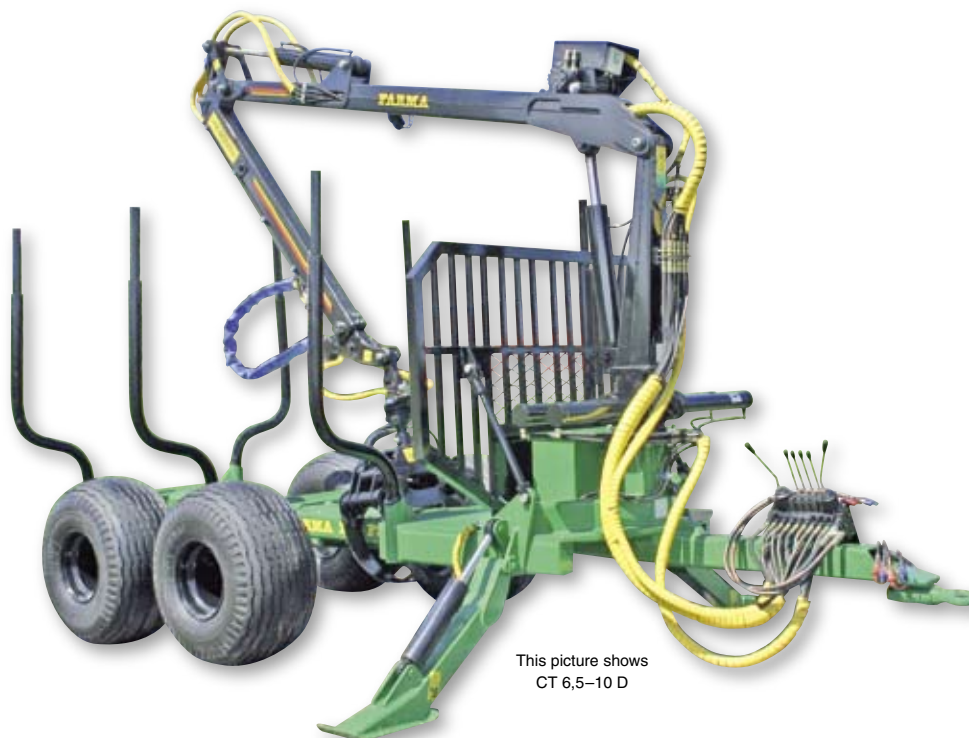


INSTRUCTION BOOK

# **FARMA CT 4,6-7 D**

SERVICE AND SPARE PARTS



INSTRUCTION BOOK

**GRAPPLE LOADER**  
**FARMA C 4,6 D**

SERVICE AND SPARE PARTS

**TABLE OF CONTENTS**

1	INTRODUCTION.....	1
2	TECHNICAL SPECIFICATION.....	2
2.1	CONSTRUCTION OF THE LOADER .....	2
2.2	FOREST CRANE C 4,6D SPECIFICATION.....	3
2.3	HYDRAULIC DISTRIBUTOR HC-D9 .....	4
2.4	GRAPPLE FARMA 0,16 .....	10
2.5	HYDRAULIC CYLINDERS .....	11
2.6	ROTATOR FMTR 30 .....	13
2.7	TECHNICAL DATA.....	15
2.8	WORKING AREA .....	16
3	OPERATING INSTRUCTIONS .....	17
3.1	SAFETY .....	17
3.2	PRACTISING.....	19
3.3	INSTRUCTIONS FOR SAFE OPERATION .....	20
3.4	DAILY INSPECTIONS.....	21
3.5	ACTING IN DANGEROUS SITUATION.....	21
3.6	WORKING AT EXTREME CONDITIONS .....	25
4	MAINTENANCE INSTRUCTIONS.....	28
4.1	SAFETY .....	28
4.2	GENERAL .....	30
4.3	CHANGING HYDRAULIC COMPONENTS .....	32
4.4	LUBRICATION .....	33

## 1 INTRODUCTION

This manual deals with forest crane **C 4,6D** and contains all the operating and maintenance instructions you need for using the loader safely and correctly.

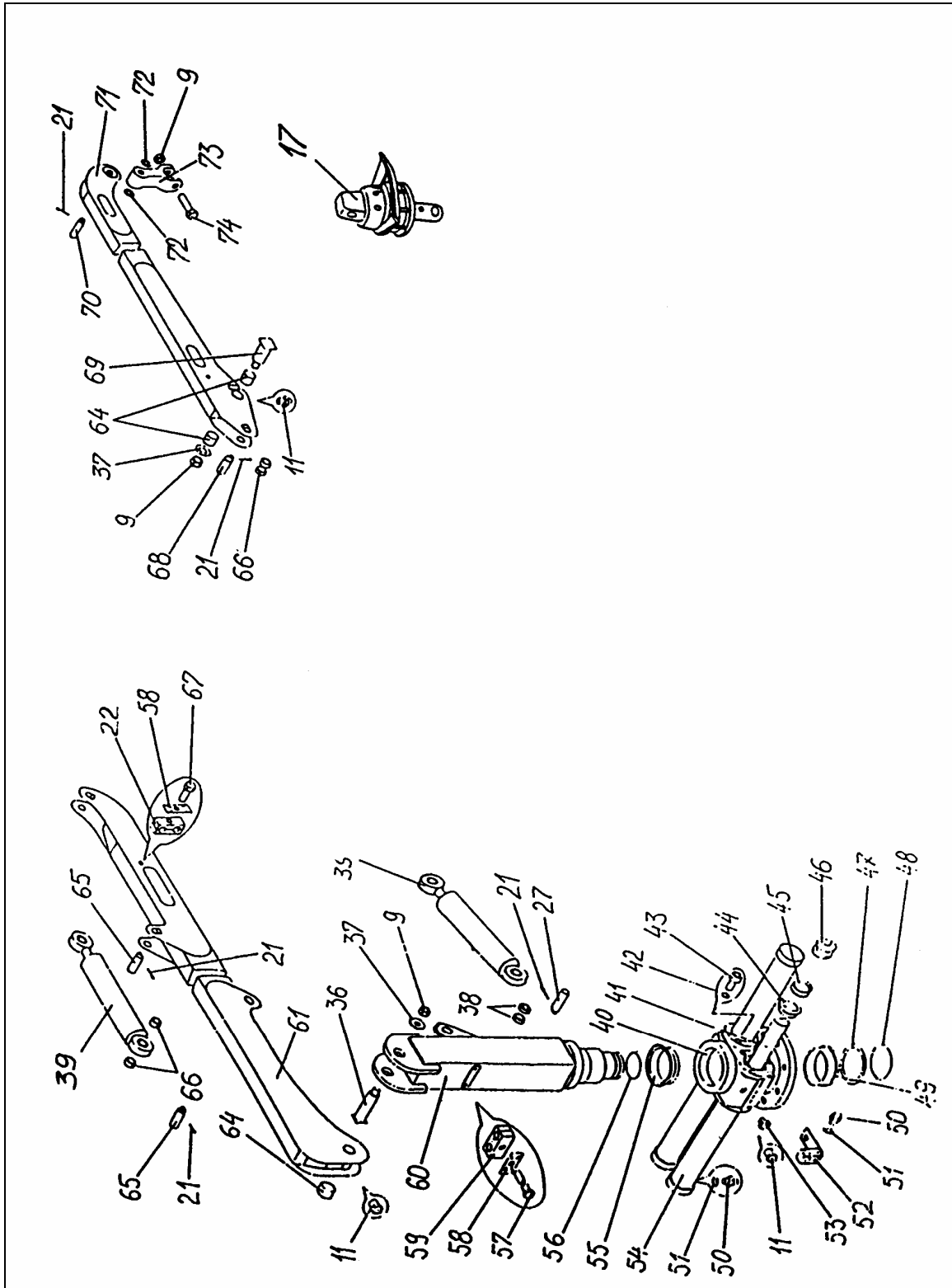
Even if you are experienced user of this kind of equipment, read this manual carefully. It contains information that enables the loader to be used efficiently and safely.

Regular maintenance is essential for troublefree, efficient and economical utilization. The loader delivered testrun and testloaded. The control valve and hydraulic cylinders are tested separately. Test operation at the factory is performed by using universal hydraulic oil (see lubricating instructions).

It is the operator duty to familiarize and obey all safety precautions and instructions carefully.

**2 TECHNICAL SPECIFICATION**

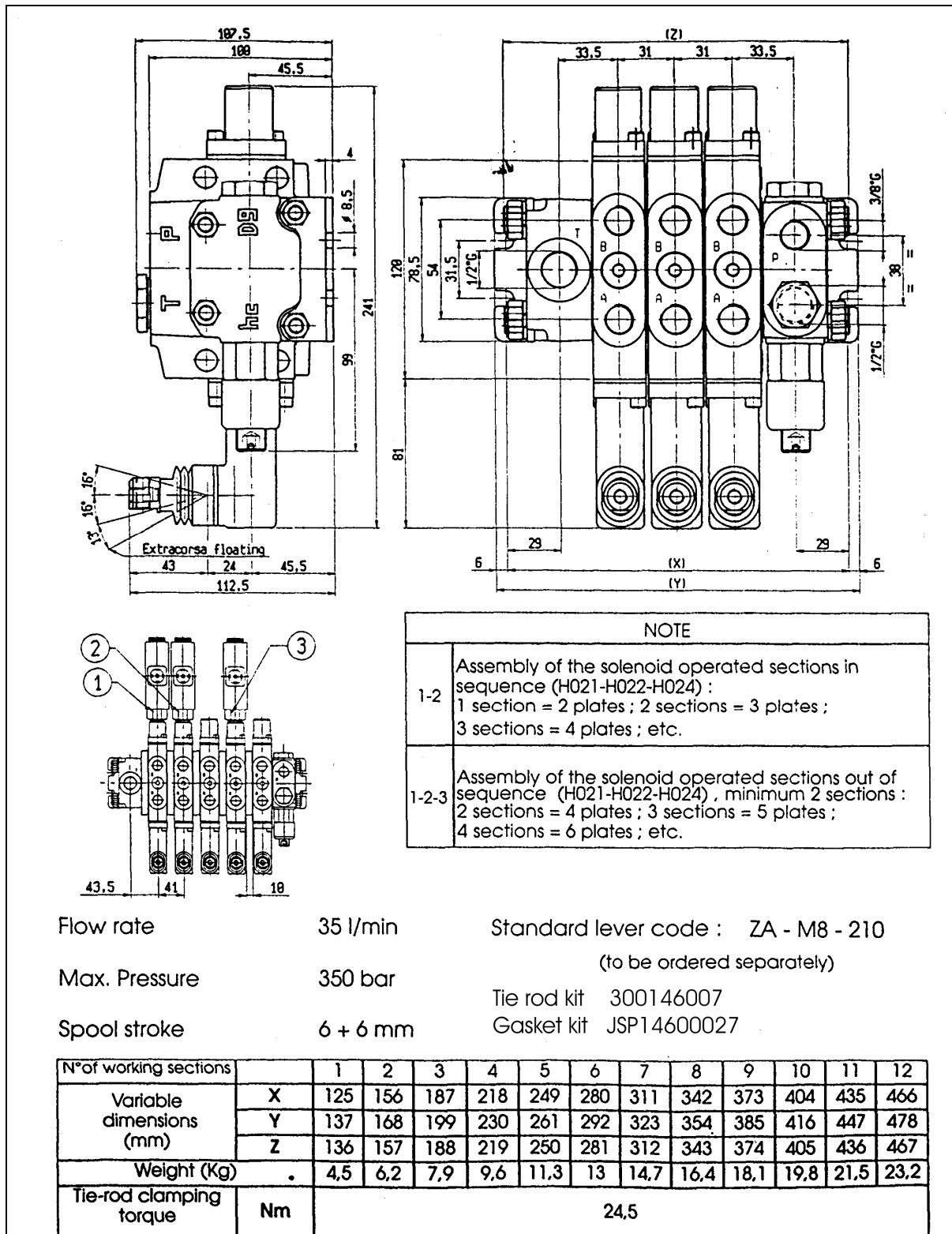
**2.1 CONSTRUCTION OF THE LOADER**

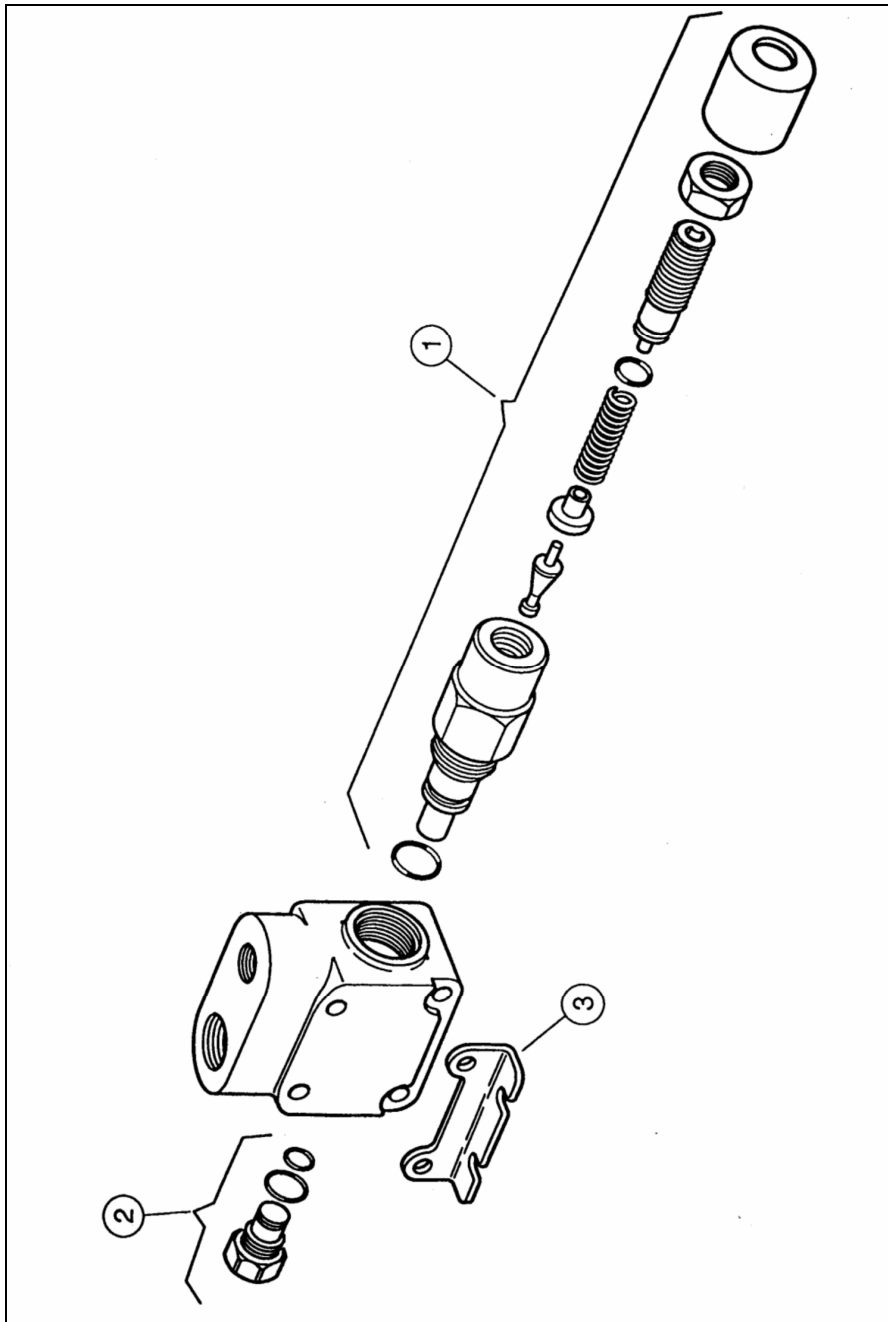


**2.2 FOREST CRANE C 4,6D SPECIFICATION**

Production no FMW 23

Pos no	Art no	Number	Sparepart	Dimension	Pcs
9	23001		Nut	M24	3
11	23002		Grease nipple	1/8"	4
17	23003		Rotator	MTR 30	1
21	23004		Split pin	ø4x60	5
22	23005		Clamp		4
27	23006	M13-000000.002-030	Axle bolt		1
36	23007	M13-000030.001-010	Axle bolt		1
37	23008	M13-000000.001	Plane washer	70x25x8	2
38	23009	M13-000000.017	Distance ring		2
39	23010	M13-100200.000	Hydraul cylinder	90x40-400	2
40	23011	M13-130100.000	Turnhouse (body)		1
41	23012	M13-130000.001	Racks		2
42	23013		Spring washer	ø10	24
43	23014		Bolt	M10x35 Insex	24
44	23015	M13-130000.002	Glide bearing		4
45	23016		Sealing	5x2 80-60-33,8	4
46	23017	M13-130000.005	Piston		4
47	23018	M13-130000.006	Cover-ring		1
48	23019		Lock-ring	SGA 115	1
49	23020	M13-130000.004	Glide bearing		1
50	23021		Adapter		10
51	23022		Seal washer		10
52	23023	F13-000010.000	Valve		1
53	23024	M13-130000.007	Plug		1
54	23025	M13-130200.000	Hydraul cylinder	90/80-500 turn	4
55	23026	M13-130000.003	Glide bearing		1
56	23027		O-ring	104,0x5,7	1
57	23028		Bolt	M8x65	2
58	23029		Cover plate	E394-12-01	8
59	23030		Clamp	E390-42-18	10
60	23031	F13-130004.000	Column		1
61	23032	F13-041000.000-010	Crane beam		1
64	23033		Glide bearing	PAP5040P10	4
65	23034	M13-000000.002-040	Axle bolt		2
66	23035	M13-000000.017	Distance ring		6
67	23036		Bolt	M8x40	6
68	23037	M13-000000.002	Axle bolt		1
69	23038	M13-000030.001-050	Axle bolt		1
70	23039	M14-000000.002-020	Axle bolt rot-fork		1
71	23040	F13-030000.000-020	Crane arm		1
72	23041	M13-000000.023	Plane washer	Ø25xØ45x4	2
73	23042	M13-020000.000	Rotator fork		1
74	23043	M13-000000.004-010	Axle bolt		1
75	23044	L23.46-40D	H-hose to turnhouse	L=650	4
76	23045	L23.46-40D	H-hose to turnhouse	L=2000	2
77	23046	L23.46-40D	H-hose to stick	L=5780	2
78	23047	L23.46-40D	H-hose to beam	L=3370	1
79	23048	L23.46-40D	H-hose to beam	L=3700	1
80	23049	L23.46-40D	H-hose to rotator	L=8760	4
81	23050	L23.46-40D	H-hose to valve	L=1500	2
82	23051	G. 0,16	H-hose to grapple	L=500	2

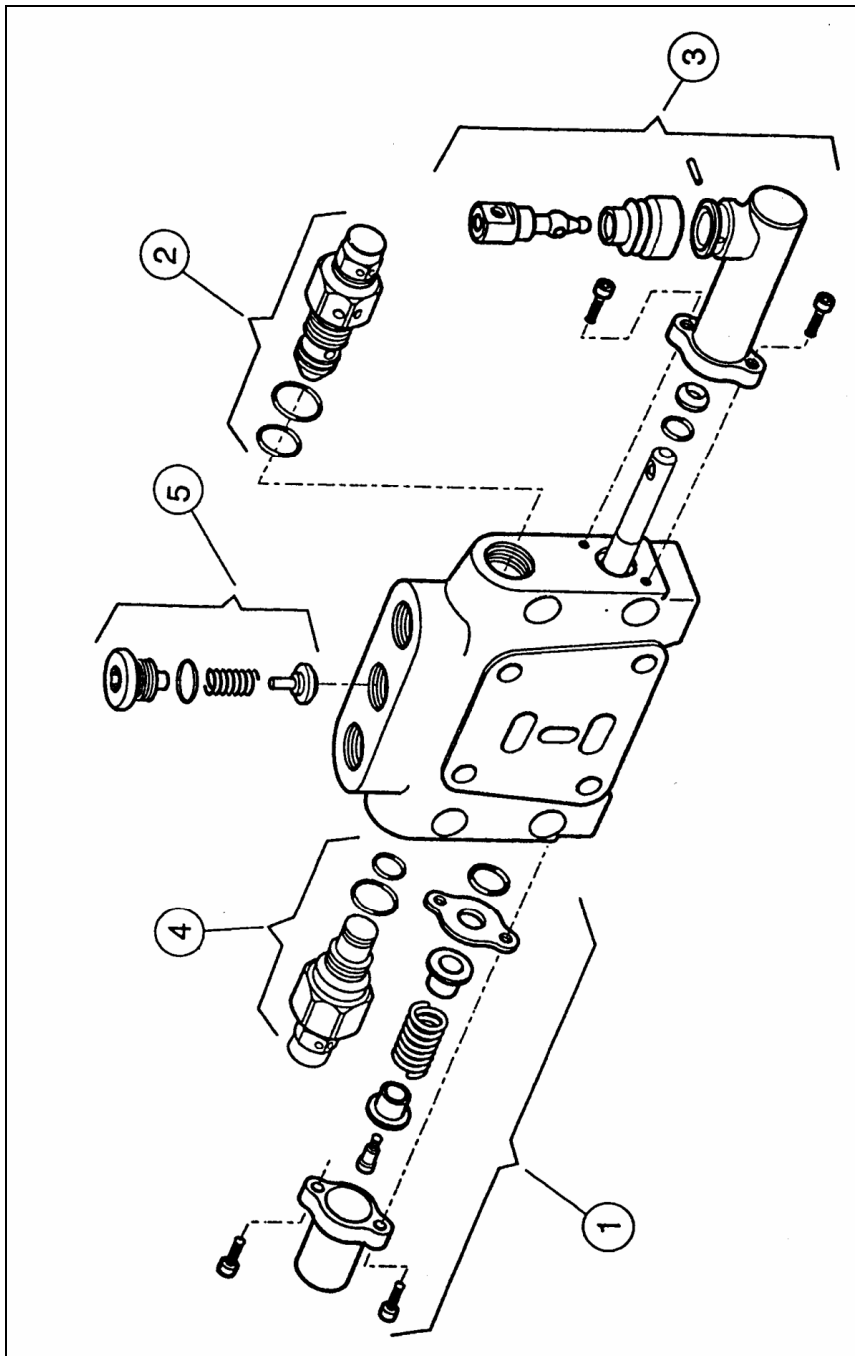
**2.3 HYDRAULIC DISTRIBUTOR HC-D9**




Inlet section - 15912

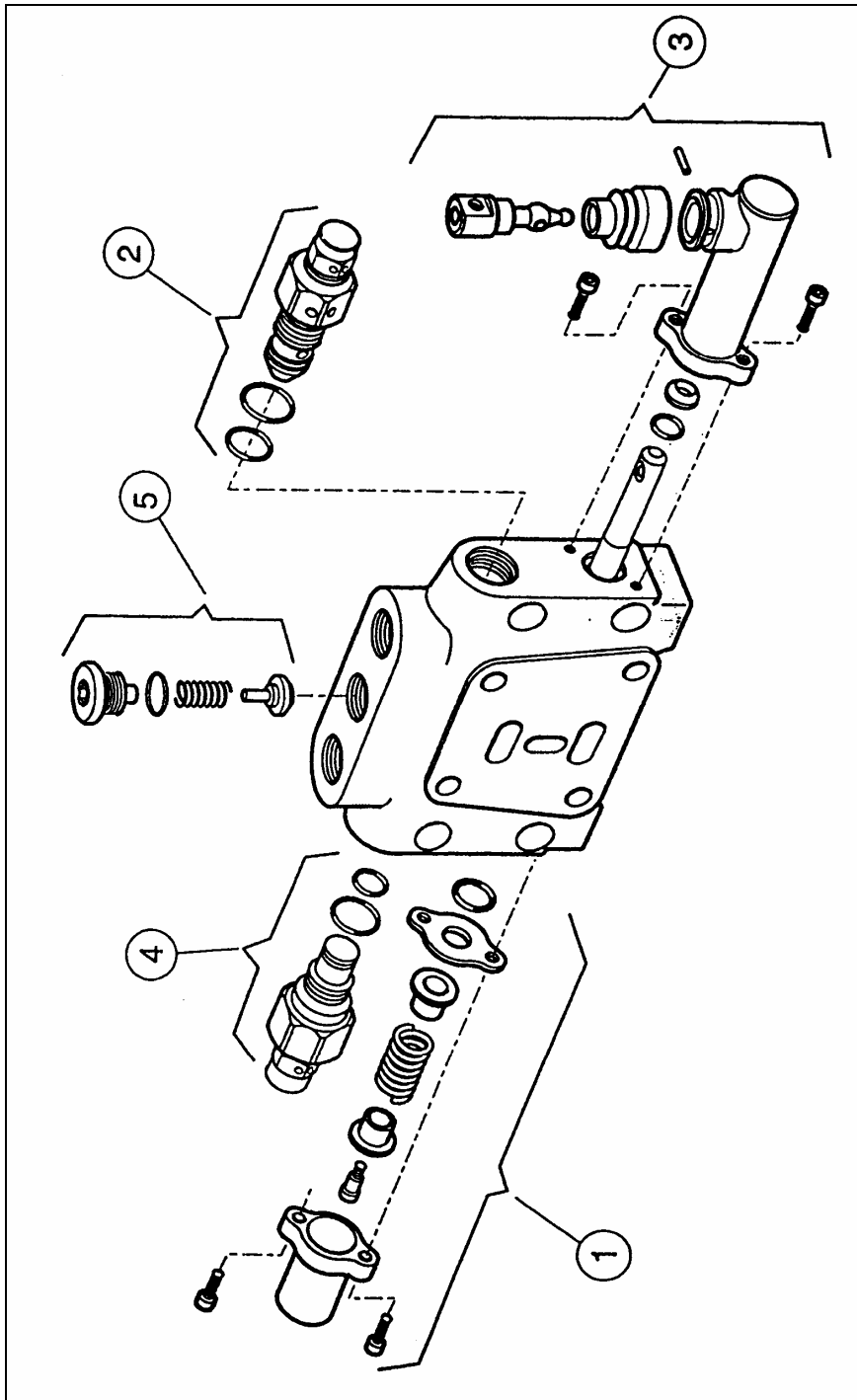
Pos.	Quantity	Code	Description	Dimension
1	1	14037	Pilot operated pressure relief valve (175) bar	
2	1	430146001	Relief valve plugged	
3	1	423410041	Bracket	





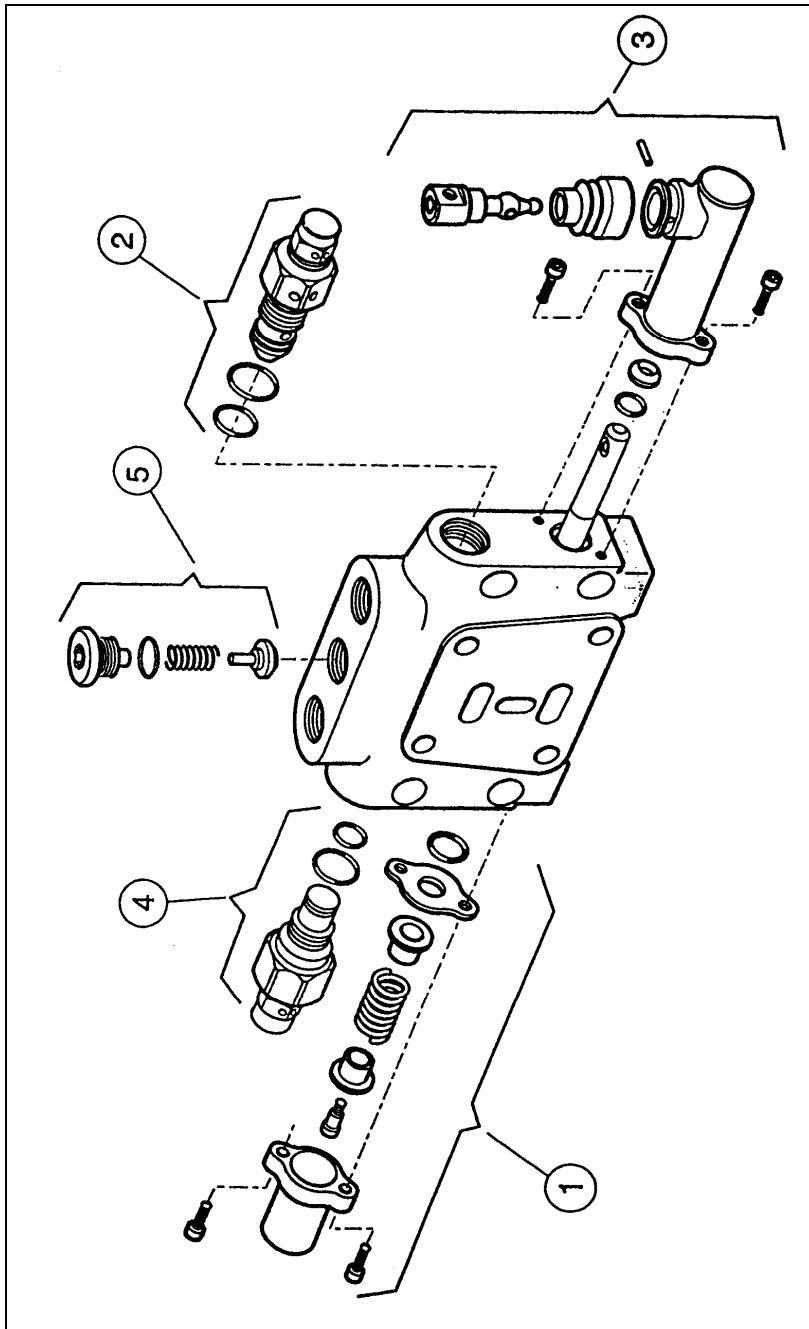
First working section - 15913

Pos.	Quantity	Code	Description	Dimension
1	1	320746002	Spool return action kit	
2	1	8999	Anti-shock valve (130-A) bar	
3	1	320346001	Handle kit	
4	1	8999	Anti-shock valve (130-A) bar	
5	1	320246001	Check valve kit	



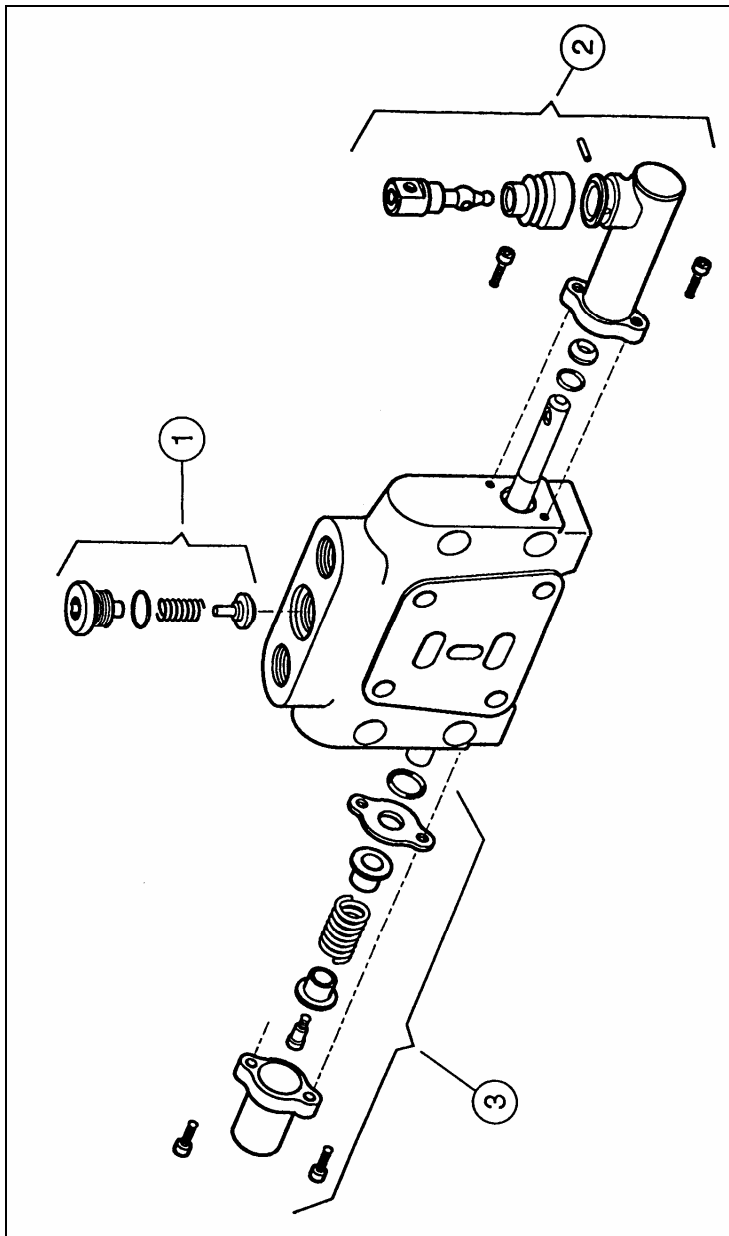
Second working section - 15516

Pos.	Quantity	Code	Description	Dimension
1	1	320746002	Spool return action kit	
2	1	5128	Anti-shock valve (175-A) bar	
3	1	320346001	Handle kit	
4	1	13171	Anti-shock valve (90-A) bar	
5	1	320246001	Check valve kit	



Third working section - 15914

Pos.	Quantity	Code	Description	Dimension
1	1	320746002	Spool return action kit	
2	1	5128	Anti-shock valve (175-A) bar	
3	1	320346001	Handle kit	
4	1	13171	Anti-shock valve (175-A) bar	
5	1	320246001	Check valve kit	



Fourth working section - 14938

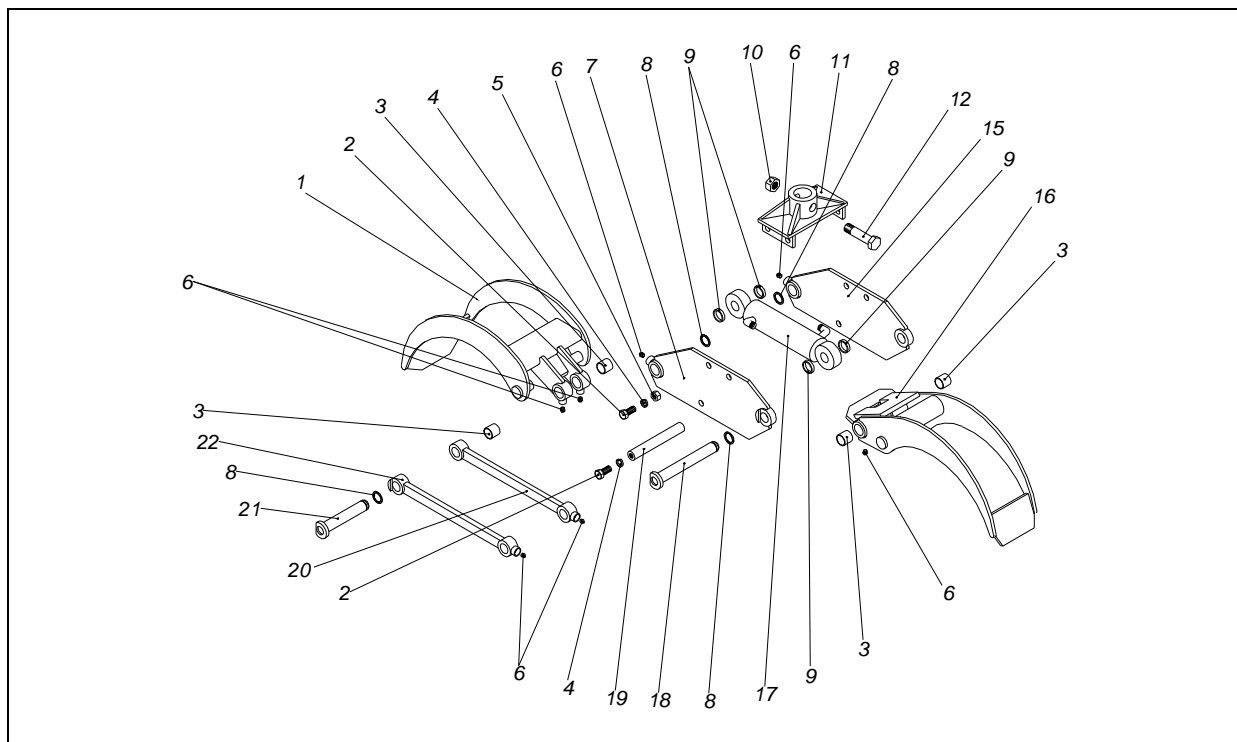
Pos.	Quantity		Description	Dimension
1	1	320246001	Check valve kit	
2	1	320346001	Handle kit	
3	1	320746002	Spool return action kit	

Section	Code
Fifth working section	14938
Sixth working section	14938
Seventh working section	14938
Olutet section	11999
Tie rod kit	300146007
Gasket kit	JSP14600027

**2.4 GRAPPLE FARMA 0,16**

Produktions nr FMW 19.

Pos no	Art no	Number	Reservdel	Sparepart	Dimension	Pcs
1	37019005	FMW42-010000.000	Gripklo/utv.	Grip outside		1
2	906225		Ledbult	Axlebolt	M16x40	6
3	909140		Bussning	Bush	PM3030DX	10
4	908630		Låsbricka	Spring washer	Ø16	6
5	907234		Mutter	Nut	M16	4
6	930105		Smörjnippel	Grease nipple	1/8"	8
7	37019009	FMW42-030000.000	Godstjok.	Wall		1
8	911260		Låsring	Stopper ring	SGA30	6
9	37019013	FMW42-000000.001	Distansring	Distance ring		4
10	907255		Mutter	Nut	M24	1
11	37019016	FMW42-050000.000	Grapple's hållare	Grapple's holder		1
12	37019020	MAP13-000000.004	Ledbult	Bolt		1
15	37019010	FMW42-030000.000-010	Godstjok.	Wall		1
16	37019006	FMW42-020000.000	Gripklo/inv.	Grip inside		1
17	313116	FMW42-100100.000	Hydraulik cylinder	Hydraulic Cylinder	63x32x160	1
18	37019025	FMW42-060000.000-010	Ledbult	Axlebolt		1
19	37019035	FMW42-000000.002	Stång	Bar		1
20	37019044	FMW42-050000.000	Medbringare	Tie-rod		1
21	37019024	FMW42-060000.000	Ledbult	Axlebolt		1
22	37019045	FMW42-050000.000-010	Medbringare	Tie-rod		1



**2.5 HYDRAULIC CYLINDERS**

Sparepart list hydraulic cyl 90x40x400

Beam cyl for Farma 60-30; 51-40; 46-40 and lift cyl 46-40 grapple loader

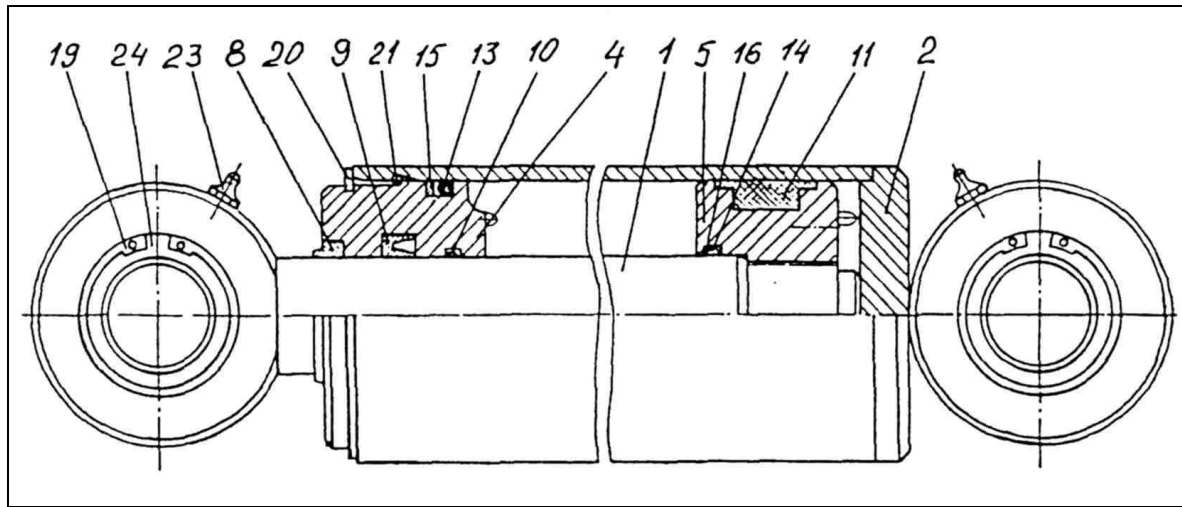
Production no M13-100200.000

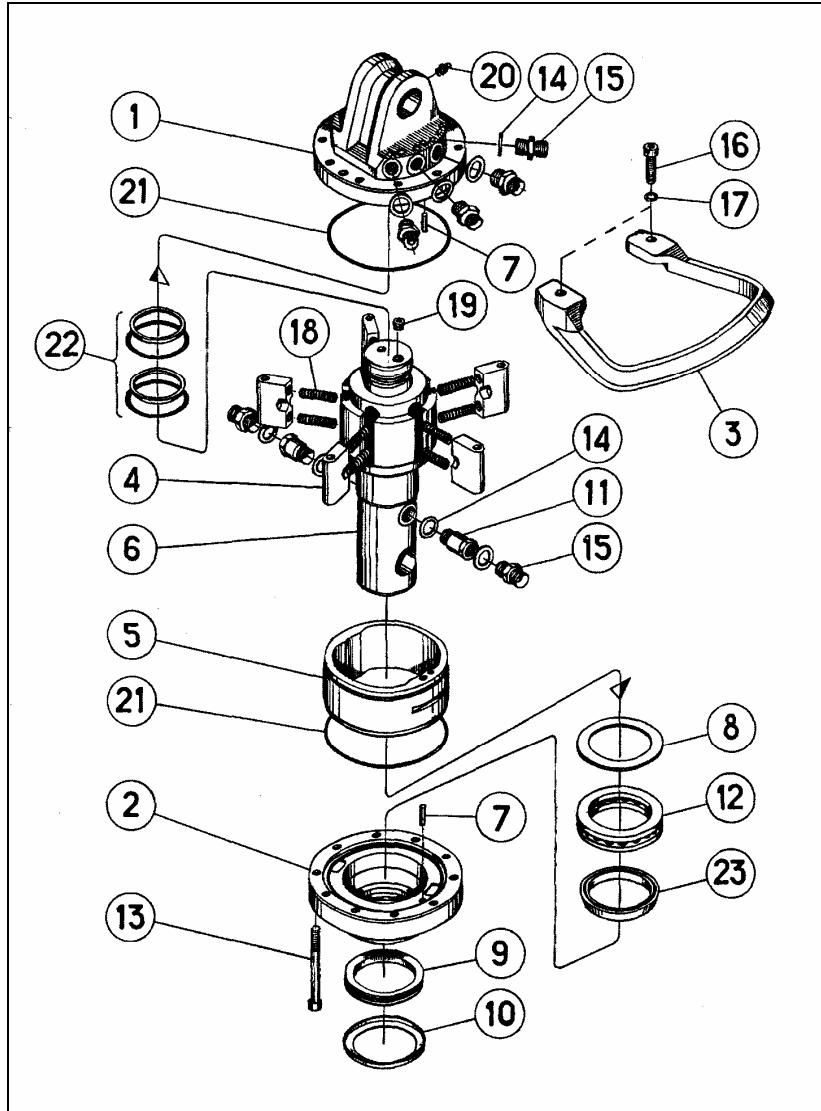
Pos no	Art no	Number	Sparepart	Dimension	Pcs
1	56501	M13-100120.000-010	Piston rod		1
2	56502	M13-100210.000	Tube		1
4	56502	F13-100100.001	Front bush		1
5	56503	F13-100100.002	Piston		1
8	56503		Scrape ring	AS40-50-7-10	1
9	56504		Sealing	NI 300 40-55-10	1
10	56504		Buch	DFI 40-45-5,5	1
11	56505		Sealing	SIMKO 5x2 90-70-33,8	1
13	56505		O-ring	79,2x5,7	1
14	56506		O-ring	40,2x3,0	1
15	56506		Sealing	SRA 90-5,1-1,5	1
16	56507		Sealing	SRI 40-2,6-1,5	2
19	56507		Lock ring	SGH 55	2
20	56508		Lock ring	SGA 87	1
21	56508		Lock ring	N°72290	1
23	56509		Grease nipple	1/8"	2
24	56509		Joint bearing	GE35ES	2

Sparepart list hydraulic cyl 63/32-160

Grapple cyl Farma 0,16

Pos no	Art no	Number	Sparepart	Dimension	Pcs
1	55401	F42-100202.000	Piston rod		1
2	55402	F42-100201.000	Tube		1
4	55402	M13-100300.001	Front bush		1
5	55403	M13-100300.002	Piston		1
8	55403		Scrape ring	AS 32-45-7-10	1
9	55404		Sealing	NI300 32-47-10	1
10	55404		Buch	DFI 32-35,1-4,0	1
11	55405		Sealing	SIMKO 5x2 63-47-29,8	1
13	55405		O-ring	52,2x5,7	1
14	55406		O-ring	32,2-3,0	1
15	55406		Sealing	SRA 63-5,1-1,5	1
16	55407		Sealing	SRI 32-2,6-1,0	2
19	55407		Lock ring	SGH 47	2
20	55408		Lock ring	SGA 60	1
21	55408		Lock ring	N 72240	1
23	55409		Grease nipple	1/8"	2
24	55409		Joint bearing	GE30ES	2



**2.6 ROTATOR FMTR 30**


Pos	Art no	Sparepart	Pcs
1	MTR 30.01 M	Stator plate, upper	1
2	MTR 30.02 M	Stator plate, lower	1
3	MTR 31.03 LA	Hose guard	1
4	MTR 30.007 M	Vane	5
5	MTR 30.006	Stator frame	1
6	MTR 30.005	Rotator shaft	1
7	MTR 30.015-02	Pin	2
8	MTR 30.011	Shim	1
9	TWVA 00500	V-seal	1
10	MTR 30.013	Washer	1
11	MT 0205	Nipple	2
12	51110	Axial Bearing	1

Pos	Art no	Sparepart	Pcs
13	MC6S 12.9 M8x70	Screw	10
14	GB-6 TREDO	Washer	8
15	0101-6	Nipple	6
16	M6S 8,8 M8x30	Screw	2
17	8.65Γ	Washer	2
18	MTR 100.009	Spring	10
19	835-02	Tap	1
20	1.2.C6	Grease nipple	1
21	OR 116,00x2,50-N70	O-ring	2
22	GHH/R 40/47,5x3,2	Glide ring	2
23	TS 50/60x8	Seal	1



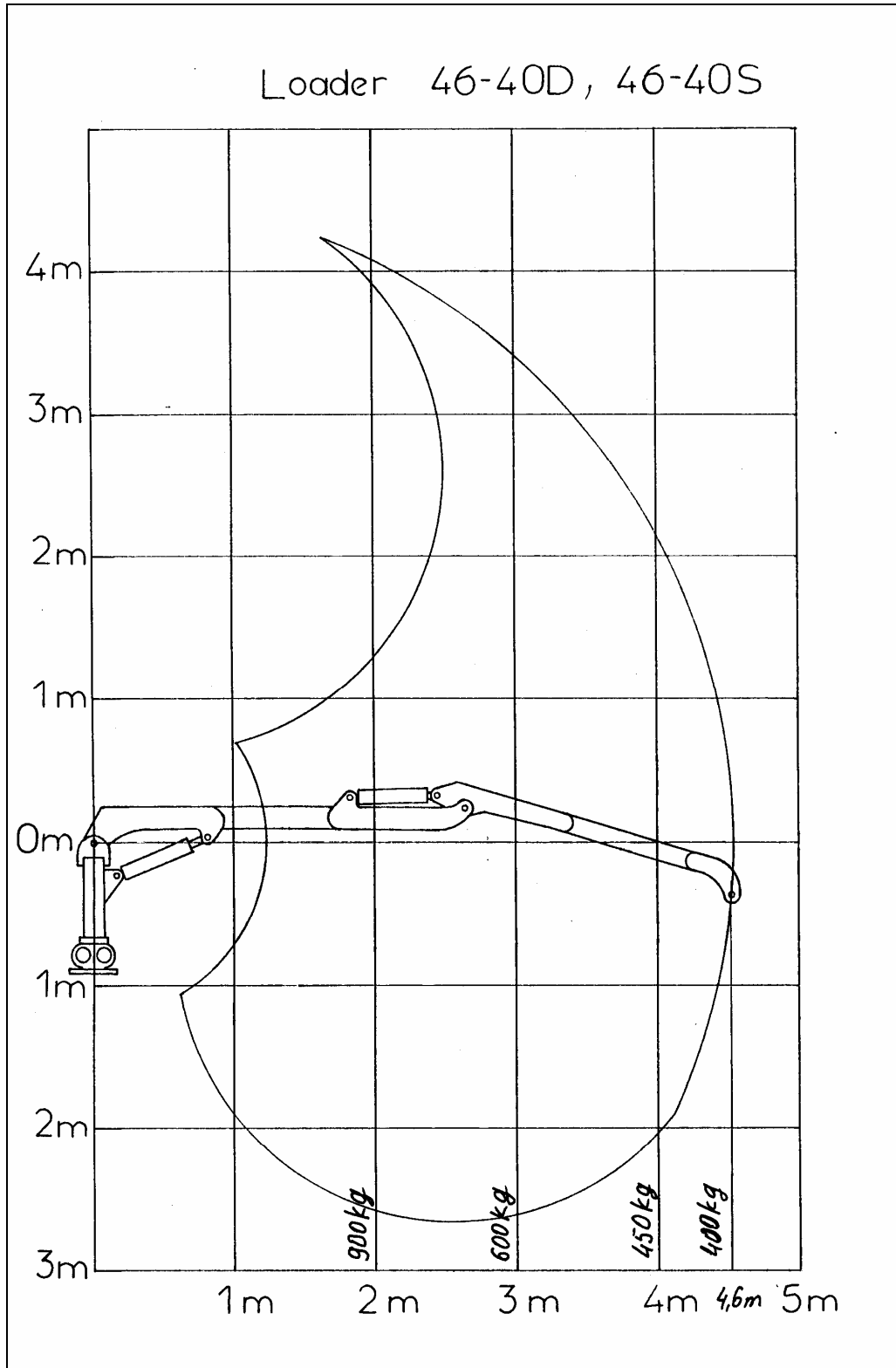
**2.7 TECHNICAL DATA**

<b>LOADER</b>	<b>C 4,6D</b>
Lifting capacity net, kNm	27
Outreach, m	4,6
Recommended pump capacity, l/min	35-50
Working pressure, bar	180
Lifting power, full reach, kg	400
Revolving moment, kNm	8,8
Turning angle, °	360
Loader weight, kg	420
Valve HC-D9/7	

<b>GRAPPLE, m<sup>2</sup></b>	<b>0,16</b>
Opening, max, mm	1150
Opening, min, mm	40
Weight, kg	70

<b>ROTATOR</b>	<b>MTR 30</b>
Revolving moment, Nm	700
Weight, kg	17

2.8 WORKING AREA



### 3 OPERATING INSTRUCTIONS

#### 3.1 SAFETY

- ❑ Read the manual before operating the loader. Neglecting the instructions can cause danger to operator and machine.
- ❑ Operator must have sufficient training for using this machine.
- ❑ Do not use the loader until you are familiar with the controls.
- ❑ Before loading works, ensure there is no one in danger zone.



#### **DANGER ZONE IS 20 METRES!**

Operator must have full visibility all over working area.

The vehicle must be on stable ground and positioned securely. Support legs must be used while loading to prevent the loader tipping over.

**Don't forget to lift the support legs up before moving to another place.**

Use vehicles parking brakes during the loading.

Do not exceed maximum loading values.

Never leave the boom on UP position without supervising. Do not use the loader for personnel lifting.

In installation hoistings take note of booms slow descending.

When working close to live conductors observe the special safety distance.

Take special care when lifting a heavy load from platform and then turning the loader to the side.

Do not use the loader for hauling.

Do not be under a hanging load.



**READ AND UNDERSTAND THE OPERATION AND SAFETY INSTRUCTIONS BEFORE USING THE LOADER**

### 3.2 PRACTISING

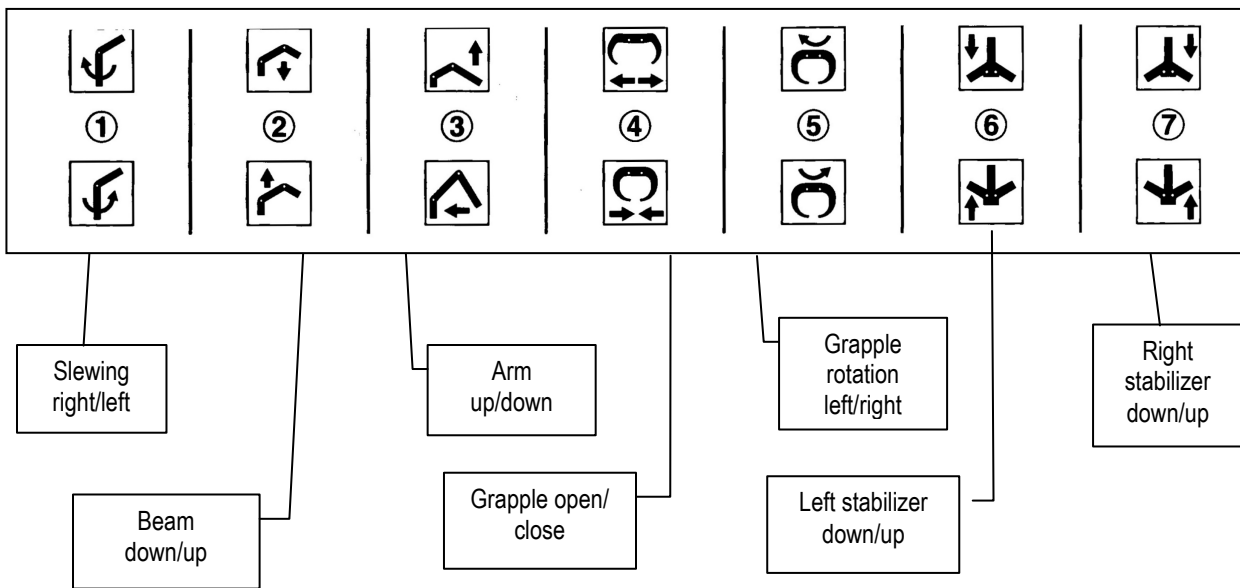
Learn control valves operation. Drive through every function without load.

Learn to use several functions simultaneously. This enables smooth, precise operation and prevents unnecessary strain. Note that movements become slower when the same oil flow is divided to several cylinders.

Move control levers smoothly and steadily, avoid

quick and jerky movements. In practice operation it is beneficial to adjust pumps output as low as possible. This makes avoiding sudden movements easier.

After getting accustomed to loaders movements choose the engine speed so that operation is efficient but you still have movements well under your control.



### 3.3 INSTRUCTIONS FOR SAFE OPERATION

#### **SUPPORTING THE LOADER**

- ❑ Always engage the base machines parking brakes before loading. If necessary put some obstacles in front of wheels.
- ❑ Always use support legs. Make sure the loader is situated at firm terrain.



**DO NOT USE SUPPORT LEGS FOR LIFTING THE LOAD. USE SUPPORT LEGS ONLY FOR SUPPORTING THE LOADER**

Do not turn the crane before load is sufficiently high.

Take special care when lifting a heavy load from platform while turning the crane sideways.

#### **MANIPULATING THE LOAD**



**NEVER DRIVE LOADER FROM ONE EXTREME POSITION TO OTHER WITH SPEED! THIS MAY CAUSE OVERTURNING OF VEHICLE AND LOADER AND ALSO DAMAGING OF BEARINGS**

Avoid loading on a slanted ground or at least work with extreme cautiousness.

- ❑ When working on a slanted surface do not charge with full lifting moment.



**ALWAYS ENGAGE THE BASE MACHINES PARKING BRAKES BEFORE LOADING. IF NECESSARY PUT SOME OBSTACLES IN FRONT OF WHEELS**

### 3.4 DAILY INSPECTIONS

Examine visually the loader. Note defects and failures that might affect safety. Repair possible defects and failures.

Check there is no leakages on hydraulic system, nor damaged hoses.

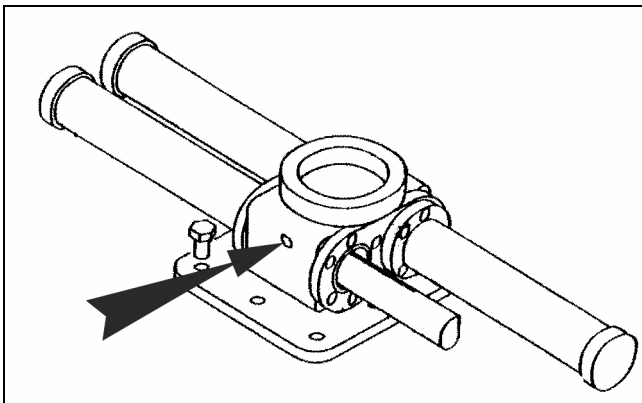
Check loaders fastening bolts, booms

articulations nuts, grapples fastening, loaders.

Grease the loader if necessary (see lubricating instructions).

Drive through every function to its extreme position.

Check that the oil is on level as shown in figure.



The oil level needs to be checked regularly. The oil level needs to be filled up to 1 cm underneath the refilling hole. For direction of plug see arrow above.

### 3.5 ACTING IN DANGEROUS SITUATION



**IF THE LOADER STARTS TO FALL OVER LOWER THE LOAD CAREFULLY TO THE GROUND!**

- ❑ Do not drop the load by opening the grapple!
- ❑ Do not jump out from vehicle.
- ❑ If the booms start descending due overloading try to transfer the load closer to the column; do not open the grapple.



**IF THE LOADER COMES INTO CONTACT WITH HIGH VOLTAGE ELECTRIC WIRES COMPLY WITH FOLLOWING INSTRUCTIONS:**

**IF YOU ARE OUTSIDE THE MACHINE**

Do not attempt to get into the machine.  
Keep everybody out from the machines vicinity.  
Do not touch any part of machine.

**IF YOU ARE INSIDE THE MACHINE**

Get out of it by **JUMPING**. Avoid touching any conducting parts.  
Do not make yourself a wire through which electricity may flow.  
Get away from the machine by **JUMPING** so that both feet do not touch the ground at the same time. Electric field at ground can cause fatal voltage between legs at about 20 meters away you are safe.

### 3.6 WORKING AT EXTREME CONDITIONS

Recommended working temperature range for loader is **-30°C up to +40°C** .

Note that working at low temperatures accelerates hydraulic gaskets wearing and increases hydraulic hoses exposure to damages and steel constructions exposure to brittle fracture. When working at lower temperature than it is recommended lift the lighter loads than usual.

Before start working at cold conditions let the oil circulate freely through system a few minutes.

Slowly drive every action through several times so that gaskets come pliable before they receive full pressure.

At exceptionally warm conditions beware of hydraulic oils excessive heating. Too high oil temperature (higher **+80°C** ) degrades oil and damages gaskets.

## 4 MAINTENANCE INSTRUCTIONS

### 4.1 SAFETY



#### **READ THE MAINTENANCE INSTRUCTIONS BEFORE SERVICE OR MAINTENANCE WORKS. DO NOT ATTEMPT TO PERFORM SUCH MAINTENANCE WORKS WHICH YOU DO NOT FULLY UNDERSTAND**

Repair all safety endangering defects immediately.

Check that the loader is on a level and stable ground.

Use vehicles parking brake during maintaining the loader. Make sure that nobody can unnecessarily have access to loaders or vehicles controls.

Never attempt to do maintenance works on the hydraulic system before you are sure there is no pressure.

Do not tighten or repair a leaking hydraulic couplings while the system is pressurized.

Never attempt to localize a leakage from hoses or connections by feeling with hand. The high pressure oil jet can penetrate skin and cause serious burns and damages. High pressure oil is also highly flammable.

Do not work under such device that is sustained only by hydraulics. During maintenance use supports.

Do not detach boom cylinders until booms are lowered, the hydraulic system de-pressurized and loader supported to prevent overturning. Avoid direct skin exposure with oil.

Avoid getting oil into eyes. Use safety goggles and gloves.

### 4.2 GENERAL

- ❑ Maintenance works must be carried out regularly to ensure safe and malfunction-free operation.
- ❑ Maintenance works do not require any special tools, so most operations can be performed by the user.
- ❑ Use correct tools.
- ❑ Attempt to localize the defects as well as possible, so you don't have to open the system unnecessarily.
- ❑ Keep disassembled parts and repair area protected from dirt.
- ❑ Keep spare parts in their packages until needed for installation.
- ❑ Valve adjustments and repairs are recommended to be performed by dedicated service personnel.



### 4.3 CHANGING HYDRAULIC COMPONENTS

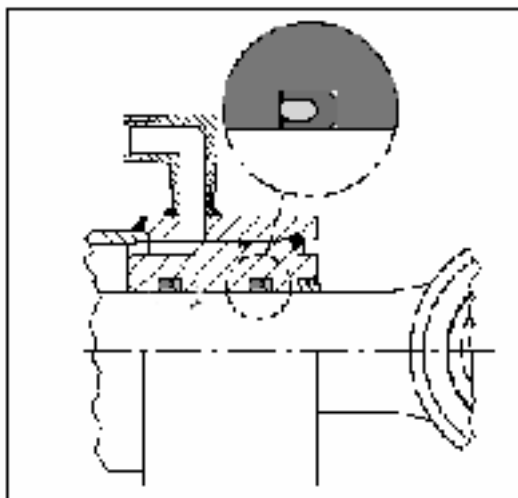
When replacing hydraulic components such as hoses, gaskets etc. make sure they correspond with original parts.

To minimize malfunctions and ensure safe operation use original spareparts.

#### CHANGING THE SEALS

Change all cylinder seals at the same time. The piston cannot be split. The seals must be slipped over the piston edge. Be careful not to break the seals when fitting them in place.

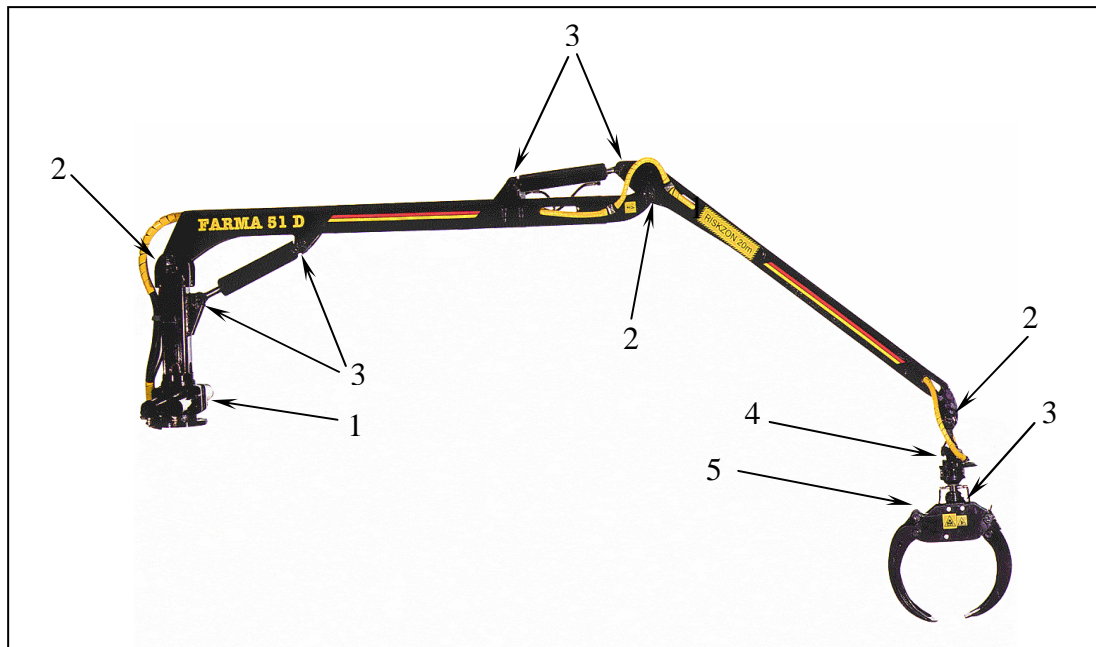
1. After removing the old seals clean the grooves carefully before fitting the new seals into place.
2. Lubricate the new seals with hydraulic oil.
3. Open the pistons lock nut.
4. Screw the piston off.
5. Withdraw the guide piece from the rod.
6. Change the guide piece seals; make sure that the piston rod seal is the right way round, i.e. the lip against the pressure (see figure).

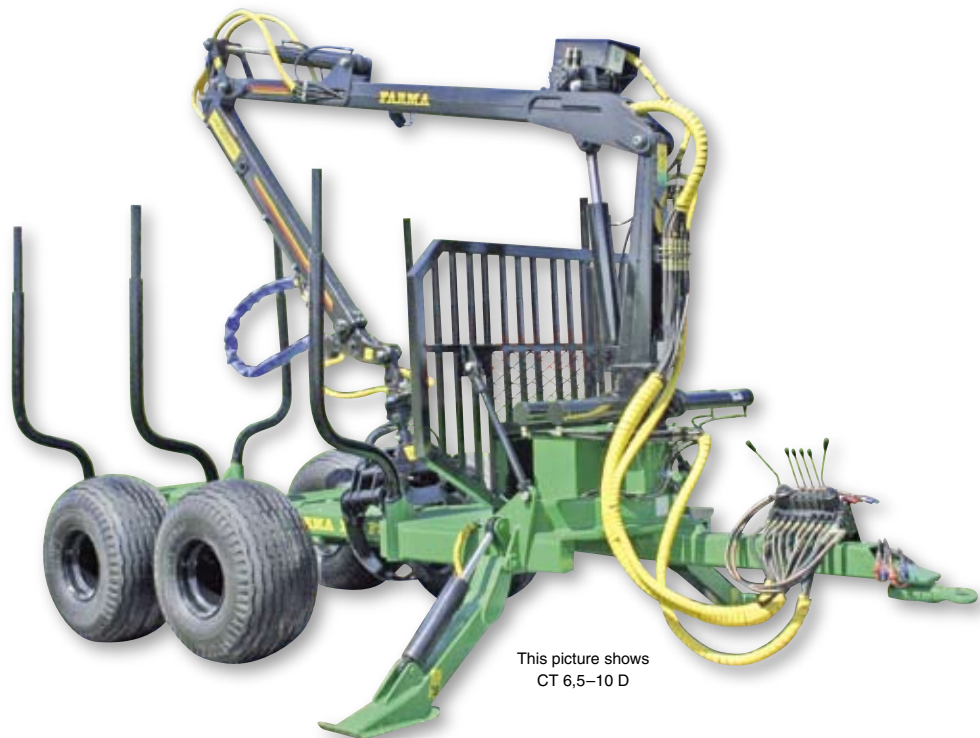


#### 4.4 LUBRICATION

Lubricating point	Qty	Lubricant	Interval (working hours)
1. Slewing bearings	1	Grease	50 h
2. Articulation	3	Grease	50 h
3. Cylinder end	6	Grease	50 h
4. Rotator	1	Grease	50 h
5. Grapple	8	Grease	50 h

Loader model:	Oil volume:
C 3,2	1 litre
C 3,5	1 litre
C 3,8	1 litre
C 4,6 S	2,5 litre
C 4,6 D	2,5 litre
C 5,1	2,5 litre
C 6,0	2,5 litre
C 6,5	1 litre





This picture shows  
CT 6,5-10 D

INSTRUCTION BOOK

# **FARMA T 7**

SERVICE AND SPARE PARTS

**TABLE OF CONTENTS**

1	INTRODUCTION .....	1
2	TECHNICAL SPECIFICATION.....	2
	2.1 CONSTRUCTION OF THE TRAILER .....	2
	2.2 SPAREPART LIST FOR FARMA TRAILER T8.....	3
	2.3 HYDRAULIC CYLINDERS .....	4
	2.4 TECHNICAL DATA.....	5
3	OPERATING INSTRUCTIONS.....	6
	3.1 SAFETY .....	6
	3.2 INSTRUCTIONS FOR SAFE OPERATION .....	7
	3.3 WORKING AT EXTREME CONDITIONS .....	8
4	MAINTENANCE INSTRUCTIONS.....	8
	4.1 SAFETY .....	8
	4.2 LUBRICATION .....	9

## **1 INTRODUCTION**

This manual deals with the **T 8** forest trailer and contains all the operating and maintenance instructions you need for using the trailer safely and correctly.

Even if you are experienced user of this kind of equipment, read this manual carefully.

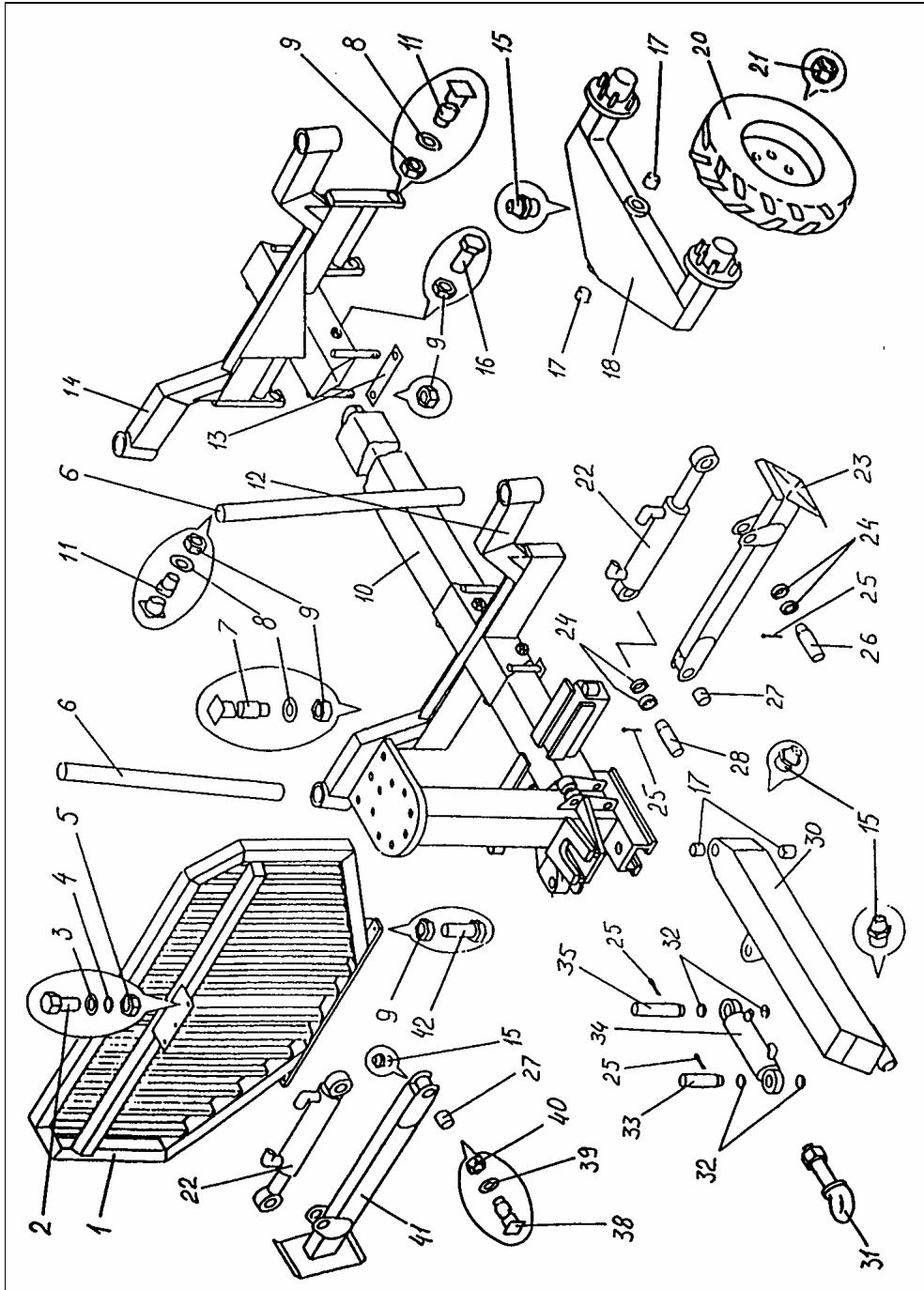
It contains information that enables the trailer to be used efficiently and safely. Make sure that this trailer corresponds to your demands.

Regular maintenance is essential for troublefree, efficient and economical utilization.

It is the operator duty to familiarize and obey all safety precautions and instructions carefully.

**2 TECHNICAL SPECIFICATION**

**2.1 CONSTRUCTION OF THE TRAILER**



## 2.2 SPAREPART LIST FOR FARMA TRAILER T8

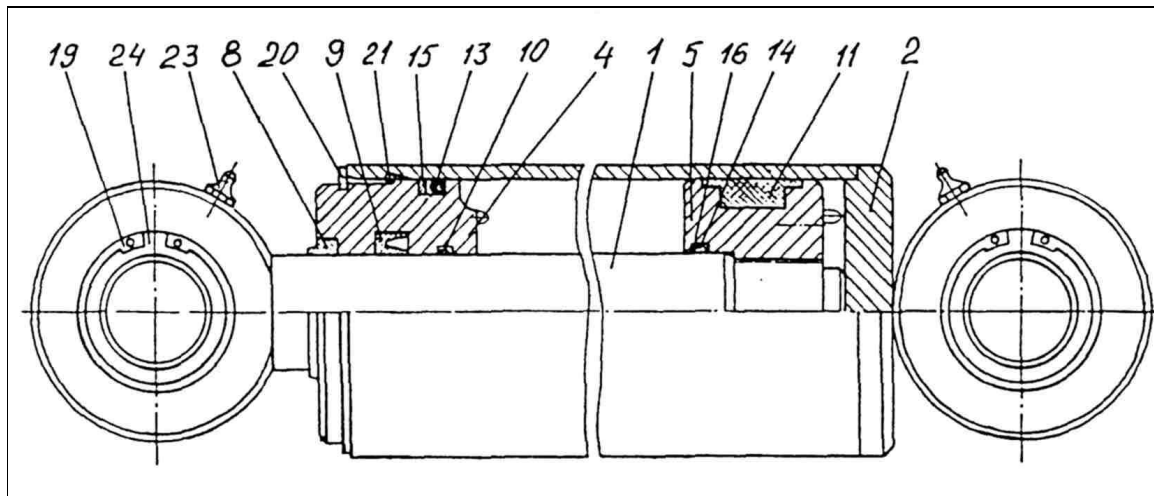
Production no FMW 11

Pos no	Art no	Number	Sparepart	Dimension	Pcs
1	11001	F11-080000.000	Backwall		1
2	11002		Bolt	M12x40	3
3	11003		Plane washer	ø12	3
4	11004		Spring washer	ø12	3
5	11005		Nut	M12	3
6	11006	F13-150000.000	Pin		4
7	11007	M13-000030.000-060	Axle-bolt		1
8	11008	M13-000000.001	Plane washer	ø24	3
9	11009		Nut	M24	17
10	11010	F11-070000.000	Frame / Chassi		1
11	11011	M13-000030.000-030	Axle-bolt		2
12	11012	F11-170000.000	Material holder		1
13	11013	F13-062000.003-010	Lock-plate		4
14	11014	F11-061000.000	Wheel support		1
15	11015		Grease nipple	1/8 inch	8
16	11016		Bolt	M24x60	4
17	11017		Glide-bearing	PAP5040P10	6
18	11018	M13-090000.000-010	Boggi sides		2
20	11019		Wheels	11,5/80-15,3	4
21	11020		Wheel nut		24
22	11021	M14-100100.000-020	Hydraulic cylinder	63/32-300	2
23	11022	F11-140000.000-010	Stabilizer leg		1
24	11023	M14-000000.001	Distance ring		8
25	11024		Split pin	ø4x60	6
26	11025	M14-000000.002-040	Axle-bolt		2
27	11026		Glide-bearing	PAP2530P10	4
28	11027	M14-000000.002-030	Axle-bolt		2
30	11028	F11-050000.000	Pull-beam		1
31	11029	F13-000010.000	Pull-loop	12 ton	1
32	11030	M13-000000.017	Distance ring		4
33	11031	M13-000000.002-020	Axle-bolt		1
34	11032	F11-100100.000	Hydraulic cylinder	90/40-100	1
35	11033	M13-000000.002-040	Axle-bolt		1
38	11034	M14-010050.000-040	Axle-bolt		2
39	11035		Plane washer	ø20	2
40	11036		Nut	M20	2
41	11037	F11-140000.000	Stabilizer leg		1
42	11038		Bolt	M24x80	2
43	11039	RF11.7,5	H-hose frame steering	L=2460	1
44	11040	RF11.7,5	H-hose frame steering	L=2700	1
45	11041	S.7,5	H-hose for stabilizer	L=3500	2
46	11042	S.7,5	H-hose for stabilizer	L=3350	2

## 2.3 HYDRAULIC CYLINDERS

Sparepart list for hydraulic cyl 90/40x100  
 Frame steering cyl for trailer T 7; T 8  
 Production no F11-100100.000

Pos no	Art no	Number	Sparepart	Dimension	Pcs
1	56101	F11-100120.000	Piston rod		1
2	56102	F11-100110.000	Tube		1
4	56102	F13-100100.001	Front bush		1
5	56103	F13-100100.002	Piston		1
8	56103		Scrape ring	AS40-50-7-10	1
9	56104		Sealing	NI 300 40-55-10	1
10	56104		Bush	DFI 40-45-5,5	1
11	56105		Sealing	SIMKO 5x2 90-70-33,8	1
13	56105		O-ring	79,2x5,7	1
14	56106		O-ring	40,2x3,0	1
15	56106		Sealing	SRA 90-5,1-1,5	1
16	56107		Sealing	SRI 40-2,6-1,5	2
19	56107		Lock-ring	SGH 55	2
20	56108		Lock-ring	SGA 87	1
21	56108		Lock-ring	N°72290	1
23	56109		Grease-nipple	1/8"	2
24	56109		Joint bearing	GE35ES	2





Sparepartlist for Hydraulic-cylinder 63/32-300  
 Stabilizer-cyl for Farma trailer T 6;T 7; T 8  
 Production no M14-100100000-020.

Pos nr	Art no	Number	Sparepart	Dimension	Pcs
1	55601	M13-100320.000-020	Piston rod		1
2	55602	M14-100110.000-020	Tube		1
4	55603	M13-100300.001	Front bush		1
5	55604	M13-100300.002	Piston		1
8	55605		Scrape-ring	AS 32-45-7-10	1
9	55606		Sealing	NI300 32-47-10	1
10	55607		Buch	DFI 32-35,1-4,0	1
11	55608		Sealing	Simco 5x2 63-47-29,8	1
13	55609		O-ring	52,2x5,7	1
14	55610		O-ring	32,2-3,0	1
15	55611		Sealing	SRA 63-5,1-1,5	1
16	55612		Sealing	SRI 32-2,6-1,0	2
19	55613		Lock-ring	SGH 42	2
20	55614		Lock-ring	SGA 60	1
21	55615		Lock-ring	N 72240	1
23	55616		Grease-nipple	1/8"	2
24	55617		Joint bearing	GE25ES	2

## 2.4 TECHNICAL DATA

<b>FARMA TRAILER</b>	<b>7 t</b>
Loading area, m <sup>2</sup>	1,8
Ground clearance, mm	510
Center beam, mm	140x140x8
Steerable towbar	one cyl
Axle, mm	60x60
Length, m	5,6
Width, m	1,9
Wheels	11,5/80-15,3
Loader weight, kg	1400

## 3 OPERATING INSTRUCTIONS

### 3.1 SAFETY

- ❑ Read the manual before operating the trailer. Neglecting the instructions can cause danger to operator and machine.
- ❑ Operator must have sufficient training for using this machine.
- ❑ Do not use the trailer until you are familiar with the controls.
- ❑ Before loading works, ensure there is no one in danger zone (20 m).



### **DON'T FORGET TO LIFT THE SUPPORT LEGS UP BEFORE MOVING TO ANOTHER PLACE.**

- ❑ Operator must have full visibility all over working area.
- ❑ The vehicle must be on stable ground and positioned securely. Support legs must be used while loading to prevent the trailer tipping over.
- ❑ Use vehicles parking brakes during the loading.
- ❑ Do not exceed maximum loading values.

### 3.2 INSTRUCTIONS FOR SAFE OPERATION

#### **SUPPORTING THE TRAILER**

- Always engage the base machines parking brakes before loading. If necessary put some obstacles in front of wheels.
- Always use support legs. Make sure the trailer is situated at firm terrain.



**DO NOT USE SUPPORT LEGS FOR LIFTING THE LOAD. USE SUPPORT LEGS ONLY FOR SUPPORTING THE TRAILER.**

#### **MANIPULATING THE HYDRAULIC FUNCTIONS**



**NEVER CONTROL THE HYDRAULIC FUNCTIONS FROM ONE EXTREME POSITION TO ANOTHER WITH SPEED! THIS MAY CAUSE OVERTURNING THE TRAILER.**

- Avoid loading on a slanted ground or at least work with extreme cautiousness.
- When working on a slanted surface load less than usual.

**ALWAYS ENGAGE THE BASE MACHINES PARKING BRAKES BEFORE LOADING WORKS. IF NECESSARY PUT SOME OBSTACLES IN FRONT OF WHEELS.**



### 3.3 WORKING AT EXTREME CONDITIONS

Recommended working temperature range for trailer is –30°C up to +40°C.

Note that working at low temperatures accelerates hydraulic gaskets wearing and increases hydraulic hoses exposure to damages and steel constructions exposure to brittle fracture. Before start working at cold conditions let the oil circulate freely through system a few minutes.

Slowly drive every action through several times so that gaskets come pliable before they receive full pressure.

At exceptionally warm conditions beware of hydraulic oils excessive heating. Too high oil temperature (higher +80°C) degrades oil and damages gaskets.

## 4 MAINTENANCE INSTRUCTIONS

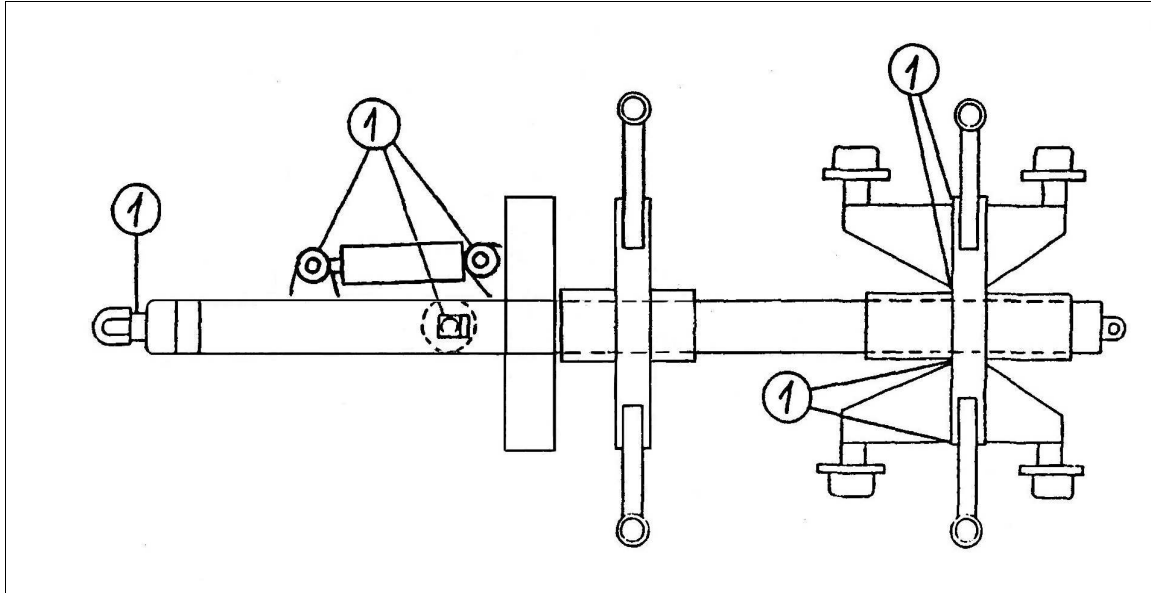
### 4.1 SAFETY



#### **READ THE MAINTENANCE INSTRUCTIONS BEFORE SERVICE OR MAINTENANCE WORKS. DO NOT ATTEMPT TO PERFORM SUCH MAINTENANCE WORKS WHICH YOU DO NOT FULLY UNDERSTAND**

- Repair all safety endangering defects immediately.
- Check that the trailer is on a level and stable ground.
- Use vehicles parking brake during maintaining the trailer. Make sure that nobody can unnecessarily have access to trailers or vehicles controls.
- Never attempt to do maintenance works on the hydraulic system before you are sure there is no pressure.
- Do not tighten or repair a leaking hydraulic couplings while the system is pressurized.
- Never attempt to localize a leakage from hoses or connections by feeling with hand. The high pressure oil jet can penetrate skin and cause serious burns and damages. High pressure oil is also highly flammable.
- Do not work under such device that is sustained only by hydraulics. During maintenance use supports.
- Avoid getting oil into eyes. Use safety goggles and gloves.

4.2 LUBRICATION



Recommended grease BP LS-EP2 , I 21M



**PAY SPECIAL ATTENTION TO THE TOWBAR CYLINDER.  
GREASE IT AFTER EVERY 50 WORKING HOURS.**