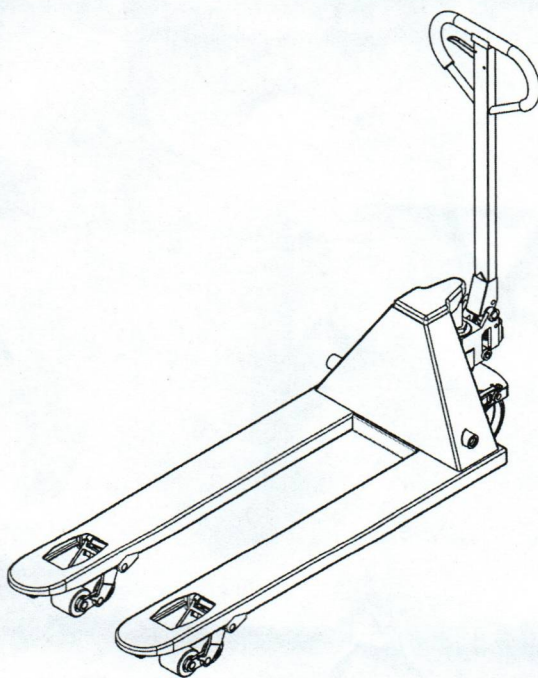


HAND PALLET TRUCK

INSTRUCTION MANUAL



Please read this manual carefully before using your machine

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FOREWORD

Before operating this hand pallet truck read this ORIGINAL INSTRUCTION HANDBOOK carefully and understand the usage of the hand pallet truck completely. Improper operation could create danger.

This handbook describes the usage of different hand pallet trucks. When operating and servicing the hand pallet truck, make sure, that it applies to your type.

Keep this handbook for future reference. If this or the warning/ caution labels are damaged or got lost, please contact your local dealer for replacement.

Some described functions are optional and therefore not absolutely necessarily equipped with your truck.

ATTENTION:

- Environmentally hazardous waste, such as batteries, oil and electronics, will have a negative effect on the environment, or health, if handled incorrectly.
- The waste packages should be sorted and put into solid dustbins according to the materials and be collected disposal by local special environment protection bureau. To avoid pollution, it's forbidden to throw away the waste randomly.
- To avoid pollution during the use of the products, the user should prepare some absorbable materials (scraps of wooden or dry duster cloth) to absorb leaking oil in time. To avoid second pollution to the environment, the used absorbable materials should be handed in to special departments in terms of local authorities
- Our products are subject to ongoing developments. Because this handbook is only for the purpose of operating /servicing the hand pallet truck, therefore please have understanding, that there is no guarantee out of particular features out of this handbook.



NOTE: On this manual, the left sign means warning and danger, which can lead to death or serious injury if not followed.

Copyright

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1. CORRECT APPLICATION

It is only allowed to use this hand pallet truck according to this instruction handbook.

This truck is a manually operated hand pallet truck designed to lift and transport the rated load on industrial pallets. Do not lift or carry person and don't use this truck for other purpose than its intended use. A wrong usage can cause human injuries or can damage equipment.

The operator/ the operating company has to ensure the correct usage and has to ensure, that this truck is used only by staff, which is trained and authorized to use this truck.



The truck has to be used on substantially firm, smooth, level and prepared surfaces. Driving with the load on slopes is not allowed. The load must be placed approximately on the longitudinal center plane of the table and must be in satisfactory condition.

The capacity is marked on the identification plate and depending on the version eventually additionally on the capacity sticker. The operator has to consider the warnings and safety instructions.

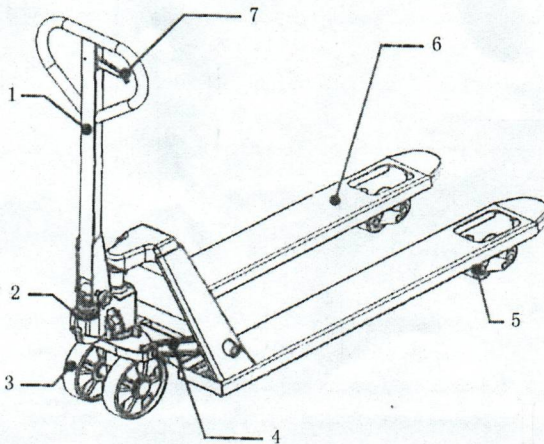
The hand pallet truck is intended to be used for indoor applications with ambient temperatures between +5°C and + 40°C. Operating lighting must be minimum 50 Lux.

Modification

No modifications or alterations to this hand pallet truck which may affect, for example, capacity, stability or safety requirements of the truck, shall be made without the prior written approval of the original truck manufacturer, its authorized representative, or a successor thereof. This includes changes affecting, for example braking, steering, visibility and the addition of removable attachments. When the manufacturer or its successor approve a modification or alteration, they shall also make and approve appropriate changes to capacity plate, decals, tags and operation and maintenance handbooks. By not observing these instructions, the warranty becomes void.

2. DESCRIPTION OF THE HAND PALLET TRUCK

a. Main components



- | | |
|----------------------|---------------------------------|
| 1. Tiller arm | 5. Load wheels (single/ tandem) |
| 2. Hydraulic pump | 6. Chassis |
| 3. Steering wheels | 7. Lever |
| 4. Lifting mechanism | |

b. Main technical data

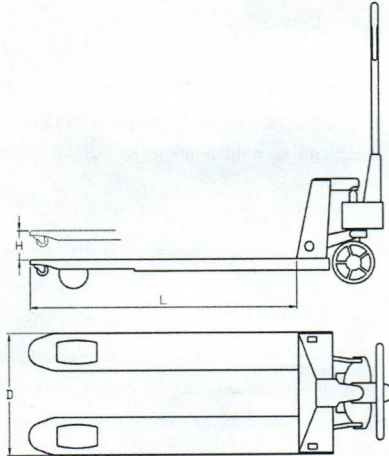


Table 1: Main Technical data for standard version/ other version on request

Load capacity	Q(T)	1.0	1.5
Type size front wheel	mm	Φ 150/ Φ 160/ Φ 180 Nylon/ Polyurethane/ Rubber	
Type size rear wheel (sing/ tandem)	mm	Φ 34/ Φ 50 Nylon/ Polyurethane/Steel	
Lift (H)	mm	65	105
Fork width (D)	mm	550/685	
Height lowered	mm	36	51
Fork length (L)	mm	1150/1220	
Fork dimensions	s/e/L(mm)	150(160)x37	150x28

3. WARNINGS AND SAFETY INSTRUCTIONS



DO NOT

- Allow other person then the operator to stand in front of or behind the truck when it is moving or lifting/lowering.

or lifting/lowering.

- Overload the truck.
- Put foot in front of rolling wheel, Injury could result.
- Use the truck on a slope or inclined surface, the truck may become uncontrollable and create danger.
- Lift or carry people. People could fall down and suffer severe injury.
- Use truck with unstable, unbalanced loosely stacked load.
- Use the truck in explosive atmospheres.

Watch difference in floor levels when moving the truck. Load could fall down or the truck could get uncontrollable. Keep watching the condition of load. Stop operating table if load becomes unstable.

Practice maintenance work according to regular Inspection. This truck is not designed to be water resistant, therefore use it in dry atmospheres.

4. COMMISSIONING, TRANSPORTING STORAGE/ REASSEMBLING

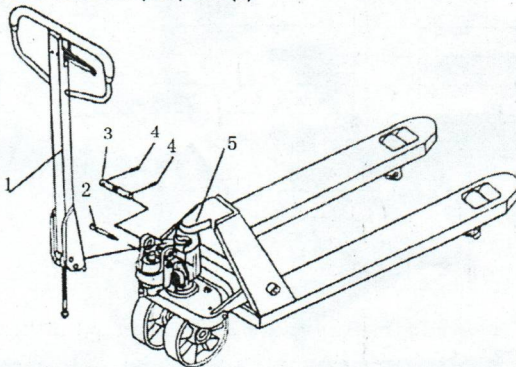
a. Commissioning - Tiller assembling

After receiving our new hand pallet truck you may have to do following before first operating the truck:

- Check if are all parts included and not damaged
- Do the work according to the daily inspections as well as functional checks.
- Eventually assemble the truck according to following instructions.

The commissioning weight is approximately 10kg/ six- pack higher than the product weight. Before assembling, please make sure, that the following supplied parts are included and not damaged:

- 1 pc axle with hole (3)
- 2 pc dowel pin (4) [one is already assembled with the axle]
- 1 pc pre- assembled tiller arm (1)
- 1 pc pre- assembled chassis with pump unit (2)



Tiller assembling

- (1. Tiller arm 2. Dowel Pin 3. Axle with hole 4. Pin 5. Chassis with pump unit)

Note: The marked number on the tiller arm package and the chassis should be the same.

When attaching the handle, you had better squat just in front of the pallet truck.

- a) Insert the tiller arm(1) into the pump piston, then use a hammer to insert the axle with hole into the hydraulic pump and tiller arm from the right to the left.
- b) Set the control lever of the handle to the 'LOWER' position, then pass the adjusting nut, adjusting bolt through the hole of the axle(2) with your hand.
- c) Press the tiller arm down; take away the pin(2)
- d) Set the control lever of the handle to 'RAISE' position, then raise the lever plate with the pin and insert the adjusting bolt into the front slot of lever plate. Note: Keep the adjusting nut under the lever plate.
- e) Use a hammer to insert the 2 dowel pin (4) into the 2 hole of the axle. The draw-bar is now assembled to the pump.

b. Hydraulic valve adjustment

On the tiller of your pallet truck, you will find the control lever, which can be regulated in three positions:

Lower : handle up, the lever moves back to the neutral, when released

Neutral: handle in center position

Raise: handle down

If necessary you can adjust the lever according to following steps:

- a) If the forks elevate while pumping in the Neutral position, turn the adjusting nut on the adjusting bolt clockwise until pumping action does not raise the forks and the Neutral position works properly.
- b) If the forks descend while pumping in the Neutral position, turn the adjusting nut counter-clockwise until the forks do not lower.
- c) If the forks do not descent when the control handle is in the Lower position, turn the adjusting nut clockwise until raising the control handle lowers the forks. Then check the Neutral position be sure that the adjusting nut is in the proper position.
- d) If the forks do not elevate while pumping in the Raise position, turn the adjusting nut counter-clockwise until the forks elevate while pumping in the Raise position. Then check the Lower and Raise position.

c. Transporting

For transporting, remove the load, lower the truck to the lowest position and lash it safe with dedicated lashing straps.

d. Storage/ Reassembling

For storage, remove the load, lower the truck to the lowest position, grease all in this handbook mentioned greasing points (regularly inspection) and eventually protect the truck against corrosion and dust. Jack the truck safety to be sure that there would be no flattening after storage. Reassemble the tiller in the opposite direction of the assembling.

5. DAILY INSPECTION

This chapter describes pre-shift checks before putting the truck into operation. Daily inspection is effective to find the malfunction or fault on the truck and can maximize the lifetime. Check the truck on the following points before operation. Remove load from truck and lower the forks to the lowest position.



DO NOT USE THE TRUCK IF ANY MALFUNCTION OR FAULT IS FOUND.

- Visually check for structural deformation or cracks of arms, forks, or any other component; and unusual noise or binding of the lifting mechanism.
- Check if there is any oil leakage.
- Check the vertical creep of the lifting mechanism.
- Check the smooth movement of the wheels.
- Check if there are any particles or damages on the wheels.
- Check if all the bolts and nuts are tightened firmly.
- If equipped, check the brake.
- Verify that all labels are in place.

6. OPERATING INSTRUCTIONS



- When operating the truck, the operator has to wear safety shoes.
- The truck is intended to be used for indoor applications with ambient temperatures between +5°C and +40°C.
- The operating lighting must be minimum 50 Lux.
- It is not allowed to use the truck on angled surfaces.
- Never leave a loaded pallet truck unattended.

a. Parking

Lower the forks to the lowest position and park the Hand pallet truck on a smooth and even level ground where the truck not disturbs any other operations. If equipped with a brake use the brake for parking the truck acc.to the description further below

b. Lifting

Check that the load does not exceed the loading capacity of the pallet truck. Roll the pallet truck with its forks slowly under the pallet/load until the back end of the fork rests against the load . Shift the operating lever down to the Lifting position. Lift the load by up- and down movements of the tiller arm .The load must be evenly distributed across both forks.



DO NOT OVERLOAD THE TRUCK!

c. Lowering



DO NOT PUT FOOT OR HAND UNDER THE LIFTING MECHANISM.

Lower the load by shift the operating lever up to the lowering position carefully. By releasing the lever, the lowering movement will stop. Ensure there is adequate clearance behind, then move the pallet truck away.

d. Moving



- Do not operate the truck on a slope or inclined surface.
- Watch difference of floor level when moving lifter. Load could fall down
- Make the load stable to prevent it from falling down.
- The truck might be not equipped with a brake. In this case the braking distance is longer and depends on the operator.

If equipped, release the brake.

Move the truck by pushing or pulling the tiller arm. The tiller arm is connected to the steering rollers. The wheels are steered automatically by moving or steering the tiller arm.

7. REGULAR MAINTENANCE



- Only qualified and trained personnel are allowed to do service on this truck.
- Before servicing the truck, remove the load and lower the forks to the lowest position. Completely immobilize pallet truck before working on components that might pinch fingers or hands if movement were allowed.
- Use approved and from your dealer released original spare parts.
- Please consider that oil leakage of hydraulic fluid can cause failures and accidents.
- It is allowed to adjust the pressure valve only from trained service technicians.
- Waste material like oil, used batteries or other must be probably disposed and recycled according to the national regulations and if necessary brought to a recycling company.

- All bushings and bearings have been lubricated at the factory. To increase their life, regular maintenance is recommended. Using the appropriate grease for the application and lubricate each grease fitting every 6 months.
- Harsh environments may require more frequent maintenance.

If you need to change the wheels, please follow the instructions above. The wheels must be round and they should have no abnormal abrasion.

a. Maintenance

DAILY

- Follow chapter 5.

MONTHLY

- Check hydraulic oil level (more frequently for high use applications).
- All bearings and shafts are provided with long-life grease at the factory. Long-life grease should be applied to the lubrication points at monthly intervals or after each time the truck is cleaned. Clean off dirt and debris. EVERY SIX MONTH
- Change oil (more frequently if color has substantially darkened or feels gritty). The required hydraulic fluid type is ISO VG32, its viscosity should be 30cSt at 40°C, total volume is about 0.3l.

NOTE: If hydraulic oil is milky white in color, water is in the hydraulic system. Change the hydraulic oil immediately.



Before starting operating the truck, ensure that all markings and decals are on the right place and not damaged. If necessary replace the decals.

b. Repair of the hydraulic system

Air may find its way into the pump during transportation, tilting or usage on uneven ground. It can result in not elevating forks whilst pumping in the Raise position. The air can be removed in the following way: Move the control handle to the Lower position, move then the tiller down several times. Thereafter normal operation can be resumed.

c. Adding hydraulic oil to the pump reservoir

- Ensure forks are in lowered position.
- Lay pallet truck on either side. Position drain plug of hydraulic cylinder up.
- Remove the screw plug.
- Add hydraulic oil until level of oil is at bottom of hole.
- Replace drain plug, upright the truck.

8. TROUBLE SHOOTING

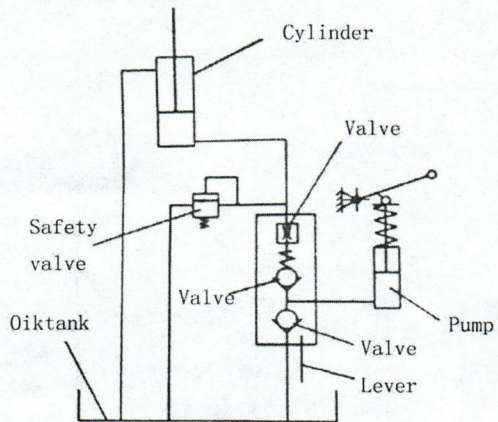
If the truck has malfunctions follow the instructions, mentioned under chapter 7.



Table 2: Trouble shooting

No.	Symptom	Possible Causes	Corrective action
1	Forks don't raise, don't raise fully. Or raise slowly	<ul style="list-style-type: none"> a) Low hydraulic fluid level or impurities in oil. b) Control lever is out of adjustment. c) Load is too heavy. Overload release valve is being activated. d) Temperature is too low and the hydraulic oil has become too thick. e) Air in the hydraulic oil. 	<ul style="list-style-type: none"> a) Add approved hydraulic fluid or change ail as noted in chapter 7. b) Follow the procedure for adjusting the control lever in chapter 4. c) Reduce load. d) Move truck to a warmer location. e) Deaerate the hydraulic pump. (see chapter 7)
2	Forks don't lower or don't lower fully	<ul style="list-style-type: none"> a) Obstacle located under truck. in fork mechanism, etc. b) Control lever is out of adjustment. c) Fork was left in a raised position for an extended time causing exposed piston rod to rust. d) The piston rod or pump is deformed due to over-loading or uneven loading. 	<ul style="list-style-type: none"> a) Use caution removing the obstacle. b) Follow the procedure for adjusting the control lever in chapter 4 c) Keep fork in the lowest position when not in use and keep piston rod well lubricated d) Replace the piston rod or pump
3	Forks lower without putting the control lever in the 'lower position	<ul style="list-style-type: none"> a) Oil impurities are preventing the release valve from fully closing. b) Some hydraulic components or seals are cracked or worn. c) Control lever is out of adjustment. 	<ul style="list-style-type: none"> a) Drain and replace hydraulic fluid with approved fluid as noted in chapter 7. b) Inspect and replace components as needed. c) Follow the procedure for adjusting the control lever in chapter 4
4	Oil leakage	<ul style="list-style-type: none"> a) Worn or damaged seals b) Other cracked or worn parts 	<ul style="list-style-type: none"> a) Replace seals b) Replace damaged parts

9 . HYDRAULIC CIRCUIT



Hydraulic diagram