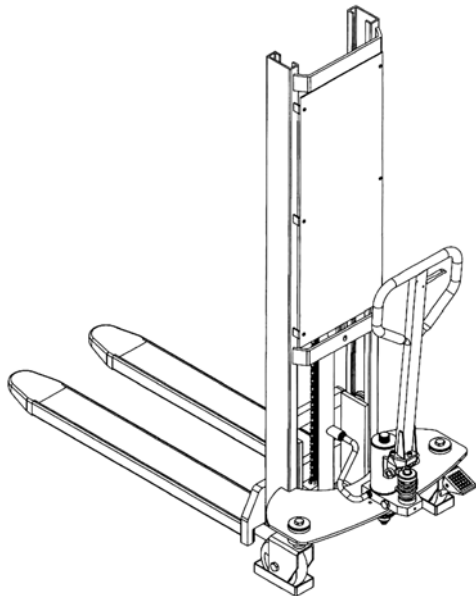


FC 1016

Operating Instructions



Foreword

The present operating instructions are designed to provide sufficient instruction for the safe operation of the industrial truck. The information is presented in a precise and clear manner. The chapters are arranged by letter. Each chapter starts with page 1. The page reference consists of a chapter letter and a page number.

Example: Page B2 is the second page of chapter B.

The operating instructions contain information about different vehicle models. When operating and servicing the equipment, make sure that the text applies to your vehicle model.

Safety instructions and important explanations are indicated by the following icons:



Used before safety instructions which must be observed to avoid danger to personnel.



Used before notices which must be observed to avoid material damage.



Used before notices and explanations.



Used to indicate standard equipment.



Used to indicate optional equipment.

In the interest of ongoing development, the manufacturer reserves the right to incorporate modifications (without changing the basic characteristics of the equipment model) without necessarily updating the present operating instructions at the same time.

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A Correct Use and Application



The “Guidelines for the Correct Use and Application of Industrial Trucks” (VDMA) are supplied with the truck. The guidelines form part of these operating instructions and must be observed. National regulations apply in full.

The truck described in the present operating instructions is an industrial truck designed for lifting and transporting loads.

It must be used, operated and serviced in accordance with the present instructions. All other types of use lie beyond the scope of application and can result in damage to personnel, the truck or property. In particular, avoid overloading the truck with loads which are too heavy or placed on one side. The data plate attached to the truck or the load chart are binding for the maximum load capacity. The industrial truck must not be used in fire or explosion endangered areas, or areas threatened by corrosion or excessive dust.

Proprietor responsibilities: For the purposes of the present operator manual the “proprietor” is defined as any natural or legal person who either uses the industrial truck himself, or on whose behalf it is used. In special cases (e.g. leasing or renting) the proprietor is considered the person who, in accordance with existing contractual agreements between the owner and user of the industrial truck, is charged with operational duties.

The proprietor must ensure that the truck is used only for the purpose it is intended for and that danger to life and limb of the user and third parties are excluded. Furthermore, accident prevention regulations, safety regulations and operating, servicing and repair guidelines must be followed. The proprietor must ensure that all users have read and understood these operating instructions.



Failure to comply with the operating instructions shall invalidate the warranty. The same applies if improper work is carried out on the truck by the customer or third parties without the permission of the manufacturer’s customer service department.

Attaching accessories: The mounting or installation of additional equipment which affects or enhances the performance of the industrial truck requires the written permission of the manufacturer. In some cases, local authority approval shall be required.

Approval of the local authorities however does not constitute the manufacturer’s approval.

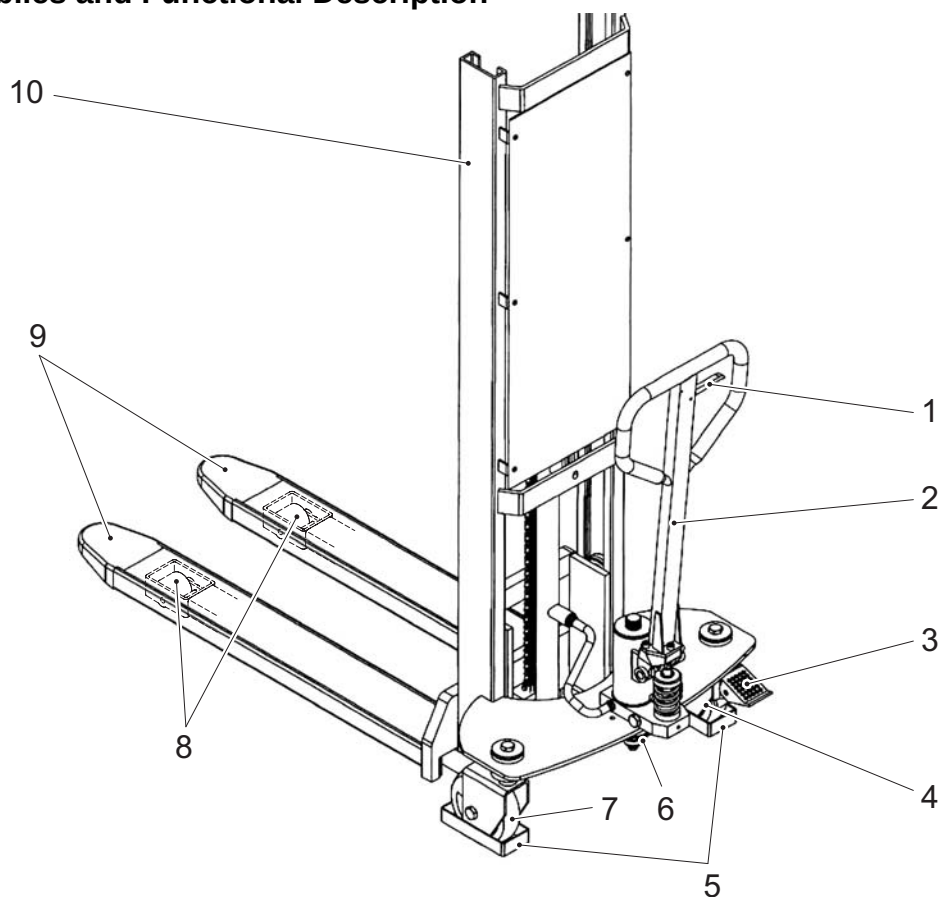
B Truck Description

1 Application

The vehicle is a pallet truck, designed for transporting goods on level surfaces. Open bottom pallets or pallets with diagonal boards can be lifted outside the range of the load wheels. The rated capacity is shown on the data plate.

The capacity with respect to lift height and load centre of gravity is indicated on the capacity plate.

2 Assemblies and Functional Description



Item		Component
1	●	"Load handler raise/lower" handle
2	●	Tiller
3	●	Foot parking brake
4	●	Steered wheel
5	●	Impact protection
6	●	Steering chain
7	●	Free steer wheel
8	●	Load wheels
9	●	Load handler
10	●	Mast

● = Standard equipment

○ = Optional equipment

2.1 Truck

Controls: The control (1, “Load handler raise/lower”) is located on the tiller (2). A foot parking brake (3) is installed on the right steered wheel (4).

Steering: The tiller (2) is used for steering within a range of approx. 90° on either side.

Hydraulic system: Lifting is achieved by means of pump movements with the tiller (2). The hydraulic oil is pumped from the reservoir into the piston chamber. The load handler (2) is raised. A two-stage hydraulic pump operates in rapid lift mode up to a load of 100 kg and beyond that in normal lift mode. The pump changes automatically from rapid to normal lift.

2.2 Conditions of use

Ambient temperature: -5°C to +40°C

Ambient lighting: min. 50 Lux



Special equipment and authorisation is required if the truck is to operate constantly below -5°C to -25°C or in a cold store or in extreme temperatures or conditions of fluctuating air humidity.

3 Standard Version Specifications



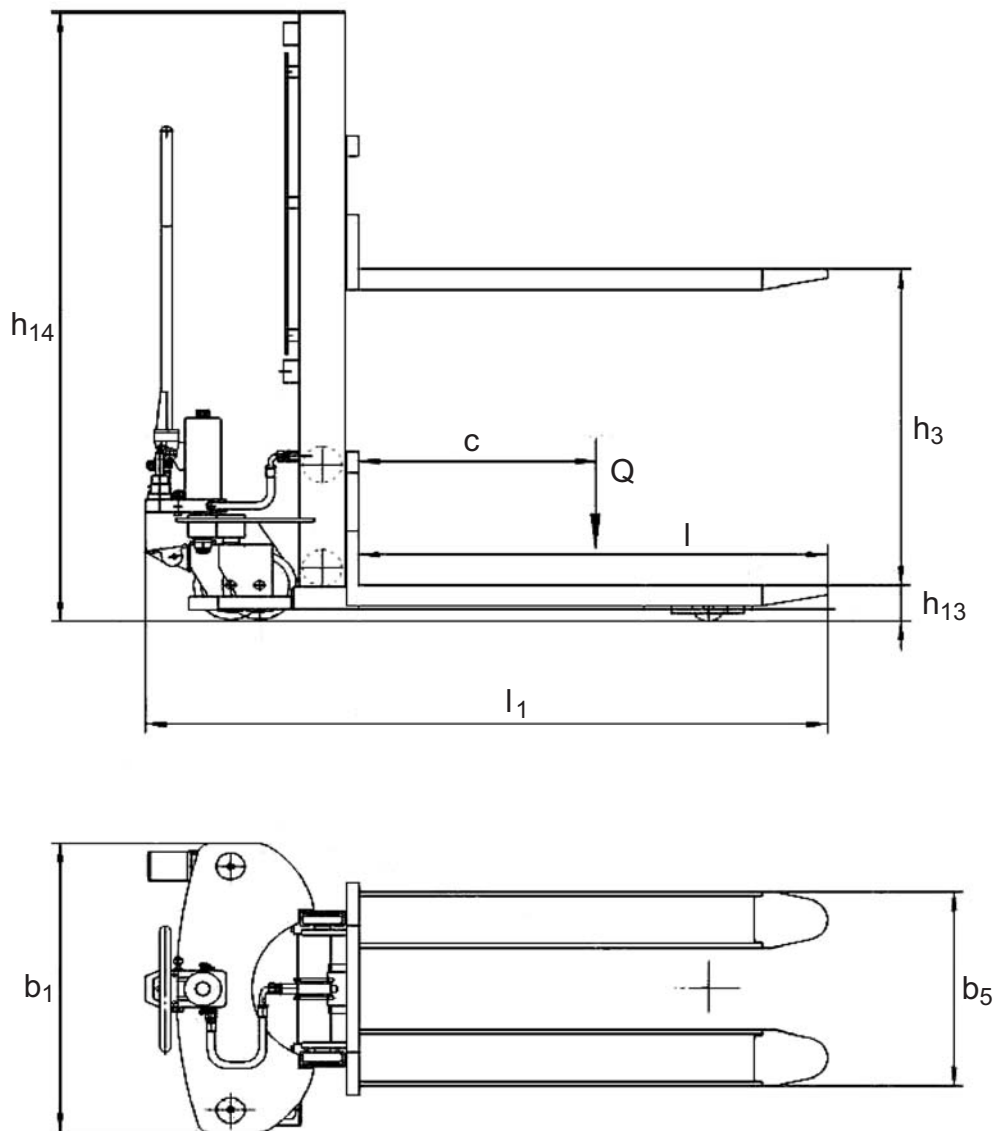
Technical data specified in accordance with VDI 2198.
Technical modifications and additions reserved.

3.1 Standard Truck Performance Data

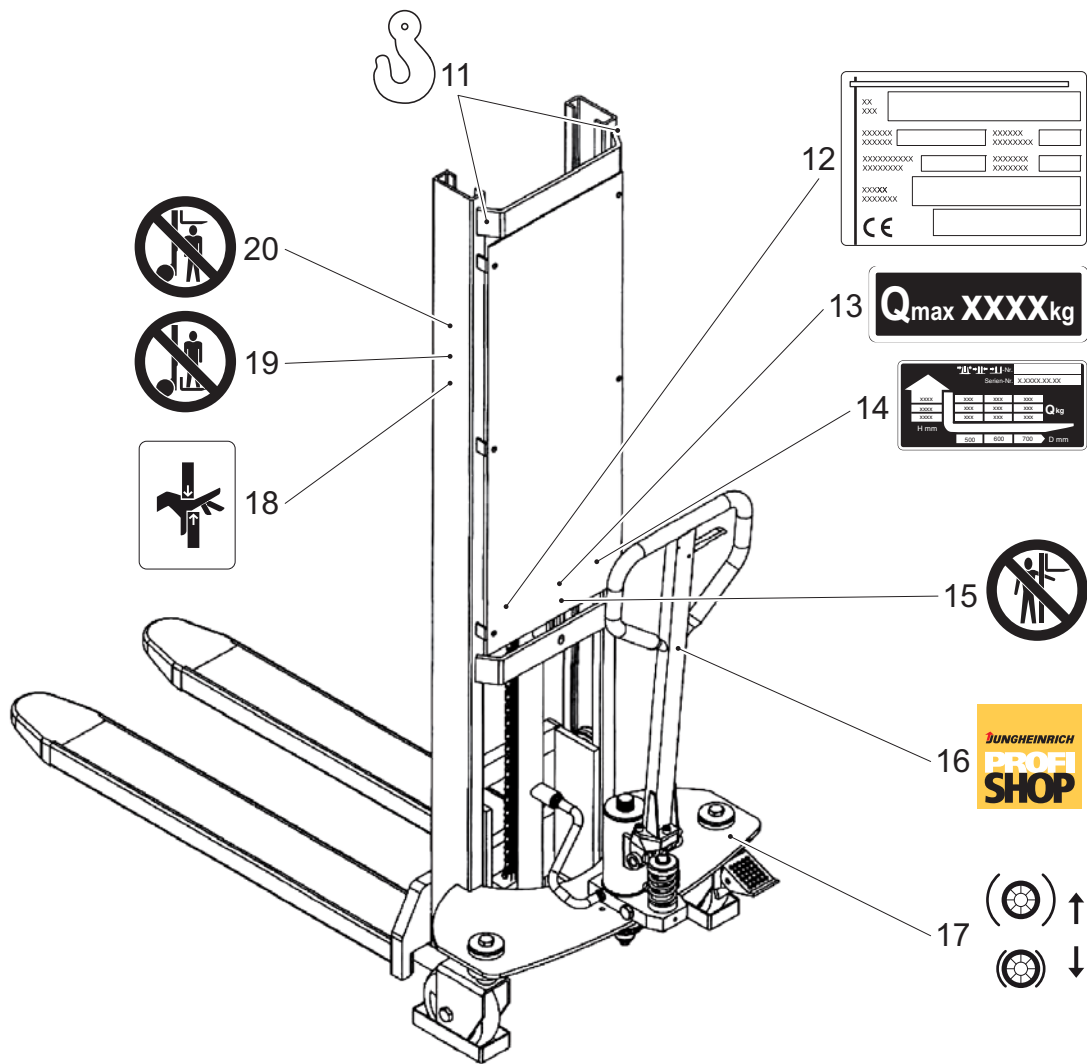
	Component	FC 1016	
Q	Rated capacity	1000	kg
c	Load centre distance	600	mm

3.2 Dimensions

	Component	FC 1016	
h_3	Lift	1510	mm
h_{13}	Lowered height	90	mm
h_{14}	Overall height	1965	mm
l	Fork length	1150	mm
l_1	Truck length	1670	mm
b_1	Truck width	765	mm
b_5	Width across load handler	520	mm
	Lift / pump movement (rapid lift, load < 100 kg)	50	mm
	Lift / pump movement (normal lift, load > 100 kg)	17	mm
	Load wheel diameter	80	mm
	Steer wheel diameter	180	mm
	Weight	208	kg

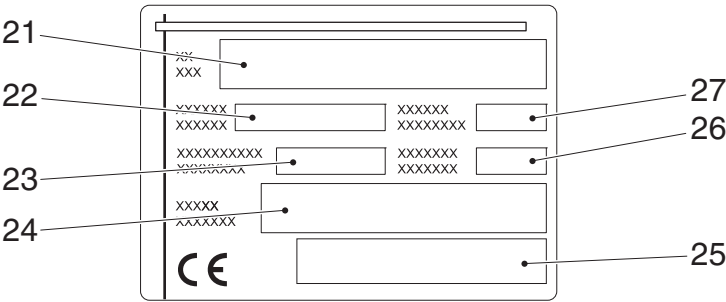


4 Identification Points and Data Plates



Item	Component
11	Strap point for crane lifting
12	Truck data plate
13	Capacity $Q_{\max}$
14	Load chart
15	Warning "Do not reach through the mast"
16	Jungheinrich PROFISHOP
17	Brake function notice
18	"Risk of trapping" notice
19	"Do not step under the load handler" warning
20	"Do not step under the load handler" warning

4.1 Truck Data Plate



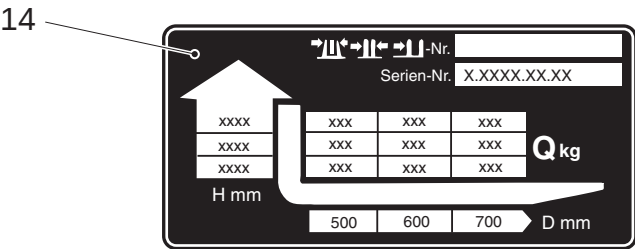
Item	Component	Item	Component
21	Model	25	Manufacturer's logo
22	Serial no.	26	Net weight in kg
23	Rated capacity (kg)	27	Year of manufacture
24	Manufacturer		



For queries relating to the truck or spare parts orders, always specify the truck serial no. (22).

4.2 Load Chart

The capacity plate (14) indicates the capacity (Q kg) of the truck. The permissible load is shown as a function of the load centre of gravity distance (C in mm) and the lift height (H in mm) in tabular form.



The plate (14) gives the capacity (Q in kg) of the truck as a function of the load centre of gravity distance (D in mm) and lift height (H in mm) in the form of a chart.

C Operation

1 Transport

1.1 Lifting by Crane



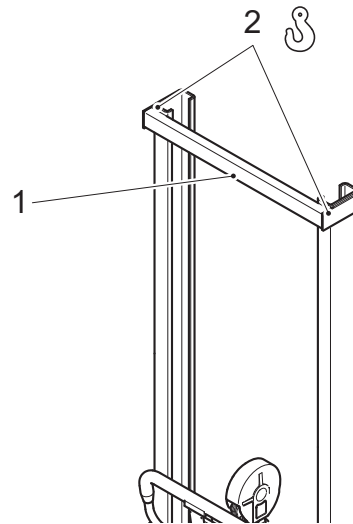
Only use lifting gear with sufficient capacity (for transport weight see truck data plate).



The cross member (1) on the mast is for loading the truck with crane lifting gear.

- Park the truck securely (see 5.3).
- Secure the lifting slings to the attachment points (2).

Attach the crane slings to the strap points so that the truck cannot slip. Crane slings should be fastened in such a way that they do not come into contact with any parts of the truck when it is being raised.



1.2 Securing the Truck During Transport

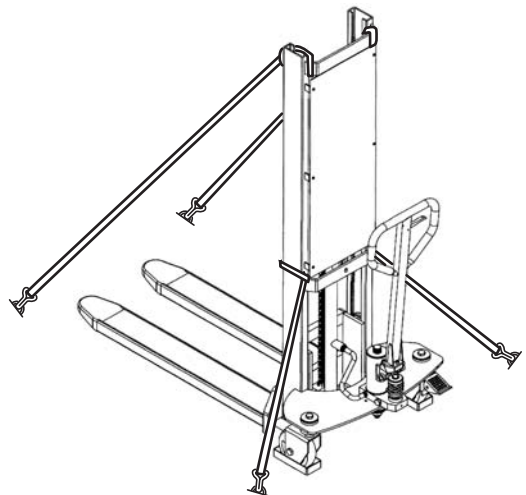


The truck must be securely fastened when transported on a lorry or a trailer. The lorry / trailer must have fastening rings.

- To secure the truck attach the tensioning belt to the strap points and secure them to the fastening rings.
- Tighten the tensioning belt with the tensioner.

Carry out this process on both sides of the truck.

Loading must be carried out by specially trained staff in accordance with recommendations contained in Guidelines VDI 2700 and VDI 2703. In each case correct measurements must be made and appropriate safety measures adopted.



2 Using the Truck for the First Time

In order to make the truck operational after delivery or after being transported, the equipment must be checked for completion and to ensure it is in good working order.

The actuating components and the locking mechanism must be in perfect working order. Check the condition of the castors, wheel axles, load chain setting and chain tension carefully and thoroughly.



When the truck is parked the surface of the tyres will flatten. The flattening will disappear after a short period of operation.

3 Safety Regulations for the Operation of Forklift Trucks

Driver authorisation: The forklift truck may only be used by suitably trained personnel, who have demonstrated to the proprietor or his representative that they can drive and handle loads and have been authorised to operate the truck by the proprietor or his representative.

Driver's rights, obligations and responsibilities: The driver must be informed of his duties and responsibilities and be instructed in the operation of the truck and shall be familiar with the operating instructions. The driver shall be afforded all due rights.

Unauthorised use of truck: The driver is responsible for the truck during the time it is in use. The driver must prevent unauthorised persons from driving or operating the truck. Do not carry passengers or lift other people.

Damage and Faults: Supervisors must be informed immediately of any damage or faults to the truck or attachment. Trucks which are unsafe for operation (e.g. wheel or brake problems) must not be used until they have been rectified.

Repairs: The driver must not carry out any repairs or alterations to the industrial truck without the necessary training and authorisation to do so. The driver must never disable or adjust safety mechanisms or switches.

Hazardous area: The hazardous area is defined as the area in which a person is at risk due to truck movement, lifting operations, the load handler (e.g. forks or attachments) or the load itself. This also includes areas which can be reached by falling loads or lowering operating equipment.



Unauthorised persons must be kept away from the hazardous area. Where there is danger to personnel, a warning must be sounded with sufficient notice. If unauthorised personnel are still within the hazardous area the truck shall be brought to a halt immediately.

Safety devices and warning signs: Safety devices, warning signs and warning instructions shall be strictly observed.

Travel routes and work areas: Only use routes specifically designated for truck traffic. Unauthorised third parties must stay away from work areas. Loads must only be stored in places specially designated for this purpose.

Travel conduct: The driver must adapt the travel speed to local conditions. The truck must be driven at slow speed when negotiating bends or narrow passageways, when passing through swing doors and at blind spots. The driver must always observe an adequate braking distance between the forklift truck and the vehicle in front and must be in control of the truck at all times. Abrupt stopping (except in emergencies), rapid U turns and overtaking at dangerous or blind spots are not permitted. Do not lean out or reach beyond the working and operating area.

Travel visibility: The driver must look in the direction of travel and must always have a clear view of the route ahead. Loads which affect visibility must be positioned at the rear of the truck, or else the truck must reverse. If this is not possible, a second person must walk in front of the truck as a lookout.

Negotiating slopes and inclines: Do not negotiate slopes or inclines. The truck must only be operated on level, secure surfaces.

Negotiating lifts and docks: Lifts and docks must only be used if they have sufficient capacity, are suitable for driving on and authorised for truck traffic by the proprietor. The driver must satisfy himself of the above before entering these areas. The truck must enter lifts with the load in front and must take up a position which does not allow it to come into contact with the walls of the lift shaft.

Persons riding in the lift with the forklift truck must only enter the lift after the truck has come to a rest and must leave the lift before the truck.

Nature of loads to be carried: The operator must make sure that the load is in a satisfactory condition. Loads must always be positioned safely and carefully. Use suitable precautions, e.g. a load guard, to prevent parts of the load from tipping or falling down.

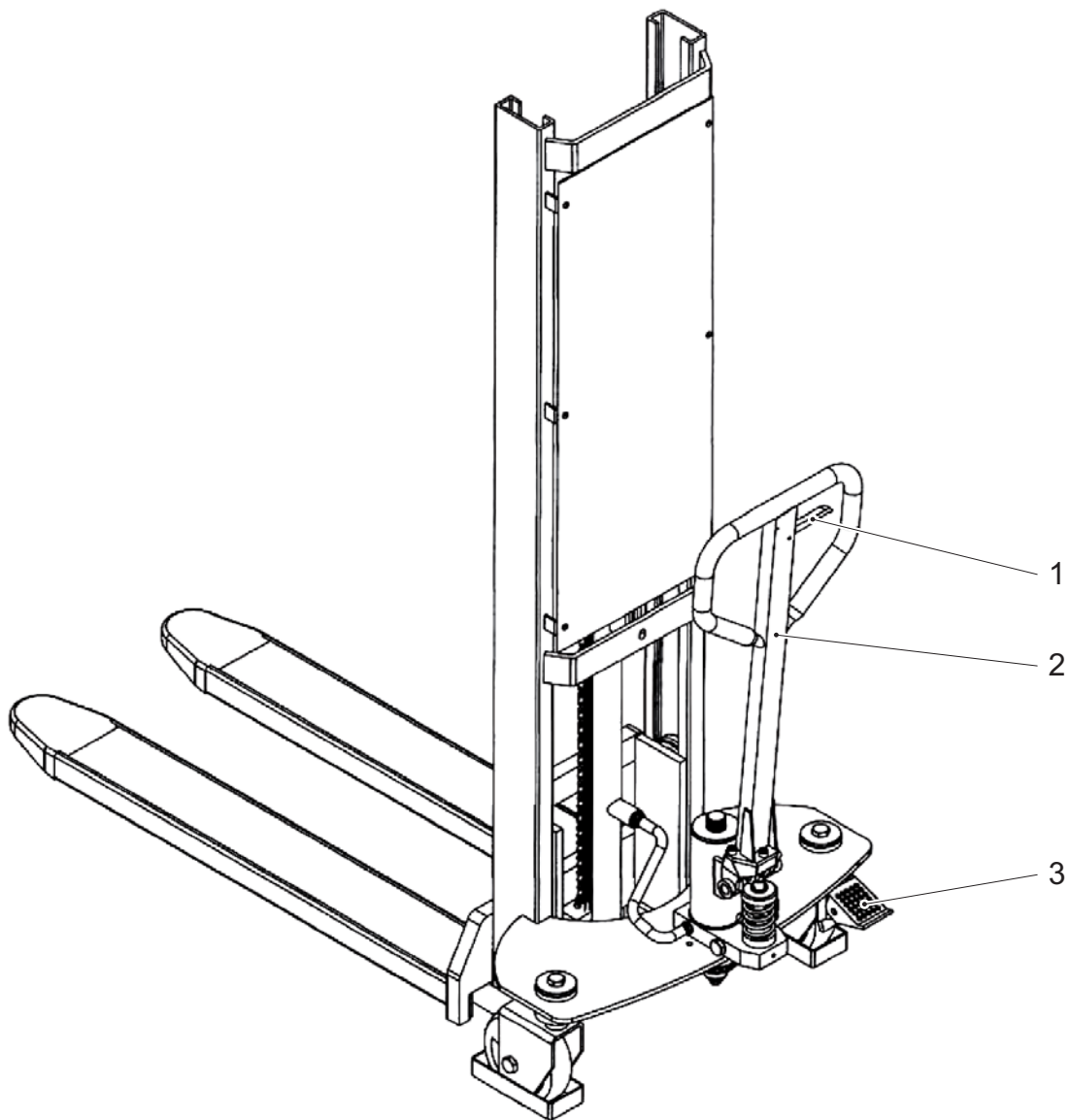
Transporting fluids: With fluids the centre of gravity can fluctuate, depending on the position of the truck, with a considerable impact on its stability. All necessary precautions must therefore be taken, in particular when accelerating, braking and negotiating bends, to avoid sudden movements.

4 Controls

Item	Control / display		Function
1	"Load handler raise/lower" handle	●	Lifting / lowering position.
2	Tiller	●	Moves and steers the truck. Raises and lowers the load handler.
3	Foot parking brake	●	Applies / releases the steer wheel brake

● = Standard equipment

○ = Optional equipment



5 Starting up the Truck



Before the truck can be started, operated or a load lifted, the driver must ensure that there is nobody within the hazardous area.

Checks and operations to be performed before starting daily operation

- Visually inspect the entire truck (in particular wheels and load handler) for obvious damage.
- Check wheels for wear and damage.
- Test the steering by turning the tiller.
- Visually inspect load chain.
- Test efficiency of foot parking brake, if necessary arrange for JH service department to adjust.
- Test hydraulic system.
- Check labels are present and complete.

5.1 Travel, Steering, Braking



Be extremely careful when driving and steering, especially if part of your body extends beyond the perimeter of the truck.

Never carry passengers.

Always travel with the forks lowered, with or without a load. When the load handler is raised the truck can only be used to deposit and retrieve loads on a level surface.

Travel

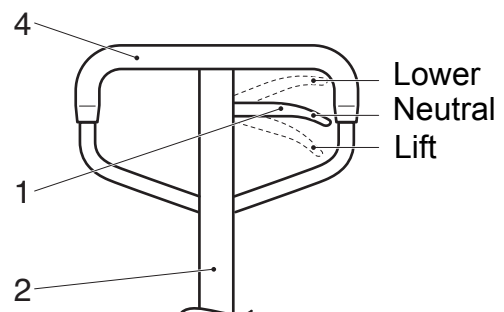
- Set the handle (1) to the “neutral” position.
- The truck can be towed or pushed using the handle (4) on the tiller (2).

Steering

- Move the tiller (2) to the left or right.



On tight bends the tiller extends beyond the perimeter of the truck.



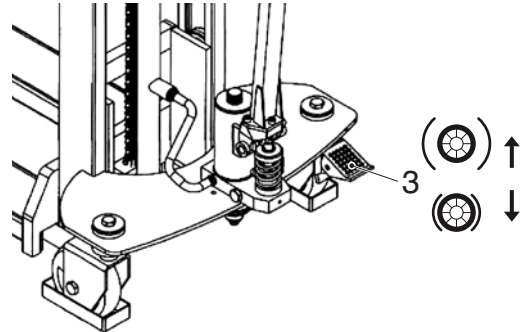
Braking



The brake pattern of the truck depends largely on the ground conditions. The driver must take this into account.

The truck can brake in two different ways:

- Manually (by pulling or pushing against the direction of movement)
- Foot parking brake (parking brake only):
The right steer wheel of the truck is fitted with an locking device (3). This must be applied when the truck is parked.



5.2 Lifting and Depositing Load Units



Before lifting a load unit the driver must make sure that it has been correctly palletised and does not exceed the truck's capacity.

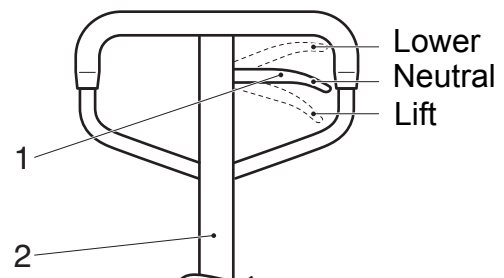


Do not lift long loads sideways.



When moving a laden truck the handle (1) must be set to the "neutral" position.

- Push the handle (1) in the "lower" direction.
- Move the tiller back to lower the load handler.
- Fully insert the load handler underneath the load unit.



Lifting

- Push the handle (1) in the "Lift" direction "H".
- Lift the forks by moving the tiller (2) up and down until the desired lifting height is achieved.



Rapid lift is effective for loads of up to 100 kg. For loads over 100 kg, rapid lift applies for the distance under the pallet. As soon as the load is raised, the hydraulic system automatically switches to normal lift.

- Set the handle (1) to the "neutral" position.

Lowering



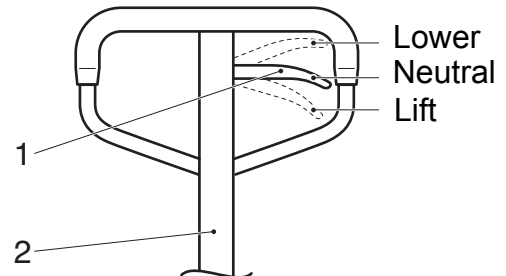
Make sure you lower slowly at all times. If you lower the load suddenly, even just a few centimetres, the impact is several times more than the actual load, which could result in damage and malfunctions. Failure to comply with this instruction can damage the truck and result in injuries.

- Push the handle (1) in the "lower" direction.
- Move the tiller (2) back slowly to lower the load handler.



As you increase the angle of the tiller, the lowering speed increases up to maximum lowering speed.

- Set the handle (1) to the "neutral" position.

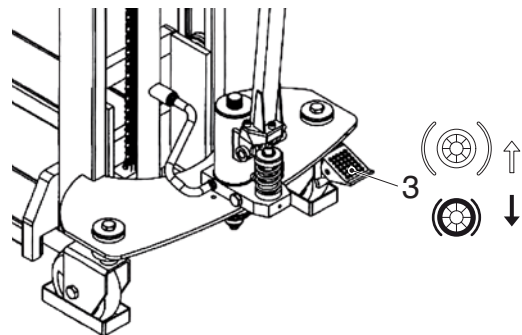


5.3 Parking the Truck Securely



Always park the truck securely even if you only intend to leave it for a short time. Do not park the truck on an incline.

- Always lower the load handler fully.
- Set both foot parking brakes (3) to the brake position.



6 Troubleshooting

This chapter allows the user to identify and rectify basic faults or the effects of incorrect operation. When trying to locate a fault, proceed in the order shown in the table.

Fault	Possible Cause	Remedy
Max. lift height cannot be reached Truck lifts slowly or not at all despite delivery from the pump	– Hydraulic oil level too low, air in system – Oil viscosity too great or no oil in reservoir – Control valve leaky due to oil contamination – Bleed valve and handles not aligned – Capacity exceeded	– Add oil (with load handler lowered) – Add oil with suitable viscosity – Change oil; clean or replace valve – Adjust pull rod nut – Reduce load
The raised load lowers too slowly or not at all	– Temperature too low, hydraulic oil too viscous – Lift mast deformed due to overload – Chassis or deflection pulley of roller chain jammed	– Move to higher ambient temperature – Replace components or have them repaired – Repair components or have them replaced
Raised load lowers automatically, loss of oil from hydraulic cylinder	– Hydraulic system leaky – Bleed valve does not close or valve insert leaky due to oil contamination – Valve setting incorrect, sealing components worn	– Seal – Clean or replace – Adjust bleed valve, replace sealing components



If the fault cannot be rectified after carrying out the remedial procedure, notify the manufacturer's service organisation, as any further troubleshooting can only be performed by specially trained and qualified service personnel.

D Industrial Truck Maintenance

1 Operational Safety and Environmental Protection

The servicing and inspection duties contained in this chapter must be performed in accordance with the intervals indicated in the maintenance checklists.



Any modification to the truck, in particular the safety mechanisms, is prohibited. Do not alter the truck's operating speeds under any circumstances.



Only original spare parts have been certified by our quality assurance department. To ensure safe and reliable operation, use only the manufacturer's spare parts. Used parts, oils and fuels must be disposed of in accordance with the relevant environmental protection regulations. For oil changes, contact the manufacturer's specialist department.

Upon completion of checks and servicing, the instructions contained in the "Recommissioning" section must be followed.

2 Maintenance Safety Regulations

Maintenance personnel: Industrial trucks must only be serviced and maintained by the manufacturer's trained personnel. The manufacturer's service department has field technicians specially trained for these tasks.

Lifting and jacking up: When an industrial truck is to be lifted, the lifting gear must only be secured to the points specially provided for this purpose. When jacking up the truck, take appropriate measures to prevent the truck from slipping or tipping over (e.g. wedges, wooden blocks). You may only work underneath a raised load handler if it is supported by a sufficiently strong chain.

Cleaning: Do not use flammable liquids to clean the industrial truck. Prior to cleaning, carry out all the necessary safety measures.

Settings: Always note the truck-specific settings when carrying out repairs or replacing components.

Tyres: The quality of tyres affects the stability and performance of the truck. When replacing wheels/rollers fitted at the factory, only use manufacturer's original spare parts. Otherwise the truck's rated performance cannot be ensured. When changing wheels and tyres, ensure that the truck does not slew (e.g. when replacing wheels always left and right simultaneously).

Lift chains: Lift chains wear rapidly if not lubricated. The intervals stated in the service checklist apply to normal duty use. More demanding conditions (dust, temperature) require more regular lubrication. The prescribed chain spray must be used in accordance with the instructions. Applying grease externally will not provide sufficient lubrication.

Hydraulic hoses: The hoses must be replaced every six years. When replacing hydraulic components, also replace the hoses in the hydraulic system.

3 Servicing and Inspection

Thorough and expert servicing is one of the most important requirements for the safe operation of the industrial truck. Failure to perform regular servicing can lead to truck failure and poses a potential hazard to personnel and equipment.



The service intervals stated are based on single shift operation under normal operating conditions. They must be reduced accordingly if the truck is to be used in conditions of extreme dust, temperature fluctuations or multiple shifts.

The following maintenance checklist states the tasks and intervals after which they should be carried out. Maintenance intervals are defined as:

W	=	Daily or before starting work
A	=	Every 500 service hours, or at least monthly
B	=	Every 1000 service hours, or at least every 3 months
C	=	Every 2000 service hours, or at least annually



W maintenance intervals must be performed by the proprietor.



When you use the truck for the first time the hydraulic oil must be changed after max. 20 service hours.



After 100 service hours the proprietor must check the wheel nuts/bolts and re-tighten if necessary.

4 Maintenance Checklist

			Maintenance intervals				
			Standard = ●	W	A	B	C
			Cold store = ✱				
Chassis/ super- structure:	1.1	Check all load bearing components for damage.	●				
	1.2	Check screw connections.				●	
	1.3	Check all parts of the truck for wear and arrange for any faulty components to be replaced.					●
	1.4	Check labels are present and complete.					●
	1.5	Lubricate the joints and slide surfaces.		●			
	1.6	Arrange for an expert inspection to be carried out.					●
Wheels:	2.1	Check for wear and damage.	●				
	2.2	Check suspension and attachment.		●			
Tiller:	3.1	Check the mechanical parts of the tiller, grease if necessary.				●	
Hydraulic system:	4.1	Check operation.	●				
	4.2	Check hydraulic system for leaks and damage and make sure it is secure.				●	
	4.3	Check hydraulic oil level.				●	
	4.4	Replace hydraulic oil.					●
Lift mechanism:	5.1	Check operation, wear and setting. Lubricate chain if necessary.	●				
	5.2	Check load handler and carriage for wear and damage.				●	



Maintenance intervals apply to normal operating conditions. In more arduous conditions, reduce accordingly.

5 Consumables

Handling consumables: Consumables must always be handled correctly. Follow the manufacturer's instructions.



Improper handling is hazardous to health, life and the environment. Consumables must only be stored in appropriate containers. They may be flammable and must therefore not come into contact with hot components or naked flames.

Only use clean containers when filling up with consumables. Do not mix consumables of different grades. The only exception to this is when mixing is expressly stipulated in the Operating Instructions.

Avoid spillage. Spilled liquids must be removed immediately with suitable bonding agents and the bonding agent / consumable mixture must be disposed of in accordance with regulations.

Hydraulic oil	Multi-purpose grease
DIN 51524 T2-ISO VG 46	DIN 51825 T1 -K 2 K

6 Maintenance Instructions

6.1 Preparing the Truck for Maintenance and Repairs

All necessary safety measures must be taken to avoid accidents when carrying out maintenance and repairs. The following preparations must be made:

- Park the truck securely.

6.2 Recommissioning

The truck may only be restored to service after cleaning or repair work, once the following operations have been performed:

- Lubricate the truck in accordance with the lubrication chart.
- Bleed the hydraulic system by pumping the load handler up completely.

7 Taking the Truck out of Service

If the forklift truck is to be taken out of service for more than two months, e.g. for operational reasons, it must be parked in a frost-free and dry location and all necessary measures must be taken before, during and after decommissioning as described.



While out of service the truck must be jacked up so that all the wheels are clear of the ground. This is the only way of ensuring that the wheels and wheel bearings are not damaged.

- If the truck is to be out of service for more than 6 months, further measures must be taken in consultation with the manufacturer's service department.

7.1 Before Taking the Truck out of Service

- Thoroughly clean the truck.
- Check the brakes.
- Check hydraulic oil, replenish if necessary.
- Apply a thin layer of oil or grease to any non-painted mechanical components.
- Grease the truck.

7.2 Restoring the truck to service

- Thoroughly clean the truck.
- Grease the truck.
- Check the hydraulic oil for condensed water and replace if necessary.
- Start up the truck.



Carry out a full functional test immediately after restoring the truck to service.

8 Safety Tests to be Performed at Intervals and after Unusual Events



Perform a safety check in accordance with national regulations. Jungheinrich recommends the truck be checked to FEM guideline 4.004. Jungheinrich has a safety department with trained personnel, able to carry out inspections.

The truck must be inspected at least annually or after any unusual event by a qualified inspector (be sure to comply with national regulations). The inspector shall assess the condition of the system from purely a safety viewpoint, without regard to operational or economic circumstances. The inspector shall be sufficiently instructed and experienced to be able to assess the condition of the truck and the effectiveness of the safety mechanisms based on the technical regulations and principles governing the inspection of forklift trucks.

A thorough test of the truck must be undertaken with regard to its technical condition from a safety aspect. The truck must also be examined for damage caused by possible improper use. A test report shall be provided. The test results must be kept for at least the next 2 inspections.

The proprietor is responsible for ensuring that faults are immediately rectified.



A test plate is attached to the truck as proof that it has passed the safety inspection. This plate indicates the due date for the next inspection.

9 Final De-Commissioning, Disposal



Final, correct de-commissioning or disposal of the truck must be performed in accordance with the regulations of the country of use. In particular, the consumables disposal regulations must be observed.