

Instruction Manual and Spare Parts List for Mobile Pit Lifts

Original Instruction Manual



Blitz R 15/15
R 20/15
R 15/15/15

Blitz X 15/15
X 20/15
X 15/15/15

Blitz M 15/15
M 20/15
M 15/15/15

Junior Jack 0,5 S3
2,0 S3

Master Jack 2,5
4,0

Type

Serial Number

Date

EC Declaration of Conformity

under the terms of the EC Directive 2006/42/EC on machines

Name and Address of the Manufacturer

BlitzRotary GmbH
Hüfing Str.55
78199 BRÄUNLINGEN, GERMANY

Attach name plate here
Type
Year of construction
Serial Number

This declaration concerns only machines in the condition in which they were marketed; parts later installed by the user and/or later interventions are not taken into consideration. This declaration becomes invalid if the product is modified or changed without permission.

We hereby declare that the machine described below

Product designation Pit lift

Series/Type description

Blitz R, Blitz M, Blitz X, Junior Jack, Master Jack

Machine/Serial No.:

Year of construction:

complies with all provisions of the Directive 2006/42/EC on machinery. The machine also complies with the provisions of Directive 2014/30/EU on electromagnetic compatibility (protection targets were met pursuant to Appendix I, No. 1.5.1 of Directive 2006/42/EC on machinery).

Applied Harmonised Standards

- DIN EN 1494:2009-05 Mobile or portable lifts and related equipment
- DIN EN ISO 12100:2011-03 Safety of machines - Basic terms
- DIN EN 60204-1:2019-06 Electrical equipment of machines
- DIN EN 349:2008-09 Safety of machines - minimum distances

Other Applied Technological Standards and Specifications

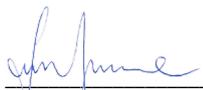
- DGUV Regel 100-500 Operation of work equipment
- DGUV V3 Accident prevention regulations for electrical installations and work equipment

Representative for the Compilation of the Relevant Technological Documentation:

BlitzRotary GmbH, Hüfing Str. 55, 78199 Bräunlingen

Location: Bräunlingen

Date : 28.10.2021



 Simone Ferrari
 Manager

Concerning this instruction manual

This instruction manual applies to several assembly series with two different designs:

H

Hydraulic (pneumatic) design

E

Electro-hydraulic design

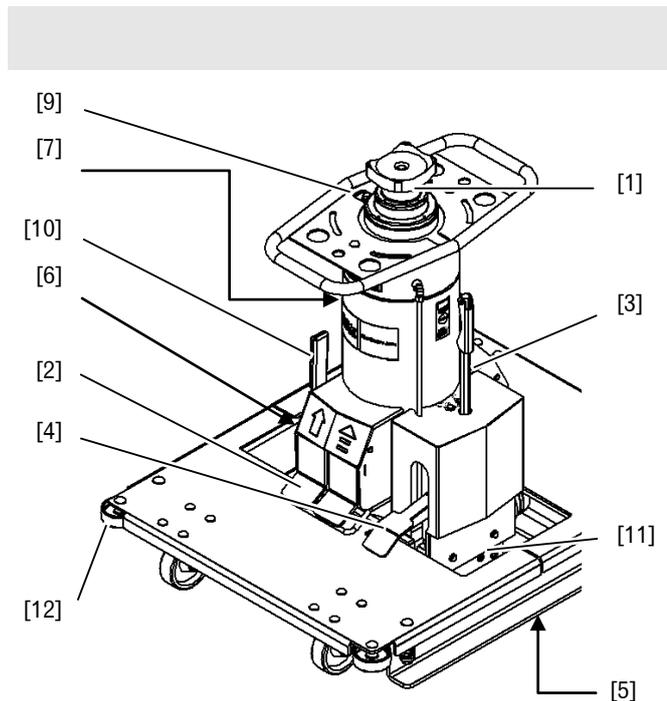
- Text sections marked with the **symbols** shown above apply only to lifts of the corresponding design.
- **Position numbers [1]** in the instruction manual always refer to the figures and the component overview shown here.
- **Cross references** → must be taken into consideration.

Overview of the series

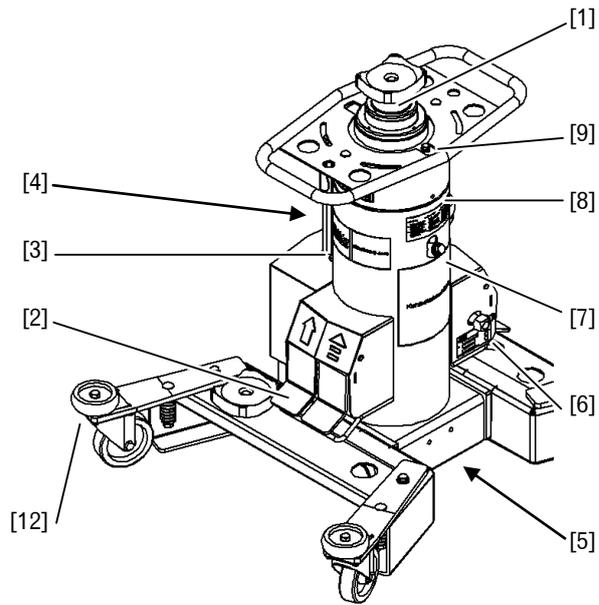
The overview in each case shows a variation of the series.

Component Overview for all Construction Series

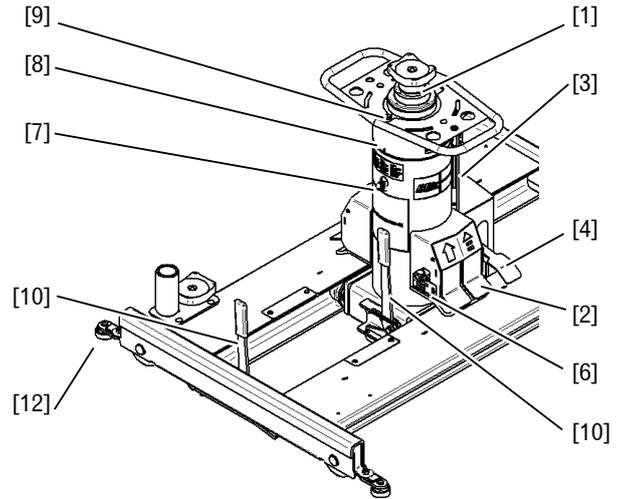
- [1] Piston rod
- [2] Controls
- [3] Relief valve
- [4] Manual pump
- [5] Oil drain screw lifting
- [6] Compressed air connection
- [7] Oil dip stick lifting / oil filler neck
- [8] Oil drain screw return
- [9] Oil dips stick return / oil filler screw
- [10] Brake
- [11] Operating pressure measuring screw
- [12] Deflector rollers



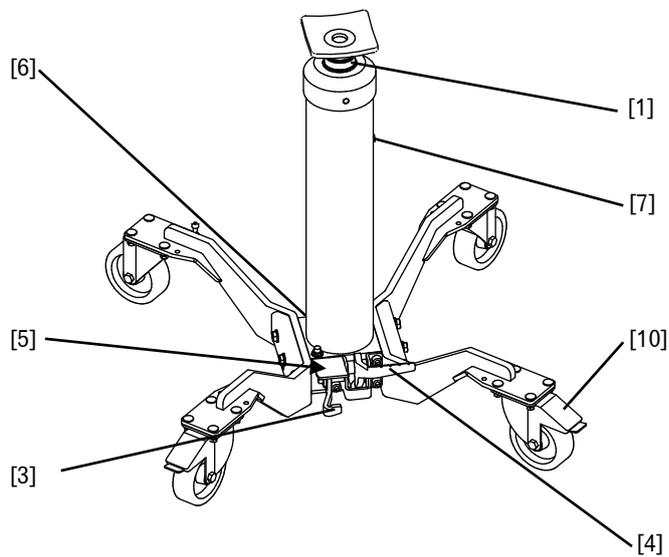
Series:
Blitz M



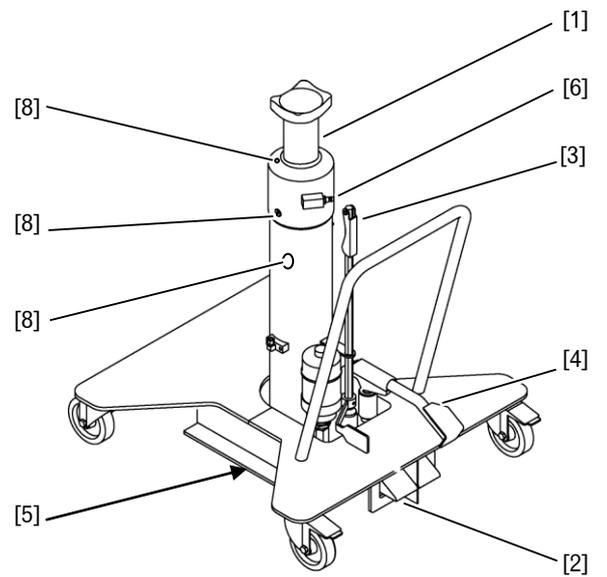
Series:
Blitz X



Series:
Blitz R



Series:
Junior Jack S3



Series:
Master Jack

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1 Introduction & Basic Safety Instructions

Blitz lifts are the result of long years of experience. The high quality standards and the superior concept guarantee you reliability, long fatigue life, and efficiency. In order to avoid unnecessary damage and hazards, you should read this instruction manual carefully and should always follow the instructions. This instruction manual applies to rail-guided pit lifts as well as for freely movable lifts.

1.1 Intended Use

The lift is intended exclusively for partial lifting of vehicles and for the transport of vehicle parts (engine, transmission). Any use beyond this shall be considered as not intended.

- ▶ Lifting of persons is prohibited.
- ▶ Always secure lifted vehicles with supporting bridges/A-frames.
- ▶ The normal fatigue life is 10 years.

1.2 Basic Instructions

- ▶ The lift may only be operated by workshop staff with corresponding training.
- ▶ Electric, hydraulic, and pneumatic work may only be performed by specialists.
- ▶ Please follow the instruction manual.
- ▶ Always keep the instruction manual available at the place of use.
- ▶ Refer to all safety and hazard notes on the lift, and keep them legible.
- ▶ The workshop operator must insure that all safety regulations are observed by the workshop staff.
- ▶ Technical modifications of the lift are not permitted.
- ▶ The instruction manual is a part of the product and must be passed on to subsequent users.
- ▶ Please observe the maintenance intervals.

1.3 Safety-relevant components

- Hydraulic pressure relief valve
- Hydraulic counterbalance valve
- Tilt protections [1] on the lift cylinder

1.4 Explanation of Notes



DANGER

Danger to life, risk of injury

- ▶ Measures
-



WARNING

Risk of injury and material damage

- ▶ Measures
-



CAUTION

Material damage

- ▶ Measures
-

2 Storage

Store the lift in a dry place and protected from the weather at an ambient temperature of -10 to +50 °C. Please contact the manufacturer if machine has been in storage for more than 6 months.

3 Transport, Installation, and Assembly



DANGER

Danger to life, risk of injury from improper transport

- ▶ Always transport the lift with suitable hoists and transport equipment (for example fork lifts or cranes).
- ▶ Never loiter under raised loads.

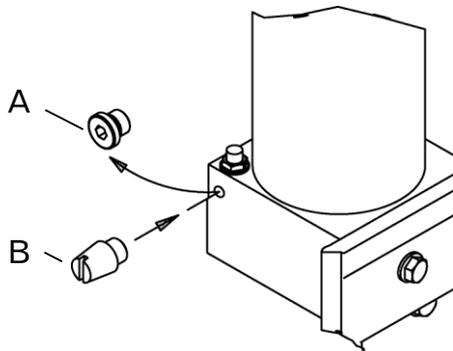
Safety Notes

- ▶ Hoist the lift only at pick-up points.
- ▶ Transport the lift cylinder horizontally and with the controls at the top.
- ▶ Secure moving and loose parts.

3.1 Prepare Lifting Cylinder for Operation

Junior Jack S3

Blitz 15/15



Blitz 15/15/15

Master Jack

- ▶ The above-named lifts are supplied ready for operation (including oil) and can be used immediately.

- ▶ Remove cover A.
- ▶ Screw in silencer B.

3.2 Install and Assemble the Lift



WARNING

Risk of injury and material damage from a toppling lift

- ▶ Install the lift only on level and solid ground with sufficient load carrying capacity.
- ▶ Use lifts with under floor carriage only on parallel rails with sufficient load capacity.

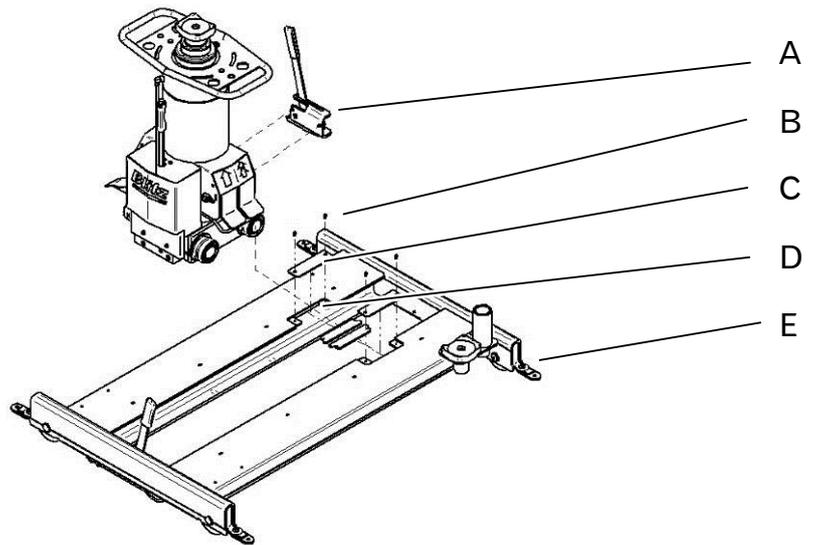
Safety Notes

- ▶ Use hoists only with rollers fitting the rails.
- ▶ Use lifts with an inground carriage only in the workshop pit for which they have been manufactured.
- ▶ Always adjust the guide rollers E so that the carriage cannot leave the rails.

There are three carriage types:

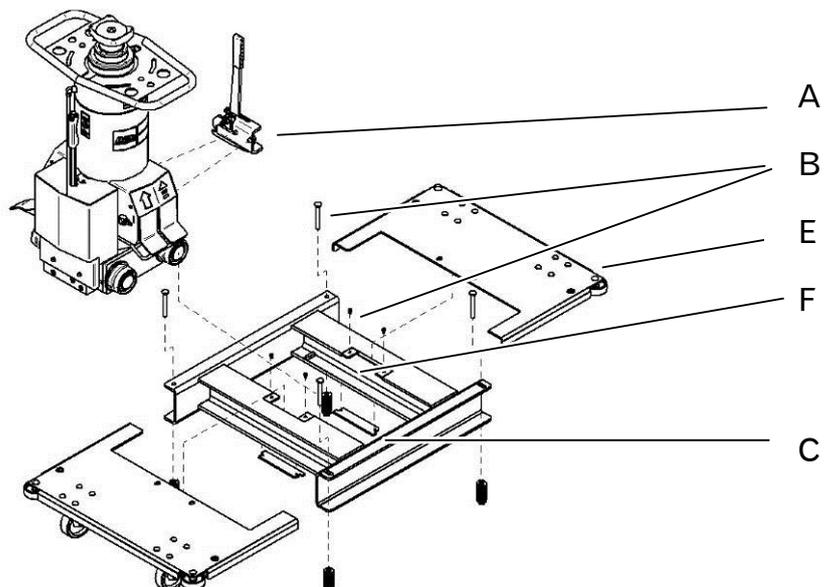
- Carriage R (rail carriage)
- Carriage M (free floor-running carriage)
- Carriage X (free floor-running carriage), does not have to be disassembled

Rail carriage (Blitz R)



- ▶ Loosen brake A from the lift cylinder by removing the bolts.
- ▶ Lift the lift unit from the carriage:
To do so, loosen the bolts B and remove the cover C.
Remove the lift cylinder through the opening D.
- ▶ Lower the carriage onto the rails and install the lift cylinder again on the carriage.
- ▶ Match rollers E to the pit width.
- ▶ Check safe contact of the rollers over the entire length of the rails.

Free floor-running carriage (Blitz M)

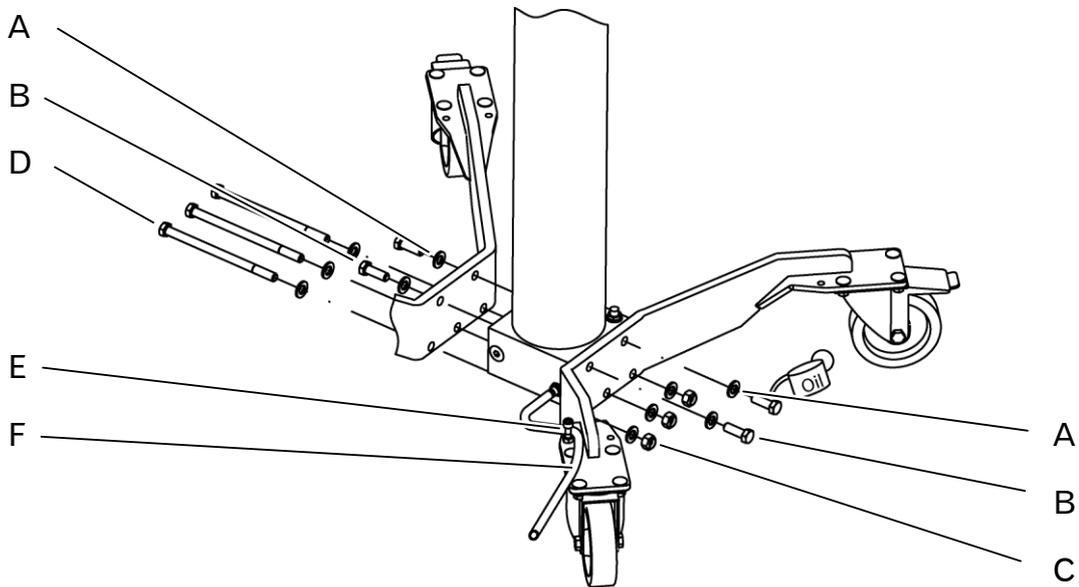


- ▶ Before assembly, it is helpful to support the base frame so that the rollers are free.
- ▶ Loosen brake A from the lift cylinder by removing the bolts.
- ▶ Lift the lift unit from the carriage:
For this, loosen the bolts B and remove the cover C.
- ▶ Loosen springs D and remove the cover plate E.
- ▶ Remove the lift cylinder through the opening F.

- ▶ Lower the carriage into the pit and install the lift cylinder again on the carriage.

Free floor-running carriages (Junior Jack S3)

Attention: Do not position the lift horizontally for installation of the feet!



- ▶ Install the carriage parts on the lift cylinder:
To do so, gently tighten 2 washers A and 2 short oiled bolts B on both sides. On the bottom, gently tighten 3 washers A, 3 nuts C, and long oiled bolts D.
- ▶ Align the carriage parts on a level surface and tighten screw connections with a tightening torque of 40 Nm.
- ▶ Connect bracket E to hose F.

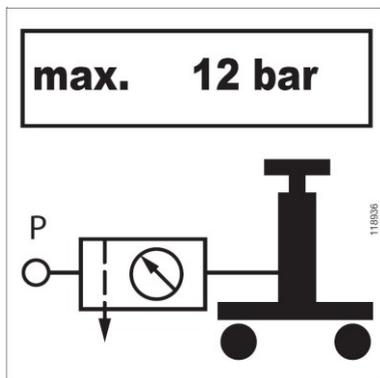
3.3 Compressed Air Supply



Required compressed air quality according to ISO8573-1:

- Air quality: Pressure dew point $\leq 5^\circ\text{C}$
Filtration of all solid particles > 3 micron
- Connection pressure:

Blitz Master Jack	min.	9 bar	max.	12 bar
Blitz Junior Jack	min.	3 bar	max.	6 bar
- Air consumption for models with air motor: ca. 300 Nm³/min.



Electrical Connection



WARNING

Risk of injury and material damage from electric shock

- ▶ The electrical connection and the applicable national protection regulations shall be provided and checked by a specialist.

The electrical connection must be composed of a cable with 5-pin CEE coupling 16 A, which is connected to a 400 V/50 Hz mains supply. A circuit breaker of 3.8 A must exist. The manufacturer recommends a suitable cable suspension system.

4 Commissioning

Before initial operation:

- ▶ Connect the compressed air supply or the electrical connection to the lift.
- ▶ Check the hydraulic fluid level. (→ 6.4)
- ▶ Perform a safety check (→ 6.5)

5 Operation

5.1 Load-carrying Devices

Safety Notes

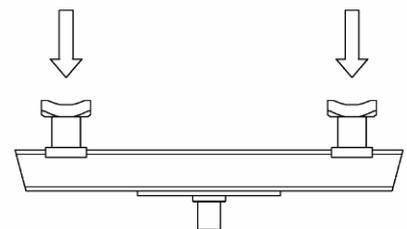
- ▶ Do not stack extensions.
- ▶ Always use original load-carrying devices of the manufacturer with suitable pins.

Support plate and extension



Lift a vehicle at one point.

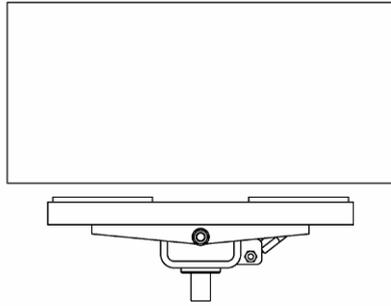
Traverse



Lift vehicles gently at two points.



Transmission plate



Safe removal, installation, and transport of vehicle parts.

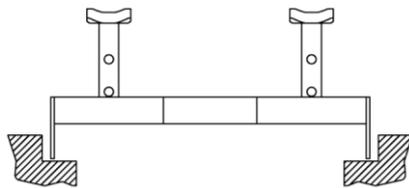
Use special support plates and extensions, when required, for load pick-up points which are difficult to access. Contact the manufacturer for further information concerning all load pick-up devices.

5.2 Supporting Bridges and A-frames

Safety Notes

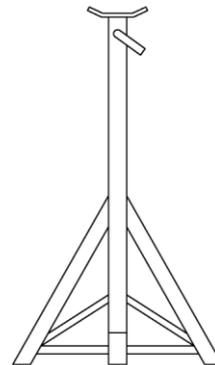
- ▶ Insure safe contact of the supporting bridges/A-frames over the entire length of the pit or the plant floor.

Supporting bridge



For use in workshop pits.

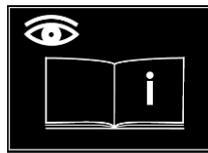
A-frame



For use on workshop floors, e.g. under lift platforms.

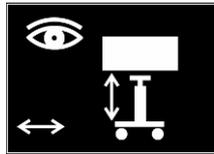
Contact the manufacturer for further information concerning all load pick-up devices.

5.3 Advice on hazards



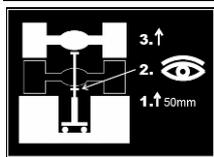
CAUTION

Please refer to the instruction manual.



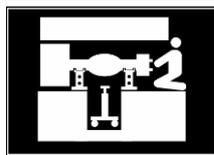
DANGER

Start movement of the lift only when there is no danger to personnel.
Always monitor lifting and lowering movements.
Use the lift only in a proper condition in relation to safety.



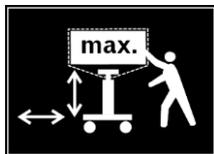
DANGER

Always check that the vehicle is secure at the pick-up points after a short lift.
Always use suitable load pick-up devices.
Use load pick-up devices only on horizontal, level, and stable load pick-up points specified by the vehicle manufacturer.



DANGER

Always secure lifted vehicles with supporting bridges/A-frames.



DANGER

Do not exceed the max. permissible load capacity of the lift.
Secure vehicle part with chains or belts.
Transport vehicle parts only when lowered.



CAUTION

The lift may only be operated by workshop staff with the corresponding training.



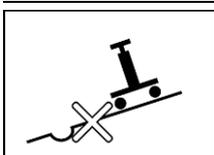
CAUTION

Lifting or persons or climbing onto the lift or the load is not permitted.



CAUTION

Never loiter under raised loads.



CAUTION

Use the lift only on level and solid ground.

5.4 Lifting, Lowering, and Transporting Loads



DANGER

Danger to life, risk of injury from lifted vehicles

- ▶ Only load lift and load pick-up devices centrally by positioning the center of gravity in the middle.
-

Safety Notes

- ▶ Always keep the movement range of the lift free.
 - ▶ Keep the movement range of the load and the load pick-up devices free.
 - ▶ Complete lifting of vehicles with one or more lifts is not permitted.
 - ▶ Always shut down and secure the lift immediately in case of malfunction. Always have malfunctions repaired immediately.
 - ▶ Do not operate the lift with compressed air containing condensate or dirt.
 - ▶ For work with strongly adhesive underbody sealants or lacquers, cover the piston rod.
 - ▶ Keep the piston rod and the pins of load pick-up devices free of sand and dirt.
 - ▶ Disconnect the lift from the compressed air supply at the end of work or before longer breaks.
 - ▶ Remove the removable pump rods after each work process.
-



CAUTION

Damage to lifts and vehicles from load pick-up devices and extended piston rods

- ▶ Piston rods must always be completely retracted when entering or leaving workshop pits and lifting platforms.
- ▶ A sufficient distance must exist between load pick-up devices and vehicle.

Considerable longitudinal forces can occur when vehicle axles are lifted.

- ▶ Disengage the handbrake and shift to idle, so that the wheels can roll.
-

Raising a vehicle

- ▶ Lift the vehicle slightly with the lift at the load pick-up point.
- ▶ Check for safe support and secure seating of the vehicle.
- ▶ Lift the vehicle to the desired height.
- ▶ Secure the vehicle against rolling off, for example with drag shoes.
- ▶ Secure lifted vehicle with supporting bridges/A-frames.

Lowering the vehicle

- ▶ Remove the roll-away protection from the vehicle.
- ▶ Lift the vehicle slightly with the lift and remove the supporting bridges/A-frames.
- ▶ Lower the vehicle slowly.
- ▶ Retract the piston rod [1] completely and make sure that the support plate is on the piston rod.

Transporting vehicle parts

- ▶ Position the vehicle part on a lift with a suitable transmission plate in centered position.
- ▶ Secure the vehicle part with chains or belts.
- ▶ Retract the piston rod [1] completely and transport the vehicle part.

6 Maintenance and Repair



WARNING

Risk of injury and material damage

- ▶ Always service and repair the lift without a load.

Safety Notes

- ▶ Maintenance and repair work on the lift may be performed only by specialists.
- ▶ Before all maintenance and repair work, disconnect the lift from the compressed air supply or the mains.
- ▶ After maintenance and repair work on the hydraulic system, the system must be vented.
- ▶ Screwed connections loosened during maintenance and repair work always must be tightened again.
- ▶ Do not clean a lift with high-pressure or steam jets.
- ▶ As there is high risk of slipping on an oily workshop floor, oil always must be caught in a suitable container and must be disposed of correctly.
- ▶ The safety regulations for the product must be observed when handling oil, grease, and chemical substances.
- ▶ Do not use aggressive cleaning agents to clean the lift.
- ▶ Only use original spare parts of the manufacturer and approved supplies.
- ▶ Always make sure that materials and consumable (for example hydraulic fluid) and replaced parts are disposed of in a safe and environmentally friendly manner.

6.1 Maintenance intervals

Lifts in continuous operation or in especially dirty environments should be serviced more frequently.

Weekly

- ▶ Perform a function test (→ 6.2)
- ▶ Check the compressed air supply. (→ 6.3)
- ▶ Check the hydraulic fluid level. (→ 6.4)
- ▶ Check connection cables/hoses for damage and chafing.
- ▶ Lubricate the rollers of the lift unit and the carriage.
- ▶ Clean the lift and service it with anti-rust agents.

Yearly

- ▶ Perform a safety check. (→ 6.5)
- ▶ Change the hydraulic fluid. (→ 6.6)
- ▶ Clean and lubricate all rollers.

Every 5 years

- ▶ Replace the hydraulic hoses (→ 6.7)

6.2 Perform a function test

- ▶ Check the full functionality of the lift without a load.
- ▶ Check the full functionality of the lift with a load.
- ▶ Shut down and secure the lift immediately in case of malfunction. Always have malfunctions repaired immediately and ensure trouble-free operation.

6.3 Check the compressed air supply.



- ▶ Check and service the filter and the water trap according to the specifications of the manufacturer.
- ▶ Check the connection pressure. (→ 3.3)

6.4 Check the hydraulic fluid level.

Hydraulic fluid load lift

- ▶ Retract the piston rod [1] completely.
- ▶ Disconnect the lift from the compressed air supply or the mains.
- ▶ Remove the load lifting dipstick [7] by turning it, and check the hydraulic fluid level. If required, fill with hydraulic fluid up to the mark.
- ▶ Replace the dipstick.

Hydraulic fluid level return

- ▶ Extend the piston rod [1] completely.
- ▶ Disconnect the lift from the compressed air supply or the mains.
- ▶ Remove the return dipstick [9] by turning it, and check the hydraulic fluid level. If required, fill with hydraulic fluid up to the mark.
- ▶ Replace the dipstick.

6.5 Perform a safety check.

The safety check must be performed by a specialist:

- Prior to initial commissioning
- Periodically after initial commissioning (at the latest yearly)
- After a change in the installation location
- After repair work and construction changes

The following items must be checked on the lift:

- Quick reference guide
 - Name plate
 - Markings on the lift
 - Correct installation of the carriage
 - Tilt protections on the lift cylinder
 - Pull-out protection on the carriage
 - Condition of the load pick-up devices and controls
 - Condition of the support structure and the welding seams
 - Leak-tightness of the hydraulic system
 - Hydraulic fluid level
 - Connection cables/hoses
- ▶ Perform a function test
 - ▶ Enter the result into an inspection log

6.6 Changing the hydraulic fluid

The fluid change requires:

- Receptacle for the hydraulic fluid
- Hydraulic fluid, class HLP, viscosity ISO-VG 10, 22, or 32 (e.g. HLP 22).
- Information concerning the oil capacity. (→Specifications)
- New O-rings. (→Spare parts catalog)

Hydraulic fluid load lift

- ▶ Retract the piston rod [1] completely.
- ▶ Disconnect the lift from the compressed air supply or the mains.
- ▶ Remove the load lifting fluid drain plug [5] by turning it, and drain the hydraulic fluid.
- ▶ Replace the fluid drain plug with a new O-ring.
- ▶ Remove the load lifting dipstick [7] by turning it, and fill with new hydraulic fluid up to the mark.
- ▶ Replace the dipstick with a new O-ring.

Hydraulic fluid return

- ▶ Extend the piston rod [1] completely.
- ▶ Disconnect the lift from the compressed air supply or the mains.
- ▶ Remove the return fluid drain plug [8] by turning it, and drain the hydraulic fluid.
- ▶ Replace the fluid drain plug with a new O-ring.
- ▶ Remove the return dipstick [9] by turning it, and fill with new hydraulic fluid up to the mark.
- ▶ Replace the dipstick with a new O-ring.

- ▶ After the fluid change, bleed the lift. (→ 6.8)

6.7 Replacing the hydraulic hoses

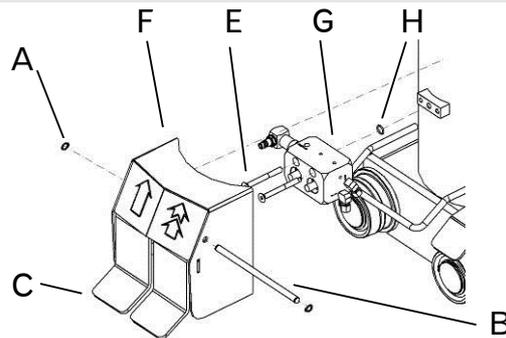
E

- ▶ Retract the piston rod [1] completely.
- ▶ Disconnect the lift from the mains.
- ▶ Remove the bleed screw and install the cover D. (→ 3.1)
- ▶ Place the lift horizontally.
In case of inground carriages, remove the lift cylinder first. (→ 3.2)
- ▶ Disconnect the hydraulic hoses and attach new ones.
- ▶ Position the lift vertically.
In the case of inground carriages, reset the lifting cylinder into the carriage.
- ▶ Remove the cover D and check the load lifting hydraulic fluid level. (→ 6.4)
- ▶ Reinstall the bleed screw and bleed the lift. (→ 6.8)

6.8 Bleed the lift

- ▶ Operate the manual pump [4] approximately 5 to 10 times, and at the same time actuate the drain valve [3].
- ▶ Extend and retract the piston rod [1] completely.
- ▶ Repeat as needed.

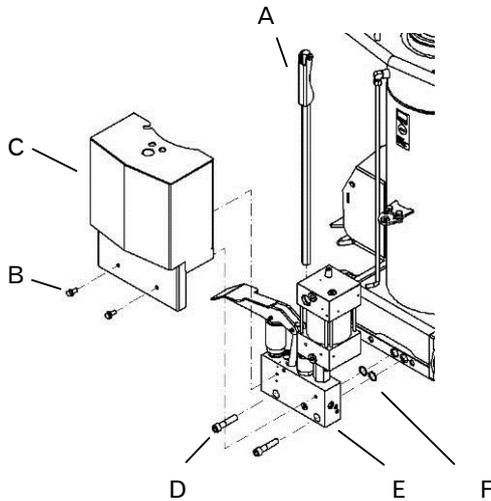
6.9 Clean or Replace the Pneumatic Control Valve



- ▶ Disconnect the lift from the compressed air supply.
- ▶ Remove the snap ring A, pull out axle B, and remove pedals C.
- ▶ Remove bolt E and remove the cover F and the control valve G to the front.
- ▶ Replace the O-ring H, attach a new control valve, and fasten again with the bolt E.
- ▶ Attach the pedals C and the axle B and secure with the snap ring A.

6.10 Replace the Hydraulic Block

Does not apply for Junior Jack S3.



- ▶ Disconnect the lift from the compressed air supply.
- ▶ Place the lift horizontally.
In the case of inground carriages, remove the lift cylinder first. (→ 3.2)
- ▶ Pull out lowering lever A.
- ▶ Remove the bolts B and remove the cover C.
- ▶ Disconnect the compressed air lines on the air motor.
- ▶ Remove the screws D and remove the hydraulic block E to the front.
- ▶ Remove the strainer, clean it, and reinstall it.
- ▶ Replace the O-rings F.
- ▶ Attach a new hydraulic block and fasten it again with the bolts D.
- ▶ Reattach the compressed air lines.
- ▶ Fasten the cover C again with the bolts B and install the lowering lever A.
- ▶ Set the lift vertically.
In the case of inground carriages, reset the lifting cylinder into the carriage.
- ▶ Check the load lift hydraulic fluid level. (→ 6.4)
- ▶ Bleed the lift. (→ 6.8)

7 Troubleshooting

If the lift does not function without problems, it may have a simple cause. Please contact customer service in the case of an undefined problem.

Problem	Possible cause	Repair
Piston rod [1] moves down under load.	<ul style="list-style-type: none"> • Cylinder tube corroded, piston sleeves worn, or ball valves leaking. • Hydraulic fluid contaminated. 	<ul style="list-style-type: none"> ▶ Request customer service. ▶ Change the hydraulic fluid. (→ 6.6)
Hydraulic fluid leaks at the piston rod [1].	<ul style="list-style-type: none"> • Damage to the piston rod has destroyed the seal. 	<ul style="list-style-type: none"> ▶ Request customer service.
<ul style="list-style-type: none"> • Hydraulic fluid leaks at the pneumatic control valve. • Fluid level too high. 	<ul style="list-style-type: none"> • Water gets into the fluid tank together with the compressed air. • Piston sleeves at the lifting cylinder is leaking. 	<ul style="list-style-type: none"> ▶ Check the hydraulic fluid level (→ 6.4), change the fluid in case of too high fluid level (→6.6). ▶ Check the air supply (→3.3). ▶ Request customer service.
Controls [2] do not return to the initial position.	<ul style="list-style-type: none"> • Contamination. 	<ul style="list-style-type: none"> ▶ Clean or replace the pneumatic control valve. (→ 6.9)
Air leaks at the pneumatic control valve.	<ul style="list-style-type: none"> • Contamination, damage, or defective seal. 	<ul style="list-style-type: none"> ▶ Clean or replace the pneumatic control valve. (→ 6.9)

8 Shutting Down and Disposal

- ▶ Drain the hydraulic fluid. (→ 6.6)
- ▶ Disassemble the lift. (→3.2)
- ▶ Correctly dispose of the hydraulic fluid and the lift.

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