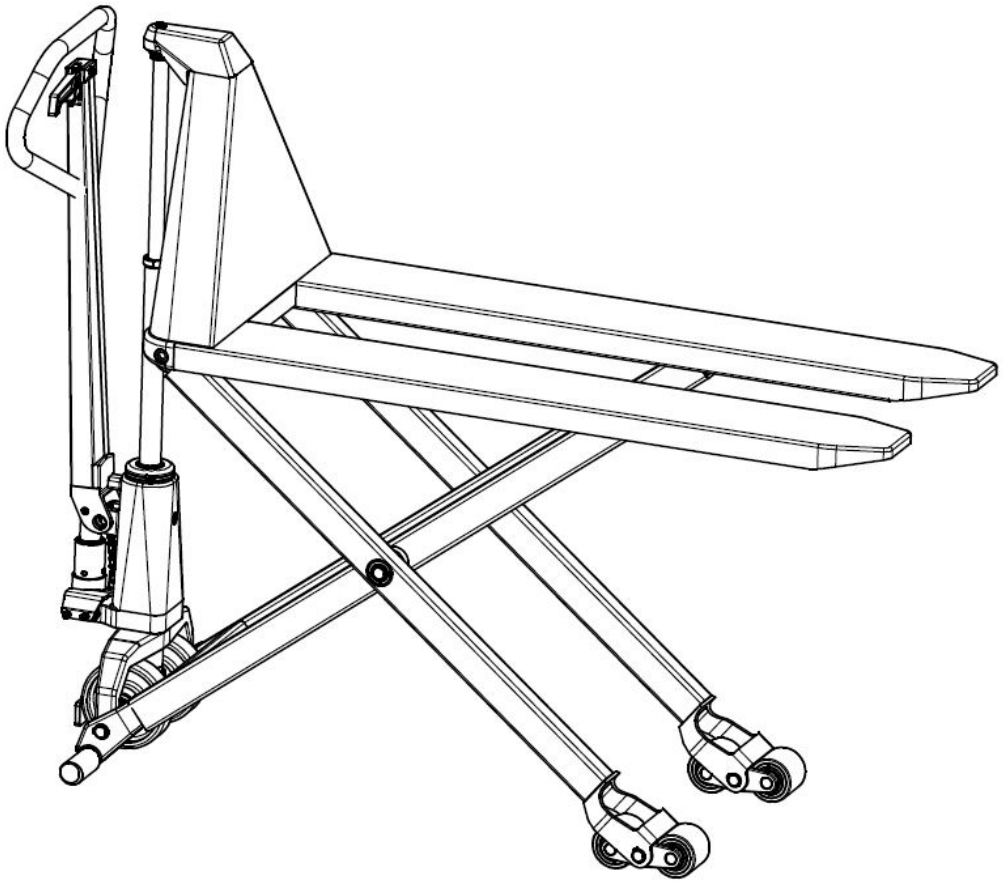
HXT (A) 15



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HXT (A) 15

Original operating instructions

GB

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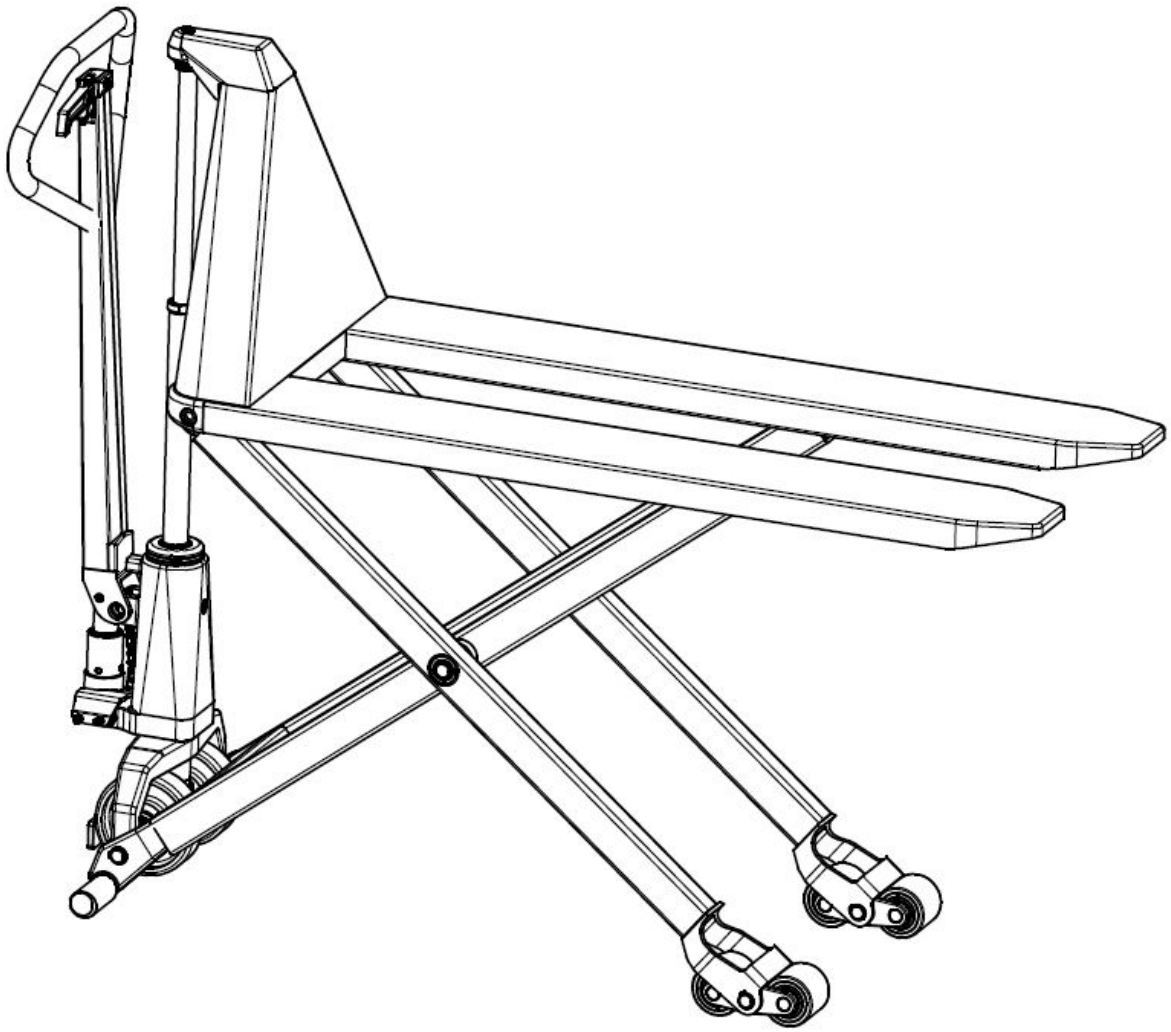


JUNGHEINRICH PROFI SHOP

Foreword

These ORIGINAL 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 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.

Our trucks are subject to ongoing development. We reserve the right to alter the design, features and technical aspects of the equipment. No guarantee of particular features of the truck should therefore be assumed from these operating instructions.

Contents

A Correct use

The truck described in these operating instructions is an industrial truck designed for lifting and transporting loads.
It must be used, operated and serviced in accordance with these operating instructions. All other types of use lie beyond the scope of application and can result in damage to personnel, the vehicle or property.

Proprietor responsibilities: For the purposes of these operating instructions the "operating company" 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 operatin
g company 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 operating company must ensure that the truck is used only for the purpose for which it is intended and that there is no danger to life and limb of the user or third parties. Furthermore, accident prevention regulations, safety regulations and operating, servicing and repair guidelines must be followed. The operating company 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.

Adding 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.
Local authority approval may also need to be obtained.
Local authority approval, however, does not replace the manufacturer's approval.

1 Application

The truck is a manual scissor lift pallet truck designed for handling goods on level ground with sufficient load-bearing capacity. Open-bottom pallets can be lifted.
Overloading with items that are too heavy or placed on one side must be avoided. The data plate attached to the truck or the load chart are binding for the maximum load capacity. The rated capacity is shown on the data plate. The capacity with respect to lift height and load centre distance is indicated on the load chart.

The following activities are permitted as correct use of the truck:
– Lifting and lowering of loads
– Transporting of lowered loads

The following activities are prohibited:
– Moving the truck with the fork or load raised (> 400 mm)
– Carrying and lifting persons
– Moving the truck with electrical or mechanical aids

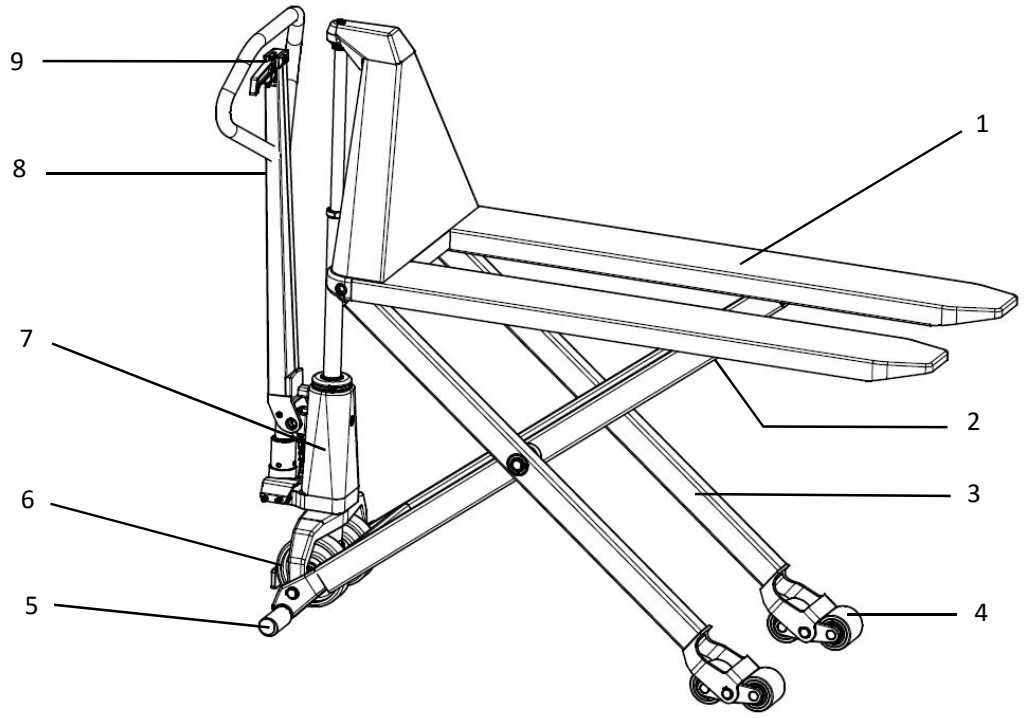
1.1 Application conditions

– Operation in industrial and commercial environments.
– Permissible temperature range: 5°C to 40°C.
– Ambient lighting: min. 50 Lux.
– Operation only in dry areas with an air humidity of less than 90%.
– Operation only on secure, level surfaces with sufficient capacity.
– Do not exceed the permissible surface and point loading on the travel paths.
– Operation only on travel paths that are clearly visible and approved by the operating company.

Using the truck under extreme conditions can result in malfunctions and accidents.
– Wind loads affect the operational stability of the truck. The truck must only be used in wind-protected areas. Use in outside areas is prohibited.
– Uneven or sloping ground conditions affect the operational stability of the truck. Use of the truck on slopes, inclines or uneven ground is prohibited.
– Use in areas where there is a risk of fire or explosion is prohibited.
– Use in highly corrosive or dusty environments is prohibited.

B Truck description

1 Assemblies and functional description



Item	HXT (A) 15	Description
1	●	Load handler
2	●	Scissor rollers
3	●	Scissors
4	●	Load wheels
5	●	Side supports
6	●	Steering wheels
7	●	Hydraulic pump
8	●	Tiller
9	●	“Load handler raise / lower” handle

● = standard equipment	◯ = optional equipment

1.1 Truck

Controls: The “Load handler raise/lower” control (1) is located on the tiller (2).
Steering: The tiller (2) is used for steering within a range of approx. 90° on either side.
Travel: The truck is moved by pushing or pulling the tiller (2).
Hydraulic system: Lifting is achieved by means of pump movements with the tiller (2). The hydraulic oil is pumped from the cylinder into the piston chamber. The load handler (6) is raised.

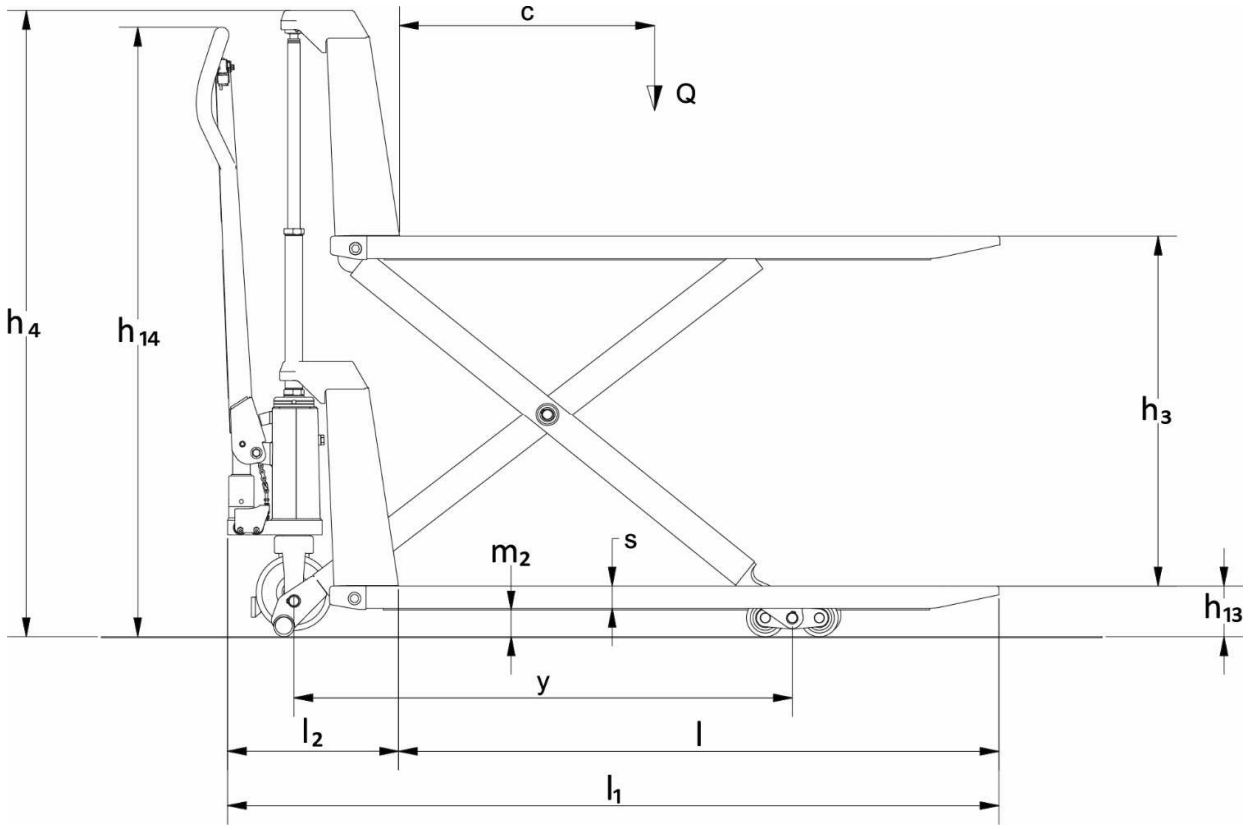
2 Technical data, standard version

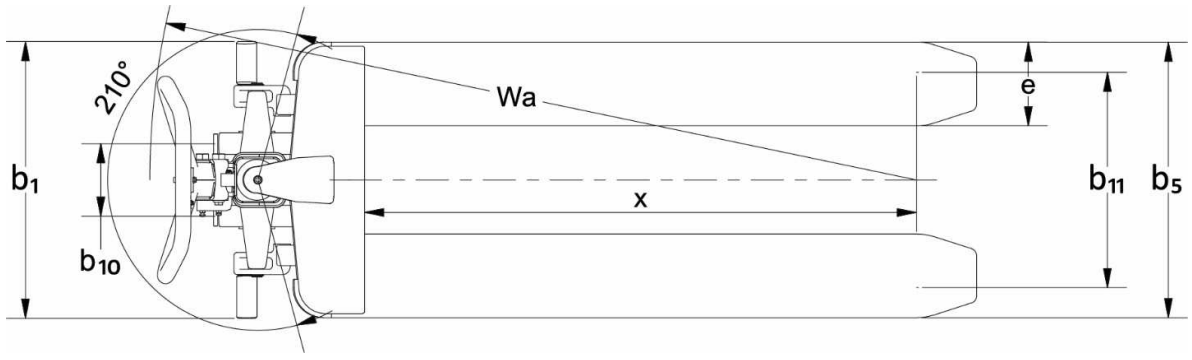
Technical data specified in accordance with VDI 2198.
Technical modifications and additions reserved.

2.1 Performance data for standard trucks

	Description	**HXT (A) 15**	
Q	Rated capacity	1500	kg
C	Load centre distance	350/450/600/760/1000	mm
	Lift speed with load		Pump strokes
	Lift speed without load		Pump strokes
	Lowering speed with load	-/0.1	m/s
	Lowering speed without load	-/0.1	m/s

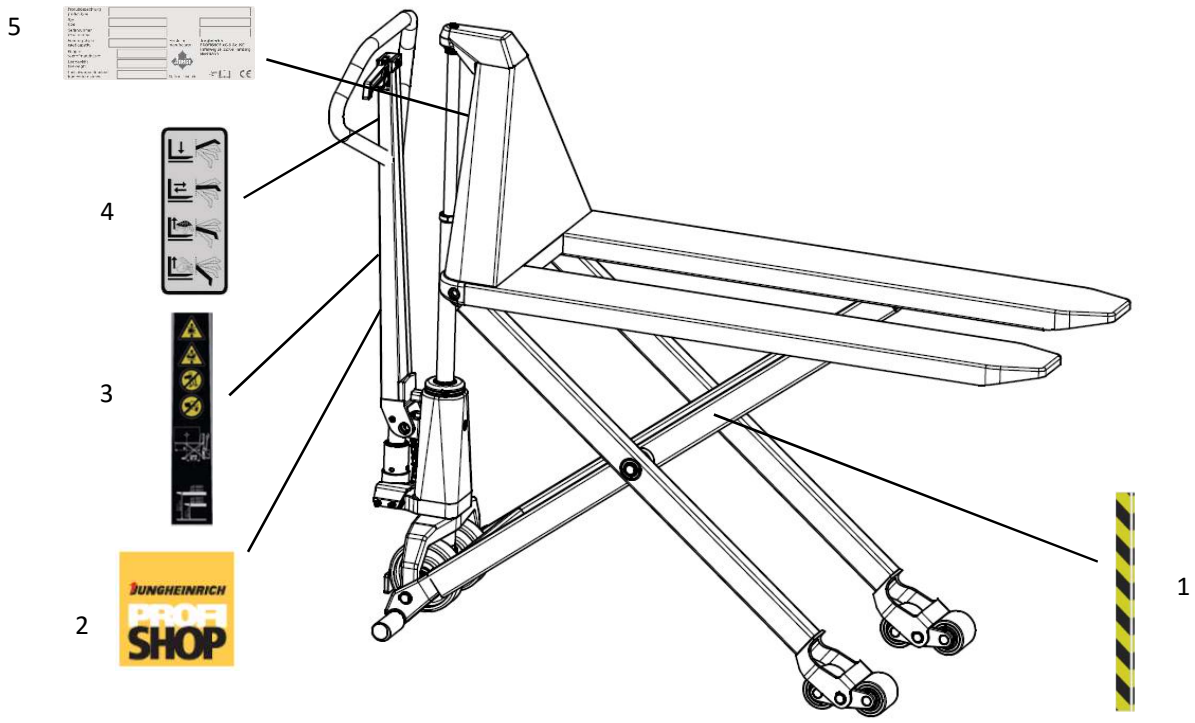
2.2 Dimensions





	Description	**HXT (A) 15**	
h_3	Lift	500-h13/600-h13/800-h13	mm
h_{13}	Lowered height	85/90	mm
h_{14}	Tiller height, min./max.	750/1210	mm
h_4	Overall height, load handler extended	1225	mm
l_1	Overall length	1056/ 1256/ 1556/ 1876/ 2356	mm
l_2	Fork length incl. fork shank	356	mm
b_1	Overall width	540	mm
b_5	Width across load handler	540	mm
b_{10}	Steering castor track	145	mm
b_{11}	Load wheel track	410	mm
s	Fork thickness	45	mm
e	Fork width	163	mm
l	Fork length	700/900/ 1200/1520 /2000	mm
m_2	Ground clearance, centre of wheelbase	15/10	mm
Wa	Turning radius		mm
Ast	Aisle width for pallets 800 x 1200 mm	1830	mm
x	Load distance	555/755/ 1055/1375/ 1855	mm
y	Wheelbase	765/965/ 1265/1585/ 2065	mm
	Load wheel diameter	Ø75 x 68	mm
	Steer wheel diameter	Ø150 x 40	mm
	Weight	85 / 90 / 104 / 175 /219	kg

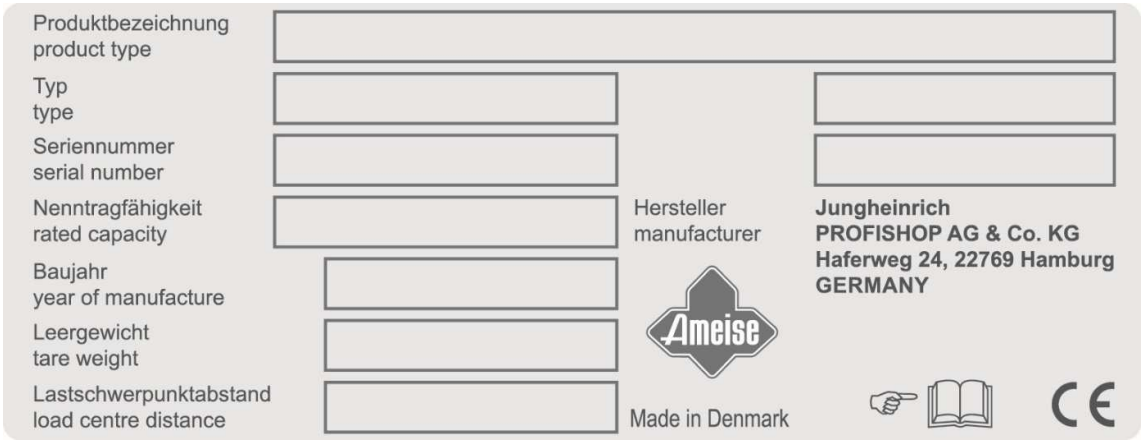
3 Identification points and data plates



Item	Description
1	"Risk of trapping" notice
2	Jungheinrich PROFISHOP
3	Operating safety notices and load chart
4	"Raise/lower" operator notice
5	Truck data plate

3.1 Truck data plate

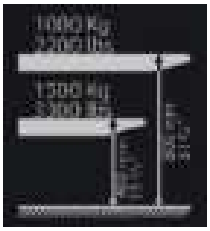
The following information is provided on the data plate:



➔ For truck-related queries or when ordering spare parts, always quote the truck serial number.

3.2 Load chart/capacity

The truck features a load chart.
The load chart indicates the capacity (Q in kg) of the truck.



The load chart specifies the capacity (Q in kg) of the truck based on the load centre distance (D in mm) and lift height (H in mm) in tabular form.

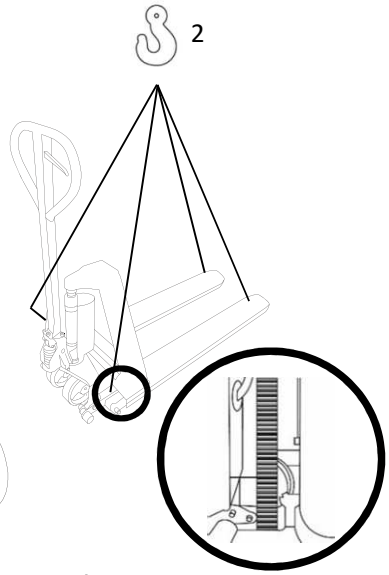
C Operation

1 Transport

1.1 Loading by crane

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

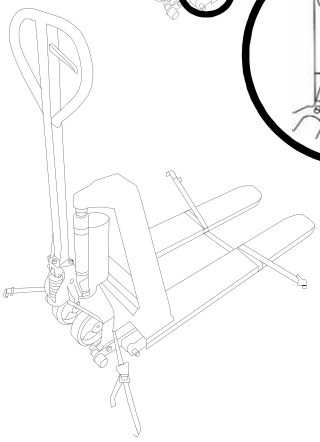
When loading the crane, the crane lifting gear must be attached at the indicated points.
(2)



– Park the truck securely (see 5.3).
– Affix the crane lifting gear to the attachment points (2).
Attach the crane slings to the strap points so that the truck cannot possibly 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 trailer. The lorry/trailer must have lashing rings.



– To secure the truck, attach the tensioning belt to the attachment points and secure it on the fastening rings.
– Tighten the tensioning belt with the tensioner.

Carry out this procedure 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 taken and appropriate safety measures applied.

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. The condition of the castors, wheel axles, load chain setting and chain tension must be checked carefully and thoroughly.

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

3 Safety regulations for truck operation

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.

Do not allow unauthorised persons to use the 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. Carrying or lifting of persons on the truck is prohibited.

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. worn wheels or brake defects) must not be used until the problems 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 lanes and routes specifically designated for 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.
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.

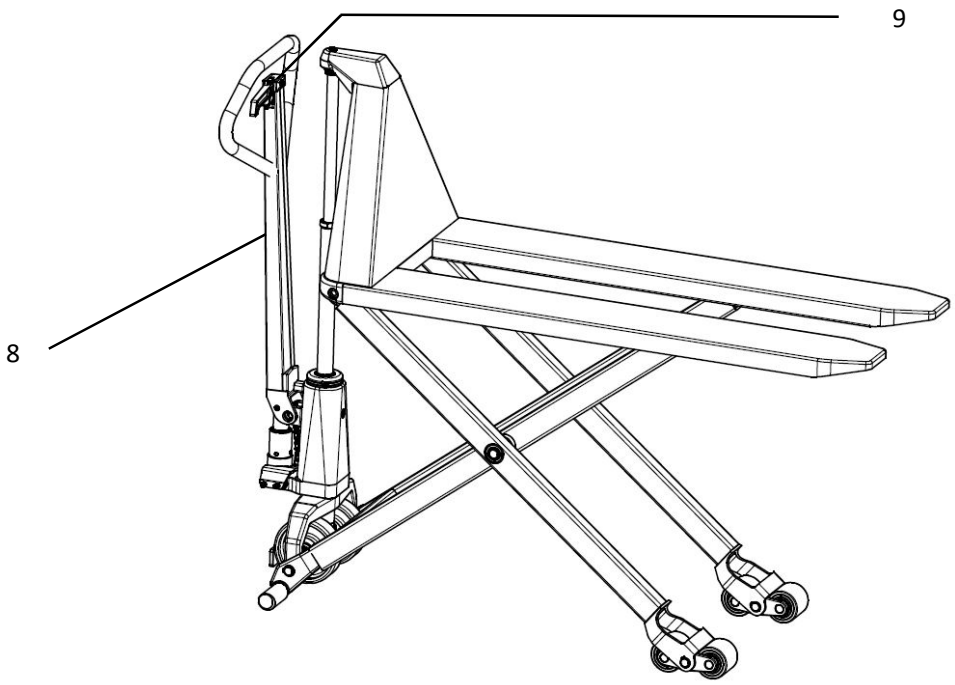
Nature of loads to be carried: The operator must make sure that the load is in a satisfactory condition. Loads must always be positioned safely and carefully. Use suitable precautions, e.g. a load guard, to prevent parts of the load from tipping or falling down.

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.

Personal protective equipment: When working with trucks, the operator must wear safety shoes. The use of additional personal protective equipment may be required by corresponding legal provisions or operating conditions.

Use in outside areas: The truck must only be used in enclosed areas. When subjected to wind loads, the stability of the truck is affected, which is why its use in outside areas is prohibited.

4 Description of the controls



Item	Description		Function
9	“Load handler raise / lower” handle	●	Position of lift function / lower load handler
8	Tiller	●	Moves and steers the truck. Raises the load handler

● = standard equipment	◯ = optional equipment

5 Starting up the truck

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

STOP The truck must only be used if the protective equipment is correctly applied and fully functional.

Checks and operations to be performed before starting daily operation

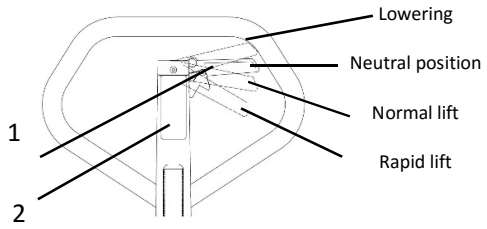
– Visually inspect the entire truck (in particular wheels and load handler) for obvious damage.
– Check wheels for wear and damage.
– Visually inspect the load chain.
– Test efficiency of foot parking brake, if necessary arrange for JH service department to adjust.
– Test the hydraulic system.
– Check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

5.1 Travel, steering, braking

Be extremely careful when driving and steering, especially if parts of your body extend outside 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".
– Push or pull the truck with the tiller (2).

Steering
– Move the tiller (2) to the left or right.

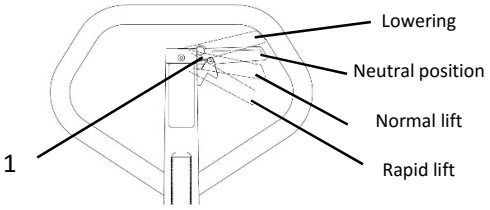
On tight bends, the tiller extends beyond the perimeter of the truck.

Braking
The brake pattern of the truck depends largely on the ground conditions.
The driver must take this into account.
The truck can be braked as follows:
– Manually (by pulling or pushing against the direction of movement)

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.

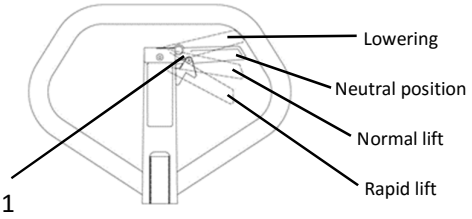
Crossways lifting of pallets is not permitted.



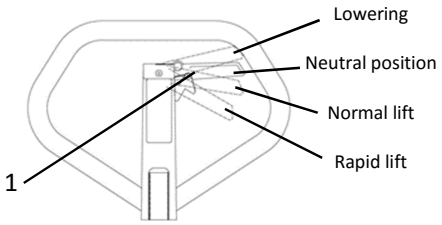
The handle (1) must be in the "neutral position" in order to move a laden vehicle.
Push the handle (1) in the "lower" direction to lower the load.
– Fully insert the load handler underneath the load unit.

Lift

– Push the handle (1) in the "normal lift" or "rapid lift" direction. Manual rapid lift is possible up to a 200 kg load. Lift the forks by moving the tiller (2) up and down until you reach the desired lift height.
– Set the handle (1) to the "neutral position".



Lowering



When lowering, control the handle (1) so that lowering is performed slowly.
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) sensitively in the "lower" direction to lower the load.
– 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.

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 – Oil viscosity too great or no oil in reservoir – Control valve leaking due to oil contamination – Bleed valve and handles not aligned	– Add oil (with load handler lowered) – Add oil with suitable viscosity – Change oil; clean or replace valve – Adjust the pull rod nut
The raised load lowers too slowly or not at all	– Lowering handle not set correctly – Scissors jammed or deformed – Scissor rollers not lubricated, contaminated or damaged	– Adjust the pull rod nut – Replace components or have them repaired – Clean and lubricate components or have them replaced
Raised load lowers automatically, loss of oil from hydraulic cylinder	– Leaks in hydraulic system – 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 department, as any further troubleshooting can only be performed by specially trained and qualified service personnel.

D 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 subject to our quality control. To ensure safe and reliable operation, use only the manufacturer's spare parts. Used parts and consumables must be disposed of in accordance with the applicable environmental-protection regulations. For oil changes, contact the manufacturer’s specialist department.

If damage is identified on the truck, it must be labelled accordingly and taken out of service until the damage has been rectified by specialist personnel.

Upon completion of checks and servicing, the instructions contained in the “Restoring the Equipment to Service” 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 equipment, take appropriate measures to prevent it 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 factory-fitted wheels/rollers, only use the 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).

Hydraulic system: When performing repair work on the hydraulic unit, the load handler must be fully lowered. When performing work on the pump, it must be ensured that the return spring is secured.

Working on the electrical system: Only suitably trained electricians must work on the truck's electrical system. Prior to the commencement of any work on a battery charger, all required measures must be taken to prevent electric shocks. Battery-operated trucks must also be de-energised by disconnecting the battery.

3 Maintenance 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 specified service intervals are based on single-shift operation under normal operating conditions. They must be reduced accordingly if the equipment is to be used in very dusty conditions, sharp 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 operating hours, or at least monthly
B = every 1000 operating hours, or at least every 3 months
C = every 2000 operating hours, or at least annually

➔ "W" maintenance interval operations should be performed by the operating company.

			W	A	B	C
Chassis/superstructure	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	●			
	2.3	Check bearings and attachment			●	
Tiller	3.1	Check the mechanical parts of the tiller; grease if necessary		●		
Hydraulic system	4.1	Test operation	●			
	4.2	Check hydraulic unit for leaks and damage and make sure it is secure			●	
	4.3	Check the hydraulic oil level			●	
	4.4	Replace hydraulic oil				●
Lift unit	5.1	Check the scissors and scissor rollers for wear or damage. Grease if necessary or have them replaced.	●			
	5.2	Check load handler and carriage for wear and damage.			●	

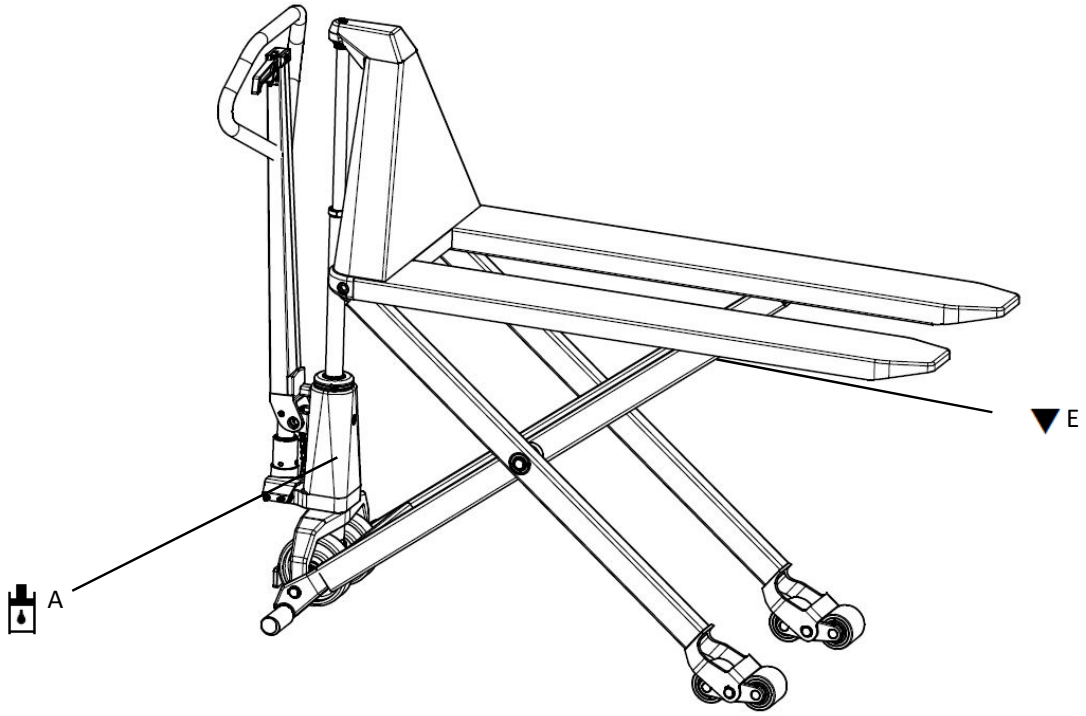
➔ Maintenance intervals apply to normal operating conditions. In more arduous conditions, reduce accordingly.

4 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 rule is when mixing is expressly stipulated in the operating instructions.
Avoid spillage. Spilled liquids must be removed immediately with suitable bonding agents and disposed of in accordance with regulations.

4.1 Lubricating diagram



▼	Contact surfaces
	Hydraulic oil filler plug

Code	Description	Use
A	Hydraulic oil according to ISO VG 32	Hydraulic system
E	Multi-purpose grease according to DIN 51825 T1-K 2K	Lubrication service

5 Maintenance instructions

5.1 Preparing the truck for maintenance and repair work

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.

5.2 Recommissioning

The truck must only be restored to service after cleaning or repair work, once the following operations have been performed:
– Lubricate the truck according to the lubricating diagram.
– Bleed the hydraulic system by pumping the load handler up completely.

6 Decommissioning the truck

If the 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.

⚠ When the truck is out of service, it 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.

6.1 Measures before decommissioning

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

6.2 Returning the truck to operation after decommissioning

– Clean the truck thoroughly.
– Grease the truck.
– Check 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

7 Safety tests to be performed at intervals and after unusual events

➔ A safety check must be performed in accordance with national regulations. Jungheinrich recommends the truck be checked according to FEM guideline 4.004. Jungheinrich has a safety department with trained personnel to carry out inspections.

The truck must be inspected by a qualified inspector at least annually (observe national regulations) or after any unusual event. 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. An inspection report must be produced. The results of the inspection must be retained for at least the next two inspections.

The operating company is responsible for ensuring that faults are rectified immediately.

➔ An inspection plaque is attached to the truck as proof that it has passed the safety inspection. This plaque indicates the due date for the next inspection.

8 Final decommissioning, disposal

➔ Final, correct decommissioning 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.