



Operation manual

Pallet truck - economic version



**MATTRAL**



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Before operating this pallet truck read this original instruction manual carefully and understand the usage of the pallet truck completely. Improper operation could create danger.

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

Keep this manual for future reference.

Some of the described functions are optional and may therefore not be present on your pallet 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 by the 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 absorbing materials (scraps of wood or dry duster cloth) to absorb leaking oil in time. To avoid secondary pollution to the environment, the used absorbing materials should be handed in at special departments in terms of local authorities.
- Our products are subject to ongoing developments. This manual is intended to be used for the correct operation/servicing of the pallet truck. Please note that not all features shown in this manual might be present on your pallet truck.



### **NOTE:**

In this manual, this sign means warning and danger, which can lead serious injury if not followed.

# 1. CORRECT APPLICATION

- It is only allowed to use this pallet truck according to this instruction manual. This truck is a manually operated pallet truck designed to lift and transport the rated load on industrial pallets.
- Do not lift or carry persons and don't use this truck for any other purposes than its intended use. A wrong usage can cause human injuries or can damage equipment. The operator/the operating company must ensure the correct usage and must ensure that this truck is used only by staff who is trained and authorized to use this truck.
- The truck must 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 centre plane of the table and must be in satisfactory condition.
- The capacity is marked on the identification plate and depending on the version possibly additionally on the capacity sticker.
- The operator must consider the warnings and safety instructions.
- The pallet truck is intended to be used for indoor applications with ambient temperatures between +5° C and + 40° C. Ambient lighting must be minimum 50 Lux.

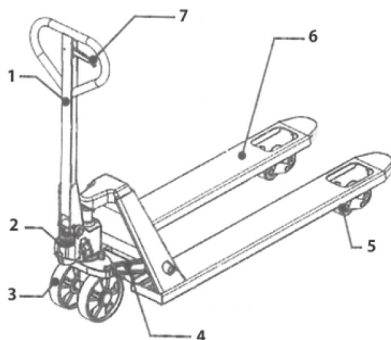
## Modification

No modifications or alterations to this 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 manuals. By not observing these instructions, the warranty becomes void.

## 2. DESCRIPTION OF THE PALLET TRUCK

### a. Main components

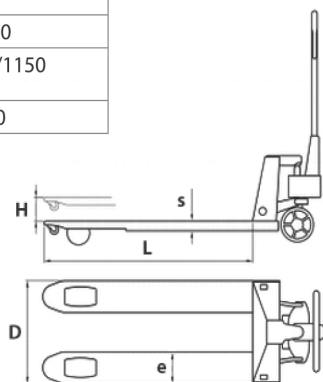
1. Tiller arm
2. Hydraulic pump
3. Steering wheels
4. Lifting mechanism
5. Load wheels (single/tandem)
6. Chassis
7. Lifting/lowering lever



### b. Main technical data

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

Load capacity	Q(T)	2.5
Tyre size, front	mm	$\phi 180 \times 50$ : nylon/polyurethane/rubber
Tyre size, rear (single/tandem)	mm	$\phi 80 \times 70$ nylon/polyurethane
Lifting height	H (mm)	115
Height of tiller handle	mm	1230
Height lowered	mm	85
Total length	mm	1540
Fork dimensions	s/e/L (mm)	50/160/1150
Fork width	D (mm)	540



### 3. WARNINGS AND SAFETY INSTRUCTIONS



#### DO NOT...

- allow another person than the operator to stand in front of or behind the truck when it is moving, lifting or lowering.
- overload the truck.
- put feet in front of rolling wheels, 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 the truck with unstable and unbalanced loosely stacked load.
- use the truck in explosive atmospheres.

Watch differences in floor levels when moving the truck. The load could fall down or the truck could become uncontrollable. Keep watching the condition of the load. Stop operating the pallet truck if the 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 REASSEMBLY

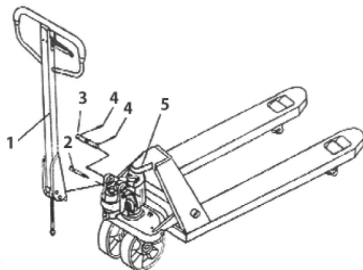
#### a. Commissioning tiller assembly

After receiving the new pallet truck you may have to perform the following actions before operating the truck for the first time:

Do the work according to the daily inspections as well as functional checks.

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

- 1 axle with hole (3)
- 2 dowel pins (4) (one is already assembled with the axle)
- 1 pre-assembled tiller arm (1)
- 1 pre-assembled chassis with pump unit (5)



## Tiller assembly

Assemble the truck according to the following instructions.

- 1) Remove the cardboard packaging from the lever.

**Attention:** the axle for the installation of the lever is included in the lever.



- 2) Take the lever, the axle and the split pin.



- 3) Insert the axle in the pump through the holes in the pump and through the holes of the lever from right to left.



- 4) Now secure the axle with the split pin.





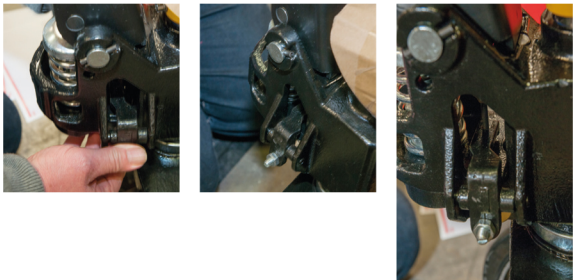
5) Remove the safety bar on the pump.



6) Take the chain in the lever and run it through the hole of the axle.



7) Secure the chain to the lever of the lowering valve.



8) If the pump functions unsatisfactory : loosen the nut and adjust by tightening or loosening the screw. After performing the adjustment, retighten the nut.



9) Ready for use!



## **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 position when released

Neutral: handle in central position

Raise: handle down

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

- 1) 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.
- 2) If the forks descend while pumping in the neutral position, turn the adjusting nut counter-clockwise until the forks do not lower anymore.
- 3) If the forks do not descend 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.
- 4) 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. Transport**

To transport the truck, remove the load, lower the truck to its lowest position and secure it safely by means of straps.

#### d. Storage/reassembly

For storage, remove the load, lower the truck to its lowest position, lubricate all grease fittings mentioned in this manual (not present on all models) and if necessary protect the truck against corrosion and dust. Check the truck safety to be sure that there will be no flattening after storage.

Disassemble the tiller in reverse order of assembly.

### 5. DAILY INSPECTION

This chapter describes pre-shift checks before putting the truck into operation. A daily inspection is effective to find any malfunctions or faults on the truck and can maximize the life span. 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 deformations or cracks on arms, forks, or any other component, as well as unusual noises 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 must wear safety shoes.
- The truck is intended to be used for indoor applications with ambient temperatures between +5° C and +40° C.
- The ambient lighting must be at least 50 Lux.
- Do not use the truck on inclined surfaces.
- Never leave a loaded pallet truck unattended.

### **a. Parking**

Lower the forks to the lowest position and park the pallet truck on a smooth and level surface where the truck won't interfere with any other operations. If equipped with a brake, use the brake for parking the truck.

### **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 until the back end of the fork touches the load. Shift the operating lever down to the lifting position. Lift the load by pumping the tiller arm. The load must be evenly distributed across both forks.



**DO NOT OVERLOAD THE TRUCK!**

### **c. Lowering**



**DO NOT PLACE FEET OR HANDS UNDER THE LIFTING MECHANISM.**

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

### **d. Moving**



**USE THE TRUCK ON A FLAT SURFACE**

- Do not operate the truck on a slope or inclined surface.
- Watch differences in the floor level when moving. The load could fall down.
- Make the load stable to prevent it from falling down.
- The truck might not be 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 wheels. The wheels are steered automatically by moving or steering the tiller arm.

## 7. REGULAR MAINTENANCE



### PLEASE FOLLOW THESE INSTRUCTIONS

- Only qualified and trained personnel is allowed to perform service on this truck.
- Before servicing the truck, remove the load and lower the forks to the lowest position.
- Completely immobilize the pallet truck before working on components that might pinch fingers or hands if movement were allowed.
- Only use approved and original spare parts obtained from your dealer.
- Please consider that oil leakage of hydraulic fluid can cause failures and accidents.
- Only trained service technicians are allowed to adjust the pressure valve.
- Waste material like oil, used batteries or other must be properly disposed and recycled according to the national regulation; if necessary, bring the waste material to a recycling company.
- All bushings and bearings have been lubricated at factory. To increase their life expectancy, regular maintenance is recommended. Use the appropriate grease for the application and lubricate each grease nipple fitting every 6 months (some models are equipped with grease nipples).
- Harsh environments may require more frequent maintenance. Replace the wheels if necessary. The wheels must be round and they should have no abnormal abrasion.

### a. Maintenance

#### Daily

- Follow instructions chapter 5.

#### Monthly

- Check the hydraulic oil level (more frequently for intensive applications).
- All bearings and shafts are provided with long-life grease at 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 months.
- Change oil (more frequently if color has substantially darkened or feels gritty). The required hydraulic fluid type is ISO VG32, its viscosity should be 30 cSt at 40° C, total volume is about 0,3 l.



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



**Before starting to operate the truck, make sure that all markings and decals are in 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, then move the tiller down several times. Thereafter normal operation can be resumed.

### **c. Adding hydraulic oil to the pump reservoir**

- Make sure forks are in lowered position.
- Lay the pallet truck on its side with the drain plug of the hydraulic cylinder facing upwards.
- Remove the screw plug.
- Add hydraulic oil until the level of the oil is at the bottom of the hole.
- Replace drain plug and put the truck back in normal position.

## 8. TROUBLESHOOTING



**If the truck malfunctions follow the instructions mentioned under chapter 7.**

Table 2: Troubleshooting

No	Symptom	Possible causes	Corrective action
1	Forks don't raise, don't raise fully or raise slowly	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.	a) Add approved hydraulic fluid or change oil 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) Bleed the hydraulic pump. (see chapter 7)
2	Forks don't lower or don't lower fully	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.	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 the piston rod well lubricated d) Replace the piston rod or pump
3	Forks lower without putting the control lever in the 'lower position'	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.	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	a) Worn or damaged seals b) Other cracked or worn parts	a) Replace seals b) Replace damaged parts

Your distributor:



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