

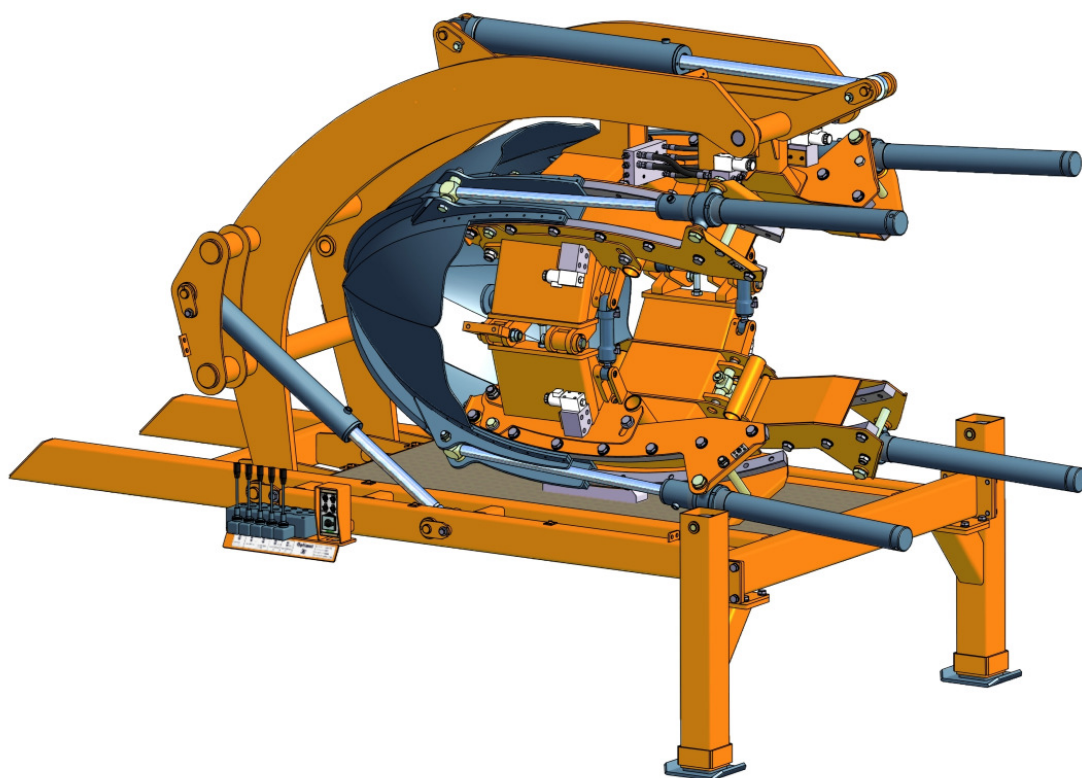


OPERATING MANUAL

FOR

TREE SPADE OPTIMAL 1100

MOUNTED ON FORD F550



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Safety Instructions for OPTIMAL Tree Spade

The operator and his assistant(s) must have read and understood the Operating Manual before running the tree spade. Furthermore, the operator must be experienced in driving the truck and he must have studied the relevant truck manual.

Before starting operations, bolts and hydraulic fittings of the tree spade must be checked to make sure they are free of damage and well tightened.

Defective or loose hose pipes might cause serious injuries and therefore must be replaced immediately.

The operator is responsible for ensuring that no person is near the tree spade when in operation; in particular, no one should be standing underneath the raised tree spade or near shearing and pinching areas, or near the gate, or near blades or near hydraulic components.

We are advising the user that due to their functional positions and movements the danger areas cannot be furnished with protective guides.

When sight is limited, an assistant must direct the operator by hand signals.

When driving, the tree spade should be in the lowest possible position. When moving and working on public roads, the relevant traffic rules and regulations must be adhered to.

When doing cleaning, maintenance or repair work, lower the tree spade to the ground and stop the engine of the power unit.

The tree spade must be inspected by an expert on operational reliability annually.

All hydraulic hose pipes must get replaced every six years.

Do not modify the equipment unless the manufacturer has given his approval. Use original spare parts only.

When digging it might happen that a stone gets caught between two blades and the blades get bent. This causes tremendous tension in the steel blades. Place the digging head again into the planting hole and retract the blades. Thereby the stone will come loose. The blades got a high degree of bending strength and they will regain their former shape. After the stone has been released, the root ball can be dug again.

Do not try to release the stone by means of a crow bar or other tools!

When travelling, the hydraulic pump must be switched off.

1. Tower:



Part N° 711800001



**KEEP AWAY
FROM SWING AREA
WHEN IN OPERATION**

Part N° 711800008



**NO SE ACERQUE A LA
ZONA DE MOVIMIENTO
CUANDO ESTÁ
EN FUNCIONAMIENTO**

Part N° 711800015

5. Gate Cylinder:



Part N° 711800007

2. Tower:



Part N°
Part N°



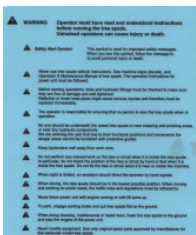
**AVOID INJURY
Stay Clear!
This structure
swings outward**

Part N° 711800012



**EVÍTESE LA HERIDA
¡No se acerque!
Está estructura
mueve hacia afuera**

Part N° 711800020



Part N° 711800018

7. Frame:



Part N° 711800004



Part N° 711800005

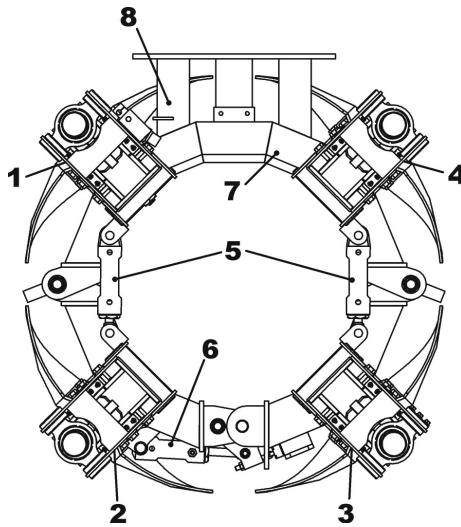


Part N° 711800006

8. Oil - Manifold:



Part N° 711800010



6. Lock Cylinder:



Part N° 711800019

4. Tower:



Part N° 711800001



**AVOID INJURY
Stay Clear
Of
Elevated Unit
And Tree Spade**

Part N° 711800009



**EVÍTESE LA HERIDA
No se acerque
ni la unidad elevada
ni la transplantadora**

Part N° 711800016

5. Gate Cylinder:



Part N° 711800007

3. Tower:



711800001

711800001



**MOVING MACHINERY
KEEP HANDS AND
FEET CLEAR**

Part N° 711800014



**MAQUINARIA EN MOVIMIENTO
MANTENGA MANOS Y PIES
ALEJADOS**

Part N° 711800017



**WATCH YOUR
HANDS AND
FINGERS**



Part N° 711800013

1. Operating Specifications

Description	Tree Spade OPTIMAL 1100		
serial number	111 070		
capacity	upper root ball diameter	114 cm	(44")
	root ball depth	75 cm	(30")
dimensions of basic machine	height	179 cm	(70")
	width, gate closed	131 cm	(52")
	width, gate open	198 cm	(78")
	clearance between open gate	100 cm	(39")
weights	basic machine, empty	940 kg	(2035 lbs.)
	superstructure	1030 kg	(2270 lbs.)
hydraulics	working pressure	200 bar	(2,900 lbs/in ²)
	oil flow	40 – 60 l/min.	(11 – 16 GPM)
controls	hydraulic valves, double acting, activated from valve banks and control box at the base frame		
field of application	tree nurseries; gardens; civic greens		

2. Hydraulic Supply

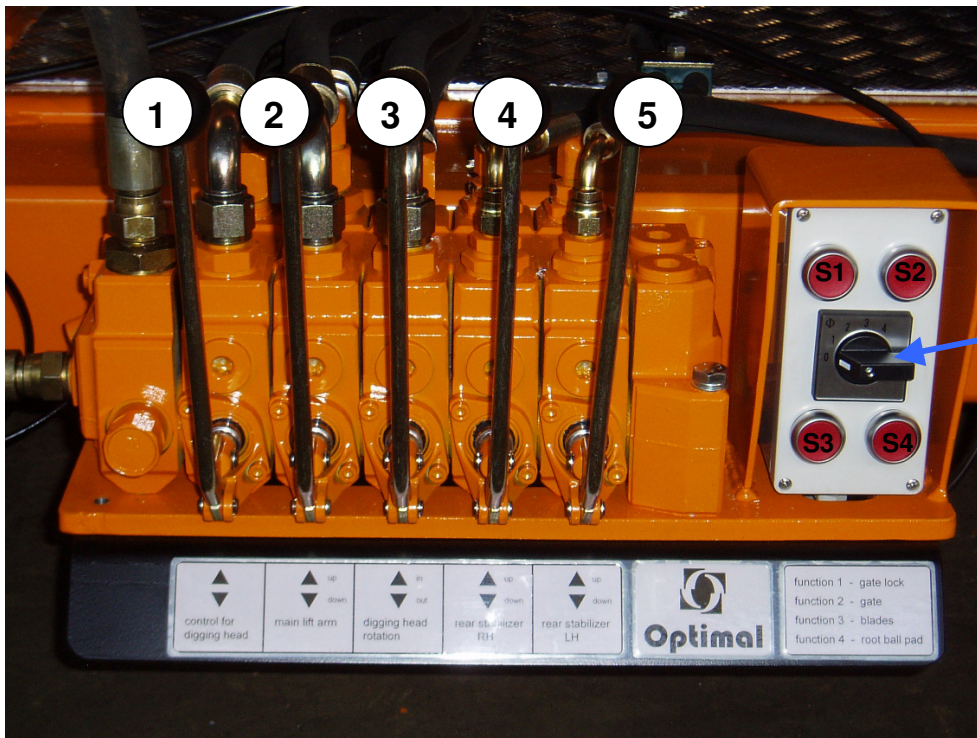
2.1 All working movements of the tree spade are performed hydraulically. The hydraulic pressure is provided by an axial piston pump to be attached to the PTO-shaft, with an oil tank.

We are recommending a hydraulic oil with a viscosity of 4° to 5° E at 50° C, as per Standard DIN 5102, e.g. ARAL VITAM GF 46, or BP ENERGOL HLP 46 or SHELL TELLUS 46.

2.2 The hydraulic pump is activated by means of a rotary switch which is to be installed in the drivers cabin.

IMPORTANT: The pump must be switched off when the truck is travelling!

2.3 All working movements are activated by manual control valves and a control box which is placed at the LH side of the truck. The functions are:



rotary switch:

function 1 – gate lock
function 2 – gate
function 3 – blades
function 4 – root ball pad

Control Valve:

- (1) digging head
- (2) main lift arm
- (3) digging head rotation
- (4) rear stabilizer, RH
- (5) rear stabilizer, LH

Control Box:

- S1 – spade 1
- S2 – spade 2
- S3 – spade 3
- S4 – spade 4

The functions of the digging head are selected by means of the rotary switch and then they are activated with control valve (1). Function 3 "blades" offers the additional facility of activating each blade individually by means of push buttons S1 through S4.

The movements main lift arm, digging head rotation and rear stabilizer RH and LH are operated directly with control valves (2) through (5).

3. Operation and Transport

IMPORTANT:

The operators must work absolutely reliable. Before they start with production work, they must have studied these instructions thoroughly.

The following safety instructions must always be observed:

It is the operators responsibility to ensure that no persons are in the danger area of the tree spade. In particular, no one should be underneath the raised tree spade or near areas where work functions might cause shearing and pinching injuries.

Do not perform any manual work on trees which are inside the tree spade. In particular, do not work with hand or feet inside the machine. Do not tie the tree when it is inside the digging head.

When sight is limited, an assistant must direct the driver by hand signals.

Before starting operations, bolts and hydraulic fittings must be checked to make sure they are well tightened and free of damage.

When moving and working on public roads, the relevant traffic rules and regulations must be adhered to.

When the tree spade is not working, the digging head should be resting on the chassis of the truck.

IMPORTANT:

Before commencing tree spade operation, switch on the hydraulic pump. The switch is located in the drivers cabin.

3.1 Operation

Switch on pump of hydraulic system !

3.1.1 Before lowering the digging head to the ground, extend both rear stabilizers:

control valve (4) and (5) ▼ "down".

The truck should be in a horizontal position, as far as possible.

3.1.2 In order to lower the digging head to the ground, the lift arm must be raised first and the digging head must be rotated.

*control valve (2), lift arm ▲ "up"
control valve (3), digging head ▼ "rotate"*

The movements lift arm (2) ▲ "up" and digging head (3) ▼ "rotate out" must be performed alternately until the digging head is fully rotated and there is sufficient clearance to the base frame. When rotating the digging head (3) (*digging head* ▼ "rotate"), the digging head must not touch the base frame, nor the lift arm cylinder, nor the lift arm.

When the digging head is in a vertical position, it is lowered carefully:

control valve (2), lift arm ▼ "down"

Care must be taken that the digging head does not touch the rear of the truck. If necessary, the position of the digging head must be corrected.

Now all 4 spades must be retracted:

control valve (1), rotary switch No. 3, blades ▲ "up".

Lower the digging head until the points of the blades are about 20 cm (8") above the ground. The digging head should be close to the truck without touching it.

3.1.3 Before commencing with the digging operation, the gate lock must be unlocked:

control valve (1), rotary switch No. 1, gate lock ▲ "unlock".

Next the gate is opened:

control valve (1), rotary switch No. 2, gate ▲ "open".

3.1.4 Now the rear stabilizers must be retracted:

control valve (4) and 5 ▲ "up".

IMPORTANT: The truck must not be moved before the rear stabilizers have been retracted!

Reverse the truck until the tree is positioned in the center of the digging head frame. Then close the gate:

control valve (1), rotary switch No. 2, gate ▼ "close".

Then lock the gate:

control valve (1), rotary switch No. 1, gate lock ▼ "lock"

In order to prevent the spades from digging with the gate not being properly locked, the gate lock is furnished with a safety switch. Therefore the blades cannot move in case the gate is not locked properly.

IMPORTANT: Locking the gate is of utmost importance. If the gate is not locked when digging, it will bend!

By means of *control valve (2) lift arm ▼ "down"* the digging head is lowered fully until resting on the ground. With *control valve (3), digging head "rotate" ▲ "in", ▼ "out"* the digging head frame is aligned horizontally. Check again if the tree is in the center of the frame and correct, if necessary.

3.1.5 Now digging can commence:

control valve (1), rotary switch No. 3, alternatively push button S1-S4, blades ▼ "down".

For clean digging and to get the full depth of the root ball, the digging head must be kept steady. This is achieved by working the blades crosswise, i.e. first two blades opposite to each other are pressed for about 1/3 into the ground. Then the other two blades are pressed into the ground. This crosswise digging is repeated until all four blades are completely in the ground.

However, this digging depth of 1/3 is a rule of thumb only because the successive digging process depends on the soil.

As soon as the digging head frame begins to lift, digging must be carried on with the other two opposite blades.

3.1.6 Once all four blades have been fully pressed into the ground, the root ball pads are gently pressed onto the root ball:

control valve (1), rotary switch No. 4, root ball presses ▼ "down"

The root ball presses serve to hold the root ball together and keep it in shape.

3.1.7 Now the root ball together with the tree can be lifted out of the ground. First the rear stabilizers must be extended. This is done as described under item 3.1.1.

3.1.8 The tree is in a vertical position and it is lifted with *control valve (2)*. When the digging head is above the base frame, it is rotated in until the tree is in a horizontal position:

control valve (3), digging head ▲ "rotate in"

Lower lift arm until the digging head rests on the base frame:

control valve (2), lift arm ▼ "down"

Now digging head and tree are in transport position.

3.1.9 Before the truck moves, both rear stabilizers must be retracted:

control valve (4) and (5) ▲ "up"


IMPORTANT:

When moving and working on public roads, the traffic rules and regulations must be adhered to.!

4. Care and Maintenance

4.1 Blade Guides

The blades are furnished with plastic linings which slide on steel guides. Once the plastic lining is worn to the point that the heads of the countersunk screws are flush with the surface of the plastic linings, they must be replaced to prevent the screws from damaging the guides.

 **IMPORTANT:** Keep the guides clean.

4.2 No Lubrication

All sliding surfaces and bearings are made of plastic and do not require any lubrication.

4.3 Hydraulic Oil Supply


Check level of hydraulic oil regularly. For checking, retract all blades “up” and lower the tree spade to the ground. If in that position the oil level is below the mark of the sight glass, oil must be refilled.

4.4 Hydraulic Hoses

All hydraulic hoses must be inspected at least once per year. Damaged hoses must be replaced. At least after 6 years all hoses must be replaced.

4.5 Cylinders

In case the tree spade is not getting used for two weeks, all piston rods of the hydraulic cylinders must be cleaned and covered with a preserving oil film.

 **IMPORTANT:** Tree spade must be lowered to the ground and switched off when doing cleaning, maintenance or repair work !

Use original spare parts only !

The tree Spade must be inspected by an expert on operational safety once per year !

Do not alter the design of the tree spade without having consulted the manufacturer !

4.6 Adjusting Blades

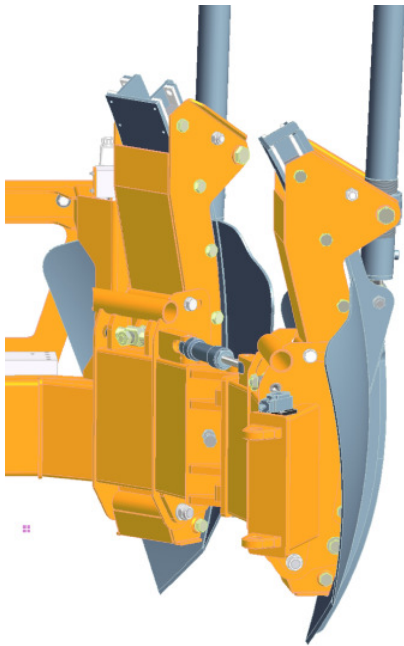


Illustration 1

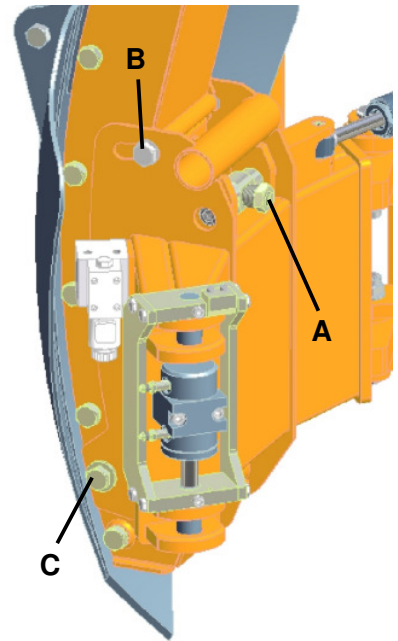


Illustration 2



Illustration 3

1. General view of spade tower
2. A adjustment screw
B locking screw
C locking screw
3. Loosen locking screws B and C.
Move spade tower forward or backward by means of adjustment screw A
When blades are in desired position, tighten locking nuts B and C.
Locking nut C must be tightened with a torque of 420 Nm.

4.7 Replacing Plastic Bush of Spade Cylinder

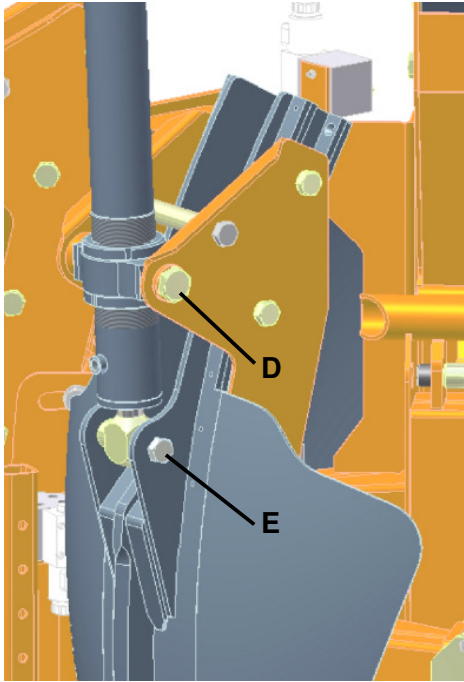


Illustration 4

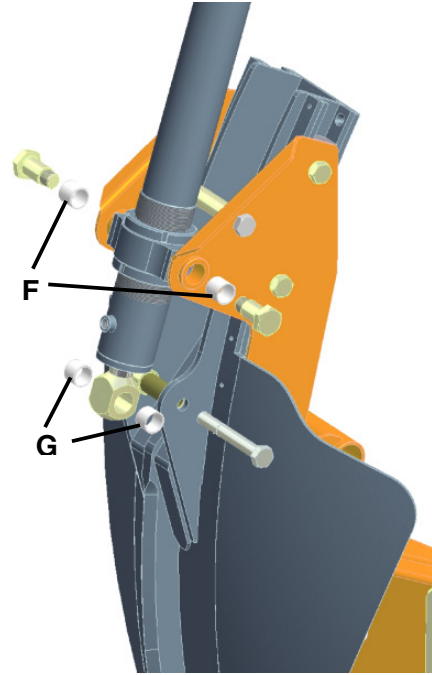


Illustration 5

Unscrew bolts (D) and (E), remove worn bushes, insert new bushes (F) and (G).

4.8 Replacing Plastic Bush of Gate Cylinder



Illustration 6

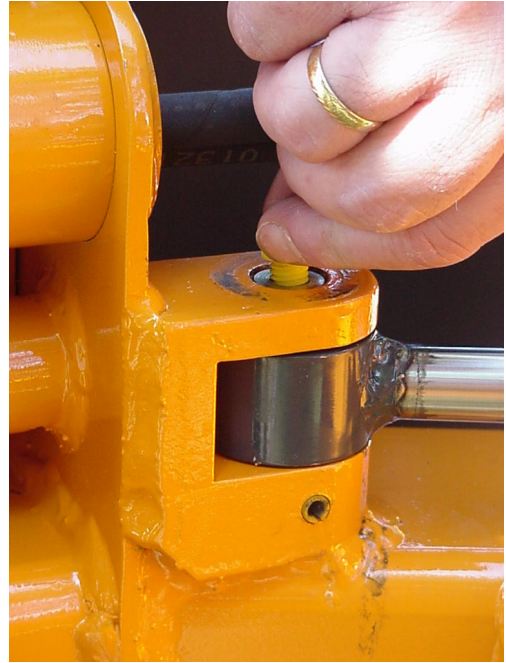


Illustration 7



Illustration 8



Illustration 9

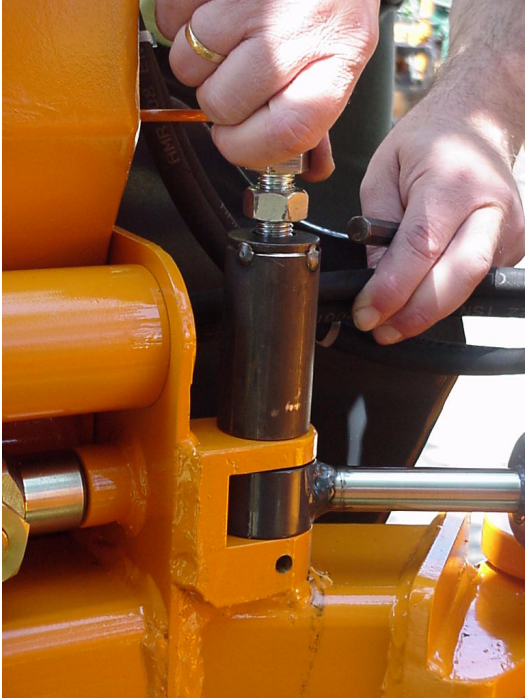


Illustration 10



Illustration 11

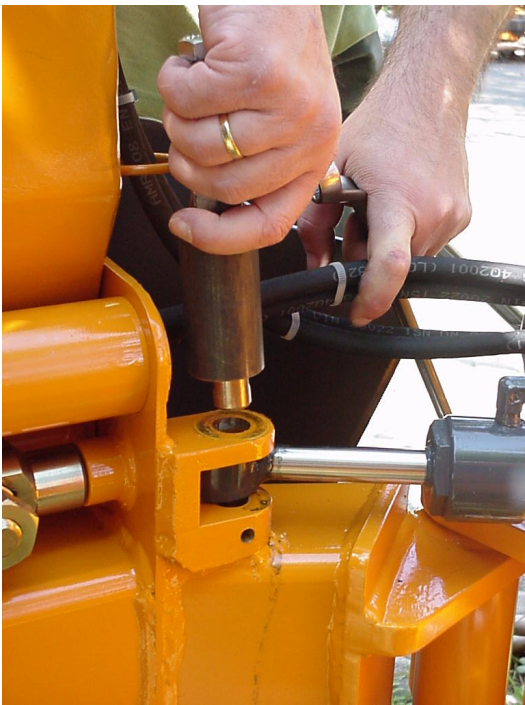


Illustration 12



Illustration 13

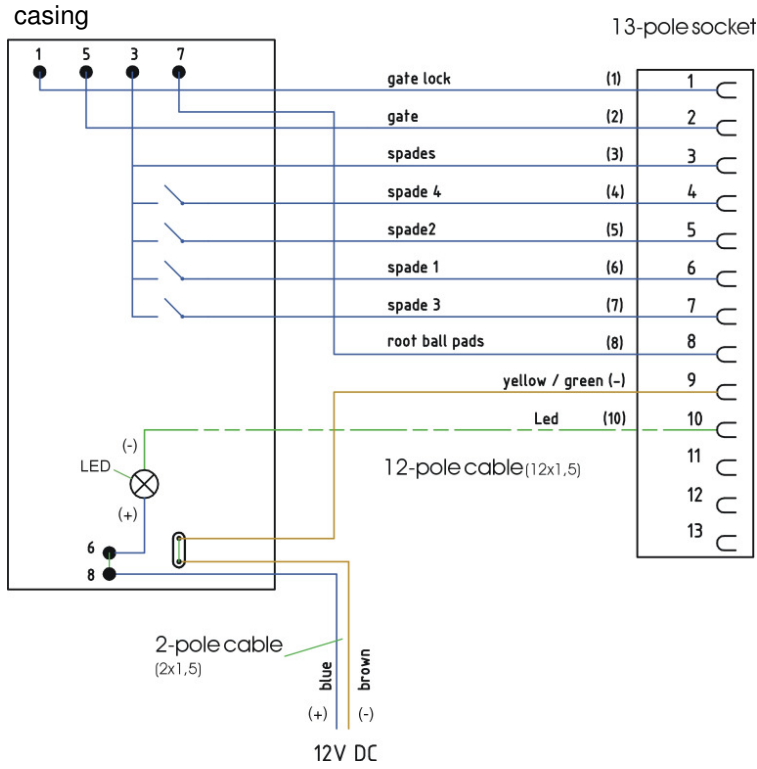
- Illustr.6: General view of gate cylinder with piston rod and eye joint.
- Illustr.7: Screw off plastic thread plug.
- Illustr.8: Remove dowel pin by means of drift punch.
- Illustr.9: Dowel pin has been removed. Note female thread on top of the pin,
- Illustr.10: Place extractor on top of pin and fasten screw into female thread.
- Illustr.11: When screw has a firm grip, hold it with wrench in position and tighten nut until it is stopped by the extractor. Now hold nut and tighten screw further into pin thread, thereby extracting the pin.
- Illustr.12: Pin and plastic bush is removed from eye joint.
- Illustr.13: The plastic bush is replaced.



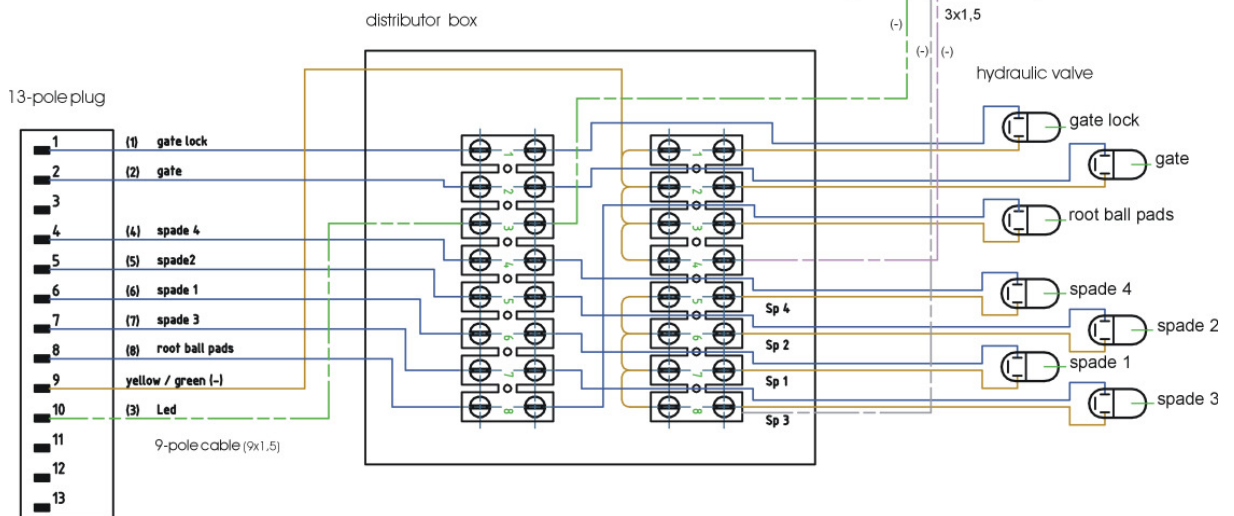
Extractor with screw and nut.

5. Electro Hydraulic OPTIMAL 1100

control box

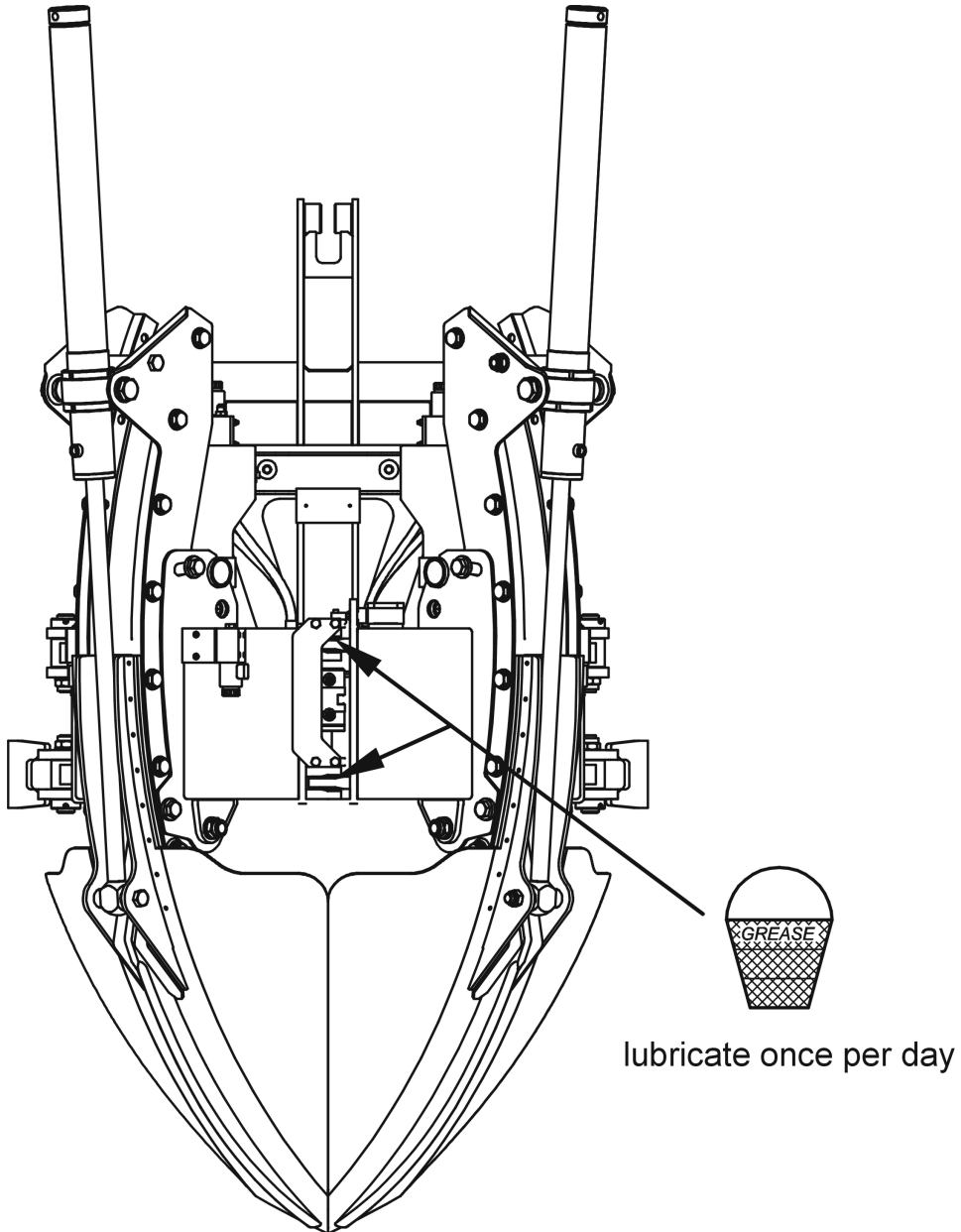


electrical system - machine

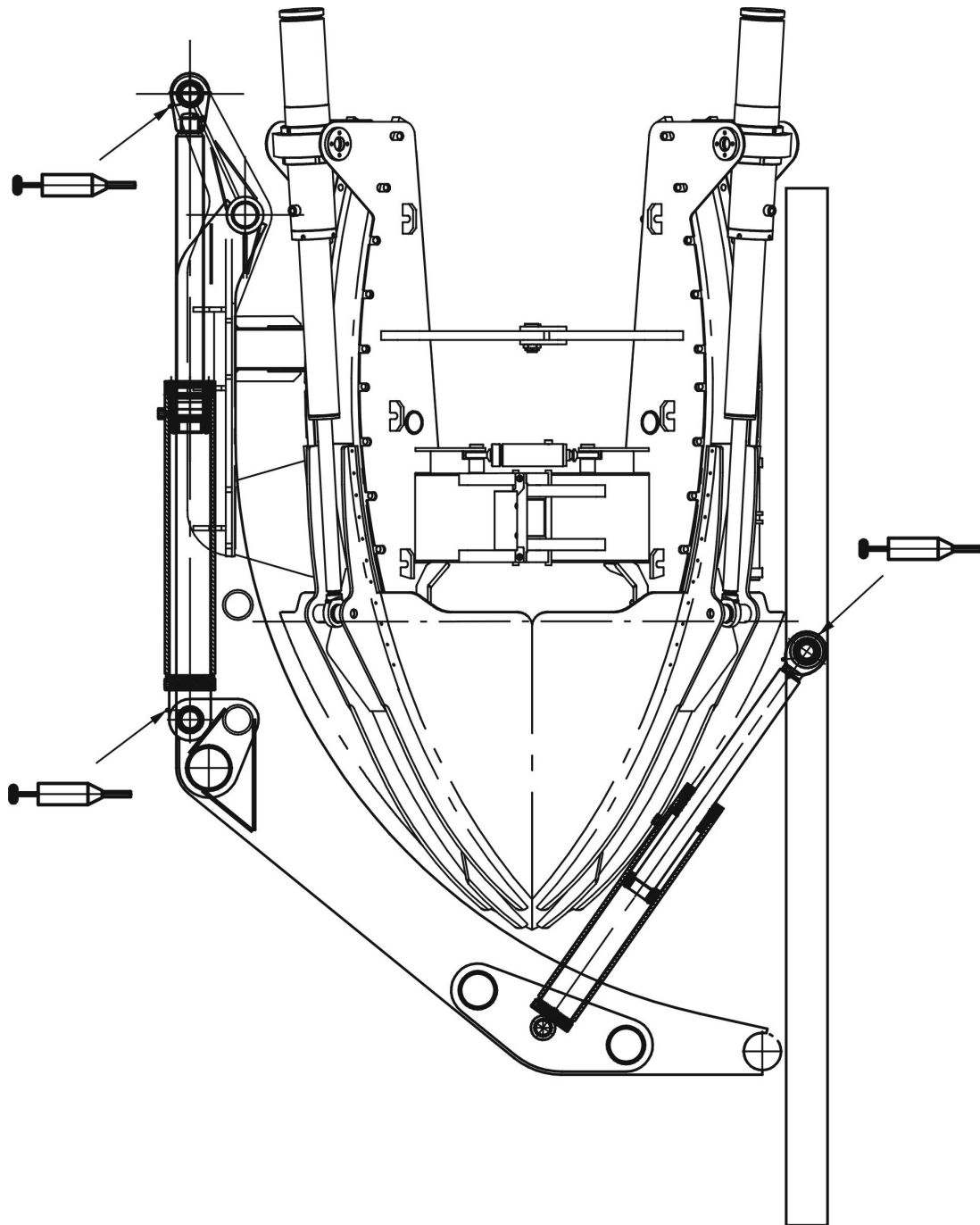


6. Lubrication chart OPTIMAL 1100

6.1 Digging head



6.2 Superstructure



lubricate once per week



7. Trouble Shooting

1. Nothing moves. (none of the hydraulic functions works)
 - Electricity supply to rotary switch is interrupted. Check fuses at power unit.
 - Hydraulic disconnect is not properly attached. Check attachment.

2. Two hydraulic functions (e.g. gate lock and spades) work at the same time.
 - On one of the valves the plunger does not move.
This defect might be caused by a dirt particle. Disassemble and clean the respective valve.
 - If this does not solve the problem, the valve is damaged and must be replaced.

3. After the blades have been retracted and the valve has been relieved, they immediately move down again.
 - If the spades move down a short way only, the oil supply of the pump might be too high. Oil flow of power unit must be regulated by service of manufacturer.
 - If the spades move down all the way, the seals in the spade cylinder might be defect und must be replaced.
 - If the spades move down all the way, the spade valve might be defect and must be replaced.

4. The gate does not close and / or lock completely.
 - The adjustment screw at the hinge wants readjustment.
Adjust adjustment screw.
 - The eye joint is worn, bushes must be replaced.

5. Although the gate has been closed and locked properly, the blades do not move down.
 - The safety switch at the lock needs readjustment.
 - The electricity supply is interrupted. Check fuses at power unit.

6. The blades do not close properly although the spade cylinders are fully extended.
 - Guides are worn and must be replaced.
 - Blades are bent and have to be adjusted.

7. One function (any) does not work.
 - The electricity supply is interrupted. Check power circuit.
 - The magnet of the respective control valve is defect. Valve must be replaced.
 - The plunger of the control valve is seized, probably due to a dirt particle in the hydraulic oil. Disassemble valve and clean.

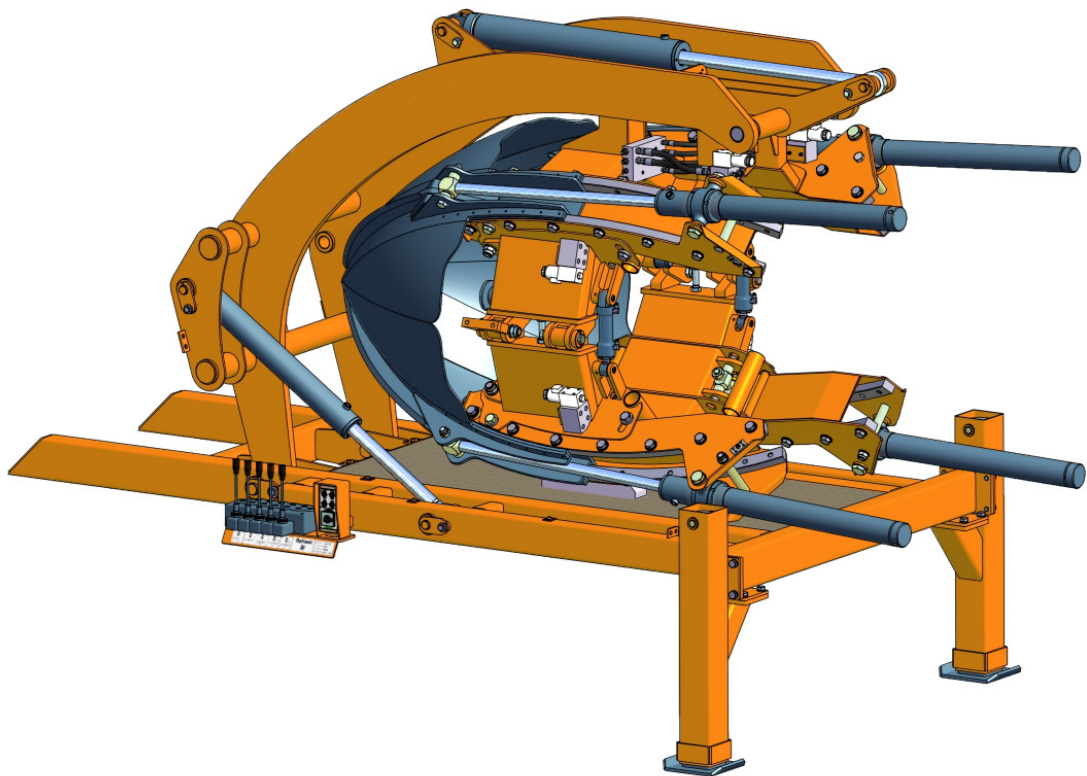
Trouble Shooting - individual spade control

8. The spades cannot be operated individually, i.e, all spades move at the same time.
 - Controls were not switched to individual control. (When working in the individual control mode, the red light must show red.)
 - Circuit board is defect and must be replaced.

9. One of the blades moves even when not actuated.
 - The electricity between valve and blade has been interrupted.
 - Valve of the respective blade is defect. Replace valve.

10. None of the hydraulic functions works.
 - Electricity supply to joy stick is interrupted. Check fuses at power unit.
 - Hydraulic disconnect is not properly attached. Check attachment.
 - Circuit board is defect and must be replaced.

SPARE PARTS
FOR
TREE SPADE OPTIMAL 1100
MOUNTED ON FORD F550



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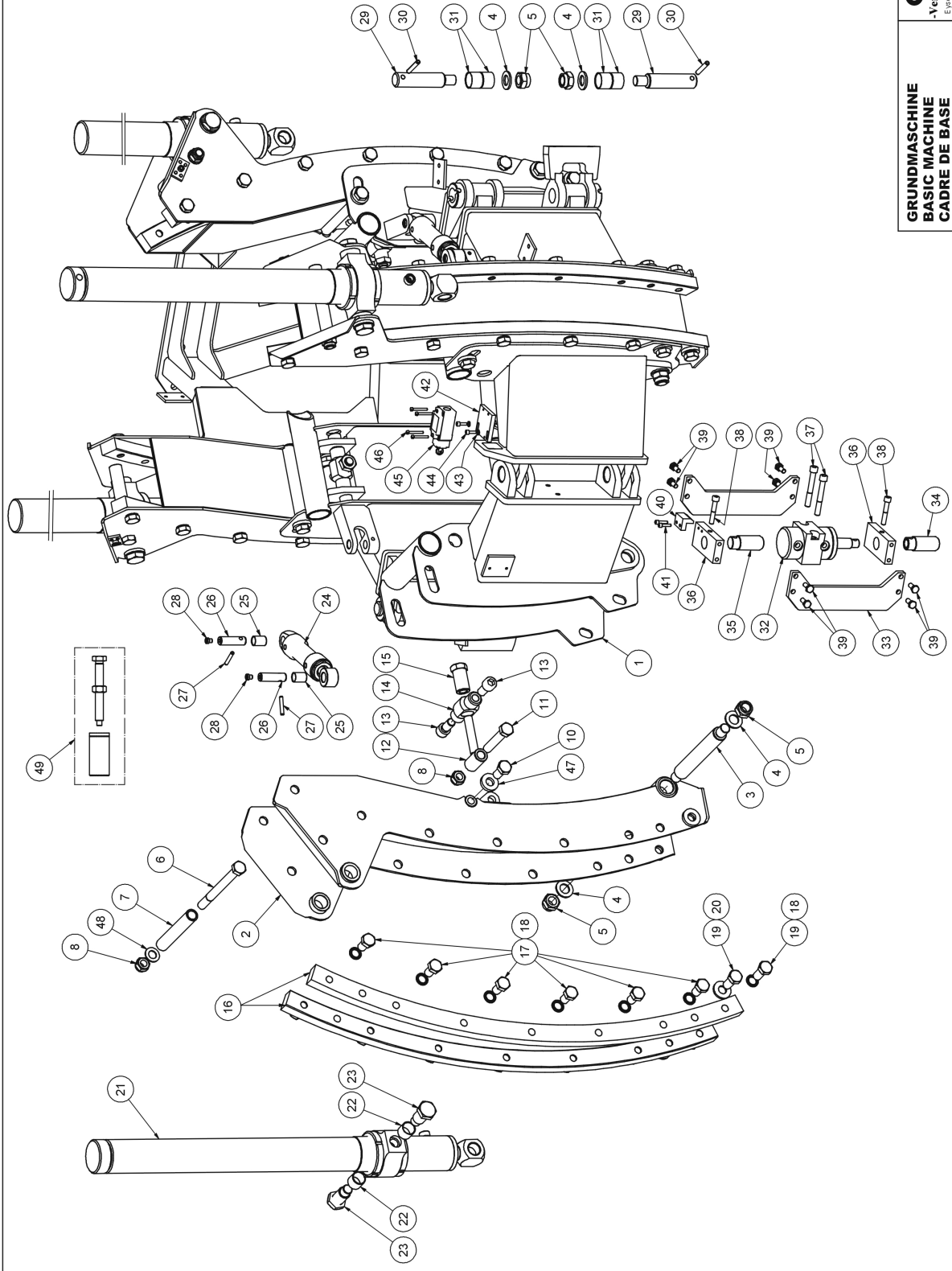
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Ersatzteilliste - Spare Parts List - Liste De Pièces De Rechange Tafel - Table - Feuile 1



GRUNDMASCHINE
BASIC MACHINE
CADRE DE BASE

Optimal
 -Vertrieb Optitz GmbH
 EVELDEN WEG 1 · 91177 THURNHAUSEN

Optimal 1100

Tafel - Table - Feuille 1

OPTIMAL 1100

ERSATZTEILLISTE - SPARE PARTS LIST – LISTE DES PIÈCES DE RECHANGE

Grundrahmen / Spaten- main frame / spade - cadre de base / bêche

<u>Pos.</u> <u>Item</u> <u>Pos.</u>	<u>Menge</u> <u>Quantity</u> <u>Quantité</u>	<u>Bezeichnung</u> <u>Description</u> <u>Description</u>	<u>ET-Nummer</u> <u>Part Number</u> <u>Référence</u>
1	1	Grundrahmen main frame	3181110400
2	4	Führungskasten spade tower	3181110010
3	4	Achsbolzen ø 35 pivot pin ø	3071110060
4	12	Scheibe 24 washer 24	506924
5	12	Sicherungsmutter M 24 x 1,5 lock nut M 24 x 1,5	50224150985
6	4	Schraube M 20 x 220 bolt M 20 x 220	50120220931
7	4	Distanzrohr spacer tube	3111110060
8	8	Sicherungsmutter M 20 lock nut M 20	502200985
9	8	Scheibe 20 washer 20	5069201
10	8	Schraube M 20 x 45 hex head screw	50120045933
11	4	Schraube M 20 x 110 bolt M 20 x 110	50120110931

Tafel - Table - Feuille 1

OPTIMAL 1100

ERSATZTEILLISTE - SPARE PARTS LIST – LISTE DES PIÈCES DE RECHANGE

Grundrahmen / Spaten- main frame / spade - cadre de base / bêche

<u>Pos.</u> <u>Item</u> <u>Pos.</u>	<u>Menge</u> <u>Quantity</u> <u>Quantité</u>	<u>Bezeichnung</u> <u>Description</u> <u>Description</u>	<u>ET-Nummer</u> <u>Part Number</u> <u>Référence</u>
12	4	Verstellspindel adjustment block	3140880010
13	8	Schraube M 20 x 40 socket head screw M 20 x 40	50120040912
14	4	Schwenkbolzen adjustment pin	3070880010
15	4	Gewindebuchse insert nut	3130880010
16	8	Verschleißleiste guide	3061110011
17	48	Schraube M 20 x 35 lock bolts for guides M 20 x 35	50120035933
18	56	Si-Scheibe washer	506203
19	16	Schraube M 20 x 45 lock bolts for guides M 20 x 45	50120045933
20	8	Scheibe 20 washer 20	5069201
21	4	Spatenzylinder spade cylinder	3010100061
22	8	Lagerbuchse bush	544303430

Tafel - Table - Feuille 1

OPTIMAL 1100

ERSATZTEILLISTE - SPARE PARTS LIST – LISTE DES PIÈCES DE RECHANGE

Grundrahmen / Spaten - main frame / spade - cadre de base / bêche

<u>Pos.</u> <u>Item</u> <u>Pos.</u>	<u>Menge</u> <u>Quantity</u> <u>Quantité</u>	<u>Bezeichnung</u> <u>Description</u> <u>Description</u>	<u>ET-Nummer</u> <u>Part Number</u> <u>Référence</u>
23	8	Schwenkbolzen adjustment pin	3071110020
24	2	Öffnungszylinder gate cylinder	3010200040
25	4	Lagerbuchse bush	544202330
26	4	Bolzen pin	3070880070
27	4	Spannhülse tapered sleeve	506798451481
28	4	Schraubstopfen threaded plug	599700M10
29	4	Scharnierbolzen hinge pin	3071110010
30	4	Spannhülse tapered sleeve	506710060148
31	8	Lagerbüchse bush	544353930
32	1	Verriegelungszylinder gate lock cylinder vérin de verrouillage	3010300081
33	2	Verbindungsplatte butt plate	3181110370

Tafel - Table - Feuille 1

OPTIMAL 1100

ERSATZTEILLISTE - SPARE PARTS LIST – LISTE DES PIÈCES DE RECHANGE

Grundrahmen / Spaten - main frame / spade - cadre de base / bêche

<u>Pos.</u> <u>Item</u> <u>Pos.</u>	<u>Menge</u> <u>Quantity</u> <u>Quantité</u>	<u>Bezeichnung</u> <u>Description</u> <u>Description</u>	<u>ET-Nummer</u> <u>Part Number</u> <u>Référence</u>
34	1	Verriegelungsbolzen, unten lock pin, bottom	3071110040
35	1	Verriegelungsbolzen, oben lock pin, top	3071110030
36	2	Querplatte transvers plate	3181110360
37	2	Schraube M 12 x 90 socket head screw M 12 x 90	50112090912
38	2	Schraube M 10 x 60 socket head screw M 10 x 60	50110060912
39	8	Schraube M 10 x 25 hex head screw M 10 x 25	50110025933
40	1	Winkel angle stop	3181110380
41	2	Schraube M 6 x 25 socket head screw M 6 x 25	50106025912
42	1	Befestigungsplatte fixing plate	3981400010
43	2	Scheibe 6,4 DIN 125 washer 6,4 DIN 125	506906
44	2	Schraube M 6 x 20 socket head screw M 6 x 20	50106020912

Tafel - Table - Feuille 1

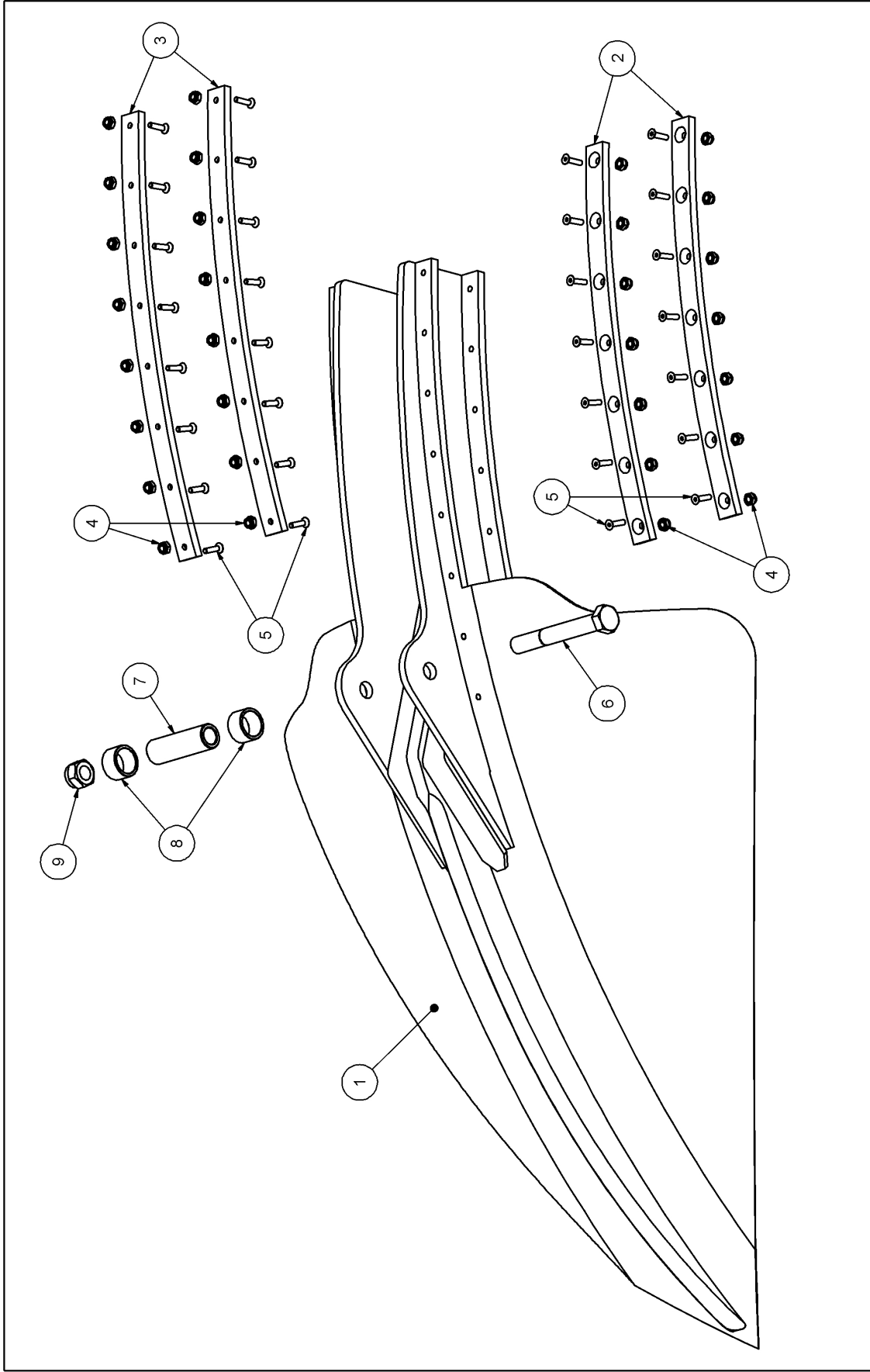
OPTIMAL 1100

ERSATZTEILLISTE - SPARE PARTS LIST – LISTE DES PIÈCES DE RECHANGE

Grundrahmen / Spaten - main frame / spade - cadre de base / bêche

<u>Pos.</u> <u>Item</u> <u>Pos.</u>	<u>Menge</u> <u>Quantity</u> <u>Quantité</u>	<u>Bezeichnung</u> <u>Description</u> <u>Description</u>	<u>ET-Nummer</u> <u>Part Number</u> <u>Référence</u>
45	1	Sicherheitsschalter safety switch	5990043782
46	4	Schraube M 5 x 40 slotted hex screw M 5 x 40	50105040084
47	8	Scheibe 20 washer 20	5069201
48	4	Scheibe 20 DIN 125 washer 20 DIN 125	506920
49	1	Werkzeug für Bolzen tool for pin	3700880050

Ersatzteilliste - Spare Parts List - Liste De Pièces De Rechange Tafel - Table - Feuille 2



SPATEN
SPADE
BÉCHE

Optimal
- Vertrieb Opti® GmbH
Fysholmen Matr. 91177 Thalassensjö

Tafel - Table - Feuille 2

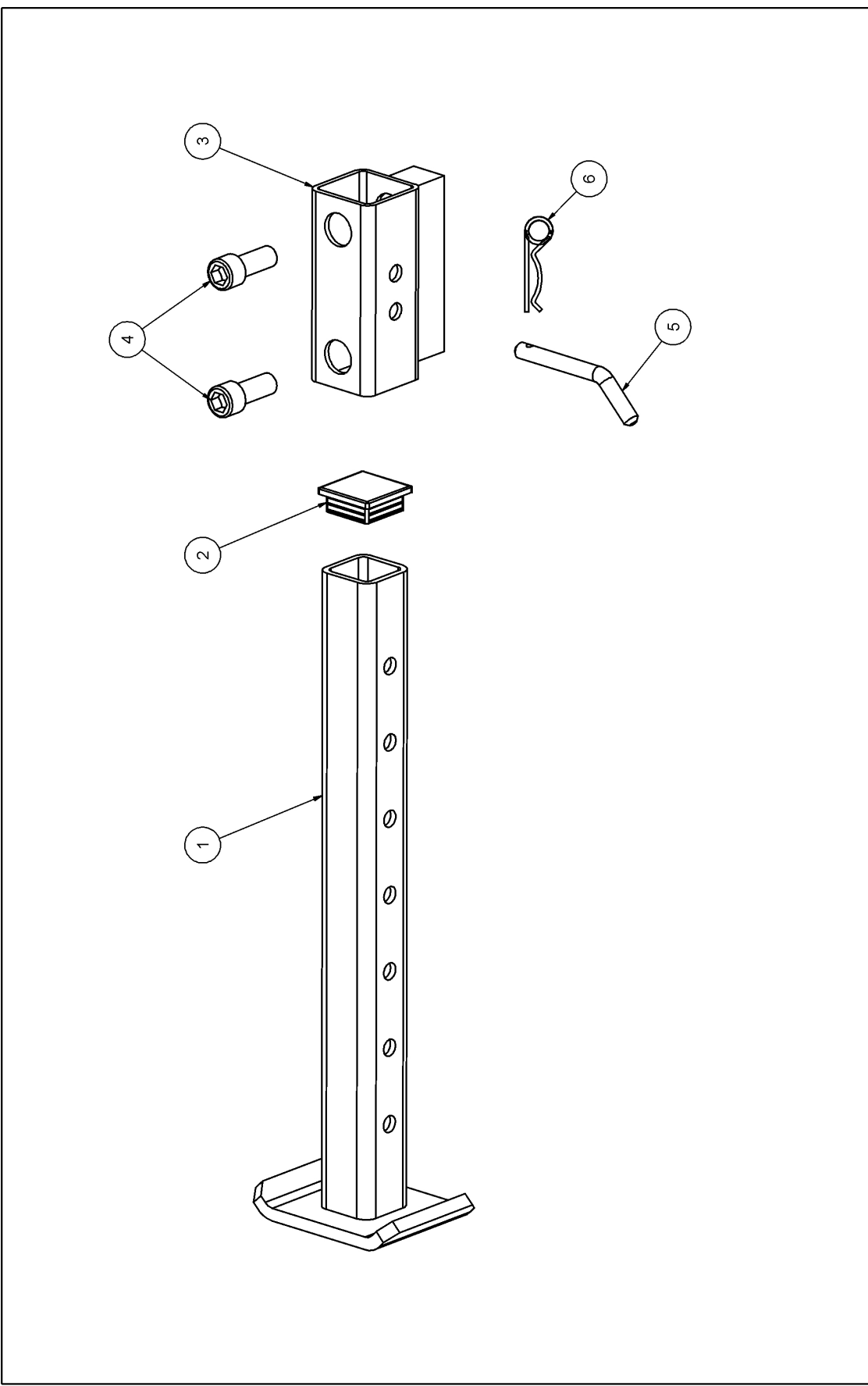
OPTIMAL 1100

ERSATZTEILLISTE - SPARE PARTS LIST – LISTE DES PIÈCES DE RECHANGE

Spaten - spade - bêche

<u>Pos.</u> <u>Item</u> <u>Pos.</u>	<u>Menge</u> <u>Quantity</u> <u>Quantité</u>	<u>Bezeichnung</u> <u>Description</u> <u>Description</u>	<u>ET-Nummer</u> <u>Part Number</u> <u>Référence</u>
1	4	Spaten, kpl. spade, complete	3161110060
2	8	Kunststoffleiste, kurz plastic guide, short	3061110020
3	8	Kunststoffleiste, lang plastic guide, long	3061110030
4	120	Sicherungsmutter M 6 lock nut M 6	502060985
5	120	Schraube M 6 x 25 countersunk socket screw M 6 x 25	501060257991
6	4	Schraube M 20 x 150 bolt M 20 x 150	50120150931
7	4	Buchse bush	31111030
8	8	Distanzbuchse spacer	3111110080
9	4	Sicherungsmutter M 20 lock nut M 20	502200985

Ersatzteilliste - Spare Parts List - Liste De Pièces De Rechange Tafel - Table - Feuille 3



Optimal
-Vertrieb Optitz GmbH
Byström 3461 31177 Thunau/See

**VERSTELLFUSS
ADJUSTMENT FEET
PIED DE RÉGLAGE**

Tafel - Table - Feuille 3

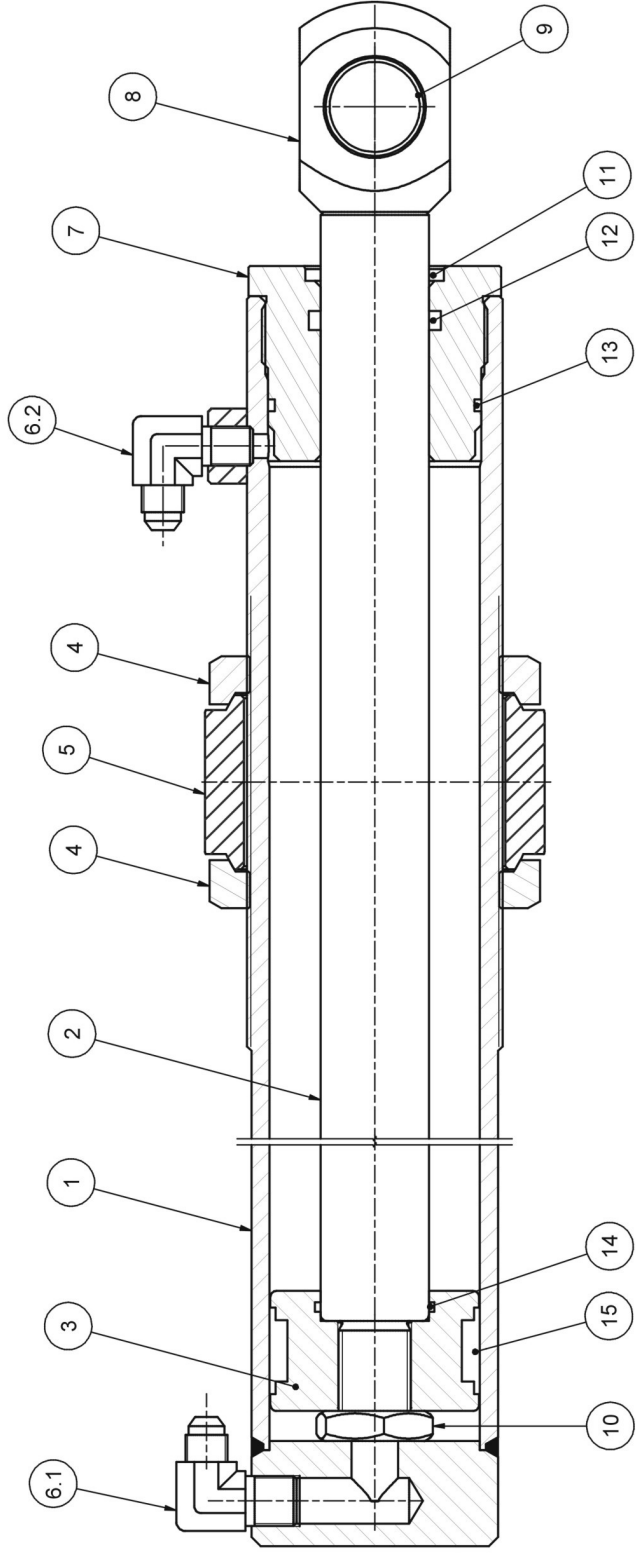
OPTIMAL 1100

ERSATZTEILLISTE - SPARE PARTS LIST – LISTE DES PIÈCES DE RECHANGE

Verstellfuß - adjustment feet - Pied de réglage

<u>Pos.</u> <u>Item</u> <u>Pos.</u>	<u>Menge</u> <u>Quantity</u> <u>Quantité</u>	<u>Bezeichnung</u> <u>Description</u> <u>Description</u>	<u>ET-Nummer</u> <u>Part Number</u> <u>Référence</u>
1	2	Verstellfuß adjusting foot	3301100050
2	2	Kunststoff-Endkappen 45 x 45 x 2 plastic cover	5992045045
3	2	Halterung für Verstellfuß foot bracket	3301100020
4	4	Schraube M 16 x 40, 8,8 vz. socket head screw M 16 x 40	50116040912
5	2	Bolzen für Höhenverstellung pin pin for height adjustment	3301100060
6	2	Federstecker 3 mm cotter pin	5990403

Ersatzteilliste - Spare Parts List - Liste De Pièces De Rechange Tafel - Table - Feuile 4



**SPATENZYLINDER
SPADE CYLINDER
VÉRIN DE BÊCHE**

Optimal
-Vertrieb Optitz GmbH
Eybollen 344 94177 Thalheim

Tafel - Table - Feuille 4

OPTIMAL 1100

ERSATZTEILLISTE - SPARE PARTS LIST – LISTE DES PIÈCES DE RECHANGE

Spatenzylinder - spade cylinder - Vérin de bêche

<u>Pos.</u> <u>Item</u> <u>Pos.</u>	<u>Menge</u> <u>Quantity</u> <u>Quantité</u>	<u>Bezeichnung</u> <u>Description</u> <u>Description</u>	<u>ET-Nummer</u> <u>Part Number</u> <u>Référence</u>
1	1	Zylinderrohr, geschw. 70/36 cylinder body	3020700021
2	1	Kolbenstange ø 36 x 951 piston rod ø 36 x 951	3030360031
3	1	Kolben 70 36 241 piston 70 36 241	3127036241
4	2	Nutmutter KM 17 mit Profil slotted nut KM 17	31350317
5	1	Schwenkauge cylinder suspension	3091110011
6.1	1	Verschraubung 107051-10-17 union 107051-10-17	515070511017
6.2	1	Verschraubung 107051-10-13 union 107051-10-13	515070511013
7	1	Führungsbüchse 70 36 365 guide bush 70 36 365	3117036365
8	1	Gelenkauge ø 30 eye joint ø 30	3071110050
9	2	Lagerbuchse GSM-3034-25 bush GSM-3034-25	544303425
10	1	Mutter M 24 x 1,5, 8.8 vz. nut M 24 x 1,5, 8.8 vz.	50224150936

Tafel - Table - Feuille 4

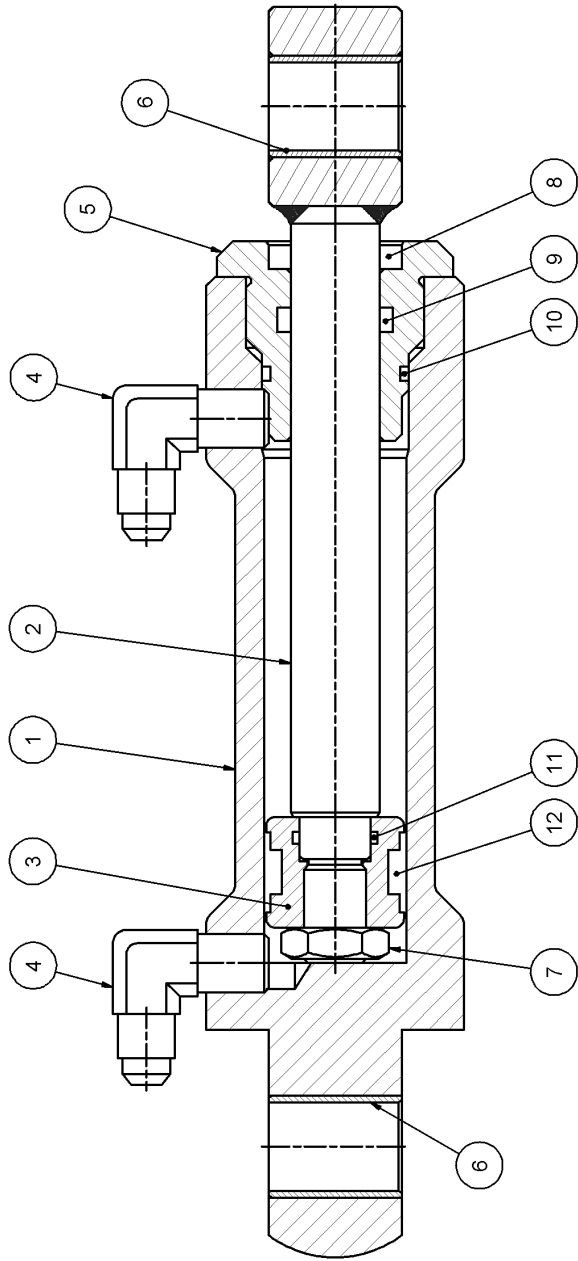
OPTIMAL 1100

ERSATZTEILLISTE - SPARE PARTS LIST – LISTE DES PIÈCES DE RECHANGE

Spatenzylinder - spade cylinder - Vérin de bêche

<u>Pos.</u> <u>Item</u> <u>Pos.</u>	<u>Menge</u> <u>Quantity</u> <u>Quantité</u>	<u>Bezeichnung</u> <u>Description</u> <u>Description</u>	<u>ET-Nummer</u> <u>Part Number</u> <u>Référence</u>
11	1	Abstreifer P7 – 36 scraper P7 - 36	5160336
12	1	Stangendichtung TS 36 x 44 x 6 piston rod seal TS 36 x 44 x 6	5160236446
13	1	O-Ring 64,5 x 3 90 Shore o-ring	5170645030
14	1	O-Ring 36 x 2,5 70 Shore o-ring	5170360025
15	1	Kolbendichtsatz DAS 7058 piston seal DAS 7058	51604070058
	1	kompl. Dichtsatz seal kit	516007036602

Ersatzteilliste - Spare Parts List - Liste De Pièces De Rechange Tafel - Table - Feuille 5



ÖFFNUNGSZYLINDER
GATE CYLINDER
VERIN D'OUVERTURE

Optimal
Vertrieb Optiz GmbH
Eschden, Met. 91177 Thalmässing

Tafel - Table - Feuille 5

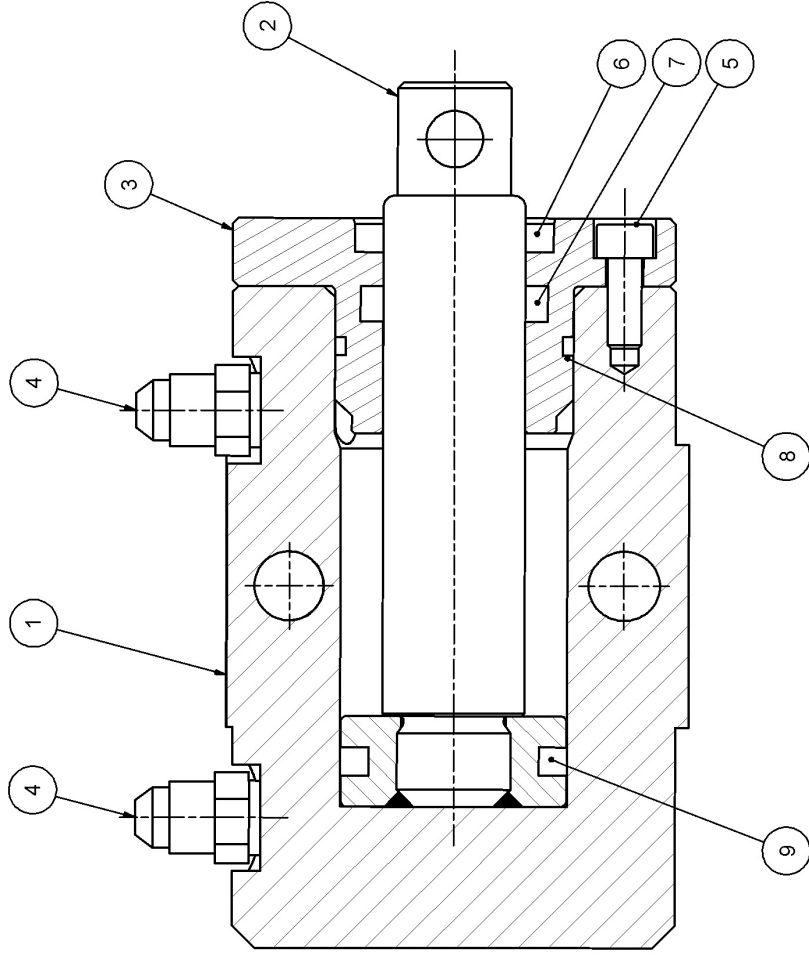
OPTIMAL 1100

ERSATZTEILLISTE - SPARE PARTS LIST – LISTE DES PIÈCES DE RECHANGE

Öffnungszylinder - gate cylinder - Vérin d'ouverture

<u>Pos.</u> <u>Item</u> <u>Pos.</u>	<u>Menge</u> <u>Quantity</u> <u>Quantité</u>	<u>Bezeichnung</u> <u>Description</u> <u>Description</u>	<u>ET-Nummer</u> <u>Part Number</u> <u>Référence</u>
1	1	Zylinderrohr für Öffnungszyl. cylinder body	3020320020
2	1	Kolbenstange ø 20 x 171 piston rod ø 20 x 171	3030200020
3	1	Kolben, HZ 32/20 piston HZ 32/20	3123220010
4	2	Verschraubung 107051-08-13 union 107051-08-13	515070510813
5	1	Führungsbuchse, HZ 32/20 guide bush HZ 32/20	3113220010
6	2	Lagerbuchse GSM-2023-30 bush GSM-2023-30	544202330
7	1	Mutter M 14 x 1,5 nut M 14 x 1,5	50214120936
8	1	Abstreifer W4 – 20 x 30 scraper W40 – 20 x 30	5160320
9	1	Stangendichtung T7 20 x 26 piston rod seal	5160220
10	1	O-Ring 28 x 2,5 o-ring 28 x 2,5	5170280025
11	1	O-Ring 16 x 2 90 Shore o-ring 16 x 2	5170160020
12	1	Kolbendichtsatz TPM 32 x 24 piston seal TPM 32 x 24	5160132
	1	kompl. Dichtsatz seal kit jeu de joints	516003220601

Ersatzteilliste - Spare Parts List - Liste De Pièces De Rechange Tafel - Table - Feuille 6



**VERRIEGELUNGSZYL.
GATE LOCK CYLINDER
VÉRIN DE VERROUILLAGE**

Optimal
Vertrieb Optitz GmbH
Eggen 341 9177 Thalheim

Tafel - Table - Feuille 6

OPTIMAL 1100

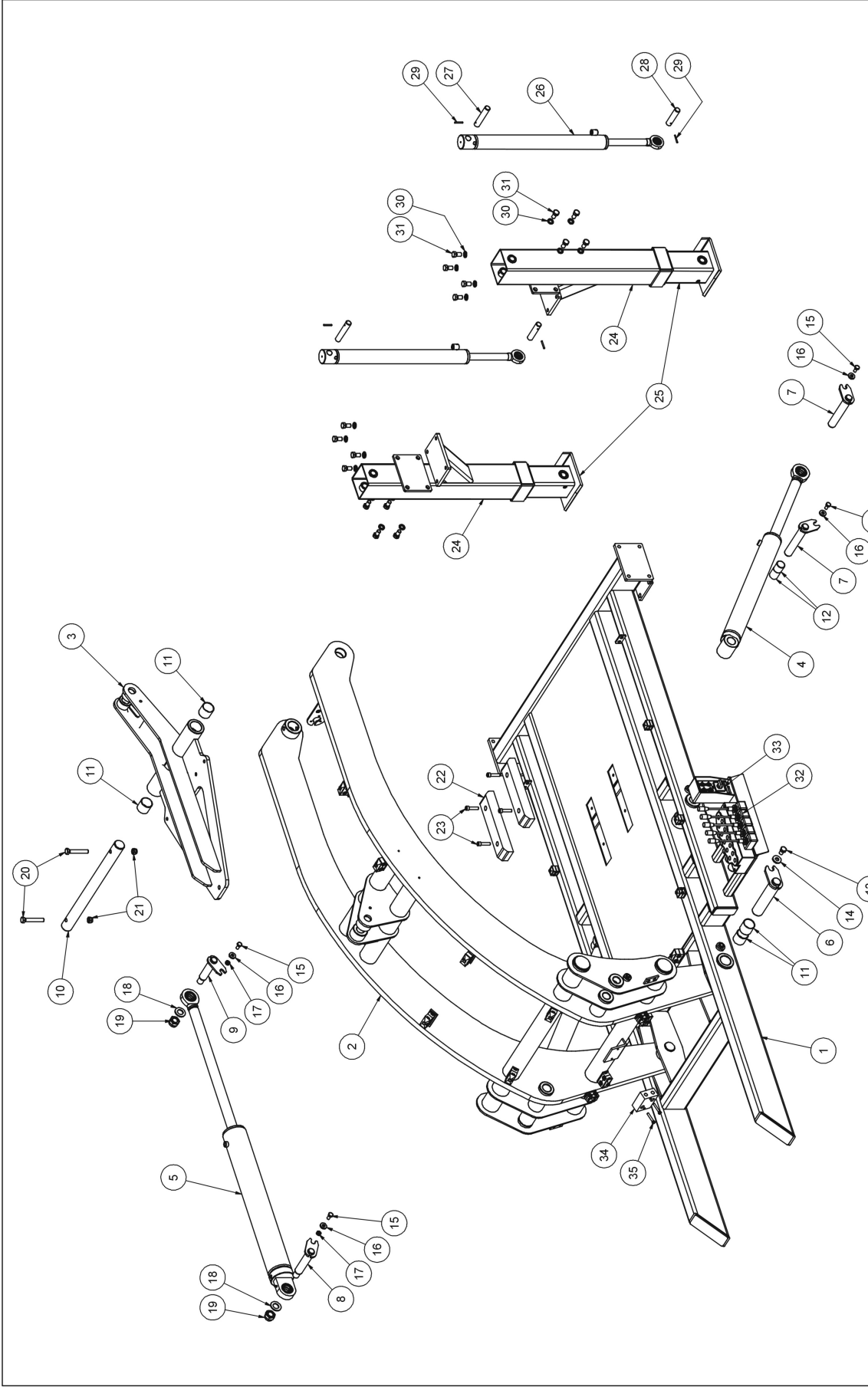
ERSATZTEILLISTE - SPARE PARTS LIST – LISTE DES PIÈCES DE RECHANGE

Verriegelungszyylinder - gate lock cylinder - Vérin de verrouillage

<u>Pos.</u> <u>Item</u> <u>Pos.</u>	<u>Menge</u> <u>Quantity</u> <u>Quantité</u>	<u>Bezeichnung</u> <u>Description</u> <u>Description</u>	<u>ET-Nummer</u> <u>Part Number</u> <u>Référence</u>
1	1	Zylinderrohr, HZ 40/25 cylinder body	3020400070
2	1	Kolbenstange ø 25 x 128 piston rod ø 25 x 128	3030250051
3	1	Führungsbuchse, HZ 40/25 guide bush HZ 40/25	3114025010
4	2	Verschraubung union	515021000813
5	6	Schraube M 6 x 16 socket head screw M 6 x 16	50106016912
6	1	Abstreifer P7 – 25 (W4-25) scraper P7 - 25	5160325
7	1	Stangendichtung S 8 – 25 (blau) piston rod seal S 8 – 25 (blau)	5160225
8	1	O-Ring 35 x 2,5 90 Shore o-ring 35 x 2,5	5170350025
9	1	Kolbendichtsatz KPD-040-PU piston seal KPD-040-PU	51601402
	1	kompl. Dichtsatz seal kit	516004025602

Ersatzteilliste - Spare Parts List

Tafel - Table 7



**AUFBAU
SUPERSTRUCTURE**

Optimal
Vertrieb Optiz GmbH
Eyschweg 14a | 91177 Frensdorf

Tafel - Table - Feuille 7

OPTIMAL 1100

ERSATZTEILLISTE - SPARE PARTS LIST – LISTE DES PIÈCES DE RECHANGE

Aufbau - Superstructure

<u>Pos.</u> <u>Item</u>	<u>Menge</u> <u>Quantity</u>	<u>Bezeichnung</u> <u>Description</u>	<u>ET-Nummer</u> <u>Part Number</u>
1	1	Aufbaurahmen base frame	3201110010
2	1	Hauptarm, starr main lift arm	3201110020
3	2	Anbauplatte attachment plate	3201110030
4	2	Hubzylinder main lift arm cylinder	3010400140
5	1	Schwenkzylinder cylinder for digging head rotation	3010500050
6	2	Bolzen, f. Hubarm pin for lift arm	3071110070
7	4	Bolzen f. Hubzylinder pin for lift arm cylinder	3071110080
8	1	Bolzen, vorne f. Schwenkzylinder front pin for rotation cylinder	3071110090
9	1	Bolzen, hinten f. Schwenkzylinder rear pin for rotation cylinder	3071110100
10	1	Bolzen f. Anbauplatte pin for attachment plate	3071110110
11	6	Lagerbuchse bush	544505550
12	4	Lagerbuchse bush	544353950
13	2	Schraube M16x25 - DIN933 hex. Bolt M16x25 - DIN933	50116025933
14	2	Scheibe 17 - DIN7349 washer 17 – DIN7349	5069161

Tafel - Table - Feuille 7

OPTIMAL 1100

ERSATZTEILLISTE - SPARE PARTS LIST – LISTE DES PIÈCES DE RECHANGE

Aufbau - Superstructure

<u>Pos.</u> <u>Item</u>	<u>Menge</u> <u>Quantity</u>	<u>Bezeichnung</u> <u>Description</u>	<u>ET-Nummer</u> <u>Part Number</u>
15	6	Schraube M12x20 - DIN933 hex. Bolt M12x20 - DIN933	50112020933
16	6	Scheibe 13 – DIN125 washer 13 – DIN125	506913
17	2	Buchse 12/20/8 (d/D/L) bush 12/20/8	3111110110
18	2	Scheibe 27 – DIN125 washer 27 – DIN125	506927
19	2	Sicherungsmutter M27 – DIN985 lock nut M27 . DIN985	502270985
20	2	Schraube M16x100 - DIN933 hex. Bolt M16x100 - DIN933	50116100933
21	2	Sicherungsmutter M16 – DIN985 lock nut M16 . DIN985	502160985
22	2	Auflageklotz support block	3201110040
23	4	Zylinderschraube M12x50 - DIN912 socket head screw M12x50 – DIN912	50112050912
24	2	Stützfuß – Führungsrohr guide box	3201110050
25	2	Stützfuß – Schieberohr sliding ram	3201110060
26	2	Heckabstützzyylinder . rear stabilizer cylinder	3010402
27	2	Bolzen pin	30750003
28	2	Bolzen pin	30750007

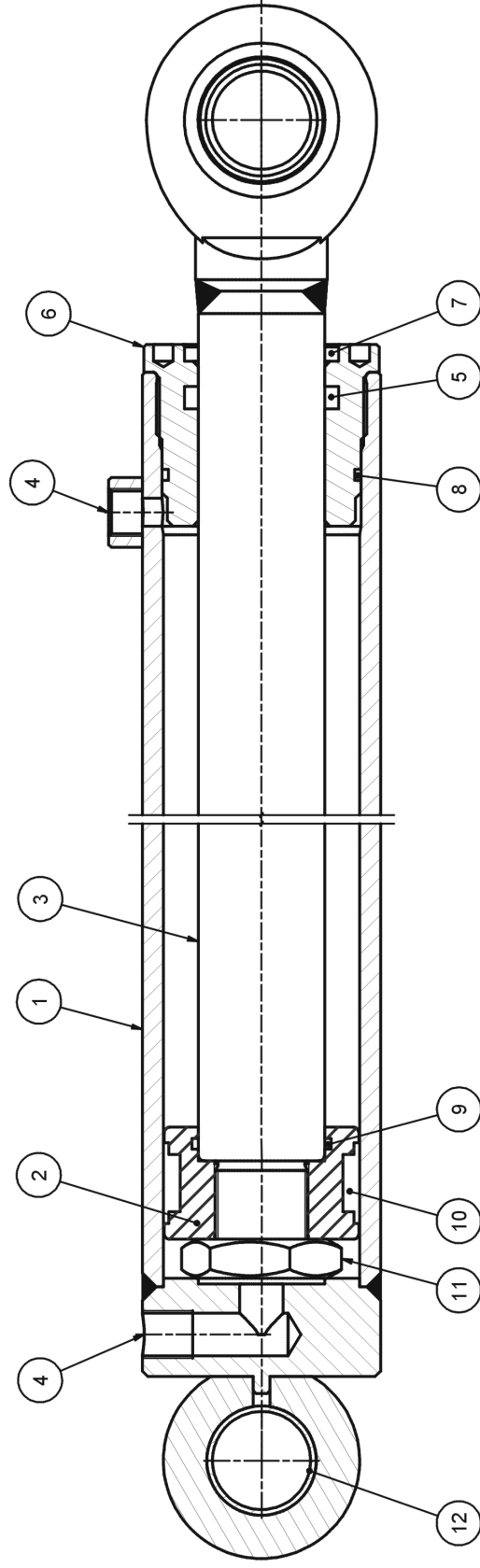
Tafel - Table - Feuille 7

OPTIMAL 1100

ERSATZTEILLISTE - SPARE PARTS LIST – LISTE DES PIÈCES DE RECHANGE

Aufbau - Superstructure

<u>Pos.</u> <u>Item</u>	<u>Menge</u> <u>Quantity</u>	<u>Bezeichnung</u> <u>Description</u>	<u>ET-Nummer</u> <u>Part Number</u>
29	4	Spannsift ø5x60 slotted spring pin	506705601481
30	16	Scheibe 17 – DIN127 washer 17 – DIN127	50616
31	16	Schraube M16x30 - DIN933 hex. Bolt M16x30 - DIN933	50116030933
32	1	Steuerblock 5-fach control panel, 5 functions	547219
33	1	Steuerteil control box	2014111020



**HUBZYLINDER
MAIN LIFT ARM CYLINDER**

Optimal
Vertrieb Optitz GmbH
Eysleben Str. 9/117 Thunau/Leipzig

Tafel - Table - Feuille 8

OPTIMAL 1100

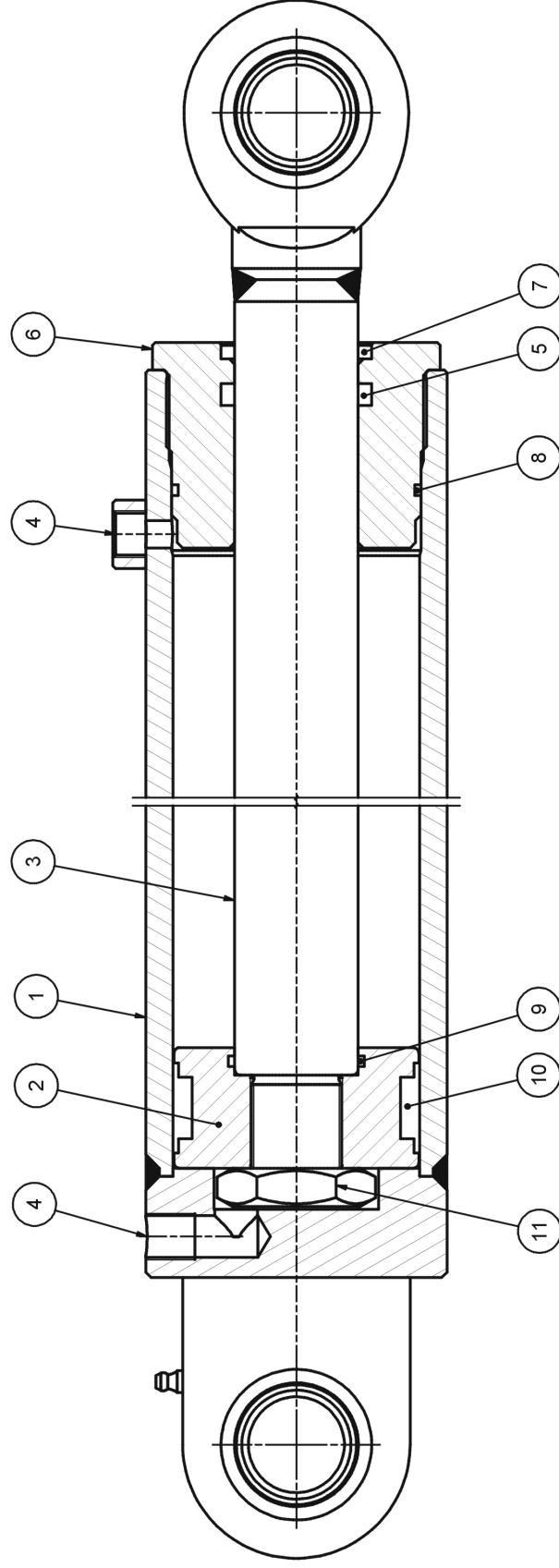
ERSATZTEILLISTE - SPARE PARTS LIST – LISTE DES PIÈCES DE RECHANGE

Hubzylinder / Main Lift Arm Cylinder

<u>Pos.</u> <u>Item</u>	<u>Menge</u> <u>Quantity</u>	<u>Bezeichnung</u> <u>Description</u>	<u>ET-Nummer</u> <u>Part Number</u>
1	1	Zylinderrohr cylinder body	3020700080
2	1	Kolben piston	3127045240
3	1	Kolbenstange piston rod	3030450100
4	2	Verschraubung union	515070511017
5	1	Stangendichtung rod seal	5160245
6	1	Führungsbuchse guide bush	3117045365
7	1	Abstreifer oil scraper	5160345
8	1	O-Ring 64,5 x 3 o-ring	5170645030
9	1	O-Ring 45,2 x 3 o-ring	5170452030
10	1	Kolbendichtung piston seal	51604070058
11	1	Mutter M 33 x 1,5 nut M 33 x 1,5	50233150936
12	2	Lagerbuchse 3539-50 bush	544353950
	1	kompl. Dichtsatz seal kit	516007045601

Ersatzteilliste - Spare Parts List

Tafel - Table 9



SCHWENKZYLINDER
DIGGING HEAD ROTATION CYL.

Optimal
Vertrieb Optitz GmbH
Eysden Str. 91777 Tübingen

Optimal 1100

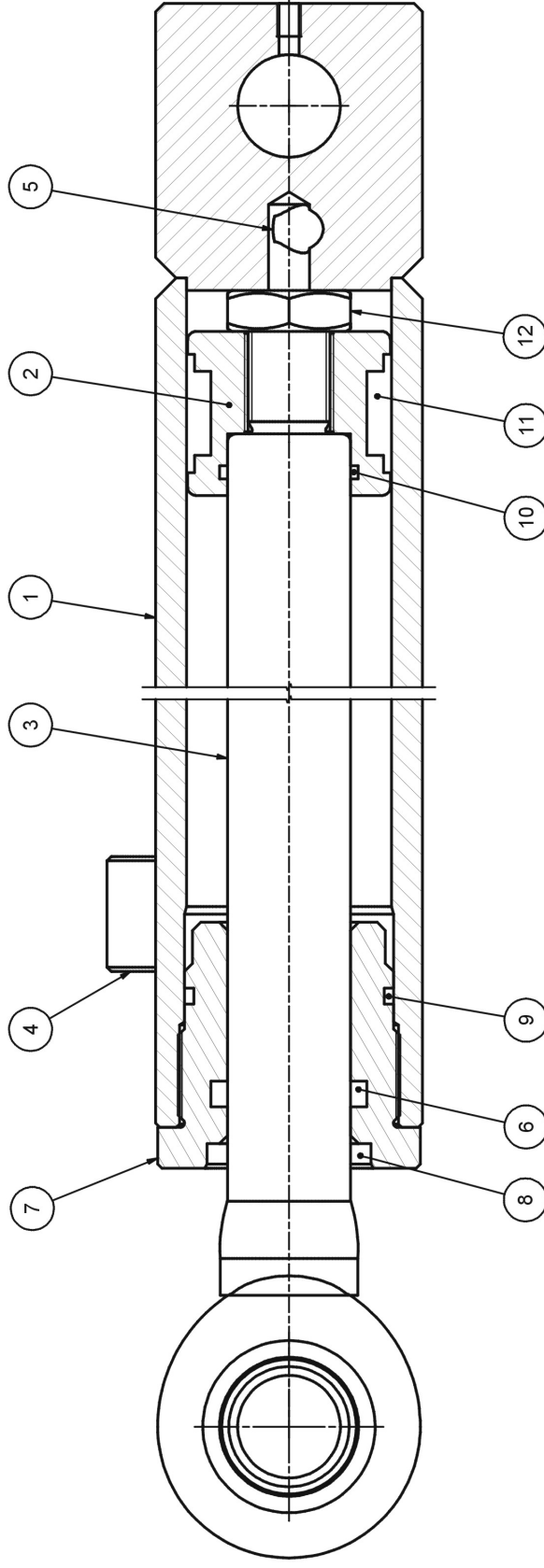
Tafel - Table - Feuille 9

OPTIMAL 1100

ERSATZTEILLISTE - SPARE PARTS LIST – LISTE DES PIÈCES DE RECHANGE

Schwenkzylinder / Digging head rotation Cylinder

<u>Pos.</u> <u>Item</u>	<u>Menge</u> <u>Quantity</u>	<u>Bezeichnung</u> <u>Description</u>	<u>ET-Nummer</u> <u>Part Number</u>
1	1	Zylinderrohr cylinder body	3020900020
2	1	Kolben piston	3129045010
3	1	Kolbenstange piston rod	3030450090
4	2	Verschraubung union	515070511217
5	1	Stangendichtung rod seal	5160245
6	1	Führungsbuchse guide bush	3119045010
7	1	Abstreifer oil scraper	5160345
8	1	O-Ring 83 x 3 o-ring	5170830030
9	1	O-Ring 45 x 3 o-ring	517045030
10	1	Kolbendichtung piston seal	51604090076
11	1	Mutter M 33 x 1,5 nut M 33 x 1,5	50233150936
	1	kompl. Dichtsatz seal kit	516009045010



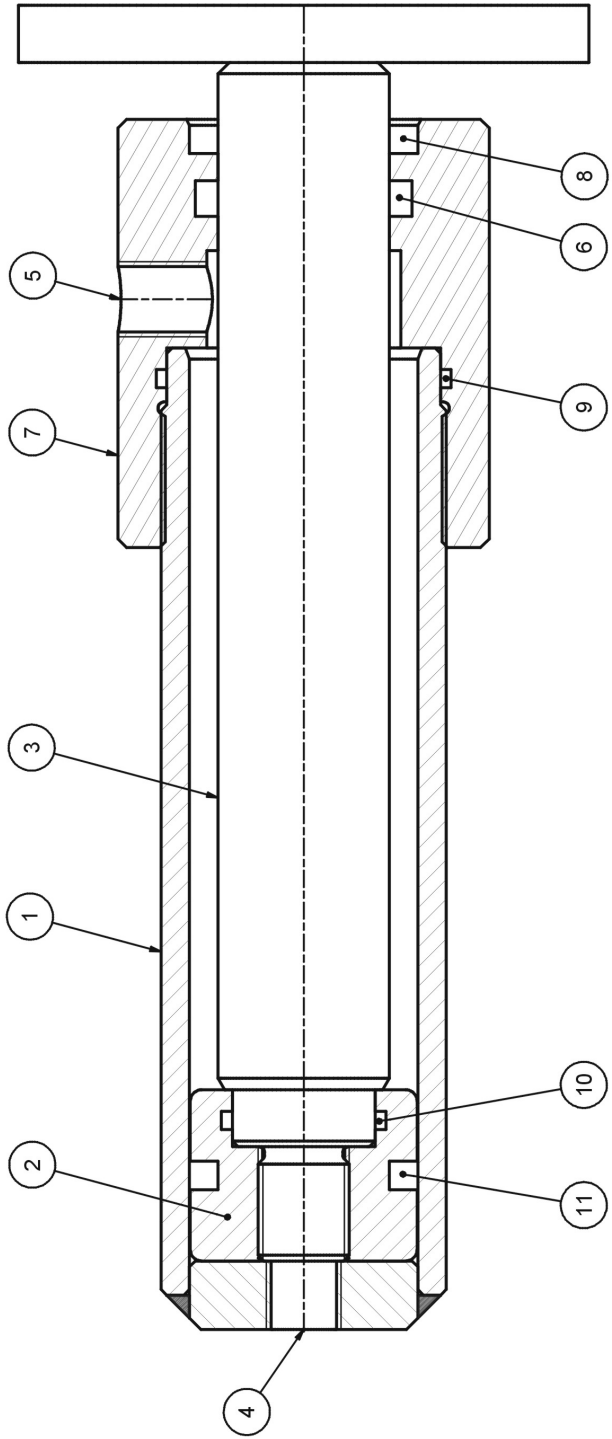
Tafel - Table - Feuille 10

OPTIMAL 1100

ERSATZTEILLISTE - SPARE PARTS LIST – LISTE DES PIÈCES DE RECHANGE

Heckabstützzyylinder / Rear stabilizer Cylinder

<u>Pos.</u> <u>Item</u>	<u>Menge</u> <u>Quantity</u>	<u>Bezeichnung</u> <u>Description</u>	<u>ET-Nummer</u> <u>Part Number</u>
1	1	Zylinderrohr cylinder body	3020500100
2	1	Kolben piston	3125030240
3	1	Kolbenstange piston rod	3030300100
4	1	Verschraubung union	515021000813
5	1	Verschraubung union	515070510813
6	1	Stangendichtung rod seal	5160230
7	1	Führungsbuchse guide bush	3115030360
8	1	Abstreifer oil scraper	5160330
9	1	O-Ring 45,2 x 3 o-ring	5170452030
10	1	O-Ring 30 x 2,5 o-ring	5170300025
11	1	Kolbendichtung piston seal	51604050038
12	1	Mutter M 20 x 1,5 nut M 20 x 1,5	50220150936
	1	kompl. Dichtsatz seal kit	516005030603



BALLENPRESSZYLINDER
ROOT BALL PAD CYLINDER

Optimal
Vertrieb Optiz GmbH
Eysleben Rd. 91177 Thalmassing

Tafel - Table - Feuille 11

OPTIMAL 1100

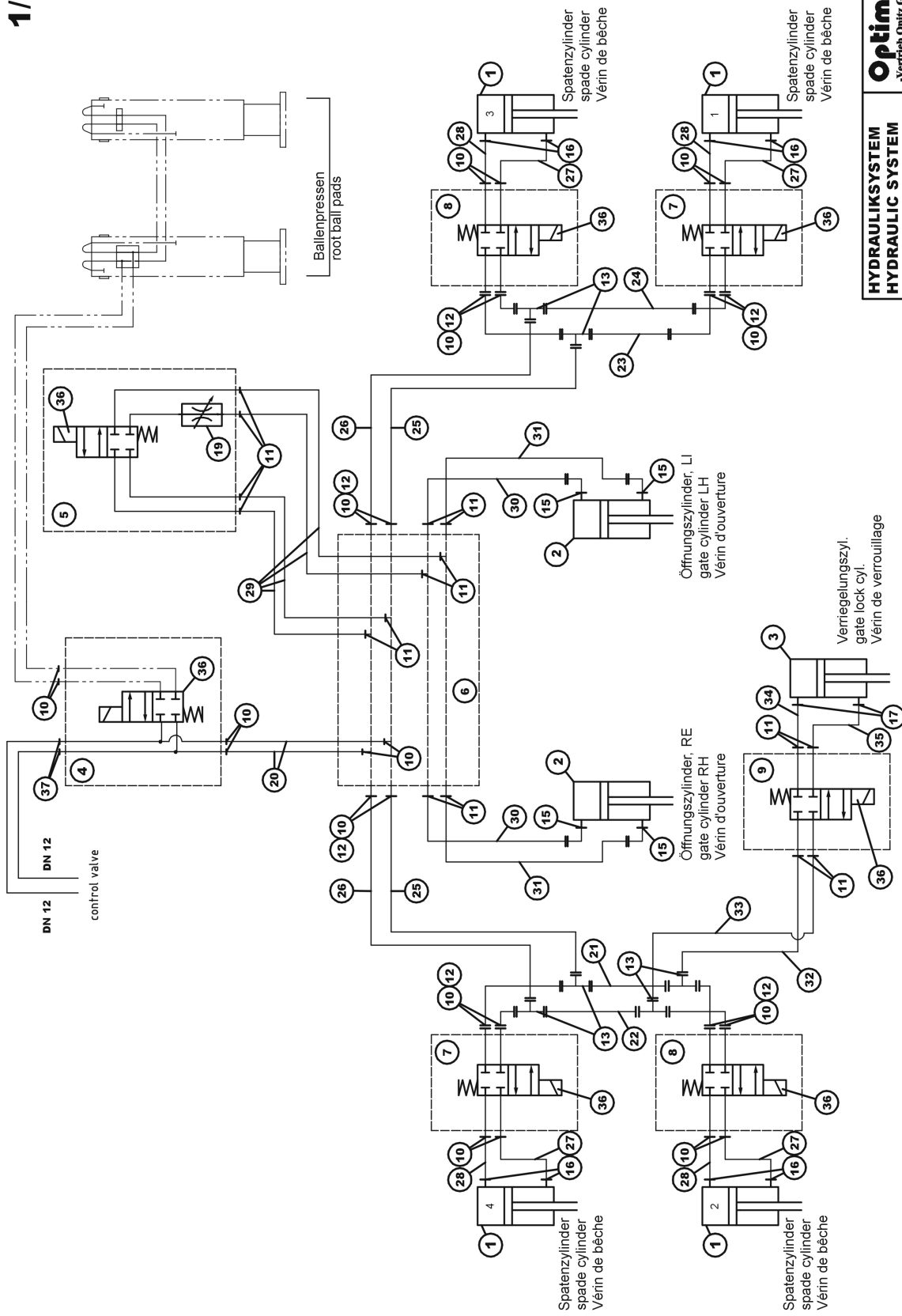
ERSATZTEILLISTE - SPARE PARTS LIST – LISTE DES PIÈCES DE RECHANGE

Ballenpresszylinder / Root ball pad Cylinder

<u>Pos.</u> <u>Item</u>	<u>Menge</u> <u>Quantity</u>	<u>Bezeichnung</u> <u>Description</u>	<u>ET-Nummer</u> <u>Part Number</u>
1	1	Zylinderrohr cylinder body	3020400030
2	1	Kolben piston	3124025230
3	1	Kolbenstange piston rod	3030300120
4	1	Verschraubung union	515021000813
5	1	Verschraubung union	515070510813
6	1	Stangendichtung rod seal	5160230
7	1	Führungsbuchse guide bush	3114030020
8	1	Abstreifer oil scraper	5160330
9	1	O-Ring 48 x 2,5 o-ring	5170480025
10	1	O-Ring 25 x 2,5 o-ring	5170250025
11	1	Kolbendichtung piston seal	5160140
	1	kompl. Dichtsatz seal kit	516004030601

Ersatzteilliste - Spare Parts List - Liste De Pièces De Rechange Tafel - Table - Feuille 1 2

1/2

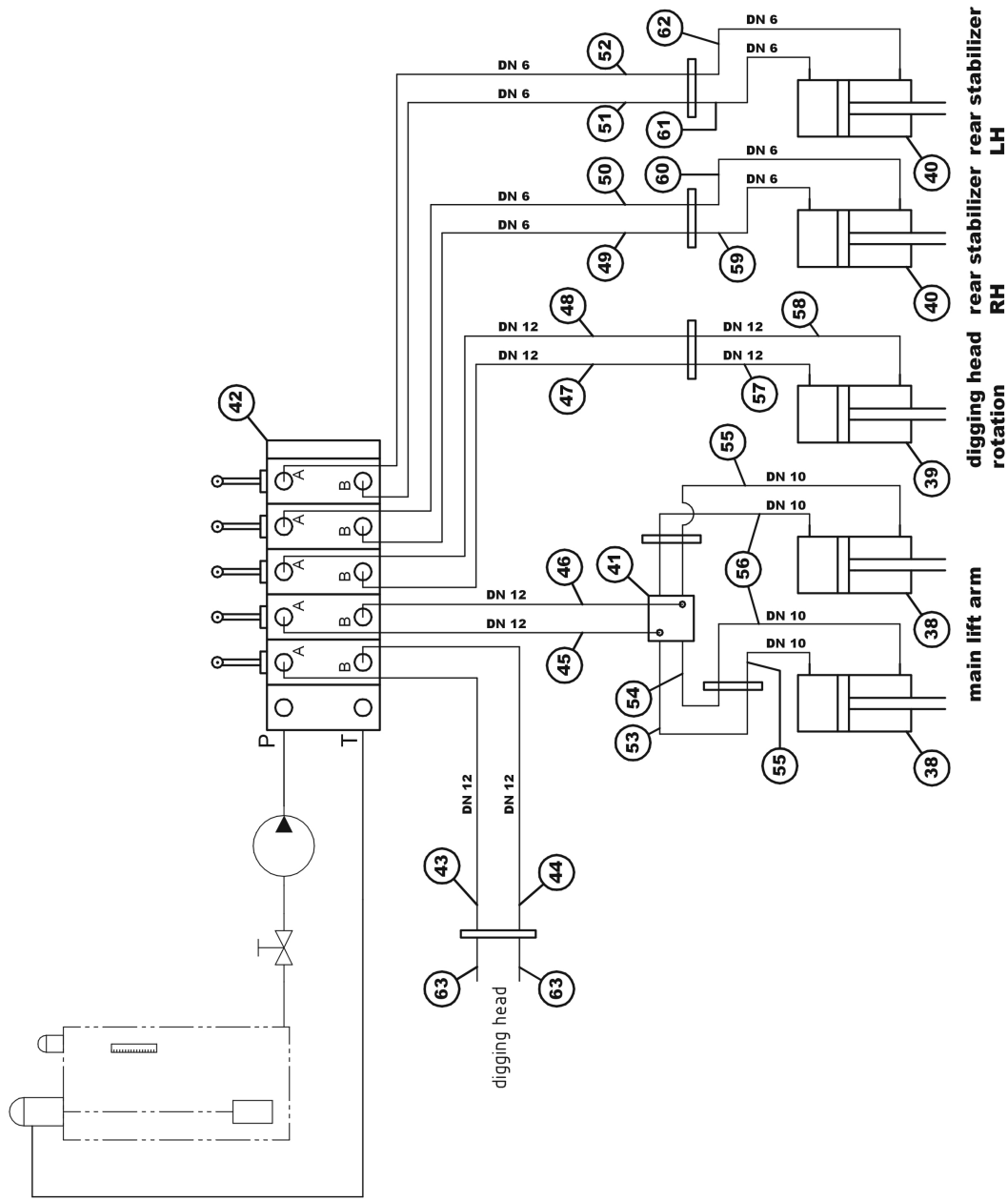


Optimal
 -Vertrieb OptiZ GmbH
 Systeme für ÖRT/TAUBHEBUNG

**HYDRAULIKSYSTEM
 HYDRAULIC SYSTEM
 SYSTEME HYDRAUL.**

Ersatzteilliste - Spare Parts List - Liste De Pièces De Rechange Tafel - Table - Feuille 1 2

2/2



Optimal
 -Vertrieb Optiz GmbH
 Systeme HA 01/17/18/19/20

**HYDRAULIKSYSTEM
 HYDRAULIC SYSTEM
 SYSTEME HYDRAUL.**

Optimal 1100

Tafel - Table - Feuille 12

OPTIMAL 1100

ERSATZTEILLISTE - SPARE PARTS LIST – LISTE DES PIÈCES DE RECHANGE

Hydrauliksystem - hydraulic system - Système hydraulique

<u>Pos.</u> <u>Item</u> <u>Pos.</u>	<u>Menge</u> <u>Quantity</u> <u>Quantité</u>	<u>Bezeichnung</u> <u>Description</u> <u>Description</u>	<u>ET-Nummer</u> <u>Part Number</u> <u>Référence</u>
1	4	Spatenzylinder spade cylinder	3010100060
2	2	Öffnungszylinder gate cylinder	3010200040
3	1	Verriegelungszylinder gate lock cylinder	3010300081
4	1	Steuerblock, Zusatzfunktion control block, auxiliary functions distributeur	3051110060
5	1	Steuerblock 2, Öffnungszyl. control block, 2, gate cylinder	3051110030
6	1	Ölverteiler oil manifold	3051110050
7	2	Steuerblock 1, links Spatenzyl. control block, spade cylinder LH	3051110020
8	2	Steuerblock 1, rechts, Spatenzyl. control block, spade cylinder RH	3051110010
9	1	Steuerblock3, Verriegelungszyl. control block, gate lock cylinder	3051110040
10	26	Verschraubung gerade 3/8 union 3/8	515020231017
11	16	Verschraubung gerade 1/4 union 1/4	515020230813
12	12	Winkelverschraubung ellbow union	5150701710
13	6	T-Verschraubung union	5151300310

Tafel - Table - Feuille 12

OPTIMAL 1100

ERSATZTEILLISTE - SPARE PARTS LIST – LISTE DES PIÈCES DE RECHANGE

Hydrauliksystem - hydraulic system - Système hydraulique

<u>Pos.</u> <u>Item</u> <u>Pos.</u>	<u>Menge</u> <u>Quantity</u> <u>Quantité</u>	<u>Bezeichnung</u> <u>Description</u> <u>Description</u>	<u>ET-Nummer</u> <u>Part Number</u> <u>Référence</u>
15	4	Winkelverschraubung elbow union	515070510813
16	8	Winkelverschraubung elbow union	515070511017
17	2	Verschraubung, gerade union	515021000813
19	1	Drosselschraube oil flow adjuster	3140880030
20	2	Hydraulikschlauch NW 10 hydraulic hose	513101045012
21	1	Hydraulikschlauch Nw10 hydraulic hose	513102039011
22	1	Hydraulikschlauch NW10 hydraulic hose	513102040511
23	1	Hydraulikschlauch NW10 hydraulic hose	513102043511
24	1	Hydraulikschlauch NW10 hydraulic hose	513102045011
25	2	Hydraulikschlauch NW10 hydraulic hose	513102063012
26	2	Hydraulikschlauch NW 10 hydraulic hose	513102069012
27	4	Hydraulikschlauch NW 10 hydraulic hose	513102106011
28	4	Hydraulikschlauch NW 10 hydraulic hose	513102144011

Tafel - Table - Feuille 12

OPTIMAL 1100

ERSATZTEILLISTE - SPARE PARTS LIST – LISTE DES PIÈCES DE RECHANGE

Hydrauliksystem - hydraulic system - Système hydraulique

<u>Pos.</u> <u>Item</u> <u>Pos.</u>	<u>Menge</u> <u>Quantity</u> <u>Quantité</u>	<u>Bezeichnung</u> <u>Description</u> <u>Description</u>	<u>ET-Nummer</u> <u>Part Number</u> <u>Référence</u>
29	4	Hydraulikschlauch NW 6 hydraulic hose	513062047011
30	2	Hydraulikschlauch NW 6 hydraulic hose	513062063013
31	2	Hydraulikschlauch NW 6 hydraulic hose	513062075013
32	1	Hydraulikschlauch NW 6 hydraulic hose	513062054014
33	1	Hydraulikschlauch NW 6 hydraulic hose	513062061014
34	1	Hydraulikschlauch NW 6 hydraulic hose	513062042013
35	1	Hydraulikschlauch NW 6 hydraulic hose	513062044013
36	1	Einzelventil NG 6 control valve NG06	547001
37	2	Verschraubung gerade 3/8 union 3/8	515020231217
38	2	Hubzylinder main lift arm cylinder	3010400140
39	1	Schwenkzylinder cylinder for digging head rotation	3010500050
40	2	Heckabstützylinder rear stabilizer cylinder	3010402
41	1	Ölverteiler oil manifold	3051110070

Tafel - Table - Feuille 12

OPTIMAL 1100

ERSATZTEILLISTE - SPARE PARTS LIST – LISTE DES PIÈCES DE RECHANGE

Hydrauliksystem - hydraulic system - Système hydraulique

<u>Pos.</u> <u>Item</u> <u>Pos.</u>	<u>Menge</u> <u>Quantity</u> <u>Quantité</u>	<u>Bezeichnung</u> <u>Description</u> <u>Description</u>	<u>ET-Nummer</u> <u>Part Number</u> <u>Référence</u>
42	1	Steuerblock 5-fach control panel, 5 functions	547219
43	1	Hydraulikschlauch NW12 hydraulic hose	513122375013
44	1	Hydraulikschlauch NW12 hydraulic hose	513122372011
45	1	Hydraulikschlauch NW12 hydraulic hose	513122165013
46	1	Hydraulikschlauch NW12 hydraulic hose	513122166011
47	1	Hydraulikschlauch NW12 hydraulic hose	513122322011
48	1	Hydraulikschlauch NW12 hydraulic hose	513122375013
49	1	Hydraulikschlauch NW6 hydraulic hose	513062266011
50	1	Hydraulikschlauch NW6 hydraulic hose	513062270013
51	1	Hydraulikschlauch NW6 hydraulic hose	513062146011
52	1	Hydraulikschlauch NW6 hydraulic hose	513062148013
53	2	Hydraulikschlauch NW10 hydraulic hose	513102050011
54	2	Hydraulikschlauch NW10 hydraulic hose	513102050011

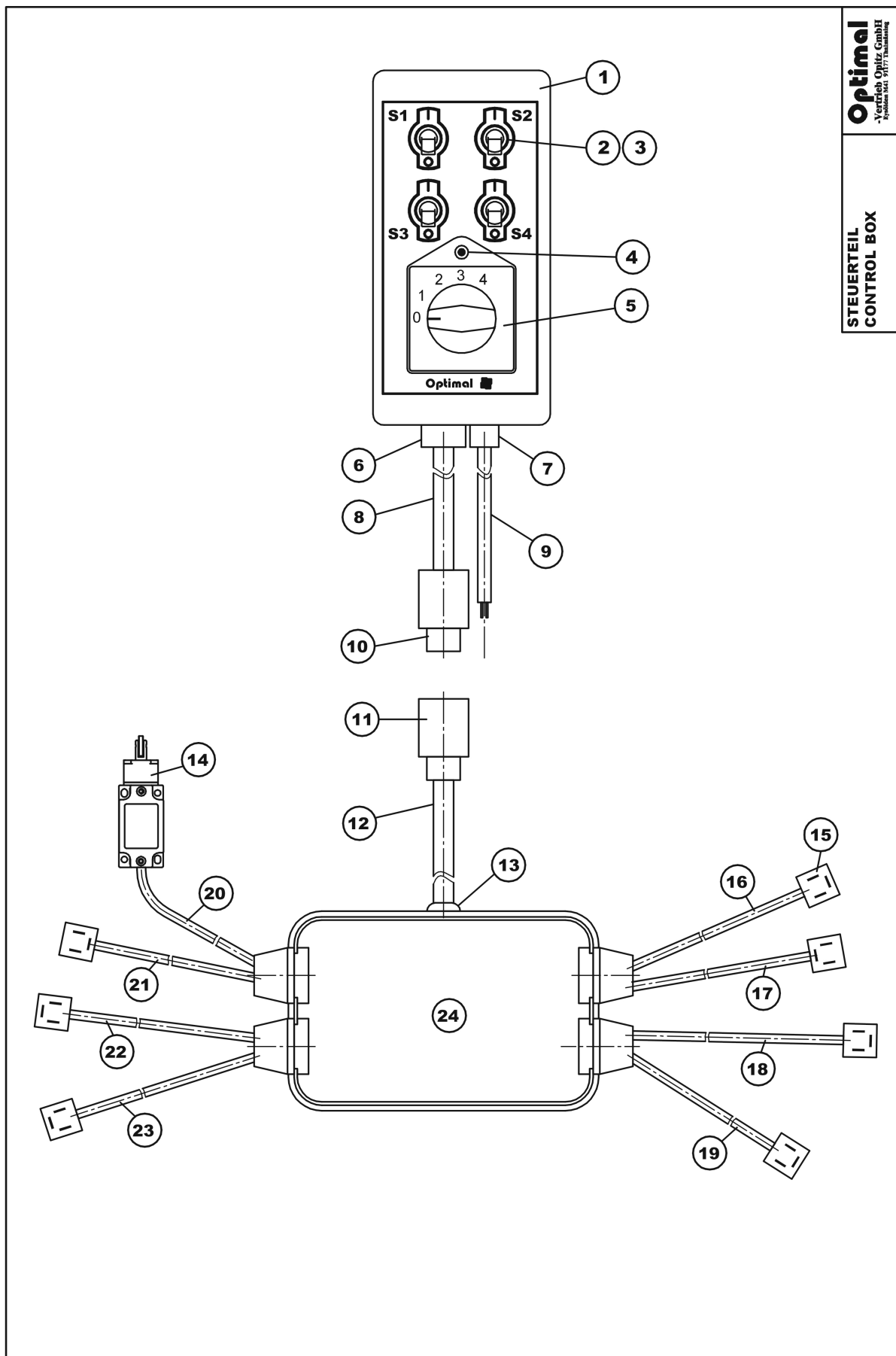
Tafel - Table - Feuille 12

OPTIMAL 1100

ERSATZTEILLISTE - SPARE PARTS LIST – LISTE DES PIÈCES DE RECHANGE

Hydrauliksystem - hydraulic system - Système hydraulique

<u>Pos.</u> <u>Item</u> <u>Pos.</u>	<u>Menge</u> <u>Quantity</u> <u>Quantité</u>	<u>Bezeichnung</u> <u>Description</u> <u>Description</u>	<u>ET-Nummer</u> <u>Part Number</u> <u>Référence</u>
55	2	Hydraulikschlauch NW10 hydraulic hose	513102050011
56	2	Hydraulikschlauch NW10 hydraulic hose	513102070011
57	1	Hydraulikschlauch NW10 hydraulic hose	513102040511
58	1	Hydraulikschlauch NW12 hydraulic hose	513122092011
59	1	Hydraulikschlauch NW6 hydraulic hose	513062048013
60	1	Hydraulikschlauch NW6 hydraulic hose	513062113011
61	1	Hydraulikschlauch NW6 hydraulic hose	513062052013
62	1	Hydraulikschlauch NW6 hydraulic hose	513062111011
63	2	Hydraulikschlauch NW12 hydraulic hose	513122061011



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 Kippenhain 91177 Tübingen

**STEUERTEIL
 CONTROL BOX**

Tafel - Table - Feuille 12

OPTIMAL 1100

ERSATZTEILLISTE - SPARE PARTS LIST – LISTE DES PIÈCES DE RECHANGE

Steuerteil – control box – boîtier de contrôle

<u>Pos.</u> <u>Item</u> <u>Pos.</u>	<u>Menge</u> <u>Quantity</u> <u>Quantité</u>	<u>Bezeichnung</u> <u>Description</u> <u>Description</u>	<u>ET-Nummer</u> <u>Part Number</u> <u>Référence</u>
1	1	Gehäuse casing	3981110010
2	4	Kippschalter toggle switch	5470700728
3	4	Bezeichnungsschild name plate	5470700168
4	1	LED – Signallampe, 12V indicator lamp	5997149845
5	1	Drehschalter 0,1,2,3,4 rotary switch 0,1,2,3,4	5470A242600E
6	1	Kabelverschraubung M20x1,5 straight cable fitting	5997527727
7	1	Kabelverschraubung M12x1,5 straight cable fitting	5997527701
8	1	Kabel 12x1,5 – 560cm (220,5") cable 12x1,5 – 560cm (220,5")	5121215
9	1	Kabel 2x1,5 – 170cm (67") cable 2x1,5 – 170cm (67")	5122015
10	1	Steckdose 13-polig 13-pole socket	5998JB005949
11	1	Stecker 13-polig 13-pole plug	5998JA005951

Tafel - Table - Feuille 12

OPTIMAL 1100

ERSATZTEILLISTE - SPARE PARTS LIST – LISTE DES PIÈCES DE RECHANGE

Steuerteil – control box - boîtier de contrôle

<u>Pos.</u> <u>Item</u> <u>Pos.</u>	<u>Menge</u> <u>Quantity</u> <u>Quantité</u>	<u>Bezeichnung</u> <u>Description</u> <u>Description</u>	<u>ET-Nummer</u> <u>Part Number</u> <u>Référence</u>
12	1	Kabel 9x1,5 – 250cm (98“) cable 9x1,5 – 250cm (98“)	5129015
13	1	Kabeltülle cable sleeve	72112
14	1	Sicherheitsschalter safety switch	5990043782
15	7	Standard – Stecker standard plug	54743650
16	1	Kabel 2x1,5 – 239cm (94“) - Verriegelung cable 2x1,5 – 239cm (94“) – gate lock	5122015
17	1	Kabel 2x1,5 – 72cm (28“) – Zusatzfunkt. cable 2x1,5 – 72cm (28“) – optional function	5122015
18	1	Kabel 2x1,5 – 194cm (76,5“) – Spaten 2 cable 2x1,5 – 194cm (76,5“) – blade 2	5122015
19	1	Kabel 2x1,5 – 150cm (59“) – Spaten 4 cable 2x1,5 – 150cm (59“) – blade 4	5122015
20	1	Kabel 3x1,5 – 202cm (79,5“) – Si.Schalter cable 3x1,5 – 202cm (79,5“) – safety switch	5123015
21	1	Kabel 2x1,5 – 65cm (25,5“) – öffnen cable 2x1,5 – 65cm (25,5“) – gate	5122015
22	1	Kabel 2x1,5 – 193cm (76“) – Spaten 1 cable 2x1,5 – 193cm (76“) – blade 1	5122015
23	1	Kabel 2x1,5 – 145cm (57“) – Spaten 3 cable 2x1,5 – 145cm (57“) – blade 3	5122015
24	1	Verteilerdose distributor box	3981110020



LIMITED WARRANTY

Optimal-Vertrieb Opitz GmbH ("Opitz") warrants that this product will be free from defects in material and workmanship for a period of 6 months from the date of purchase (the "Warranty Period"). If, during the Warranty Period, this product proves to be defective, Opitz will remedy the defect by either repairing or replacing the product or any of its defective parts, at Opitz's option.

If you need warranty service, you must, prior to the lapse of the Warranty Period, file a claim, together with proof of purchase and your original Warranty Certificate received at the purchase of the product, with Prichard's Nursery Equipment, LLC; P.O. Box 250; Harrison, TN 37341-0250; USA. After a warranty claim is properly filed, Opitz or its designated representative will evaluate the warranty claim. This warranty is conditioned upon your reasonable cooperation with Opitz in the evaluation of your warranty claim and the implementation of any remedy. When supplying replacement product or parts under this warranty, Opitz reserves the right to substitute product or parts of comparable value and design for any discontinued designs. This warranty is not transferable and applies only to the original consumer purchaser.

Opitz does not assume any responsibility for failures, breakage or causes which result from abuse, misuse, negligence, faulty operation, unauthorized repair or alteration, accident, fire, winds, floods, moisture, other unfavorable atmospheric conditions or other causes beyond Opitz's reasonable control or from failure to operate or maintain the product in accordance with the Opitz Operation Manual (a copy of which is provided to you with the product) or from normal wear and tear under normal usage. **OPITZ EXCLUDES AND WILL NOT PAY ANY INCIDENTAL AND CONSEQUENTIAL DAMAGES ARISING OUT OF THE PURCHASE OR USE OF THE PRODUCT.** By this Opitz means any loss, expense or damage other than to the product itself that may result from a defect in the product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

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This warranty shall apply only to product that is purchased and used within the United States. This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

Date of Sale: Product Sold:

Product Serial Number: Expiration Date of the Warranty:

Name and Address of Buyer:

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Signature of Buyer: