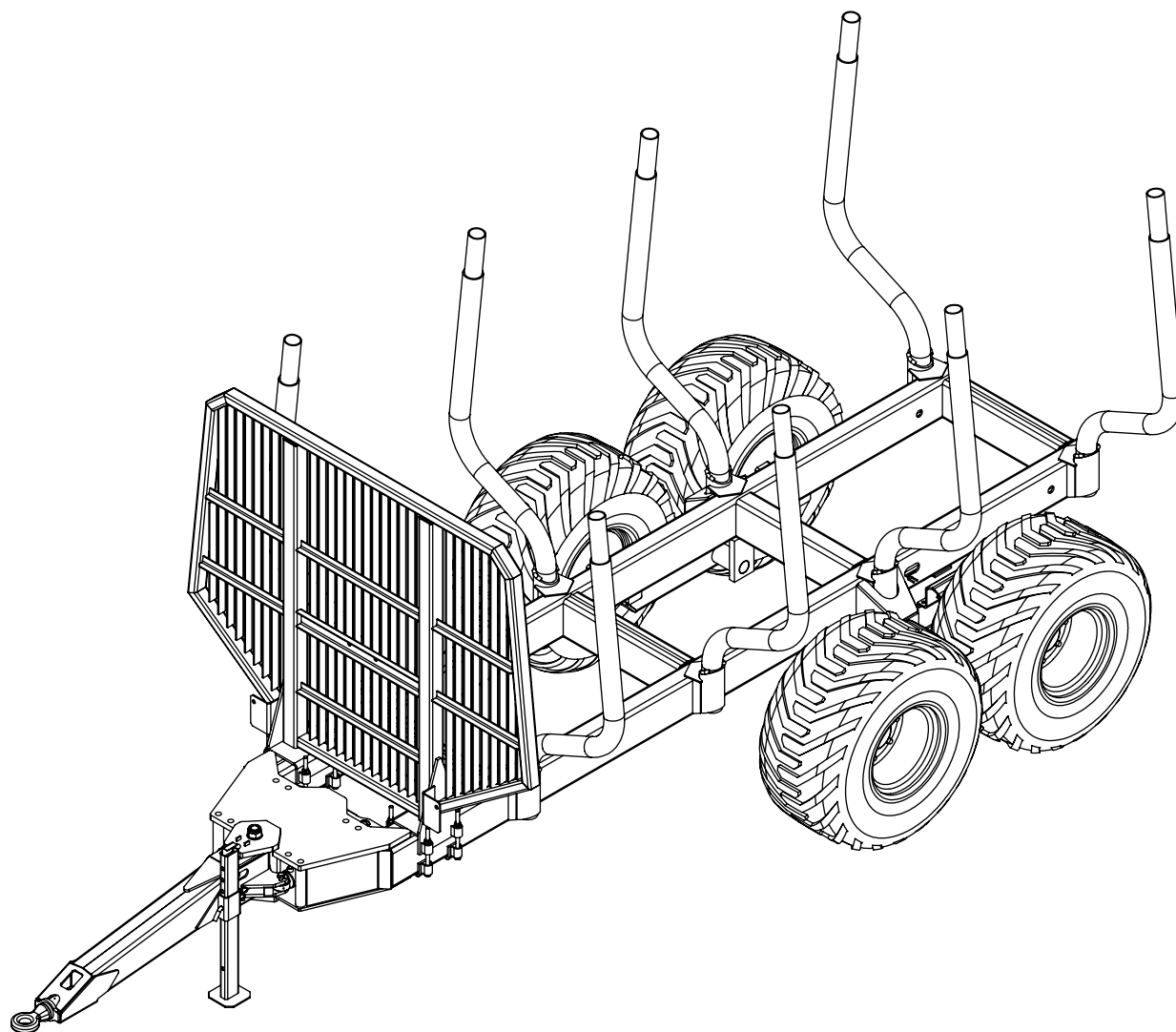


USER MANUAL



FOREST TRAILER PALMS 13D

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TABLE OF CONTENTS

1.	INTRODUCTION	2
2.	SAFETY.....	3
3.	BASIC COMPONENTS	5
4.	ACCESSORY	6
5.	TECHNICAL DATA	7
6.	HYDRAULIC SYSTEM.....	9
7.	ASSEMBLY AND MOUNTING.....	10
8.	OPERATING INSTRUCTIONS.....	12
9.	STORAGE INSTRUCTIONS	13
10.	MAINTENANCE	14
11.	SPARE PARTS	15
12.	WARRANTY	17

1. INTRODUCTION

This manual gives you detailed overview about forest trailer **Palms 13D**. Read the manual carefully before you start using this machine. The manual contains essential directions for efficient and safe use of forest trailer. These instructions should always be followed.

This forest trailer is constructed to transport raw wood material from forest as well for transportation treated wood. Forest trailer is build for use with agricultural tractors. It has an unified connection junction for mounting Palms forest cranes. This machine meets all technical standards and safety regulations of valid EU Machinery Directive and its amendments. Forest trailer is fitted out with CE marking.

User of forest trailer is obliged to be aware of and strictly follow all safety precautions and instructions described in this manual. In addition to this, instructions of local occupational safety authorities, as well national laws, regulations and highway codes, must be followed. Using the machine for other tasks, than those for which it is intended or exceeding its performance, is not allowed. The manufacturer/dealer is not responsible for damage caused by misuse of the forest trailer.

Pay attention to regular maintenance. In case there will occur problems during use of forest trailer, which are not covered in this manual, contact authorized dealer or manufacturer.

2. SAFETY

2.1 General

Read the manual carefully before you start using forest trailer. Use forest trailer only for purposes, what it is made for. Driver must have proper valid licence to drive tractor in connection with trailer and has sufficient training for that. Notice, avoid and prevent all potentially hazardous situations.

IT IS STRONGLY FORBIDDEN:



- to use forest trailer in state of intoxication by alcohol, drugs or other psychoactive substances
- to exceed maximum loading values
- to use forest trailer for transporting people
- to rebuild forest trailer
- to use repairing materials without the producer's permission

BEFORE YOU START LOADING, MAKE SURE THAT:

- forest trailer is fully in working condition
- you have full visibility over all the working area
- forest trailer is placed on even ground
- parking brake is engaged

2.2 Safety distances

General safety distance for working with forest trailer is 20 metres!

Follow special safety distance when working close to live electrical conductors:

Rated voltage, kV	Safety area, m
Up to 0,5	2
Up to 20	10
35 – 110	25
220 – 330	40

Table 1. Safety area

2.3 Hydraulic system



- Hydraulic system must be serviced by qualified and experienced hydraulics mechanic only
- Continually inspect the condition of hydraulic system. Repair all safety endangering defects immediately
- Before starting repair work or maintenance make sure, there is no pressure in hydraulic system
- Use safety goggles and gloves during repair work and maintenance
- Use original spare parts or parts recommended by the manufacturer
- Prevent oil dripping to the ground to avoid environment pollution
- In ecologically sensitive areas use bio-oil

2.4 Operation



- Ensure, that forest trailer is in good working condition
- Operating with damaged or defective machine is prohibited
- Ensure, that you have control over all the working area
- Prevent entering unauthorized persons to the working area
- Support legs must be used while forest trailer is being loaded
- Be sure not to endanger anyone while lowering the support legs
- Use parking brake while loading
- Do not load over the upper edge of safety screen
- Loading short logs be shure they are supported at least with two pairs of bolsters
- Follow strictly load limits stated by the manufacturer for certain trailer
- Pull the support legs up before moving forest trailer
- Release parking brake
- Pay extra attention driving with unlocked drawbar
- Prevent any hoses between trailer and tractor to be squashed on sharp turns
- For driving on roads lock drawbar in straight position with locking shaft
- Make shure signal lights are unfolded and working for driving on public roads
- Follow traffic regulations
- Max speed by manufacturer for certain forest trailer is 40 km/h
- Manufacturer is not responsible for damage or loss, caused by misuse or incorrect, careless and inappropriate use of the machine

3. BASIC COMPONENTS

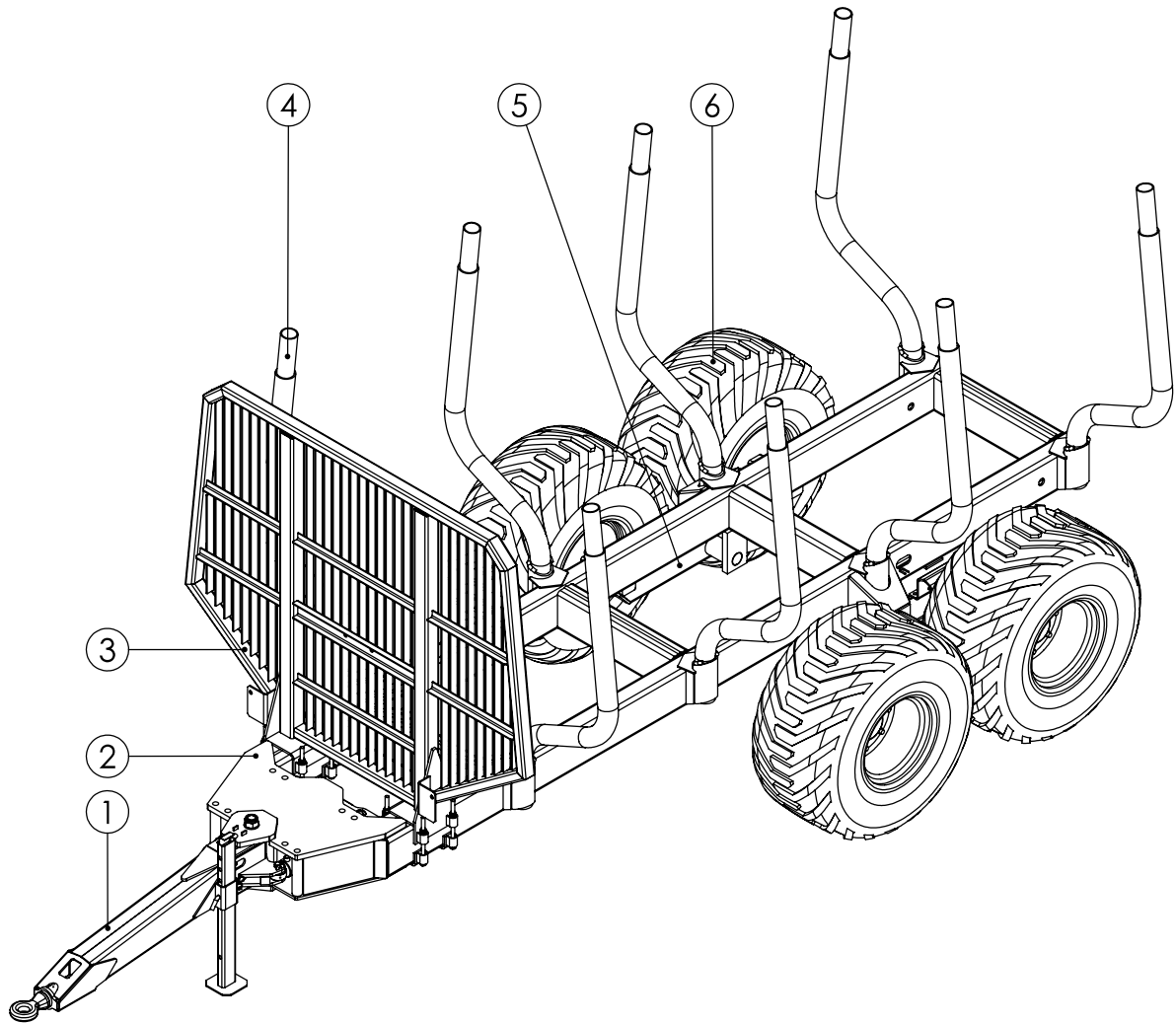


Figure 1. Basic components of Palms 13D forest trailer

1. Drawbar

2. Chassis

3. Safety grill

4. Bolster

5. Boogie

6. Wheel, standard 500/50-17

4. ACCESSORY

4.1 Brakes

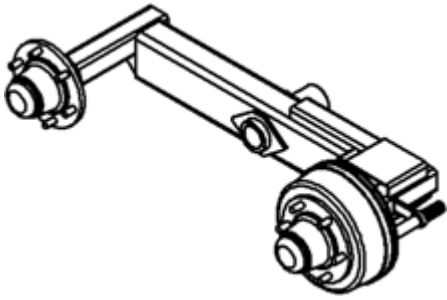


Figure 2. Brakes on on axle

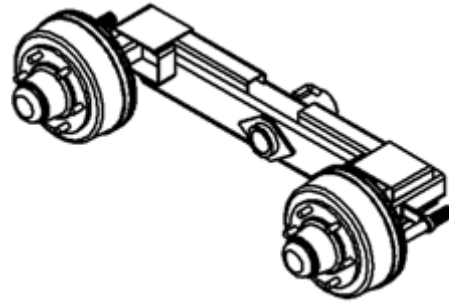


Figure 3. Brakes on two axles

4.2 Frame extension and signal lights

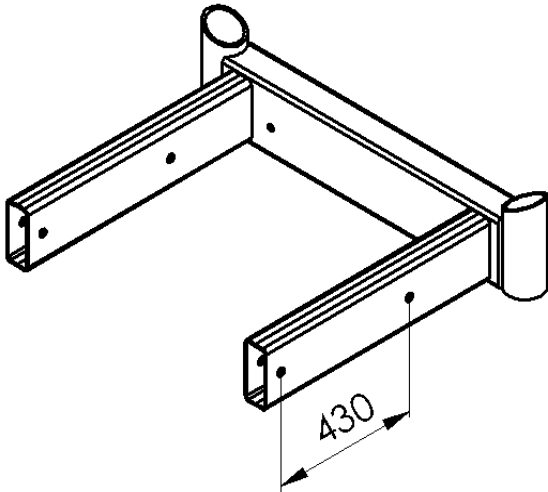


Figure 4. Frame extension

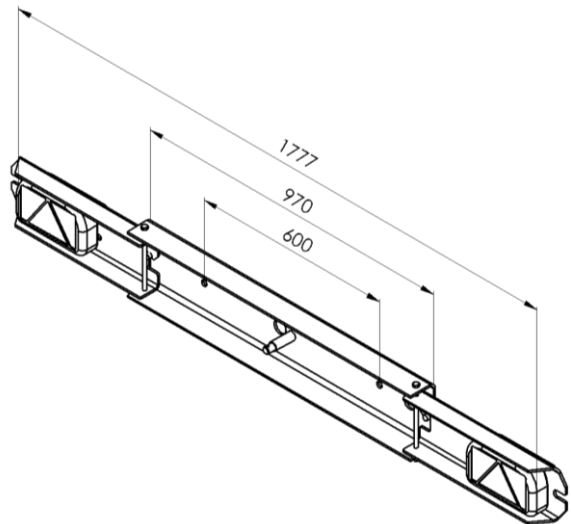


Figure 5. Signal lights

5. TECHNICAL DATA

5.1 Technical data

Max payload, kg	13 000
Axles, mm-bolts	80x80-8
Chassis	2x(250x150x8)
Loading area, m ²	2,7
Length of loading area, mm	3940
Total length, mm	6095
Brakes option	Hydraulic or pneumatic
Width with standard wheels, mm	2150
Standard wheels	500/50-17
Drawbar cylinders	2
Drawbar turning angle to sides, ±°	40
Net weight, kg	2030
Max lifting torque of installed crane, kNm	≤62

Table 2. *Forest trailer Palms 13D technical data*

Manufacturer reserves the right to change specifications without prior notice.

5.2 Dimensions

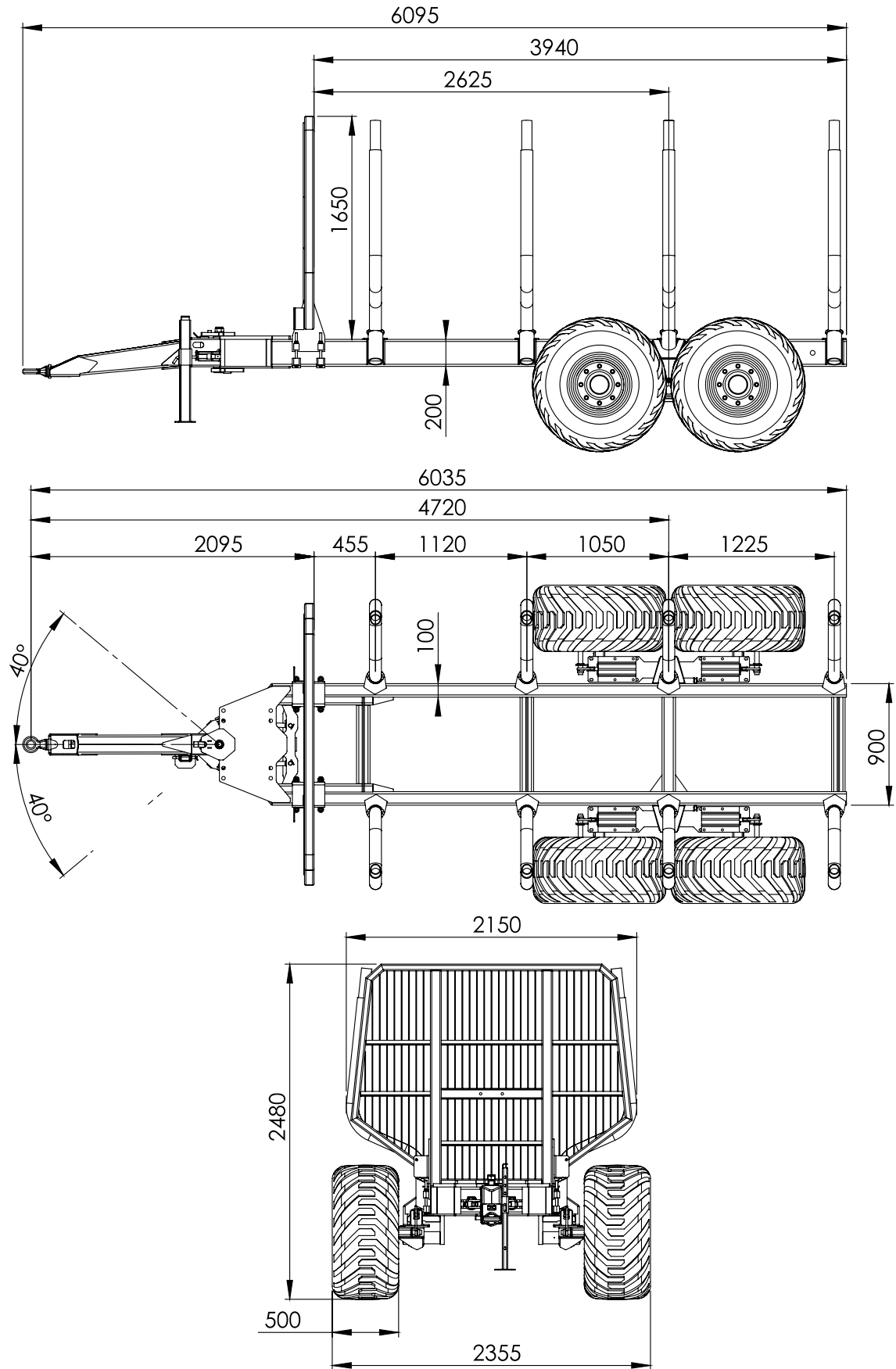


Figure 6. Dimentions of Palms 13D forest trailer

6. HYDRAULIC SYSTEM

6.1 Connection

Connect trailer's hydraulic hoses to one of sections of tractor's control valve. Be sure all connections are properly locked. Unlock drawbar by removing locking shaft. Using lever of control valve section, where you connected forest trailer's hydraulic hoses, work carefully thru extreme positions of drawbar to both sides until turning cylinders are working smoothly.

ASSEMBLY AND MOUNTING

Read these instructions before starting any assembly or mounting work. Improper mounting can cause hazards during use of the forest trailer. Mounting, carried out in a manner other than specified in this manual, can expose the user to danger and will void the manufacturer's warranty.

6.2 Mounting forest crane to Palms trailer

Mounting of forest crane should be performed at the dealer service center or by person authorized by the manufacturer or dealer. Mounting/detaching the crane can also be made by end user, if professional equipment is used, all safety regulations are followed and at least one qualified mechanic is in present during all the mounting/detaching process.

Strength class for mounting bolts of support legs - trailer (pos. 1, fig. 5) has to be 12.9 (DIN912). Use self-locking nuts M24. Tightening torque for the mounting bolts is 1220 Nm.



Retighten bolts after test run and after first 8 hours of use! Check after 40 working hours, tighten if needed. Later on do visual check.

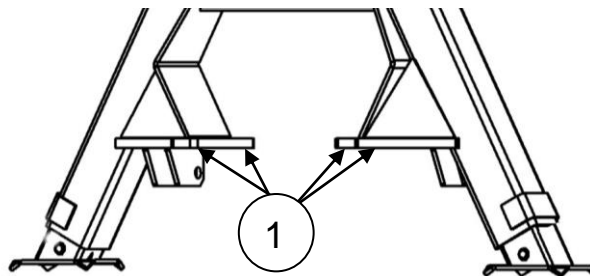
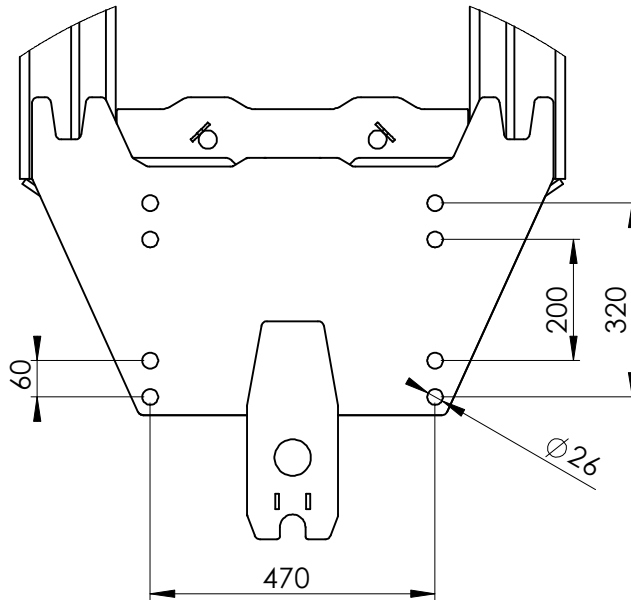


Figure 8. Connection junction on A- support legs

Old



New

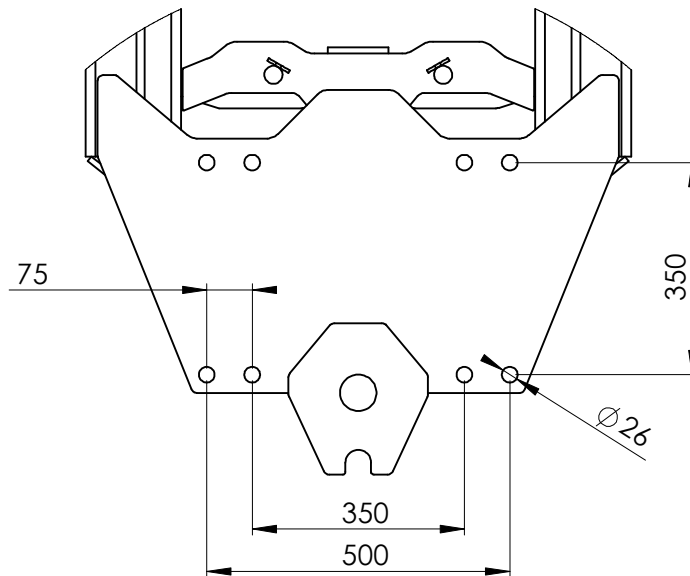


Figure 9. Mounting plate

7. OPERATING INSTRUCTIONS

7.1 Connecting forest trailer to tractor

Before you hook up trailer with tractor ensure, that:

- tractor is enough powerful for this trailer
- tractor's hitch is in perfect working condition
- trailer is on even ground and fixed with wheel chocks
- trailer is in perfect working condition
- all hydraulic hoses on trailer are properly connected

Before you start transport forest trailer ensure, that:

- forest trailer is hooked up and locked to tractor properly
- hydraulic hoses between trailer and tractor are connected properly
- trailer's brakes are released
- wheel chocks have been removed
- there is right air pressure in trailer's tyres
- drawbar is locked in straight position while driving on roads
- signal lights cable is connected to the tractor and lights are working properly



Adjust speed according to the road and weather conditions.

Driving with the load be especially careful on turns!

Do not exceed the speed limit!

8. STORAGE INSTRUCTIONS



Always switch the pump off before disconnecting hydraulic hoses from tractor's hydraulic system!

- Clean forest trailer and if necessary, touch up any points, where paint has peeled off
- Lubricate forest trailer thoroughly (see lubricating instructions)
- Release pressure from the cylinders
- Protect draw bar turning cylinder's piston rods with grease
- Store forest trailer in a sheltered area (under the roof), avoid direct contact with ground

9. MAINTENANCE

9.1 Lubrication

Using the appropriate lubricants like Beacon EP2, Multipurpose GR Moly, Mobilux EP2, Mobil Grease MP Special, Energrease LS-EP2 or similar. Right lubricants guarantee troublefree operation of the machine.

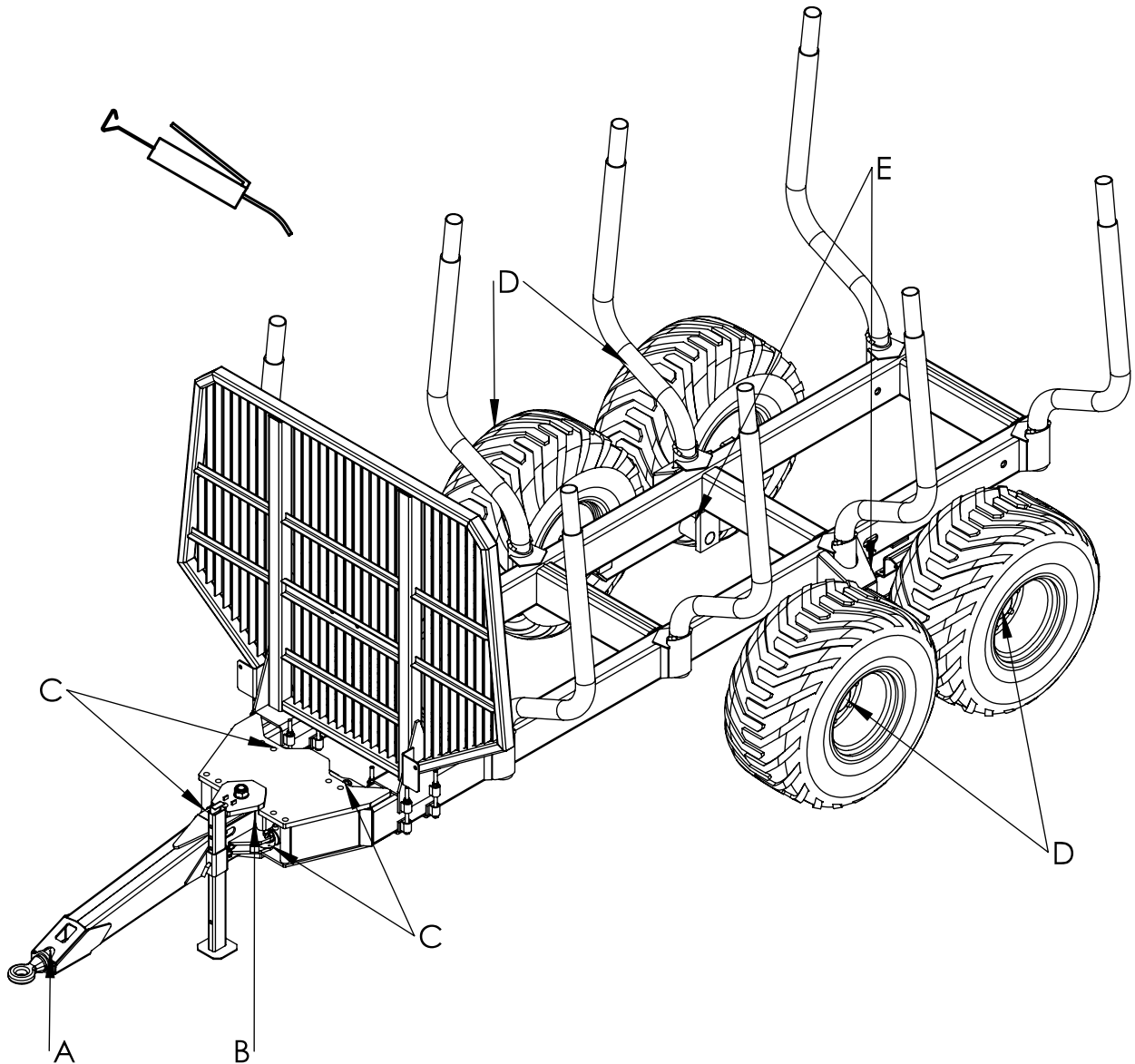


Figure 10. Lubrication points of Palms 13D forest trailer

Lubrication point	Pcs	Lubricant	Interval, working hour	Additional information
1. Drawbar eyelet, A	1	Grease	8	2% molybdensulfide
2. Shaft of drawbar, B	1	Grease	8	
3. Turning cylinder eyelet, C	2	Grease	8	
4. Rollerbearings of wheels, D	4	Grease	Once a year	
5. Shaft of boggie, E	2	Grease	8	

Table 3. Lubrication

10. SPARE PARTS

10.1 Basic parts

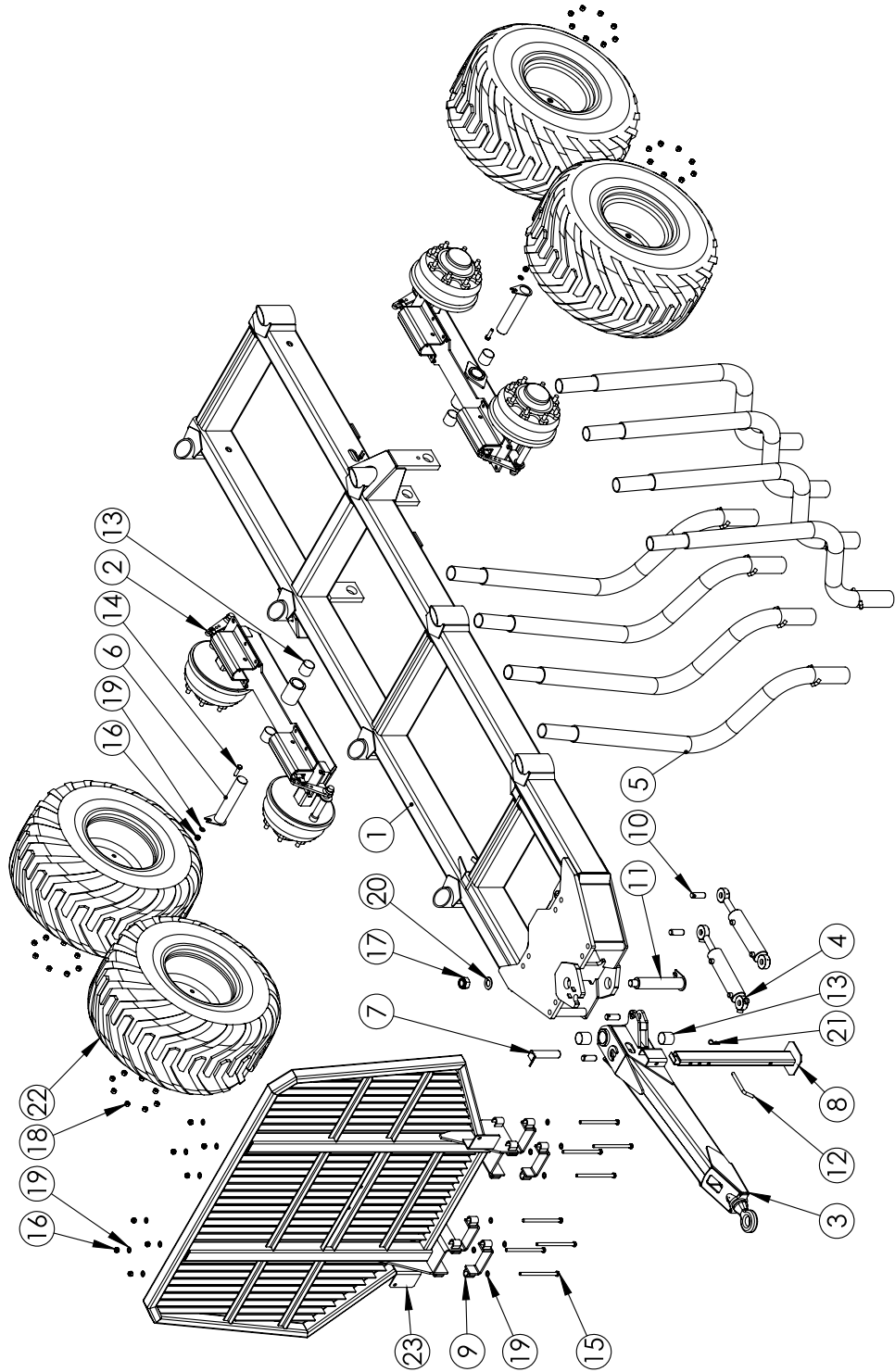


Figure 11. Spare parts of Palms 13D forest trailer

Pos	Qty	Part №	Part name
1	1	12D.01.00.00	Chassis
2	2	10.05.00.00	Boogie
3	1	9D.02.00.00D	Drawbar
4	1	70-32-200	Drawbar turning cylinder
5	8	112.10.00.00	Bolster
6	2	T-60-315	Shaft of 13D boogie
7	1	tl.00	Locking shaft of drawbar
8	1	Park.I.L	Parking leg
9	4	8.07.00.00	Clamp
10	4	T-30-50	Shaft of cylinder
11	1	TK-60-292	Shaft of drawbar
12	1	tjs.01	Locking shaft of parking leg
13	6	L11FB0926060	Bronze slide bearing 60 mm
14	2	M16x55b	Bolt M16 x 55 DIN 933
15	8	M16x240b	Hex head bolt M16x240 DIN 931
16	10	M16n	Nut M16 DIN 985
17	1	M36n	Nut M36 DIN 985
18	32	ADR nut	Wheel nut
19	18	M16w	Washer 16 DIN 125
20	1	M30w	Washer 30 DIN 125
21	1	M16w	Washer 16 DIN 125
22	4	wheel	wheel
23	1	122.04.02.00	13D safety grill

Table 4. Spare parts list of Palms 13D forest trailer

11. WARRANTY

The machine shall not be taken into use before the operating manual is thoroughly read and understood.

Duration of warranty:

- Parts manufactured by Palmse Mehaanikakoda LLC, warranty is three years.
- Hydraulic components, sliding bearings, cylinders, rotators, pumps, valve blocks and all other parts and equipment not manufactured by Palmse Mehaanikakoda LLC, manufacturer warranty applies.

The warranty does not apply:

- to any faults or defects arising from normal wear, negligence or improper operation.
- to faulty installation or incorrect or inadequate maintenance.
- if during maintenance or repairs were not original or same quality level as originals spare parts used.

The warranty is invalidated:

- if any repairs or constructional changes to the warranted products have been made by others than the manufacturer or a service shop authorized by the manufacturer or if the equipment has been altered without co-ordination with manufacturer.
- if the settings of the pressure relief valves of the loader's directional control valves have been changed without co-ordination with manufacturer.

Palmse Mehaanikakoda LLC will be not responsible for any damages caused by the improperly handled machine.

The manufacturer will not assume any liability for any economical losses or for any consequential damage to persons or property, which may incur during product's usage or failure.

Product warranty is **NOT VALID** in case of user's incompetence and/or irrespective handling of the equipment. Warranty does not cover transportation cost, repairing labor or loss of profit due to normal abrasion or product failure.

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