Installation, Operation and Maintenance Manual For

Cargolift 85 Pv "Repair"

Cargolift 90 Sa "Standard"

Cargolift 120 Saav "Jumbo"

Cargolift 120 F "Drive-on"

IMPORTANT

Read this manual throughoutly before installing, operating or maintaining the lift.

Deliver the lift-specific, operating, inspection, and maintenance instructions to the lift owner/user/employer, along with any other instructional materials furnished with the lift.

Replace all worn or broken parts with genuine autop parts.
Contact your local autop parts distributor:

TOTAL TOOL Ltd
10 Kids Lane
Castleton
NY, 12033
USA
Phone: 1 800 677 86 85

As of date May 2006

autop Maschinenbau GmbH
Sandkampstr. 90
D - 48432 Rheine
Tel. 05971/860202
Fax 05971/860236

Warning:

DO NOT permit personnel to operate lifts who are not familiar with the information contained in these instructions.

Safety devices and controls are provided for your protection. **DO NOT** alter any devices to serve a special purpose. Never interfere with safety features built into the controls or the lift lock.

NOTICE:

This automotive lift complies with all requirements of the current American National Standard ANSI / ALI ALCTV – 1998, as issued by the Automotive Lift Institute, and approved by the American National Standard Institute. This standard references ANSI / ALI ALOIM – 1994 Safety Requirements For Operation, Inspection, And Maintenance that describes the Owners / Employer responsibilities

Study these Instructions carefully to become familiar with the general installation procedure. Before installing your autop lift, inspect the lift to insure that it is complete and undamaged. If it is apparent that the lift has been mishandled in shipment, or if parts are missing, not the damage or missing parts on the shipping papers and notify TOTAL TOOL LTD immediately. **Phone: 1 800 677 86 85**

Contents

1.0 Important Safety Instructions

When using your garage equipment, basic safety precautions should always be followed, including the following:

1. Read all instructions.

2. Care must be taken as burns can occur from touching hot parts.

3. Do not operate equipment with a damaged cord. If the equipment has been dropped or damaged do not operate until it has been examined by a serviceman.

4 .Do not let cord or hoses come in contact with hot manifolds or moving fan blades.

5. If an extension cord is necessary, a cord with a current rating equal to or more than that of the equipment should be used. Cords rated for less current than the equipment may overheat. Care should be taken to arrange the cord so that it will not be tripped over or pulled.

6. Always unplug equipment from electrical outlet when not in use. Never use the cord to pull the plug from the outlet. Grasp plug and pull to disconnect.

7. To reduce the risk of fire, do not operate equipment in the vicinity of open containers of flammable liquids (gasoline). WARNING: Risk of Explosion: This equipment has internal arcing and sparking parts, which should not be exposed to flammable vapors. This equipment is only suitable for installation in a garage having sufficient air circulation to be considered a non-hazardous location.

8. Adequate ventilation should be provided when working on operating internal combustion engines.

9. Keep hair, loose clothing, fingers, and all parts of body away from moving parts.

10. To reduce the risk of electrical shock, do not use on wet surfaces or expose to rain.

11. Use only as described in this manual. Use only manufacturer's recommended attachments.

12. **ALWAYS WEAR SAVETY GLASSES**. Everyday eyeglasses only have impact resistant lenses, they are **NOT** safety glasses.

SAVE THESE INSTRUCTIONS

Rev (8/3/98)

2.0 Overview of the structural components

The Cargolift series components are shown schematically in fig. 1.1

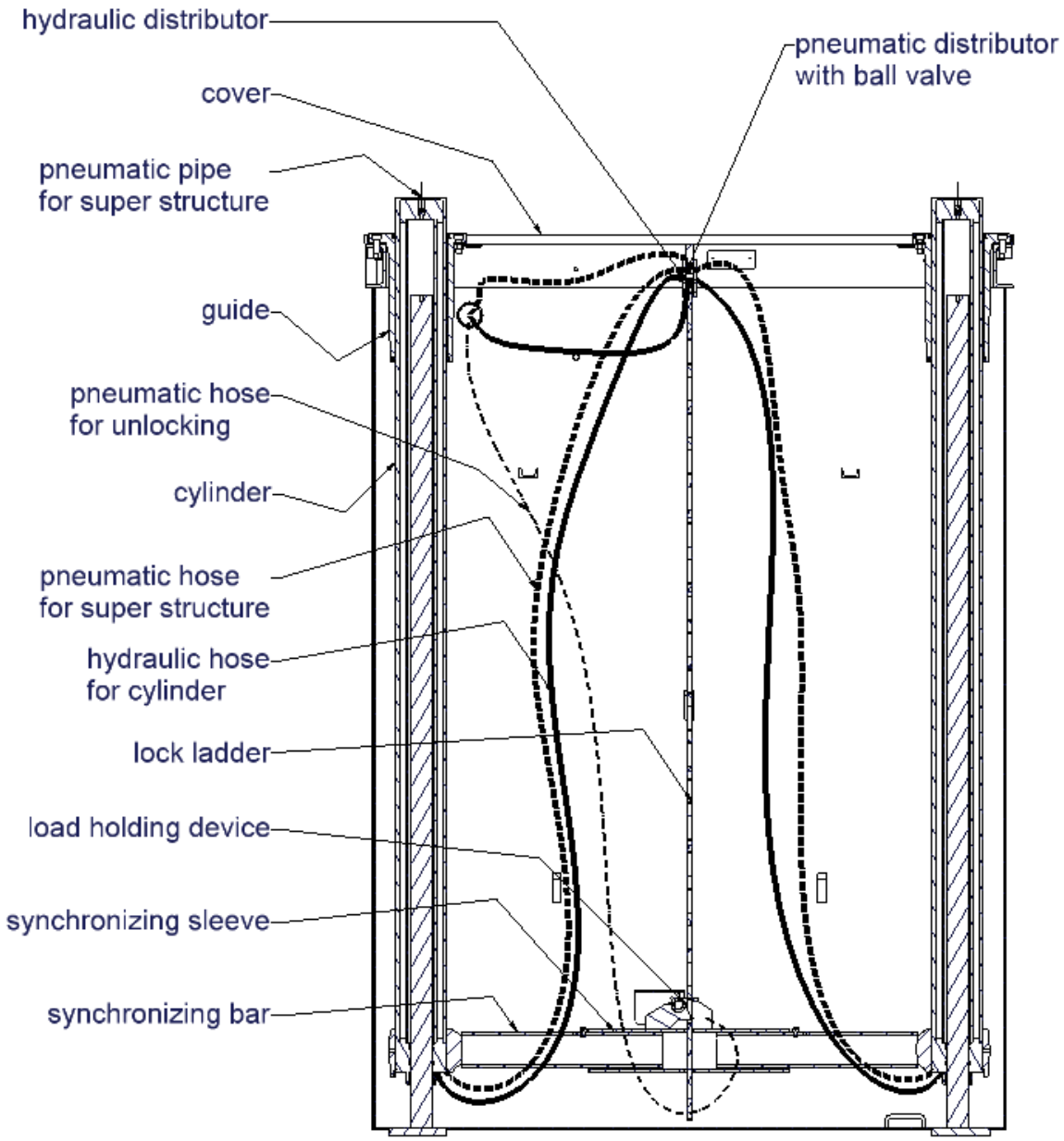


Fig. 1.1 Overview of the structural components

2.1 Component packing list

1. One Steel cassette, coated with rust protective paint including a wooden-aluminum cover.

2. Hydraulic unit including two cylinders a synchronizing bar and two guides.
   Pre-fitted in the cassette

3. SPX – pump unit including air pressure switch for load holding device.

4. Load holding device including synchronizing sleeve and lock ladder.
   Pre-fitted in the cassette

5. Hydraulic- and pneumatic distributors with hydraulic- and air pressure hoses.

6. One set of superstructure 85 Pv, 90 Sa, 120 Saav or F 480.

7. Package of screws and bolts.

8. Installation, operation and maintenance manual.

9. Placard with safety warning labels for inground lifts ALI/WL500

10. Vehicle lifting points for frame engaging lifts ANSI/SAE J2184 05/2000

Documents mentioned in 8, 9, and 10 must delivered to the owner or employer

The purchaser or installer of the lift must furnish following items:

1. Wiring devices for electrical power supply, 230 VAC, 1 phase, 60 Hz, 25 A (time-delay fuses)

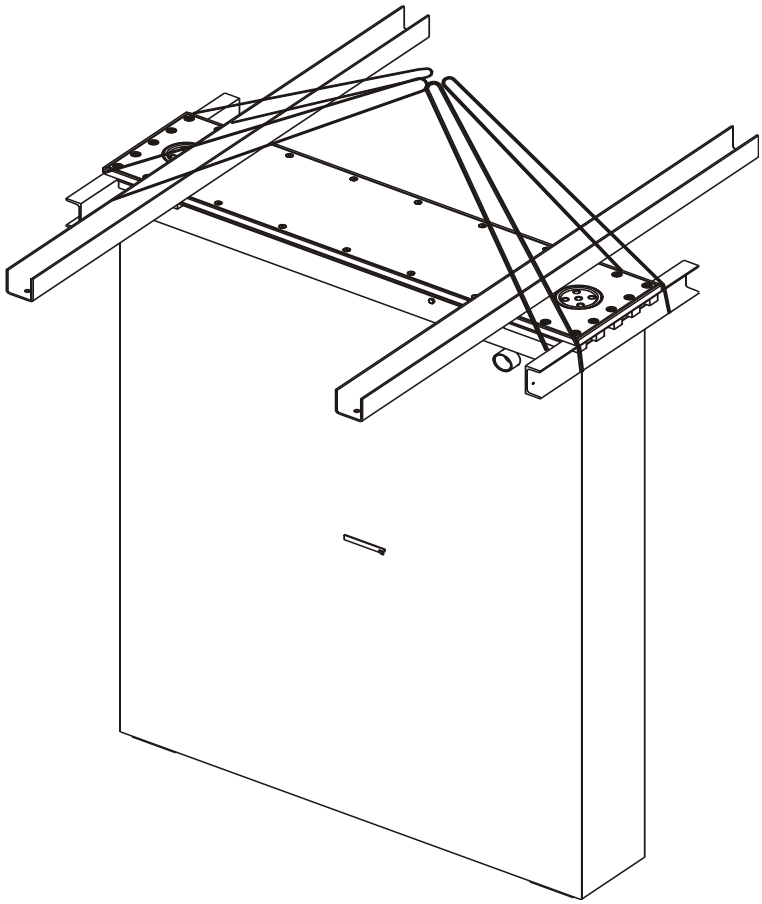
2. compressed air supply 8 – 10 bar (115 – 145 psi) to the power unit and to the cassette for the load holding device and the air connector at the superstructure.

3. An air regulator filter must be installed for the compressed air supply.

3.0 Setting, aligning and concrete mounting of the steel cassette

Before installation check the location of the lift. Allow plenty of working room on all sides as well as room for workbenches, aisles, lubrication equipment and other obstructions. The overhead clearance should be at least 12 feet.
In existing buildings **a trench of approx. 7' x 3'3" must be broken out.**
Refer to the recommended measurements on the foundation drawing F 413184b.

Lower the steel cassette with a suitable lifting unit (chain hoist, forklift, crane,….) into the foundation and fix the cassette with two mounting rails, which should be screwed on the cassette and fastened to the floor with dowels, or put weight on the cassette so that it can not "float".



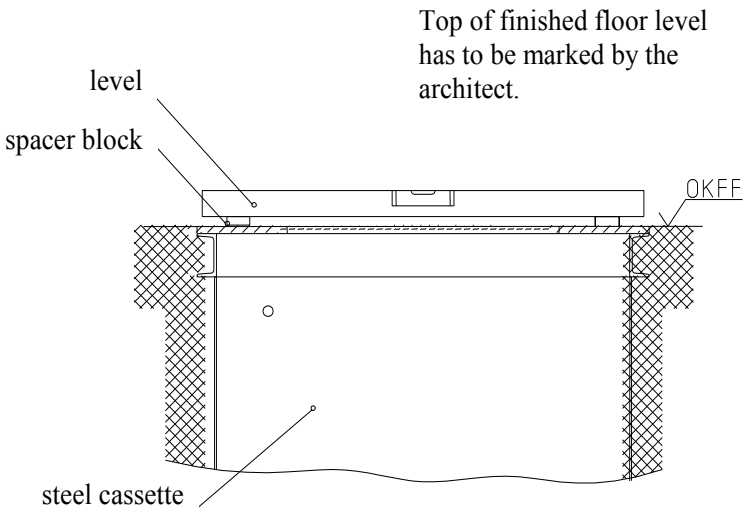
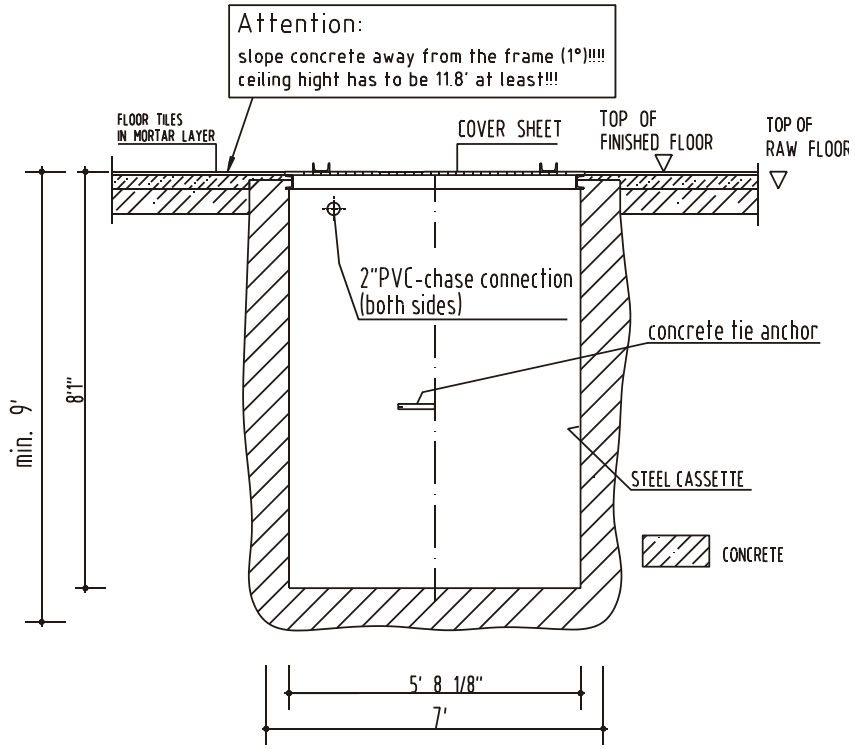


Fig. 2.1 Installation of the steel cassette

The cassette must be perfectly adjusted in length and width to the level of the finished floor +1/8".



To prevent water in the lift the steel cassette has to be mounted in concrete at 1/8" above finished floor. Slope concrete away from the frame.
Pour concrete in two or three separate steps each a few hours time distance apart to allow the concrete to lightly set between pours.
DO NOT use the lift until the concrete has fully cured to 3500 psi.
In case of a high ground water table watertight concrete has to be used.

Only for repairs and modifications of the lift

4.0 Installation of the lifting unit

Before installation of the lifting unit the transport sealings and the cross struts inside of the cassette need to be removed.

Only for repairs and modifications of the lift

4.1 Installation of the cylinder

If necessary the synchronizing bars should be mounted onto the cylinder. For this proceed as follows:

- Turn the cylinder in so that the hose connection is on top.
- Unscrew the straight union
- Use a suitable anti corrosion spray (part no.08005) on the synchronizing rod's hoop.
- Slide the synchronizing bar opening over the cylinder and fasten it with the DIN 933 M 16x40-9.8-vz screws. The tightening torque should be 210 Nm.
- Afterwards screw the straight union back into the cylinder.

Install the prepared cylinder into the cassette as follows:

- Put the flat seal onto the foundation frame.
- Screw two M20 eye bolt diagonally into the supporting guide and lower the cylinder into the cassette by using a suitable lifting unit.
  When setting the cylinders make sure that the hydraulic connection of the cylinder is on the same side as the distributor in the cassette.
- Unscrew the two eyebolt and put the ten M16x 40-8.8 vz – DIN 6912 screws in and tighten these.
- Install the second cylinder analogue to the first one.

-
-
-
-
- After installing both cylinders the transport safety screws on the piston must be replaced with bleeding screws M 10x16–DIN 912 (part no. 30108) including copper seal (see Fig. 3.1)

- Connect the two cylinder hydraulic hoses to the distributor in the cassette (see detail X in the drawing E10250).

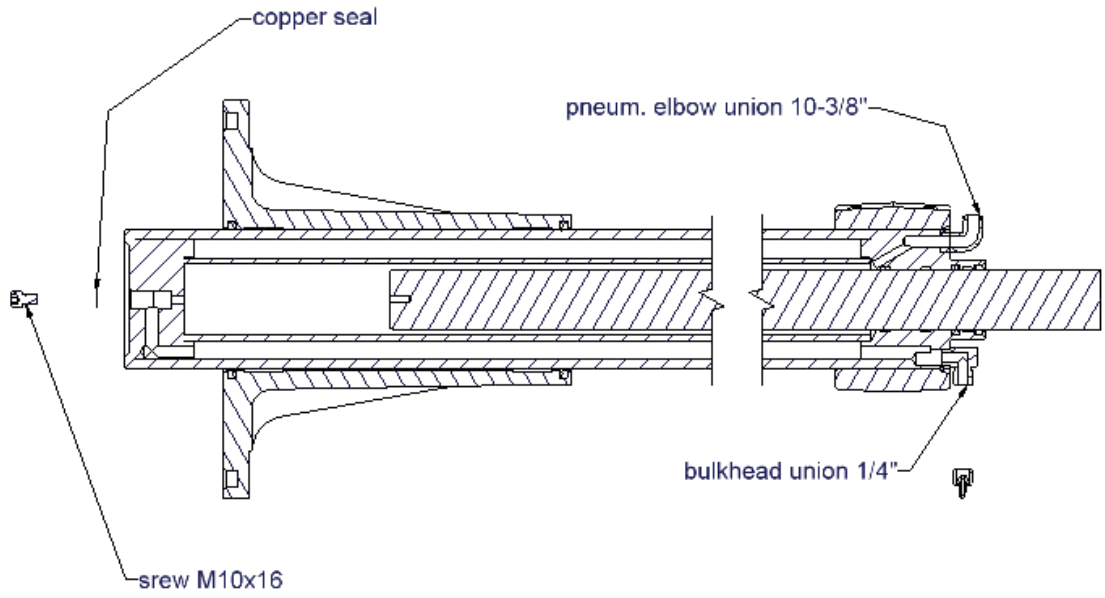


Fig. 3.1 Unions at the hydraulic cylinder

4.2 Installation and connection of the pump- and control unit and the load holding device.

Install the power unit mounting bracket at the designated place using the necessary screws and supports provided.
Important: The electrical motor must be mounted at least **18** inches above the finished floor level as per National Electric Code NFPA70.

18,0“ min

WARNING:
Risk Of Explosion, This Equipment Has Internal Arcing Or Sparking Parts Which Should Not Be Exposed To Flammable Vapors. It Should Not Be Located In A Recessed Area Or Below Floor Level.

The connection of the control unit must be done by an expert and as shown on the electrical schema inside of the control unit. A copy can be found on page 11.
Connect the power unit to a dedicated 25 Amp electrical branch circuit, using wiring methods prescribed by local codes.

CAUTION:
Risk Of Electric Shock Do Not Remove Cover. No User-Serviceable Parts Inside. Revere Servicing To Qualified Service Personnel.

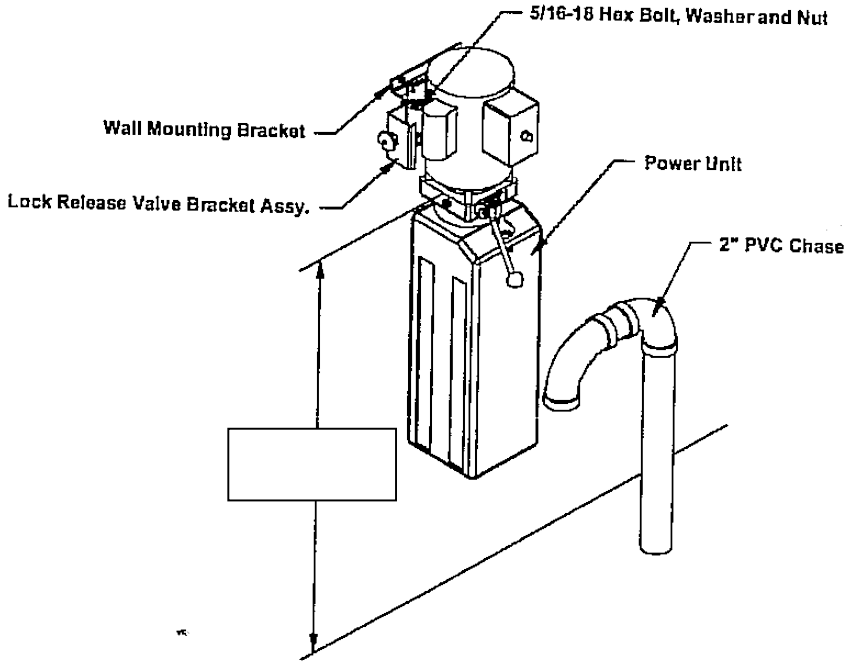


Fig. 3.2 Power unit “USA“ (Pump / control / unlocking)

IF CONNECTED TO A CIRCUIT PROTECTED BY FUSES, USE TIME-DELAY FUSES WITH THIS EQUIPMENT.

Fill up the pump unit with 12 quarts of 10 weight hydraulic oil, ATF or biodegradable hydraulic oil.

Remove the center cover from the cassette to expose the hydraulic and air connection.

Feed the hydraulic hose and two air hoses for the unlocking device and super structure air supply through the PVC chase starting at the power unit.

Put the synchronization sleeve close to the cassette and connect the air hose as shown in the pneumatic diagram.

Connect the hydraulic hose to the distributor inside of the cassette.

Energize the power unit to run the cylinder up to about 3 feet. Loosen the bleed screw one turn only at the top of each cylinder and allow the trapped air to escape. Bleed both cylinders until clear oil is seen. Tighten the bleed screws and clean off the oil.

Lower the cylinder and control the oil level in the tank. If necessary add more oil.

Raise the cylinders all the way up and push against one cylinder to slow its lowering speed. Lower the cylinder until the difference in height allows the synchronizing sleeve to be slid over the upper synchronizing bar. Note that the pneumatic unlock cylinder is located on the same side as the hydraulic connection of the main cylinder (Fig.3.3 synchronizing bar + load holding device)
Lift the cylinders once again and slide the synchronization sleeve over the second synchronization bar. Fix the sleeve on both sides by using the two M10x12 screws provided.

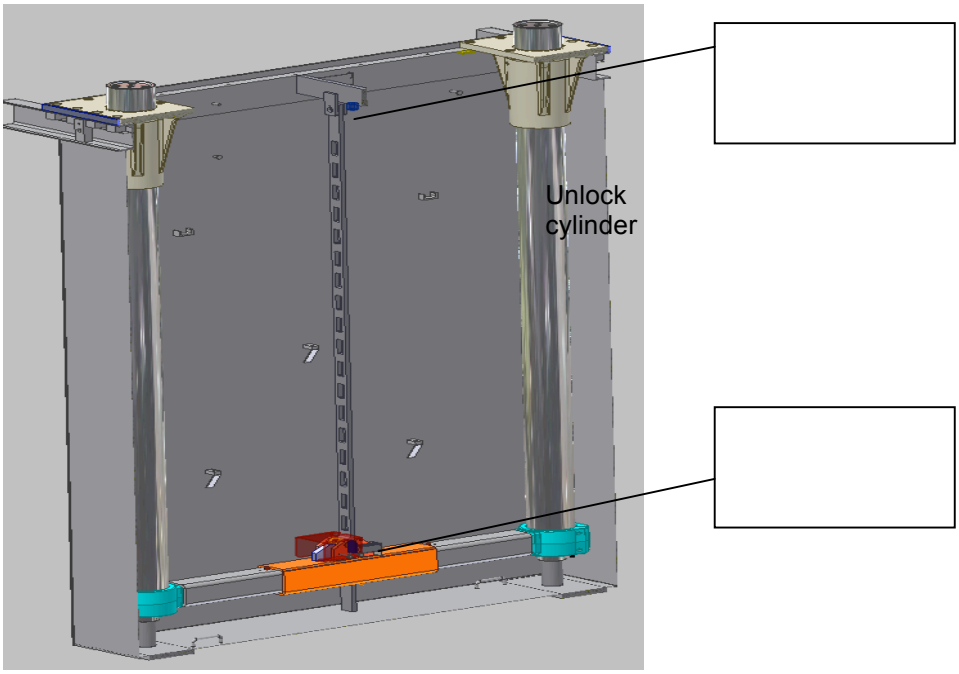


Fig. 3.3 Synchronizing bar + load holding device

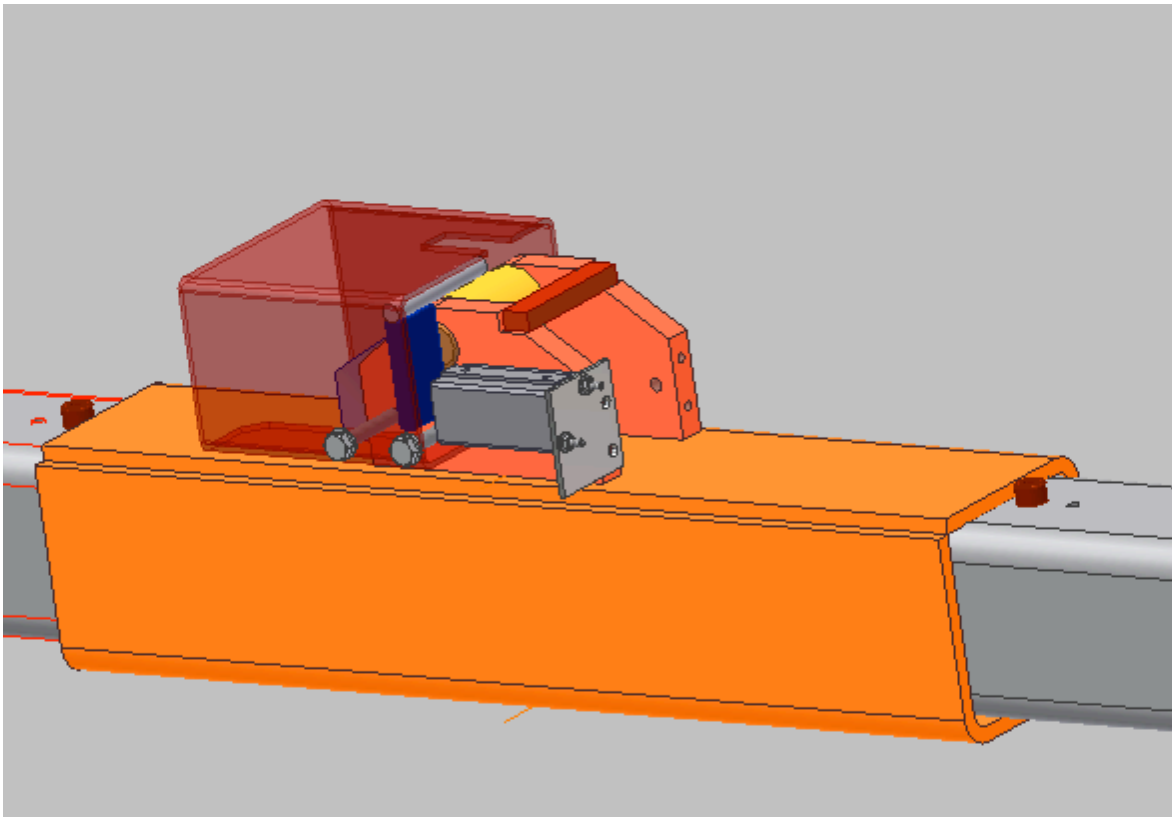


Fig. 3.4 Synchronizing sleeve

4.3 Adjustment of the cylinder

Lift the cylinder and control whether the cylinders are perfectly vertical and parallel (check with a level).

If they are not parallel it is necessary to unscrew the bolts of the aluminum guide, lift it and put shims under the guide until it is parallel. When the cylinder has been adjusted tighten the bolts with 210 Nm.

Only for repairs and modifications of the lift

4.4 Installation of the Load holding device

First lower the cylinder.
Thread the lock ladder (part no. 4000037) into the synchronization sleeve and fasten it with a bolt (part no. 32164) to the ladder rail of the cassette. The bolt has to be secured against slipping by screwing two screws M8x12 including washers (part no. 80386+80754) into the ladder rail. Now lift the cylinder all the way up.
Take the compressed air hose which comes from the unlocking switch and connect it into the 6 mm push lock fitting of the unlocking cylinder. Connect shop air supply (8 –10 bar) to factory assembled air valve on the pump unit.
Actuate the air valve and check the proper operation of the unlocking mechanism.

5.0 Connection drawings

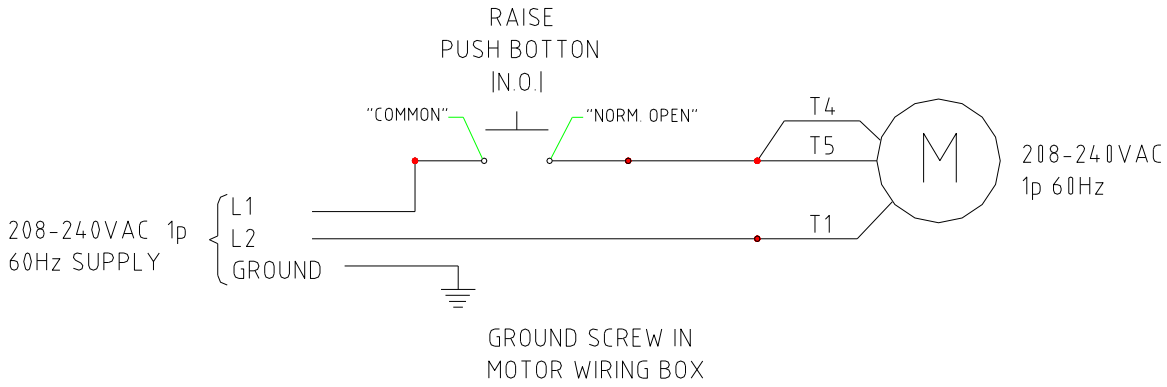
**IF CONNECTED TO A CIRCUIT PROTECTED BY FUSES,
USE TIME-DELAY FUSES WITH THIS EQUIPMENT.**

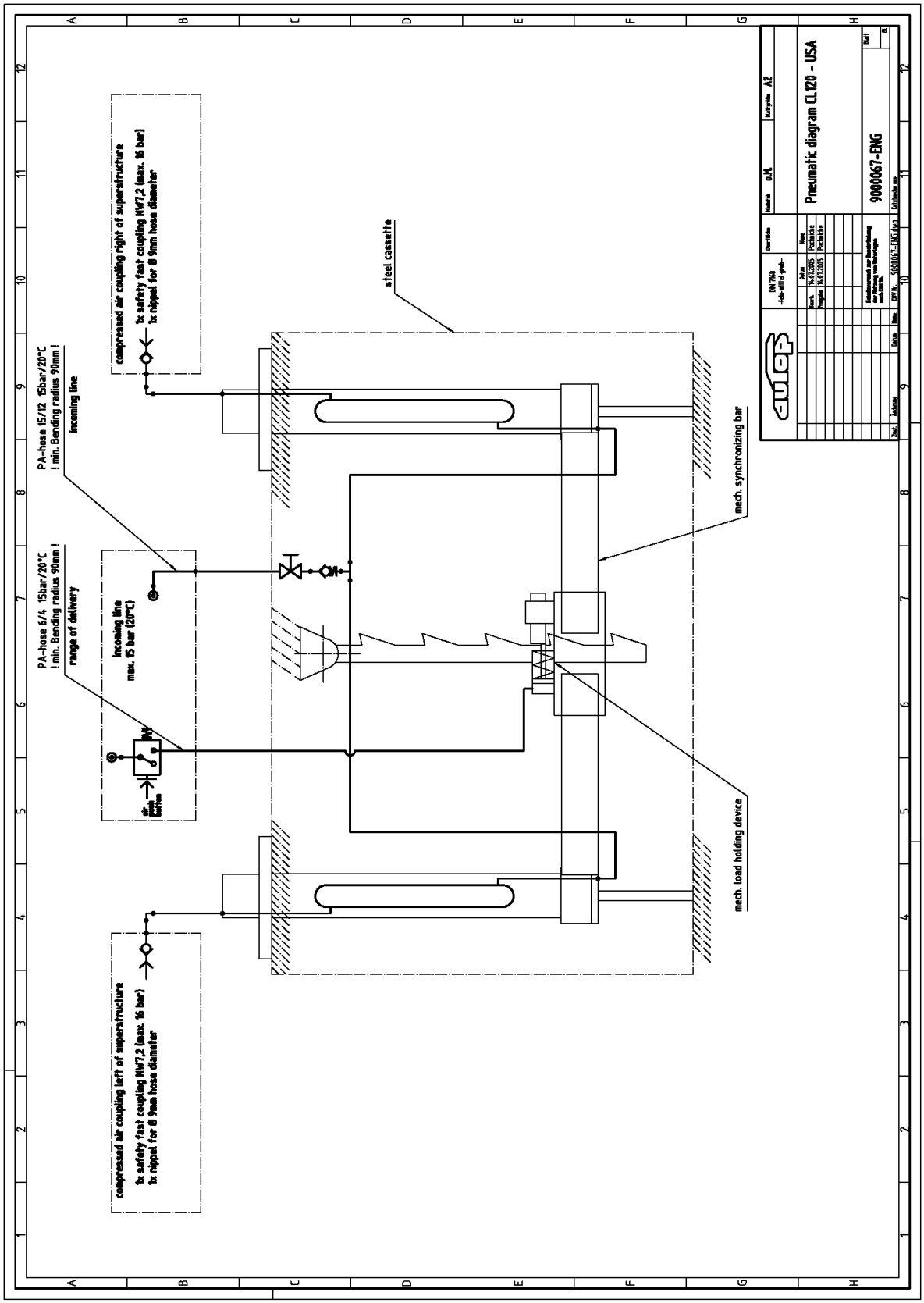
EACH LIFT SHOULD HAVE A DEDICATED CIRCUIT WITH A DOUBLE POLE BREAKER OR TIME DELAY FUSE SIZED ACCORDING TO THE FOLLOWING CHART

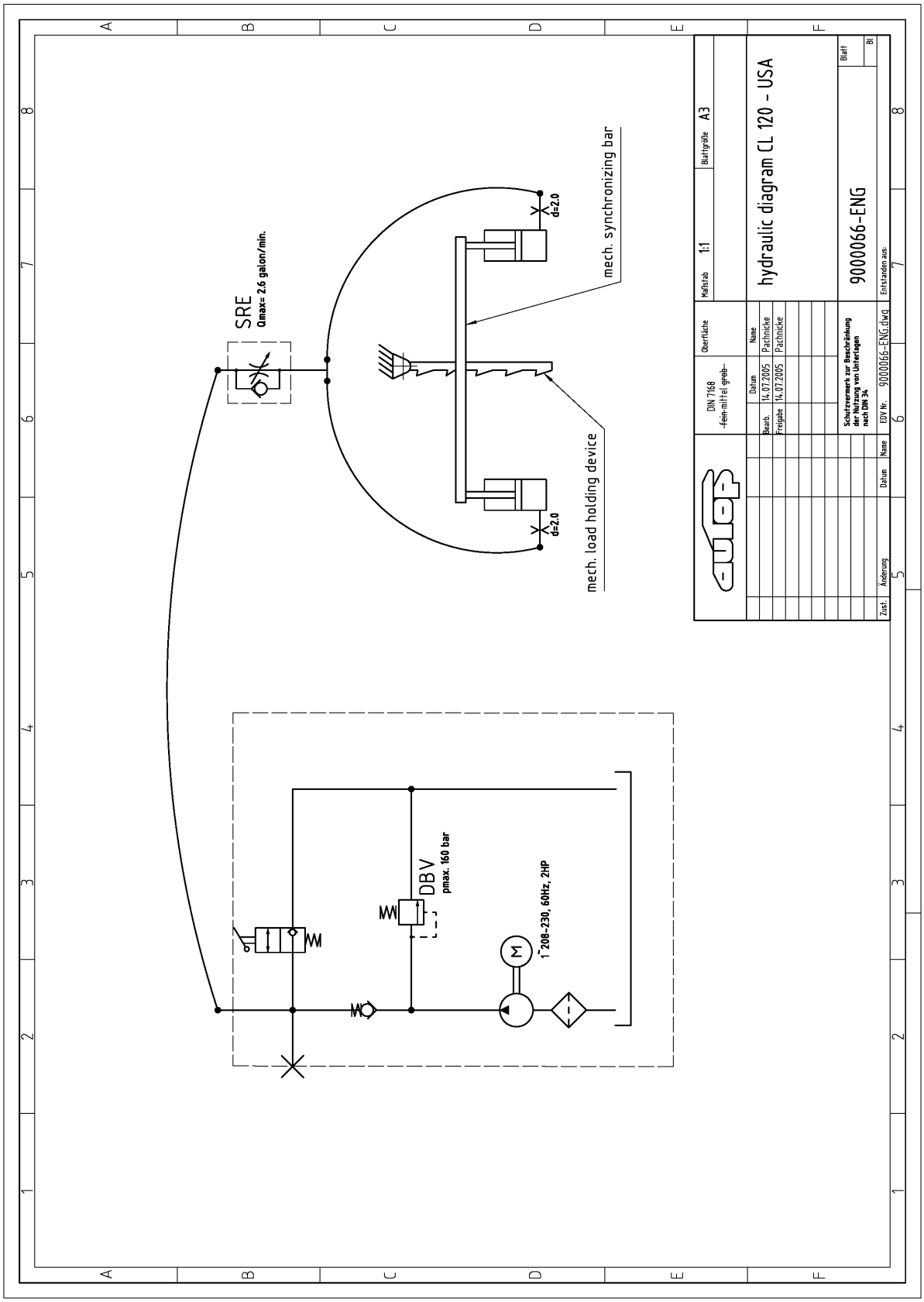
	1p
	208-240V
2Hp	25amp

× WIRING MUST COMPLY WITH ALL LOCAL ELECTRICAL CODES ×

FOR SINGLE PHASE




Pneumatic diagram CL120 - USA
9000067-ENG
compressed air coupling right of superstructure
1x safety fast coupling NW7,2 (max. 16 bar)
1x nippel for Ø 9mm hose diameter
steel cassette
PA-hose 15/12 15bar/20°C
! min. Bending radius 90mm !
incoming line
mech. synchronizing bar
PA-hose 6/4 15bar/20°C
! min. Bending radius 90mm !
range of delivery
incoming line
max. 15 bar (20°C)
mech. load holding device
compressed air coupling left of superstructure
1x safety fast coupling NW7,2 (max. 16 bar)
1x nippel for Ø 9mm hose diameter


SRE
Qmax= 2.6 gallon/min.
d=2.0
d=2.0
mech. synchronizing bar
mech. load holding device
DBV
pmax. 160 bar
1~208-230, 60Hz, 2HP
M
hydraulic diagram CL 120 - USA
9000066-ENG
A3
1:1
DIN 7168
-fein-mittel-grob-
Oberfläche
Maßstab
Blattgröße
Name
Datum
Bearb. 14.07.2005 Pachnicke
Freigabe 14.07.2005 Pachnicke
EDV Nr. 9000066-ENG.dwg
Entstanden aus:
Änderung
Zust.
Blatt
Schutzvermerk zur Beschränkung der Benutzung von Unterlagen nach DIN 34

6.0 Installation of the superstructures

The autop Cargolift will be delivered with one of the following super structures:

Cargolift 85 Pv "Repair" **Item no. 3000265** (4 Screws M20x50)

Cargolift 90 Sa "standard" **Item no. 3000206** (4 Screws M20x50)

Cargolift 120 Saav "Jumbo" **Item no. 3000140** (4 Screws M20x50)

Cargolift 120 F "Drive-on" **Item no. 3000221** (4 Screws M20x60)

The superstructures need to be mounted onto the cylinders with four screws M20x50 (part no.80090) or M20x60 (part no.80243). The tightening torque of the screws must be 560 Nm.

7.0 Installation of the cover

Before the cassette is closed and sealed check for leakage in the hydraulic pressure system, actuate the air valve and check if the locking mechanism operates properly.

Place the two flat bars into the U-holder left and right hand side at the aluminum guides now glue the two rubber profiles with silicone to the bars.

Replace the cover and fix it with ten screws M10x40 DIN 7991. The screws must be mounted with grease or anti seize. If screws need to be placed make sure genuine stainless steel screws are used (part no.80126).

Finally fill the space between the cover and the tile frame with silicone.

8.0 Instruction of the personnel in operating the lift

Do not permit personnel to operate the lift who are not familiar with the information contained in these instructions.

After finishing the installation the personnel needs to be instructed in operating the lift. It is important to mention that the cylinder outlets has to be cleaned once a week.

The personnel also have to know what to do in case of malfunction and how to use the load holding device.

The proper installation and handing over of the lift is to confirm by the customer on the installation report.

9.0 Final checkout

The final checkout procedure and the operational test of the lift must be made by using a typical vehicle.
Following instructional materials have to be delivered to the owner, user or employer:

1. Installation-, operation- and maitenance manual.
2. Vehicle lift points for frame engaging lifts SAE J2184 05.2000 (see operation manual page 4).
3. A placard: Safety warning labels for inground Lifts (see operation manual page 5+6).