

EJC 110/112/212

02.17

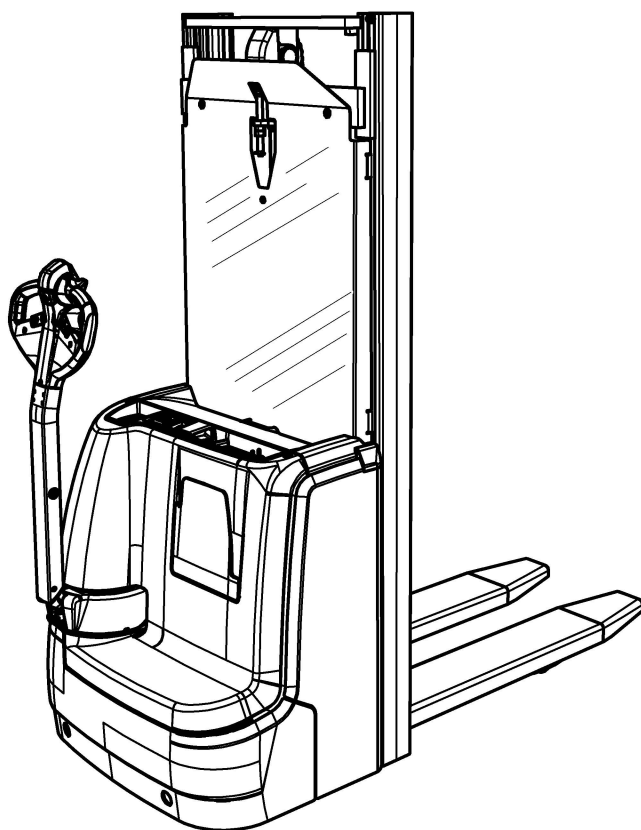
Operating instructions

en-GB

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EJC 110
EJC 112
EJC 212



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A Correct Use and Application

1 General

The truck must be used, operated and serviced in accordance with the present instructions. All other types of use are beyond its scope of application and may result in damage to personnel, the industrial truck or property.

2 Correct application

NOTICE

The maximum load and load distance are indicated on the capacity plate and must not be exceeded.

The load must rest on the load handler or be lifted by an attachment approved by the manufacturer.

The load must be fully raised, see page 87.

The following operations are in accordance with regulations and are permitted:

- Lifting and lowering of loads.
- Stacking and retrieving loads.
- Transporting lowered loads.

The following operations are prohibited:

- Travelling with a raised load (>500 mm).
- Carrying and lifting passengers.
- Pushing or pulling loads.

4 Technical Specifications

- The technical specifications comply with the German "Industrial Truck Data Sheet" Guidelines.
 Technical modifications and additions reserved.

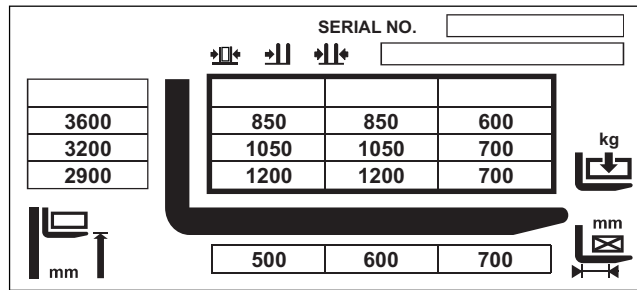
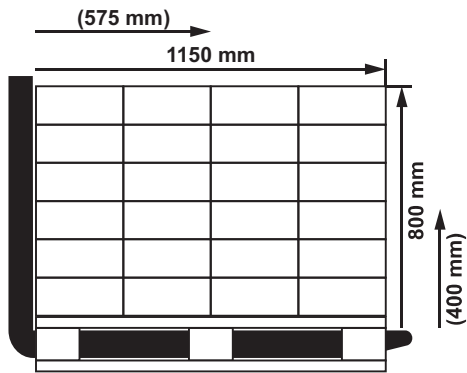
4.1 Performance data

	Reference ¹	EJC 110	EJC 112	EJC 212	
Q	Rated capacity	1000	1200	1200	kg
D	Load centre distance	600	600	600	mm
	Travel speed with/without load	6.0/6.0	6.0/6.0	6.0/6.0	km/h
	Lift speed with/without load (ZT mast)	0.12/0.22	0.13/0.22	0.13/0.22	m/s
	Lower speed with/without load (ZT mast)	0.33/0.33	0.43/0.37	0.43/0.37	m/s
	Drive motor, output S2 60 min.	1.0	1.0	1.0 (1.6) ²	kW
	Lift motor, output S3 %	1.7/10%	2.0/12%	2.0/12%	kW
	Energy consumption according to VDI cycle	0.83	0.93	0.93	kWh/h
¹⁾ Values for standard 290 ZT mast with battery ²⁾ In brackets: Output for electric steering option					

4.2 Gradeability

	Reference ¹	EJC 110	EJC 112	EJC 212	
	Max. gradeability with/without load	8/16	8/16	8/16	%
¹⁾ Values for standard 290 ZT mast with battery					

5.3.1 Example of Use of Capacity Plate



Example load (palletised):

- several cardboard boxes of the same size and same weight
- Load height: 800 mm
- Load length: 1150 mm
- Distances between the load centre distance and the load handler:
400 mm vertical, 575 mm horizontal

For loads with an even weight distribution, the load centre distance lies in the geometric centre of the volume.

For rectangular loads with an even weight distribution over the entire volume the load centre distance is in the middle, i.e. half the length, half the height and half the width of the load.

Load centre distance of the load handler:

- The capacity plate specifies valid load centre distances for the load handler of 500 mm, 600 mm and 700 mm.
- The second load centre distance suits the example load: At 600 mm it is greater than the distances of 400 mm and 575 mm between the load centre of gravity and the load handler .

Capacities as specified in the capacity plate depending on the lift heights at a load centre distance of 600 mm:

- At a lift height of 2900 mm the maximum capacity is 1200 kg.
- At a lift height of 3200 mm the maximum capacity is 1050 kg.
- At a lift height of 3600 mm the maximum capacity is 850 kg.

3 Using the Truck for the First Time

⚠ WARNING!

The use of unsuitable energy sources can be hazardous

Rectified AC current will damage the assemblies (controllers, sensors, motors etc.) of the electronic system.

Unsuitable cable connections (too long, insufficient wire cross-section) to the battery (tow cables) can overheat, setting the truck and battery on fire.

- ▶ The truck must only be operated with battery current.
- ▶ Cable connections to the battery (tow leads) must be less than 6 m long and have a minimum cross-section of 50 mm².

⚠ CAUTION!

Poor visibility through the protector

The mast protection pane protector can impair the operator's visibility.

- ▶ Remove the protector (transport retainer) from both sides of the mast protection pane.

NOTICE

Do not lift loads if the truck is operated via a tow lead with an external battery.

NOTICE

Cold store trucks

- ▶ Trucks designed for use in cold stores have a cold store hydraulic oil and a protective frame instead of a mast guard on the mast.
- ▶ If a truck with cold store oil is used outside the cold store, the lowering speeds may increase.

Procedure

- Check the equipment is complete.
- If necessary, install the battery, see page 56.
- Charge the battery, see page 49.

The truck can now be started, see page 68.

Commissioning and structure

If the truck is delivered in multiple parts, setup and commissioning must only be performed by trained, authorised personnel.

Wheel flattening

If the truck has been parked for a long period, the wheel surfaces may tend to flatten. This flattening has a negative effect on the safety and stability of the truck. Once the truck has covered a certain distance, the flattening will disappear.

4.2 Charging the battery with the on-board charger

⚠ DANGER!

Risk of electric shock and fire

Damaged and unsuitable cables can cause electric shocks and can overheat, resulting in fires.

- ▶ Always use mains cables with a maximum length of 30 m.
Local regulations must be observed.
- ▶ Unwind the cable reel fully when using it.
- ▶ Always use original manufacturer's mains cables.
- ▶ Insulation safety, acid and caustic ratings must comply with the manufacturer's mains lead.
- ▶ The charging connector must be dry and clean when used.

⚠ WARNING!

Danger due to damage to the on-board charger or live attachments

Damage to the on-board battery charger or live attachments (mains cable, plug) can cause a short circuit or electric shock.

- ▶ Do not trap the mains cable when closing the battery panel.
- ▶ Report any defects immediately to your supervisor.
- ▶ Notify the customer service department.
- ▶ Mark the defective truck accordingly and take it out of service.
- ▶ Do not return the truck to service until the fault has been identified and rectified.

NOTICE

Material damage due to incorrect use of the on-board charger

The on-board charger, which comprises the battery charger and battery controller, must not be opened. In the case of faults, contact the manufacturer's customer service department.

- ▶ The battery charger must only be used for batteries supplied by Jungheinrich or other approved batteries provided it has been adapted by the manufacturer's customer service department.
- ▶ Batteries must never be swapped from truck to truck.
- ▶ Do not connect the battery to two chargers simultaneously.

E Operation

1 Safety Regulations for the Operation of Forklift Trucks

Driver authorisation

The 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.

Operator's rights, responsibilities and rules of conduct

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. Safety shoes must be worn on pedestrian-operated trucks.

Unauthorised use of truck

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

Damage and faults

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

3.4 Parking the truck securely

⚠ WARNING!

An unsecured truck can cause accidents

Do not leave an unsecured truck.

- ▶ Park the truck securely when leaving it.
- ▶ Exception: If the operator intends to remain in the immediate vicinity and is leaving the truck for only a short while, the applied parking brake is sufficient to hold the truck, see page 83. Immediate vicinity is when the operator is able respond to malfunctions or attempts to use the truck by unauthorised persons immediately.

⚠ WARNING!

An unsecured truck can cause accidents

Do not park the truck on an incline. Do not park the truck without the brakes engaged. Do not park and leave the truck with the load handler raised.

- ▶ Park the truck on a level surface. In special cases the truck may need to be secured with wedges.
- ▶ Fully lower the load handler when leaving the truck.
- ▶ Select a place to park where no other people are at risk of injury from the lowered load handler.
- ▶ If the brakes are not working, place wedges underneath the wheels of the truck to prevent it from moving.

Parking the truck securely

Procedure

- Park the truck on a level surface.
- Fully lower the load handler (56):
 - Press the lower button (53).
- Using the tiller (17), turn the drive wheel to the straight-ahead position.
- Switch off the truck; to do this:
 - Turn the key in the key switch (16) anti-clockwise as far as it will go. Remove the key from the key switch (16).
 - Press the red key on the ISM access module (○).
- Press the emergency disconnect switch (9).

The truck is parked.

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4.5 Slow travel

⚠ CAUTION!

Risk of accident if the service brake is deactivated

Particular care and attention is required by the operator during slow travel. The service brake is deactivated during slow travel and is only reactivated after the "slow travel" button is released.

- ▶ In hazardous situations brake by immediately releasing the "slow travel" button and the travel switch.
- ▶ During slow travel you can only brake by coating braking.

→ The truck can be operated with an upright tiller (17) (e. g. in confined spaces / elevators).

Switch on the slow travel function

Procedure

- Press and hold down the "slow travel" button (10).
- Rotate the travel switch (7) in the required travel direction.

The brake is released. The truck travels at slow speed.

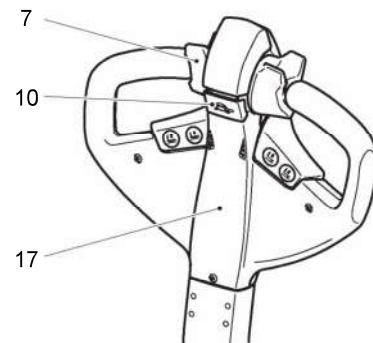
Switching off slow travel

Procedure

- Release the "slow travel" button (10).
If the tiller is in brake zone "B", the brake applies and the truck stops.
If the tiller is in brake zone "F" the truck continues at slow travel speed.

- Release the travel switch (7).

Slow travel ends and the truck can now travel again at normal speed.



4.9.4 Depositing a load

NOTICE

Avoid depositing the load suddenly to avoid damaging the load, load handler and the rack.

⚠ CAUTION!

Loads must not be set down on transport or escape routes, in front of safety installations or factory equipment that must be accessible at all times.

Requirements

- Storage location suitable for storing the load.

Procedure

- Drive the truck carefully up to the storage location.
 - Lowers the load handler.
- ➔ To avoid damaging the load and the load handler, avoid setting the load down abruptly.
- Lower the load handler so that it is clear of the load (see page 86).
 - Carefully drive the load handler out from beneath the pallet.

The load is deposited.

- ➔ EJC 110 (●)
The lowering speed can be set to two levels using the button travel.
First 90% of button travel = slow lower
Last 10% of button travel = fast lower

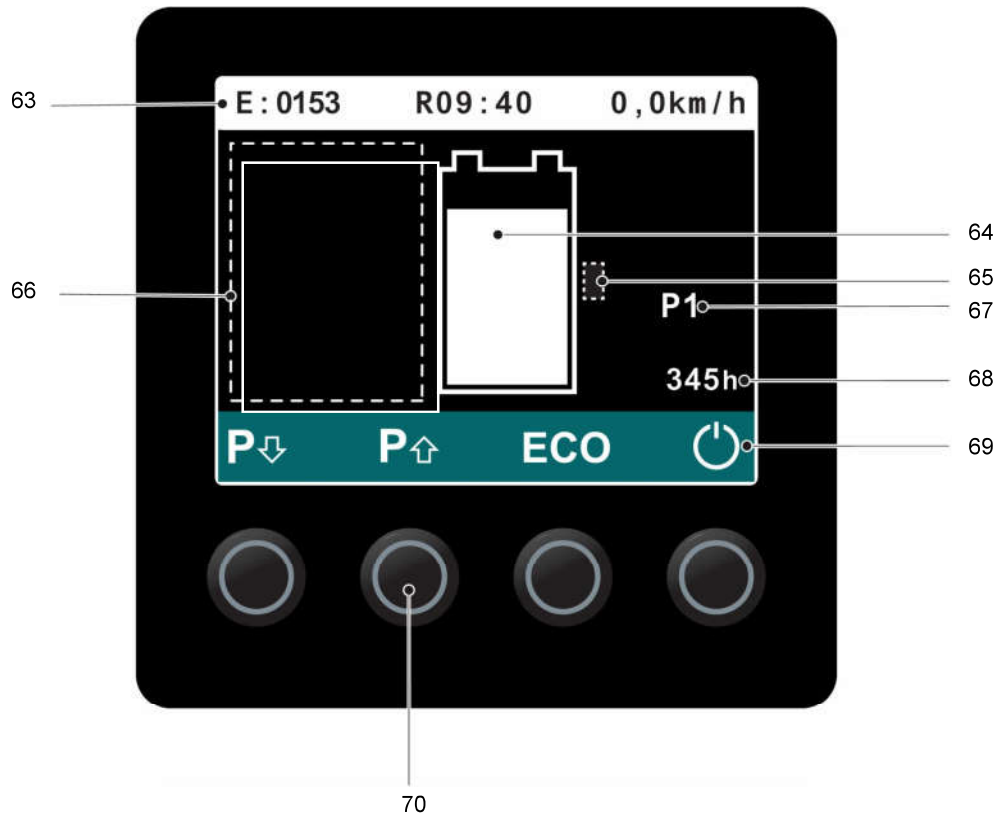
- ➔ EJC 110 (○)
EJC 112 / 212 (●)
The lowering speed can be infinitely adjusted via the travel of the button (approx. 8 mm).
Short switch stroke = slow lower
Long switch stroke = fast lower

Soft landing (○)

The "soft landing" feature reduces the lowering speed of the load just before it reaches the ground (approx. 100 - 300 mm).

8 Optional equipment

8.1 Display unit (2 inch display)



Item	Control or display	Function
63	Information line	Display of event messages, speed and remaining run time
64	Battery capacity display	Battery discharge status
66	Symbol field	Displays the symbols, see page 104.
65	Battery type (characteristics)	Displays the set battery type or set battery characteristic curve ⁷ 1 = Maintenance-free gel/dry-cell battery 2 = Special battery, for example XFC
67	Travel program	Shows the travel program selected.
68	Service hours	see page 19
69	Button allocation	see page 102
70	Buttons	Selection buttons for the functions shown above them.

⁷) If the setting is for normal or high-performance wet-cell batteries or batteries for special options, no battery type is shown.

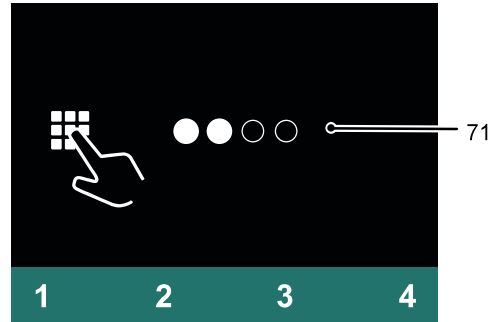
8.5 Using the Display:

8.5.1 Switch on the truck with the access code.

Procedure

- Release the emergency disconnect switch, see page 76.
- Enter the access code with the buttons below the display (71).

The truck is switched on.

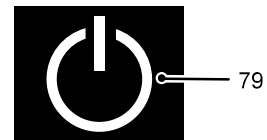


8.5.2 Switching off the truck

Procedure

- Press the key under the "Switch off" symbol (79) in the display unit.
- Press the Emergency Disconnect switch, see page 76.

The truck is switched off.



8.7 Operating the transponder reader

NOTICE

Take care not to damage the transponder. If the transponder is damaged, the truck cannot be switched on.

8.7.1 Switching on the truck with the transponder

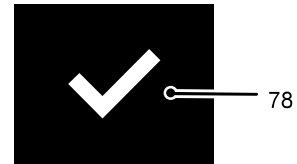
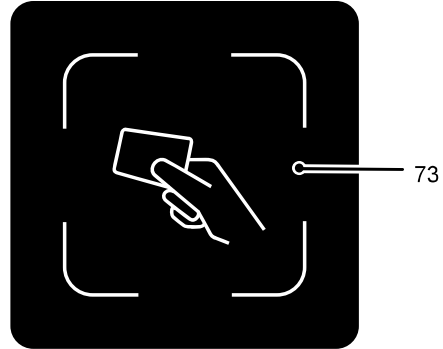
Procedure

- Release the Emergency Disconnect switch, see page 76.
- Hold the transponder in front of the transponder reader (73).

A green tick appears and remains until the transponder has been confirmed. If there is no confirmation within 20 seconds the access prompt appears.

- Press the button below the "Confirm" symbol (78).

The truck is switched on.



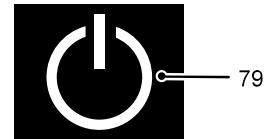
- The truck can only be switched on when the display unit (71) is lit. If the display unit is in standby the code or transponder will not be recognised. Pressing any key cancels standby mode.

8.7.2 Switching the truck off (transponder reader)

Procedure

- Press the key under the "Switch off" symbol (79) in the display unit.
- Press the Emergency Disconnect switch, see page 76.

The truck is switched off.



3.4 Hydraulic system

⚠ WARNING!

Leaky hydraulic systems can result in accidents

Hydraulic oil can escape from leaky and faulty hydraulic systems.

- ▶ Report any defects immediately to your supervisor.
- ▶ Mark defective truck and take out of service.
- ▶ Do not return the industrial truck to service until you have identified and rectified the fault.
- ▶ Remove any spilled hydraulic immediately with an appropriate bonding agent.
- ▶ The bonding agent / consumable mixture must be disposed of in accordance with regulations.

⚠ WARNING!

Faulty hydraulic hoses can result in injury and infection

Pressurised hydraulic oil can escape from fine holes or hairline cracks in the hydraulic hoses. Brittle hydraulic hoses can burst during operation. People standing near the truck can be injured by the hydraulic oil.

- ▶ Call for a doctor immediately in the event of an injury.
- ▶ Do not touch pressurised hydraulic hoses.
- ▶ Report any defects immediately to your supervisor.
- ▶ Mark defective truck and take it out of service.
- ▶ Do not return the industrial truck to service until you have identified and rectified the fault.

NOTICE

Testing and replacing hydraulic hoses

Hydraulic hoses can become brittle through age and must be checked at regular intervals. The application conditions of the industrial truck have a considerable impact on the ageing of the hydraulic hoses.

- ▶ Check the hydraulic hoses at least annually and replace if necessary.
- ▶ If the operating conditions become more arduous the inspection intervals must be reduced accordingly.
- ▶ In normal operating conditions a precautionary replacement of the hydraulic hoses is recommended after 6 years. The owner must carry out a risk assessment to ensure safe, prolonged use. The resulting protection measures must be observed and the inspection interval reduced accordingly.

5.4 Cleaning

5.4.1 Cleaning the truck

⚠ CAUTION!

Fire hazard

Do not use flammable liquids to clean the industrial truck.

- ▶ Disconnect the battery before starting cleaning work.
- ▶ Carry out all necessary safety measures to prevent sparking before cleaning (e.g. by short-circuiting).

NOTICE

Risk of component damage when cleaning the truck

Cleaning with a high-pressure cleaner can result in malfunctions due to humidity.

- ▶ Cover all electronic system assemblies (controllers, sensors, motors etc.) before cleaning the truck with a high-pressure cleaner.
- ▶ Do not hold the jet of the pressure washer by the marked points to avoid damaging them (see page 27).
- ▶ Do not clean the truck with a steam jet.

→ The truck may only be cleaned in the designated locations, which adhere to the stipulations of the country of use.

Requirements

- Truck prepared for maintenance and repair work (see page 138).

Tools and Material Required

- Water-based solvents
- Sponge or cloth

Procedure

- Clean the surface of the truck with water-based solvents and water. Use a sponge or cloth to clean.
- In particular, clean the following areas:
 - Window(s)
 - Oil filler ports and their surroundings
 - Grease nipples (before lubrication)
- Dry the truck after cleaning, e.g. with compressed air or a dry cloth.
- Carry out all the tasks in the section "Recommissioning the truck after cleaning or maintenance work" (see page 148).

The truck is now clean.

G Maintenance and Inspection

⚠ WARNING!

Lack of maintenance can result in accidents

Failure to perform regular maintenance and inspections can lead to truck failure and poses a potential hazard to personnel and equipment.

- ▶ Thorough and expert maintenance and inspections are among the most important requirements for the safe operation of the industrial truck.

NOTICE

The application conditions of an industrial truck have a considerable impact on component wear. The following service, inspection and replacement intervals are based on single-shift operation under normal operating conditions. The intervals must be reduced accordingly if more stringent requirements are placed on the equipment, e.g., use in conditions of extreme dust, temperature fluctuations or multiple shifts.

- ▶ To prevent damage due to wear, the manufacturer recommends an on-site application analysis to agree on appropriate intervals.

The following chapter defines the tasks to be performed, the respective intervals to be observed and the maintenance parts for which replacement is recommended.

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