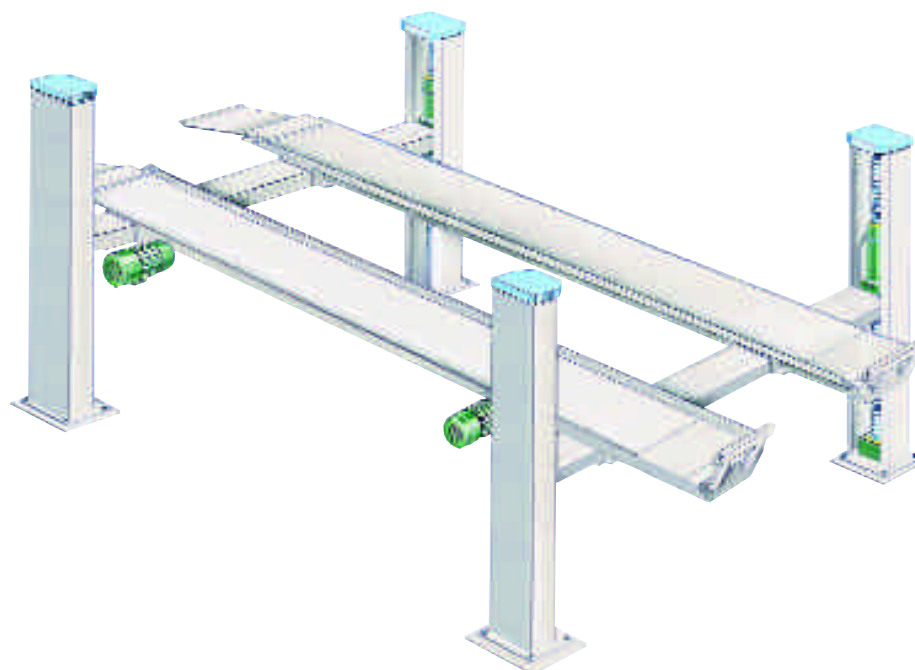




● **ELECTRO-MECHANICAL FOUR POST LIFT**



### **Disclaimer Of Warranties And Limitations Of Liabilities**

Whilst the staff of Autec - SUN / VLT Equipment have taken due care in the preparation of this manual nothing contained herein modifies or alters in any way the standard terms and conditions of the Autec purchase, lease or rental agreement under the terms of which the Equipment to which this manual relates was acquired or increases in any way Autec - SUN / VLT Equipment liability to the customer or to third parties.

### **To The Reader**

Whilst every effort has been made to ensure that the information contained in this manual is correct, complete and up-to date Autec - SUN / VLT Equipment reserves the right to change any part of this document at any time without prior notice

**BEFORE OPERATING THIS UNIT, PLEASE READ THIS MANUAL CAREFULLY, PAYING EXTRA ATTENTION TO THE SAFETY WARNINGS AND PRECAUTIONS.**

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<b>CONTENTS</b>		<b>PAG</b>
<b>1.</b>	<b>GENERAL INFORMATION</b>	<b>05</b>
1.1	Introduction	05
1.2	Use of this manual	05
1.3	Contained in this manual	05
1.4	Safety	05
<b>2</b>	<b>SAFETY PRECAUTIONS</b>	<b>06</b>
2.1	Safety Notice	06
2.2	General	06
2.3	General Warnings	06
2.4	The weight of the vehicle	08
2.5	Pictograms on lift	08
<b>3</b>	<b>SAFETY DEVICES</b>	<b>09</b>
3.1	General precautions	09
3.2	"Dead man" system	10
3.3	Safety device in the presence of obstacles	10
3.4	Mechanical block	10
3.2	Risk of damage due to electricity	11
3.3	Risk and protective media	11
3.4	Hazards associated with lifting of a vehicle	11
3.5	Risk for persons	11
3.5.1	Risk for the operator.	11
3.5.2	Risk for personnel.	12
3.5.3	Risk for impact.	12
3.5.4	Risk for sliding out.	13
3.5.5	Risk for electrocution.	13
3.5.6	Risk due to insufficient lighting.	13
3.5.7	Risk of use/maintenance.	13
3.6	Suitability for usa.	13
<b>4</b>	<b>PACKING, TRANSPORT AND STORAGE</b>	<b>15</b>
4.1	Lift handling and pre-installation	15
4.2	Lifting and moving the packing	15
4.3	Storage	15
4.3	Opening the crates and boxes	15
4.4	Product Identification	16
4.5	Warranty	16
4.6	Servicing	16
4.7	Technical Specification	16
<b>5</b>	<b>DESCRIPTION OF THE LIFT</b>	<b>18</b>
5.1	Commands	18
<b>6.</b>	<b>CHECKING THE MINIMUM REQUIREMENTS FOR THE PLACE OF INSTALLATION</b>	<b>20</b>



<b>CONTENTS</b>		<b>PAG</b>
7.	INSTALLATION	20
7.1	Checking the minimum requirements for the place of installation.	20
7.2	Assembling.	21
7.3	Adjustment of the device controlling the wear of the support screw	27
7.4	Obstacle microswitch adjustment	29
8.	INSTRUCTIONS FOR USE OF THE LIFT	30
8.1	IMPROPER USE OF THE LIFT	31
8.2	USE OF ACCESSORIES	31
8.3	STAFF TRAINING	31
8.4	IMPORTANT CHECKS TO BE MADE	31
9.	MAINTENANCE INSTRUCTIONS	32
9.1	Motor chains	32
9.2	Containers at post base	32
9.3	Gear boxes	33
9.4	Angular transmissions	33
9.5	Checking the wear on the load-bearing support screws	33
10	PROBLEMS	35
11.	STORAGE	35
11.1	SCRAPPING	35
12	ELECTRICAL INSTALLATION	36
13	CONFORMITY	37



## **1. GENERAL INFORMATION**

### **1.1 Introduction**

Arrangements for the installation of the lift must be made with the manufacturers or suppliers representative.

The lift has been designed and manufactured to the highest standards to give many years of reliable and safe operation if used and maintained in accordance with the safety, operational and maintenance instructions contained in this manual.

### **1.2 Use of this manual**

This manual is intended for use by workshop technicians in charge of the lift (operators) and routine maintenance technicians (maintenance operators). The operating instructions are considered to be an integral part of the machine and must remain with it for the whole of its useful life. Read every section of this manual carefully before operating the lift since it contains important information concerning the:

- safety of people
- safety of the lift
- safety of lifted vehicles



**THE COMPANY IS NOT LIABLE FOR ANY POSSIBLE PROBLEMS, DAMAGE OR ACCIDENTS ARISING FROM FAILURE TO FOLLOW THE INSTRUCTIONS.**

### **1.3 Contained in this manual**

The following is recommended for the proper use of this manual:

- keep the manual in an easily accessible place near the lift;
- keep the manual in an area protected from damp;
- use this manual properly without damaging it
- do not make changes to the manual; changes and updates may only be made by the manufacturer;

This manual is an integral part of the lift and should be given to the new owner if and when the lift is resold.

### **1.4 Safety**

Every effort has been made to make this lift as safe as possible however, as with all lifting Equipment, it is important that safe working practices are followed.

General safety information is to be found in the chapter "Safety Precautions" and specific safety warnings and cautions are printed where applicable this throughout the text. All personnel working with or in the vicinity of this lift must be familiar with the warnings and cautions contained in this manual.



## **2 SAFETY PRECAUTIONS**

### **2.1 Safety Notice**



**FOR YOUR SAFETY, READ THIS MANUAL AND THE SAFETY PRECAUTIONS THOROUGHLY BEFORE OPERATING THE LIFT.**



**THE LIFT IS INTENDED FOR USE BY PROPERLY TRAINED PERSONNEL ONLY. THE SAFETY MESSAGES PRESENTED IN THIS MANUAL ARE INTENDED AS REMINDERS TO TRAINED OPERATORS TO EXERCISE CARE WHEN USING THE UNIT.**

### **2.2 General**

The lift is supplied in a safe condition. In order to keep it in a safe condition and to ensure safe operation of the Equipment, the operating and maintenance instructions contained in this manual must be followed and the safety warnings & cautions must be observed.

### **2.3 General Warnings**

General Warnings, giving instructions for the prevention of injury to people, are given in the following list. Further specific warnings are printed where applicable before the appropriate subject.



**BEFORE USING THE LIFT, MAKE SURE THAT THE MAINS POWER SUPPLY CABLE IS CONNECTED TO A MAINS POWER SUPPLY OUTLET OF THE CORRECT VOLTAGE WITH A PROTECTIVE EARTH CONTACT. (REFER SERIAL NUMBER PLATE ON THE UNIT FOR MAINS POWER REQUIRMENTS). VOLTAGES HIGHER THAN SPECIFIED CAN DAMAGE THE UNIT AND MAKE IT UNSAFE.**



**THE USE OF MAINS POWER SUPPLY EXTENSION CABLES IS NOT RECOMMENDED. IF ONE HAS TO BE USED, IT SHOULD HAVE CONDUCTORS WITH A DIAMETER OF AT LEAST 1.5 mm. AND A PROTECTIVE EARTH CONTACT.**



**ONLY USE FUSES WITH THE FUSE RATING INDICATED NEAR THE FUSE HOLDER. THE USE OF INCORRECTLY RATED FUSES CAN DAMAGE THE UNIT OR THE POWER CABLE AND MAKE THESE ITEMS UNSAFE.**



**DO NOT OPERATE THE UNIT BEFORE CONTACTING THE SERVICE CENTRE OF THE MANUFACTURER/SUPPLIER, WHEN THE UNIT:**

- SHOWS VISIBLE DAMAGE.
- FAILS TO OPERATE.
- HAS BEEN SUBJECTED TO PROLONGED STORAGE UNDER UNFAVOURABLE CONDITIONS
- HAS BEEN SUBJECTED TO SEVERE TRANSPORTATION STRESSES.  
IT IS POSSIBLE THAT THESE CONDITIONS CAN MAKE THE UNIT UNSAFE.



**ONLY USE THE LIFT IF YOU ARE QUALIFIED TO WORK WITH IT.**



**KEEP PERSONS AND ANIMALS AWAY FROM THE LIFT WHILST IN OPERATION.**



**ENSURE THAT THE VEHICLE CANNOT MOVE DURING LIFTING. ALWAYS SET THE GEAR SELECTOR IN NEUTRAL, SET THE PARKING BRAKE AND PLACE WHEEL CHOCKS IN FRONT AND AT THE REAR OF THE DRIVE WHEELS BEFORE LIFTING A VEHICLE.**





THE LIFT HAS BEEN DESIGNED FOR LIFTING VEHICLES AND HOLDING THEM AT ANY HEIGHT WITHIN THE WORKING PARAMETERS OF THE MACHINE IN AN ENCLOSED ENVIRONMENT. ANY OTHER USE IS FORBIDDEN INCLUDING:

- THE WASHING OF VEHICLES;
- THE LIFTING OF PERSONS OR USE AS SCAFFOLDING;
- EXERTING PRESSURE;
- LOADING.



THE PRESENCE OF PERSONS INSIDE THE DANGER ZONE (fig. 1) IN THE SAME FIGURE IS STRICTLY PROHIBITED. THE PRESENCE OF PERSONS BENEATH THE VEHICLE DURING OPERATIONS IS PERMITTED ONLY WHEN THE VEHICLE IS PARKED IN THE ELEVATED POSITION.

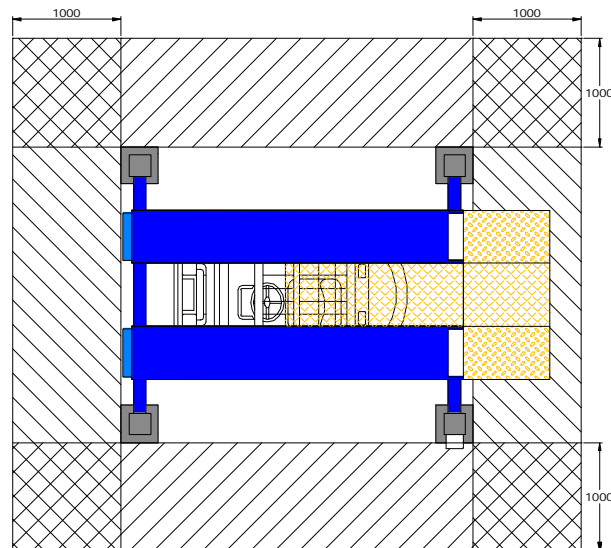


fig. 1

The safety zone (fig. 1) is to some extent determined by the dimensions of the vehicle to be lifted.



IT IS POSSIBLE THAT THESE CONDITIONS CAN MAKE THE UNIT UNSAFE.



ONLY USE THE LIFT FOR ITS DESIGNED PURPOSE. THE MANUFACTURER SHALL NOT BE LIABLE FOR ANY INJURY OR DAMAGE TO PEOPLE, VEHICLES OF ANY OTHER OBJECTS RESULTING FROM IMPROPER OR UNAUTHORISED USE OF THE LIFT.



 **ONLY USE THE LIFT FOR ITS DESIGNED PURPOSE. THE MANUFACTURER SHALL NOT BE LIABLE FOR ANY INJURY OR DAMAGE TO PEOPLE, VEHICLES OR ANY OTHER OBJECTS RESULTING FROM IMPROPER OR UNAUTHORISED USE OF THE LIFT**

 **FOLLOW ALL APPLICABLE HEALTH REGULATIONS AND SAFETY STANDARDS WHEN WORKING WITH THE LIFT.**

**2.4 The weight of the vehicle**

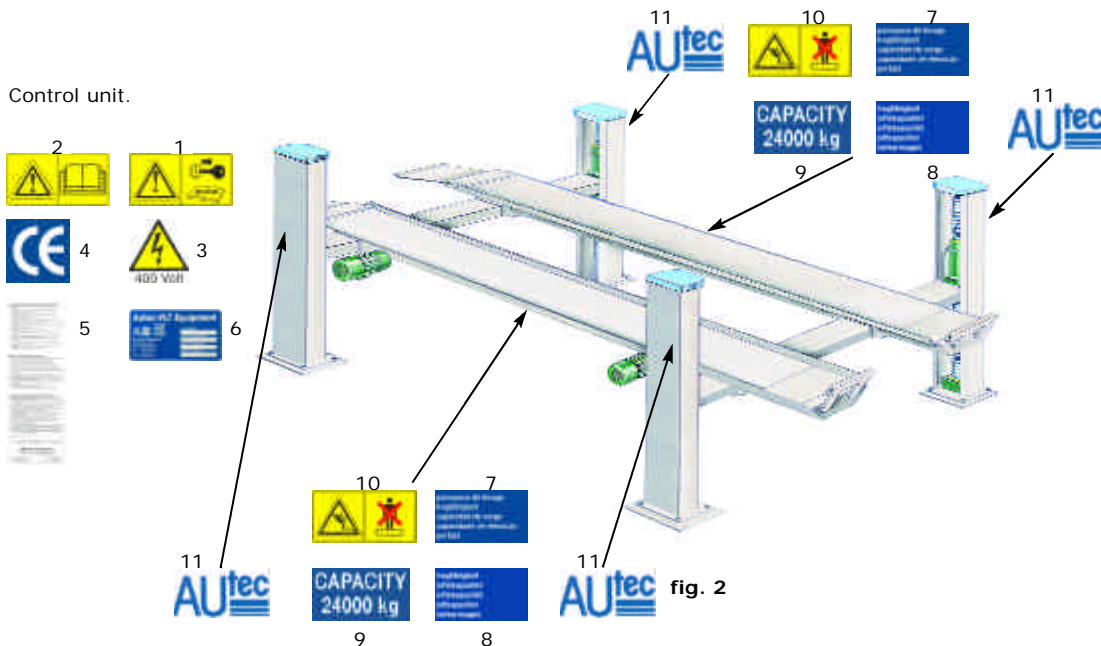
The maximum loading capacity is not exceeded.

<b>ALM-6040FL</b>	<b>MAX. 6.000 Kg.</b>
<b>ALM-10040FL</b>	<b>MAX. 10.000 Kg.</b>

**2.5 Pictograms on lift (fig. 2)**

IN THE EVENT OF THESE PICTOGRAMS BEING DAMAGED, THEY MUST BE REPLACED BY NEW ONES AVAILABLE FROM Autec - SUN / VLT Equipment.

1	OB904-09	7	OB901-ENSKA
3	OB904-10	8	OB901-DFSP
4	OB904	9	OB901-24000
5	OB905-EDNL	10	OB904-08
6	OB903-002	11	OB901-4000





### 3. SAFETY DEVICES



**WARNING :**

The lift is designed and constructed to lift vehicles and to hold them in a certain position in a covered working place. Any other form of use is not permitted. In short, the lift is not suitable for the following purposes:

- Washing and spraying exercises.
- To be used as a device for applying force.
- To be used as a goods lift.
- To be used as a jack or for lifting vehicles for changing wheels.

The manufacturer hereby refuses any claims for damages arising in connection with injury to persons or damage to vehicle or other property caused due to incorrect and/or unauthorised use of the lift.

During lifting- and lowering movements, the operator must be within the zone of operation (1), as shown in **fig. 1**. The presence of any person in the safety zone (2) is strictly forbidden. The presence of persons under the vehicle is only permitted if the vehicle is parked and locked in the lifted position.



**USE THE LIFT ONLY IF ALL THE SAFETY ARRANGEMENTS ARE WORKING PROPERLY. IF THESE RULES ARE NOT FOLLOWED, SERIOUS INJURY COULD BE CAUSED TO PERSONS AS WELL AS IRREPARABLE DAMAGE TO THE LIFT AND THE VEHICLE ON THE LIFT.**

#### 3.1 General precautions:

- The operator is bound to follow the regulations which apply in the country in which these lifts are installed. In addition, the operator must :
- Always work in the operators area as designated in the manual.
- Never remove the protective guards or dismantle or shut down the mechanical, electrical or other types of safety arrangements.
- Read the safety regulations relating to the lift and take cognisance of the safety information provided in this manual.

The following terms have been used in this manual to describe the various types of risk :

**DANGER :** there is a direct possibility of danger which could lead to serious injury or death.

**WARNING :** this indicates situations and/or actions which are unsafe and could lead to injuries of various types except death.

**CAUTION :** this indicates situations and/or actions, which are unsafe and could lead to light injuries to persons and/or damage to the lift, the vehicle or other properties.



### 3.2 "Dead man" system

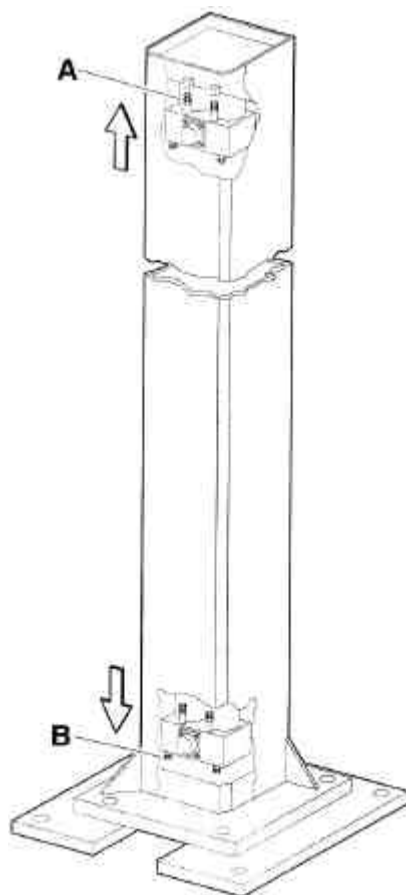
The lift is equipped with a system which only operates in the presence of the operator: push-button controlled rise or descent movements are immediately halted when these buttons are released.

### 3.3 Safety device in the presence of obstacles

If, during lift descent, an obstacle which resistance is greater than the weight of the moving element, a special limit switch is activated, causing the lift to halt in any working condition. When the lift is at a halt, the only possible command is the rise command which enables the obstacle to be removed, followed by the descent command.

### 3.4 Mechanical block

This is activated if the rise/descent limit switches do not work. It is activated during rise **(A)** and descent **(B)** after 5 mm runover of the operation point of the limit switch. Adjust if necessary using the relative adjustment devices.



### 3.2 Risk of damage due to electricity

Special safety arrangements have been made on the lift in places where the risks are very high.

### 3.3 Risk and protective media

The risks to which the operator is exposed when the vehicle is in a raised position, together with the protective media which have been installed, in order to limit the possible dangers.

### 3.4 Hazards associated with lifting of a vehicle

The following provisions have been made to avoid damage from excessive weight:

1. Cable break security: in each column a safety bar (catch bar) has been fitted parallel to the cable, which in the event of the cable breaking will automatically support the raised section
2. Microswitches: microswitches have been fitted to the ends of the crossbeams to control the cable voltage. Should the voltage to the cable be interrupted, by for example impact with an obstacle during lowering, the lifting bridge will stop its descent.
3. Leakage and breakage protection: a pipe-breakage valve has been fitted in the cylinder head that will, in the event of pipe breakage, reduce the rate of descending of the tracks.
4. Acoustic signal: the lifting bridge will during its descent produce an acoustic signal.
5. Lifting bridge locking: next to the catch bar in each column a locking mechanism has been installed. This consists of a strip in which grooves have been cut at regular intervals and with them slide locks that are shot into them by a spring when the raising/lowering button is released.
6. Roll-on and roll-off protection: there is on the front end of the tracks roll-off protection, on the rear side at the point of entry these are automatically elevated upon lifting.
7. Thermal protection: the electric motor is fitted with thermal protection, which guards the motor from over heating.

### 3.5 Risk for persons

This paragraph describes the risks to which the operator or any other person near the working area where the lift is in operation, in case the lift is not used in the appropriate manner.

#### 3.5.1 Risk for the operator.

This risk arises in cases where the operator is not standing at the appointed place at the control cabinet; when the lift with the vehicle is being lowered, it is not permissible for the operator to stand below the descending system and its load to any extent. It is imperative that the operator must be standing in the operating zone during the lifting and lowering operation. (fig. 3)

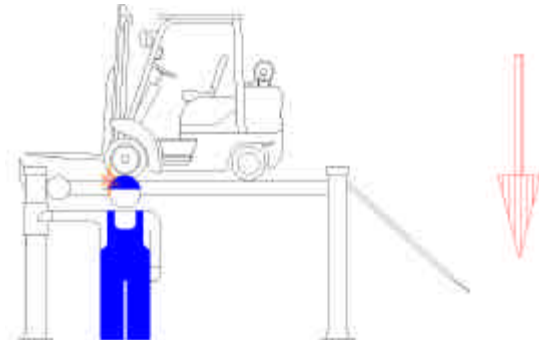


fig. 3

3.5.2 Risk for personnel

When the lift with the vehicle is moving downwards, it is not permitted for any of the personnel to enter the room or walk under the (downwards) moving parts of the lift. **(fig. 4)**

The operator should not start the motion of the lift until he has assured himself that there are no persons within the danger zone.



fig. 4

3.5.3 Risk for impact

Caused by parts of the lift or the vehicle that are positioned at head height. When, due to operational reasons, the lift is immobilised at relatively low elevations (less than 1.75 m from the ground) personnel must be careful to avoid impact with parts of the machine not marked with special hazard colouring. **(fig. 5)**

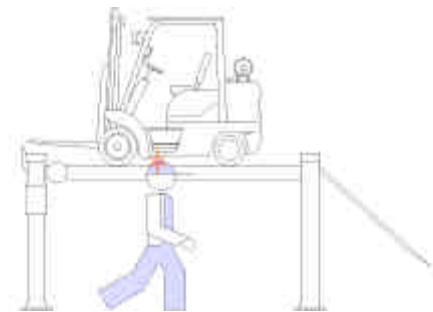


fig. 5

Never enter the vehicle or start the motor when the vehicle is on the lift **(fig. 6)**

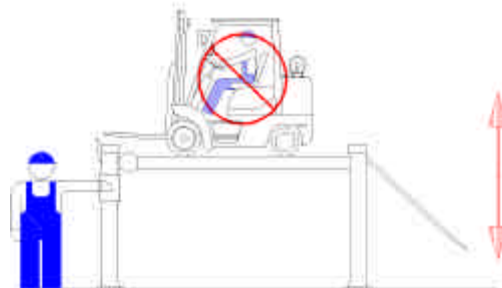


fig. 6

Never rest any fittings or other objects against the platform and never place such objects under the platform when it has a load mounted on it, since this can impede the lowering operations and may cause the vehicle to fall off the platform **(fig. 7)**



fig. 7

3.5.4 Risk for sliding out.

This risk can be overcome by avoiding the spillage of oil or grease in the area surrounding the lift (**fig. 8**).

Apart from that, any oil spillage which may occur should be thoroughly removed from the spot immediately.



**Fig. 8**

3.5.5 Risk for electrocution.

Never spray water steam, solvents or paint in the area immediately surrounding the platform and the control cabinet (**fig.9**)



**fig.9**

3.5.6 Risk due to insufficient lighting

The area surrounding the lift must be properly lighted according to the legal requirements applicable in the place of installation.

3.5.7 Risk of use/maintenance

Autec uses material of the highest quality in its lift. These must be used according to the standard specified, and maintenance must be carried out regularly.

**3.6 Suitability for use.**

**This product has been manufactured in compliance with the European Directive 89/392. On the basis of article 4.1.2.3 of this Directive, the coefficients used for the tests are as follows:**

**1.10 for the dynamic test.**

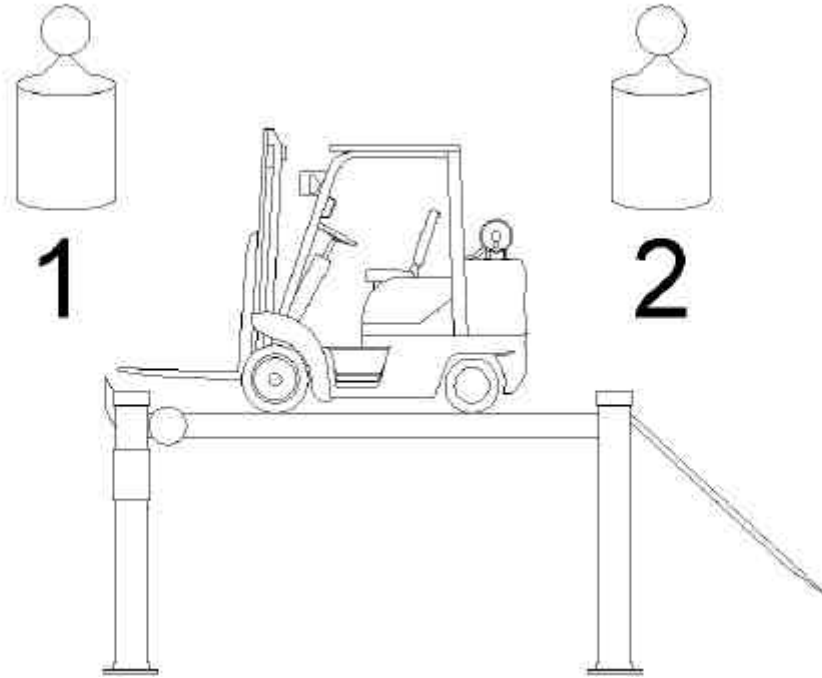
**1.25 for the static test.**

**These tests must be performed by specialist staff.**



**Any unauthorized modifications or tampering with the equipment release the manufacturer of responsibility for the damages caused by or related to the above mentioned acts.**

**The removal of or tampering with safety devices constitutes an infringement of European Safety Regulations.**



Place the vehicle in the centre of the footboards.

#### 4. PACKING, TRANSPORT AND STORAGE

Every action involving the operation, transportation or unpacking of the equipment may only be done by trained personnel who have a proper knowledge of the lift, and who are familiar with the contents of this operating manual.

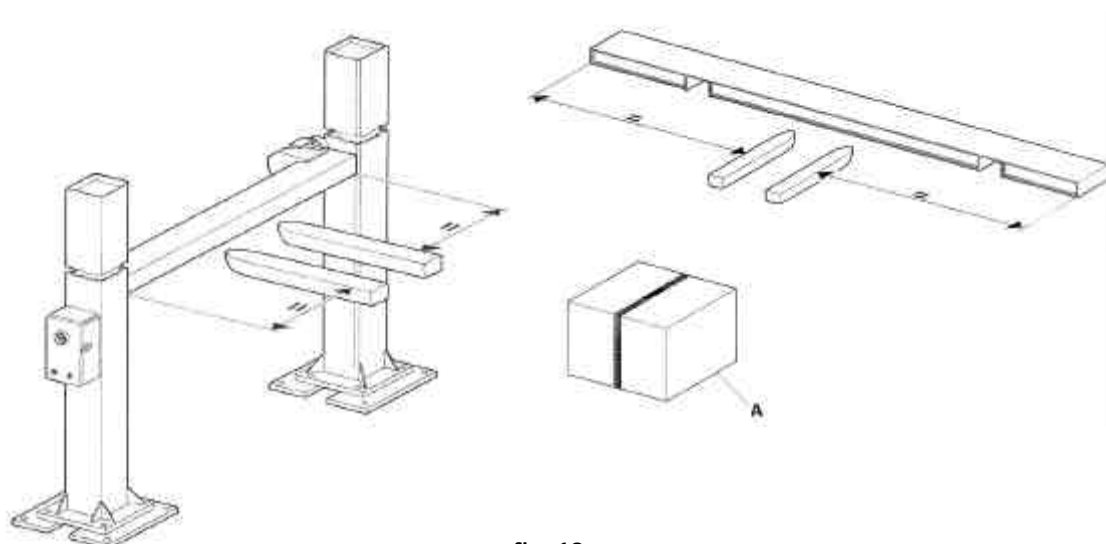


fig. 10

##### 4.1 Lifting and moving the packing

The boxes must be lifted and moved with the help of a fork lift truck or a crane. The equipment chosen must be capable of lifting and moving the equipment safely, keeping in mind the dimensions of the vehicle, the weight, the centre of gravity and protection of fragile parts.

##### 4.2 Storage

The packed lift must always be placed in a covered area at a temperature between  $-10^{\circ}\text{C}$  and  $+40^{\circ}\text{C}$  and may not be exposed to direct sunlight.

##### 4.3 Opening the crates and boxes

Check whether the machine has been damaged during transportation, and whether all the components as mentioned in the packing list are physically present.

- avoid sudden bolts and tugs, be careful of uneven surfaces, bumps etc...;
- be extremely careful of exposed parts: obstacles, difficult through ways, etc...;
- wear suitable and protective clothing;
- after having removed the various packings, place them in special waste collecting areas which are inaccessible to children and animals where they will then be disposed of;
- on arrival, check that the packing has not been opened and, once unpacked check that nothing has been damaged.

#### 4.4 Product Identification

The identification data of the machine are shown in the label placed on the frame of the machine (**fig. 11**) and indicated in the declaration of conformity. Use this data both to order spare parts and when getting in touch with the manufacturer.



fig. 11



**THE REMOVAL OF THIS LABEL IS STRICTLY FORBIDDEN.**

Machines may be updated or slightly modified in appearance and, as a consequence, may present features different from those shown without prejudice to what is described on it.

#### 4.5 Warranty

The warranty is valid for a period of 12 months starting from the date of the invoice. The warranty will be automatically invalidated if unauthorised modifications to the machine or parts there of are carried out. The Manufacturer's authorised personnel must verify defects in workmanship or materials.

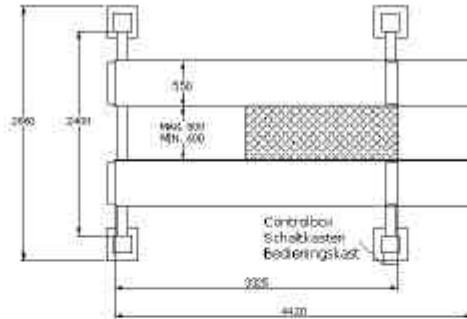
#### 4.6 Servicing

For all servicing and maintenance operations not specified or shown in these instructions, contact the Dealer where the machine was purchased or the Manufacturer's Commercial Department.

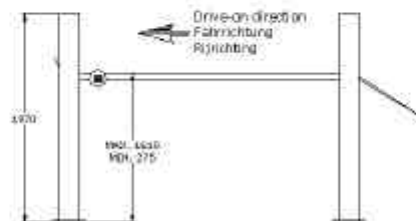
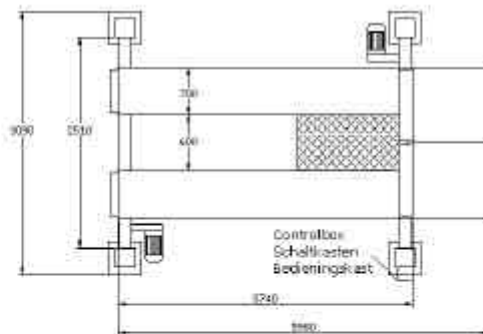
#### 4.7 Technical Specification

	ALM-6040FL	ALM-10040FL
Capacity	6.000 kg	10.000 kg
Lifting time	70 s	80 s
Descent time	70 s	80 s
Noise level	70 dB (A) / 1 m	70 dB (A) / 1 m
Working temp.	0 °C / + 45 °C	0 °C / + 45 °C
Working envir.	Indoor	Indoor
Motor power	2 X 3 kW	2 X 3 kW
Electr. Supply	400 V / 50 Hz / 3 ph	400 V / 50 Hz / 3 ph
Color	RAL 5015	RAL 5015
CE number	390-150X-0028-02-95	390-150X-0029-02-95
Notified body	Bureau Veritas	Bureau Veritas





ALM-6040FL



ALM-10040FL



## 5. DESCRIPTION OF THE LIFT

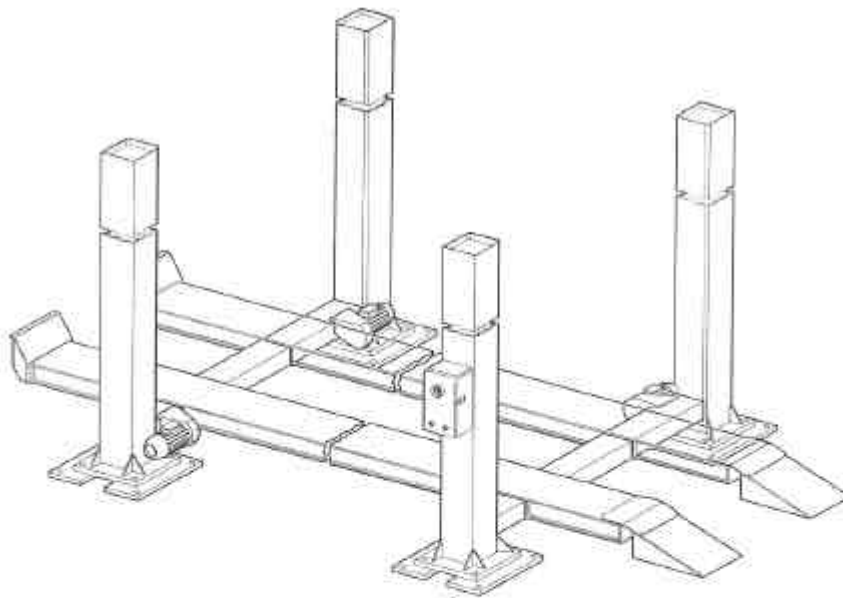
LIFT Electromechanical four post lift.

Main technical specifications:

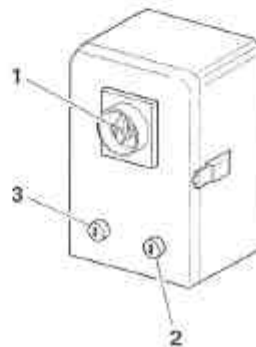
- platforms with overhang at both sides for easy motor extraction
- mechanical synchronisation of movements
- irreversible lifting mechanism
- possibility of driving on/down from both sides

### 5.1 Commands

Command cabinet containing: the hydraulic control box, mains switch, lift rise button, lift descent button and lift in lockout indicator light.



**LIFT COMMANDS**  
1 - MAIN SWITCH  
2 - RISE BUTTON  
3 - DESCENT BUTTON



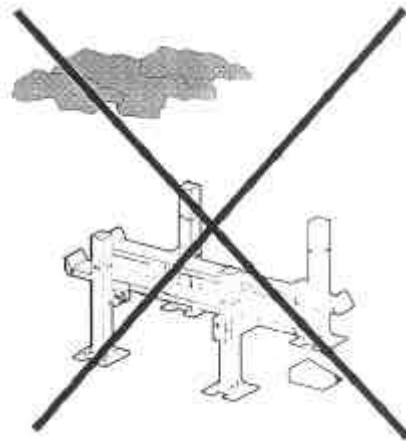
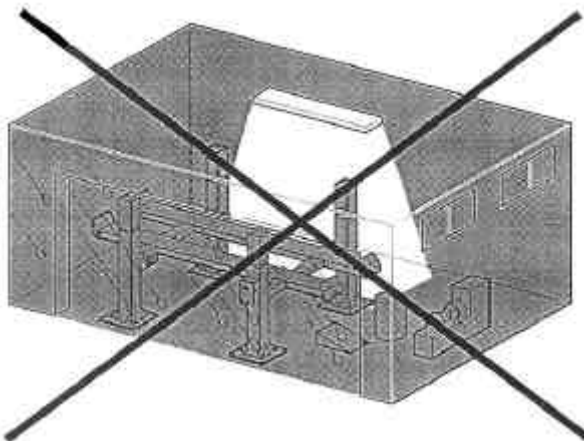
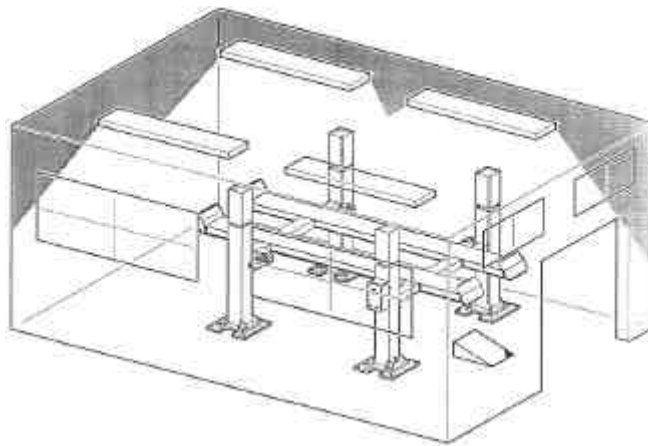
## 6. CHECKING THE MINIMUM REQUIREMENTS FOR THE PLACE OF INSTALLATION

Check that the area in which the machine has to be installed has the following characteristics:

- enough light (without strong or dazzling lighting).
- the area is not exposed to bad weather.
- the area is adequately ventilated.
- an unpolluted environment.
- sound levels are below the prescribed standards required by law
- no dangerous movements are caused in the area by either machines being operated.
- the area in which the machine is installed does not stock explosive, corrosive and/or toxic material.
- the installation layout should be selected so that the operator can see all the equipment and the surrounding area from the operating position. The operator must prevent unauthorised persons and potentially dangerous objects from entering this area.

All installation work concerning connections made to external power supplies (particularly electrical) should be done by professionally qualified staff.

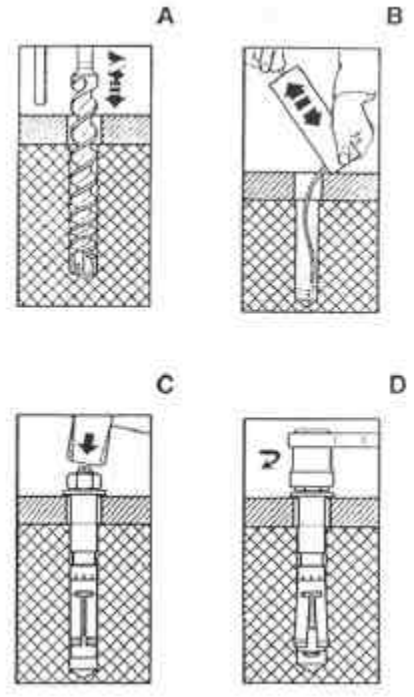
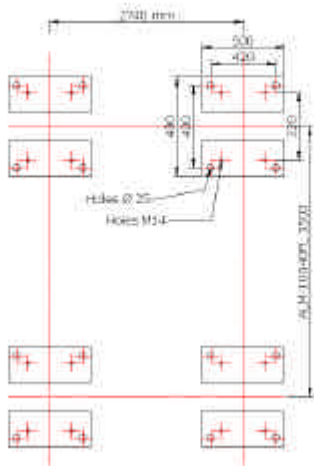
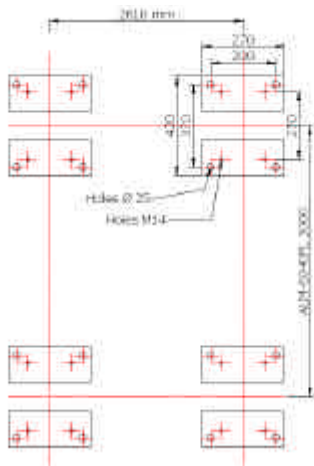
Installation must be done by authorised staff following specific instructions where present in this manual: if in doubt, please consult authorised service centres or Autec technical services department.



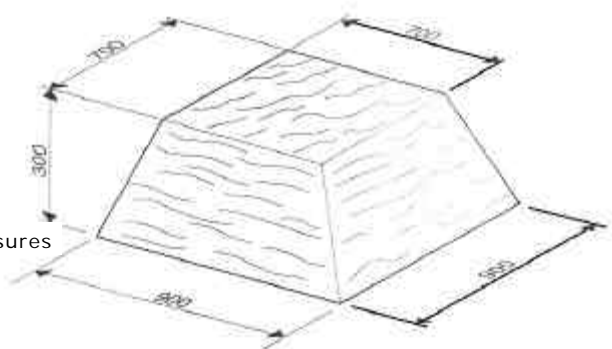
7. INSTALLATION

7.1 Preparing the assembling area.

The lift must be placed on an even, compact, resistant floor. If the floor does not meet these requirements, construct 4 concrete bases (fig. 3) which must be cast at least a week before assembling the lift. (N.B. Concrete should be R'bk 250 dass or higher with suitable reinforcement).



Maximum capacity on every post      Cement base measures



Cement base measures

fig. 12



7.2 Assembling

After choosing the site of the command side post, proceed as follows: take cross piece (1) and place it in the right position. Then take cross piece (2), and place it at the opposite side, at a distance of 5700 mm (measured from the inside of the cross pieces). Check that the cross piece holes are turned inwards to let the control bar (12) through. Check that cross pieces are both at the same height (approx. 650 mm from the underside of the cross piece to the upper surface of the post base plate). If they are not, remove cap (4) and fan (5) and turn the handwheel (6), locked on motor shaft (3) in the required direction until both cross pieces are at the same height. Take footboard (7) with control bar, ensuring that the bar is turned forwards the outside of the lift. Remove the external casings (9) from this, remove the two screws (13) fastening the two joints (14) and drive them inwards until they are on a level with the plane (38). Remove the two footboard-locking plates (10) by loosening the screws (11).

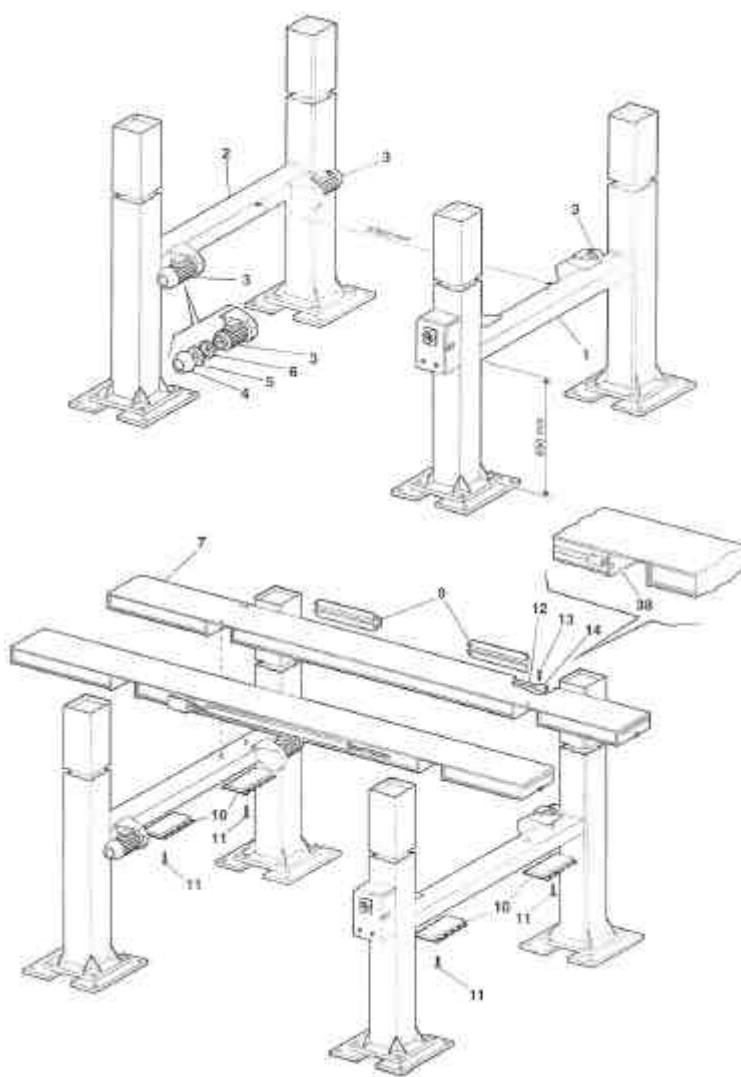


fig. 13

Place footboard (7) above cross pieces and carefully lower it until it touches them; checking that the alignment plugs fit properly (15). Re-fit the two plates (10), tighten screws (11) again. Lubricate the groove with grease or heavy oil, insert joints (14) and fasten them with the screws (13).

**⚠ WARNING:**

**JOINTS MUST BE INSERTED MANUALLY:**

turn bar (12) just enough to allow an easy fitting. Re-fit the cases (9), fasten them with the appropriate screws. Lead the gasket and the cable from the cross piece (1) into the welded tube on the footboard. Remove the cover of the derivation box (16) where the cross piece cables enter (2), pass the cable from the footboard into the gasket attached to the derivation box. Lead the gasket with cable inside into the footboard tube and fasten the box (16) to the footboard (8). Connect cables by matching the numbers. Mount the cover of the box. Remove restraint plates (10) from footboard (8) by loosening the screws (11). Place the footboard between the posts and lower it until it rests on the cross pieces at a distance of approx. 1200 mm from the footboard (7). Then re-fit the plate (10) and tighten screws (11) again.

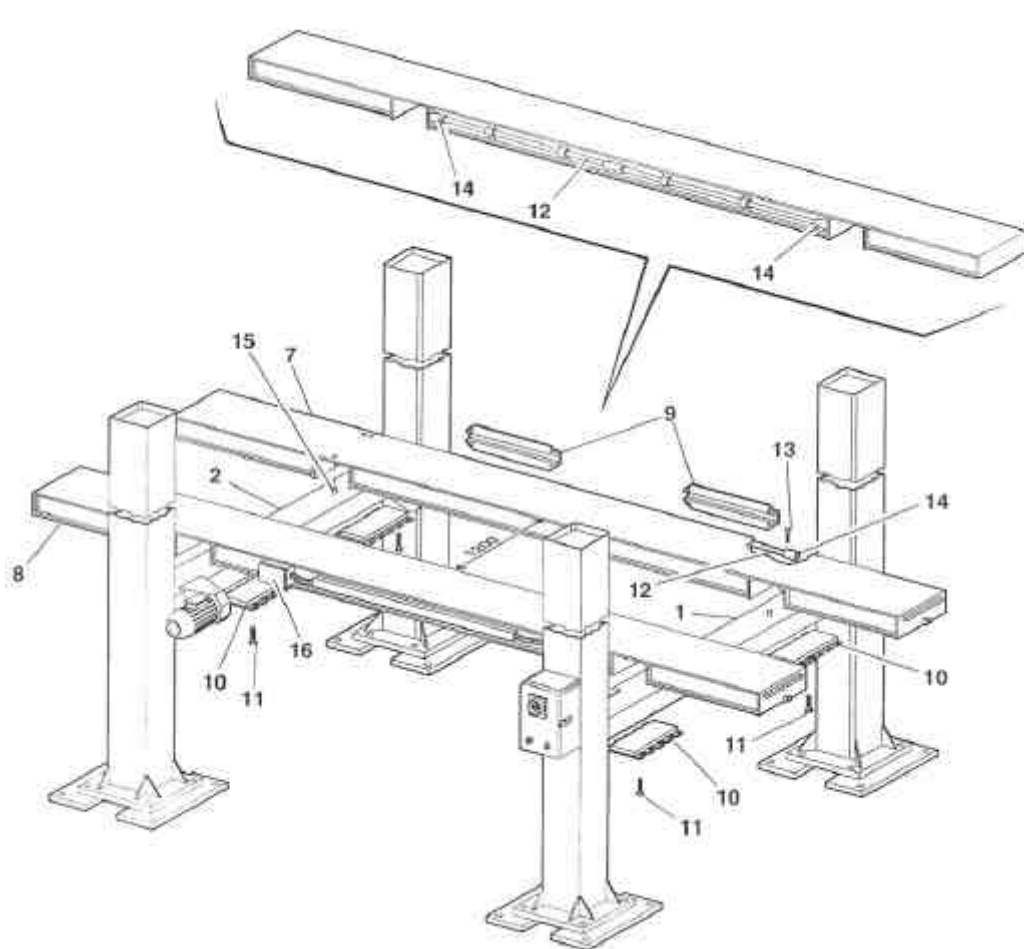


fig. 14

Remove the screws (17) fasten the flaps (18) and fill each container (19) with oil (about 50g.). Pull the lower part of the flaps (18) outwards and put oil into the small containers at the bottom of the posts, upto the right level (20). Use SPARTAN EP 220-210St OIL at 40°C (ESSO), or similar.

**Electrical circuit connections.**

The minimum power required is 25 kW. Use the 10 mm<sup>2</sup> cable for the main power supply. Make sure that the motor voltage is the same as the main; to change voltage from 220 to 380 Volts or vice versa, change the connections of both the 4 motors and transformer (fig. 6).



**WARNING:**

check that wires and terminals are matched to the right numbers.

Connect the phase wires to terminals on the main switch and connect the yellow-green wire to the right terminal. When connection is complete, connect to main and turn switch (21) to position 1.

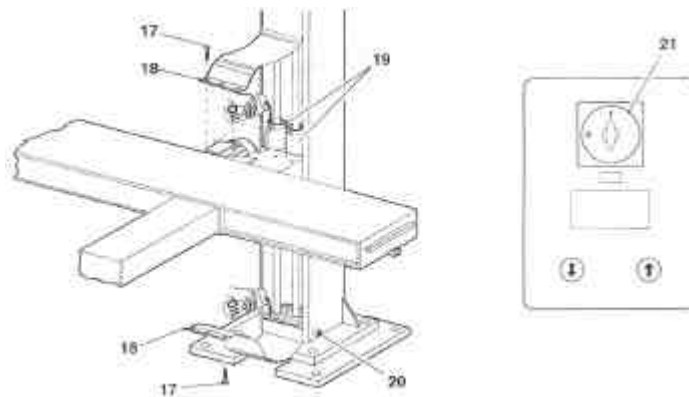
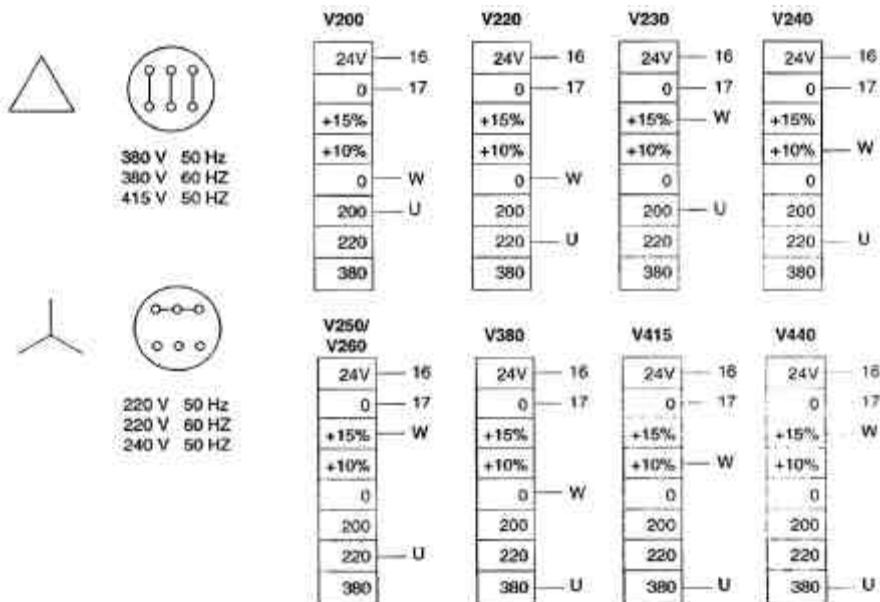


fig. 15

**Motor connection**

**Transformer connection (N.B. only shift wire W and U)**



If the rise button (22) is pressed, the lift should go up (if not, see "WARNING" section). Check that the lift halts by operating the upper limit switch (24) by hand. If the descent button (23) is pressed, the lift should descend. Check that it stops by operating the lower limit switch (25) by hand. If not, invert the two phases in the switch (21) input terminals.

Allow the lift to descend to the lower stop and fasten the four counter plates (26) to the floor by means of expansion nogs (27) (supplied with the lift), passing them through the diameter 25 holes in the counter plates. Then put the posts in upright position (fig. 8). Loosen the screws (28) that fasten the adjustment device (29). Using a spirit level on the outside, back and side of each post, position the posts properly by turning the adjustment screws (29) as required. When all four posts have been mounted according the plumb line, fasten all the screws (28). We recommend checking the parallelism with a wire at the base and at the head of the posts. A difference of 5 mm is accepted. Diagonals need no checking since the plugs (15) on the footboards are fixed.

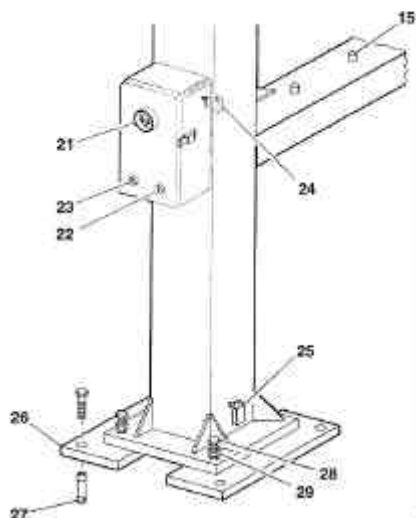


fig. 16

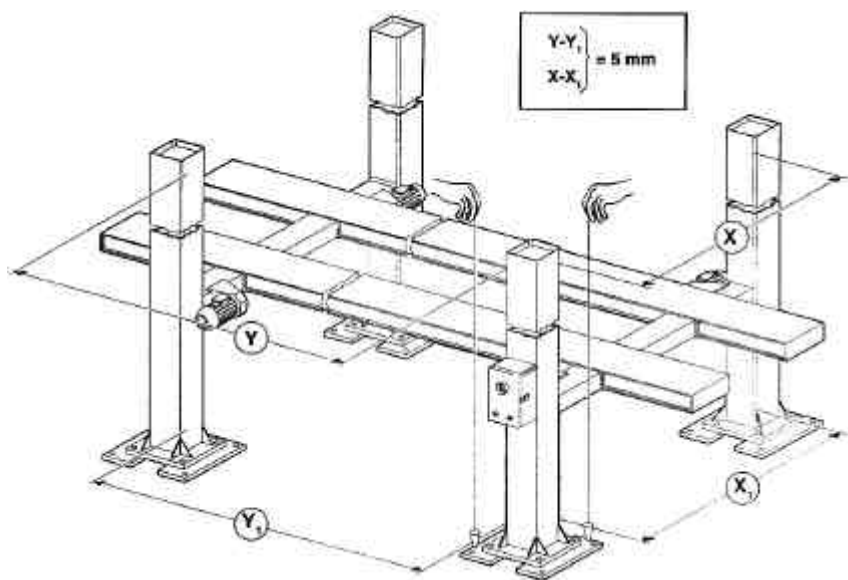


fig. 17



Check that the oil pump works properly by pressing the descent button **(23)** to lower the lift as far as the lower stop; press the rise button **(22)** and raise the lift 10 cm. Then lower it once again and repeat the operation 3 or 4 times, checking that during the rise movement each pump pumps oil into the containers **(19)**. Re-fit the flaps **(18)** by using the screws **(17)** in all four posts.

Check that the obstacle safety switches work properly. Check that the microswitches work by activating them manually. The descent movement should halt. Then operate the rise movement to raise the lift about 10 cm., place a wooden wedge under cross piece **(1)** at a distance of 15 cm from the post **(30)** and lower it in short bursts until the cross piece **(1)** rests on the wooden wedge. Carefully watch cross piece **(2)** which is opposite the rest point. It should come to a stop automatically when the descent switch is pressed a few more times. Repeat the test placing the wooden wedge under cross piece **(2)**.

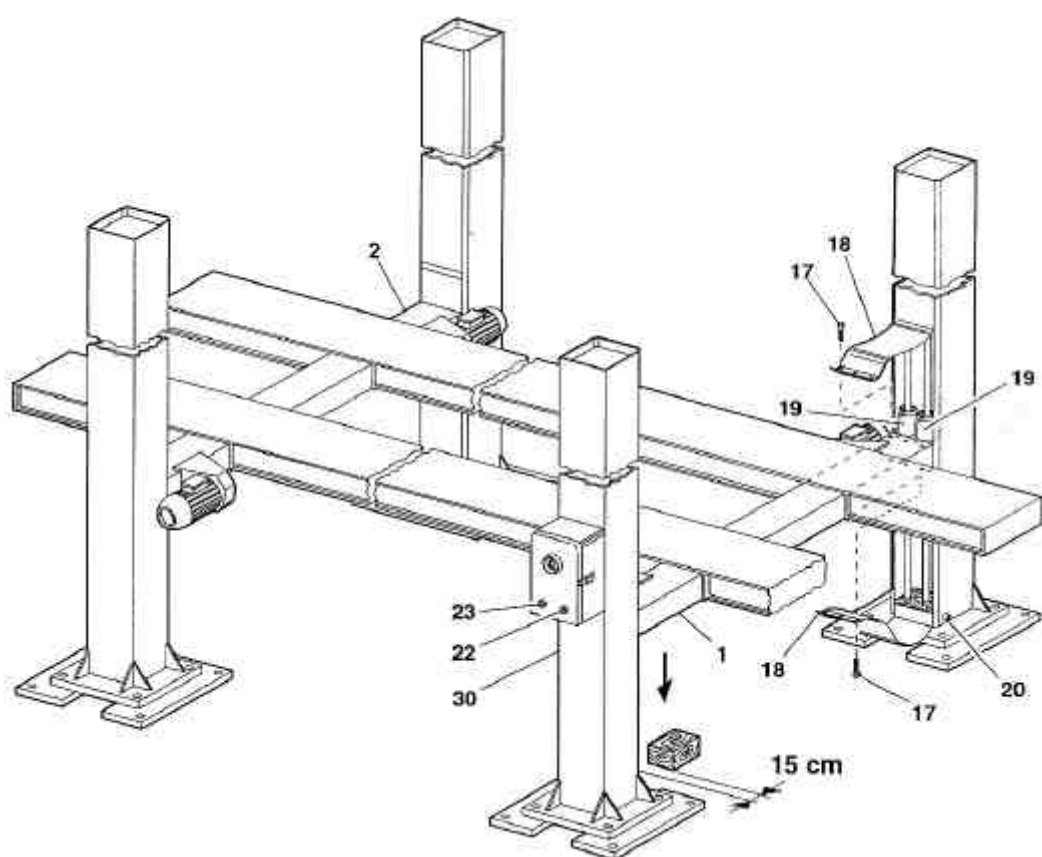


fig. 18

Fit the lorry blocks (31) onto the footboards and the semi-ramps (32) at the other end. Give the descent command until the lift reached the lower stop limit. Place a straight edge on the cross piece (just outside the post) and check that the distance is 230-235 mm between the upper face of the post base plates and the straight-edge. If necessary, adjust the limit switch (25) or its control cam.

Position the rise ramps (33) and fit the adjustable supports (34), lowering the adjustment screws (35) completely.

Check upper/lower limit positions as follows: press the rise button (22) and keep it pressed until upper limit stop is reached, which is controlled by the limit switch (24). Use a straight edge, as indicated above, to check that the stop is between 1550 and 1660 mm from the straight edge to the upper surface of the base plate.

If not, adjust the upper limit switch or its control cam. Press the descent button (23) and keep it pressed until the lower limit switch activates lift stop (25) (height-230-235).

Adjust the screws (35) so that they touch the lower surface of the footboard. Block the adjustment locknuts (35) and fix the footboards to the ground.

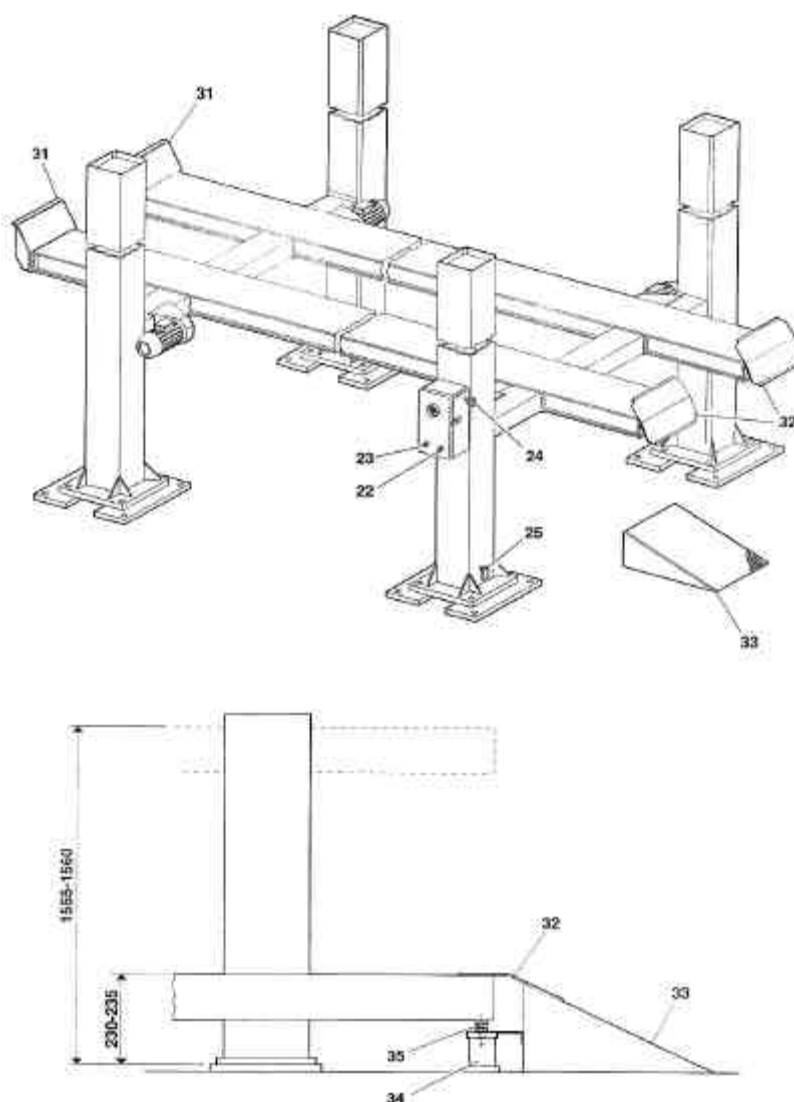


fig. 19



**WARNING**

Any connecting and disconnecting of electrical wires must always be done with the power **SWITCHED OFF**, in other words with main switch in position "0". **The NUMBERS SHOULD MATCH** exactly, both in the voltage change in the motors and in connecting the terminals of the derivation boxes. During the test of lift operation, if no movement occurs when the **RISE** or **DESCENT** button is pressed, although the teleswitch is activated and the motors vibrate without turning, it means that two motors are wrongly connected. In this case proceed as follows:

Open the control box using the appropriate key. Check that the wire numbers correspond to those on the terminal board and these of the derivation boxes and motor boxes. If the numbers correspond, one or more motors are connected wrongly in the terminal boards. To identify this, check individual motor rotation direction as follows:

- MOTOR 1** Disconnect the fuses from motors no. 2-3-4. Press the rise button to check that the lift rises and press the descent button to check that it lowers.
- MOTOR 2** Disconnect the fuses from motors no. 1-3-4 and check that it operates correctly.
- MOTOR 3** Disconnect the fuses from motors no. 1-2-4 and check that it operates correctly.
- MOTOR 4** Disconnect the fuses from motors no. 1-2-3, and repeat the test.

When you have identified the motor turning in the wrong direction, invert two wires in the motor terminal board. At this point you should make a complete rise and descent run with the lift fully unloaded to check that it operates correctly with all four motors. If just one motor is turning in the wrong direction, it would be over-ridden by the other 3 but it would cause the lift to halt within 30-40 seconds because of the disconnection of the temperature relay of the motor with incorrect rotation. At this point you may identify the motor by its excessive heating.

**N.B.** Any variations to the connections must always be followed by adjusting the numbers correctly to facilitate repair. For motor rotation direction, see fig. 11.

### 5.3 Adjustment of the device controlling the wear of the support screw

If the post support bases are not flat, and at the same level (max. permitted difference is 20 mm), there could be variations at the swing supports **(39)** which held the screws **(41)**. This may cause an unbalance of the "load-bearing support screw wear" control.

Since these levels are not easily obtained, we recommend you to make the following check: press the rise button **(22)** to lift the upper plane of footboards **(7)** and **(8)** 600-700 mm from the ground and loosen the screws **(37)** to remove the covers **(36)** from all four posts. Remove the screws **(17)** to free the flaps **(18)** turn them upside down and let each fall behind its post.



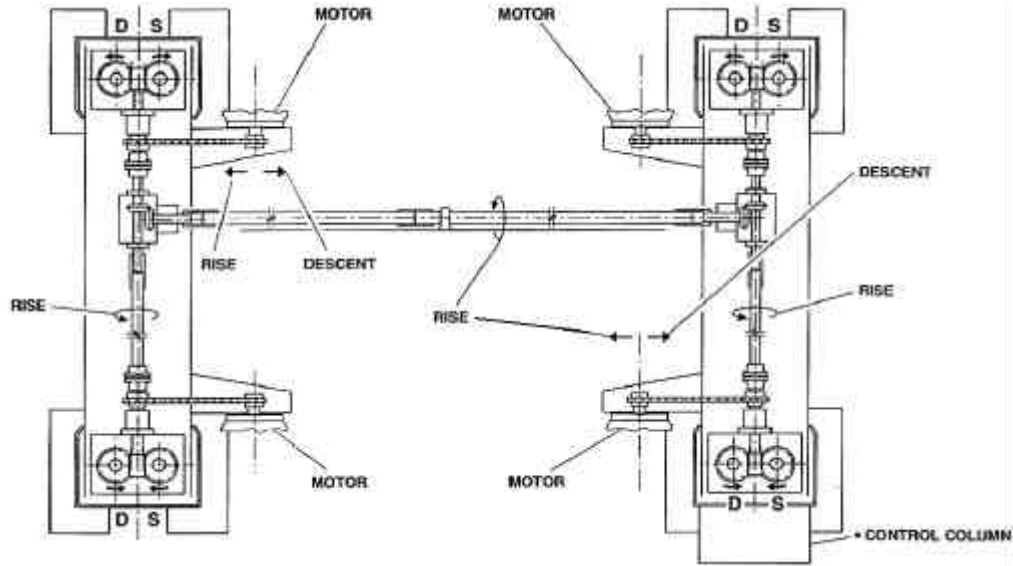


fig. 19

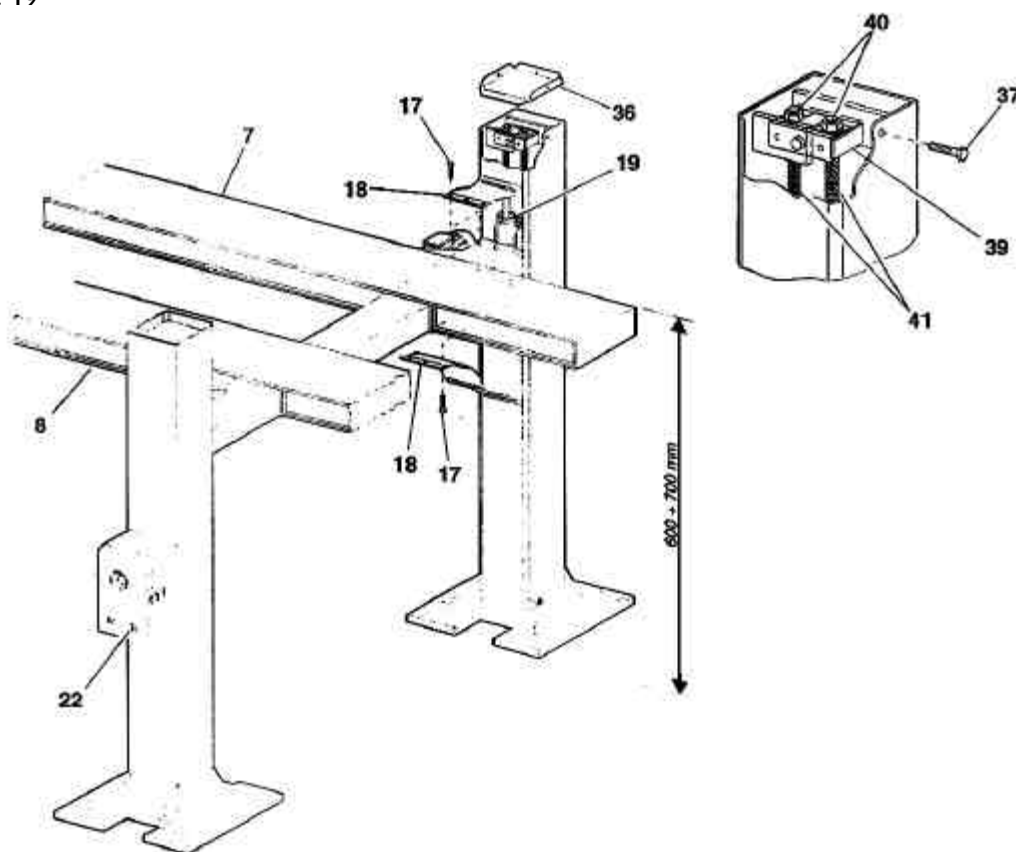


fig. 20



Check through the appropriate hole that the wedge fixed to the swing support (**39**) is perfectly housed in its seat on the mobile rod (fig. 13 pos. A). If only one side of the wedge is in contact with the housing, adjustment will be necessary. If the upper face of the wedge is in contact with the housing (fig. 13 pos. B), turn nut D clockwise about 1/10 of a turn and at the same time unscrew nut E (anti-clockwise). Repeat this operation until both faces of the wedge fit into their housing, always remembering to turn nuts **D** and **E** equally.

If the lower face of the wedge is in contact with the housing (fig. 13 pos. C), proceed as above but in reverse, unscrewing nut **D** and tightening nut **E**. Perform this check on all four posts and re-fit the flaps (**18**) and covers (**36**).

#### 7.4 Obstacle microswitch adjustment

Tighten the screws securing the microswitch (see fig. 12/1). Adjust the distance between the screw head and the cam shaft as shown in figure 13-F.

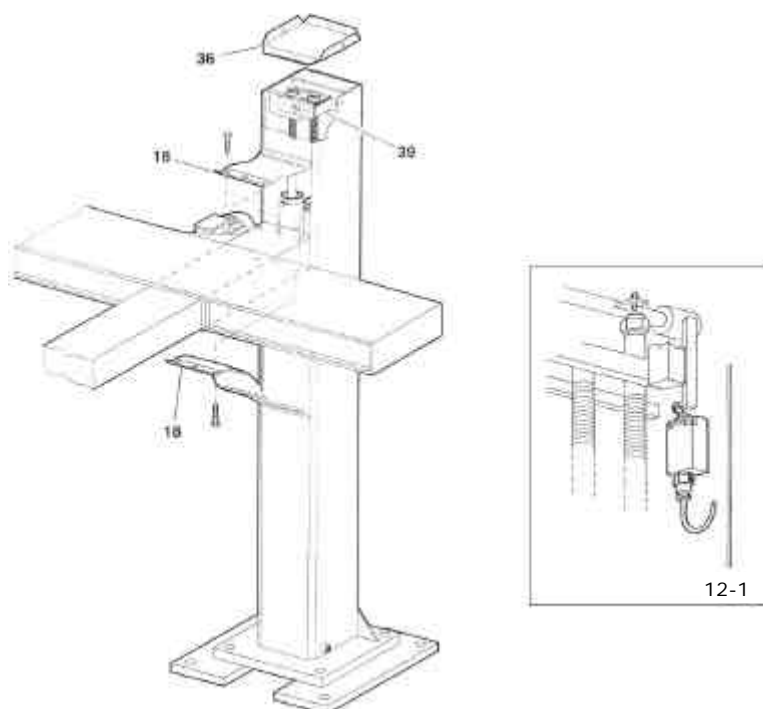


fig. 21

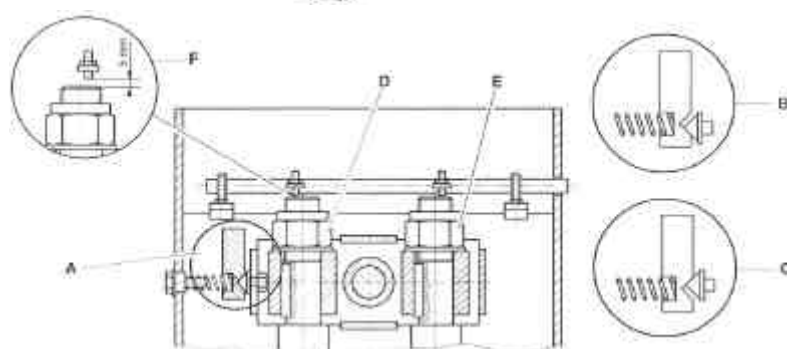


fig. 22

## 8. INSTRUCTIONS FOR USING THE LIFT.

TURNING ON: Main switch (21) in position 1.

RISE: Press the rise button (22).

DESCENT: Press the descent button (23).

**EMERGENCY DESCENT (WITH POWER SUPPLY OFF):** in the case of a power failure, the lift may be lowered by two people operating as follows: turn main switch (21) to position "0", remove the cover (4) and fan (5) from two diagonally opposite motors; fit the relative handwheel (6) into the motordrive shaft. Lock the handwheel and turn it in the required direction until the footboards reach ground level. Remove both handwheels and re-fit the fans (5) and covers (4).

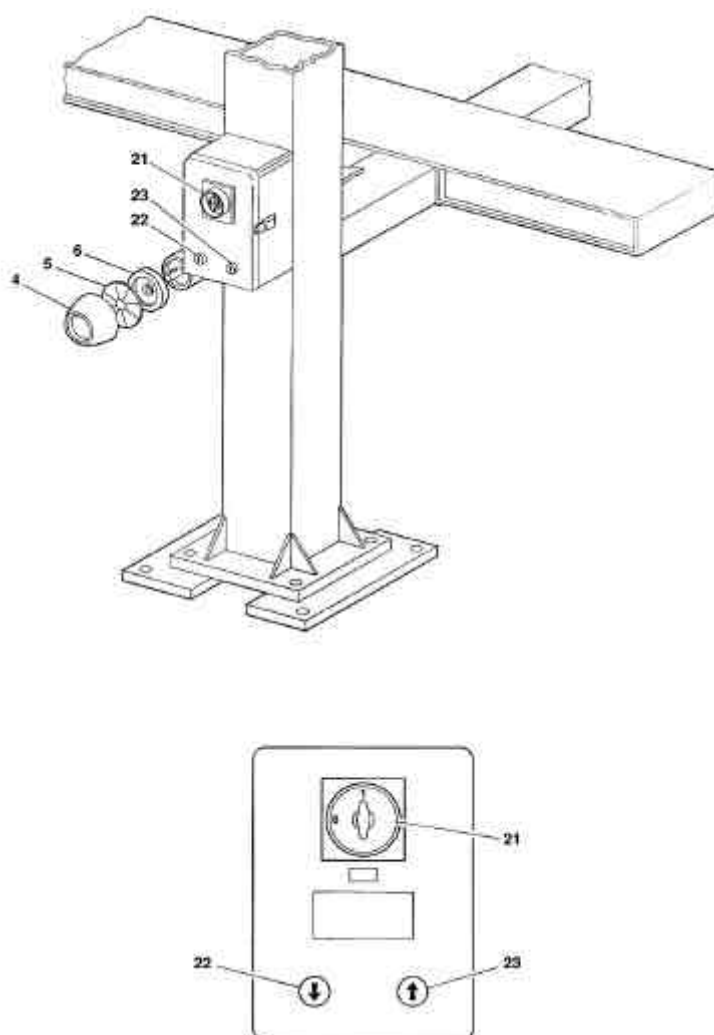


fig. 23

### **8.1 IMPROPER USE OF THE LIFT**

The lift is designed for lifting vehicles with the characteristics described in the "Technical Specifications" and in the section "Use for which product is designed".

Any other use is to be considered unsuitable and unreasonable. In particular, the following situations are absolutely prohibited:

- 1) lifting people or animals
- 2) lifting vehicles with people inside
- 3) lifting vehicles containing potentially dangerous materials, (explosives, corrosives, inflammable substances, etc..)
- 4) lifting vehicles placed on supports or with devices not covered by this manual.
- 5) use of the lift by staff who are not adequately trained.

### **8.2 USE OF ACCESSORIES**

The lift may be used with accessories to facilitate the work of the operator. Only original accessories made and approved by the manufacturer may be used.

### **8.3 STAFF TRAINING**

The equipment may only be operated by specially trained and authorised staff.

To ensure that the machine is used in the best possible way and work can be carried out efficiently, the staff responsible for the machine must be properly trained to handle the necessary information in order to achieve an operative method in line with the instructions supplied by the manufacturer.

For any doubts concerning use and maintenance of the machine, consult the instructions manual and, if necessary, authorised technical service centres or the Autec technical service department.

### **8.4 IMPORTANT CHECKS TO BE MADE**

- Check that situations of danger do not arise while work is being carried out. Stop the machine immediately if any problems in operation are noticed and contact the technical service department of the authorised dealer.
- Check that the work area around the machine is free from potentially dangerous objects and that oil (or other greasy liquid) has not been spilt on the floor, causing potential danger to the operator.
- The operator must wear suitable work clothing, safety goggles, gloves and mask to avoid damage caused by dust or impurities, dangling objects such as bracelets not be worn, long hair must be tied back, shoes must be suitable for the work to be done.
- Check that dismantling of part of the vehicle does not allow the load distribution beyond pre-set acceptable limits.
- Turn the mains switch to zero when work is done on the lifted vehicle.



## 9. MAINTENANCE INSTRUCTIONS

### 9.1 Motor chains (fig.15)

Lubricate every three months as follows: remove the cover (1) of each motor support (2) and oil the whole chain with a brush (3). Check and where necessary adjust as follows: loosen the four screws (4) inside box (2) by half a turn, slacken locknut (5) and turn the screw (6) in the required direction. After adjustment, fasten the locknut (5), the four screws (4) of motor (7) and re-fit the cover (1).

### 9.2 Containers at post base (fig.15)

Every three months check the oillevel and top up where necessary as follows: raise the lift with footboards to approximately one metre from the ground, shift the flaps and use a syringe to top up the oil in the containers to the level. **CHANGE THE OIL** every 1,000 strokes or once a year by removing the flaps at the bottom of the cross pieces, draw off the oil with a syringe, wash the containers carefully and fill with fresh oil up to the level.

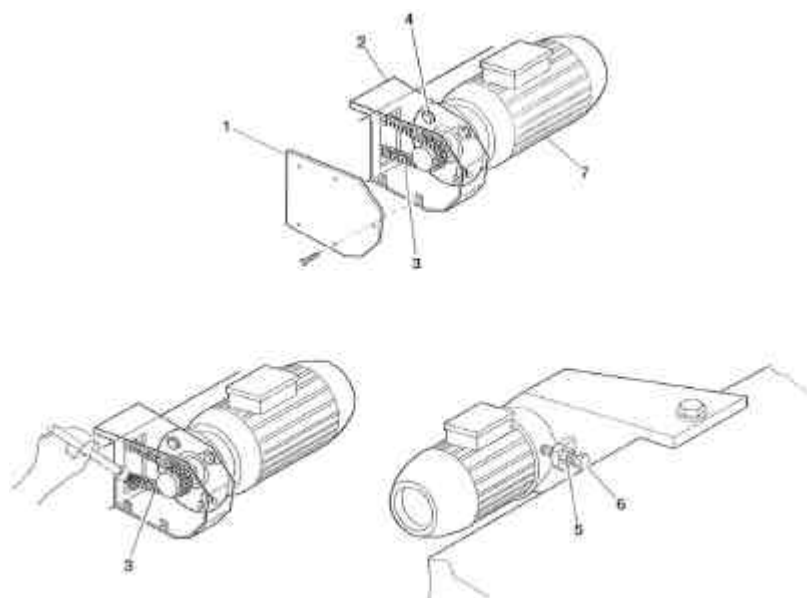


fig. 24

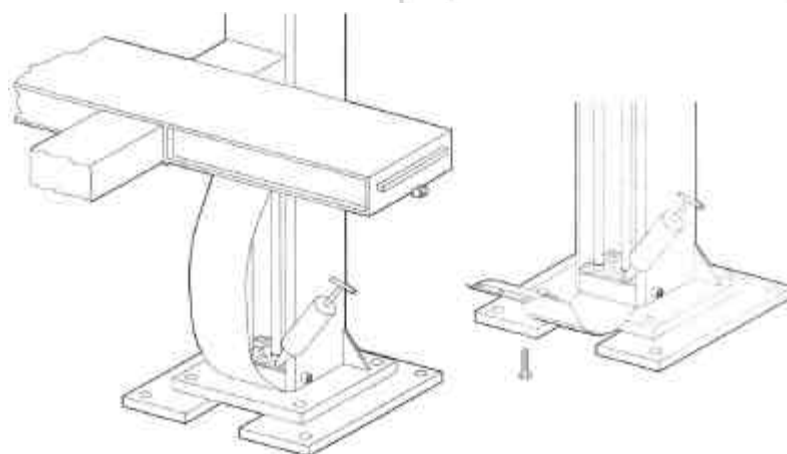


fig. 25



### 9.3 Gear boxes

Check oil level every six months by removing the three screws (17) which fix the flaps (18) above the cross pieces and unscrew the level plugs (42) with a 6 mm hexagonal bar key. Check level and use a syringe to top up with oil if necessary through the holes of the plugs (42). To **CHANGE THE OIL** (every 1,000 strokes or once a year) remove the flaps also from the bottom of the cross pieces to reach the discharge plugs.

### 9.4 Angular transmissions

Every six months remove level plugs (43) above the footboard (7), using a 6 mm hexagonal bar key. Check the oil level and top up if necessary, taking care not to exceed the maximum level. Use a syringe to add or remove oil through the hole of the plug (43).

### 9.5 Checking the wear on the load-bearing support screws

Every six months raise the lift with footboards to about 1 metre from the ground, remove the flaps from the bottom of the cross pieces, remove the plastic tubing inserted in the outlet of each cap and pull the cap downwards.

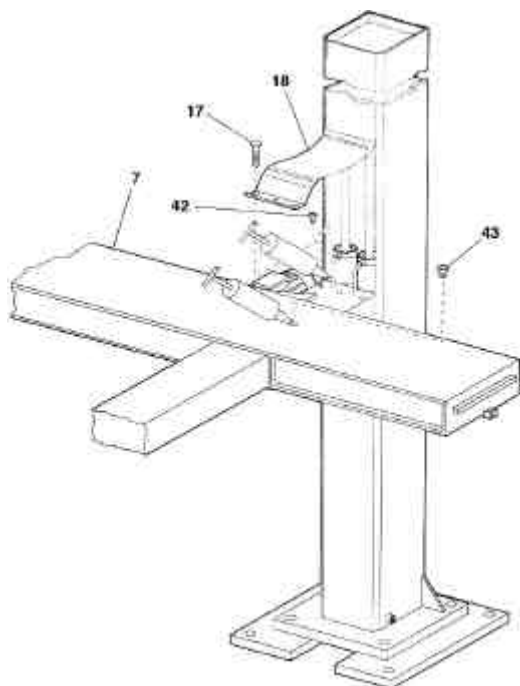


fig. 26

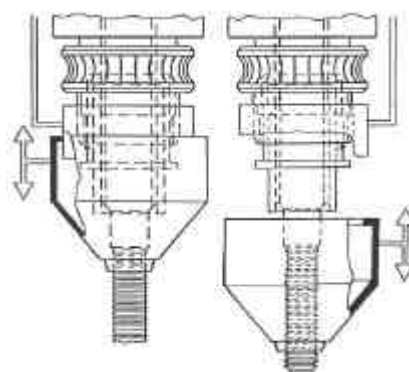


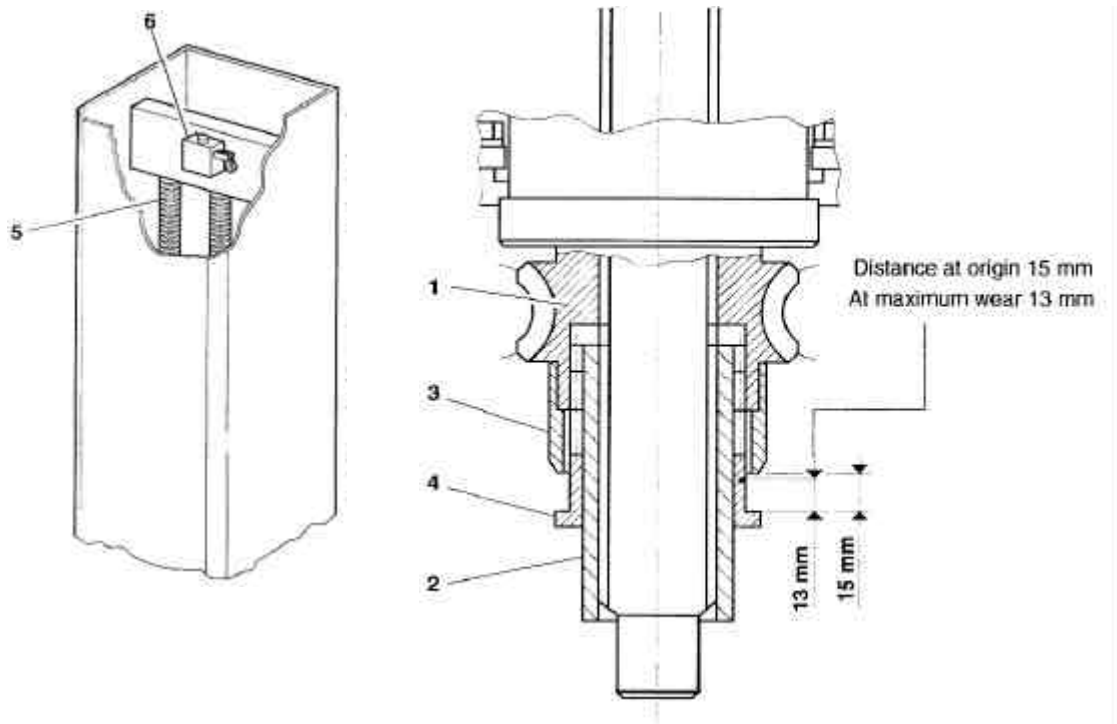
fig. 27

You will now be able to see the load-bearing support screw (1) and the safety counter screw (2), with the bush (3) and the ring (4) on their respective outsides. The distance between bush (3) and ring (4) is set at 15 mm initially and since the maximum permitted wear of the thread of the load-bearing support screw (1) is 1.8 mm, a check should be made every six months to see that the minimum distance between rings (3) and (4) is not less than 13.2 mm.

If this is the case, the load-bearing support screw (1) should be replaced as the thread is almost completely worn. If this check is not done, the thread of the load-bearing support screw (1) will wear through completely and the load will fall onto the counter screw (2) (max. stroke 10 mm). The load resting on the counter screw (2) will unbalance the screws (5) which, through the swing support to which they are attached, activate the halt command (6) to stop the lift immediately. If this happens, the lift may only descend and will not start up again once it has reached the ground. To restart the lift replace the load-bearing supportscrew (1). When dismantling the gear box to replace one of the two support screws (1) changing both screws is recommended since it will soon require replacing anyway.



**When replacing the main nuts, check the integrity of the obstacle microswitch (see para. 5-4) and again adjust the cam distance.**



## 10. PROBLEMS

Certain problems which may arise while using the lift are listed below. Autec will not accept any responsibility for damage to people, animals and objects caused by unauthorised staff using the equipment. In the event of faults, manufacturer advises to contact the technical service department to receive advice about how to carry out work and/or adjustments in maximum safety conditions. Thus avoiding the risk of damage to people, animals and objects.

Technical service staff is required. Intervention by others prohibited.

<b>PROBLEM:</b>	<b>POSSIBLE CAUSE:</b>	<b>SOLUTION:</b>
No operation	No power reaching machine:  Main fuses blown: V. 220 = Amp. 100 A V. 380 = Amp. 63A (Before replacing find out why the fuses blew).  Transformer fuse blown  Switch in position O.  A heat control is disconnected  Locking mechanism activated due to "WEAR ON LOAD-BEARING SUPPORTSCREW"  Obstacle under footboards and/or cross pieces.  Burned transformer  Faulty control switches	Replace it.  Replace it.  Turn switch to position "1".  Wait for the automatic reset of the heat control.  See "MAINTENANCE INSTRUCTIONS" section "WEAR ON LOAD-BEARING SUPPORT SCREWS".  See "ASSEMBLING INSTRUCTIONS".  Replace it.  Replace them

## 11. STORAGE

- In the event of storage for long periods, disconnect the power supply, empty the tanks containing liquids used for machine operating and protect the parts which could be damaged by dust deposits.
- Grease the parts that could be damaged in the event of dryness.
- When the machine is started up again, replace the washers indicated in the spare parts section.

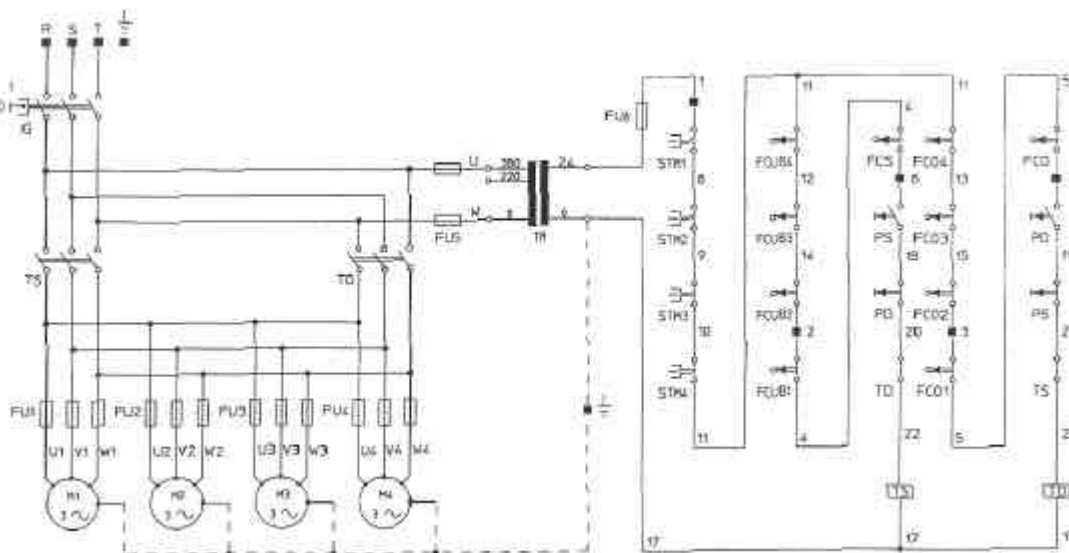
### 11.1 SCRAPPING

- If the decision is taken not to use this machine any longer, we advise you to make it inactive.
- Modify any parts of the machine which could be dangerous, leaving it harmless.
- Classify the product according to its class of disposal.
- Scrap product as scrap metal and take to a center specialised in scrap metal disposal.
- If considered a special waste product, dismantle and divide into uniform parts, then dispose of according to law.



12. ELECTRICAL INSTALLATION

This installation is to be carried out by the user.



RIF.	DESCRIPTION
■	TERMINAL
TR	50 VA TRANSFORMER
TS	RISE COMMAND CONTACT
TD	DESCENT COMMAND CONTACT
STM1/4	MOTOR HEAT CONTROL
FCUB1/4	LIMIT SWITCH FOR WEAR ON SCREW
FCS	RISE LIMIT SWITCH
FCO1/4	OBSTACLE LIMIT SWITCH
FCD	DESCENT LIMIT SWITCH
PS	RISE BUTTON
PD	DESCENT BUTTON
M1/4	MOTOR
IG	MAIN SWITCH
FU6	SECONDARY PROTECTION FUSE-TR-SX20 3.15A 250 V RAPID
FU5	PRIMARY PROTECTION FUSE TR 5X20 1A 250V (220V VERSIONS) 10.3X38 1 A 500V gl (380V VERSIONS)
FU1 to 4	TURN OF MOTOR LINE PROTECTION FUSES 10.3X38 25A 400V aM 110.3X38 25A 400V aM
REFER	NOMENCLATURE

**13. CONFORMITY**

AUTEC HEFBRUGGEN B.V.  
VLASAKKER 11,  
NL 3417 XT MONTFOORT  
THE NETHERLANDS  
DECLARES HEREBY THAT LIFTTYPE:

ALM-6040FL  
ALM-10040FL

to which this dedaration applies is in compliance with the following standards and other normative documents  
EN 292 (November 1992), pr EN 1493 rev. n.10, EN60204.1; 7/23-93/68; EMC 89/336-93/68;  
according to the provisions of the Directive 89/392 EEC (91/368 EEC, 93/44 EEC, 93/68 EEC).  
Number of CE version Test Certificate:

**390-150X-0028-02-95** ALM-6040FL  
**390-150X-0029-02-95** ALM-10040FL



issued by

**Bureau Veritas**  
**34, rue Rennequin**  
**Paris 17**  
**France**

The product to which this declaration applies has been manufactured in compliance with that which has passed the EC version test.

The version of the present declaration conforms to the regulation EN 45014 (BS 7514).

