIGH VOLTAGE POWER SUPPLY COMPONENTS



TASK #: 04570  
 INSPECT THE AN/GSC-44 CONSOLIDATED GROUND TERMINAL  
 DUTY CODE: X6  
 TASK STATUS: 3-K  
 TIMES ANALYZED: 2

TNOTES:  
 CONSEQUENCES: MINOR, DAMAGE, INJURY  
 HOW OFTEN: 7, 14, 28, 84, 168  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R5-2GSC-116WC-1  
 TTT: 5  
 SME OPINION: 3  
 FOUR PMI'S ARE COVERED IN THIS TASK:  
 WEEKLY - BRIEF CHECK OF SYSTEM INTEGRITY (30 MIN; SYSTEM  
 REMAINS ONLINE)  
 MONTHLY - LIGHT CLEANING PLUS SYSTEM INTEGRITY (30 MIN; SYSTEM  
 REMAINS ONLINE)  
 QUARTERLY - MORE THOROUGH (4 HOURS; SYSTEM RENDERED INOPERATIVE)  
 SEMIANNUAL - THE MOST THOROUGH (4 HOURS; SYSTEM RENDERED INOPERA-  
 TIVE)  
 DATA SHOWN ARE FOR THE SEMIANNUAL INSPECTION.  
 NO TESTS ARE PERFORMED DURING THE INSPECTIONS. THE SELF-CHECKS A  
 LRU LEVEL ARE OBSERVED.

EQUIPMENT:  
 VACUUM CLEANER, ALCOHOL, ACID BRUSHES, SOAP AND WATER,  
 LINT-FREE CLOTHS, COMMON HANDTOOLS, LOG

REFERENCES:  
 T.O. 31R5-2GSC-116WC-1

CONDITIONS CUES:  
 COND: IN SHOP, EQUIPMENT MAY HAVE TO BE OUT OF SERVICE  
 CUE: PMI

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|-----|------|------|------|------|------|-----|
| 304X6 K   | 0295 | .00 | 7.0  | 13.0 | 15.0 | 5.0  | 4.58 |     |
| 304X6 L   | 0383 | .00 | 7.0  | 11.0 | 13.0 | 6.0  | 4.75 |     |
| 304X6 L   | 0399 | .00 | 12.0 | 15.0 | 18.0 | 9.0  | 4.17 |     |

ACTIVITIES SKILL KNOWLEDGE:  
 A CLEAN INTERIOR/EXTERIOR OF EQUIPMENT  
 A LUBRICATE EQUIPMENT  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 A CLEAN FILTERS  
 A CHECK SYSTEM OPERATION

OSR JOB INVENTORY TASK STATEMENTS:  
 6 L0383 A PERFORM OPERATIONAL TESTS ON DCSUS  
 6 K0295 A PERFORM OPERATIONAL TESTS ON EAM EQUIPMENT  
 6 L0390 A PERFORM OPERATIONAL TESTS ON RECEIVER TRANSMITTER  
 CONTROLS

TASK #: 04580  
 ALIGN AND ADJUST AN/GSC-44 CONSOLIDATED GROUND TERMINAL TEST TRANSLATOR  
 DUTY CODE: X6  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 1

TNOTES:  
 CONSEQUENCES: NONE, NONE, INJURY  
 HOW OFTEN: TWO YEARS  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE:  
 TNG REFERENCE(S): T.O. 31R5-2GSC-111-2  
 TTT: 5  
 SME OPINION: 5

EQUIPMENT:  
 POWER METER, SPECTRUM ANALYZER, SIGNAL GENERATOR, STEP ATTENUATOR

REFERENCES:  
 T.O. 31R5-2GSC-111-2

CONDITIONS CUES:  
 COND: IN SHOP, TEST TRANSLATOR OUT OF SERVICE  
 CUE: RESULTS OF FAULTY ISOLATE USING THE TEST TRANSLATOR

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|-----|------|------|------|------|------|-----|
| 304X6 Q   | 0612 | .00 | 24.0 | 25.0 | 24.0 | 8.0  | 4.98 |     |

ACTIVITIES SKILL KNOWLEDGE:  
 A CHECK OUTPUT OF TEST TRANSLATOR COUPLER  
 A ADJUST COUPLER OUTPUT

OSR JOB INVENTORY TASK STATEMENTS:  
 6 Q0612 A ALIGN BUILT-IN TEST EQUIPMENT (BITE) COMPONENTS

TASK #: 04590

TROUBLESHOOT AN/GSC-44 CONSOLIDATED GROUND TERMINAL

DUTY CODE: X6

TASK STATUS: 3-K

TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: MINOR, DAMAGE, INJURY

HOW OFTEN: WEEKLY

OJT TRAINABLE: YES, YES

QTP ADEQUATE: N/A

TNG REFERENCE(S): SEE REFERENCES

TTT: 5

SME OPINION: 5

BUILT-IN FAULT INDICATORS DO NOT ALWAYS IDENTIFY FAULT CORRECTLY. A SUPPLY POINT WITH REPLACEMENT LRU'S IS LOCATED IN THE TERMINAL ENCLOSURE.

EQUIPMENT:

DIGITAL MULTIMETER, OSCILLOSCOPE, SIGNAL GENERATOR, POWER METER, ATTENUATOR, FREQUENCY COUNTER, SPECTRUM ANALYZER, HANDTOOLS

REFERENCES:

T.O. 31R5-2GRC-111-1

T.O. 31R5-2GSC-111-2

T.O. 31R2-2G-211

T.O. 31R2-2G-281

T.O. 31R2-4-476-1

T.O. 31R2-4-477-1

T.O. 31R2-4-478-1

T.O. 31R2-4-479-1

T.O. 31R2-4-480-1

T.O. 31R2-4-481-1-1

T.O. 31R2-4-481-1-2

T.O. 31R2-4-483-1

T.O. 31R5-2G-301

T.O. 31R5-2G-311

T.O. 31R5-2G-321

T.O. 31R5-4-193-1

T.O. 31S5-2UYQ23-1

T.O. 31S5-2UYQ23-1-1

CONDITIONS CUES:

COND: IN SHOP OR IN TERMINAL ENCLOSURE, USUALLY IN SERVICE

CUE: USER COMPLAINT

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|-----|------|------|------|------|------|-----|
| 304X6 K   | 0290 | .00 | 7.0  | 13.0 | 14.0 | 6.0  | 5.70 |     |
| 304X6 Q   | 0645 | .00 | 8.0  | 16.0 | 19.0 | 11.0 | 5.44 |     |

ACTIVITIES SKILL KNOWLEDGE:

A CHECK FAULT INDICATION PANELS

A PERFORM BITE TESTS

A PERFORM OPERATIONAL TESTS

K ISOLATE FAULTY LINE REPLACEABLE UNITS

A REMOVE AND REPLACE LRU

A REMOVE AND REPLACE MINOR HARDWARE

OSR JOB INVENTORY TASK STATEMENTS:

6 Q0645 K ISOLATE MALFUNCTIONS IN SATELLITE SYSTEMS USING RF TO RF TEST TRANSLATORS

6 K0290 K ISOLATE MALFUNCTIONS IN UHF RECEIVE RF AMPLIFIERS

TASK #: 04600  
 OPERATE THE AN/GSC-44 CONSOLIDATED GROUND TERMINAL  
 DUTY CODE: X6  
 TASK STATUS: 3-K  
 TIMES ANALYZED: 1  
 TNOTES:  
 CONSEQUENCES: MINOR, DAMAGE, NONE  
 HOW OFTEN: WEEKLY  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R5-2GSC-111-1 AND 31R5-2GSC-111-2  
 TTT: 3  
 SME OPINION: 3  
 REFERENCES:  
 T.O. 31R5-2GSC-111-1  
 T.O. 31R5-2GSC-111-2  
 CONDITIONS CUES:  
 COND: AT OPERATOR'S CONSOLE  
 CUE: PMI, RESULTS OF TROUBLESHOOTING  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL TD   ATI  
 304X6 G 0159   .00   5.0  9.0 10.0  4.0 6.09  
 304X6 H 0184   .00   1.0  3.0  6.0  4.0 5.69  
 304X6 L 0388   .00   5.0  9.0 11.0  6.0 4.27  
 ACTIVITIES SKILL KNOWLEDGE:  
 A PERFORM POWER UP PROCEDURES  
 A PERFORM INITIAL PROGRAM LOAD  
 A PERFORM OPERATIONAL CHECKS  
 A PERFORM MESSAGE COMPOSITION PROCEDURES  
 A PERFORM MESSAGE TRANSMISSION PROCEDURES  
 OSR JOB INVENTORY TASK STATEMENTS:  
 6 H0184 A PERFORM COMMUNICAITONS SUPERVISORY COMMANDS  
 6 G0159 A PERFORM EMERGENCY MESSAGE PROCESSOR UNIT (MPU) BY-PASSES (DEGRADATION PROCEDURES)  
 6 L0388 A PERFORM OPERATIONAL TESTS ON MESSAGE PROCESSOR CONTROLS

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TASK #: 04610  
 INSPECT AN/GSC-44 PECULIAR SUPPORT EQUIPMENT  
 DUTY CODE: X6  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 1  
 TNOTES:  
 CONSEQUENCES: NONE, NONE, NONE  
 HOW OFTEN: 30  
 OJT TRAINABLE: YES, NO (TASK REQUIRES BASIC ELECTRONICS)  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): LOCAL WORK CARDS  
 TTT:  
 SME OPINION: 3  
 TWO CATEGORIES: PMI EVERY 30 DAYS, AND INSPECTION UPON RECEIPT  
 DATA PROVIDED APPLIES TO A VARIETY OF TEST STATIONS  
 EQUIPMENT:  
 DIGITAL MULTIMETER, OSCILLOSCOPE, COMMON HAND TOOLS, ALCOHOL,  
 COMPRESSED AIR, LOG  
 REFERENCES:  
 LOCAL WORK CARDS  
 CONDITIONS CUES:  
 CONDITIONS: SHOP  
 CUES: UPON RECEIPT AND EVERY 30 DAYS  
 JOB STANDARDS:  
 IN ACCORDANCE WITH TECH DATA  
 OSR DATA:   TASK   TE   1JOB 1ENL 5SKL 7SKL TD   ATI  
 304X6 G 0153   .00  72.0 75.0 72.0 44.0 5.10  
 ACTIVITIES SKILL KNOWLEDGE:  
 A CHECK POWER-ON FUNCTION  
 A DISASSEMBLE  
 A CHECK FOR BURNED COMPONENTS  
 A CHECK FOR ELECTRICAL INTERFERENCE  
 A CLEAN UNIT  
 A REASSEMBLE  
 A LOG COMPLETED INSPECTION  
 A PERFORM SIGNAL CHECKS  
 K ANNOTATE LOGS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 6 G0153 A OBSERVE TEST EQUIPMENT, SUCH AS OSCILLOSCOPES, TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY

TASK #: 0462C  
BENCHCHECK AN/GSC-44 LOW-SPEED TELEPRINTER (AN/UGC-120)  
DUTY CODE: X6  
TASK STATUS: 3-K  
TIMES ANALYZED: 1

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: INDEFINITE  
OJT TRAINABLE: YES, NO  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31W4-2-131  
TTT:  
SME OPINION: 3  
THE AN/USM-46 TEST SET USED FOR THIS TEST IS USED FOR 10  
DIFFERENT LRU'S

EQUIPMENT:

SATELLITE COMMUNICATIONS GROUP TEST SET, COMMON HANDTOOLS,  
POWER SUPPLY, OSCILLOSCOPE, PULSE GENERATOR, EXTENDER CARD,  
POWER SUPPLY EXTENDER CABLE, PRINT HEAD ALIGNMENT PANEL, CABLE  
ASSEMBLY, MOTOR DRIVER CARD TEST FIXTURE, ANALOG MULTIMETER,  
DIGITAL MULTIMETER, DIGITAL LOGIC PROBE, SOLDERING KIT

REFERENCES:

T.O. 31W4-2-131

CONDITIONS CUES:

CONDITIONS: SHOP  
CUE: MALFUNCTION

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|-----|------|------|------|------|------|-----|
| 304X6 Q   | 0671 | .00 | 8.0  | 8.0  | 10.0 | 5.0  | 3.95 |     |

ACTIVITIES SKILL KNOWLEDGE:

A CONNECT PRINTER TO TEST SET  
A INSTALL SOFTWARE  
A RESPOND TO PROMPTS IN TESTING SEQUENCE

OSR JOB INVENTORY TASK STATEMENTS:

6 Q0671 A PERFORM PMIS ON LOW SPEED PRINTERS

TASK #: 04630  
BENCHCHECK AN/GSC-44 HIGH-SPEED PRINTER  
DUTY CODE: X6  
TASK STATUS: 3-K  
TIMES ANALYZED: 1

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: INDEFINITE  
OJT TRAINABLE: YES, NO  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31S5-4-77-2  
TTT:  
SME OPINION: 3  
USES AN/USM-46 TEST SET

EQUIPMENT:

SATELLITE COMMUNICATIONS GROUP TEST SET, PULL GAUGE,  
POWER SUPPLY, OSCILLOSCOPE, PULSE GENERATOR, EXTENDER CARD,  
POWER SUPPLY EXTENDER CABLE, PRINT HEAD ALIGNMENT PANEL, CABLE  
ASSEMBLY, MOTOR DRIVER CARD TEST FIXTURE, COMMON HAND TOOLS  
ANALOG MULTIMETER, DIGITAL MULTIMETER, DIGITAL LOGIC PROBE  
SOLDERING KIT

REFERENCES:

T.O. 31S5-4-77-2

CONDITIONS CUES:

CONDITIONS: SHOP  
CUES: MALFUNCTION

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|-----|------|------|------|------|------|-----|
| 304X6 Q   | 0655 | .00 | 5.0  | 8.0  | 10.0 | 3.0  | 4.27 |     |
| 304X6 Q   | 0621 | .00 | 4.0  | 5.0  | 4.0  | 3.0  | 5.47 |     |

ACTIVITIES SKILL KNOWLEDGE:

A CONNECT PRINTER TO TEST SET  
A INSTALL SOFTWARE  
A RESPOND TO PROMPTS IN TESTING SEQUENCE  
S OPERATE PULL GAUGE

OSR JOB INVENTORY TASK STATEMENTS:

6 Q0621 A ALIGN LOW SPEED PRINTERS  
6 Q0655 K ISOLATE MALFUNCTIONS TO HIGH SPEED PRINTERS

TASK #: 04640  
 BENCHCHECK AN/GSC-44 RECEIVER/TRANSMITTER  
 DUTY CODE: X6  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 1

TNOTES:  
 CONSEQUENCES: NONE, NONE, NONE  
 HOW OFTEN: INDEFINITE  
 OJT TRAINABLE: YES, NO  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 12R2-2A-412  
 TTT:  
 SME OPINION: 3  
 TROUBLESHOOTING AND REPAIR IS ONLY TAKEN TO THE MODULE LEVEL

EQUIPMENT:  
 OSCILLOSCOPE, WAVEFORM GENERATOR, RF TEST SET, POWER METER,  
 SIGNAL GENERATOR, QUARTZ OSCILLATOR, ATTENUATOR, RF BOLOMETER,  
 DISTORTION ANALYZER, RF VOLTMETER, R/T TEST SET, POWER FACTOR  
 METER, COMMON HAND TOOLS, DIGITAL MULTIMETER, FREQUENCY COUNTER

REFERENCES:  
 T.O. 12R2-2A-412

CONDITIONS CUES:  
 CONDITION: SHOP  
 CUES: MALFUNCTION

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|-----|------|------|------|------|------|-----|
| 304X6 N   | 0503 | .00 | 18.0 | 27.0 | 28.0 | 16.0 | 5.28 |     |
| 304X6 N   | 0509 | .00 | 21.0 | 30.0 | 31.0 | 16.0 | 5.18 |     |
| 304X6 N   | 0512 | .00 | 11.0 | 21.0 | 23.0 | 15.0 | 6.14 |     |

ACTIVITIES SKILL KNOWLEDGE:  
 A CONNECT UNIT TO TEST SET  
 A RESPOND TO PROMPTS IN TESTING SEQUENCE

OSR JOB INVENTORY TASK STATEMENTS:  
 6 N0508 K ISOLATE MALFUNCTIONS TO RECEIVER-TRANSMITTER (RT)  
 SUBSYSTEMS

TASK #: 04650  
 BENCHCHECK AN/GSC-44 MODEM  
 DUTY CODE: X6  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 1

TNOTES:  
 CONSEQUENCES: NONE, NONE, NONE  
 HOW OFTEN: INDEFINITE  
 OJT TRAINABLE: YES, NO  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 12R2-2U-142  
 TTT:  
 SME OPINION: 3

EQUIPMENT:  
 RF MILLIVOLT METER, OSCILLOSCOPE, DIGITAL MULTIMETER, FREQUENCY  
 COUNTER, ATTENUATORS, MODEM TEST SET, POWER FACTOR METER, RF  
 BOLOMETER, HP DATA ERROR ANALYZER, COMMON HAND TOOLS  
 DIGITAL LOGIC PROBE, FIELD STRENGTH TESTER, SOLDERING KIT

REFERENCES:  
 T.O. 12R2-2U-142

CONDITIONS CUES:  
 CONDITION: SHOP  
 CUES: MALFUNCTION

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|-----|------|------|------|------|------|-----|
| 304X6 M   | 0469 | .00 | 3.0  | 5.0  | 6.0  | 2.0  | 5.44 | 1.0 |

ACTIVITIES SKILL KNOWLEDGE:  
 A CONNECT MODEM TO TESTER  
 A VERIFY SWITCH SETTINGS  
 A ISOLATE FAULT  
 A SEND TO DEPOT IF FAULT CANNOT BE FOUND OR IF LEVEL OF  
 MAINTENANCE EXCEEDS REPAIR AUTHORITY  
 S PERFORM RESISTANCE CHECKS

OSR JOB INVENTORY TASK STATEMENTS:  
 6 M0469 K ISOLATE MALFUNCTIONS IN FREQUENCY SHIFT KEYPERS

TASK #: 04660  
 INSPECT AN/GSC-49 SATELLITE COMMUNICATIONS TERMINAL  
 DUTY CODE: X6  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: 1, 7, 28, 84, 168, 336, 356  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R5-2GSC49-2-1  
 TTT: 5  
 SME OPINION: 3  
 EQUIPMENT:  
 EYE SHIELD, HARD HAT, GLOVES, SPECTRUM ANALYZER, OSCILLOSCOPE,  
 VOLTMETER, FREQUENCY COUNTER, DATA ERROR ANALYZER, ANALOG  
 MULTIMETER, DIGITAL MULTIMETER, COMMON HANDTOOLS  
 REFERENCES:  
 T.O. 31R5-2GSC49-2-1  
 CONDITIONS CUES:  
 COND: ON EQUIPMENT  
 CUE: PMI  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB  1ENL  5SKL  7SKL  TD   ATI  
 304X6 J 0253   .00  28.0  33.0  31.0  9.0  4.40  
 304X6 L 0395   .00  23.0  21.0  21.0  9.0  3.71  
 304X6 Q 0666   .00  17.0  22.0  20.0  6.0  4.02  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT VISUALLY LIGHTBULBS, DOOR AND AIR VENT COVERS  
 A INSPECT VISUALLY GROUND STRAPS, CABLES AND CONNEC-  
 TIONS  
 A INSPECT VISUALLY POWER TRANSFER SWITCH  
 A CLEAN CONTROL PANELS  
 A INSPECT VISUALLY HARDWARE  
 A CLEAN AIR FILTERS  
 A LUBRICATE ANTENNAS  
 A CLEAN ANTENNAS  
 A INSPECT VISUALLY ANTENNAS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 6 Q0666 A PERFORM PHIS ON DISTRIBUTION AMPLIFIERS  
 6 J0253 A PERFORM PHIS ON PARABOLIC ANTENNAS  
 6 L0395 A PERFORM PREVENTIVE MAINTENANCE INSPECTIONS (PHI) ON  
 AIR COOLING SYSTEMS

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TASK #: 04670  
 OPERATIONALLY CHECK AN/GSC-49 SATELLITE COMMUNICATIONS TERMINAL  
 DUTY CODE: X6  
 TASK STATUS: 5-KP  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, INJURY  
 HOW OFTEN: 1  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R5-2GSC49-2-1  
 TTT: 3  
 SME OPINION: 3  
 REFERENCES:  
 T.O. 31R5-2GSC49-2-1  
 CONDITIONS CUES:  
 COND: ON EQUIPMENT  
 CUE: PHI, EVERY 8 HOURS DURING OPERATION  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB  1ENL  5SKL  7SKL  TD   ATI  
 304X6 G 0162   .00  73.0  76.0  72.0  33.0  5.06  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT VISUALLY TRANSMITTER POWER OUTPUT LEVEL  
 A INSPECT VISUALLY UP CONVERTER FREQUENCY  
 A INSPECT VISUALLY RECEIVING LEVEL  
 A INSPECT VISUALLY CRYPTO LIGHT  
 A INSPECT VISUALLY ANTENNA DEHYDRATOR ASSEMBLY, DEHY-  
 DRATOR ASSEMBLY CONTROL PANEL LINE PRESSURE GAUGE,  
 AND FEED ASSEMBLY PRESSURE CONTROL PANEL PRESSURE  
 GAUGE  
 OSR JOB INVENTORY TASK STATEMENTS:  
 6 G0162 A PERFORM PREOPERATIONAL OR OPERATIONAL CHECKS OF  
 EQUIPMENT

TASK #: 04680  
 ADJUST AN/GSC-49 CESIUM BEAM FREQUENCY STANDARD  
 DUTY CODE: X6  
 TASK STATUS: 3-K  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: SERIOUS, NONE, INJURY  
 HOW OFTEN: DAILY  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): HEWLETT-PACKARD 5061A USERS MANUAL  
 TTT: 5  
 SME OPINION: 3  
 EQUIPMENT:  
 COMMON HANDTOOLS  
 REFERENCES:  
 HEWLETT-PACKARD 5061A USERS MANUAL  
 CONDITIONS CUES:  
 COND: ON EQUIPMENT  
 CUE: CESIUM CLOCK VISUAL ALARM  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X6 Q 0605 .00 11.0 21.0 23.0 13.0 5.43  
 ACTIVITIES SKILL KNOWLEDGE:  
 A APPLY POWER TO UNIT  
 A SET CONTROLS FOR ADJUSTMENT  
 A ADJUST LOOP GAIN  
 A SET SWITCHES FOR OPERATION  
 OSR JOB INVENTORY TASK STATEMENTS:  
 6 Q0605 A ADJUST CESIUM BEAM FREQUENCY STANDARDS

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TASK #: 04670  
 OPERATIONALLY CHECK AN/GSC-49 SATELLITE COMMUNICATIONS TERMINAL  
 DUTY CODE: X6  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, INJURY  
 HOW OFTEN: 1  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R5-2GSC49-2-1  
 TTT: 3  
 SME OPINION: 3  
 REFERENCES:  
 T.O. 31R5-2GSC49-2-1  
 CONDITIONS CUES:  
 COND: ON EQUIPMENT  
 CUE: PHI, EVERY 8 HOURS DURING OPERATION  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X6 G 0162 .00 73.0 76.0 72.0 33.0 5.06  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT VISUALLY TRANSMITTER POWER OUTPUT LEVEL  
 A INSPECT VISUALLY UPCONVERTER FREQUENCY  
 A INSPECT VISUALLY RECEIVING LEVEL  
 A INSPECT VISUALLY CRYPTO LIGHT  
 A INSPECT VISUALLY ANTENNA DEHYDRATOR ASSEMBLY, DEHYDRATOR ASSEMBLY CONTROL PANEL LINE PRESSURE GAUGE, AND FEED ASSEMBLY PRESSURE CONTROL PANEL PRESSURE GAUGE  
 OSR JOB INVENTORY TASK STATEMENTS:  
 6 G0162 A PERFORM PREOPERATIONAL OR OPERATIONAL CHECKS OF EQUIPMENT

TASK #: 04680  
 ADJUST AN/GSC-49 CESIUM BEAM FREQUENCY STANDARD  
 DUTY CODE: X6  
 TASK STATUS: 3-I  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: SERIOUS, NONE, INJURY  
 HOW OFTEN: DAILY  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): HEWLETT-PACKARD 5061A USERS MANUAL  
 TTT: 5  
 SME OPINION: 3  
 EQUIPMENT:  
 COMMON HANDTOOLS  
 REFERENCES:  
 HEWLETT-PACKARD 5061A USERS MANUAL  
 CONDITIONS CUES:  
 COND: ON EQUIPMENT  
 CUE: CESIUM CLOCK VISUAL ALARM  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI

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TASK #: 04690  
 TUNE AN/GSC-49 KLYSTRON CAVITY  
 DUTY CODE: X6  
 TASK STATUS: 3-K  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: 3 MONTHS  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R5-2GSC49-2-1  
 TTT: 5  
 SME OPINION: 3  
 REFERENCES:  
 T.O. 31R5-2GSC49-2-1  
 CONDITIONS CUES:  
 COND: ON EQUIPMENT  
 CUE: CHANGE OF INPUT FREQUENCY  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X6 L 0319 .00 15.0 25.0 25.0 15.0 6.77  
 ACTIVITIES SKILL KNOWLEDGE:  
 A TUNE ASSIGNED FREQUENCY  
 A TUNE KLYSTRON CAVITIES AS REQUIRED BY CALIBRATION  
 CHART  
 OSR JOB INVENTORY TASK STATEMENTS:  
 6 L0319 A ALIGN SUPER HIGH FREQUENCY (SHF) TRANSMITTERS



TASK #: 04700  
TUNE AN/GSC-49 POWER SUPPLIES  
DUTY CODE: X6  
TASK STATUS: 3-K  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: MINOR, NONE, INJURY  
HOW OFTEN: 4 MONTHS  
OJT TRAINABLE: YES, NO, HIGH VOLTAGE SAFETY AND TEST EQUIP USE  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31R5-2GSC49-2-1  
TTT: 5  
SME OPINION: 3  
EQUIPMENT:  
DIGITAL MULTIMETER. ANDTOOLS  
REFERENCES:  
T.O. 31R5-2GSC49-2-1  
CONDITIONS CUES:  
COND: ON EQUIPMENT, POWER ON. HIGH VOLTAGE HAZARD  
CUE: AFTER REPLACEMENT OF HIGH OR LOW VOLTAGE CARDS OR  
KLYSTRON  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X6 L 0317 .00 20.0 28.0 28.0 15.0 5.84  
304X6 Q 0617 .00 9.0 11.0 14.0 8.0 4.69  
ACTIVITIES SKILL KNOWLEDGE:  
A CONNECT MULTIMETER TO RF AMPLIFIER  
A SET POWER SUPPLY CONTROLS AS DIRECTED  
A ADJUST LOW VOLTAGE POWER SUPPLY  
A REPEAT FOR HIGH VOLTAGE POWER SUPPLY  
OSR JOB INVENTORY TASK STATEMENTS:  
6 Q0617 A ALIGN GENERAL PURPOSE POWER SUPPLY COMPONENTS  
6 L0317 A ALIGN HIGH VOLTAGE POWER SUPPLY COMPONENTS

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TASK #: 04710  
TROUBLESHOOT AN/GSC-49 HIGH VOLTAGE POWER SUPPLY  
DUTY CODE: X6  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: SERIOUS, NONE, INJURY  
HOW OFTEN: 2 MONTHS  
OJT TRAINABLE: YES, NO, SAFETY, BASIC ELECTRONICS, TEST  
EQUIPMENT USE  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31R5-2GSC49-2-1  
TTT: 3  
SME OPINION: 3  
EQUIPMENT:  
DIGITAL MULTIMETER, HANDTOOLS  
REFERENCES:  
T.O. 31R5-2GSC49-2-1  
CONDITIONS CUES:  
COND: ON EQUIPMENT, POWER ON, HIGH VOLTAGE HAZARD  
CUE: POWER METER INDICATION AND/OR VISUAL FAULT STATUS INDICATION  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X6 L 0329 .00 27.0 37.0 38.0 22.0 6.27  
ACTIVITIES SKILL KNOWLEDGE:  
A RESET FAULT INDICATOR  
A REPLACE MODULE AS INDICATED BY TO WITH KNOWN GOOD  
MODULE  
A TEST MODULE  
OSR JOB INVENTORY TASK STATEMENTS:  
6 L0329 K ISOLATE MALFUNCTIONS IN HIGH VOLTAGE POWER SUPPLIES

TASK #: 04720  
 REMOVE AND REPLACE AN/GSC-49 CIRCUIT CARDS  
 DUTY CODE: X6  
 TASK STATUS: 3-K  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: 2 MONTHS  
 OJT TRAINABLE: YES, NO, SAFETY, BASIC ELECTRONICS  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R5-2GSC49-2-1 AND 31R5-2GSC49-2-2  
 TTT: 5  
 SME OPINION: 3  
 EQUIPMENT:  
 HAND TOOLS  
 REFERENCES:  
 T.O. 31R5-2GSC49-2-1  
 T.O. 31R5-2GSC49-2-2  
 CONDITIONS CUES:  
 COND: ON EQUIPMENT, HIGH VOLTAGE HAZARD  
 CUE: RESULTS OF TROUBLESHOOTING  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB   1ENL   5SKL   7SKL   TD   ATI  
 304X6 I 0199   .00   34.0   42.0   43.0   24.0   2.83  
 304X6 R 0710   .00   35.0   27.0   22.0   5.0   4.40  
 ACTIVITIES SKILL KNOWLEDGE:  
   A POWER DOWN EQUIPMENT  
   A PULL SUBASSEMBLY  
   A REMOVE AND REPLACE CIRCUIT CARD OR COMPONENT  
   A REPLACE SUBASSEMBLY  
   A POWER UP EQUIPMENT  
 OSR JOB INVENTORY TASK STATEMENTS:  
 6 R0710 A INSTALL OR REMOVE MOBILE COMMUNICATION EQUIPMENT  
 6 I0199 A INSTALL OR REMOVE MOUNTING HARDWARE

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TASK #: 04730  
 PREPARE AN/GSC-49 EIGHT HOUR STATUS REPORTS  
 DUTY CODE: X6  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: NONE, NONE, NONE  
 HOW OFTEN: EIGHT HOURS  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): DEFENSE COMMUNICATIONS AGENCY (DCA) CIRCULARS  
 TTT: 5  
 SME OPINION: 3  
 EQUIPMENT:  
 SPECTRUM ANALYZER  
 REFERENCES:  
 DEFENSE COMMUNICATIONS AGENCY (DCA) CIRCULARS  
 CONDITIONS CUES:  
 COND: DURING OPERATION ONLY  
 CUE: REQUESTED BY NETWORK CONTROLLERS  
 JOB STANDARDS:  
 IAW REFERENCES  
 JSR DATA:   TASK   TE   1JOB   1ENL   5SKL   7SKL   TD   ATI  
 304X6 E 0124   .00   19.0   22.0   19.0   13.0   4.26  
 ACTIVITIES SKILL KNOWLEDGE:  
   A RECORD POWER OUT AND INTERFACE UNIT DISPLAY INFORMATION  
   A RECORD KY-883 ERROR RATE COUNT INFORMATION  
   A REPORT STATUS UPDATE ON UGC-74 TELETYPE  
   A RECALL STATUS DISPLAY MEANING  
   A RECALL OPERATOR LANGUAGE MEANING  
 OSR JOB INVENTORY TASKS:  
 6 E0124 PREPARE STATUS REPORTS

TASK #: 04740  
SET UP AN/GSC-49 SINGLE CARRIER FEED OE-361(V) ANTENNA GROUP  
DUTY CODE: X6  
TASK STATUS: 3-K  
TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: MINOR, DAMAGE, INJURY  
HOW OFTEN: WEEKLY  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31R2-2G-321  
TTT: 5  
SME OPINION: 3

EQUIPMENT:

POCKET TRANSIT OR COMPASS, COMMON HANDTOOLS

REFERENCES:

T.O. 31R2-2G-321

CONDITIONS CUES:

COND: DURING OPERATION ONLY  
CUE: UPON DEPLOYMENT OR LOCATION CHANGE

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | AYI |
|-----------|------|-----|------|------|------|------|------|-----|
| 304X6 R   | 0711 | .00 | 22.0 | 16.0 | 14.0 | 5.0  | 4.05 |     |
| 304X6 R   | 0713 | .00 | 15.0 | 13.0 | 12.0 | 3.0  | 4.22 |     |
| 304X6 R   | 0716 | .00 | 18.0 | 14.0 | 13.0 | 4.0  | 4.41 |     |

ACTIVITIES SKILL KNOWLEDGE:

- A SELECT SITE
- A CLEAR AREA
- A ASCERTAIN AZIMUTH
- A POSITION MOBILIZER
- A POSITION FOOT PADS
- A ANCHOR MOBILIZER
- A ATTACH GROUNDING ROD
- A REMOVE PANEL REFLECTORS FROM STOWED POSITION
- A INSTALL PANEL REFLECTORS ON HUB
- A ERECT FEEDHORN ASSEMBLY
- A LEVEL ANTENNA ASSEMBLY
- A SET-UP GENERATOR
- A APPLY POWER TO ANTENNA ERECTION ACTUATOR
- A RELEASE LOCKING MECHANISM
- A ERECT ANTENNA TO HIGH OR LOW SECTOR POSITION
- A LEVEL AZIMUTH AND ELEVATION DATA BOXES
- A ATTACH CABLES TO VAN
- A RECALL SITE SELECTION PROCEDURES, LEVEL, CLEAR OF OBSTACLES

OSR JOB INVENTORY TASK STATEMENTS:

6 R0711 A INSTALL OR REMOVE POWER GENERATING EQUIPMENT  
6 R0713 A INSTALL OR REMOVE TRACKING ANTENNA GROUPS  
6 R0716 A PREPARE MOBILITY SITE FOR INSTALLATION

TASK #: 04750

INITIAL SET-UP OF AN/GSC-49 SATELLITE COMMUNICATIONS TERMINAL  
DUTY CODE: X6  
TASK STATUS: 3-KP  
TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: SERIOUS, NONE, NONE  
HOW OFTEN: WEEKLY  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31R5-2GSC49-1 AND 31R5-2TSC\_101  
TTT: 5  
SME OPINION: 3

EQUIPMENT:

SPECTRUM ANALYZER, ANTENNA CONTROL

REFERENCES:

T.O. 31R5-2GSC49-1  
T.O. 31R5-2TSC-101

CONDITIONS CUES:

COND: DURING OPERATION ONLY  
CUE: UPON DEPLOYMENT OR LOCATION CHANGE

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X6     | H    | 0183 | .00  | 39.0 | 45.0 | 43.0 | 22.0 | 5.40 |
| 304X6     | H    | 0175 | .00  | 41.0 | 44.0 | 41.0 | 18.0 | 4.94 |
| 304X6     | H    | 0187 | .00  | 10.0 | 11.0 | 13.0 | 11.0 | 5.33 |

ACTIVITIES SKILL KNOWLEDGE:

- A APPLY POWER TO ANTENNA CONTROL
- A ELEVATE TO SPECULATED POSITION
- A VERIFY NO FAULT INDICATORS LIT
- A SWEEP AZIMUTH AND ELEVATION UNTIL MAXIMUM SIGNAL ACQUIRED ON SPECTRUM ANALYZER
- A PLACE REMOTE SWITCH TO AUTO TRACK
- A APPLY POWER TO USC-28 MODEM AND RACK EQUIPMENT
- A APPLY POWER TO PLASMA DISPLAY
- A LOAD PROGRAM TO CONTROL SYNCHRONIZATION UNIT (CSU)
- A LOAD PERIMETER DATA USING PLASMA DISPLAY
- A ENTER SATELLITE COMMUNICATIONS NETWORK
- A UPDATE CESIUM BEAM CLOCK AS REQUIRED
- A SCHEDULE RECEIVER/TRANSMITTERS FOR USER DATA
- A APPLY POWER TO HIGH POWER AMPLIFIER
- A PATCH TELETYPE TO TERMINAL
- K RECALL THEORY OF PATCH PANELS

OSR JOB INVENTORY TASK STATEMENTS:

- 6 H0183 A PERFORM ACQUISITION FUNCTIONS
- 6 H0175 A CONFIGURE TERMINAL EQUIPMENT FOR CORRECT SATELLITE MODE
- 6 H0187 A REVIEW MISSION DATA FOR PERMISSION SETUPS

TASK #: 04760

INSPECT KY-801/GSC ENCODER/DECODER

DUTY CODE: X6

TASK STATUS: 3-OJT

TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: MINGR, NONE, NONE  
 HOW OFTEN: 1, 7, 14, 28, 56, 168  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NO (DOESN'T COVER THIS TASK)  
 TNG REFERENCE(S): QTP 304X6-30GC  
 TTT: 3  
 SME OPINION: 3  
 KY-801/GSC ISN'T ALIGNED

EQUIPMENT:

BITE, TCOL KIT

REFERENCES:

T.O. 31R5-2GSC-101

CONDITIONS CUES:

COND: SYSTEM UP/DOWN

CUE: PMI OR SYSTEM ALARM

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE   | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI  |
|-----------|------|------|------|------|------|------|------|------|
| 304X6     | I    | 0205 | .00  | 72.0 | 70.0 | 67.0 | 25.0 | 2.51 |

ACTIVITIES SKILL KNOWLEDGE:

- A PERFORM KY-801 LAMP TEST
- A CHECK XY-801 (ENCODER/DECODER) SWITCH, CONTROL AND INDICATOR FOR NORMAL INDICATIONS
- A CHECK KY-801 FAN OPERATION
- A PERFORM KY-801 OFF-LINE SELF TEST
- A CHECK KY-801 FOR COMPLETENESS AND SERVICEABILITY
- A CHECK KY-801 SPARE PARTS FOR GENERAL CONDITION AND METHOD OF STORAGE

OSR JOB INVENTORY TASK STATEMENTS:

- 6 I0205 A PERFORM DAILY OR WEEKLY METER READINGS

TASK #: 04770  
TROUBLESHOOT KY-801/GSC ENCODER/DECODER  
DUTY CODE: X6  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: MINOR, NONE, NONE  
HOW OFTEN: SEMI-ANNUALLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: NO (COVERS ONLY ANALYSIS)  
TNG REFERENCE(S): QTP 304X6-30GC  
TTT: 3  
SME OPINION: 5  
EQUIPMENT:  
DIGITAL MULTIMETER, BITE, TOOL KIT, SOLDERING KIT  
REFERENCES:  
T.O. 31R5-2GSC-101  
T.O. 31R5-2GSC-104  
CONDITIONS CUES:  
COND: EQUIPMENT UP/DOWN, POWER ON/OFF  
CUE: FAILED PMI, COMPONENT REPLACEMENT, SYSTEM FAILURE  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X6 Q 0629 .00 25.0 26.0 25.0 6.0 5.64  
ACTIVITIES SKILL KNOWLEDGE:  
A REMOVE/REPLACE KY801 ENCODER/DECODER AND PARTS  
A ISOLATE FAULTY KY-801 SWITCHES  
A ISOLATE FAULTY KY-801 FUSE HOLDER ASSEMBLY  
A ISOLATE FAULTY KY-801 FAN ASSEMBLY  
A ISOLATE FAULTY KY-801 POWER TRANSFORMER  
A ISOLATE FAULTY KY-801 CAPACITORS  
A ISOLATE FAULTY KY-801 CIRCUIT CARD ASSEMBLIES  
A ISOLATE FAULTY KY-801 CABLE ASSEMBLIES  
A ISOLATE FAULTY KY-801 DIODES  
OSR JOB INVENTORY TASK STATEMENTS:  
6 Q0629 K ISOLATE MALFUNCTIONS IN BITE

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TASK #: 04780  
ALIGN/ADJUST KY-801/GSC ENCODER/DECODER  
DUTY CODE: X6  
TASK STATUS: 3-OJT  
TIMES ANALYZED: 1  
TNOTES:  
CONSEQUENCES: MINOR, NONE, NONE  
HOW OFTEN: INDEFINITE  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: NO (DOESN'T COVER THIS TASK)  
TNG REFERENCE(S): QTP 304X6-30GC  
TTT: NONE  
SME OPINION: 5  
EQUIPMENT:  
TOOL KIT  
REFERENCES:  
T.O. 31R5-2GSC-101  
CONDITIONS CUES:  
COND: POWER OFF/ON  
CUE: FAILED KY-801/GSC  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X6 Q 0665 .00 17.0 20.0 19.0 9.0 3.90  
ACTIVITIES SKILL KNOWLEDGE:  
A INSPECT ARRANGEMENT OF CIRCUIT CARD STRAPS AND ADJUST  
STRAPS FOR LINK REQUIREMENTS  
S USE COMMON HANDTOOLS  
OSR JOB INVENTORY TASK STATEMENTS:  
6 Q0665 A PERFORM PHIS ON CRYPTO EQUIPMENT

TASK #: 04790  
 INSPECT MD-1002 MODEM DIGITAL DATA  
 DUTY CODE: X6  
 TASK STATUS: 3-K  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: 1, 7, 28, 56, 168  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X6-30GC  
 TTT: 3  
 SME OPINION: 5  
 EQUIPMENT:  
 TOOL SET, OSCILLOSCOPE, DIGITAL VOLTMETER, FREQUENCY COUNTER,  
 PATTERN GENERATOR, ERROR COUNTER, TS-3580 TEST SET, TELETYPE,  
 BNC CABLES, N-TYPE CABLES, ISOLATION PROBES, SPECTRUM ANALYZER  
 CLEANING SUPPLIES (RAGS, SOLVENT, VACUUM), LIGHT-WEIGHT GREASE,  
 PAINT PRIMER/FINISH  
 REFERENCES:  
 T.O. 31R5-2G-281  
 T.O. 31Z1-11-6WC-1  
 CONDITIONS CUES:  
 COND: SATELLITE COMMUNICATIONS TERMINAL, DAY/NIGHT, POWER ON,  
 EQUIPMENT RELEASED, SAFETY OBSERVER  
 CUE: SCHEDULED PMI, QUALITY CONTROL EVALUATION  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X6 0 0540 .00 22.0 28.0 28.0 15.0 6.17  
 304X6 0 0541 .00 13.0 24.0 25.0 12.0 6.37  
 ACTIVITIES SKILL KNOWLEDGE:  
 A CHECK DATA RATES  
 A CHECK MODEM CONFIGURATION  
 A SET SWITCHES AND CONTROLS  
 A VERIFY METER READINGS  
 A CHECK RECEIVE SIGNAL QUALITY  
 A CHECK TRANSMIT/RECEIVE SIGNAL ACCURACY  
 A CHECK MODEM PERFORMANCE AGAINST OPTIMAL STANDARD  
 A PERFORM CLEANING  
 A PERFORM LUBRICATION  
 A INSPECT EQUIPMENT RACKS  
 A CHECK AIRFLOW THROUGH EQUIPMENT/RACKS  
 OSR JOB INVENTORY TASK STATEMENTS:  
 6 00540 A PERFORM IN-HOUSE MODEM CHARACTERIZATIONS  
 6 00541 A PERFORM LINK CHARACTERIZATION TESTS ON MODEMS

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TASK #: 04800  
 TROUBLESHOOT MD-1002 MODEM DIGITAL DATA  
 DUTY CODE: X6  
 TASK STATUS: 3-K  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: SEMI-ANNUAL  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: YES  
 TNG REFERENCE(S): QTP 304X6-30GC  
 TTT: 3  
 SME OPINION: 5  
 TASK IS EXCEPTIONALLY COMPLEX AND REQUIRES A SKILLED TRAINER  
 EQUIPMENT:  
 TOOL SET, OSCILLOSCOPE, DIGITAL VOLTMETER, FREQUENCY COUNTER,  
 PATTERN GENERATOR, ERROR COUNTER, TS-3580 TEST SET, TELETYPE,  
 BNC CABLES, N-TYPE CABLES, ISOLATION PROBES, SPECTRUM ANALYZER  
 CLEANING SUPPLIES (RAGS, SOLVENT, VACUUM), SOLDERING KIT, CARD  
 PULLERS  
 REFERENCES:  
 T.O. 31R5-2G-282  
 T.O. 31R5-2G-281  
 T.O. 31R5-2G-284-2  
 CONDITIONS CUES:  
 COND: SATELLITE COMMUNICATIONS TERMINAL, DAY/NIGHT, EQUIPMENT  
 RELEASED, POWER ON, SAFETY OBSERVER  
 CUE: PMI FINDINGS, QUALITY CONTROL EVALUATIONS, VISUAL/AUDIO  
 ALARM INDICATIONS, TROUBLESHOOT FINDINGS, USER COMPLAINTS  
 JOB STANDARDS:  
 IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X6 0 0532 .00 22.0 25.0 27.0 14.0 6.23

ACTIVITIES SKILL KNOWLEDGE:

K ISOLATE FAULTY CIRCUIT CARD CONNECTORS  
K ISOLATE FAULTY CIRCUIT CARDS  
K ISOLATE FAULTY INTERCONNECTING WIRING  
K ISOLATE FAULTY SWITCHES  
K ISOLATE FAULTY LAMPS  
K ISOLATE FAULTY RIGID COAX CABLES  
K ISOLATE FAULTY PIZEO-ELECTRIC DEVICES (AUDIO ALARM)  
K PERFORM SCIENTIFIC NOTATION CONVERSIONS  
A REMOVE/REPLACE CIRCUIT CARDS AND PARTS

OSR JOB INVENTORY TASK STATEMENTS:

6 00532 K ISOLATE MALFUNCTIONS TO QPSK MODEMS

TASK #: 04810

ALIGN/ADJUST MD-1002 MODEM DIGITAL DATA

DUTY CODE: X6

TASK STATUS: 3-K

TIMES ANALYZED: 2

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY

HOW OFTEN: SEMI-ANNUAL

OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)

QTP ADEQUATE: YES

TNG REFERENCE(S): QTP 304X6-30GC

TTT: 3

SHE OPINION: 5

THIS TASK IS EXCEPTIONALLY COMPLEX AND REQUIRES A SKILLED TRAINER.

WITHIN THIS SYSTEM THERE ARE TWO SEPARATE CHANNELS FOR BOTH

TRANSMIT AND RECEIVE. THE A/A LISTED MUST BE DONE FOR EACH

CHANNEL IN ORDER FOR THE SYSTEM TO FUNCTION PROPERLY

EQUIPMENT:

TOOL SET, OSCILLOSCOPE, DIGITAL VOLTMETER, FREQUENCY COUNTER,  
PATTERN GENERATOR, ERROR COUNTER, TS-3580 TEST SET, TELETYPE,  
BNC CABLES, N-TYPE CABLES, ISOLATION PROBES, SPECTRUM ANALYZER  
CLEANING SUPPLIES (RAGS, SOLVENT, VACUUM), EXTENDER CARD, CARD PULLERS

REFERENCES:

T.O. 31R5-2G-282, T.O. 31RS-2G-281, T.O. 31R5-2G-284-2

CONDITIONS CUES:

COND: SATELLITE COMMUNICATIONS TERMINAL, DAY/NIGHT, PROPER

ALIGNMENT TAKES 24 HRS TO COMPLETE, POWER ON,

EQUIPMENT RELEASED, SAFETY OBSERVER

CUE: PMI FINDINGS, USER COMPLAINTS, AUDIO/VISUAL ALARM INDICATIONS

JOB STANDARDS:

IAW REFERENCES

OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X6 0 0522 .00 19.0 24.0 24.0 15.0 7.89  
304X6 Q 0608 .00 10.0 10.0 10.0 4.0 5.35

ACTIVITIES SKILL KNOWLEDGE:

A ADJUST POWER SUPPLY

A ADJUST CLOCK

A ALIGN/ADJUST CIRCUIT CARDS

A ALIGN TRANSMIT FREQUENCY SYNTHESIZER

A VERIFY TRANSMIT INPUT DATA RATE

K PERFORM SCIENTIFIC NOTATION CONVERSIONS

A ALIGN RECEIVE FREQUENCY SYNTHESIZER

A ADJUST MODULATOR OUTPUT POWER

A ADJUST DEMODULATOR AUTOMATIC GAIN CONTROL LEVEL

A ADJUST POST MULTIPLIER AUTOMATIC GAIN CONTROL LEVEL

A ADJUST DEMODULATOR ACQUISITION THRESHOLD

A ADJUST DEMODULATOR PHASE

A ALIGN RECEIVE BIT SYNCHRONIZER

A ALIGN ENCODER SWITCH TIMING

A ALIGN RECEIVE BIT SYNCHRONIZER ALARM THRESHOLD

A ALIGN PHASE CONTROL INTERGRATER

A ALIGN DATA DETECTOR AND DRIVER

A ALIGN PHASE ADJUST AND DETECTOR DRIVER

A ALIGN 70MHZ GAIN CONTROL AMPLIFIER

A ALIGN COHERENT DETECTOR AND AUTOMATIC GAIN CONTROL LOOP AMPLIFIER

A ALIGN MULTIPLIER

A ALIGN PHASE LOCK LOOP AMPLIFIER AND SWEEP CIRCUIT

A ALIGN TIMING AND AUTOMATIC GAIN CONTROL

A ALIGN PHASE CONTROL INTERGRATOR

A ALIGN STABLE CLOCK

OSR JOB INVENTORY TASK STATEMENTS:

6 Q0608 A ALIGN ANALOG-TO-DIGITAL CONVERTER COMPONENTS

6 00522 A ALIGN QUADRAPHAASE SHIFT KEYING (QPSK) MODEM COMPONENTS

TASK #: 04820  
 INSPECT AN/MSC-64  
 DUTY CODE: X6  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: 7, 28, 56  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R5-2MSC64-2-1  
 TTT: 5  
 SME OPINION: 3  
 EQUIPMENT:  
 CLEANING SUPPLIES  
 REFERENCES:  
 T.O. 31R5-2MSC64-2-1  
 CONDITIONS CUES:  
 COND: IN SERVICE,  
 CUE: PMI  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X6 G 0168 .00 81.0 81.0 76.0 43.0 3.82  
 ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 A CLEAN EQUIPMENT EXTERIOR  
 A REMOVE, CLEAN, AND REPLACE AIR FILTERS  
 A PERFORM BIT ERROR RATE SELF TEST  
 OSR JOB INVENTORY TASK STATEMENTS:  
 6 G0168 A READ METERS OR PERFORM BITE TESTS TO DETERMINE EQUIP-  
 MENT OPERATION OR SIGNAL QUALITY

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TASK #: 04830  
 TROUBLESHOOT AN/MSC-64 FORCE TERMINAL UHF AND REMOTE RACKS AND CABLING  
 DUTY CODE: X6  
 TASK STATUS: 3-K  
 TIMES ANALYZED: 2  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: INDEFINITE  
 OJT TRAINABLE: YES, NO, BASIC ELECTRONICS, BLOCK DIAGRAMS  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R5-2MSC64-2-1  
 TTT: 5  
 SME OPINION: 5  
 EQUIPMENT:  
 BUILT IN TEST EQUIPMENT, ELECTROSTATIC DISCHARGE STRAP  
 REFERENCES:  
 T.O. 31R5-2MSC64-2-1  
 CONDITIONS CUES:  
 COND: IN SERVICE  
 CUE: OPERATOR COMPLAINT, FAULT ALARMS  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X6 R 0708 .00 30.0 27.0 22.0 5.0 4.06  
 ACTIVITIES SKILL KNOWLEDGE:  
 A PERFORM BITE SELF DIAGNOSTIC TEST  
 A CHECK CABLING AND CONNECTORS FOR OBVIOUS DEFECTS  
 A REFERENCE T.O. TO DETERMINE FAULTY MODULE INDICATED  
 BY BITE  
 A ELIMINATE OTHER POSSIBLE FAULTS ACCORDING TO T.O.  
 A REMOVE AND REPLACE INDICATED MODULE  
 OSR JOB INVENTORY TASK STATEMENTS:  
 6 R0708 A INSTALL OR REMOVE CABLING BETWEEN SITE VANS



TASK #: 04840  
TROUBLESHOOT AN/MSC-64 POWER SUPPLY  
DUTY CODE: X6  
TASK STATUS: 3-K  
TIMES ANALYZED: 2  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: INDEFINITE  
OJT TRAINABLE: YES, NO, BASIC ELECTRONICS, BLOCK DIAGRAMS  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31R5-2MSC64-2-1  
TTT: 5  
SME OPINION: 5  
EQUIPMENT:  
BUILT IN TEST EQUIPMENT, DIGITAL MULTIMETER, OSCILLOSCOPE,  
ELECTROSTATIC DISCHARGE STRAP, SOLDERING KIT  
REFERENCES:  
T.O. 31R5-2MSC64-2-1  
CONDITIONS CUES:  
COND: IN SERVICE  
CUE: OPERATOR COMPLAINT, FAULT ALARMS, OUTPUT VOLTAGE OUT OF  
SPECIFICATIONS  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X6 Q 0685 .00 21.0 24.0 26.0 11.0 4.01  
ACTIVITIES SKILL KNOWLEDGE:  
A CHECK FAULT ALARMS/STATUS PANEL  
A CHECK POWER SUPPLY OUTPUT VOLTAGE  
K ISOLATE FAULTY CIRCUIT CARDS OR RACK MOUNTED COMPO-  
NENTS THROUGH CHECKING OUTPUT AND RIPPLE VOLTAGES  
A REMOVE AND REPLACE INDICATED CIRCUIT CARD OR COMPO-  
NENT  
OSR JOB INVENTORY TASK STATEMENTS:  
6 Q0685 A REMOVE OR REPLACE GENERAL PURPOSE POWER SUPPLIES

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TASK #: 04880  
INSPECT MYSTIC STAR REMOTE SWITCHING UNIT (RSU) COMPONENTS  
DUTY CODE: X6  
TASK STATUS: 3-K  
TIMES ANALYZED: 3  
TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: 28  
OJT TRAINABLE: YES, NO, TEST EQUIPMENT, BASIC ELECTRONICS,  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): ENGINEERING MANUAL FOR THE MYSTIC STAR  
COMMUNICATIONS MANAGEMENT SYSTEM (MSCMS) VOL 2  
FROM E-SYSTEMS MELPAR DIVISION, MYSTIC STAR  
PREVENTIVE MAINTENANCE REQUIREMENTS AND  
SCHEDULES FROM E-SYSTEMS MELPAR DIVISION,  
T.O. 31WA-4-366-2, T.O. 31W2-4-365-2,  
T.O. 31W2-4-366-2, AND T.O. 31W2-4-367-2  
TTT: NONE  
SME OPINION: 3  
EQUIPMENT:  
ACID PROTECTIVE CLOTHING FOR BATTERY FILLING  
REFERENCES:  
ENGINEERING MANUAL FOR THE MYSTIC STAR  
COMMUNICATIONS MANAGEMENT SYSTEM (MSCMS) VOL 2 FROM  
E-SYSTEMS MELPAR DIVISION, MYSTIC STAR PREVENTIVE MAINTENANCE  
REQUIREMENTS AND SCHEDULES FROM E-SYSTEMS MELPAR DIVISION, AND  
T.O. 31WA-4-366-2, T.O. 31W2-4-365-2, T.O. 31W2-4-366-2  
T.O. 31W2-4-367-2  
CONDITIONS CUES:  
COND: ON EQUIPMENT  
CUE: PHI  
JOB STANDARDS:  
IAW REFERENCES  
OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
304X6 Q 0662 .00 15.0 14.0 12.0 3.0 4.52  
ACTIVITIES SKILL KNOWLEDGE:  
A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS TO  
INCLUDE CORROSION ON MYSTIC STAR REMOTE SWITCHING UNITS (RSU)  
A ADD DISTILLED WATER TO PP7210 POWER SUPPLY BATTERIES  
AS REQUIRED (PP7210 POWER SUPPLY REQUIRES PROTECTIVE  
GLOVES, GOGGLES, AND CLOTHING FOR CLEANING)  
OSR JOB INVENTORY TASK STATEMENTS:  
6 Q0662 A PERFORM PREVENTIVE MAINTENANCE INSPECTIONS (PHI) ON  
ANALOG-TO-DIGITAL CONVERTERS

TASK #: 04890  
TROUBLESHOOT MYSTIC STAR REMOTE SWITCHING UNIT (RSU)  
DUTY CODE: X6  
TASK STATUS: 3-KP  
TIMES ANALYZED: 3

NOTES:

CONSEQUENCES: SERIOUS, DAMAGE, NONE  
HOW OFTEN: 28 OR SIX MONTHS  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31W2-4-365-2 AND T.O. 00-25-234  
TTT: 3  
SME OPINION: 3

EQUIPMENT:

SOLDERING KIT, SIGNAL GENERATOR

REFERENCES:

T.O. 31W2-4-365-2

CONDITIONS CUES:

COND: ON EQUIPMENT  
CUE: PMI OR RESULT OF TROUBLESHOOTING

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|-----|------|------|------|------|------|-----|
| 304X6 I   | 0218 | .00 | 27.0 | 39.0 | 43.0 | 25.0 | 3.31 |     |
| 304X6 Q   | 0687 | .00 | 23.0 | 30.0 | 33.0 | 13.0 | 5.10 |     |

ACTIVITIES SKILL KNOWLEDGE:

- A PERFORM UHF RADIO SET CONTROL 373T-2 (CONTROL HEAD)  
SELF TEST
- A PERFORM REMOTE CONTROL UNIT 373V-1 (TE-240 MODEM)  
SELF TEST
- A POWER DOWN EQUIPMENT
- A REMOVE CANNON PLUGS OR RF CABLE CONNECTORS
- A ISOLATE FAULTY LINE REPLACEABLE UNITS (LRU), CIRCUIT  
CARDS, AND PARTS
- A REMOVE AND REPLACE LINE REPLACEABLE UNITS (LRU),  
CIRCUIT CARDS AND PARTS
- A CONNECT CANNON PLUGS OR RF CABLE CONNECTORS
- A POWER UP EQUIPMENT

OSR JOB INVENTORY TASK STATEMENTS:

- 6 Q0687 A REMOVE OR REPLACE INTERCONNECT CABLES AND CHASSIS  
WIRING
- 6 I0218 A REMOVE OR REPLACE LINE REPLACEABLE UNITS (LRU)

TASK #: 04880  
 INSPECT MYSTIC STAR REMOTE SWITCHING UNIT (RSU) COMPONENTS  
 DUTY CODE: X6  
 TASK STATUS: 3-K  
 TIMES ANALYZED: 3  
 TNOTES:

TASK #: 04900  
 INSPECT OM-70/U MONITOR SATELLITE SYSTEM GROUP (AAMS)  
 DUTY CODE: X6  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 4

TNOTES:  
 CONSEQUENCES: MINOR, DAMAGE, INJURY  
 HOW OFTEN: DAILY, WEEKLY, MONTHLY  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 QTP REFERENCE(S): T.O. 31R2-4-644-6WC-1  
 TTT: 3  
 SME OPINION: 3

EQUIPMENT:  
 INSPECTION MIRROR, FLASHLIGHT, TOOL BOX

REFERENCES:  
 T.O. 31R2-4-644-6WC-1

CONDITIONS CUES:  
 COND: MASTER CONTROL CENTER, DAY/NIGHT, POWER ON, EQUIPMENT  
 MAY BE RELEASED, 1-MAN  
 CUE: SCHEDULED PMI, QUALITY CONTROL EVALUATION

JOB STANDARDS:

IAW REFERENCES  
 OSR DATA: TASK TE 1JOB 1ENL 5SKL 7SKL TD ATI  
 304X6 G 0162 .00 73.0 76.0 72.0 33.0 5.06  
 304X6 L 0395 .00 23.0 21.0 21.0 9.0 3.71  
 304X6 Q 0669 .00 4.0 7.0 9.0 3.0 3.94

ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 A INSPECT CABLES  
 A INSPECT CIRCUIT BREAKER PANELS  
 A INSPECT INPUT/OUTPUT CONNECTORS  
 A INSPECT CABINET POWER INDICATORS  
 A INSPECT SERVICE OUTLET PANELS  
 A INSPECT BASEBAND CONTROL KEYBOARDS  
 A INSPECT VIDEO DISPLAYS  
 A INSPECT MAGNETIC TAPE UNITS  
 A INSPECT CPU POWER SUPPLY  
 A INSPECT COMPUTER PROCESSOR UNIT (CPU)  
 A INSPECT DISK UNIT  
 A INSPECT RF PATCH PANEL  
 A INSPECT RF SECTIONS  
 A INSPECT BASEBAND SECTION  
 A INSPECT FREQUENCY STANDARD SECTION  
 A INSPECT BLOWER ASSEMBLIES  
 A INSPECT HIGH SPEED PRINTER

OSR JOB INVENTORY TASK STATEMENTS:

6 G0162 A PERFORM PREOPERATIONAL OR OPERATIONAL CHECKS OF  
 EQUIPMENT  
 6 Q0669 A PERFORM PMIS ON HIGH SPEED PRINTERS  
 6 L0395 A PERFORM PREVENTIVE MAINTENANCE INSPECTIONS (PMI) ON  
 AIR COOLING SYSTEMS  
 6 G0162 A PERFORM PREOPERATIONAL OR OPERATIONAL CHECKS OF  
 EQUIPMENT  
 6 Q0669 A PERFORM PMIS ON HIGH SPEED PRINTERS  
 6 L0395 A PERFORM PREVENTIVE MAINTENANCE INSPECTIONS (PMI) ON  
 AIR COOLING SYSTEMS

TASK #: 04910  
TROUBLESHOOT OM-70/U MONITOR SATELLITE SYSTEM GROUP (AAMS)  
DUTY CODE: X6  
TASK STATUS: 3-KP  
TIMES ANALYZED: 4

TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: BI-WEEKLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: NONE  
QTP REFERENCE(S): T.O. 31R2-554-1  
TTT: 3  
SME OPINION: 3  
TROUBLESHOOTING IS DONE USING BUILT-IN TEST EQUIPMENT LOCATED  
IN CPU. THIS CPU IS ISOLATE FAULTY TO LRU'S LISTED.

EQUIPMENT:  
FREQUENCY COUNTER, DIGITAL MULTIMETER, OSCILLOSCOPE, SIGNAL  
GENERATOR, SPECTRUM ANALYZER, TOOL BOX, BUILT-IN TEST EQUIP-  
MENT, AN/GSC-44 GROUND SATELLITE COMMUNICATIONS TERMINAL,  
SOLDERING KIT

REFERENCES:  
T.O. 31R2-554-1

CONDITIONS CUES:  
COND: MASTER CONTROL CENTER, DAY/NIGHT, POWER ON, EQUIPMENT  
RELEASED, 2-MAN  
CUE: PMI FINDINGS, QUALITY CONTROL EVALUATION, BUILT-IN TEST  
EQUIPMENT INDICATION, AUDIO/VISUAL ALARMS, OPERATOR  
COMPLAINT

JOB STANDARDS:  
IAW REFERENCES

| OSR DATA: | TASK | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|-----|------|------|------|------|------|-----|
| 304X6 I   | 0218 | .00 | 27.0 | 39.0 | 43.0 | 25.0 | 3.31 |     |
| 304X6 L   | 0325 | .00 | 3.0  | 9.0  | 11.0 | 6.0  | 6.05 |     |
| 304X6 Q   | 0629 | .00 | 25.0 | 26.0 | 25.0 | 6.0  | 5.64 |     |

ACTIVITIES SKILL KNOWLEDGE:  
A CHECK RECEIVE RF SUBSECTION AN/GSC-44  
A PERFORM OPERATION CHECK OF SYSTEM WITH BITE  
K INTERPRET MAJOR ALARM ERROR CODES TO COMPLETE SYSTEM  
TROUBLESHOOTING.  
K APPLY ELECTRO-MECHANICAL THEORY OF OPERATION  
S HIGH RELIABILITY SOLDERING  
K ISOLATE FAULTY CIRCUIT BREAKER PANELS  
K ISOLATE FAULTY INPUT/OUTPUT CONNECTORS  
K ISOLATE FAULTY CABINET POWER INDICATORS  
K ISOLATE FAULTY SERVICE OUTLET PANELS  
K ISOLATE FAULTY BASEBAND CONTROL KEYBOARDS  
K ISOLATE FAULTY PLASMA DISPLAYS  
K ISOLATE FAULTY MAGNETIC TAPE UNITS  
K ISOLATE FAULTY CPU POWER SUPPLY  
K ISOLATE FAULTY COMPUTER PROCESSOR UNIT (CPU)  
K ISOLATE FAULTY DISK UNIT  
K ISOLATE FAULTY RF PATCH PANEL  
K ISOLATE FAULTY RF SECTIONS  
K ISOLATE FAULTY BASEBAND SECTION  
K ISOLATE FAULTY FREQUENCY STANDARD SECTION  
K ISOLATE FAULTY BLOWER ASSEMBLIES  
A REMOVE/REPLACE LINE REPLACEABLE UNITS, PARTS, AND  
SEPARATE COMPONENTS.

OSR JOB INVENTORY TASK STATEMENTS:  
6 Q0629 K ISOLATE MALFUNCTIONS IN BITE  
6 L0325 K ISOLATE MALFUNCTIONS IN CENTRAL PROCESSING UNITS  
(CPU)  
6 I0218 A REMOVE OR REPLACE LINE REPLACEABLE UNITS (LRU)

TASK #: 04920  
 ALIGN/ADJUST OM-70/U MONITOR SATELLITE SYSTEM GROUP (AAMS)  
 DUTY CODE: X6  
 TASK STATUS: 3-K  
 TIMES ANALYZED: 4

TNOTES:  
 CONSEQUENCES: MAJOR, DAMAGE, INJURY  
 HOW OFTEN: MONTHLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: NONE  
 QTP REFERENCE(S): T.O. 31R2-4-554-1  
 TTT: 3  
 SME OPINION: 3

EQUIPMENT:  
 TOOL BOX, OSCILLOSCOPE, DIGITAL MULTIMETER

REFERENCES:  
 T.O. 31R2-4-554-1

CONDITIONS CUES:  
 COND: MASTER CONTROL CENTER, DAY/NIGHT, POWER ON/OFF, EQUIP-  
 MENT RELEASED, 2-MAN  
 CUE: PMI FINDINGS, QUALITY CONTROL EVALUATION, BUILT-IN TEST  
 EQUIPMENT INDICATION, AUDIO/VISUAL ALARM INDICATIONS,  
 OPERATOR COMPLAINT

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|-----|------|------|------|------|------|-----|
| 304X6 Q   | 0621 | .00 | 4.0  | 5.0  | 4.0  | 3.0  | 5.47 |     |
| 304X6 M   | 0447 | .00 | 3.0  | 4.0  | 6.0  | 2.0  | 5.29 |     |

ACTIVITIES SKILL KNOWLEDGE:  
 A ADJUST PRINT HEAD GAP ON LOW SPEED PRINTER  
 A CALIBRATE FREQUENCY OF FREQUENCY STANDARD SECTION  
 A ADJUST BELT TENSIONS ON AUDIO RECORDER  
 K APPLY ELECTRO-MECHANICAL THEORY OF OPERATION

OSR JOB INVENTORY TASK STATEMENTS:  
 6 M0447 A ALIGN FREQUENCY GENERATOR COMPONENTS  
 6 Q0621 A ALIGN LOW SPEED PRINTERS

TASK #: 04930  
 INSPECT OM73(V)G MODEM GROUP  
 DUTY CODE: X6  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 1

TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: DAILY  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-4-619-1 (DRAFT)  
 TTT: NONE  
 SME OPINION: 3  
 NEW EQUIPMENT UNDER WARRANTY

EQUIPMENT:  
 BITE, TOOL KIT

REFERENCES:  
 T.O. 31R2-4-619-1 (DRAFT)

CONDITIONS CUES:  
 COND: POWER ON, EQUIPMENT ON/OFF LINE  
 CUE: OPERATION CHECK, DAILY SYSTEM CHECK

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|-----|------|------|------|------|------|-----|
| 304X6 O   | 0546 | .00 | 18.0 | 21.0 | 22.0 | 7.0  | 4.49 |     |

ACTIVITIES SKILL KNOWLEDGE:  
 A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 A CHECK LAMP/ALARM INDICATORS  
 A CLEAN CABINET EXTERIOR

OSR JOB INVENTORY TASK STATEMENTS:  
 6 00546 A PERFORM PREVENTIVE MAINTENANCE INSPECTIONS (PMI) ON  
 BPSK MODEMS

TASK #: 04940  
TROUBLESHOOT OM73(V)G MODEM GROUP  
DUTY CODE: X6  
TASK STATUS: 3-K  
TIMES ANALYZED: 1

NOTES:

CONSEQUENCES: MINOR, DAMAGE, NONE  
HOW OFTEN: INDEFINITE  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31R2-4-619-1 (DRAFT)  
TTT: NONE  
SME OPINION: 5

EQUIPMENT:

TOOL KIT, BITE, DIGITAL MULTIMETER, ELECTRONIC TOOL KITS  
(TK-100G, TK-101G, AND TK-105G), ESD HANDLING EQUIPMENT,  
WATTMETER

REFERENCES:

T.O. 31R2-4-619-1 (DRAFT)

CONDITIONS CUES:

COND: EQUIPMENT ON/OFF LINE, POWER ON/OFF  
CUE: FAILED INSPECTION, ALARM

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK   | YE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|--------|-----|------|------|------|------|------|-----|
| 204X6     | L 0351 | .00 | 26.0 | 30.0 | 28.0 | 8.0  | 5.59 |     |
| 304X6     | O 0526 | .00 | 17.0 | 18.0 | 20.0 | 11.0 | 6.30 |     |
| 304X6     | O 0532 | .00 | 22.0 | 25.0 | 27.0 | 14.0 | 6.23 |     |

ACTIVITIES SKILL KNOWLEDGE:

- A PERFORM SELF-TEST PROCEDURES FOR CONTROLLER, MODULATOR, AND DEMODULATOR
- A TROUBLESHOOT MODULE POWER-UP
- A TROUBLESHOOT SYSTEM ALARMS
- K ISOLATE FAULTY CIRCUIT CARDS AND ASSOCIATED PARTS
- A REMOVE/REPLACE CONTROLLER CIRCUIT CARD AND OTHER PARTS
- A REMOVE/REPLACE MODULATOR CIRCUIT CARDS AND OTHER PARTS
- A REMOVE/REPLACE DEMODULATOR CIRCUIT CARDS AND OTHER PARTS

OSR JOB INVENTORY TASK STATEMENTS:

- 6 00526 K ISOLATE MALFUNCTIONS TO BPSK MODEMS
- 6 10551 K ISOLATE MALFUNCTIONS TO LINE MODEM UNITS (LMU)
- 6 00532 K ISOLATE MALFUNCTIONS TO QPSK MODEMS

TASK #: 04950

INSPECT AN/TSC-86 COMMUNICATION TERMINAL (AFSATCOM)

DUTY CODE: X6

TASK STATUS: 3-KP

TIMES ANALYZED: 4

TNOTES:

CONSEQUENCES: MINOR, DAMAGE, NONE

HOW OFTEN: 7, 28, 56, 84, 168

QJT TRAINABLE: YES

TNG ADEQUATE: NONE FOR SYSTEM

QTP REFERENCE(S): QTP 300X0-30B (CORROSION CONTROL),  
QTP 300X0-30G QUALITY CONTROL, QTP 300S0-30R  
(TEST EQUIPMENT) NO SYSTEM TO

TTY: N/A

SME OPINION: 3

PERFORMANCE CHECKS ARE ONLY DONE WHEN TRAINING, TROUBLESHOOTING,  
AFTER R/R AND A/A.

EQUIPMENT:

TOOL KIT, DIGITAL MULTIMETER, SIGNAL GENERATOR, RF THROUGH-  
LINE WATTMETER, RF MILLI-VOLTMETER, VACUUM, CLEANING SUPPLIES  
(RAGS, SOLVENT), GENERAL PURPOSE GREASE AND OIL, GREASE AND  
OIL GUN

REFERENCES:

T.O. 31R2-2TSC88-6WC-1, T.O. 31R2-2TSC88-1, T.O. 31R2-2TSC88-2

T.O. 31R2-2TSC88-3, T.O. 31R2-2TSC88-4

CONDITIONS CUES:

COND: IN GARRISON, DAY/NIGHT, FIELD LOCATION, POWER ON/OFF,  
2 MAN MINIMUM

CUE: SCHEDULED PHI, QUALITY CONTROL EVALUATIONS, TRAINING,  
EXERCISES

JOB STANDARDS:

IAM REFERENCES

| OSR DATA: | TASK | YE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|-----|------|------|------|------|------|-----|
| 304X6 G   | 0166 | .00 | 48.0 | 56.0 | 56.0 | 33.0 | 4.73 |     |
| 304X6 L   | 0389 | .00 | 6.0  | 10.0 | 12.0 | 5.0  | 4.30 |     |

ACTIVITIES SKILL KNOWLEDGE:

- A CHECK BLOWER FAILURE LAMP
- A CHECK BLOWER MOTOR
- A CHECK PHYSICAL CONDITION OF ELECTRICAL COMPONENTS
- A CHECK PHYSICAL CONDITION OF SHELTER ELECTRICAL COMPONENTS
- A CLEAN AIR INTAKE FILTER
- A CLEAN AIR EXHAUST FILTER
- A CLEAN AIR CONDITION AIR FILTER
- A CLEAN CONSOLE AIR FILTER
- A CHECK RF COMBINER
- A CHECK TRANSMIT/RECEIVE DIRECTIONAL COUPLER
- A CHECK COMBINER
- A CHECK RF LOAD ANTENNA
- A CHECK 1 MHZ DIVIDER
- A CHECK EMERGENCY MESSAGE PROCESSOR BY-PASS (DEGRADATION PROCEDURES)
- A CHECK MESSAGE INPUT/OUTPUT
- A CHECK TELETYPEWRITER
- A CHECK PRINTER
- A CHECK RELAYS
- A CHECK RF CABLES
- A CHECK MULTIPIN CONNECTOR CABLES
- A CHECK ELECTRICAL WIRING
- A CHECK TERMINAL BOARDS
- A CHECK SWITCHES AND CIRCUIT BREAKERS
- A CHECK CHASSIS
- A CHECK CONNECTORS
- A CHECK GROUND RODS
- A CHECK ANTENNA ASSEMBLIES
- A ALIGN ANTENNAS

OSR JOB INVENTORY TASK STATEMENTS:

- 6 L0389 A PERFORM OPERATIONAL TESTS ON MESSAGE PROCESSOR UNITS
- 6 G0166 A PERFORM UPLINK RF FREQUENCY AND LEVEL CHECKS

TASK #: 94960

TROUBLESHOOT AN/TSC-88 COMMUNICATION TERMINAL (AFSATCOM)

DUTY CODE: X6

TASK STATUS: 3-K

TIMES ANALYZED: 3

NOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY

HOW OFTEN: MONTHLY OR QUARTERLY

OJT TRAINABLE: YES

QTP ADEQUATE: N/A

TNG REFERENCE(S): T.O. 31R2-2TSC88-1, T.O. 31R2-2TSC88-2,  
T.O. 31R2-2TSC88-3, AND T.O. 31R2-2TSC88-4

TTT: N/A

SME OPINION: 3

REMOVED/REPLACED LRU SENT ACROSS BASE TO DEPOT. TECHNICANS  
DON'T DO ANY REPAIRS.

EQUIPMENT:

TOOL KIT, DIGITAL MULTIMETER, BUILT-IN TEST EQUIPMENT, RF  
THROUGH-LINE WATTMETER

REFERENCES:

T.O. 31R2-2TSC88-1

T.O. 31R2-2TSC88-2

T.O. 31R2-2TSC88-3

T.O. 31R2-2TSC88-4

CONDITIONS CUES:

COND: IN GARRISON, FIELD LOCATION. DAY/NIGHT, POWER ON, EQUIP-  
RELEASED, 2 MAN MINIMUM

CUE: FMI FINDINGS, QUALITY CONTROL EVALUATIONS, VISUAL  
INDICATIONS, OPERATOR COMPLAINT

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK   | TE  | IJOB | LENL | SSKL | 7SKL | TD   | ATI |
|-----------|--------|-----|------|------|------|------|------|-----|
| 304X6     | K 0292 | .00 | 6.0  | 8.0  | 9.0  | 3.0  | 5.12 |     |
| 304X6     | L 0337 | .00 | 7.0  | 12.0 | 14.0 | 8.0  | 5.48 |     |
| 304X6     | Q 0655 | .00 | 5.0  | 6.0  | 10.0 | 3.0  | 4.27 |     |

ACTIVITIES SKILL KNOWLEDGE:

- K ISOLATE FAULTY HIGH SPEED PRINTER
- K ISOLATE FAULTY TELETYPEWRITER (ASR)
- K ISOLATE FAULTY MAGNETIC TAPE MEMORY
- K ISOLATE FAULTY DIGITAL INTERFACE UNIT (DIU)
- K ISOLATE FAULTY CENTRAL PROCESSING UNIT (CPU)
- K ISOLATE FAULTY PROCESSOR CONTROL UNIT
- K ISOLATE FAULTY COMMAND POST SYNCHRONIZER
- K ISOLATE FAULTY EMERGENCY ACTION MESSAGE ALARM (EAM)
- K ISOLATE FAULTY RECEIVER/TRANSMITTER CONTROL
- K ISOLATE FAULTY MODEM CONTROLS
- X ISOLATE FAULTY WIDE BAND MODEM
- K ISOLATE FAULTY NARROW BAND MODEM
- K ISOLATE FAULTY RECEIVER/TRANSMITTER
- K ISOLATE FAULTY POWER SUPPLIES
- K ISOLATE FAULTY RELAYS
- K ISOLATE FAULTY COMBINERS
- K ISOLATE FAULTY MULTICOUPLERS
- K ISOLATE FAULTY DISTRIBUTION AMPLIFIER
- K ISOLATE FAULTY PREAMPLIFIER
- K ISOLATE FAULTY RADIO FREQUENCY MONITOR PANEL
- K ISOLATE FAULTY HYBRID
- K ISOLATE FAULTY TEST TRANSLATOR
- K ISOLATE FAULTY RADIO FREQUENCY LOAD ANTENNA
- K ISOLATE FAULTY ANTENNA ASSEMBLIES (FIXED, TRACKING)
- A REMOVE/REPLACE SUBASSEMBLIES, MODULES, AND PARTS

OSR JOB INVENTORY TASK STATEMENTS:

- 6 L0337 K ISOLATE MALFUNCTIONS TO AUTOMATIC SEND/RECEIVE (ASR)  
UNITS
- 6 K0292 K ISOLATE MALFUNCTIONS TO EMERGENCY ACTION MESSAGE  
(EAM) ALARMS
- 6 Q0655 K ISOLATE MALFUNCTIONS TO HIGH SPEED PRINTERS



TASK #: 04970  
 ALIGN/ADJUST AN/TSC-88 COMMUNICATION TERMINAL (AFSATCOM)  
 DUTY CODE: X6  
 TASK STATUS: 3-OJT  
 TIMES ANALYZED: 3

TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: QUARTERLY  
 OJT TRAINABLE: YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-2TSC88-2  
 TTT: N/A  
 SME OPINION: 3

EQUIPMENT:  
 TOOL KIT, SIGNAL GENERATOR, DIGITAL MULTIMETER, POWER METER,  
 DUMMY LOAD

REFERENCES:  
 T.O. 31R2-2TSC88-2

CONDITIONS CUES:  
 COND: IN GARRISON, FIELD LOCATION, DAY/NIGHT, POWER ON,  
 EQUIPMENT RELEASED  
 CUE: PMI FINDING, QUALITY CONTROL EVALUATION, VISUAL  
 INDICATIONS, ANTENNA ASSEMBLIES MALFUNCTION

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA:    | TASK | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|--------------|------|-----|------|------|------|------|------|-----|
| 304X6 Q 0621 |      | .00 | 4.0  | 5.0  | 4.0  | 3.0  | 5.47 |     |

ACTIVITIES SKILL KNOWLEDGE:  
 A ADJUST VARIABLE COUPLING FOR MAXIMUM COUPLING  
 A ADJUST VARIABLE COUPLING FOR MINIMUM COUPLING  
 A ADJUST BRIGHTNESS OF PANEL LIGHTS  
 A ADJUST SYSTEM PARAMETERS

OSR JOB INVENTORY TASK STATEMENTS:  
 6 Q0621 A ALIGN LOW SPEED PRINTERS

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TASK #: 04980  
 INSPECT AN/USC-28 SATELLITE COMMUNICATIONS SET  
 DUTY CODE: X6  
 TASK STATUS: 3-K  
 TIMES ANALYZED: 3

TNOTES:  
 CONSEQUENCES: MINOR, NONE, INJURY  
 HOW OFTEN: DAILY, WEEKLY, SEMI-ANNUALLY, ANNUALLY  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NO, NOT COVERED IN DETAIL  
 TNG REFERENCE(S): QTP 304X6-30GB  
 TTT: NONE  
 SME OPINION: 3

EQUIPMENT:  
 TOOL KIT, RF POWER METER, DIGITAL DATA TEST SET, LINK SIMULATOR  
 TEST ADAPTOR, SPECTRUM ANALYZER, LENS PAPER, LENS CLEANING FLUID,

REFERENCES:  
 T.O. 31S1-2GSC-161, T.O. 31R2-2USC28-1-1  
 T.O. 31R2-2USC28-1-2, T.O. 31R2-2USC28-1-3  
 T.O. 31R2-2USC28-1-4, T.O. 31R2-2USC28-1-5  
 T.O. 31R2-2USC28-1-6, T.O. 31R2-2USC28-1-7  
 T.O. 31R2-2USC28-1-8, T.O. 31R2-2USC28-4 (PARTS), DCAC 800-E70-9

CONDITIONS CUES:  
 COND: SYSTEM MUST BE OFF THE AIR FOR QUARTERLY OR ANNUAL INSPECTIONS  
 CUE: PMI, AFTER REPAIR

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA:    | TASK | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|--------------|------|-----|------|------|------|------|------|-----|
| 304X6 N 0513 |      | .00 | 3.0  | 4.0  | 5.0  | 4.0  | 5.59 |     |
| 304X6 N 0514 |      | .00 | 23.0 | 29.0 | 29.0 | 20.0 | 5.33 |     |
| 304X6 N 0515 |      | .00 | 16.0 | 26.0 | 29.0 | 17.0 | 5.38 |     |

ACTIVITIES SKILL KNOWLEDGE:  
 A CLEAN PLASMA DISPLAY  
 A CHECK PLASMA DISPLAY FOR DEAD AREAS  
 A CLEAN FILTERS AND EQUIPMENT  
 A CHARACTERIZE THE SYSTEM (PERFORM SYSTEMS PERFORMANCE CHECK)

OSR JOB INVENTORY TASK STATEMENTS:  
 6 N0513 A PERFORM NETWORK CONTROL (NCT) OPERATION  
 6 N0514 A PERFORM NETWORK OPERATION (NT)  
 6 N0515 A PERFORM OPERATOR MAINTENANCE ON SPREAD SPECTRUM SYSTEMS

TASK #: 04990

TROUBLESHOOT AN/USC-28 SATELLITE COMMUNICATIONS SET

DUTY CODE: X6

TASK STATUS: 3-KP

TIMES ANALYZED: 3

NOTES:

CONSEQUENCES: MINOR, DAMAGE, NONE

HOW OFTEN: BI-MONTHLY

OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)

QTP ADEQUATE: NO, NOT COMPLETE

TNG REFERENCE(S): QTP 304X6-30GB

TTT: 3

SME OPINION: 3

EQUIPMENT:

TOOL KIT, ANALOG MULTIMETER, DIGITAL MULTIMETER, OSCILLOSCOPE,  
FREQUENCY COUNTER, FREQUENCY CONVERTER, SPECTRUM ANALYZER,  
ADAPTERS, TEST LEADS, BOARD EXTRACTOR, CRIMPING TOOLS,  
INSERTION AND EXTRACTION TOOLS, SOLDERING KIT, BITE, PORTABLE  
GROUNDS (ESD) HANDLING EQUIPMENT

REFERENCES:

T.O. 31R2-2USC28-1-1

T.O. 31R2-2USC28-1-2

T.O. 31R2-2USC28-1-3

T.O. 31R2-2USC28-1-4

T.O. 31R2-2USC28-1-5

T.O. 31R2-2USC28-1-6

T.O. 31R2-2USC28-1-7

T.O. 31R2-2USC28-1-8

CONDITIONS CUES:

COND: ON EQUIPMENT

CUE: SYSTEM FAULT DISPLAY

JOB STANDARDS:

JAW REFERENCES

| OSR DATA: | TASK | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|-----|------|------|------|------|------|-----|
| 304X6 N   | 0506 | .00 | 8.0  | 16.0 | 18.0 | 15.0 | 5.90 |     |
| 304X6 N   | 0510 | .00 | 9.0  | 18.0 | 20.0 | 15.0 | 5.18 |     |
| 304X6 Q   | 0633 | .00 | 33.0 | 39.0 | 40.0 | 16.0 | 6.02 |     |

ACTIVITIES SKILL KNOWLEDGE:

A ISOLATE FAULTY DRAWER USING VERIFY PROCEDURE

A DIRECT AUTOMATIC FAULT ISOLATION (AFI) TO TEST SPECIFIC TEST POINTS

A CONDUCT SYSTEM LOOPBACK TESTS

A TEST FREQUENCY SYNTHESIZER

A TEST CONTROL TRANSMITTER AND TRANSMIT IF PATCH

A TEST CONTROL SYNCHRONIZATION UNIT (CSU) RECEIVER AND RECEIVE IF PATCH

A TEST COMM R/T DRAWER

A TEST PRIME POWER

A TEST POWER SUPPLIES

A TEST PROGRAMMABLE CONTROLLER

A TEST INTERFACE UNIT AND INTERFACE UNIT POWER SUPPLY

A TEST AFI CIRCUIT

A TEST TIME GENERATOR

A TEST DATA DIRECTOR

A TEST WIRING AND CONNECTOR CONTINUITY

A REMOVE/REPLACE DRAWERS

A REMOVE REPLACE CIRCUIT BOARDS OR MODULES

A REMOVE REPLACE INDIVIDUAL COMPONENTS

K APPLY DOUBLE SIDEBAND SUPPRESSED CARRIER RECEIVER

THEORY OF OPERATION

K APPLY DOUBLE SIDEBAND SUPPRESSED CARRIER TRANSMITTER

THEORY OF OPERATION

K OPERATE BITE

OSR JOB INVENTORY TASK STATEMENTS:

6 Q0633 K ISOLATE MALFUNCTIONS IN FREQUENCY SYNTHESIZERS

6 N0506 K ISOLATE MALFUNCTIONS TO CONTROL SYNCHRONIZATION UNITS (CSU)

6 N0510 K ISOLATE MALFUNCTIONS TO SPREAD SPECTRUM SYSTEM POWER SUPPLY UNITS

TASK #: 05000  
 ALIGN OR ADJUST AN/USC-28 SATELLITE COMMUNICATIONS SET INTERFACE UNIT  
 DUTY CODE: X6  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: MINOR, NONE, NONE  
 HOW OFTEN: YEARLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS)  
 QTP ADEQUATE: NO  
 TNG REFERENCE(S): QTP 304X6-30GB  
 TTT: NONE  
 SME OPINION: 3  
 EQUIPMENT:  
 DIGITAL MULTIMETER, TOOL KIT,  
 REFERENCES:  
 T.O. 31R2-2USC28-1-2  
 CONDITIONS CUES:  
 COND: ON EQUIPMENT  
 CUE: FAILED PMI OR TROUBLESHOOTING RESULTS  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB  1ENL  5SKL  7SKL  TD   ATI  
 304X6 G 0149   .00  53.0  60.0  58.0  34.0  3.91  
 304X6 H 0189   .00  23.0  25.0  27.0  16.0  5.25  
 ACTIVITIES SKILL KNOWLEDGE:  
 A ALIGN/ADJUST VAY POWER SUPPLY  
 A ALIGN/ADJUST VA SLC NETWORK VOLTAGE  
 A ALIGN/ADJUST VAX SLC NETWORK REGULATOR  
 A ALIGN/ADJUST VLX SLC NETWORK REGULATOR  
 OSR JOB INVENTORY TASKS:  
 6 G0149 A ESTABLISH ORDERWIRE CONTACT WITH DISTANT TERMINALS  
 6 H0189 A VERIFY OPERATIONAL READINESS WITH DISTANT TERMINALS

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TASK #: 05010  
 OPERATE AN/USC-28 SATELLITE COMMUNICATIONS SET  
 DUTY CODE: X6  
 TASK STATUS: 3-KP  
 TIMES ANALYZED: 3  
 TNOTES:  
 CONSEQUENCES: SERIOUS, NONE, NONE  
 HOW OFTEN: DAILY  
 OJT TRAINABLE: OJT  
 QTP ADEQUATE: YES, YES  
 TNG REFERENCE(S): QTP 304X6-30GB  
 TTT: 3  
 SME OPINION: 3  
 EQUIPMENT:  
 SPECTRUM ANALYZER  
 REFERENCES:  
 T.O. 31R2-2USC28-1-1  
 DCAC 800-E70-9  
 NETWORK CONTROL BOOK  
 CONDITIONS CUES:  
 COND: ON EQUIPMENT  
 CUE: NETWORK CONTROLLER DIRECTION  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:   TASK   TE   1JOB  1ENL  5SKL  7SKL  TD   ATI  
 304X6 H 0188   .00  5.0   8.0   6.0   5.0  6.94  
 304X6 G 0149   .00  53.0  60.0  58.0  34.0  3.91  
 304X6 H 0189   .00  23.0  25.0  27.0  16.0  5.25  
 ACTIVITIES SKILL KNOWLEDGE:  
 A ENERGIZE SYSTEM  
 A LOAD SOFTWARE  
 A INITIALIZE NETWORK CONTROL TERMINAL (NCT) OPERATION  
 A INITIALIZE ALTERNATE NCT OPERATION  
 A INITIALIZE NETWORK TERMINAL (NT) OPERATION AN/USC-28  
 SATELLITE COMMUNICATION SET  
 A SCHEDULE USER CHANNEL CIRCUITS  
 A PERFORM NORMAL OPERATION USING BACKUP TELETYPE  
 A DENERGIZE SYSTEM  
 A ANALYZE ANOMALIES  
 A PERFORM ELECTRONIC COUNTER COUNTERMEASURES  
 OSR JOB INVENTORY TASK STATEMENTS:  
 6 G0149 A ESTABLISH ORDERWIRE CONTACT WITH DISTANT TERMINALS  
 6 H0189 A VERIFY OPERATIONAL READINESS WITH DISTANT TERMINALS  
 6 H0188 A SCHEDULE SATELLITE USERS

TASK #: 05020  
INSPECT AN/TSC-94A SATELLITE COMMUNICATONS TERMINAL  
DUTY CODE: X6  
TASK STATUS: 3-KP  
TIMES ANALYZED: 1

TNOTES:

CONSEQUENCES: MINOR, NONE, INJURY  
HOW OFTEN: 56, 168, 336  
OJT TRAINABLE: YES, NO, REQUIRES ELECTRONIC BACKGROUND  
QTP ADEQUATE: NO, NONE  
TNG REFERENCE(S): T.O. 31R2-2TSC94-11  
TTT: 3  
SME OPINION: 3

EQUIPMENT:

HIGH POWER AMPLIFIER (HPA), POWER SUPPLY, CONTROLLER/MONITOR,  
MODEM, FUSES, ANTENNAS, ANTENNA CONTROL UNIT, LOW NOISE AMPLIFIER  
(LNA), BITE, DOWN CONVERTER, UP CONVERTER, CONTROL TRANSLATER,  
THUMBWHEEL FILTER, FM ORDERWIRE PATCH, LOW RATE MULTIPLEXER (LRM)  
MULTIPLEXER/DEMULTIPLEXER (TSSB), WATTMETER, TOOL BOX,  
NON-METALLIC FILAMENT ADJUSTER, INTERIOR/EXTERIOR FILTERS  
DRY, LINT FREE CLOTH, BRUSH, CLEANING COMPOUND, OSCILLOSCOPE,  
SIGNAL GENERATOR, SPECTRUM ANALYZER, FREQUENCY COUNTER, ANALOG  
MULTIMETER, DIGITAL MULTIMETER, DC RESTORER

REFERENCES:

T.O.31R2-2TSC94-11  
T.O.31R2-2TSC94-16WC1.

CONDITIONS CUES:

COND: DRY, OUTSIDE, ANTENNA SET UP, CLEAR WEATHER  
CUE: PHIS

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|-----|------|------|------|------|------|-----|
| 304X6 L   | 0403 | .00 | 51.0 | 52.0 | 50.0 | 18.0 | 4.05 |     |
| 304X6 O   | 0539 | .00 | 43.0 | 47.0 | 47.0 | 20.0 | 5.46 |     |

ACTIVITIES SKILL KNOWLEDGE:

- A CHECK EQUIPMENT FOR OBVIOUS DEFECTS
- A CHECK METER READINGS
- A CHECK ANTENNA LAMP AND CONTROLLER MONITOR ALARM
- A CHECK SPARE FUSE
- A CHECK LAMPS AND ALARMS
- A CHECK BLACKOUT SWITCH
- A CHECK RECEIVER PERFORMANCE
- A CHECK UPCONVERTER PERFORMANCE
- A CHECK TRANSLATOR LOOP
- A CHECK LRM ALARM RECALL
- A CHECK LRM BITE
- A CHECK TSSP ALARMS RECALL
- A CHECK TSSP DISPLAY
- A CHECK FAULT LOCATOR
- A CHECK TSSP VOLTAGE CONTROL OSCILLATOR(VCXO)
- K PERFORM SPECIAL SYSTEM GROUND INSPECTION
- K PERFORM SPECIAL ANTENNA CLAMPS AND PILLOW BLOCKS  
INSPECTION
- K PERFORM SPECIAL BALL JOINTS AND THREADED COUPLINGS  
INSPECTION

OSR JOB INVENTORY TASK STATEMENTS:

6 00539 A PERFORM BIT ERROR RATE TESTS ON MODEMS  
6 L0403 A PERFORM PHIS ON UP CONVERTERS

TASK #: 05030  
TROUBLESHOOT AN/TSC-94A SATELLITE COMMUNICATIONS TERMINAL  
DUTY CODE: X6  
TASK STATUS: 3-KP  
TIMES ANALYZED: 1

TNOTES:  
CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: MONTHLY  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS  
AND TEST EQUIPMENT  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31R2-2TSC-11  
TTT: 3  
SME OPINION: 3  
KG-81, KG-84, AND KY-58 EQUIPMENT NOT ANALYZED

EQUIPMENT:  
TOOL KIT, POWER METER, ATTENUATORS, DIGITAL MULTIMETER, TELEPHONE  
TEST SET, FREQUENCY COUNTER, OSCILLOSCOPE, SIGNAL GENERATOR, DC  
RESTORER, SPECTRUM ANALYZER, ANALOG MULTIMETER

REFERENCES:  
T.O. 31R2-2TSC-11

CONDITIONS CUES:  
COND: POWER ON/OFF, ON/OFF SATELLITE LINK  
CUE: PMI FINDING, FAILED EQUIPMENT, USER COMPLAINT, CIRCUIT  
CARD/PARTS REPLACEMENT

JOB STANDARDS:  
IAW REFERENCES

| OSR DATA: | TASK | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|-----|------|------|------|------|------|-----|
| 304X6 J   | 0228 | .00 | 35.0 | 52.0 | 52.0 | 23.0 | 6.45 |     |
| 304X6 K   | 0285 | .00 | 52.0 | 60.0 | 59.0 | 28.0 | 5.67 |     |
| 304X6 Q   | 0642 | .00 | 11.0 | 13.0 | 15.0 | 9.0  | 5.42 |     |

ACTIVITIES SKILL KNOWLEDGE:  
A REMOVE/REPLACE AN/TSC-94 ASSEMBLY CIRCUIT CARDS,  
PARTS, AND ASSOCIATED COMPONENTS  
A PERFORM BITE CHECK OF ALL EQUIPMENT ASSEMBLIES  
A PERFORM OPERATION CHECK  
A CHECK RECEIVE SIGNAL  
A CHECK TRANSMIT SIGNAL  
A CHECK FOR FAULTY PATCHES, JACKS, AND CONNECTORS  
A CHECK FOR EQUIPMENT SHORTS UNRELATED TO EQUIPMENT  
FUNCTIONS (CHASSIS SHORTS, GROUNDS, ETC.)  
K ISOLATE FAULTY RCV SHF/AJVV TRACK PATCH  
K ISOLATE FAULTY SB-4227/TSC-94A SHF MON PATCHING PANEL  
K ISOLATE FAULTY C-10273/TSC ANTENNA CONTROL  
K ISOLATE FAULTY C-11375/TSC94A CONTROL MONITOR  
K ISOLATE FAULTY CV-3201B/TSC DOWN CONVERTER  
K ISOLATE FAULTY C-11109A/TSC LNA CONTROL TRANSLATOR  
K ISOLATE FAULTY MX-10635/TSC-94A COHERENT COMBINER  
K ISOLATE FAULTY J-4138/TSC-94A SHF XMT PATCH PANEL  
K ISOLATE FAULTY AM-6701/TSC HIGH POWERED AMPLIFIER  
(HPA)  
K ISOLATE FAULTY PP--7920/TSC-94A HIGH VOLTAGE POWER  
SUPPLY  
K ISOLATE FAULTY CV-31968/TSC  
K ISOLATE FAULTY OA-9212/TSC-94A THUMBWHEEL FILTER  
GROUP  
K ISOLATE FAULTY AS-3036/TSC PARABOLIC ANTENNA (8FT)  
K ISOLATE FAULTY DATA PATCH PANEL  
K ISOLATE FAULTY MD-945/TSC DIGITAL DATA MODEM  
K ISOLATE FAULTY TD-1389/TSC MUX/DEMUX (LRM)  
K ISOLATE FAULTY TD-1337(V)4/G DIGITAL MUX  
K ISOLATE FAULTY MODEM PATCH  
K ISOLATE FAULTY ORDERWIRE PATCH  
K ISOLATE FAULTY RT-1287/TSC ORDERWIRE PATCH  
K ISOLATE FAULTY CV-3896/TSC-944 VOLTAGE CONVERTER  
K ISOLATE FAULTY CV-3841/TSC POWER COVERTERS  
K ISOLATE FAULTY POWER DISTRIBUTION PANEL  
K ISOLATE FAULTY EMI POWER ENTRY PANEL  
K INTERPRET FAULTY ERROR CODES

OSR JOB INVENTORY TASK STATEMENTS:  
6 J0228 K ISOLATE MALFUNCTIONS IN ANTENNA CONTROLS  
6 K0285 K ISOLATE MALFUNCTIONS IN DOWN CONVERTERS  
6 Q0642 K ISOLATE MALFUNCTIONS IN POWER DISTRIBUTION PANELS

TASK #: 05040  
PERFORM OPERATION CHECK OF AN/TSC-94 SATELLITE COMMUNICATIONS TERMINAL  
DUTY CODE: X6  
TASK STATUS: 3-KP  
TIMES ANALYZED: 1

TNOTES:  
CONSEQUENCES: SERIOUS, NONE, NONE  
HOW OFTEN: EVERY OTHER MONTH, UPON DEPLOYMENT  
OJT TRAINABLE: YES, YES  
QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O.31R2-2TSC94-11  
TTT: 3  
SHE OPINION: 3

EQUIPMENT:  
BITE ON EQUIPMENT RACKS, CABLES AND CONNECTORS, HANDTOOLS

REFERENCES:  
31R2-2TSC94-11

CONDITIONS CUES:  
COND: POWER ON, PARTIAL SATELLITE ACCESS, LOOP TEST MODE  
CUE: PMI, AFTER TROUBLESHOOTING OR CIRCUIT CARD/PART  
REPLACEMENT, SET-UP/TEARDOWN OF AN/TSC-94

JOB STANDARDS:  
IAW REFERENCES

| OSR DATA: | TASK   | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|--------|-----|------|------|------|------|------|-----|
| 304X6     | G 0156 | .00 | 43.0 | 50.0 | 48.0 | 31.0 | 4.52 |     |
| 304X6     | G 0165 | .00 | 59.0 | 65.0 | 63.0 | 36.0 | 4.81 |     |
| 304X6     | O 0539 | .00 | 43.0 | 47.0 | 47.0 | 20.0 | 5.46 |     |

ACTIVITIES SKILL KNOWLEDGE:  
A PERFORM TURN-ON PROCEDURES  
A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
A SET CONTROLLER-MONITOR SWITCHES  
A TUNE UP-CONVERTER AND HIGH POWERED AMPLIFIER  
A TUNE DOWN CONVERTER  
A SET MODEM SWITCHES  
A INSTALL ORDERWIRE PATCHES ON PATCH PANEL  
A INSTALL THUMBWHEEL FILTER GROUP PATCHES  
A INSTALL TEST PATCHES  
A ADJUST TRANSMITTER FOR 20 WATTS  
A CHECK CONTROLLER MONITOR PANEL FOR FAULT INDICATION  
A SET ORDER WIRE RADIO SWITCHES AND CHECK FOR TEST TONE INDICATION  
K INTERPRET FAULT ERROR CODES

OSR JOB INVENTORY TASK STATEMENTS:  
6 00539 A PERFORM BIT ERROR RATE TESTS ON MODEMS  
6 00156 A PERFORM CARRIER NOISE DENSITY CHECKS (C/KT)  
6 00165 A PERFORM TURN-ON OR TURN-OFF PROCEDURES OF EARTH TERMINALS

TASK #: 05050  
ALIGN/ADJUST AN/TSC-94A SATELLITE COMMUNICATIONS TERMINAL  
DUTY CODE: X6  
TASK STATUS: 3-K  
TIMES ANALYZED: 1

TNOTES:

CONSEQUENCES: MINOR, NONE, NONE  
HOW OFTEN: 56, 168, 336  
OJT TRAINABLE: YES, NO, REQUIRES ELECTRONIC BACKGROUND  
QTP ADEQUATE: NO, NONE  
TNG REFERENCE(S): T.O. 31R2-2TSC94-11  
TTT: 3  
SME OPINION: 3

EQUIPMENT:

WATTMETER, PHILLIPS AND STANDARD SCREWDRIVER, TORQUE WRENCH  
(SMALL), NON-METALLIC ADJUSTING TOOL, STEP ATTENUATOR, FIXED  
ATTENUATOR, LIMITER, TEST CABLE, C/KT TEST CABLES, ADAPTERS,  
ELECTRONIC DIGITAL READOUT FREQUENCY COUNTER

REFERENCES:

T.O.31R2-2TSC94-11  
T.O.31R2-2TSC94-16WC-1

CONDITIONS CUES:

COND: DRY, INSIDE/OUTSIDE, INCLEMENT WEATHER  
CUE: PMI

JOB STANDARDS:

I&W REFERENCES

| OSR DATA: | TASK | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|-----|------|------|------|------|------|-----|
| 304X6 Q   | 0604 | .00 | 4.0  | 5.0  | 5.0  | 1.0  | 5.08 |     |
| 304X6 K   | 0276 | .00 | 65.0 | 65.0 | 61.0 | 34.0 | 2.72 |     |
| 304X6 P   | 0562 | .00 | 33.0 | 37.0 | 34.0 | 12.0 | 5.75 |     |

ACTIVITIES SKILL KNOWLEDGE:

A ALIGN/ADJUST HIGH POWER AMPLIFIER(HPA)  
A ALIGN/ADJUST UP CONVERTER  
A ALIGN/ADJUST MD-945 MODEM  
A ALIGN/ADJUST DOWN CONVERTER  
A ALIGN/ADJUST CONTROL TRANSMITTER LOOP  
A CHECK LAMPS AND FUSES  
A CHECK LOW RATE MULTIPLEXER(LRM) SELF TEST ON PANELS  
A CHECK DIGITAL MULTIPLEXER(TSSP) SELF TEST ON PANELS  
A CHECK LOW NOISE AMPLIFIER (LNA) BITE

OSR JOB INVENTORY TASK STATEMENTS:

6 Q0604 A ADJUST BASEBAND AMPLIFIER COMPONENTS  
6 K0276 A ADJUST DOWN CONVERTERS TO SPECIFIC CARRIER FREQUEN-  
CIES  
6 P0562 A ALIGN TRACKING DOWN CONVERTER COMPONENTS  
6 K0276 A ADJUST DOWN CONVERTERS TO SPECIFIC CARRIER FREQUEN-  
CIES  
6 P0562 A ALIGN TRACKING DOWN CONVERTER COMPONENTS  
6 Q0604 A ADJUST BASEBAND AMPLIFIER COMPONENTS

TASK #: 05060  
 SET-UP OR TEAR DOWN AN/TSC-94A SATELLITE COMMUNICATIONS TERMINAL  
 DUTY CODE: X6  
 TASK STATUS: 3-K  
 TIMES ANALYZED: 1

TNOTES:  
 CONSEQUENCES: MINOR, DAMAGE, NONE  
 HOW OFTEN: QUARTERLY FOR OPERATION, 6 TIMES ANNUALLY FOR TRAINING  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O.31R2-2TSC94-11  
 TTT: 3  
 SME OPINION: 3

EQUIPMENT:  
 MESSAGE FROM HDQTRS WITH SATELLITE LOCATION DATA, AN/TSC-94, HANDTOOLS, COMPASS (TRANSIT), SLEDGE HAMMER OR MOTOR DRIVEN DRILL FOR GROUNDING RODS

REFERENCES:  
 T.O. 31R2-2TSC94-11

CONDITIONS CUES:  
 COND: NO SET-UP IN HIGH WINDS, 4 MAN CREW (4 FOR ANTENNA LIFT)  
 CUE: TRAINING, DEPLOYED TO SITE

JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|-----|------|------|------|------|------|-----|
| 304X6 Q   | 0681 | .00 | 37.0 | 36.0 | 37.0 | 18.0 | 4.00 |     |
| 304X6 R   | 0708 | .00 | 30.0 | 27.0 | 2.0  | 5.0  | 4.06 |     |

ACTIVITIES SKILL KNOWLEDGE:  
 A LOCATE SUITABLE SITE  
 A LOCATE SATELLITE  
 A PARK VAN AND REMOVE ANTENNA  
 A ASSEMBLE ANTENNA FROM STORAGE RACK  
 A ANCHOR AND ROUGH ALIGN ANTENNA TO SATELLITE  
 A CONNECT CABLES  
 A INSTALL GROUNDS (MAY REQUIRE USE OF SPECIAL GEAR)  
 A SET-UP AND CHECK GENERATOR (DONE BY X6 OCCASIONALLY)  
 A CONNECT POWER  
 A INSTALL OR REMOVE CRYPTO EQUIPMENT  
 A CHECK EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS  
 A TEAR DOWN TSC-94 BY REVERSING STEPS LISTED ABOVE  
 K SATELLITE LOCATION DETERMINES TSC-94 AND ANTENNA LOCATION  
 K ENSURE ANTENNA DOESN'T DAMAGE TSC-94 FRONT EQUIPMENT RACKS DURING INSTALLATION AND REMOVAL FROM VAN

OSR JOB INVENTORY TASK STATEMENTS:  
 6 R0708 A INSTALL OR REMOVE CABLING BETWEEN SITE VANS  
 6 Q0681 A REMOVE OR REPLACE CRYPTO EQUIPMENT



TASK #: 05070  
INSPECT AN/TSC-100 SATELLITE COMMUNICATONS TERMINAL  
DUTY CODE: X6  
TASK STATUS: 3-KP  
TIMES ANALYZFD: 1

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: 56, 168, 336  
OJT TRAINABLE: YES, NO, REQUIRES ELECTRONIC BACKGROUND  
QTP ADEQUATE: NO, NONE  
TNG REFERENCE(S): T.O. 31R2-2TSC100-16WC-1  
TTT: 3  
SME OPINION: 5  
KG-81, KG-84, AND KY-58 EQUIPMENT NOT ANALYZED

EQUIPMENT:

HIGH POWER AMPLIFIER (HPA), POWER SUPPLY, CONTROLLER/MONITOR,  
MODEM, FUSES, ANTENNAS, ANTENNA CONYROL UNIT, LOW NOISE  
AMPLIFIER, (LNA), LNA BITE, DOWN CONVERTER, UP CONVERTER, CONTROL  
TRANSLATER, THUMBWHEEL FILTER, FM ORDERWIRE PATCH, LOW RATE  
MULTIPLEXER (LRM), MULTIPLEXER/DEMULTIPLEXER (TSSB), WATTMETER,  
TOOL BOX, NON-METALLIC FILAMENT ADJUSTER, INTERIOR/EXTERIOR  
FILTERS DRY, LINT FREE CLOTH, BRUSH, CLEANING COMPOUND,  
ATTENUATORS, TEST CABLES, CABLE ADAPTERS, ANALOG MULTIMETER,  
DIGITAL MULTIMETER, DC RESTORER, FREQUENCY COUNTER, OSCILLOSCOPE,  
SIGNAL GENERATOR, SPECTRUM ANALYZER

REFERENCES:

T.O. 31R2-2TSC100-16WC-1

CONDITIONS CUES:

COND: OUTSIDE, ANTENNA SET UP  
CUE: PHIS

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|-----|------|------|------|------|------|-----|
| 304X6 J   | 0253 | .00 | 28.0 | 33.0 | 31.0 | 9.0  | 4.40 |     |
| 304X6 L   | 0403 | .00 | 51.0 | 52.0 | 50.0 | 18.0 | 4.05 |     |

ACTIVITIES SKILL KNOWLEDGE:

- A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS
- A CHECK METER READINGS
- A CHECK ANTENNA LAMP AND CONTROLLER MONITOR ALARM
- A CHECK SPARE FUSE
- A CHECK LAMPS AND ALARMS
- A CHECK BLACKOUT SWITCH
- A CHECK RECEIVER PERFORMANCE
- A CHECK UPCONVERTER PERFORMANCE
- A CHECK TRANSLATOR LOOP
- A CHECK LRM ALARM RECALL
- A CHECK LRM BITE
- A CHECK TSSP ALARMS RECALL
- A CHECK TSSP DISPLAY
- A CHECK FAULT LOCATOR
- A CHECK TSSP VOLTAGE CONTROL OSCILLOLATOR (VCXO)
- K PERFORM SPECIAL SYSTEM GROUND INSPECTION
- K PERFORM SPECIAL ANTENNA CLAMPS AND PILLOW BLOCKS INSPECTION
- K PERFORM SPECIAL BALL JOINTS AND THREADED COUPLINGS INSPECTION

GSR JOB INVENTORY TASK STATEMENTS:

6 J0253 A PERFORM PHIS ON PARABOLIC ANTENNAS  
6 L0403 A PERFORM PHIS ON UP CONVERTERS

TASK #: 05080  
TROUBLESHOOT AN/TSC-100 SATELLITE COMMUNICATIONS TERMINAL  
DUTY CODE: X6  
TASK STATUS: 3-KP  
TIMES ANALYZED: 1

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
HOW OFTEN: IN CONJUNCTION WITH PMI (NEW SYSTEM)  
OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONIC FUNDAMENTALS  
AND TEST EQUIPMENT

QTP ADEQUATE: NONE  
TNG REFERENCE(S): T.O. 31R2-2TSC100-11  
TTT: 3

SME OPINION: 3

EQUIPMENT:

TOOL KIT, POWER METER, ATTENUATORS, DIGITAL MULTIMETER, TELEPHONE  
TEST SET, FREQUENCY COUNTER, OSCILLOSCOPE, SIGNAL GENERATOR, DC  
RESTORER, SPECTRUM ANALYZER

REFERENCES:

T.O. 31R2-2TSC100-11

CONDITIONS CUES:

COND: POWER ON/OFF, ON/OFF SATELLITE LINK  
CUE: PMI FINDING, FAILED EQUIPMENT, USER COMPLAINT, CIRCUIT  
CARD/PARTS REPLACEMENT

JOB STANDARDS:

IAW REFERENCES

| OSR DATA: | TASK | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|------|-----|------|------|------|------|------|-----|
| 304X6 K   | 0285 | .00 | 52.0 | 60.0 | 59.0 | 28.0 | 5.67 |     |
| 304X6 Q   | 0629 | .00 | 25.0 | 26.0 | 25.0 | 6.0  | 5.64 |     |
| 304X6 Q   | 0640 | .00 | 27.0 | 25.0 | 28.0 | 13.0 | 5.68 |     |

ACTIVITIES SKILL KNOWLEDGE:

- A PERFORM BITE CHECK OF ALL EQUIPMENT ASSEMBLIES
- A PERFORM OPERATION CHECK
- A CHECK RECEIVE SIGNAL
- A CHECK TRANSMIT SIGNAL
- A CHECK LAMPS AND FUSES
- A CHECK LOW RATE MULTIPLEXER(LRM) SELF TEST ON PANELS
- A CHECK DIGITAL MULTIPLEXER(TSSP) SELF TEST ON PANELS
- A CHECK LOW NOISE AMPLIFIER (LNA) BITE
- A CHECK FOR FAULTY PATCHES, JACKS, AND CONNECTORS
- A CHECK FOR EQUIPMENT SHORTS UNRELATED TO EQUIPMENT  
FUNCTIONS (CHASSIS SHORTS, GROUNDS, ETC.)
- A ISOLATE FAULTY AN/TSC100 ASSEMBLY CIRCUIT CARDS,  
PARTS, AND ASSOCIATED COMPONENTS
- A REMOVE/REPLACE AN/TSC100 ASSEMBLY CIRCUIT CARDS,  
PARTS, AND ASSOCIATED COMPONENTS

OSR JOB INVENTORY TASK STATEMENTS:

- 6 Q0629 K ISOLATE MALFUNCTIONS IN BITE
- 6 K0285 K ISOLATE MALFUNCTIONS IN DOWN CONVERTERS
- 6 Q0640 K ISOLATE MALFUNCTIONS IN PATCH PANELS

TASK #: 05090  
 ALIGN/ADJUST AN/TSC-100 SATELLITE COMMUNICATIONS TERMINAL  
 DUTY CODE: X6  
 TASK STATUS: 3-K  
 TIMES ANALYZED: 1  
 TNOTES:  
 CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: 56, 168, 336  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONICS BACKGROUND)  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-2TSC100-11 AND 31R2-2G-321  
 TTT: 3  
 SNE OPINION: 3  
 EQUIPMENT:  
 WATTMETER, TOOL KIT, SMALL TORQUE WRENCH, NON-METALLIC ADJUSTING  
 TOOL, STEP ATTENUATOR, FIXED ATTENUATOR, LIMITER, TEST CABLE,  
 C/KIT TEST CABLES, ADAPTERS, ELECTRONIC DIGITAL READOUT FREQUENCY  
 COUNTER, BITE BUMMY LOAD, BUILT-IN-TEST EQUIPMENT  
 REFERENCES:  
 T.O. 31R2-2TSC100-11  
 T.O. 31R2-2G-321  
 CONDITIONS CUES:  
 COND: POWER ON, INSIDE VAN, NOT IN INCLEMENT WEATHER  
 CUE: PHI, TROUBLESHOOTING SYSTEM, ASSEMBLY CIRCUIT CARD OR PARTS  
 REPLACEMENT  
 JOB STANDARDS:  
 IAW REFERENCES  
 OSR DATA:    TASK    TE    1JOB  1ENL  5SKL  7SKL  TD    ATI  
 304X6 K 0276    .00  65.0  65.0  61.0  34.0  2.72  
 304X6 M 0457    .00  29.0  28.0  26.0   8.0  5.68  
 ACTIVITIES SKILL KNOWLEDGE:  
   A ALIGN/ADJUST HIGH POWER AMPLIFIER (HPA)  
   A ALIGN/ADJUST UP CONVERTER FREQUENCY  
   A ALIGN/ADJUST MD-945 MODEM  
   A ALIGN/ADJUST DOWN CONVERTER  
   A ALIGN/ADJUST CONTROL TRANSMITTER LOOP  
   K RECOGNIZE OUT OF TOLERANCE LEVEL/FREQUENCY CONDITIONS  
 OSR JOB INVENTORY TASK STATEMENTS:  
   6 K0276 A ADJUST DOWN CONVERTERS TO SPECIFIC CARRIER FREQUEN-  
       CIES  
   6 M0457 A ALIGN TIME DIVISION MULTIPLEXERS

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TASK #: 05100  
 PERFORM OPERATION CHECK OF AN/TSC-100 SATELLITE COMMUNICATIONS TERMINAL  
 DUTY CODE: X6  
 TASK STATUS: 3-KP  
 TIMES ANALYZED:  
 TNOTES:  
 CONSEQUENCES: SERIOUS, NONE, NONE  
 HOW OFTEN: MONTHLY  
 OJT TRAINABLE: YES, NO (TASK REQUIRES ELECTRONICS FUNDAMENTALS)  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-2TSC100-11 AND 31R2-2G-321  
 TTT: 3  
 SNE OPINION: 3  
 EQUIPMENT:  
 BITE ON EQUIPMENT ASSEMBLIES, CABLES AND CONNECTORS, HANDTOOLS,  
 DEPLOYMENT MESSAGE OR SIMULATION, SPECTRUM ANALYZER  
 REFERENCES:  
 T.O. 31R2-2TSC100-11  
 T.O. 31R2-2G-321  
 CONDITIONS CUES:  
 COND: POWER ON, MONITOR SATELLITE, LOOP TEST MODE  
 CUE: PHI, AFTER TROUBLESHOOTING OR CIRCUIT CARD/PART  
 REPLACEMENT, SET-UP OF AN/TSC-100  
 JOB STANDARDS:  
 IAW REFERENCES

| OSR DATA: | TASK   | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|--------|-----|------|------|------|------|------|-----|
| 304X6     | G 0163 | .00 | 44.0 | 48.0 | 45.0 | 22.0 | 5.54 |     |
| 304X6     | G 0165 | .00 | 59.0 | 65.0 | 63.0 | 36.0 | 4.81 |     |
| 304X6     | O 0539 | .00 | 43.0 | 47.0 | 47.0 | 20.0 | 5.46 |     |

ACTIVITIES SKILL KNOWLEDGE:

- A PERFORM TURN-ON PROCEDURES
- A INSPECT EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS
- A SET CONTROLLER-MONITOR SWITCHES
- A TUNE UP-CONVERTER AND HIGH POWERED AMPLIFIER
- A TUNE DOWN CONVERTER
- A SET MODEM SWITCHES
- A INSTALL ORDERWIRE PATCHES ON PATCH PANEL
- A INSTALL THUMBWHEEL FILTER GROUP PATCHES
- A TUNE SURFACE ACOUSTIC WAVE FILTER
- A INSTALL TEST PATCHES
- A ADJUST TRANSMITTER FOR 5 WATTS
- A CHECK CONTROLLER MONITOR PANEL FOR FAULT INDICATION
- A SET ORDER WIRE RADIO SWITCHES AND CHECK FOR TEST
- A TUNE RESONANT CAVITY KLYSTRON
- A PERFORM SIGNAL TO NOISE POWER BALANCING TEST TONE INDICATION
- K INTERPRET FAULT ERROR CODES
- K INTERPRET DEPLOYMENT MESSAGE

OSR JOB INVENTORY TASK STATEMENTS:

- 6 00539 A PERFORM BIT ERROR RATE TESTS ON MODEMS
- 6 00163 A PERFORM RECEIVE LINK GAIN CHECKS
- 6 00165 A PERFORM TURN-ON OR TURN-OFF PROCEDURES OF EARTH TERMINALS

TASK #: 05110

SET-UP OR TEAR DOWN AN/TSC-100 SATELLITE COMMUNICATIONS TERMINAL  
 DUTY CODE: X6  
 TASK STATUS: 3-X  
 TIMES ANALYZED: 1

TNOTES:

CONSEQUENCES: SERIOUS, DAMAGE, INJURY  
 HOW OFTEN: MONTHLY  
 OJT TRAINABLE: YES, YES  
 QTP ADEQUATE: NONE  
 TNG REFERENCE(S): T.O. 31R2-2TSC100-11 AND 31R2-2G-321  
 TTY: 3  
 SNE OPINION: 3

EQUIPMENT:

MESSAGE FROM HQ WITH SATELLITE LOCATION/ACCESS DATA,  
 AN/TSC-100, HANDTOOLS, COMPASS (TRANSIT), SLEDGE HAMMER OR MOTOR  
 DRIVEN DRILL FOR GROUNDING RODS, 20 FT QRSAG OE-361 ANTENNA

REFERENCES:

T.O. 31R2-2TSC100-11, T.O. 31R2-2G-321

CONDITIONS CUES:

COND: NO SET-UP IN HIGH WINDS, 3 MAN CREW FOR 20 FT ANTENNA  
 (4 MAN FOR 8 FT ANTENNA LIFT)  
 CUE: TRAINING, DEPLOYED TO SITE

JOB STANDARDS:

IAM REFERENCES

| OSR DATA: | TASK   | TE  | 1JOB | 1ENL | 5SKL | 7SKL | TD   | ATI |
|-----------|--------|-----|------|------|------|------|------|-----|
| 304X6     | R 0708 | .00 | 30.0 | 27.0 | 22.0 | 5.0  | 4.05 |     |
| 304X6     | R 0711 | .00 | 22.0 | 14.0 | 14.0 | 5.0  | 4.05 |     |
| 304X6     | R 0713 | .00 | 15.0 | 13.0 | 12.0 | 3.0  | 4.22 |     |

ACTIVITIES SKILL KNOWLEDGE:

- A LOCATE SUITABLE SITE
- A LOCATE SATELLITE
- A PARK AND SITE 20FT ANTENNA
- A PARK VAN AND REMOVE 8 FT ANTENNA (IF USED)
- A ASSEMBLE 8FT ANTENNA FROM STORAGE RACK (IF USED)
- A ANCHOR AND ROUGH ALIGN ANTENNA TO SATELLITE
- A ASSEMBLE 20 FT ANTENNA
- A INSTALL GROUNDS (MAY REQUIRE USE OF SPECIAL GEAR)
- A CONNECT CABLES
- A CONNECT POWER (AGE -8 OR 60 CYCLE COMMERCIAL POWER)
- A INSTALL, REMOVE, OR KEY CRYPTO EQUIPMENT
- A CHECK EQUIPMENT VISUALLY FOR OBVIOUS DEFECTS
- A TEAR DOWN TSC-100 BY REVERSING STEPS LISTED ABOVE
- K SATELLITE LOCATION DETERMINES TSC-100 AND ANTENNA LOCATION
- K ENSURE ANTENNA DOESN'T DAMAGE TSC-100 FRONT EQUIPMENT RACKS DURING INSTALLATION AND REMOVAL FROM VAN

OSR JOB INVENTORY TASK STATEMENTS:

- 6 R0708 A INSTALL OR REMOVE CABLING BETWEEN SITE VANS
- 6 R0711 A INSTALL OR REMOVE POWER GENERATING EQUIPMENT
- 6 R0713 A INSTALL OR REMOVE TRACKING ANTENNA GROUPS