



Kellfri[®]

21-SV34 FORESTRY TRAILER



CAREFULLY READ THE OPERATING INSTRUCTIONS BEFORE USING THE PRODUCT!

OPERATING INSTRUCTIONS TRANSLATED FROM THE ORIGINAL

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Certain details are extracted from the "Kör åt skogen rätt och säkert" publication from the Swedish University of Agricultural Sciences

1. INTRODUCTION

Thank you for choosing a product from Kellfri AB. Compliance with the general safety instructions, instruction manual and sound common sense will guarantee many years of enjoyment using the product. Kellfri's equipment and products are aimed at self-employed farmers who have stringent performance demands.

2. PRODUCT INFORMATION

Kellfri's forestry trailer allows you to load and unload timber. It is particularly suited for use by self-employed farmers working in the agricultural sector. The forestry trailer is designed to be connected to a tractor hitch and pulled behind a farm tractor. The valve block can be positioned by the rear window of the tractor. Different tractors require different valve block mounting solutions. In certain cases, the hoses between the valve block and the crane may also need to be adjusted. Kellfri cannot be held liable for any such customisation work.

The trailer is not equipped with lights and is only intended to be used during the day. Otherwise, fit the Forestry Trailer with a magnetic rear light.

TECHNICALDATA	21-SV34
Overall (width)	1 350 mm
Reach	3 400 mm
Lifting force	175 at 3 m
Wheels	23 x 10 x 12
Headboard height	700 mm
Number of bolsters	4
Multi-lever valve block	Standard
Grapple Width	690 mm
Rotator	Standard
Hydraulic stabilisers	Standard
Brakes	No
Central beam	80x80/ 90x90
Load width at the trailer bottom	600 mm
Load width at the trailer top	1 200 mm
Ground clearance, central beam	400 mm
Weight	510 kg
Max. load	2000 kg
Rec. power requirement	9hp
Propulsion	Hydraulic

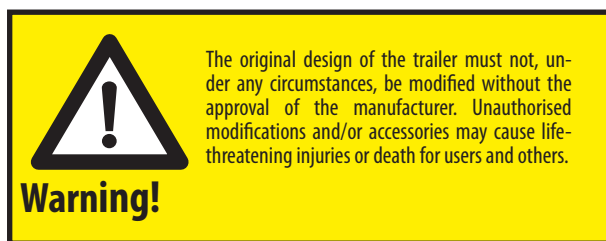
3. SAFETY INSTRUCTIONS

Before using the equipment or product, and for the safety of yourself and others, you must read the safety instructions and the instruction manual and understand its contents. Always keep the safety instructions and instruction manual handy for users of the equipment or product. For the safety of both yourself and others, it may be a good idea to read through the safety instructions every now and then. If the safety instructions or instruction manual gets damaged or in any other way cannot be used, new copies may be ordered from:

Kellfri AB, Munkatorpsgratan 6, 532 37 SKARA

Sweden. Tel.: +46 (0)511 242 50 (Pls. contact the retailer)

Do not use the equipment or product if you feel ill, tired or are under the influence of alcohol. Do not use the equipment or product if you are taking prescribed medication or drugs. Always comply with general rules of the road and applicable rules stipulated by the Swedish Protection of Animals Act. People under the age of 15 are not allowed to use the equipment.



4. PRODUCT SAFETY INFORMATION

- Compliance with the safety instructions requires that the timber trailer is only used as described in these instructions. It is the user's responsibility to read through the instructions and comply with them. For equipment connected to tractors, read the tractor's operating manual.
- Always check that the performance of the machine combination to be used with the trailer guarantees safety and functionality.
- Never overload the trailer! The trailer must not be loaded above the height of the headboard!
- Never leave the driver's seat until the brakes on the towing vehicle have been applied.
- Danger zone 15 meters. Only the operator is allowed to be within the risk area while the trailer is in use.
- Do not leave a loaded trailer parked unsupervised. When unhitching the trailer, it must be empty and on a level surface with the trailer wheels secured using suitable brake blocks.
- To stop trailer movements in the event of an emergency, stop the tractor.
- There is a risk of suspended loads being dropped if the oil supply to the crane is disrupted. First lower the lifting arm, followed by the articulated boom and then unload the grapple.
- The tractor should be fitted with an ABE2 or ABE3 fire extinguisher. Contact your insurance provider.
- The trailer is equipped with 50mm ball coupling. Regularly check the coupling for wear and tear. Maximum traction load on the ball coupling is 9 tons and maximum pressure 3 tons.
- The trailer's noise level does not exceed 70 dB (A).
- Exercise caution when working with equipment with hydraulic hoses as the oil under pressure can penetrate skin. Immediately seek medical attention if this should occur.
- The trailer is not equipped with lights and is only intended to be used during the day. If necessary, the trailer can be fitted with a magnetic rear light.



Kellfri is not liable for any modifications, changes or rebuilds carried out by customers.

5. INSTRUCTIONS FOR EMERGENCY SITUATIONS

In case of emergency, call 112.

Always have a mobile phone or emergency phone available when working alone. A first aid kit and fire extinguisher must be kept in an easily accessible location when carrying out any work, maintenance and service. To perform an emergency stop, turn off the tractor.

6. PERSONAL PROTECTION

Always use suitable protection equipment. Do not wear loose clothing or jewellery while working with the equipment. Long hair should be tied up when working equipment that has moving parts. Use protective gloves as there is a risk of burns if any hot surfaces are touched such as exhaust pipes, and avoid getting oil and petrol on skin. Ear defenders must be worn whilst the engine is running. Helmets with ear defenders must be used while working to prevent knocks from the cabin sides and suchlike in uneven terrain. Wear protective boots with anti-slip soles.



7. WARNING DECALS

Make sure warning decals are always visible and clean them when necessary. Do not use a high-pressure washer directly on the warning label. If a decal becomes worn or in any other way unusable, order a new set of decals. An SMV sign must be visible and mounted when travelling on public roads. The trailer is fitted with the following decals:

- An SMV sign must be attached when travelling on public roads.
- EU regulations stipulate how fast a tractor with a non-brake trailer is allowed to go.

Symbol	Explanation
	<p>Read the operating manual! Before carrying out work Warning! Before maintenance, servicing, connecting and disconnecting the machine, the tractor must be turned off and the ignition key removed.</p>
	<p>Risk zone 15 m Respect the equipment's risk zone! Warning! Risk of crushing! Do not permit anyone to stand under suspended loads.</p>
	<p>Lever functions</p>
	<p>Max. trailer towbar eye load (9/3 tonnes)</p>
 <p>Smörjning efter 10 tim. i drift</p> <p>Använd alltid STÖDBEN</p> <p>Efterdrag samtliga skruvar och kopplingar</p>	<p>Greasing after 10 hours of operation Always use stabilisers—loading/unloading Retighten all bolts and connections</p>
	<p>Warning for power lines!</p>
 <p>Max 200 kg</p>	<p>Max. 400 kg grip Warning—oil jet from hydraulic hoses Warning—moving parts.</p>
	<p>Warning! Keep off the machine! Warning! Accident risk for children! Children are not allowed in the vicinity of the machine</p>
 <p>CE</p> <p>Vikt: _____ Füll: _____</p> <p>Serie nr: _____ Typ: _____</p> <p>KELLFRI AB</p> <p>Mårbackavägen 6, 522 37 Skene, Sweden</p> <p>Tel. 0511-242 50, Fax. 0511-198 33</p>	<p>The product is CE marked</p>

8.SURROUNDINGS

Check that the work area is free from bystanders, children and objects before hitching or using the trailer. There is a risk of serious bodily harm. Be extra careful if there are children in the vicinity of the area where the equipment or product is used or stored. Check that there are no low-hanging electrical cables within the work area. Exercise caution when working on slopes and close to ditches. Always work alone with equipment or products that are made for working alone. Remove all rubbish from your work area. Keep work areas clean. Always respect the equipment risk zone.



Children must not be left unsupervised in the area.

DANGER!

9. STEPS TO TAKE BEFORE USE

Carefully read the safety instructions and the operating instructions. Make sure that you understand the safety instructions, operating instructions and warning decals. Use common sense when using the product and suitable personal protective equipment. Always check the performance of the machine combination to be used. It is important that these are in harmony and work satisfactorily. This is done to ensure the equipment or product work as expected, and to guarantee the safety of yourself and others. Carry out a visual inspection of the equipment or product before use. Repair or replace damaged or worn parts to reduce the risk of injury.

Grease moving parts and check that all nuts and bolts are tightened. Correct if necessary. Learn and remember the correct working method. Beginners must work slowly until they have learned how the machine or product works. Users/customers are responsible for ensuring users can handle the situation. If users feel that the machine is dangerous to use, it should not be used.

Warning! Risk of crushing due to moving parts!

10. HITCHING THE TRAILER

- Read through the operating manual in its entirety.
- Check the ball coupling on the trailer. Then hitch on the forestry trailer to the tractor.
- Operate and carefully check movements of the equipment. Hoses must not be stretched or rub against sharp edges, etc. Correct if necessary. Tighten leaking connections if there are any leaks. Do not overtighten the connections. They may break if they are overtightened.
- Check the air pressure in the tyres. Max. air pressure 2.5 bar.



Compliance with the safety instructions requires that the product is only used as described in these instructions. It is the user's responsibility to read through the instructions and comply with them.

Warning!

11. USE

Only those who understand the safety instructions and the operating instructions may use the equipment or product. Exercise caution and care when working with the equipment and only use it in the way described in the operating instructions. There is a risk of crushing when working with equipment that has moving parts. Exercise caution when working with equipment with hydraulic hoses as oil under pressure can penetrate the skin. Immediately seek medical attention if this should occur. Always work alone with equipment that is made for working alone. Never overload the equipment and respect its risk zone.

Connecting equipment

- It is recommended that the control is positioned close to the tractor. Hydraulic hoses must not be attached inside the cabin.
- Connect the grapple loader valve block pressure and return hoses. Make sure the pressure and return hoses are connected correctly. The valve block may be damaged if the hoses are connected incorrectly.

12. USE AND CARE INSTRUCTIONS

- Check that the equipment is undamaged before connecting it to the vehicle.
- Connect the equipment and lock it in place.
- There is usually air in the system at the start. Carefully extend all cylinders fully a few of times to purge any air from the system.
- Calmly and methodically practise the movement pattern used for loading and unloading timber on the trailer. There is less stability when starting to load. Exercise caution.
- Keep the crane low down when in transit.
- Both stabilisers must be lowered when loading and unloading timber. Timber must not be pulled with the crane when driving the tractor. The tractor must be stationary when using the crane.
- The articulating arm shouldn't be fold out fully and use to press down timber. The crane is only designed to lift timber. Maximum towing speed of the trailer is 30 km/h.
- Loads must be spread evenly across the trailer.
- Loads sticking out must be well anchored.

12.1 STARTING THE ENGINE

1. Fill the tank with fuel and engine oil
2. Turn the key to "ON"
3. Open the choke and fuel valve. When the machine is cold, the choke may need to be used.
4. Pull the starter handle slowly to the switch goes in first, then firmly pull on the handle. Do not pull the starter cord completely out and do not let go of the handle when the rope is pulled out. Repeat this step until the engine starts.

12.2 SWITCHING OFF THE ENGINE CORRECTLY:

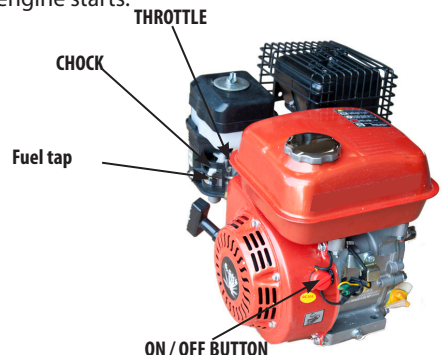
1. Set the throttle to the slowest speed.
2. Turn the ignition switch to the OFF position..
3. Turn off the fuel valve.

13. AFTER USE

Wash down the forestry trailer if necessary.



WARNING: Pressurised oil and fuel leaks can penetrate skin and cause serious injuries. Do not use your hands to locate leaks. Use a piece of paper or cardboard to look for leaks.



14. TRANSPORTATION AND STORAGE

Check that the work area is free from bystanders, children and objects before driving off. Always observe additional caution during transport and moving. Ensure that the equipment or product is well anchored and existing transport lashings are fitted. Always position the load as low as possible. Respect the risk zone even during transport and moving. Do not permit anyone to walk under suspended loads when carrying out lifts. Trailers used for transport should have brakes that work. Always keep the equipment or product on a dry surface, preferably under a roof when not in use. Ensure that the equipment or product is stable and cannot fall over. Never permit children to play at the storage site. Be aware of the tipping risk! NEVER allow anyone to travel on the trailer whilst it is in motion!

15. MAINTENANCE AND SERVICE

Make sure the trailer is stable and cannot tip over when carrying out maintenance and service work. Replace damaged or worn parts to reduce the risk of injuries. Carry out maintenance, service and checks in line with recommendations. Only use spare parts with equal performance to reduce the risk of injuries and breakdowns. All repair work and electrical connections must be carried out by a qualified technician.

Make sure all connections are tightened after carrying out maintenance and service work. Always test the machine before starting work. Check all parts for wear and retighten bolts, connections and hoses if necessary. Immediately replace hydraulic hoses if cracks or wear are detected.

Never perform welding on the towbar eye as this may change its durability.

The hydraulic system must only be operated using the appropriate hydraulic oil. (*Oil change intervals: see the tractor's operating manual*). Use gearbox oil SAE 80 (2.5 L) or similar in the slewing housing. All grease points must be lubricated every 25 hours.

Retighten all nuts and bolts after 10 hours of operation. Tighten leaking connections if there are any leaks. Do not overtighten the connections. They may break if they are tightened too much.

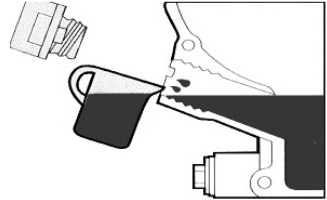
SERVICE	INTERVAL	MEASUREMENT
Tyres	Before each use	Check the air pressure in the tyres. It must always at least be the recommended pressure (see tyres).
Cables and hoses	Before each use	Check that all cables and hoses are intact.
Wheel nuts	Perform an initial check after 2-3 hours of operation, and subsequently 2-3 times a year.	Retighten all the wheel nuts, 250 Nm
Trailer parts	Regularly, at least 3 times a year	Check by performing a visual inspection of any brakes, lights, SMV signs, towbar eyes, axles, bogie eyes, hinges and turntable bearings (if installed). Replace worn and damaged parts.
Trailer	After each use	Wash down with clean water if necessary.
Hydraulic oil	Regularly	Always check the quality of the oil in the tractor's hydraulic system. Dirty oil must not be used

15.1 Changing Oil

When changing oil, be sure to use an approved container for oil. Old oil must be disposed of properly recycling center. Contact your local authority for more information.

- Ensure that the machine can not tip over.
- Pull out the dipstick.
- Place an oilpan under the engine and remove the oil plug.
- Drain the oil pan, reinstall the drain plug and tighten the oil filler.
- Fill with fresh oil and check the level. Use engine oil SAE 10W-30

CAUTION: Do not overfill the engine.

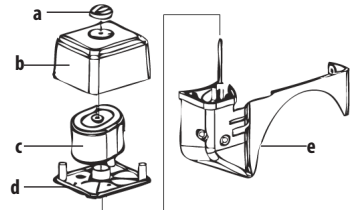


15.2 Cleaning the air filter

It is important to always check and clean the air filter to prevent damage to the engine. Clean the air filter regularly prolongs the lifetime of the engine.

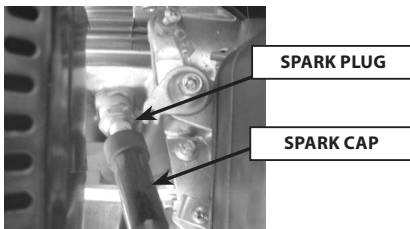
1. Loosen the wing nut and remove the filter cover.
2. Clean the filter, use oil solubilizing chemicals with high flash point such as methylated spirits.
3. Clean all parts and let them dry.
4. Fill oil in the engine, drain it, then fill the oil into it.
5. Reinstall all parts.

- a. wingnut
- b. filter cover
- c. filter
- d. filter mount
- e. filter housing



15.3 Checking and cleaning the spark plugs

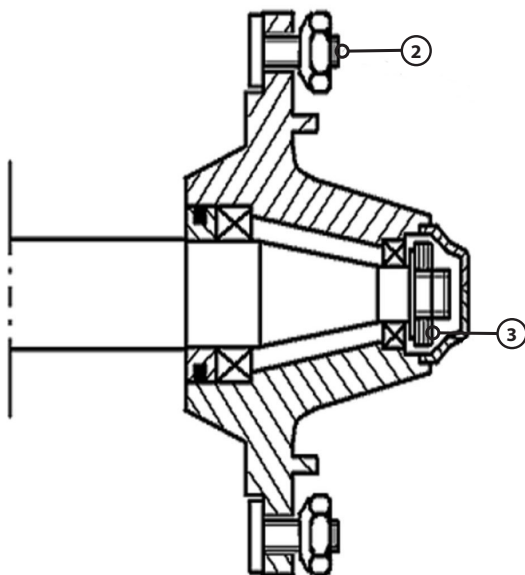
1. Pull the spark plug cap and remove the spark plug, use a spark plug wrench.
2. Clean the spark plug and measure the distance between the spark gap (distance between electrodes). The distance is between 0.7mm-0.8mm



3. Reinstall the spark plug.

When installing the spark plug, switch two sides half by half to tighten it.

When installing the old spark plug, tighten 1 / 8-1 / 4 extra.



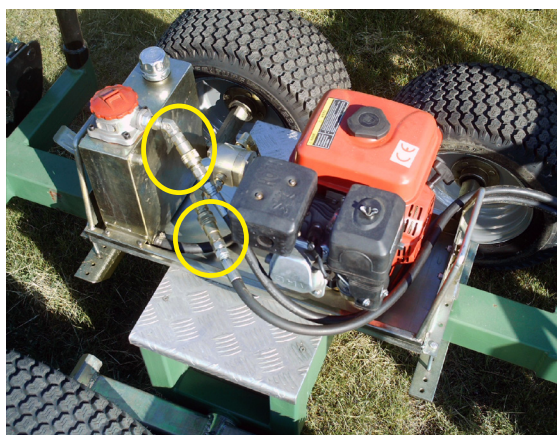
15.14 Maintenance Instruction

1. Do not overload the tractor and trailer!

2. After wheel replacement, check that the wheel nuts are tightened and repeat after a stable period of operation. The tightening torque must not exceed 45 kpm. Use a torque wrench if possible.

3. Check that the bearing setting is correct to prevent bearing play and abnormal bearing wear. The bearing setting should preferably be too loose than too tight.

WARNING! NEVER Start the engine when the hydraulic hoses are not connected (shown in picture) to grapple and loader. The pressure relief valve is on the control block not the engine and the oil has nowhere to go, in which the pump will sustain terminal damage!



16. ROTATOR

USAGE RESTRICTIONS (Safety instructions when working)

- Check the rotator's maximum permitted load and the load weight.
- Do not overload the rotator!
- Make sure the hydraulics have reached working temperature.
- Check movement speeds and directions as well as control lever function.
- Lift the load before moving and rotating it.
- Never leave a load unsupervised during lifting.
- When there is no pressure in the rotator, there is no braking torque and the load may rotate due to factors such as wind or imbalance. A counter movement has to be used if this rotation is to be stopped.
- Check that the hydraulic hoses do not touch any obstacles. A broken hose or nipple can cause the load to fall or rotation to continue.
- When in transit or in storage, position the crane so that it is not supported by the rotator. For example, the crane boom must not be allowed to rest against the rotator.

WORKING CONDITIONS

The hydraulic turning device, or rotator, is designed for use on a hydraulic lifting crane, e.g. cranes that handle timber or single items. The rotator axle is fitted to lifting equipment, e.g. a grapple, which grips the load.

The load can be rotated horizontally using the rotator. The hydraulics are connected to the lifting equipment through the rotator axle. The maximum permissible load on the lifting equipment must not exceed the corresponding value for the rotator. When the rotator is in use, the hydraulic oil must be at the correct working temperature and satisfy standard viscosity values.

INSTALLATION INSTRUCTIONS

- Rotator connection to the crane
- The rotator must be connected to the end of the crane boom using a link.
- The rotator must always be suspended freely and vertically in the direction of the axle. The link pins must be locked in place using clip pins.
- The rotator is connected to a bushing on the lifting equipment using a pin that is locked in place with clip pins.

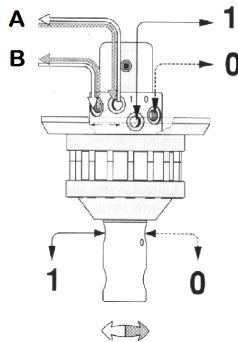
CONNECTING THE ROTATOR TO THE CRANE HYDRAULIC SYSTEM

Turning the rotator: The system should be thoroughly cleaned. Once the hydraulic system has reached working temperature, the oil should be circulated to channel any impurities to the filter. The hoses for the rotator's turning unit are connected together using intermediary nipples before the rotator. Oil can circulate in this line for at least 5 minutes. The rotator is connected to the crane's control valve via suitable hoses and pipes. The crane must be equipped with pressure-limiting valves that limit the pressure going to the rotator to a maximum of 200 bar. If a higher pressure is possible, pressure-limiting valves should be installed on the rotator's hydraulic line. The oil flow for rotator rotation is regulated using control nipples. The rotational direction of the rotator and grapple movement must correspond to the markings on the control levers. If rotation is too slow, the rotator's movement speed must be checked. Control nipple openings have been factory-set to a diameter of 1.5 mm. They can be enlarged in 0.1 mm increments.

17. ROTATOR LEAD-THROUGH

When connecting the hydraulics, it should be noted that the maximum pressure in the pressure pipe is 200 bar and that the marked pipe in the rotator's upper cover (upper pipe) and the axle must be linked to the opening side of the cylinder on the lifting equipment, e.g. a grapple. When the grapple opens, it should be noted that the cylinder movement does not extend fully to keep the pipe under pressure as this pressure is an unnecessary load on the rotator. The crane and equipment must be maintained with the EU Machinery Directive.

A,B= Rotation
1=Grapple closed
0= Grapple open



Technical data	FR3
Turning angle	Unlimited
Max.operating pressure	200 bar
Rec. l./min.	10
Torque (150 bar)	270 Nm
Max. axial force	20 kN
Max. Permissible load	970 kg
Weight	13 kg

18. OPERATING INSTRUCTIONS

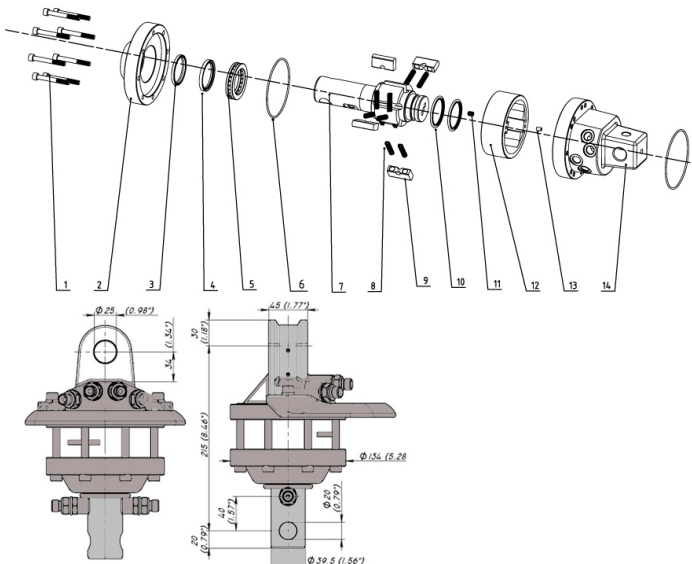
Exercise caution when using the crane and rotator and act in accordance with the crane's safety instructions. Lateral loads on the rotator axle should be avoided. For example, prior to lifting, loads must not be pulled using the crane or the crane's base vehicle. A broken hose or nipple can cause the load to fall or rotational movement to continue. Damage to hoses or devices can cause the release of a high-pressure liquid jet.

19. SERVICE AND MAINTENANCE INSTRUCTIONS

If the rotation of the rotator becomes uneven and sometimes stops, the equipment should be checked. The pins in the upper housing of the rotator should be greased regularly.

The rotator's upper housing, axle, hoses and nipples should be checked every week due to the risk of cracking. Any damage or oil leaks must be rectified immediately. Leaks in the lead-through seals manifest themselves, e.g. by weakening the grapple's closing force or causing the grapple to open. When carrying out the annual crane inspection, the bolt fasteners should be checked to ensure that they are correctly tightened. Under no circumstances must the rotator be repaired by welding. Replacement of the rotator's seals and other components must be done in good conditions. Contact your local sales representative for more information.

19.1. ROTATOR EXPLODED DIAGRAM



No.	Designation	Amount
1	Bolt	8
2	Lower bearing housing	1
3	Axle seal	1
4	Seal	1
5	Bearing	1
6	O-ring	2
7	Axle diam. 40	1
8	Spring	10
9	Wing	5
10	Seal	2
11	Plug	1
12	Spacer	1
13	Plug	1
14	Upper housing	1

20. TRAILER WITH DRIVE 21-SV34BDN

A simple and reliable drive trailer. Built on an reliable and proven technology. The drive rollers are designed to fit into the tread. The 9HP engine gives you extra power when operating in harsh soil conditions and which can be helpful when loading and unloading! The size and agility on the rig makes it really come to the fore when thinning and management of pulpwood. Operating geometry of the crane allows you to upgrade and handle full-sized logs.

CRANE	
Reach:	3,4 m
Lifting force at 3 m:	175 kg
Grapple, gripping area:	0,08 m ²
Outriggers	Hydraulic

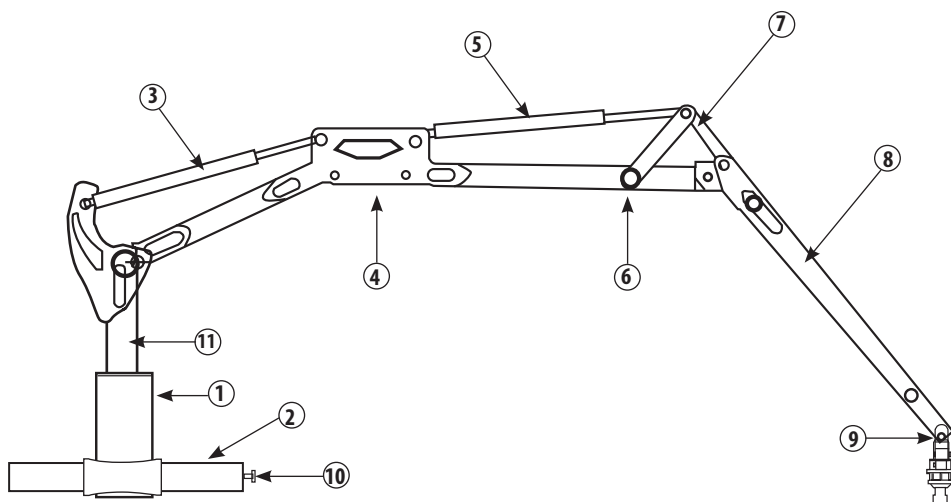
TRAILER	
Width:	1350 mm
Central tube:	90x90/80x80
Tyres:	23x10x12
Props:	4 st

POWER PACK	
Motor	9 hp
Valve Package lever	Multiple



21. EXPLODED VIEW -CRANE

PICTURE 1

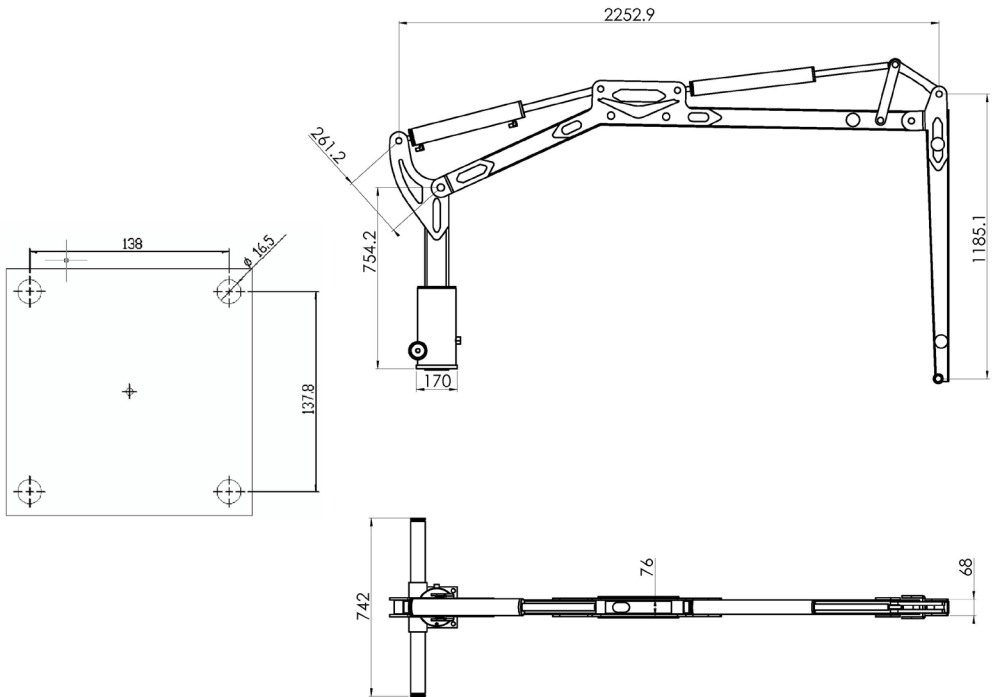


No.	ART.No.	DESIGNATION
1	R21-SV34.024	The slewing mechanism
2	R21-SV34.038	Turn Cylinder
3	R21-SV34.013	Lift cylinder
4	R21-SV34.021	Lift arm
5	R21-SV34.001	Cylinder - stick
6	R21-SV34.008	Folding joint - the middle part
7	R21-SV34.008	Folding hinge - Gable
8	R21-SV34.020	Folding arm
9	R21-SV34.026	Rotator holder
10	R21-SV34.009	Banjo Screw
11	R21-SV34.029	Tower - complete

PICTURE 2



CRANES 21-GL34

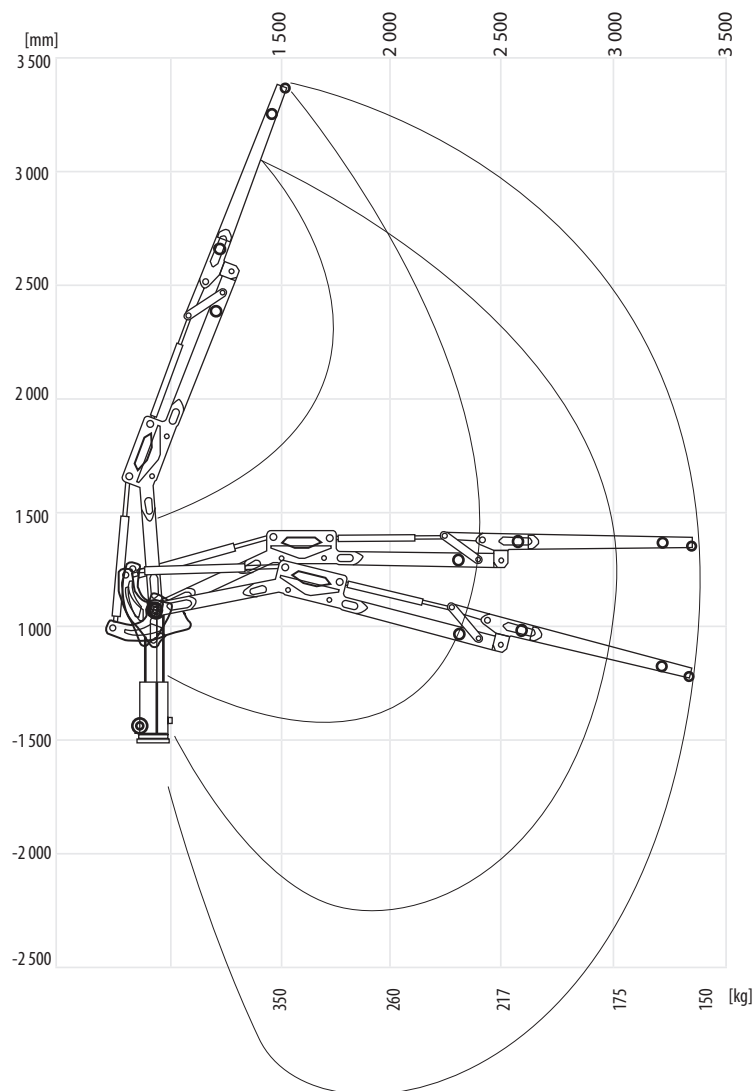


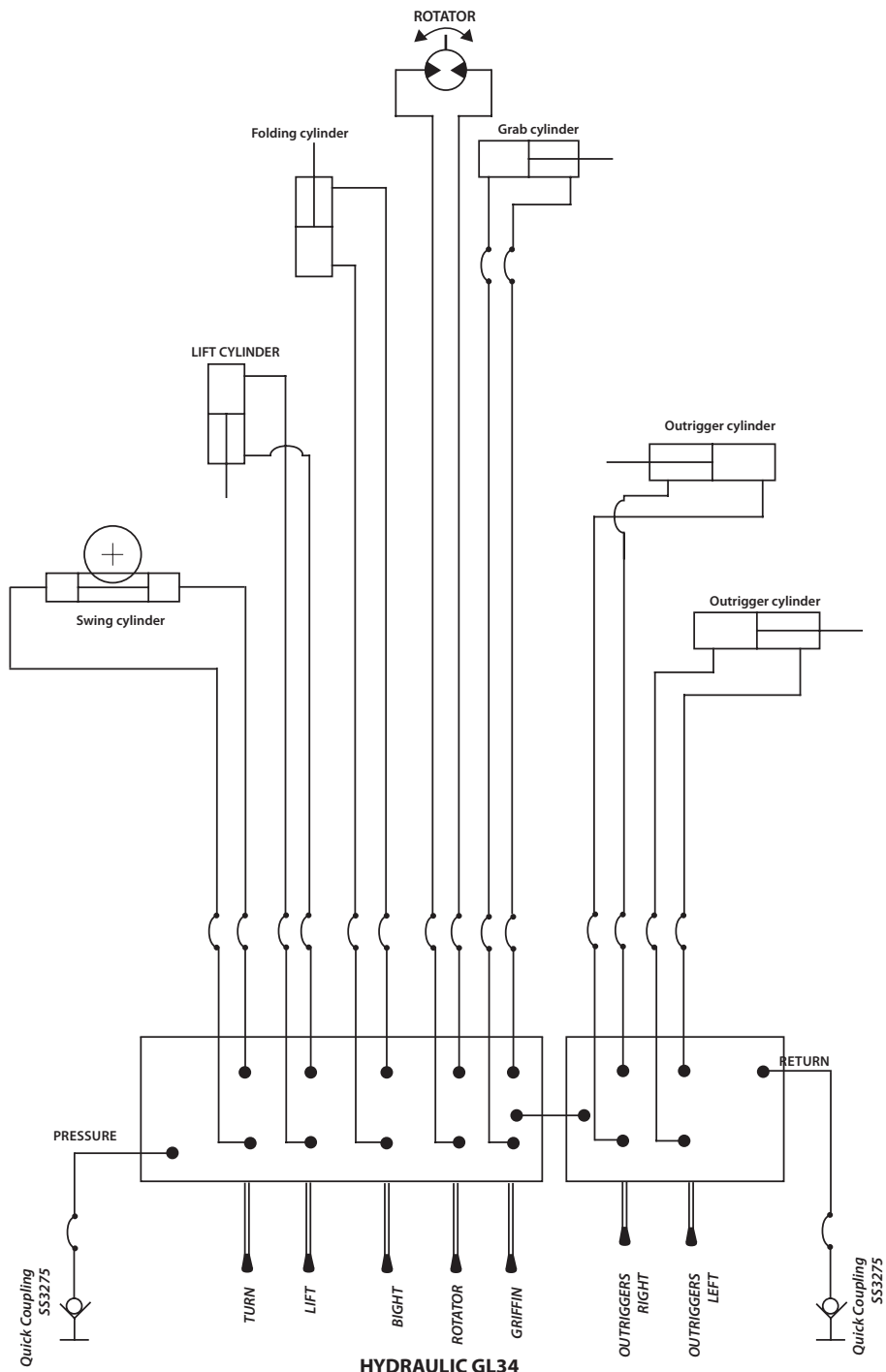
TECHNICAL DATA

21-GL34

Reach crane [mm]	3400
Clamping claw (width) [mm]	700
Grapple area[m ²]	0,08
Rotator weight between the crane arm and rotator [kg]	13
Torque [kNm]	7
System pressure [Mpa]	16
Oil volume-turret [L]	1
Weight of crane incl. grapple and rotator [kg]	245

LIFTING CAPACITY 21-GL34





HYDRAULIC GL34

HYDRAULIC HOSES VALVE PACKAGE GL34

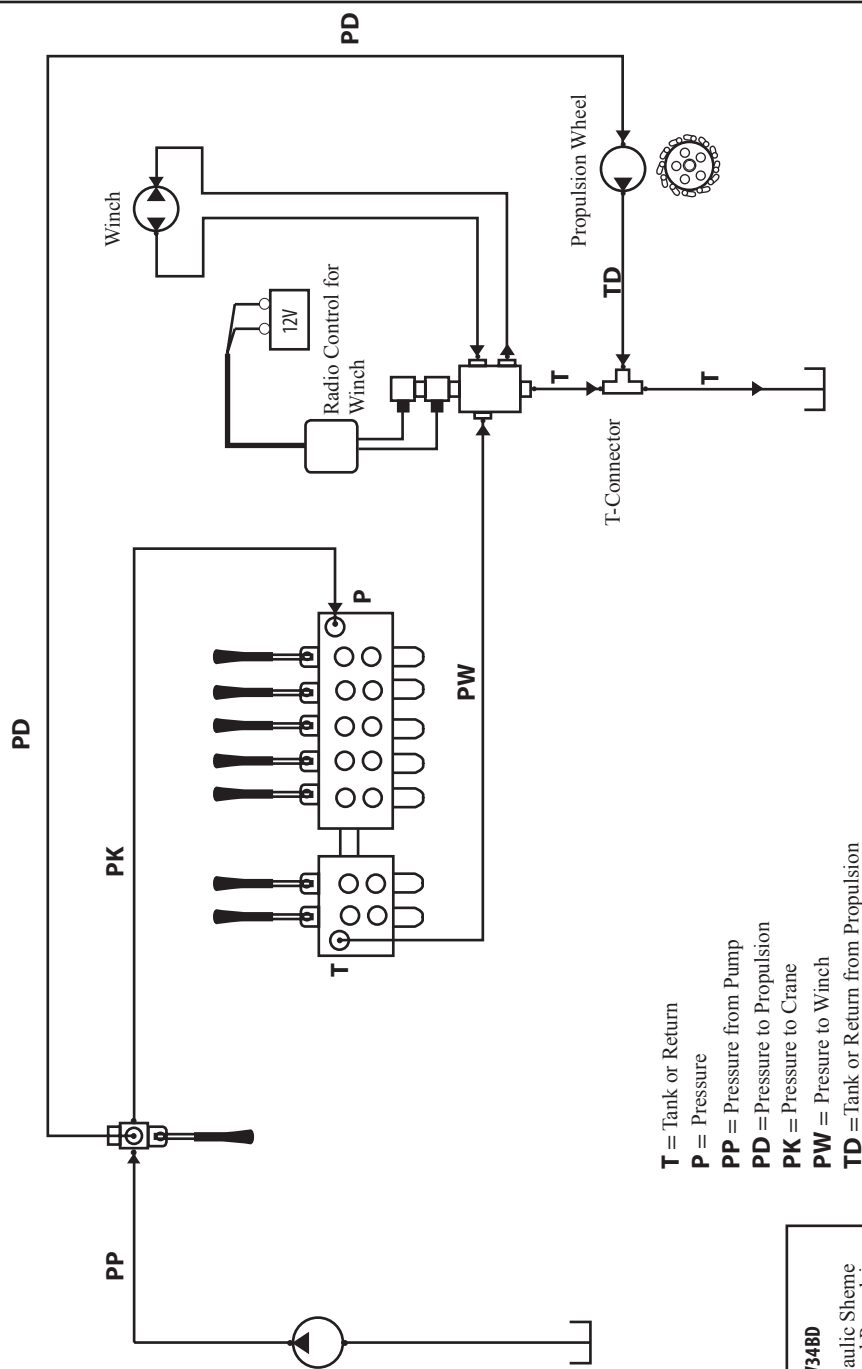
Hydraulic hoses are marked to identify which hose goes to which section of the valve package. See the mark on the hoses and picture below during switching.

HYDRAULIC HOSES AND COUPLINGS. Hydraulic hoses from valve assembly to the cylinder/motor.

No.	DESCRIPTION	LÄNGD [mm]	NO.	CLUTCH Valvepackage [°]	TYPE	ANGLE [°]	KOPPLING Cylinder[°]	TYPE	ANGLE [°]
T	Press	3 650	1	3/8	Female	Straight	1/2	Male	Straight
R	Return	3 650	1	3/8	Female	Straight	1/2	Male	Straight
1AB	Turncylinder	1 900	2	1/4	Female	Straight	3/8	Banjo	Straight
2A	Bom	2 300	1	1/4	Female	Straight	3/8	Female	Straight
2B	Bom	1 900	1	1/4	Female	Straight	3/8	Female	Straight
3A	knit	3 100	1	1/4	Female	Straight	3/8	Female	Straight
3B	knit	3 400	1	1/4	Female	Straight	3/8	Female	Straight
4AB	Grip	5 300	2	1/4	Female	Straight	1/4	Male	Straight
5AB	Rotator	5 300	2	1/4	Female	Straight	1/4	Male	Straight
6AB	Outtrigger-L	1 680	2	1/4	Female	Straight	1/4	Banjo	Straight
7AB	Outtrigger-R	1 870	2	1/4	Female	Straight	1/4	Banjo	Straight

ROTATOR/GRIP Hydraulic hoses - Extension of valve packages to the rotator

NO.	DESCRIPTION	Length [mm]	CLUTCH Valvepackage [°]	TYPE	ANGLE [°]	CLUTCHCyl- inder[°]	TYPE	ANGLE [°]
2	Gripping	700	1/4	Female	Straight	1/4	Female	45
2	Rotator	700	1/4	Female	Straight	1/4	Female	45
2	Grip cylinder	680	1/4	Female	Straight	1/4	Female	90



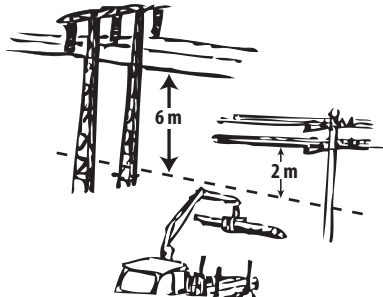
21-5V348D

Hydraulic Scheme
Winch and Propulsion

23. OPERATION - "*Kör åt skogen rätt och säkert* [Correct and safe forest operations]" published by the Swedish University of Agricultural Sciences"

Most accidents occur due to toppling over or if the tractor turns over. The worse the terrain is or the greater the load, the greater the risk of an accident.

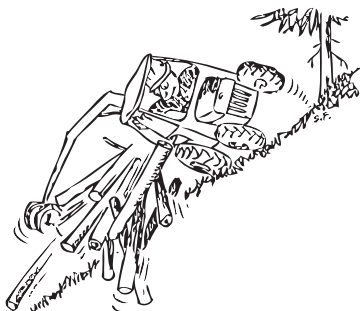
- Important advice to reduce the risk of accidents:
Keep a safe distance when driving under power lines.
No part of the crane may be closer than: In the case of high-voltage power lines 6 metres, and in the case of low-voltage power lines 2 metres



- Drive straight up or down hilly terrain. Do not drive up slopes that are too steep to drive up. As the tractor and trailer's centre of gravity is displaced backwards on a slope, there is a risk that the tractor may tip up. Use additional load weights if necessary. The same gear must be used driving down a slope as used when driving up it. Do not put the tractor into neutral when driving down a slope.



- Minimise the amount of driving across slopes. The more the tractor and trailer tilt, the more the weight is displaced to the point where they can turn over.



REMEMBER! It is harder to control a large load than a small one, so do not load the trailer with too much timber!

24. LOADING WORK

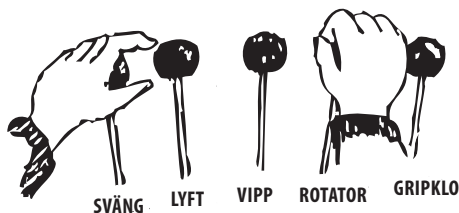
Basic movements

If you are not accustomed to using a grapple, you should first practice basic crane movements. Exercises that shorten the learning time are set out below. The timber trailer's stabilisers must be used during all loading and unloading work. The ground under the stabilisers must be level and stable as there is a risk of overturning when working on slopes. Therefore, it is very important that the trailer is loaded and unloaded on a level surface.

PRACTISE STEPS

1. One lever at a time

Begin with one function at a time. Operate the crane using a low and even engine speed. Check which crane movements are suitable for the tractor. The operator must feel completely comfortable with the grapple's movement pattern. Practice starting and stopping each movement smoothly to ensure the grapple does not sway when in operation. Do not run grapple loader functions to their end positions at full



2. PARALLEL DISPLACEMENT

Once you have mastered the first exercise, the next one is to place the grapple about 0.5 metres above the ground as far from the trailer as possible with the grapple loader turned 90 degrees to the trailer. Move the grapple back and forth toward the trailer parallel to the ground. The stop and start movements should also be smooth.

3. LOADING AND UNLOADING

Set up a reasonably high pile of logs. Grip the pile and place the gripping point so that the lowest point of the timber tilts toward the headboard. Lift the timber in towards the trailer before using any rotating or lifting movements. You are in full control once grapple movements are smooth and there is no swaying. Complying with these instructions means you will not have to retighten the hose connections in the rotator that often. By working calmly and methodically, you learn a movement pattern, which is good in terms of safety. The crane operating techniques take a few weeks/months to learn before you can work at full capacity

The risk of accidents is greater than normal during the learning phase. Pulling the wrong lever to let the timber slide off the grapple when you least expect it can happen easily during this process. Therefore, you should leave a good amount of space around you when practicing.

NOTE!!!

Do not leave the cabin until:

- The grapple loader is attached and unloaded and the tractor brakes are engaged.

NOTE: The trailer is always less stable when starting to load.

WARRANTY TERMS AND CONDITIONS

Validity of the warranty - Kelfri's Warranty is valid 12 months from the date of purchase.

This warranty replaces - Compensation for spare parts after acknowledgment that the fault lies on the material or manufacturing defects.

This guarantee do not cover

- Labour costs
- Travel expenses
- Any modification that the buyer himself has/had made.
- Any consequential damages that occurred out of damage to the machine.
- Damage due to normal deterioration of the machine, inadequate: service, user inexperience or use of spare parts which are not original.
- Wear parts such as hoses, seals, oils, and mechanical belts

EC DECLARATION OF CONFORMITY MACHINE, ORIGINAL

EC-DECLARATION OF CONFORMITY

According to 2006/42/EC, Annex 2A

Kelfri AB

Munkatorpsgratan 6

532 37 Skara, Sweden

Declares that the machine

Name: Forestry tailer

Type: 21-SV34

Complies with all applicable provisions of the Machinery Directive 2006/42/EC.

Other equipment must meet the hardware requirements of the Directive.



Tina Baudtler, VD

Kelfri AB is constantly working on further developing their products and therefore reserves the right to modify, among other things the design and appearance without notice.

CUSTOMER SERVICE

You are always welcome to give your feedbacks, reviews or ask us about our tools and products

Kelfri AB

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