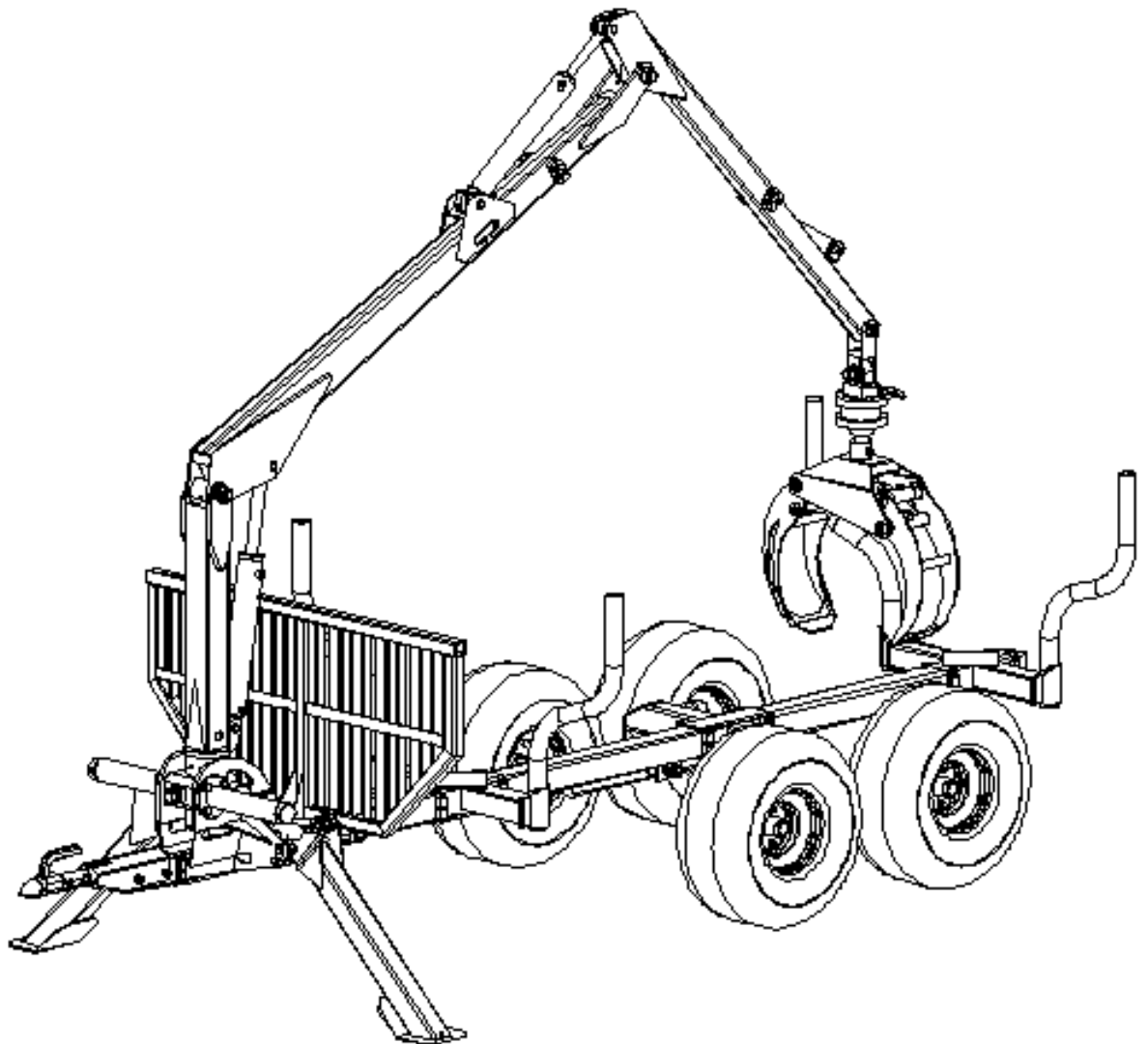


# Vahva Jussi 320

## Users manual & Spare parts list



MANUFACTURER: Kreisi Metall

## Foreword!

Congratulations! You have purchased the best, and most versatile pull-behind small tractor trailer on the market today.

Please follow the enclosed instructions closely, and your assembly should be effortless and quick. For your convenience we have pre-assembled and packaged as many components as possible. The instruction manual has to be enclosed with the trailer at all times, also after reselling to new owners. This instruction manual will help you to use VAHVA JUSSI 320 trailer rightly and for a long working period.



This symbol indicates these parts of VAHVA JUSSI 320 trailer that You as a owner of the trailer should pay precise attention to.

The manufacturer reserves the right to modify and correct the product without pre notification.

The manufacturer does not take the responsibility for intensional missusage or wrong working methods.

Pay attention to regular maintenance. If any question arise you can't solve by yourself, take contact the producer or the authorized dealer.

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## Safety and working methods

For your own and other safety please read carefully the following information.

- DO NOT use the trailer and crane before you are convinced that nobody is near working area of the crane ( **max 10m** ).
- When reversing the trailer, driver has to be convinced that nobody is behind the trailer.
- The operator of the crane has to have a clear overview from the working area.
- It is prohibited to go beneath the trailer when operating the crane or trailer.
- Before driving check that no tools or equipment are located on or under the trailer.
- Do not use the trailer for work that it is not intended for.
- The load on trailer of has to be evenly distributed to prevent the trailer from tipping over.
- Check that tire pressure and axel weight are right before towing the trailer( tire pressure suggested **1kPa**).
- Use only original spare parts from manufacturer to prevent damaging the crane or trailer.
- Never put a bigger load on the trailer then is allowed by the manufacturer, otherwise the warranty of the trailer will expire. ( **MAX LOAD 1500 kg** )

## Assembly of Vahva Jussi 320

1. Attatche the wheels to the axel
2. Move the front bracket to working position.
3. Move the boggyframe to working position.
4. Move the back bracket to working position.
- 5. When 4WD is installed check every time that bolts are tight.**

## Installation on hydraulic unit and valve package:

1. Install the hydraulic unit in front of a operating vehicle.
2. Install the valve package to the back of the trailer.
3. Check that the whoses of hydraulic unit are connected correctly to valve package (in right order shown on the valve package unit)




**Do not pressurize the control valve's return line first, this could cause the valve to break!**

## Manual

### Crane



Before working with the crane follow these instructions:

- ALWAYS use the trailers support legs when operating the crane.
- If you use the crane without support legs the trailer can tip over or will brake down. Be convinced that the trailer is firmly standing on the ground.
- Before starting to work with crane study carefully the functions of the leavers that operate the crane shown on page 7.
- To prolong the life of the trailer and crane it is important to lubricate the moving parts shown on the maintainance page 11-13.
- Never stretch the crane to full extent when fully loaded.
- Oil volume in housing box is 0,7 L .
- The oil used in the housing is GX80W90 GL4/5. Change oil at least once a year.
- Check the oil amount in the housing through a valve that is in front of housing box.
-  No one is allowed to be in the working area when operating the crane(**safe distance 10m**)

### Hydraulic unit

- Check the engine oil every time before starting the engine.
- Before connecting the loader to the tractors hydraulic system make sure that the oils are compatible. Check the hydraulic oil level.
- Change engine oil after every 75 work/h. ( Oil used - **Addinol MV1045 10W-40**)
- Hydraulic units oil filter has to be changed after 300 times of using.
- Hydraulic oil used in unit is **HVLP-46 Addinol**.
- Ensure that the control valve's pressure line has been connected properly and that the return is unobstructed.
- Ensure that the hoses can move freely. Remove any transport supports and ties.

### Trailer

- Air pressure in wheels is maximum **1kPa**.

## Maintenance table.

OBJECT	ACTION		
	Maintenance interval, working hours		
	8 h or after working shift	40 h or after working week	250 h
1.General	Check cylinders and leakages	Check pins and lockings	Check the condition of primary structures
2.Crane	Grease bearings	Check pins and lockings	Check the bolts are tight.
			Adjusting the racks
3.Booms	Grease slide bearings	Lubricate upper and lower surfaces	Check slide bearings and adjust, change if necessary
4.Cylinders	Grease articulation bearings	Check pins and lockings	Check hydraulic cylinders guides and bearings
5. Grapple	Grease slide bearings	Check pins and lockings	Check grapples fixing to rotator
6. Support legs		Grease glide surfases	

## Before starting engine:

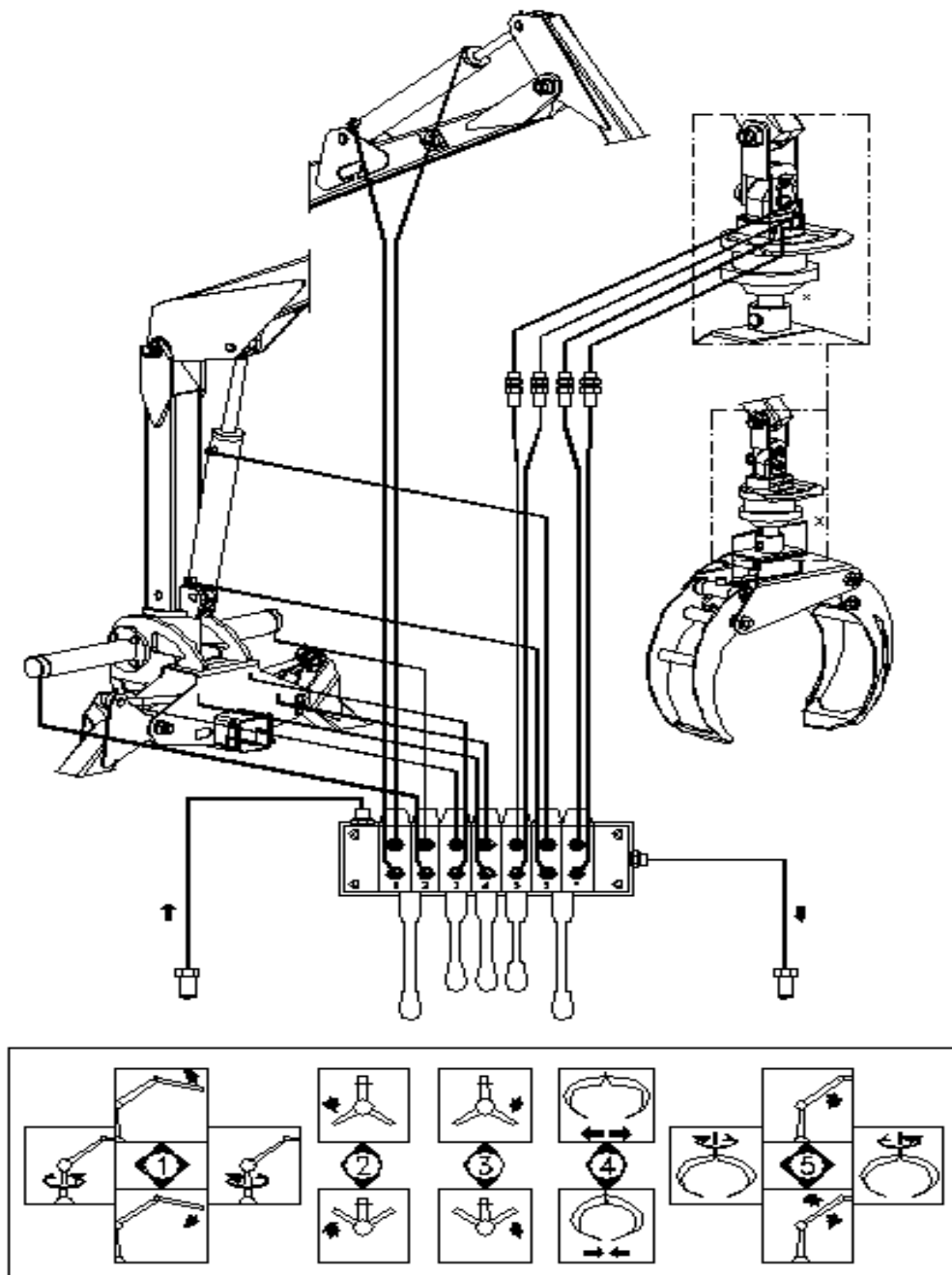


**NB! Before starting the engine, check that all hoses from hydraulic engine are connected correctly to hydraulic valve package. If the hoses are not correctly connected the hydraulic system can have a malfunction and vital parts of device can be damaged.**

1. Check that oil volume in engine is in normal level(fasten the engine on steady ground).
2. To check the oil level, look at the oil meter on the oil tank.
3. Gasoline tank must be filled with right gasoline(octane 95).
4. Check that gasoline valve is in position ON.
5. Start the engine (engine with electric starter).
6. Pull the string(manual start engine).
7. After engine starts release start button (engine with electric start).
8. When working with crane keep the engine throttel according to working conditions.

**When operating the engine use the user manual provided with the engine.**

**Cranes control valves operating instructions**



Before you start to work, study carefully the operating principles of leavers.

## Testing

Ensure that the control valve's control levers are in the middle position. Connect the oil flow to the loader and let oil flow through the valve for a while. Lower the support legs. Carefully drive the loader movements one by one to their extreme positions and repeat this until the movements are smooth. After testing the loader, inspect the joints and repair any leaks. Check the mounting bolts of the loader and the fitting stand, and tighten them if necessary. Check the hydraulic oil level, and top up the oil if necessary.



**Be careful when bleeding air from the system. If you drive a cylinder to its extreme position at full force, the air pressure in the cylinder will damage the seals!**



**Be extremely careful when there is air in the cylinders!**

## Practice runs

Drive through every movement with an unloaded loader, paying attention to the positions in which the loader can hit obstacles.



**Don't forget to lift the support legs UP before moving to another place!**

Move the control levers smoothly and steadily, avoiding quick and jerky movements. Learn to use several functions simultaneously. This enables smooth, precise operation. Start off at a low engine speed in order to avoid sudden movements. When you have become accustomed to the loader's movements, choose the appropriate engine speed so that operation is efficient but you still have the movements under control.



**Never move the boom to its extreme position at full speed!**



## DETACHING THE LOADER

Ensure that the ground under the loader is sufficiently hard and level. Ensure that there are no extra people around and that no danger will be caused to others where the loader is to be stored. Pay special attention to the storage location of the control valve, ensuring that, e.g it is out of the reach of children.



**Always switch the pump off before removing the quick coupling between the loader and the vehicle!**

- Lower the support legs to the desired height
- Fix the loader firmly by proper hoist
- Make sure that the loader cannot lean over
- Detach the loader from the vehicle
- Detach and cover the control valve's quick couplings

## Technical specifications.

Machine	Crane (inc. grapple)	Trailer	Hydraulic system
Length (mm)	-	3800	-
Width (mm)	-	1250	-
Height (mm)	-	1025	-
Max. Load (kg)	-	1500	-
Weight (kg)	195	190	25
Color	Black	Black/Silver	-
Loading area (m <sup>2</sup> )	-	0,85	-
Start	-	-	String pulley
Stolp	-	Rotating	-
Rotator	360 degrees rotating	-	-
Support legs	Flap down hydraulic	-	-
Wheels	-	22x11x8	-
Max reach (m)	3,2	-	-
Lifting capacity (3,1m)	250	-	-
Lifting capacity (2,0m)	360	-	-
Hydraulic valve	2-spak	-	-
Oil pump (L/min)	9,0	-	-
Working pressure (bar)	175	-	-
Oil tank (l)	-	-	9,0
Gasoline tank (l)	-	-	5
Max gripping width (mm)	740	-	-
Grapple volume (m <sup>3</sup> )	0,08	-	-
Engine (hj)	-	-	5,5
Frame (mm)	-	80x80x4	-

## Lubrication points for crane, grapple and trailer

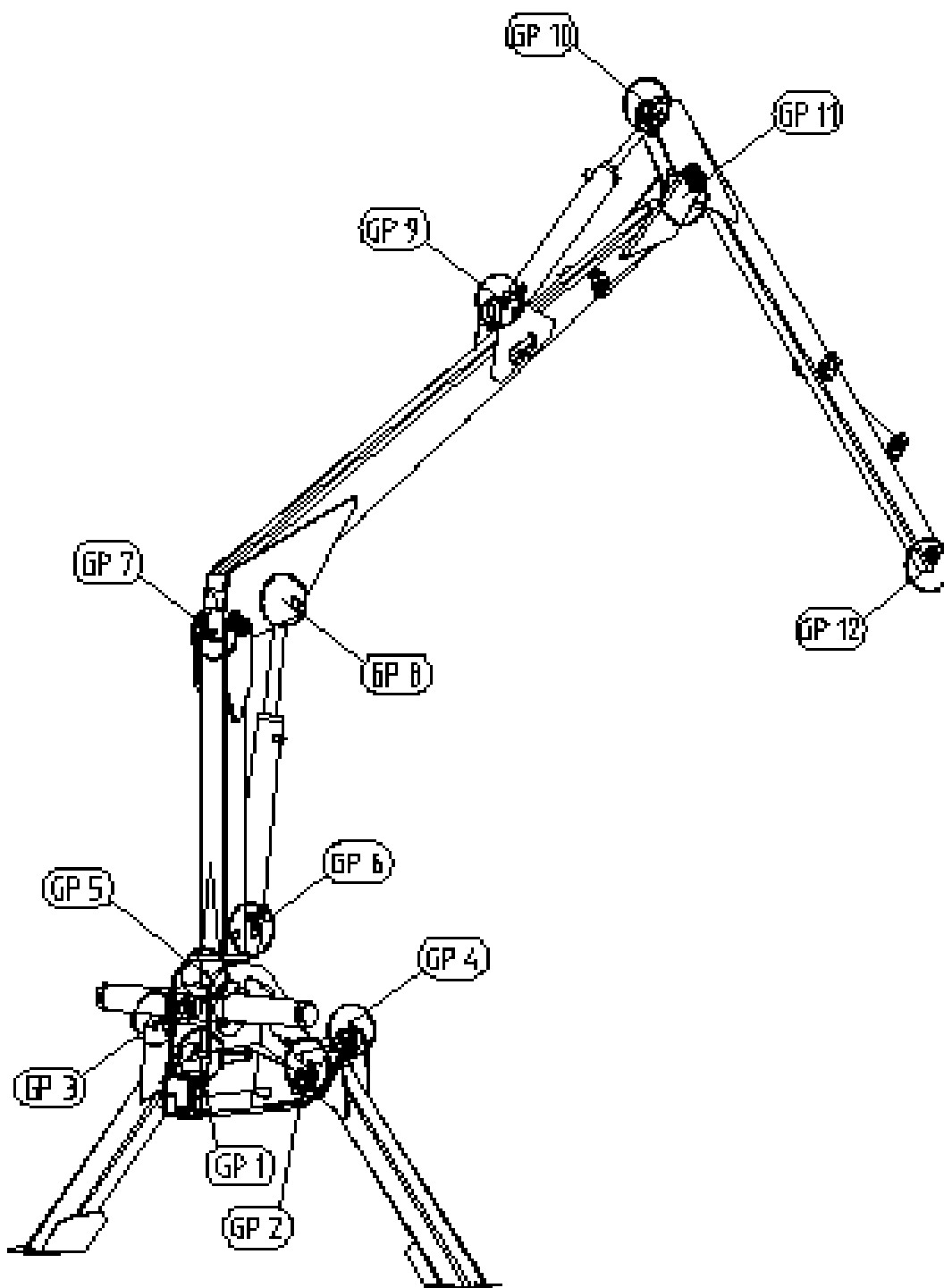
DEVICE	Lubricating points(GP)	Action	Interval, h	Notes
1. CRANE ( <b>DRAWING 1</b> )	12	Greasing	8	POINTS GP1 TO GP 12
2. GRAPPLE ( <b>DRAWING 2</b> )	9	Greasing	8	POINTS GP 1 TO GP 9
3. TRAILER ( <b>DRAWING 3</b> )	7	Greasing	8	POINTS GP1 TO GP7
5. HOUSING BOX	1	Oil change	1000	<b>Oil in the box Addinol GX80W90 GL4/5 0.7L (once in a year)</b>

### Lubrication

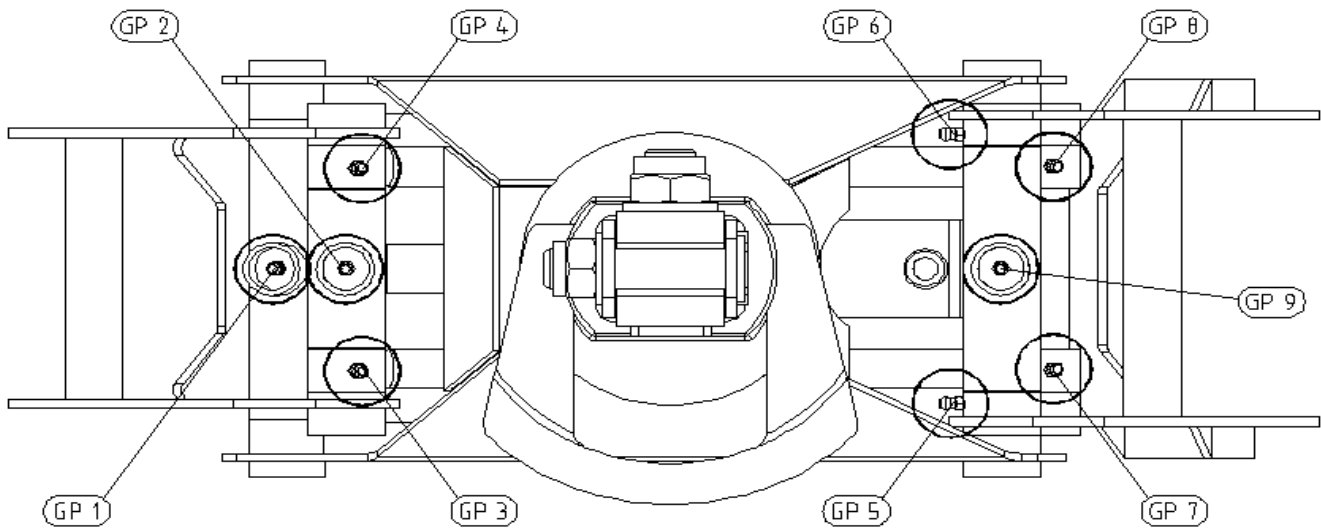
Using the appropriate lubricants like **Addinol LM3 EP**.

**Right lubricants guarantee a long and troublefree life for the machine.**

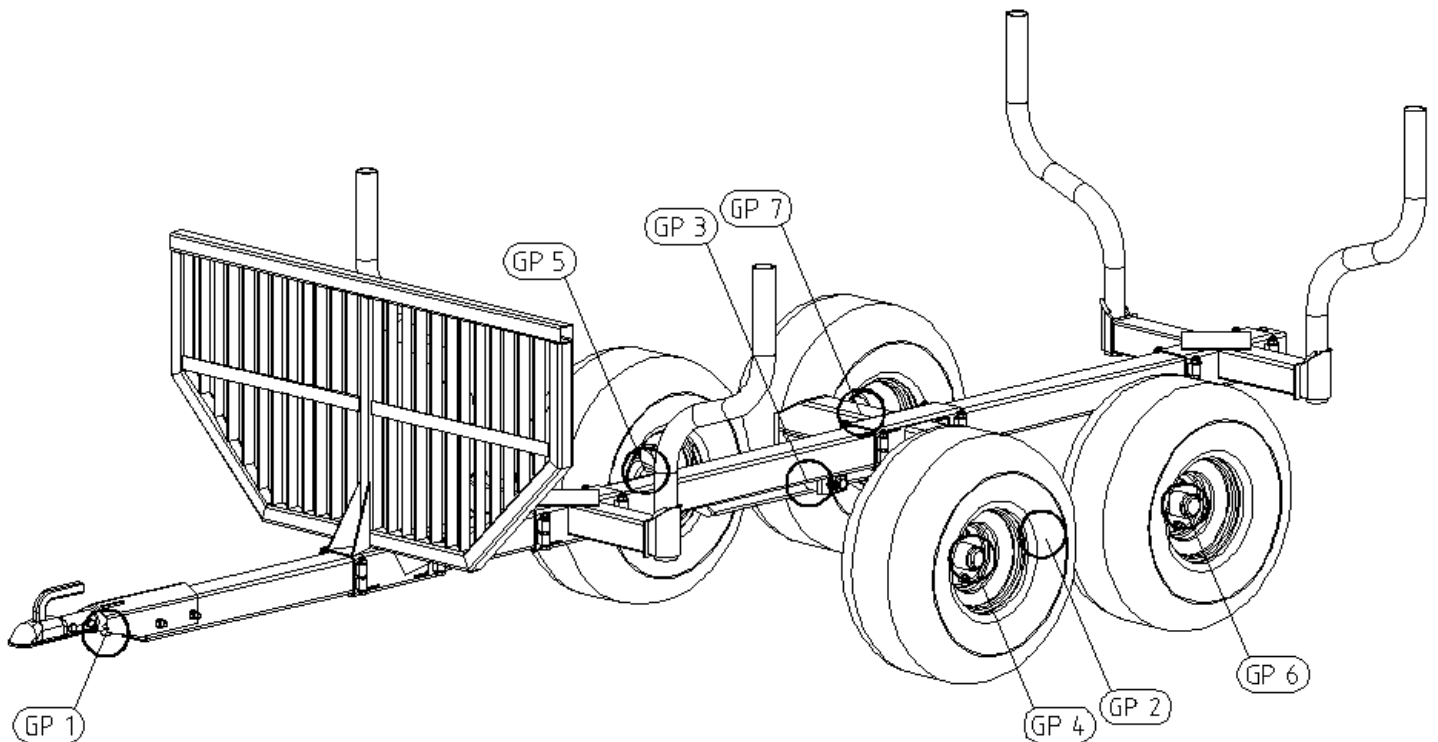
**Cranes points of lubrication (DRAWING 1.)**



**Grapples points of lubrication ( DRAWING 2.)**

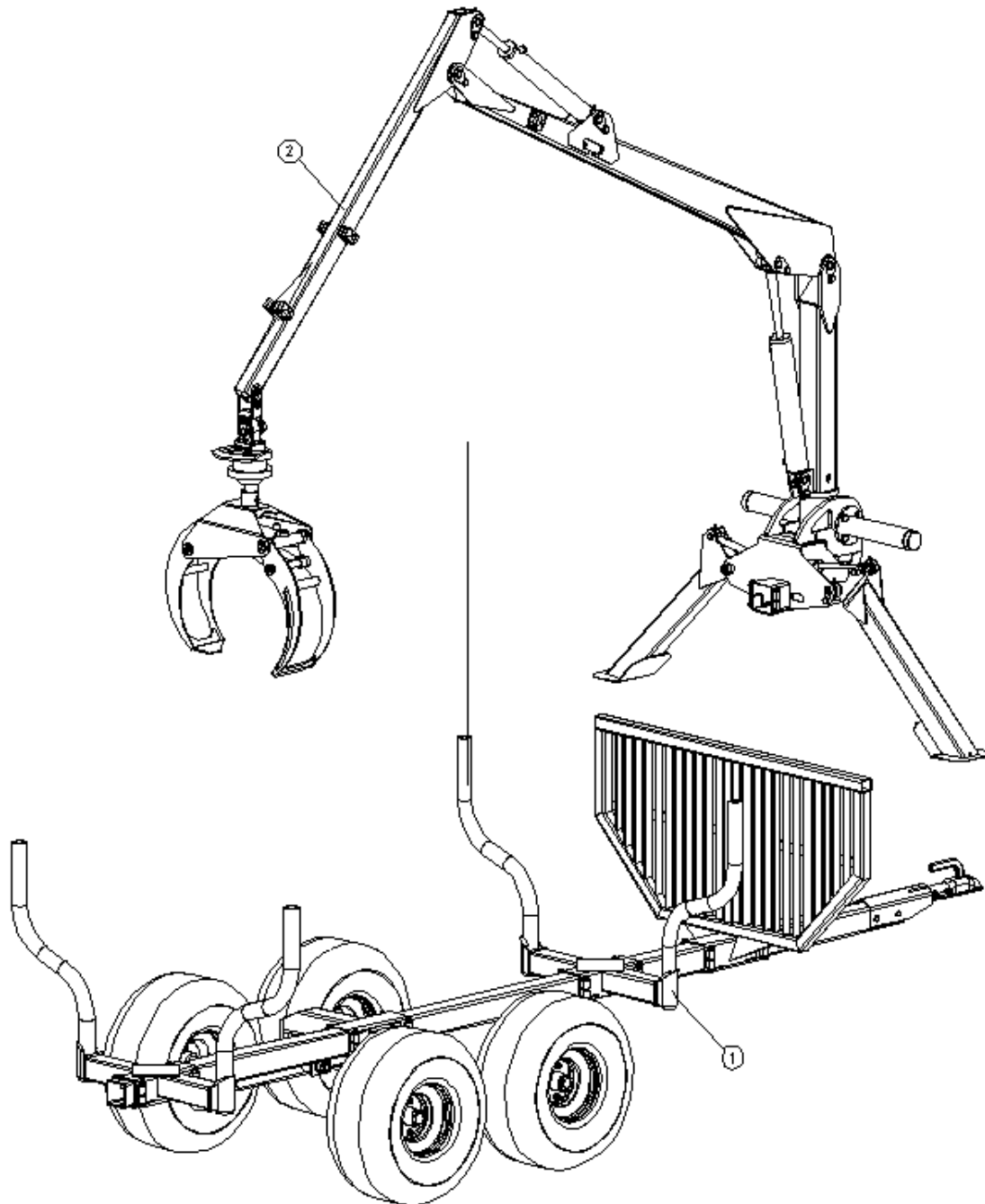


**Trailers points of lubrication (DRAWING 3.)**



**CRANE AND TRAILER Vahva Jussi 320**

Nr.	Pcs.	Name	
1	1	Trailer	
2	1	Crane	



## Vahva Jussi 320 spare parts and drawing for CRANE

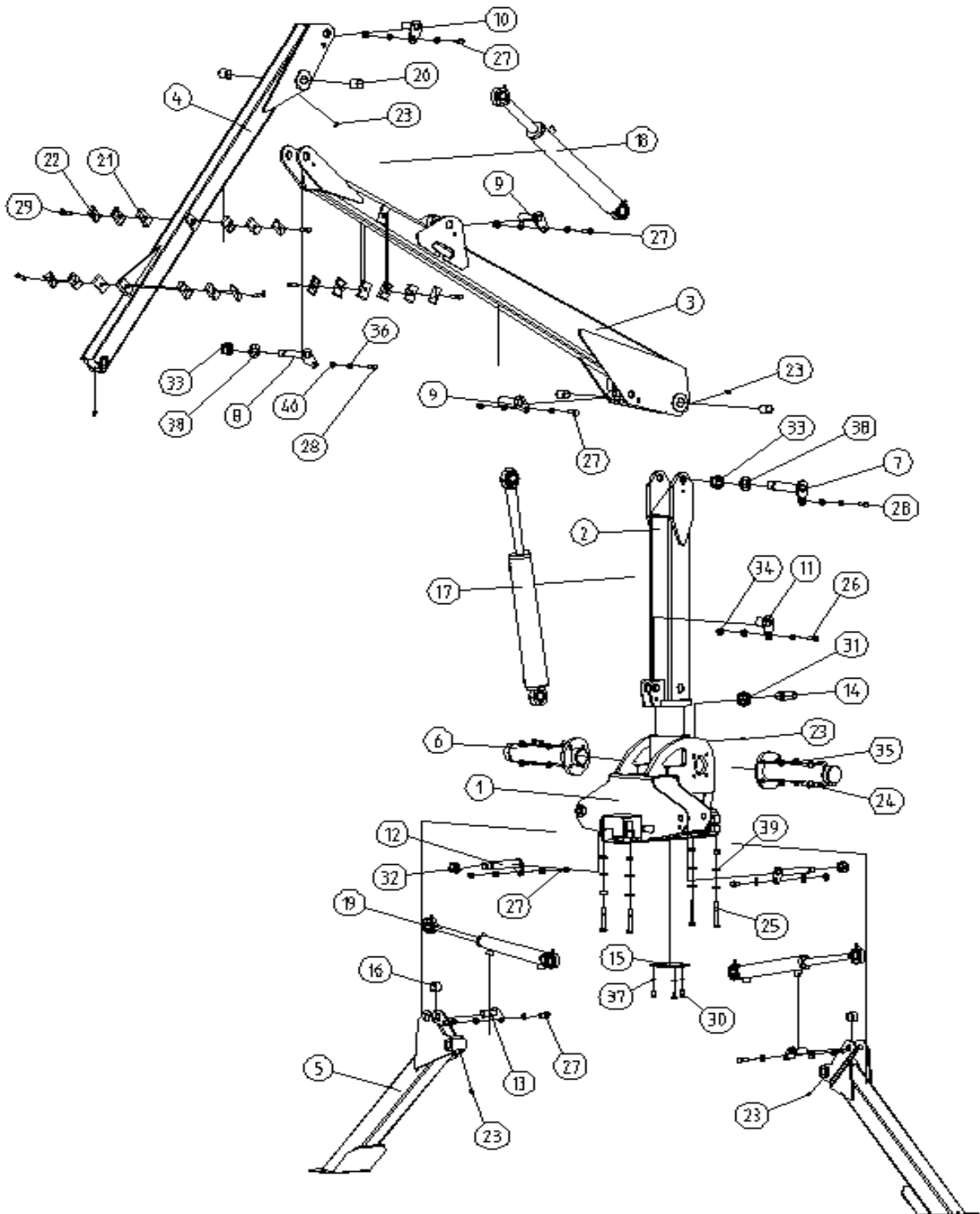
Nr.	/Pcs	/Name	Quality
1	1	/Housing	
2	1	/Torn	
3	1	/Arm	
4	1	/Arm	
5	2	/Support leg	
6	2	/Turning cylinder	
7	1	/Bolt	
8	1	/Bolt	
9	2	/Bolt	
10	1	/Bolt	
11	1	/Bolt	
12	2	/Bolt	
13	2	/Bolt	
14	1	/Screw	
15	1	/Plate 4	S235JRG2
16	2	/ Distance spacer	8.8 ZN/C
17	1	/Silinder	
18	1	/Silinder	
19	2	/Silinder	
20	4	/Slide Bearing BRM 80	Pronks
21	12	/ Hose holder	Plastic
22	6	/Washer	ZN/C
23	6	/Lubricating Nipple	ZN/C
24	8	/Hex-Head Bolt	8.8 ZN/C
25		/Hex-Head Bolt	8.8 ZN/C
26	1	/Hex-Head Bolt	8.8 ZN/C
27	7	/Hex-Head Bolt	8.8 ZN/C
28	2	/Hex-Head Bolt	8.8 ZN/C
29	6	/Hex-Head Bolt	8.8 ZN/C
30	3	/Hex-Head Bolt	8.8 ZN/C
31	1	/Hex Nut	8.8 ZN/C
32	2	/Hex Nut	8.8 ZN/C
33	2	/Hex Nut	8.8 ZN/C
34	12	/Hex Nut	8.8 ZN/C

GRAPPLE LOADER  
Vahva Jussi 320

35	8	/Spring Washer	ZN/C
36	2	/SpringWasher	ZN/C
37	3	/SpringWasher	ZN/C
38	2	/Washer	ZN/C
39	8	/Washer	ZN/C
40	18	/Washer	ZN/C

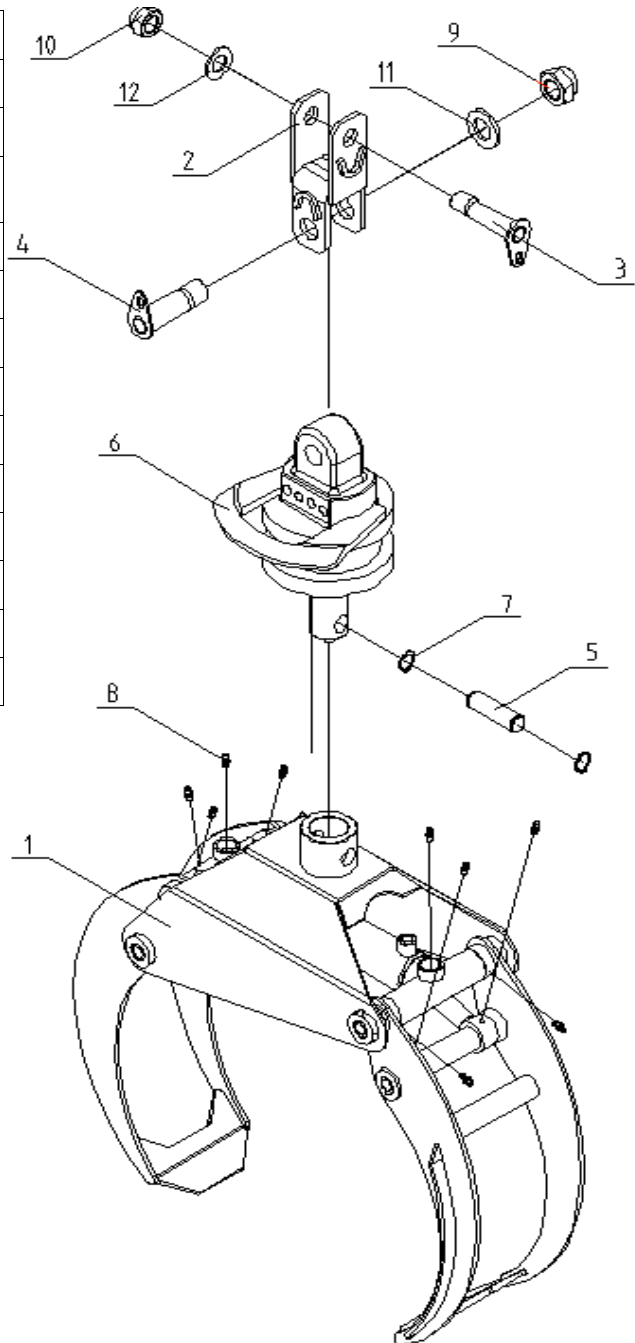


# GRAPPLE LOADER Vahva Jussi 320



**Vahva Jussi 320 spare parts and drawing for GRAPPLE and ROTATOR**

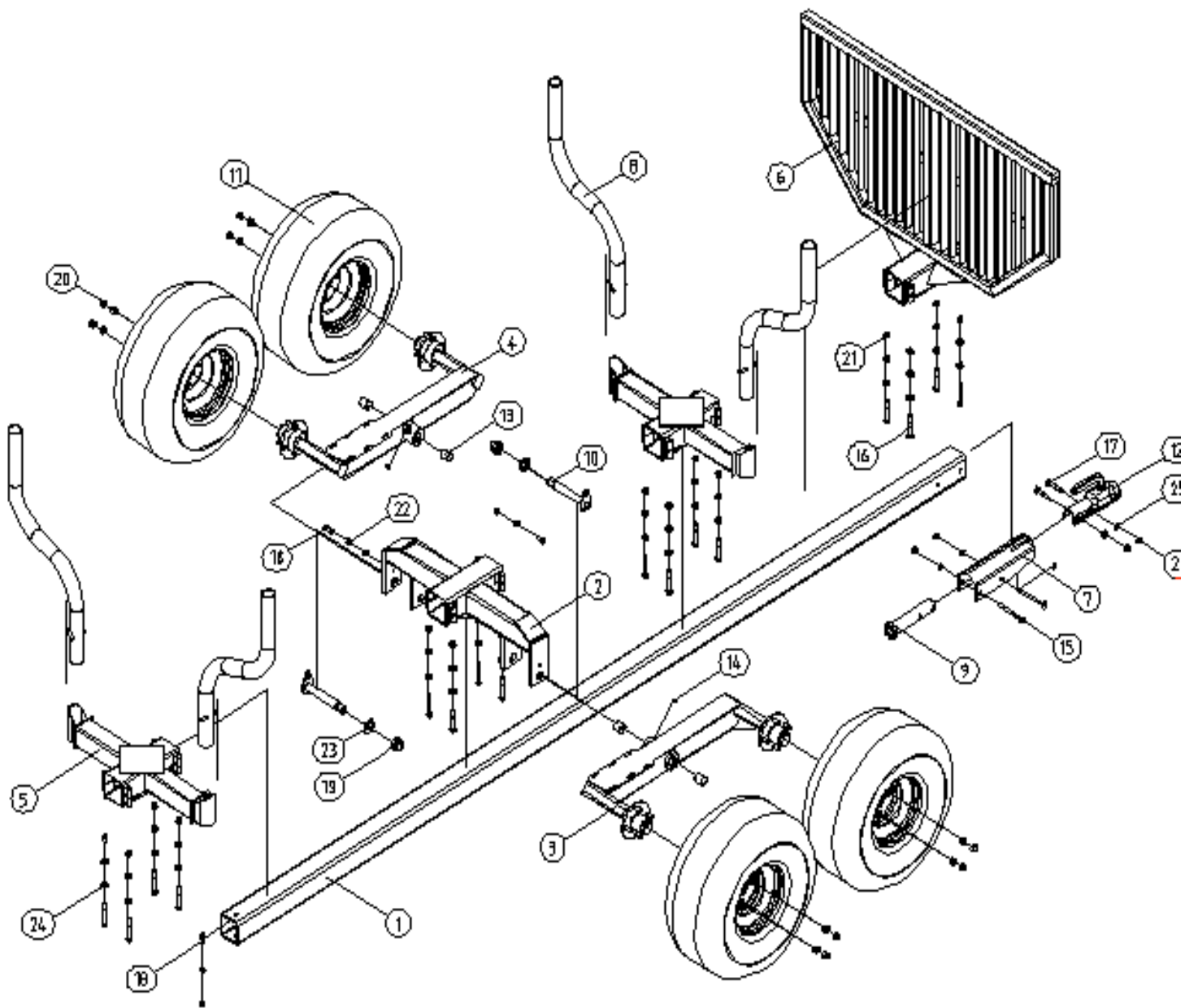
No	Pcs	Name
1	1	/Frame
2	1	/Attachment
3	1	/Bolt
4	1	/Bolt
5	1	/Bolt
6	1	Rotaator
7	2	/Spring Retaining Ring
8	9	/Lubricating Nipple
9	1	/Hex Nut
10	1	/Hex Nut
11	1	/Washer
12	1	/Washer



**Vahva Jussi 320 spare parts and drawing for TRAILER**

Nr	Pcs	Name	Spec.	Dimensions
1	1	/Centerbeam		
2	1	/Boggyframe		
3	1	/Boggyarm		
4	1	/Boggyarm		
5	2	/Bracket		
6	1	/Front		
7	1	/Attachment		
8	4	/Stolp		
9	1	/Bolt		
10	2	/Boggybolt		
11	4	/Wheel		22x11.00-8
12	1	/Coupler		Dia 35/50
13	4	/Slidebearing BRM 80	/Pronks	P2530
14	3	/Lubricating Nipple	ZN	AM6
15	2	/Hex-Head Bolt	8.8 ZN/C	M10x110
16	16	/Hex-Head Bolt	8.8 ZN/C	M10x75
17	2	/Hex-Head Bolt	8.8 ZN/C	M10x60
18	3	/Hex-Head Bolt	8.8 ZN/C	M10x25
19	2	/Hex Nut	8 ZN/C	M24
20	16	/Hex Nut	8 ZN/C	M12x1,5
21	21	/Hex Nut	8 ZN/C	M10
22	2	/Spring Washer	ZN/C	A10
23	2	/Washer	ZN/C	A25
24	32	/Washer	ZN/C	Dia 11/23x3
25	7	/Washer	ZN/C	A10,5

# GRAPPLE LOADER Vahva Jussi 320



## Troubleshooting

TROUBLE	POSSIBLE CAUSE	REMEDY
LOADERS' WORKING MOVEMENTS SLOW	PUMP RUNNING TOO SLOWLY	CHECK PUMP ROTATING SPEED
	NOT ENOUGH OIL	ADD OIL (AIR-BLEEDING)
	FAULTY PUMP	CHANGE OR GET THE PUMP FIXED
	LEAKS OR OBSTRUCTIONS IN OIL LINES	INSPECT AND CLEAN OIL LINES
	OIL TOO THICK	CHANGE TO A THINNER (PROPER) OIL GRADE
LOADERS' DESCENDING MOVEMENTS SLOW	OBSTRUCTIONS IN THE OIL LINES	CHECK THE LINES AND THE CHOKES
	CLOGGED-UP (RETURN) FILTER	CLEAN OR RENEW FILTER
	OIL TOO THICK	CHANGE TO A THINNER (PROPER) OIL GRADE
LOADERS' MOVEMENTS TOO FAST	ROTATION SPEED TOO HIGH OR PUMP IS TOO POWERFUL	CHOOSE A CORRECT PUMP/ SPEED OF ROTATION
	INCORRECT OPERATION	LEARN TO OPEN THE CONTROL VALVE TO A SUITABLE DEGREE
LOADERS' WORKING MOVEMENTS POWERLESS	NOT ENOUGH OIL	ADD OIL (AIR BLEEDING)
	FAULTY PUMP	CHANGE OR GET THE PUMP FIXED
	FAULTY OF RELIEF OR SHOCK VALVES OR WRONG ADJUSTMENT	CHANGE THE RELIEF OR SHOCK VALVES OR ADJUST IN RIGHT WAY
	FAULTY CONTROL VALVE	CHANGE OR GET THE VALVE FIXED
	FAULTY CYLINDERS OR SEALS	CHECK THE CYLINDERS AND CHANGE THE SEALS
LOADERS' MOVEMENTS ARE JERKY	AIR IN HYDRAULIC SYSTEM	CHECK OIL LEVEL, BLEED AIR FROM SYSTEM
		CHECK FOR OBSTRUCTIONS OR LEAKS ON THE INLET SIDE
	FAULTY PUMP	INSPECT THE PUMP AND GET IT FIXED
BOOMS DESCEND BY THEMSELVES	FAULTY CONTROL VALVE	INSPECT THE CONTROL VALVE AND GET IT FIXED
	FAULTY CYLINDERS OR HOSES	FIX THE LEAKAGE POINT, CHECK CYLINDER SEALS
GRAPPLE'S OPENING BY ITSELF	FAULTY VALVE	FIX THE VALVE
	FAULTY CILINDER OF THE GRAPPLE	FIX OR CHANGE THE CILINDER
	FAULTY ROTATOR	FIX OR CHANGE THE ROTATOR

## CE-Konformity declaration of the producer

Hereby the producer

### **KREISI METALL OÜ (reg.nr: 11236295)**

Address:

Laane 25, Käsmu,  
45601 Vihula vald  
Lääne - Virumaa  
Estonia

declares that grapple loader/trailer **Vahva Jussi 320** produced and launched on to the market,

Product	VAHVA JUSSI
Type Nr.	320
Serial Nr.	000001-000999
Year of production	2011

Corresponds to the standads and demands of item 89/392 EEC.

Lääne-Virumaa, Estonia  
(place)

01.01.2011  
(date)

Ragnar Tiiter



Managing director