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INSTRUCTION BOOK

# **FARMA T 12**

SERVICE AND SPARE PARTS

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## **1 INTRODUCTION**

This manual deals with the **T 12** 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.

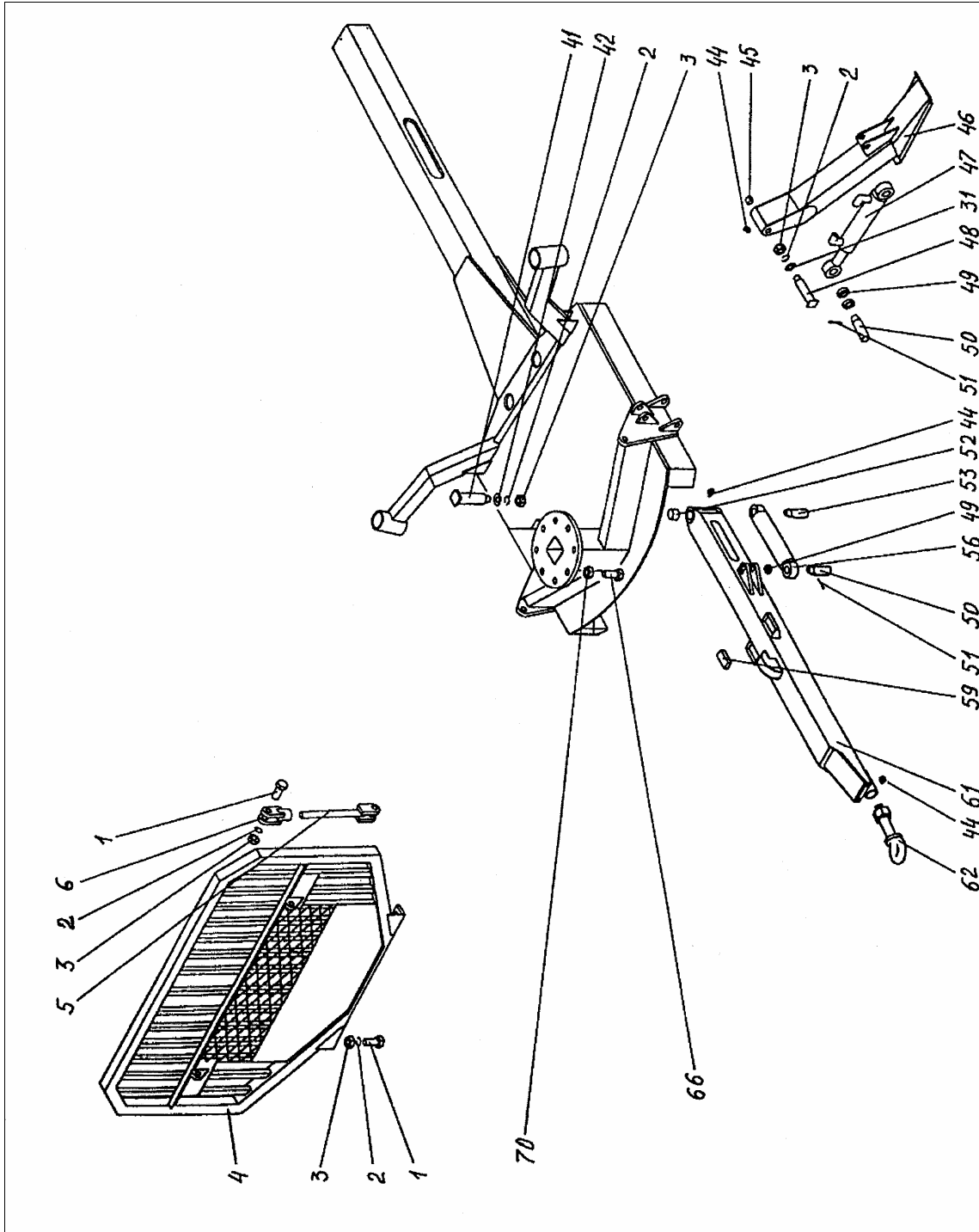
It contains information that enables the trailer to be used efficiently and safely. Make sure that this trailer corresponds to your demands.

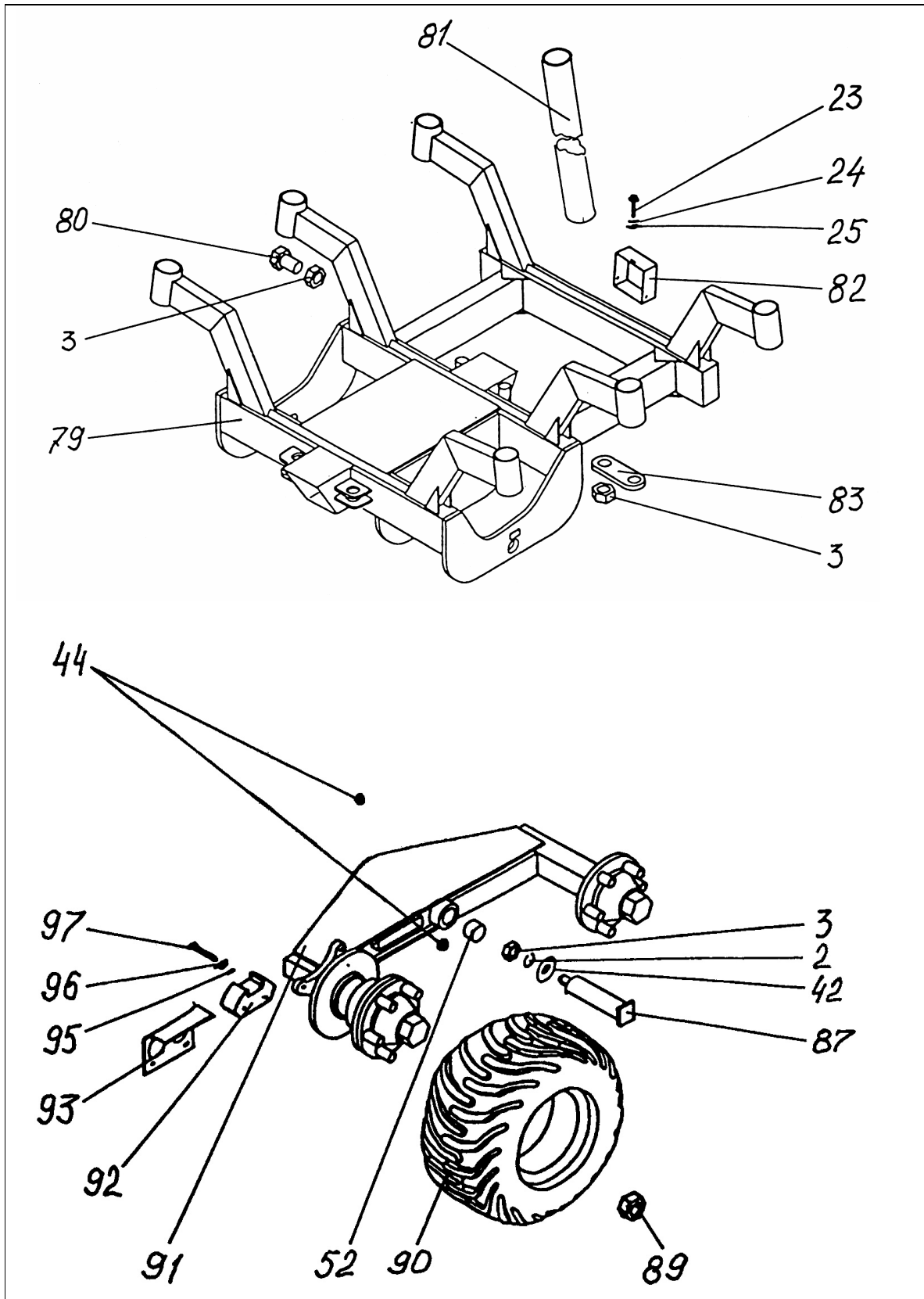
Regular maintenance is essential for troublefree, efficient and economical utilization.

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 TRAILER T 12

Pos no	Art no	Number	Sparepart	Dimension	Pcs
1	10001		Bolt	M24x80 M6S 8.8 Zn ISO 4017	6
2	10002		Spring washer	24,5x40,0x5 DIN 127B	13
3	10003		Nut	M24 M6M-8 Zn ISO 4032	16
4	10004	FMW10-080000.000	Railing		1
5	10005	FMW10-070003.000	Tie rod		2
6	10006	FMW10-070004.000	Lug nut		2
23	10007		Bolt	M10x25 M6S8,8 Zn ISO 4017	26
24	10008		Spring washer	10,2x18,1x2,2 Zn DIN 127B	34
25	10009		Plane washer	10,5x20x2 Zn DIN 125A	15
41	10010	FMW10-100004.000-040	Pin		1
42	10011	MAP13-000000.001	Washer		3
44	10012		Grease nipple	1/8 inch BSP	10
45	10013		Bush	Ø35x30	8
46	10014	FMW10-140000.000	Stabilizator left		1
-	10015	FMW10-140000.000-010	Stabilizator right		1
47	10016	FMW10-100200.000	Hydraulic cylinder		2
			90x40x300		
48	10017	MAP13-010050.000-050	Pin		2
49	10018	MAP13-000000.017	Distance ring		12
50	10019	MAP13-000000.002	Pin		5
51	10020		Split pin	4x50 Zn DIN 94	10
52	10021		Bush	Ø50x40	6
53	10022	MAP13-000000.002-020	Pin		1
56	10023	MAP13-100100.000	Hydraulic cylinder		1
			90x40x200		
59	10024	FMW 10-070000.002	Glide plastic		2
61	10025	FMW 10-050000.000	Tow		1
62	10026	FMW13-000010.000	Pull-loop		1
66	10027		Bolt	M20x80 M6S 8.8 Zn ISO4017	8
70	10028		Lock nut	M20 Zn DIN 985	8
72	10029	FMW 10-071007.005	Cover		2
73	10030	ESH 3635.03	Electric control		1
79	10031	FMW 10-060000.000	Wheel support		1
80	10032		Bolt	M24x60M6S 8.8 Zn ISO 4017	1
81	10033	FMW13-150000.000	Column		8
82	10034	FMW 10-070005.000	Plug		1
83	10035	FMW 10-070000.001	Plate		1
87	10036	MAP13-000030.000-030	Pin		2
89	10037		Wheel nut		24
90	10038		Wheel left	400/60-15,5/14PR Trac	2
-	10039		Wheel right	400/60-15,5/14PR Trac	2
91	10040	MAP 13-090000.000-030	Boggie side, left		1
-	10041	MAP 13-090000.000-031	Boggie side, right		1
92	10042		Positive hydr caliper	2 60 INPI	2
93	10043	FMW 13-190000.001-010	Casing left		1
-	10044	FMW 13-190000.001	Casing right		1
95	10045		Nut	M16 M6M Zn ISO 4080	4
96	10046		Spring washer	16,2x27,6x3,5 DIN 127B	4
97	10047		Bolt	M16x70 M6S 8.8 Zn ISO 4017	4

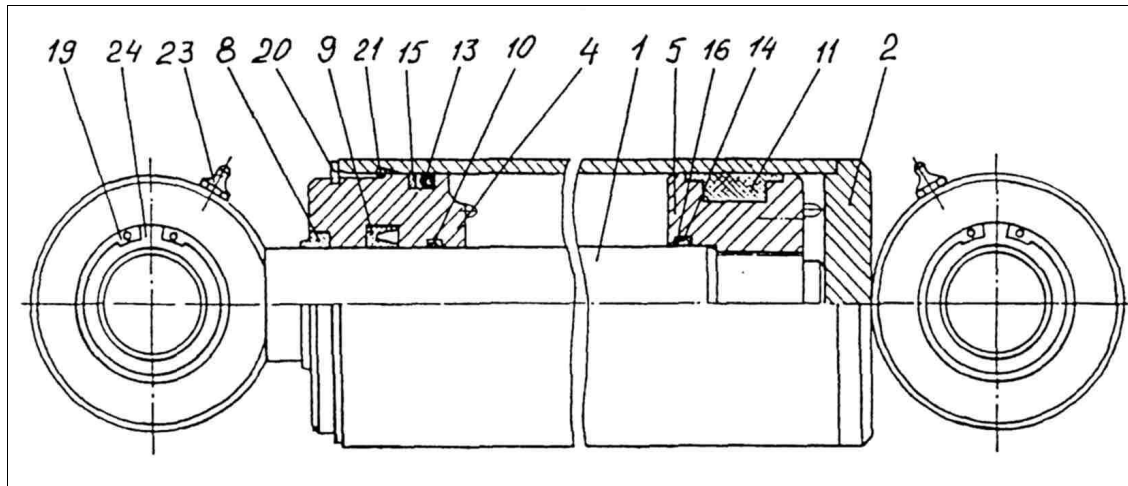
## 2.3. HYDRAULIC CYLINDERS

Sparepartlist for Hydraulic-cylinder 90/40-200

Frame steering cyl for 9; 12 trailer

Production no M13-100200.000.

Pos	Art no	Number	Sparepart	Dimension	Pcs
1	56201	M13-100120.000	Piston rod		1
2	56202	M13-100110.000	Tube		1
4	56203	F13-100100.001	Front bush		1
5	56204	F13-100100.002	Piston		1
8	56205		Scrape-ring	AS40-50-7-10	1
9	56206		Sealing	NI 300 40-55-10	1
10	56207		Buch	DFI 40-45-5,5	1
11	56208		Sealing	Simco 5x2 90-70-33,8	1
13	56209		O-ring	79,2x5,7	1
14	56210		O-ring	40,2x3,0	1
15	56211		Sealing	SRA 90-5,1-2	1
16	56212		Sealing	SRI 40-2,6-1,5	2
19	56213		Lock-ring	SGH 55	2
20	56214		Lock-ring	SGA 87	1
21	56215		Lock-ring	N°72310	1
23	56216		Grease-nipple	1/8"	2
24	56217		Joint bearing	GE35ES	2



Sparepartlist for Hydraulic-cylinder 90/40-300

Stabilizer cyl for Trailer T 12

Production no F10-100400.000

Pos	Art no	Number	Sparepart	Dimension	Pcs
1	56401	F13-100410.000	Piston road		1
2	56402	F10-100220.000	Tube		1
4	56403	M13-100100.001	Front bush		1
5	56404	M13-100100.002	Piston		1
8	56405		Scrape-ring	AS40-50-7-10	1
9	56406		Sealing	NI 300 40-55-10	1
10	56407		Buch	DFI 40-45-5,5	1
11	56408		Sealing	Simco 5x2 90-70-33,8	1
13	56409		O-ring	79,2x5,7	1
14	56410		O-ring	40,2x3,0	1
15	56411		Sealing	SRA 90-5,1-1,5	1
16	56412		Sealing	SRI 40-2,6-1,5	2
19	56413		Lock-ring	SGH 55	2
20	56414		Lock-ring	SGA 87	1
21	56415		Lock-ring	N°72290	1
23	56416		Grease-nipple	1/8"	2
24	56417		Joint bearing	GE35ES	2

## 2.4. TECHNICAL DATA

Loading capacity, t	12
Loading area, m <sup>2</sup>	2,6
Ground clearance, mm	530
Center beam, mm	160x160x16
Axle, mm	70x70
Length, m	5,8
Width, m	2,2
Tyres	400/60-15,5
Tyre pressure, bar	3,3 — 4,8
Max operation pressure for brakes, bar	145
Weight, kg	2 000



## 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

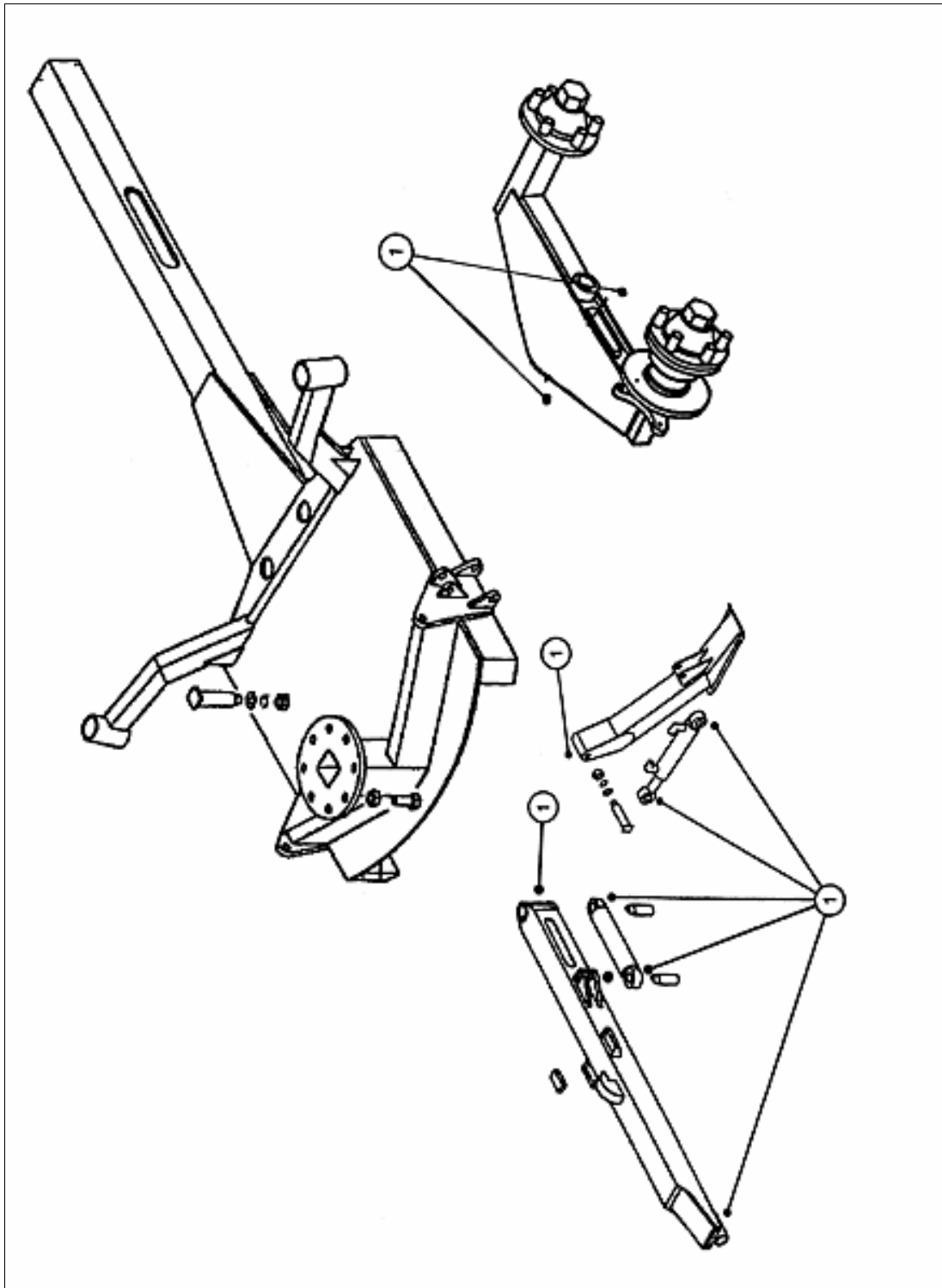
### 4.1. SAFETY



**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 GREASES

BRAND	TYPE
BP	Energrease LS-EP2, L2M
ESSO	Beacon EP2, Multipurpose GR Moly
MOBIL	Mobilux EP2, Mobil Grease MP Special
SHELL	Alvania EP Grease 2
UNION/TEXACO	Marfak Multi-Purpose 2, Molytex Grease 2



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

## SAFETY

- ❑ Before any lubrication or service works read these instructions and follow recommended procedures.
- ❑ When lubrication or servicing the trailer, turn off the vehicle engine.
- ❑ Ensure regularity of lubrication by following the lubricating schedule.
- ❑ Keep your hands, feet and loose clothing away from power driven parts.
- ❑ Inspect equipment daily for signs of failure or beginning of failure.
- ❑ Use proper tools for service.
- ❑ Keep flammable material away from heat, sparks and open fire.
- ❑ Do not let oil get into nature. Oil spilled into ground pollutes environment. It is recommended to use vegetable-based oil instead of mineral oil.
- ❑ Pressurized oil can penetrate skin and cause serious injures.
- ❑ Hot oil and oil spray can be hazardous. Small amounts swallowed or inhaled do not usually cause intoxication. Old oil is more dangerous than new.
- ❑ Use safety goggles. If oil has got into eyes flush them with cool water, after which go to the doctor.
- ❑ Although the occasional skin exposure with oil is not dangerous it is recommended to use protective gloves and clothing.