

- **2-Post lifts - electrical mechanical with baseframe**

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## 1. INTRODUCTION



This manual is made exclusively for installation personnel. Read this manual carefully before installation.

## 2. PACKING, TRANSPORT AND STORAGE



All packing, lifting, handling, transport and unpacking operations are to perform exclusively by expert personnel with knowledge of the lift and the contents of this manual.

### LIFTING AND HANDLING

The wooden crates may be lifted and moved with a lift truck (Fig.1) crane or bridge crane.

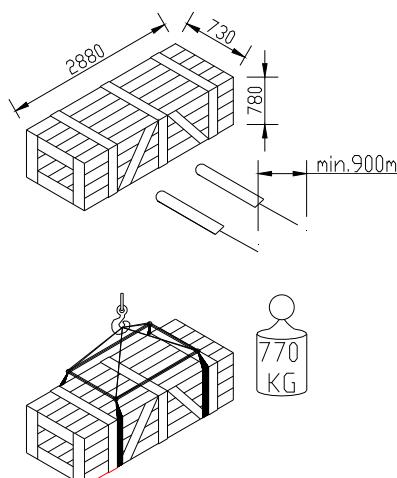


Fig.1

The equipment chosen must be suitable for safe lifting and moving, bearing in mind the dimensions, weight, centre of gravity, any protruding or fragile parts.

### STORAGE

Packed machinery must always be kept in a covered, protected place, at a temperature between -10°C and +40°C, and must not be exposed to direct sunlight.

### OPENING THE CRATES

When the crates arrive, check that the machine has not been damaged during transport and that all parts listed are present.

### DISPOSAL OF CRATES

The wood of the crates may be re-used or recycled



Carefully reading of the safety instruction is strongly recommended.

## 3. SAFETY DEFINITION

The manufacturer disclaims all liability for injure to persons or damage to vehicles and other property caused by incorrect and unauthorised use of the lift. In order to understand the terminology used in this manual, the operator must have specific experience in workshop, service, maintenance and repair activities, the ability to interpret correctly the drawings and descriptions contained in the manual and be acquainted with the general and specific safety rules relevant to the country in which the machine has been installed. The same applies to the maintenance fitter, who must also posses specific and specialised knowledge (mechanical, engineering) needed to perform the operations described in the manual in complete safety. The words "operator" and "maintenance fitter" used in this manual are construed as follows:

**OPERATOR:** person authorised to use the lift. The minimum legal age of the operator is 18 years.

**MAINTENANCE FITTER:** person authorised for routine maintenance of the lift.

## 4. DESCRIPTION OF THE LIFT

### (Fig.2)

The lift mainly comprises:

Base (1), in 3 parts. Two base cover plates (5) in chequered steel are fixed to the upper part of the base. A roller chain (2) is located inside the base to transmit drive from the motorpost(3) to the servicepost (4). Each post houses the mobile units for lifting the vehicle.

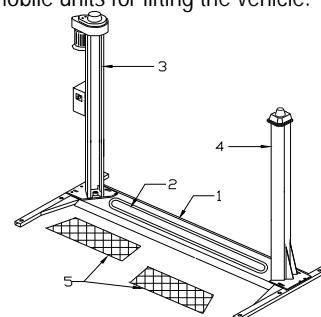


Fig.2

## CARRIAGES (Fig.3)

The welded steel carriage (1) connected in the lower part to the lifting arms by flanges and pins. The carriage is connected at the centre to the lead nut (2), which provides lifting motion by travelling on the lead screws. The carriage is laterally joined by pins to the sliding shoes(6), which keep it on the slide way. Two telescoping arms, one long (3) and one short (4) each with a height adjustable disk support plate (5) at one end for picking up the vehicle, and a hole at the other and for connection to the carriage.

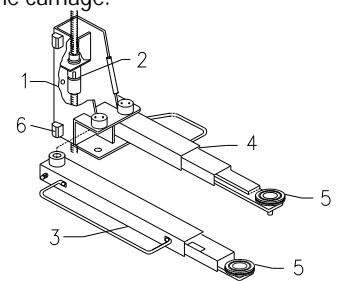


Fig.3

## TRANSMISSION (Fig.4)

The unit comprises two special-steel helical screws (2) suspended in the upper part of the post by an axial bearing (6) and a thrust bearing (7). The lead screw in the drive post is operated by a system comprising an electric motor (8), pulleys (9) and V-belts (10).



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which transmit drive to the other lead screw by means of a chain and chain sprocket transmission inside the base.

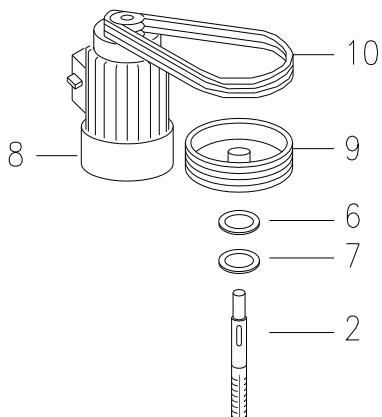


Fig.4

**CONTROL PANEL (Fig.5)**

The electric control panel includes:

- Master switch (11)
- "Lift" button (12)
- "Descend" button(13)

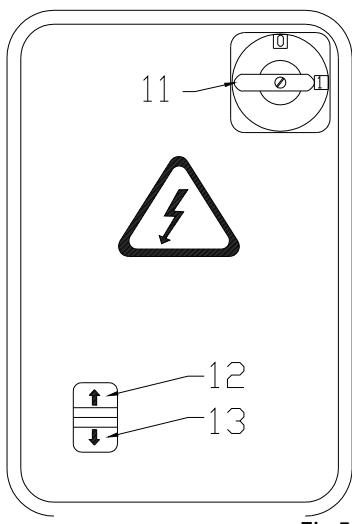


Fig.5

**5. INSTALLATION**



The following operation must be performed by qualified personnel only.

**INSTALLATION REQUISITE CHECK-LIST**

The lift is designed for installation in enclosed areas suitably protected from the weather. The place of installation must be clear of areas where there is a risk of potentially explosive atmosphere

**CONNECTION TO POWER SUPPLY**

The customer is responsible for an electrical system at the installation site which is equipped with the protective devices envisaged by national safety standards.



**ATTENTION**

If the electrical system is not conform the recommended standards (p.9). The mechanic will only test the lift with a "emergency" electric cable, which is replaced after testing. After testing the customer is responsible for further electrical installation by an authorised person and all extra costs.

The lift must be installed in observance of the clearances between other objects (fig.6). And in compliance with any legislative requirements in the country of installation.

Check in particular:

- minimum height 5000mm, inclusive height of vehicle and maximum height of arms, ( 2000 mm).
- minimum distance from walls: 500 mm.
- minimum working area: 500 mm.
- area for COMMAND STATION.
- area for maintenance, access and emergency escape routes.
- position in relation to other machines.
- proximity to power supply for trouble-free hook-up.

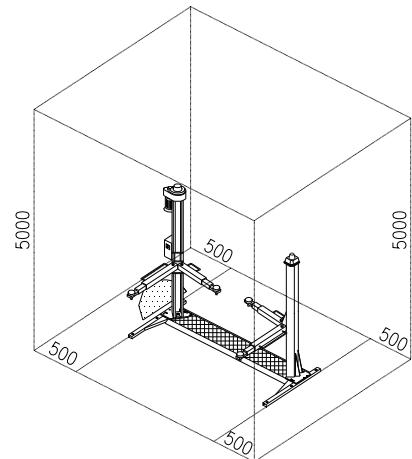


Fig.6

**ILLUMINATION**

All parts of the machine must be uniformly lit with sufficient light.

**FLOOR**

The lift must be installed on a horizontal concrete bed of adequate strength, of a minimum thickness of 150 mm made in concrete batched with strength>30 N/mm<sup>2</sup> (Fig.7).

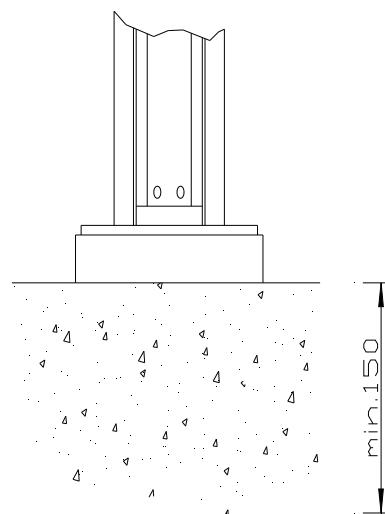


Fig.7

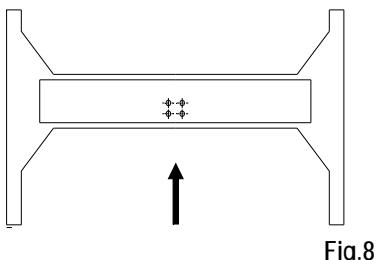


**WARNING:**  
During the installation no authorised people are allowed.



## INSTALLATION

1. Construct the base frame from the centre part and the two end pieces. Watch out: The holes in the middlepart of the base frame must be on the side with the long arms (Fig.8).



2. Fit the chain guides using the screws (Fig.9).

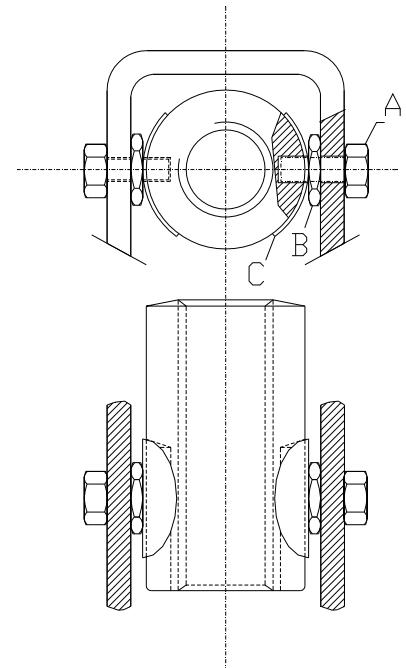


3. Position the base frame in the installation area.
4. Lay the chain in the guides and connect the ends with the split link.  
**ATTENTION:** The split link lock must be placed at the upper-side of the chain.

## 5.1 BEARING SAFETY NUT MODIFICATION (25240215 MOD see Fig.10)

1. Lay the posts down on the ground.
2. Loosen the bolts A until the pivot of the bolt is released from the slot in the bearing safety nut. Now it is possible to move the safety nut along the lead screw.  
**ATTENTION:** don't loosen the bolts A too far (to prevent dropping in the guidance of the posts).
3. Lift the post carriage until the bolts A. are released from the safety nut. The arised space must be enough to install nut B on bolts A.
4. Place the nuts B on bolts A and fix them manually. Lock the nut B with a locking fluid.
5. Place the sliderings C on bolts A.
6. Return the carriage in original position.
7. Fix bolts A again until the pivot of the bolt is in the slot of the bearing safety nut.
8. Fix the nuts B until the sliderings C contact the bearing safety nut.

1. Position the commandpost on the base frame.
2. Raise the commandpost in vertical position. And insert 2 bolts M16x40 (Fig.11) manually without tightening.



- Continue with the installation



**Finally: checking of the torque**  
Lift the carriage 2-3 cm with a lift truck, crane or manually. Tighten nut B. Take away the lifting device. Now the carriage has to stay in this position. Load the carriage with approx. 100-kg. Now the carriage has to fall down in original position.

3. Rock the post gently to fit chain into sprocket (Fig.12).



Fig.12

4. Lift the other post onto the other side of the base.
5. Check that both carriages are positioned to the same height. If not, manually turn the lead screws in top of the posts until same height is achieved (Fig.13).



Fig.13

6. Pass the chain around the sprocket beneath the idle post. Be careful not to turn the pinion which would make carriage height unequal.
5. Complete insertion of bolts and washers (without tightening).
8. Tighten chain using the two M10x80 hex screws and screwing

them into their holes in the base plate (Fig.14).



Fig.14

9. Pinch the chain manually, the distance between the chain must be 3 cm (Fig.15). Establish the right distance between the chain by loosen/tighten the hex screws.



Fig.15

10. Tighten all bolts M16x40 with a torque of 200 Nm (Fig.16).

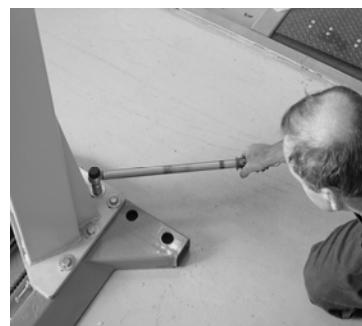


Fig.16

### CHAIN SWITCH (Fig.17+18)

1. Connect the wire to the safety switch according to Fig.17.

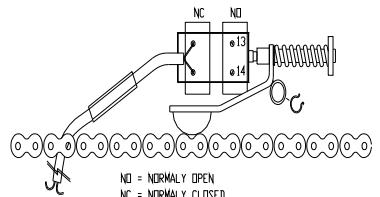


Fig.17

2. Mount the chain switch (1) with the 2-hexagon headcap screws (6) to the base frame (Fig.18).
3. Mount the rubber chain guiding (2) to the switch arm (3) with two-screw (8).
4. Mount the switch arm on the pivot-pin on the base frame and fix it with a seeger (7).
5. Put pin (4) with spring (5) with one side in the hole of the switch arm and the other side through the hole of the plate welded on the base-frame.
6. Check if the chain doesn't touch the wiring (9).
7. If the chain is on tension the switched is engaged. If the chain is slack or broken, the switch disengages and breaks the circuit, causing the lift to switch off.

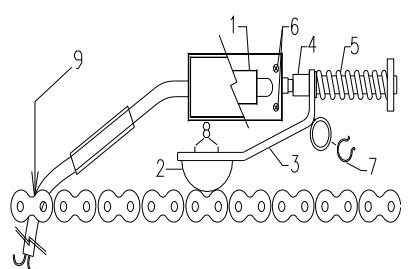


Fig.18



**INSTALLATION SAFETY CABLE**

1. Fit one of the two clamps to one end of the cable, and insert the other end into the tube at the lower part of the drive post carriage (Fig.19).

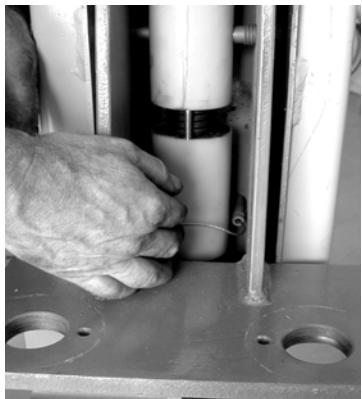


Fig.19

2. Withdraw the cable from the upper part of the carriage and insert it into the pulley situated on the emergency limit switch at the top of the post. (Fig.21).

**Attention**

The cable must be inserted from the left side of the pulley and emerge from the right (Fig.21).

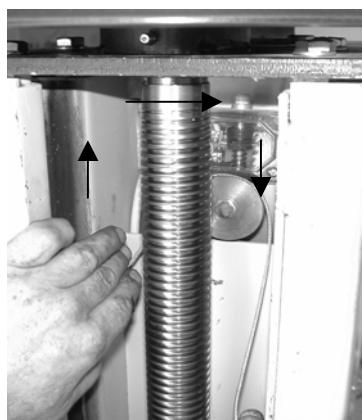


Fig.21

3. Push the cable (behind the carriage) down to the base of the drive post. Then slide it into the tube situated on the idle post plate (Fig.22).



Fig.22

4. Pass the cable through the base, then slide it into the tube situated on the idle post plate (Fig.23).



Fig.23

5. Pass the cable up into the lower part of the carriage.
6. then with the help of a plier's insert the cable into the tube at the base of the carriage; approx. 10cm of cable must emerge from the tube at the top of the carriage (Fig.24).



Fig.24

6. Slide the adjusting screw over the cable and screw it into the tube thread for a total length of 20 mm. (Fig.24 + 25).



Fig.25

7. Pull the cable out until the pulley of the safety switch is in the most outer position. Secure the second clamp on 20-mm (Fig.26) of the adjusting screw. Check that the safety-cable is working properly by testing the safety switch.

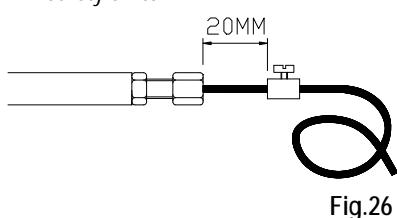


Fig.26

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- If necessary adjust the cable with the adjustment screw (Fig.25).

**ARMS AND LOCKING DEVICES**

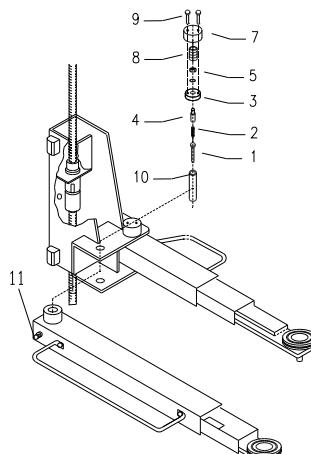


Fig.27

- Grease the hole on the carriage.

**ATTENTION:** Assemble the short arms on the side of the short tubes of the ground base frame.

- Insert the splined dowel pin (10) in the fixing hole of the arm (Fig.27). Make sure that the hole in the dowel pin (10) is aligned with the dowel pin-fixing hole in the arm (Fig.28).

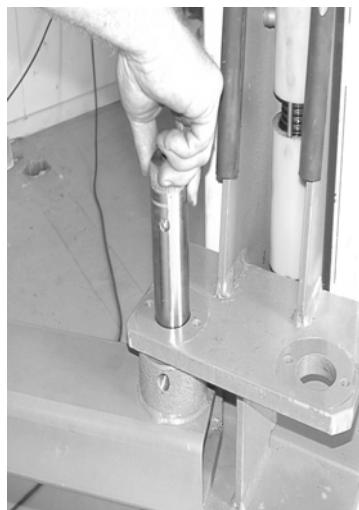


Fig.28

- Tighten the grub screws and secure them with their lock nuts (Fig.29).



Fig.29

- Screw the blockbolts (11) (Fig.27) out until the carriage arms stand in their outermost position in an angle of 90 ° with the carriage (in alignment with the tubes of the ground base frame). Lock the bolts with the locking nuts (only the long arms).
- Insert the spring pressure pin (1) (Fig.27) into the hollow core of the splined dowel pin (Fig.30) after this fit the spring (2).



Fig.30

- Mount pin (4) to disc (3) with nut (5) and the washer (Fig.27 + Fig.31). Don't fasten the nut completely. Keep a distance of 1mm between the nut, washer and the disc. Lock the nut with locking fluid.



Fig.31

- Place the disc with pin and after this the spring (8) and cap (7). Now insert the screws (9) (fig.27).
- Check that the arm locking device functions correctly by pushing the spring pressure pin (1) upwards and turning the arm in either direction. The pin should fall after a brief rotation and lock the arm (Fig.32).



Fig.32

- Repeat the same steps when installing the other arms.



- In the lowest position the arms should be able to swing because the pins (1) are inserted on the base (Fig.27).

#### FOOT GUARDS (Fig.33)

- Fit the foot guards (1 and 2,) to the arms with the screws (3)

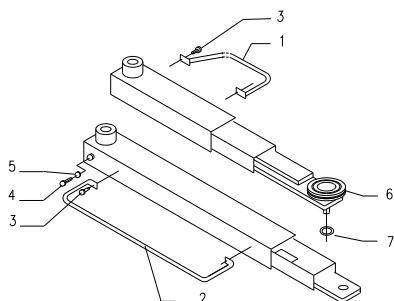


Fig.33

- The long arm in their max. position, should not touch the base frame in lowest position of the carriage.
- Screw the disk support plates (6) into the end of the arms, then secure with circlips (7).

#### ADJUSTING AND ANCHORING THE LIFT

- Drill into the floor with a 12 mm masonry bit to a depth of 125 mm, using the base slots as a template (Fig.34 en Fig.35).

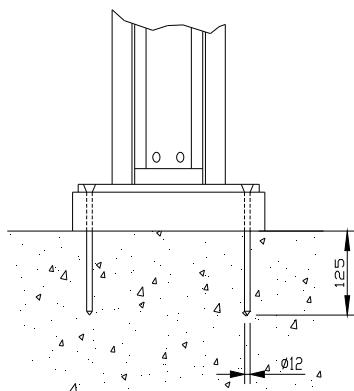


Fig.34



Fig.35

- Insert the screw anchors type TIKM 12x100 into the floor.



#### WARNING

In order to compensate for deflection of the posts under load, they must be tilted slightly outwards towards the top. The distance between the posts at the top must be approx. 2cm greater than at the base (Fig.37). The divergence of the posts must be equally distributed between the two.

- Insert a 2-mm thick strip beneath the base under the holes(Fig.36). Screw the studs in the holes until the desired inclination is achieved (Fig.37).

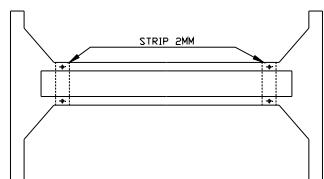


Fig.36

- If necessary, shim the central part of the base.
- Tighten the base screw anchors with a torque wrench set to 45 Nm.
- Manually tighten the contact screw until it is touching the bottom of the base frame and secure with the lock nut.

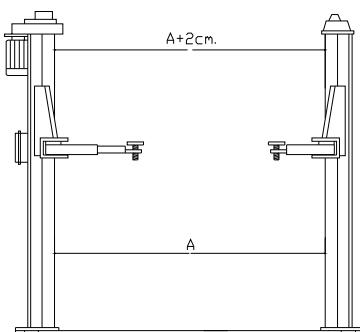


Fig.37

#### COMPLETING THE POSTS

- Grease pinion and chain with chain-spray.
- Slot in the two base cover plates.
- Lubricate the post ways and lead screws with teflonspray and the spindle/bearing nuts with Shell Omala 320, or equivalents.
- Grease the bearings of the spindle with Molytex EP2 or equivalents.
- Install post guards and topguards. (Fig.38 + Fig 39)



Fig.38



Fig.39

## 6. CONNECTION TO POWER SUPPLY



### WARNING

The following operation must be performed by qualified personnel only.

1. Before connecting power supply check that:
  - The electrical system in the workshop is equipped with the protective devices envisaged by national safety standards.
  - The power line is suitably sized: Lift rack volt.: 400 V, Min.size 2.5 mm<sup>2</sup>. Fuse max. 16A. Lift rack volt: 230 V. Min. size 4 mm<sup>2</sup>. Lift rack voltage: 230 V Single-phase: Min. size: 6 mm<sup>2</sup>.
  - The main cable should be with earth wire a suitable for permanent connection.
  - The main cable should pass through a PG tulle into the switchbox.
  - Voltage fluctuations are within the tolerance of specified in the specifications of the energy supplier.

2. Use the electrical plant wiring plan (Pag.10) when connecting to the power supply and panel terminals. Open the control panel cover and route in the wires through one of the cable inlet holes already present. If the power supply voltage is different to the one for which the rack was designed, change the motor and transformer connections (Fig.40) . and replace the overload cut out; order the replacement unit from the manufacturer or from your local service centre.
3. Close the electric panel, set the master switch (ref "IG" in Fig. 42) to position , then press the LIFT button; if the carriages descend, invert 2 of the phase lines.

Check that the post limit switches operate correctly by pressing manually. The switches can be moved in the column.

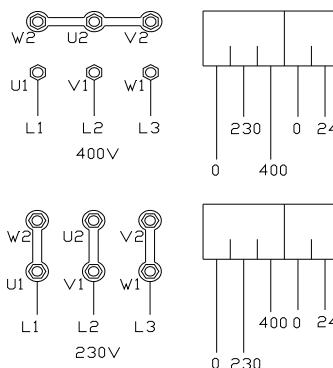


Fig.40

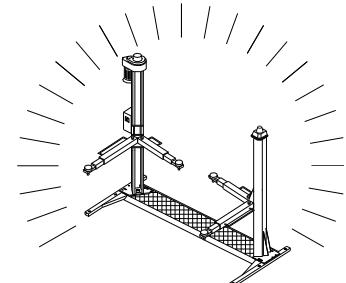


Fig.41

## 7. SAFETY CHECK

After a complete installation of a lift the responsible mechanic makes sure that all the safety devices work properly.

- Check the arm locking by positioning the carriage in the lowest position. The arms are now able to swing. Lift the carriage by pushing the up-button. Now the arms must lock.
- Check the chainswitch by pushing the chain away from the switch. Now the lift has to switch off.
- Check the safety switch by putting a piece of wood beneath the carriages. Descend the carriages by pushing the descend button. If an obstacle hampers carriage during this phase, the safety switch will operate to immobilise the lift.
- Check the limit switches by operating the switches by finger. At the back of the post. The lift must switch off.

## 8. INSTALLATION REPORT

The involved installation mechanic has to fill in an installation report after installation. The report has to be filled in accurate. Eventually missing of parts or comments of the customer has to be filled in. The report must be signed by the responsible mechanic and the customer. The mechanic has to hand over the report to the technical department of the manufacturer.

### CLEANING LIFT (Fig.41)

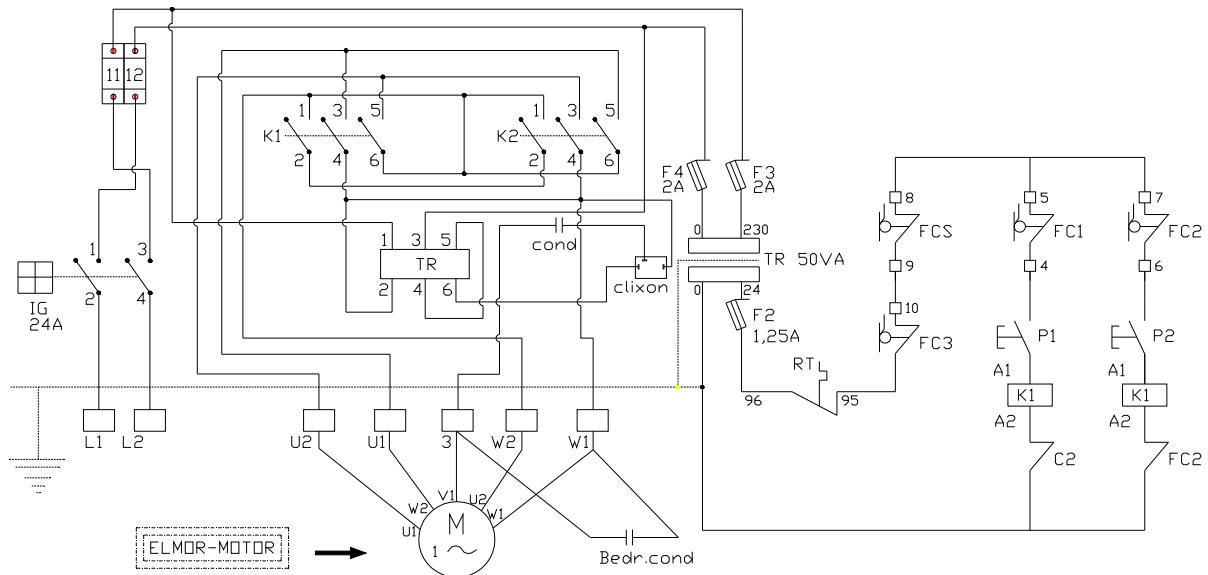
The responsible mechanic takes care of carrying over a clean properly installed lift to the customer.



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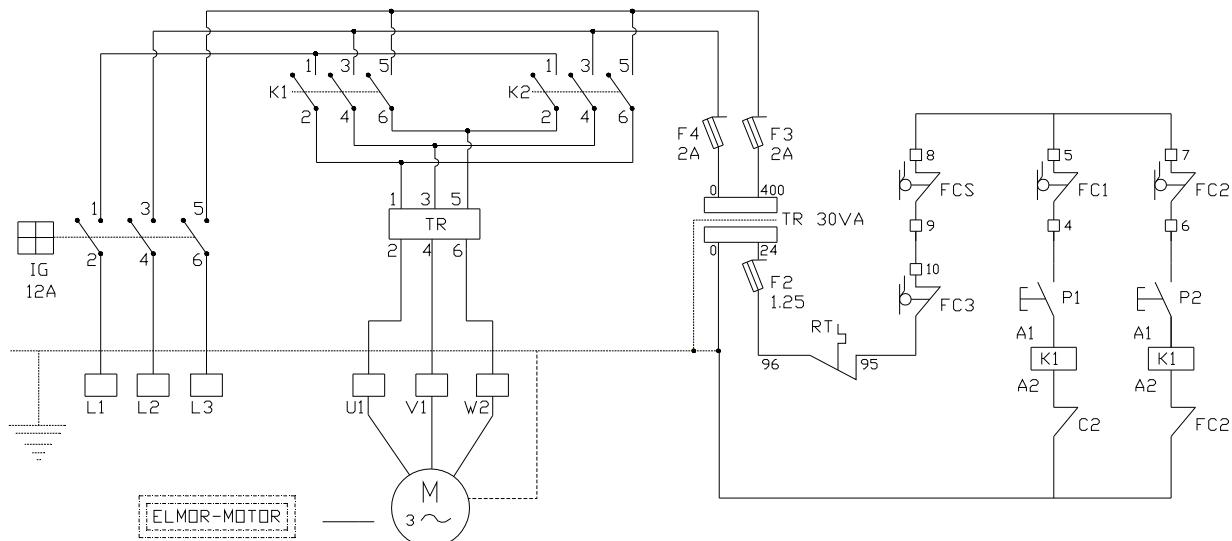


Fig.42