



RAVENDO

**HAND PALLET TRUCK
HPTA / HPTC / HPTD / HPTD-E**

146202

ABOUT THIS MANUAL

Before operating this pallet truck, please read the instruction manual carefully and understand the use of the pallet truck. Improper operation can create danger.

This instruction manual describes the use of several different pallet trucks. When operating and servicing the pallet truck, make sure you know which model you have.

Keep the instruction manual for future reference. If the instruction manual or warning lists are damaged or lost, please contact your local dealer for a replacement.

Some functions, described in the instruction manual, are optional and therefore not necessarily equipment on your pallet truck.

ATTENTION:

- Environmentally hazardous waste, such as batteries, oil and electronics, will have a negative impact on the environment or health if handled incorrectly.
- Waste must be sorted and placed in an approved waste disposal system and disposal must take place via an approved waste management company. To avoid pollution, it is forbidden to throw away the waste randomly.
- In order to avoid pollution when using the pallet truck, the user must prepare some absorbent materials (wood or fabric) to absorb oil in time. In order to avoid other pollution of the environment, the absorbable materials used must be submitted to a waste scheme approved by the local authorities.



NOTE: The warning sign on the left appears in several places in this instruction manual. The sign stands for warning and danger, which can lead to death or serious injury if not followed.



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1. CORRECT USE

It is only permitted to use this pallet truck as described in this instruction manual. This pallet truck is a manually operated pallet lifter designed to lift and transport the nominal load on industrial pallets. Do not lift people and do not use the pallet truck for purposes other than its intended use. Improper use may cause personal injury or may damage equipment.

The operator/operating company must ensure the correct use and ensure that the pallet truck is only used by personnel who are trained and authorized to use this pallet truck.

The pallet truck must be used on firm, smooth and level surfaces.



Driving with loads on slopes is not permitted. The load must be placed approx. in the middle of the pallet and the pallet must be in good condition.

The capacity is marked on the identification plate and depends on the model. The operator must pay attention to warnings and safety instructions.

The pallet truck is intended for indoor use with ambient temperatures between + 5°C and + 40°C.

The operating lighting must be at least 50 Lux.

Modifications and changes

No modifications or changes may be made to this pallet truck which could affect e.g. capacity, stability or safety requirements, without the prior written approval of the original manufacturer, its authorized representative or any successor thereof.

This includes changes that affect e.g. braking, steering, visibility and adding movable elements. When the manufacturer or its successor approves a modification or change, they must also make and approve appropriate changes to the identification plate, decals, markings, and owner's manual. Failure to follow these instructions will void the warranty.

2. DESCRIPTION OF PALLET TRUCKS

a. Main components, safety devices, warning labels

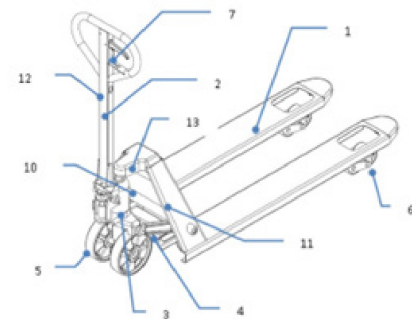
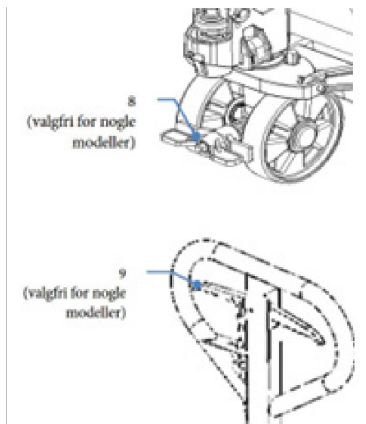


Fig. 1: Overview

- | | |
|---------------------------------|---|
| 1. Frame/fork frame | 8. Parking/foot brake (optional) |
| 2. Drawbar | 9. Operation and parking brake (optional for some models) |
| 3. Hydraulic pump | 10. Identification plate (ID Plate) |
| 4. Lifting mechanism | 11. Company logo and/or capacity label |
| 5. Steering (front) wheel | 12. Lifting function instruction sticker |
| 6. Cargo wheels (single/tandem) | 13. Capacity sticker |
| 7. Control handle | |

b. Main technical data

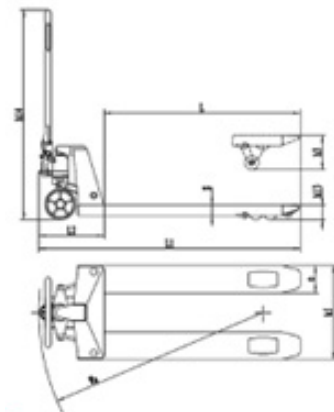


Fig. 2: Technical data

Table 1: Technical data for standard version/other version can be requested

Model		HPT-A	HPT-C	HPT-D	HPT-DE
Load Capacity	O(t)	2.0/2.5/3.0	2.0/2.5/3.0	2.0/2.5/3.0	2.0/2.5
	kg	70/72/76	68/70/74	67/69/73	65/67
Wheel size, front	mm	Ø200 x 50	Ø200 x 50	Ø200 x 50	Ø180 x 50
Load Wheel size (single, tandem)	mm	Ø80 x 93 / Ø80 x 70			
Wheel no. front/back		2/2 or 2/4			
Height, drawbar	h14 (mm)	1230			
Height, lowered	h13 (mm)	85			
Height, raised	h3 (mm)	115			
Length total	L1 (mm)	1555			
Dimensions forks	s/e/L (mm)	160/48/1150 or 12201			
Space btw forks	b5 (mm)	540 or 685			

The noise level is less than 70 dB.

1) L = 800/900/1000/1100/1220 mm optional

c. Description of safety devices and warning labels

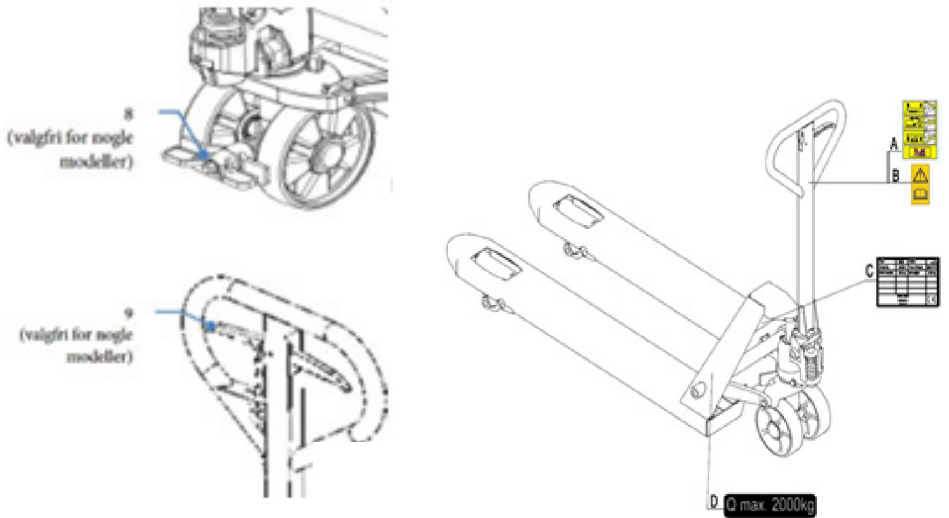


Fig. 3: Safety and warning labels

- A. Operating instructions sticker
- B. Information about reading this instruction manual 7
- C. Identification plate (ID plate)
- D. Capacity sticker (For illustration only, capacity may be different for your model)

- 8. Parking/foot brake (optional)
- 9. Operation and parking brake (optional for some models)

Labels, safety and warning symbols must be placed in accordance with Figure 3. Follow the instructions for use in the instruction manual. If the labels are damaged or missing, replace them.

d. Identification plate

1. Designation, model
2. Serial number
3. Nominal capacity
4. Company logo
5. Name and address of the manufacturer
6. Net weight
7. Date of manufacture
8. Option: wheel combination, fork length, width over the forks

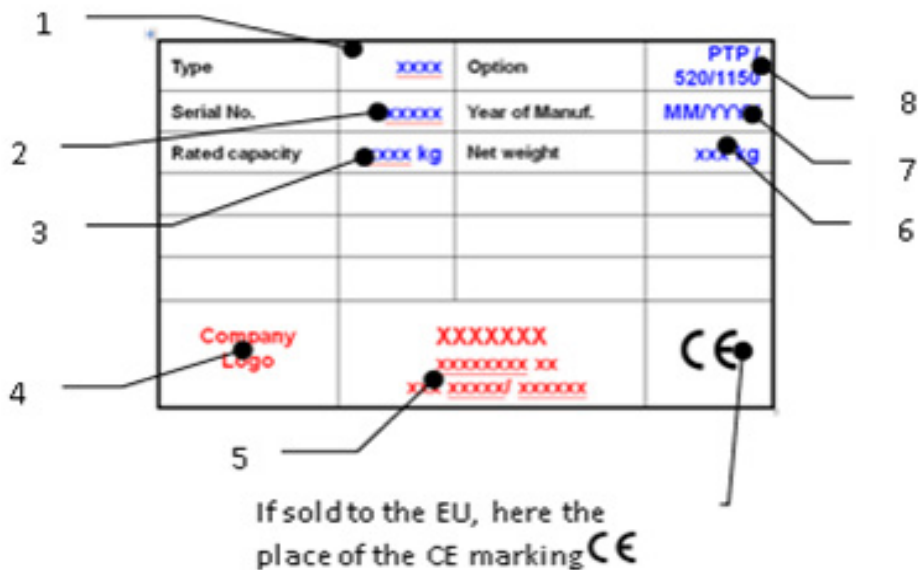


Fig. 4: Identification plate



3. WARNING AND SAFETY INSTRUCTIONS

DO NOT ALLOW

- That people other than the operator stand in front of or behind the pallet truck when it moves or lifts / lowers.
- To overload the pallet lifter.
- Putting your foot in front of the wheels, this can result in injury.
- Using the pallet lifter on sloping surfaces, the pallet lifter can become uncontrollable and create a hazard.
- Lifting people with the pallet lifter. People can fall and suffer serious injury.
- To use the pallet lifter with unstable and unbalanced stacked loads.
- To use the pallet truck in an explosive atmosphere.



Keep an eye out for differences in floor levels when driving the pallet truck.

The load may fall or the pallet lifter may become uncontrollable.

Keep an eye on the load on the pallet lifter when driving. Stop the pallet lifter if the load becomes unstable.

This pallet lifter is not designed to be waterproof, so use it in a dry environment.

4. COMMISSIONING

a. Commissioning – Installation of lifting handle: for model HPTA

After receiving your new pallet truck, do the following before operating the pallet truck for the first time:

- Check that all parts are included and are not damaged
- Perform function check.
- Assemble the pallet lifter in accordance with the following instructions.

- Before assembly, make sure that the following parts are included and are not damaged:
- 1 piece. shaft with hole (4)
- 2 pcs. screws (5) [one already installed with the shaft] 10
- 1 piece. pre-assembled lifting arm (1)
- 1 piece. pre-assembled frame with pump unit (6)

Note: Number of lifting arm and frame must be the same.

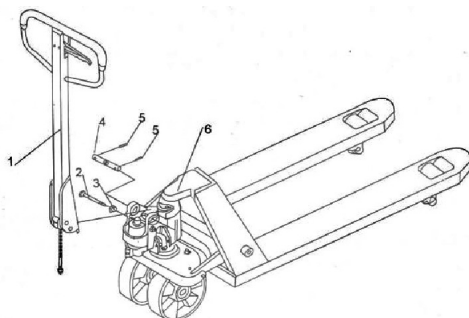


Fig. 5: Samling af trækstang
(1.trækstang / 2.skrue / 3.Møtrik / 4.Aksel med hul / 5.Dyvel skrue / 6. Stel med pumpeenhed)

a) Insert the tie rod (1) into the pump piston and use a hammer to insert the shaft with hole into the hydraulic pump and rod (Figure 6).

b) Set the drawbar to the lowest position.
Then pass the adjusting bolt and nut through the axle hole. (figure 7).

c) Push the drawbar down; remove the pin (2, fig. 5).

d) Set the operating handle to the 'lift' position, then raise the lift plate with the pin (2, Fig. 5) and insert the adjusting bolt into the front slot of the pin.



Fig. 6: Samling af aksel

Note: Hold the adjusting nut under the lift plate.

e) Use a hammer to insert the second screw (5, Fig. 5) into the second hole on the shaft.

The tie rod is now assembled to the pump.

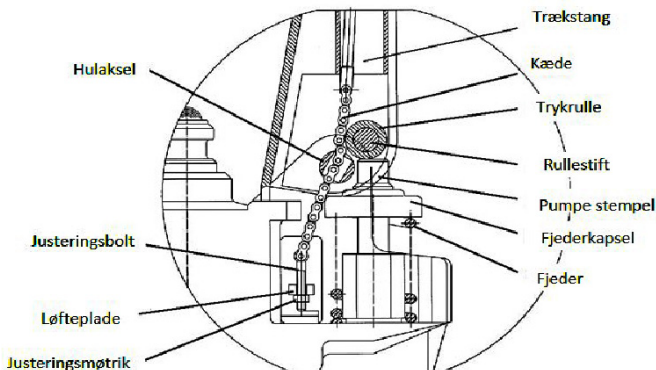


Fig. 7: Set fra siden

b. Commissioning – assembly of lifting handle: for model hptc and hptd

After receiving your new pallet lifter, you must do the following before operating the pallet lifter for the first time:

- Check that all parts are included and are not damaged
- Perform function check. 11
- Assemble the pallet lifter in accordance with the following instructions

Before assembly, make sure that the following parts are included and are not damaged:

- 1 piece. steering rod (2)
- 3 pieces. Screws (14, attached to frame lift plate)
- 1 piece. Pre-assembled frame with pump unit (1)

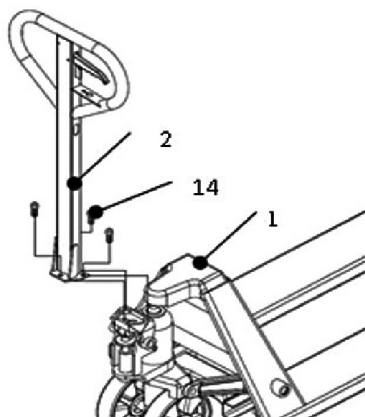


Fig.8 Montering af trækstang (1. Stel med pumpe enhed / 2. Trækstang / 14. Skruer)

Note: Number of lifting arm and frame must be the same.

- Remove 3 screws (14) from the frame.
- Place the drawbar in the correct position and insert the chain through the axle hole (15).
- Fit the tie rod to the frame by securing the 3 screws (14).
- Set the control lever to the 'lift' position, then raise the lift plate with a screwdriver and insert the adjustment bolt into the front slot of the tip.

Note: Hold the adjusting nut under the handle.

The tie rod is now assembled to the pump.

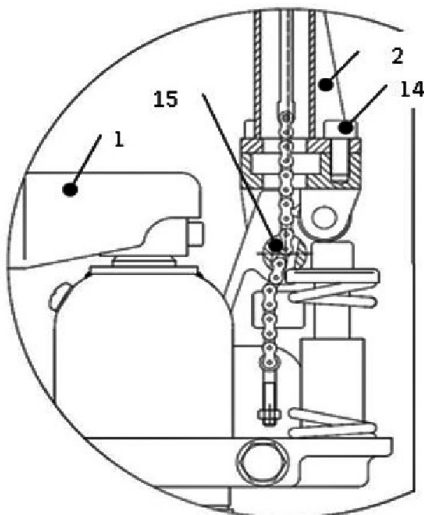


Fig. 9: Set fra siden

c. Adjustment of hydraulic valve

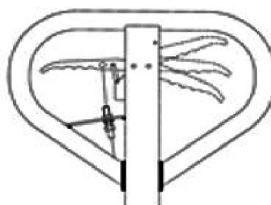
On the operating handle, you will find the operating handle, which can be regulated in three positions:

Lower - lever up, the forks are driven down to neutral when released

Neutral - handle in middle position

Raise - handle down

If necessary, you can adjust the handle according to the following steps (fig. 10):



- Nedre

- Neutral

- Hæv

Fig. 10: Betjeningsgreb

- If the forks lift while pumping in the neutral position, turn the adjusting nut on the adjusting bolt clockwise until the pump does not lift the forks and the neutral position functions correctly.
- If the forks come down while pumping in the neutral position, turn the adjusting nut counter-clockwise until the forks no longer lower.
- If the forks do not drop when the control handle is in the down position, turn the adjusting nut clockwise until raising the control handle lowers the forks. Then check the neutral position according to fig. 10 and make sure the adjusting nut is in the correct position.
- If the forks do not lift while pumping in the raise position, turn the adjusting nut counterclockwise until the forks lift while pumping in the raise position. Then check the lower and neutral position.

d. Transportation

To transport the pallet truck: remove the load, lower the pallet truck to the lowest position and secure it securely.

e. Storage/reassembly

When storing, remove the load, lower the truck to the lowest position, lubricate lubrication points (by regular inspection) and finally protect the pallet truck from corrosion and dust.



5. DAILY INSPECTION

This chapter describes daily checks before the pallet truck is put into use. A daily inspection of the pallet lifter is good for finding malfunctions or faults on the pallet lifter and can maximize its service life. Check the pallet lifter before use on the following points:

- Remove the load and lower the forks to the lowest position. 13
- Visually check for deformations or cracks in the tie rod, forks or other components; listen for unusual noises and check the raise-lower function.
- Check for oil leaks.
- Check the movement of the wheels.
- Check the wheels for particles or damage.
- Check that all bolts and nuts are tight.
- Check that all labels are in place.



Do not use the pallet lifter if it malfunctions or malfunctions.

6. OPERATING INSTRUCTIONS



- The operator must wear safety shoes.
- The pallet lifter is intended for indoor use with ambient temperatures between +5°C and +40°C.
- The work lighting must be at least 50 Lux.
- It is not permitted to use the pallet lifter on sloping surfaces.
- Never leave a loaded pallet truck unattended.

a. Parking

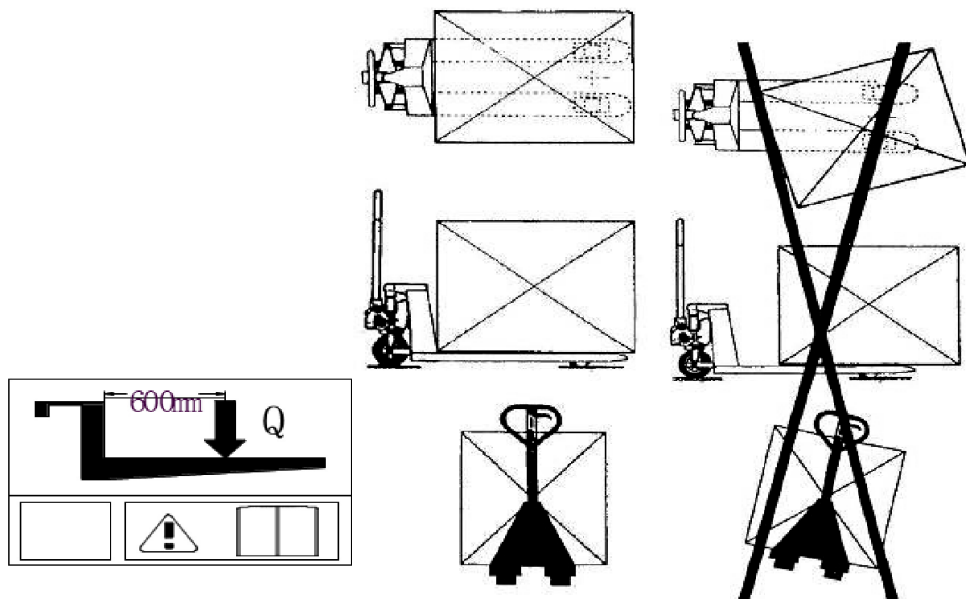
Lower the forks to the lowest position and park the pallet truck on an even and level surface.

b. Raise

Check that the load does not exceed the pallet lifter's load capacity. Drive the forks slowly under the pallet/load until the rear end of the forks rests against the load (fig.13). Push the operating handle down to the lift position. Lift the load using up and down movements on the drawbar.



The load must be evenly distributed on both forks



Do not put your foot or hand under the lifting mechanism

Lower the load by shifting the operating handle up to the lowering position. By releasing the handle, the lowering movement stops. Make sure there is enough clearance behind, then move the pallet truck away.

d. In motion

- Do not drive the pallet truck on sloping surfaces.
- Keep an eye on floor level when driving the pallet truck. The load can fall off on uneven terrain.
- Ensure stable load to prevent the load from falling off.
- The pallet lifter is not equipped with a brake. The braking distance is therefore longer and depends on the operator.
- Move the pallet truck by pushing or pulling the draw bar. The tie rod is connected to the steering wheel. The wheels are controlled automatically by pushing or pulling the drawbar.



e. Quick Lift (optional for some models)

When the load is less than 120 kg, the pallet lifter has a quick lifting function. It's about 5 pumps from the pallet lifter reach from min. height to max. height. When the load is more than 120 kg, the pump function automatically starts to switch to a normal lifting speed.

f. Malfunction

If there is a fault or if the pallet lifter does not work, stop using it and put it in a safe place. Avoid further use. Inform your dealer immediately.

7. REGULAR MAINTENANCE

- Only qualified and trained personnel may service this pallet lift.
- Before maintenance, remove the load and lower the forks to the lowest position.
- Immobilize the pallet truck before maintenance on components that could pinch fingers or hands if movement was allowed.
- Use approved original spare parts issued by the dealer.
- Be aware that leakage of hydraulic fluid can cause malfunctions and accidents.
- Only trained service technicians are allowed to adjust the pressure valve.
- Waste material such as oil, used batteries or other must be disposed of and recycled in accordance with national regulations and, if necessary, taken to an approved waste disposal facility.
- All bushings and bearings are lubricated at the factory. To increase their durability, regular maintenance is recommended. Use suitable grease to lubricate lubrication points every 6 months.
- Harsh environments may require more frequent maintenance.



a. Maintenance

DAILY:

- Follow chapter 5.

MONTHLY:

- Check the hydraulic oil level.
- All bearings and axles are supplied with the manufacturer's grease. Grease should be applied to the lubrication points at monthly intervals or after each time the pallet lifter is cleaned. Clean dirt and dust.

EVERY 6 MONTHS:

- Change the oil (more often if the color is significantly dark or gritty). The required hydraulic fluid type is ISO VG32, its viscosity must be 30cSt at 40° C, total volume is approx. 0.3 l.

NOTE:

If the hydraulic oil is milky white in colour, this is a sign of water in the hydraulic system. Change the hydraulic oil immediately.



Before starting to operate the pallet truck, make sure that all markings and stickers are in the correct place and not damaged (see Figure 3). If necessary, replace the stickers.

b. Bleeding the hydraulic system

Air can find its way into the pump during transport, tilting or when used on uneven terrain. This can result in the forks not raising when you pump in the raise position. The air can be removed as follows: Move the control handle to the lowest position, then lower the drawbar several times. Normal operation can then resume.

c. Filling with hydraulic oil

- Make sure the forks are in the lowered position.
- Place the pallet lifter on its side. Place the bottom plug on the hydraulic cylinder upwards.
- Remove the screw.
- Add hydraulic oil until the oil level is at the bottom of the hole.
- Insert the plug, set the pallet lifter up again.



8. TROUBLESHOOTING

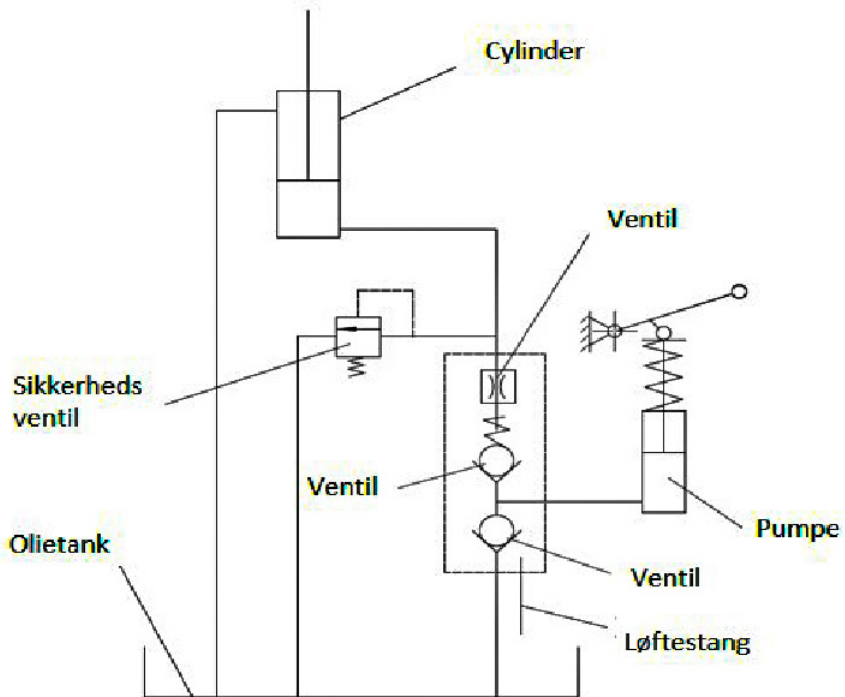
If the pallet lifter malfunctions, follow the instructions mentioned under chapter 7.

Table 2: Troubleshooting

No.	Problem	Possible causes	Solution
1	Forks do not raise, do not raise at all, or raise slowly.	a) Low hydraulic level or impurities in oil. b) The control handle is out of adjustment. c) The load is too heavy. Overload valve is activated. d) The temperature is too low and the hydraulic oil has become too thick. e) Air in the hydraulic oil.	a) Add approved hydraulic fluid or change the oil as described in chapter 7. b) Follow the procedure for adjusting the operating handle in chapter 4. c) Reduce the load. d) Move the pallet lifter to a warmer place e) Bleed the hydraulic pump (see ch. 7.)
2	Forks do not lower or do not lower completely	a) Object is placed under the pallet lifter, in the fork mechanism, etc. b) The control handle is out of adjustment. c) Fork has been left in the raised position for an extended period of time, causing rust on exposed piston rod. d) The piston rod or the pump is damaged due to overloading or uneven loading.	a) Be careful when removing the object b) Follow the operating lever adjustment procedure in ch. 4. c) Keep the fork in the lowest position when not in use and keep the piston rod well lubricated. d) replace piston rod or pump.
3	The forks are lowered without putting the control handle in the "lower" position.	a) Oil impurities prevent the release valve from closing completely. b) Some hydraulic components or seals are cracked or worn. c) The control handle is out of adjustment.	a) Drain and replace hydraulic fluid with an approved fluid as specified in ch. 7. b) Examine and replace components as necessary. c) Follow the procedure for adjusting the operating handle in chapter 4.
4	Oil leakage	a) Worn or damaged seals. b) Other broken or worn parts.	a) Replace seals b) Replace damaged parts.

9. HYDRAULIC CIRCUIT

Fig. 12: Hydraulic diagram







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