



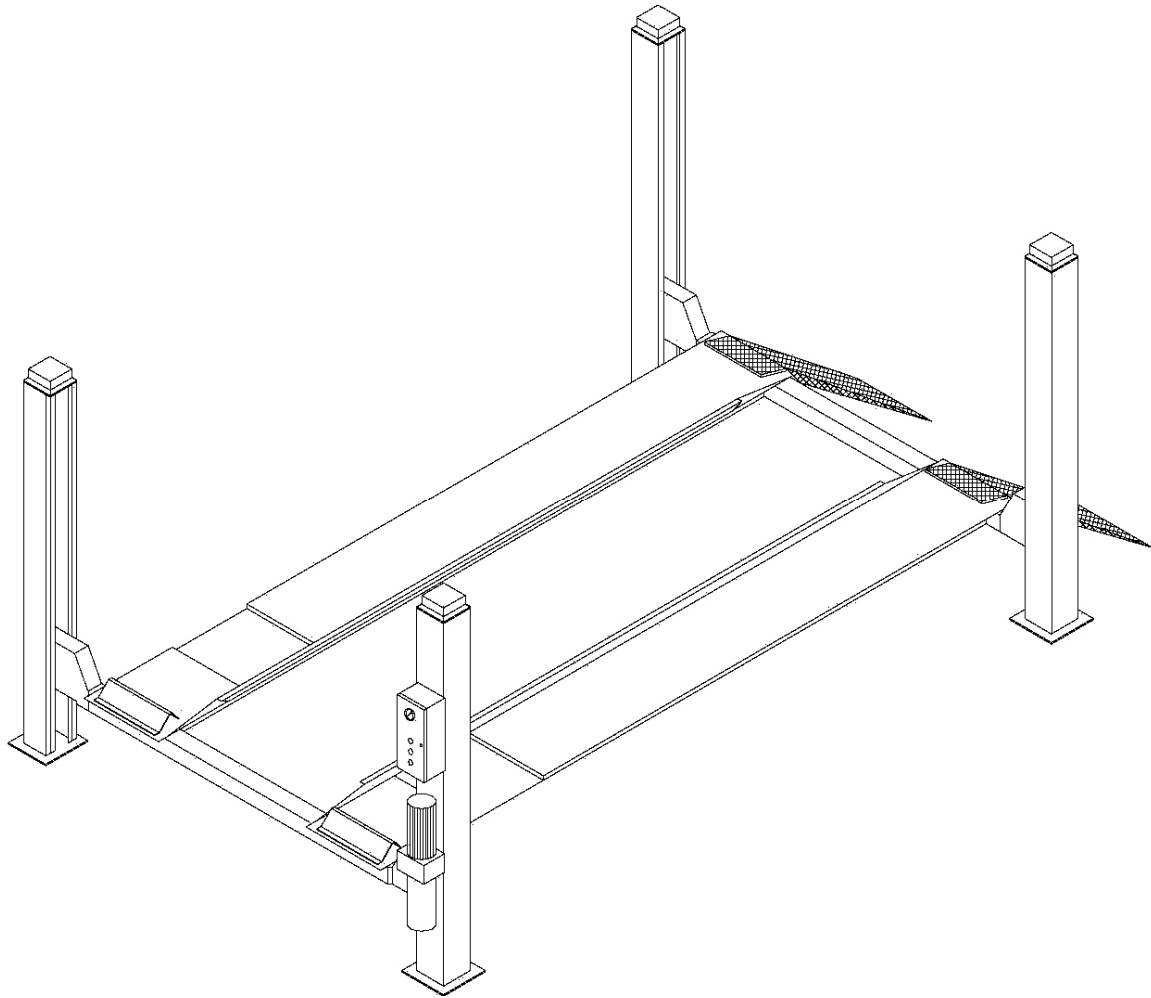
## 4-POST ATL LIFT

Model Numbers: CFL670L/671L  
(Inc. Model 547 ATL Play Detector)

User, Installation and Maintenance Manual

TES1630/A





**Crypton CFL670L and CFL671L Class VII ATL lift.**

**Authorised Service Centre**

**Serial Number**

<b>Contents</b>	<b>Page</b>
Packing, transport and storage	5
Introduction	7
<b>Section 1 - Lift</b>	
1.1 - Description	8
1.2 - Specifications	12
1.3 - Safety	19
1.4 - Installation	26
1.5 - Operating principles and use	38
1.6 - Maintenance	39
1.7 - Troubleshooting	42
<b>Section 2 – Play Detector</b>	
Introduction	
2.1 – Characteristics	43
2.2 - Limitations on use	43
2.3 - Identification Data	43
2.4 – Safety	45
2.5 – Operation	46
2.6 – Maintenance	47
2.7 – Controls and Calibration	47
2.8 – Troubleshooting	48
<b>Appendix A - Special notes</b>	49
<b>Appendix B - Spare parts - Lift</b>	49
-Spare parts – Play Detector	59
<b>After Sales Service</b>	64
<b>Equipment Disposal</b>	65



## PACKING, TRANSPORT AND STORAGE.

PACKING, LIFTING, HANDLING, TRANSPORTING AND UNPACKING OPERATIONS MUST BE PERFORMED ONLY BY EXPERIENCED PERSONNEL WITH APPROPRIATE KNOWLEDGE OF THE LIFT AND AFTER READING THIS MANUAL

### PACKING

The lift is shipped disassembled in the following units:

Unit weight	(kg)
4 posts	44
2 cross-pieces	95
2 vehicle ramps	25
2 wheel stops	2,6
Platform: control side	325
Platform: opposite side	240
Hydraulic power unit	30
Foot protection kit	10

The lift is shipped in a single pack enclosed by a sheet of heat shrink material and restrained by two steel straps (fig.1).

The average weight of the pack is 1400 kg.

### LIFTING AND HANDLING

The packs can be **lifted and transported only using lift trucks**, and keeping the fork arm centres at least 90 cm apart (Fig.1).

Lift only one pack at a time.

The lifting equipment must be capable of lifting and moving the packs in complete safety, bearing in mind the dimensions, weight and centre of gravity of the pack, any protruding parts, and delicate parts to protect from impact damage etc..

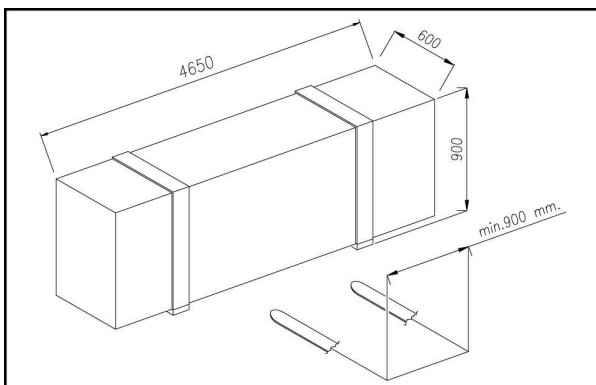


Fig.1

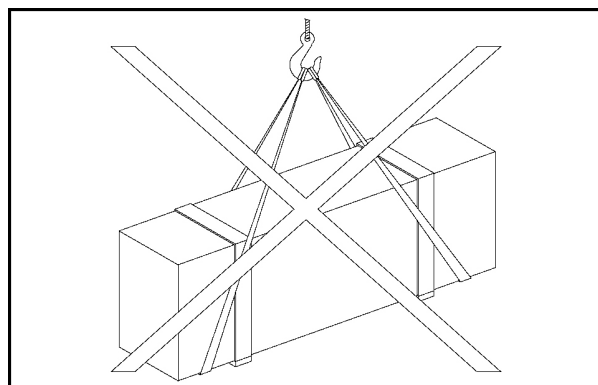


Fig.2

**NEVER attempt to hoist or transport the unit using lifting slings (Fig.2).**

## **STORAGE**

The packs must be kept in a covered and protected area in a temperature range of -10°C to +40°C. They must not be exposed to direct sunlight.

## **STACKING THE PACKS**

We advise against stacking because the packs are not designed for this type of storage. The narrow base, heavy weight and large size of the packs make stacking difficult and potentially dangerous.

If stacking is unavoidable, use all appropriate precautions:

- never stack to more than 2 metres in height;
- never make stacks of single packs, always stack pairs of packs in a cross pattern so that the base is bigger and the resulting stack is more stable, once the stack is complete, restrain it using straps, ropes or other suitable methods.

**A maximum of two packs can be stacked on lorries, in containers, and in railway wagons, on the condition that the packs are strapped together and restrained to stop them falling.**

## **OPENING THE PACKS**

When the lift is delivered make sure that it has not been damaged during transportation and that all the parts specified on the packing list are present.

Packs must be opened adopting all the precautions required to avoid injury to personnel (keep at a safe distance when cutting the straps) or damage to parts of the machine (be careful that no parts are dropped while you are opening the packing).

***Take special care with the hydraulic power unit, the control panel and the platform cylinder.***

## **DISPOSAL OF PACKING MATERIAL**

The heat shrink plastic sheeting must be disposed of as waste material in conformity with the laws for recycling of plastics in the country of installation of the lift.

## INTRODUCTION



### WARNING

***This manual has been prepared for workshop personnel expert in the use of the lift (operator) and technicians responsible for routine maintenance (maintenance fitter); read the manual before carrying out any operation with the lift and/or the packaging. This manual contains important information regarding:***

- **THE PERSONAL SAFETY of operators and maintenance workers,**
- **LIFT SAFETY,**
- **THE SAFETY OF LIFTED VEHICLES**

## KEEPING THE MANUAL

***This manual is an integral part of the lift, and must be always kept with it, even in the case of sale of the unit.***

The manual must be kept next to the lift, in an easily accessible place. The operator and maintenance staff must be able to locate and consult the manual quickly and at any time.

ATTENTIVE AND REPEATED READING OF Section **1.3**, WHICH CONTAINS IMPORTANT **SAFETY** INFORMATION AND WARNINGS, IS PARTICULARLY RECOMMENDED.

Lifts are designed and built in compliance with:

### **LAWS:**

European directives: 98/37/CE-2004/108/CE-2006/95/CE

### **TECHNICAL STANDARDS:**

European standards: EN 1493/ EN 292-1/ EN 292-2

### **ELECTRICAL SYSTEM:**

UNI EN 60204, CEI 64/8

Lifting, transport, unpacking, assembly, installation and commissioning, adjustment and initial set-ups, NON-ROUTINE maintenance, overhauling, moving and taking down of the lift must always be performed by qualified personnel from AUTHORISED DEALERS or LICENSED SERVICE CENTRES

**The manufacturer will not be held liable for personal injury or damage to vehicles or property caused by improper and/or unauthorised use of the lift.**

In respect of all the above mentioned activities, this manual covers only such operational and safety aspects that are considered useful for operators and maintenance personnel to gain a more complete understanding of the structure and functions of the lift so that it can be used in the best way.

To ensure adequate comprehension of the technical language in this manual the operator must have specific experience of workshop procedures for servicing, maintenance and repair of vehicles

and must also be capable of interpreting the drawings and descriptions in the manual and be aware of general and specific accident prevention regulations in force in the country of installation. The same considerations apply to the maintenance fitter who must also possess specific technical (mechanical and electrical) skills necessary to perform the various tasks described in the manual in conditions of total safety.

The words "operator" and "maintenance fitter" are used with the following meaning in the manual:

OPERATOR: person in charge of using the lift.

MAINTENANCE FITTER: person in charge of routine maintenance of the lift.

## **1.1 - DESCRIPTION**

Four-post lifts are fixed installations, i.e. anchored to the floor; the units are designed and built for lifting cars and vans and holding them in an elevated position.

The units are essentially made up of a fixed part that is anchored to the floor (posts) and a moving part (cross-pieces and platforms).

The operation is electro-hydraulic

There are four basic parts of the lifts:

- fixed structure assembly;
- movable structure assembly;
- lifting assembly;
- safety devices.

Figure 3 shows the various parts of the lift and the operating zones in the surrounding area.

Operator side: this is the front of the lift, including the area reserved for the operator with the control panel. The operator side is opposite the vehicle access side.

Rear side: it is the side opposed the operator's one, with the lift access ramps.

Right and left sides: the right and left is considered from the operator's standpoint when facing the lift.

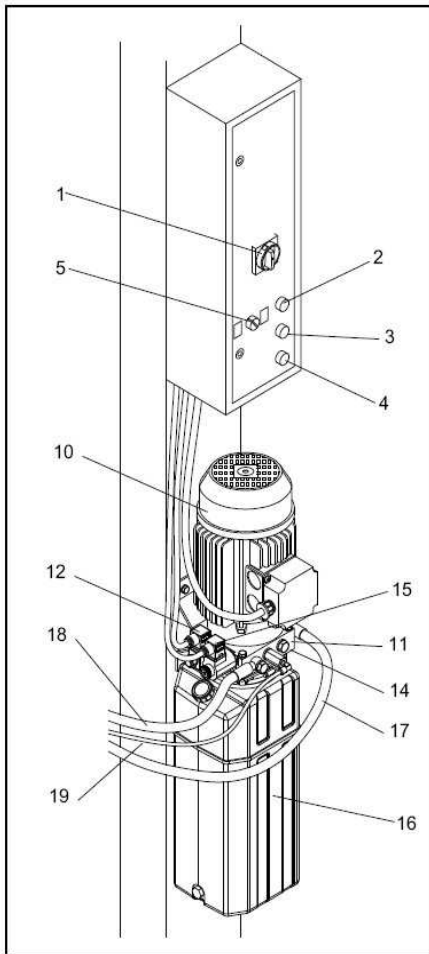
Danger zone: an area that MUST be kept clear of persons when the lift is in use; refer to "Safety devices" section 1.3 for details.

Key to fig 3:

- 1 Control side post (conventionally the front right-hand post)
- 2 Front left post
- 3 Rear left post
- 4 Rear right post
- 5 Control side cross-piece (front cross-piece)
- 6 Rear cross-piece
- 7 Right fixed platform
- 8 Left moving platform



The following components are present on the control panel:



- Main switch (1),
- LIFT button (2),
- LOWERING button (3);
- STOP button (4),
- Lift/play detector selector (5).

The hydraulic power unit comprises:

- Motor (10),
- Hydraulic gear pump (11),
- Lowering solenoid valve (12),
- Manual lowering screw (13),
- Relief valve (14),
- Lift/play detector deviation solenoid valve (15),
- Oil reservoir (16),
- Lift oil delivery hose (17),
- Play detector oil delivery hose (18),
- Oil drain hose (19)

Fig.6 Control panel and hydraulic power unit.

**NOTE:**

The delivery hoses (17 and 18) are sometimes pressurised; the drain hose (19) is never pressurised.

**MOVABLE STRUCTURE**

The movable structure consists of two cross-pieces and two platforms.

Each cross-piece translates vertically between two posts.

As shown in fig.7 and 8, the ends of the cross-pieces are fitted with the following parts:

- Return pulleys (1) for the lift cable,
- Mechanical safety devices (wedges) (3).

The wedge (pos. 3) will engage automatically during lifting and when the lift is raised.

In case of breakage of the cable, the cable micro switch (4) causes the lock of the lift electrical part and the engagement of the safety wedge, therefore it stops the movable part and the relevant vehicle.

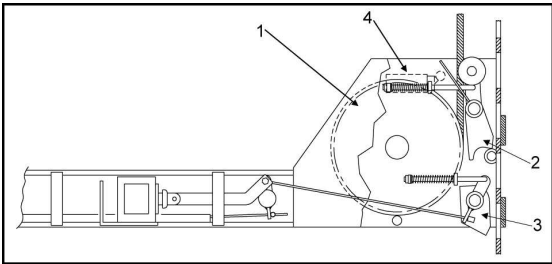


Fig.7

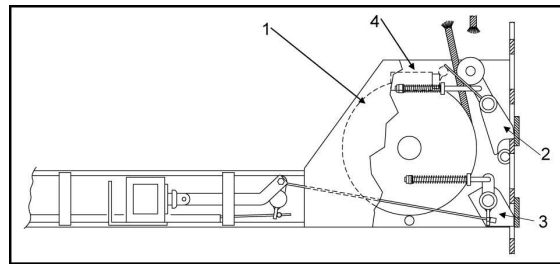


Fig.8

The two platforms (Fig. 9) are supported on the cross-pieces.

The left platform (1) has no adjustment; the right platform (2) is free to slide across the width of the lifting area to adapt to the track width of the vehicle being lifted.

Both platforms have fixed wheel stops (3) to stop the vehicle from going beyond the ends of the platforms;

The access ramps (4), pivoted to the platforms, automatically reach a vertical position when the platforms lift, thereby securing the vehicle also from the access end.

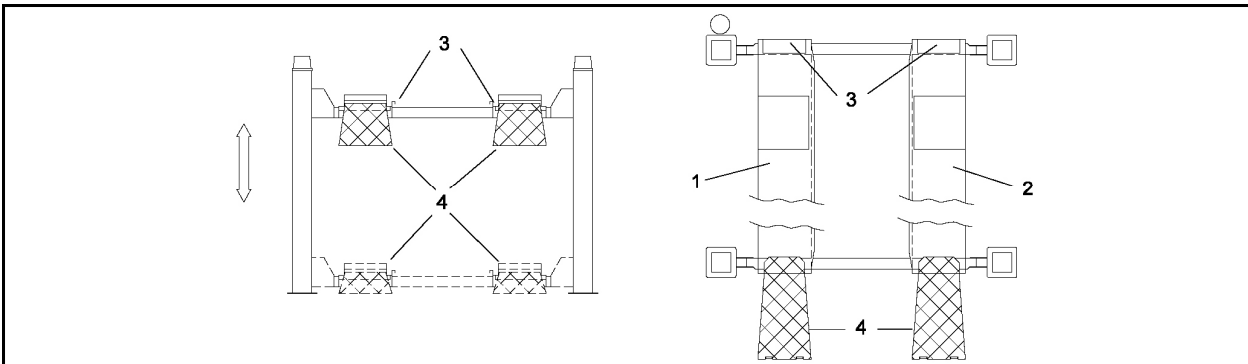
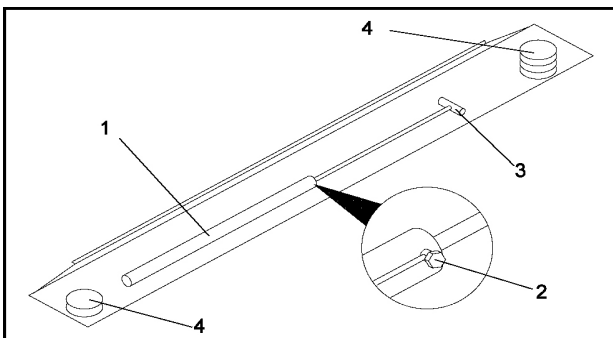


Fig.9 Platforms and cross-pieces

The following components are located beneath the fixed platform (Fig.10), and are accessible only from underneath:



- Hydraulic lift cylinder (1);
- Parachute safety valve (2);
- Clevis coupling (3) for the steel cables;
- Two cable return pulley assemblies (4).

Fig.10  
Interior of the fixed platform

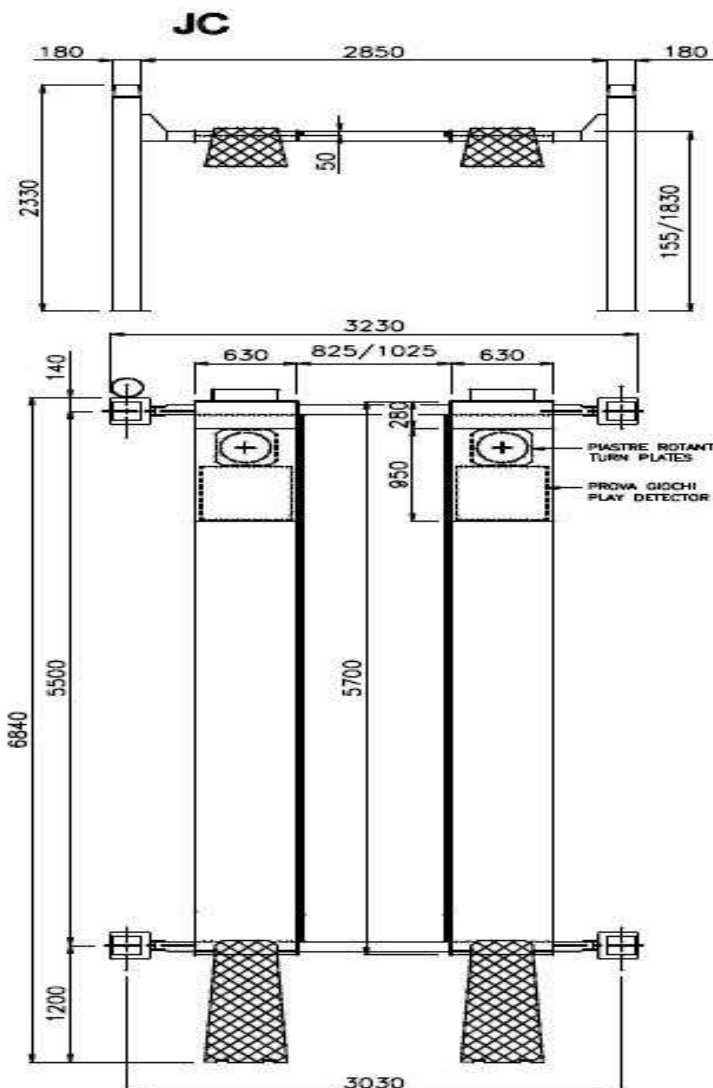


## 1.2 - SPECIFICATIONS

Capacity: .....5000 kg (49050 N)  
 Max.vehicle lifting height.....1830 mm  
 Min. ground clearance of lift structure.....155 mm  
 Longitudinal C/C distance between posts.....5500 mm  
 Transverse C/C distance between posts .....3030 mm  
 Effective clearance between posts .....2850 mm  
 Platform width: .....630 mm  
 Platform length.....5700 mm  
 Lift time.....50 sec  
 Lowering time .....45 sec

LIFTING CABLES in steel, having the following features:

Diameter .....11 mm  
 Strands.....227  
 Tensile strength of strand.....1960 N  
 Pulley pitch diameter.....220 mm  
 Noise.....70dB(A)/1m  
 OVERALL WEIGHT of lift unit.....1030 kg approx.  
 Working temperature range.....-10°C / + 50°C  
 Working pressure.....210 bar



MOTOR  
 Type C90  
 Power 3 kW  
 Voltage 230-400V th.-ph. +/-5%  
 Frequency 50 Hz  
 Poles 4Speed 1400 rpmBuilding shape B 14  
 Insulation class F  
 Absorption 230V: 15A  
 400V: 8,7A

PUMP  
 Type 18  
 Model 10A5X3348N  
 Displacement 5cc/rev  
 Relief valve set up 230 bar

Fig.11 - Overall dimensions and clearances

**When connecting the motor refer to the enclosed wiring diagrams.**

**The motor has left-handed rotation (counter-clockwise) as shown on the data plate on the casing.**

### HYDRAULIC POWER UNIT

Irrespective of the model, the lift can be supplied with an option of two different hydraulic power units, i.e. the various components of the pump that convert the rotary motion of the motor into fluid pressure for the hydraulic circuit. Fig. 12 shows the type K3 (OIL SYSTEM).

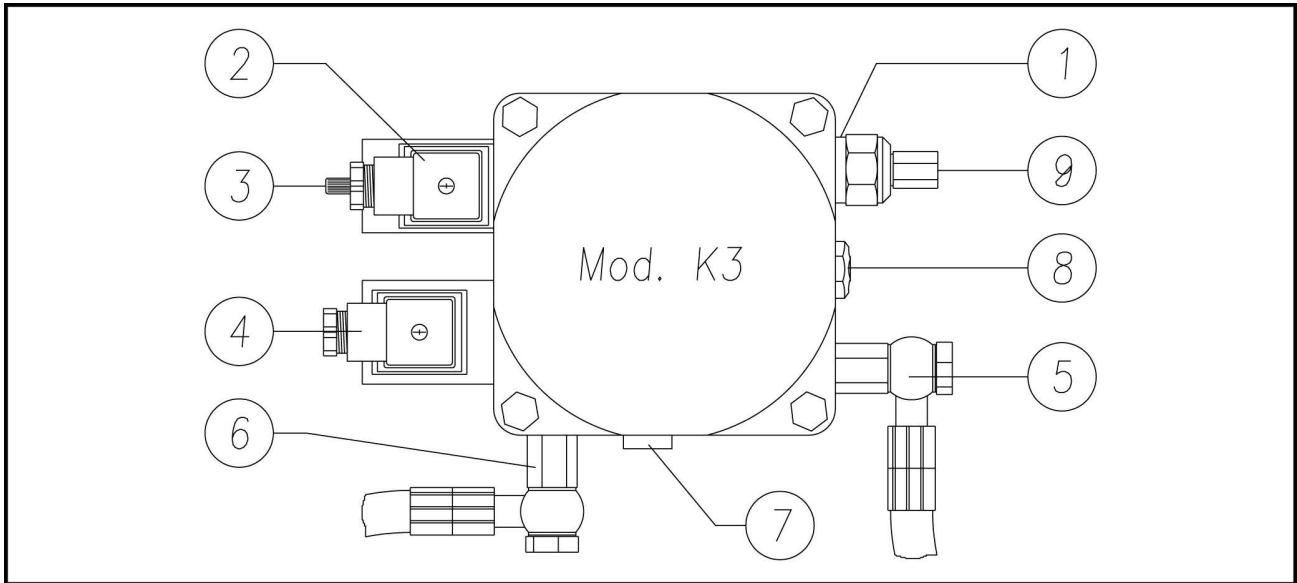


Fig.12 - Hydraulic power unit

- 1 Check valve
- 2 Lowering solenoid valve
- 3 Manual outlet
- 4 Play detector deviation solenoid valve
- 5 Lift delivery
- 6 Play detector delivery
- 7 Drain hose
- 8 Outlet adjusting valve
- 9 Relief valve

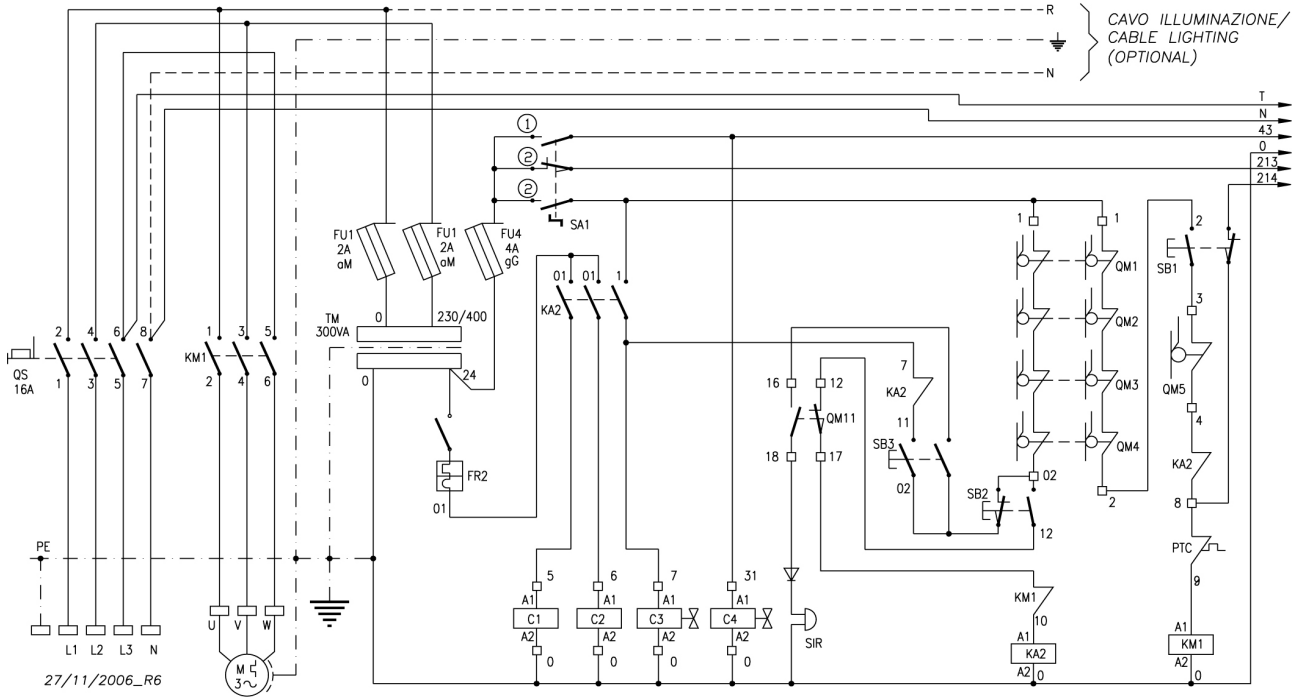
### OIL

The hydraulic oil reservoir is filled with mineral oil to ISO/DIN 6743/4, contamination category no higher than class 18/15 according to ISO 4406, such as IP HYDRO OIL 32; SHELL TELLUS T37 or an equivalent oil.

# DIAGRAMS, WIRING AND HYDRAULIC

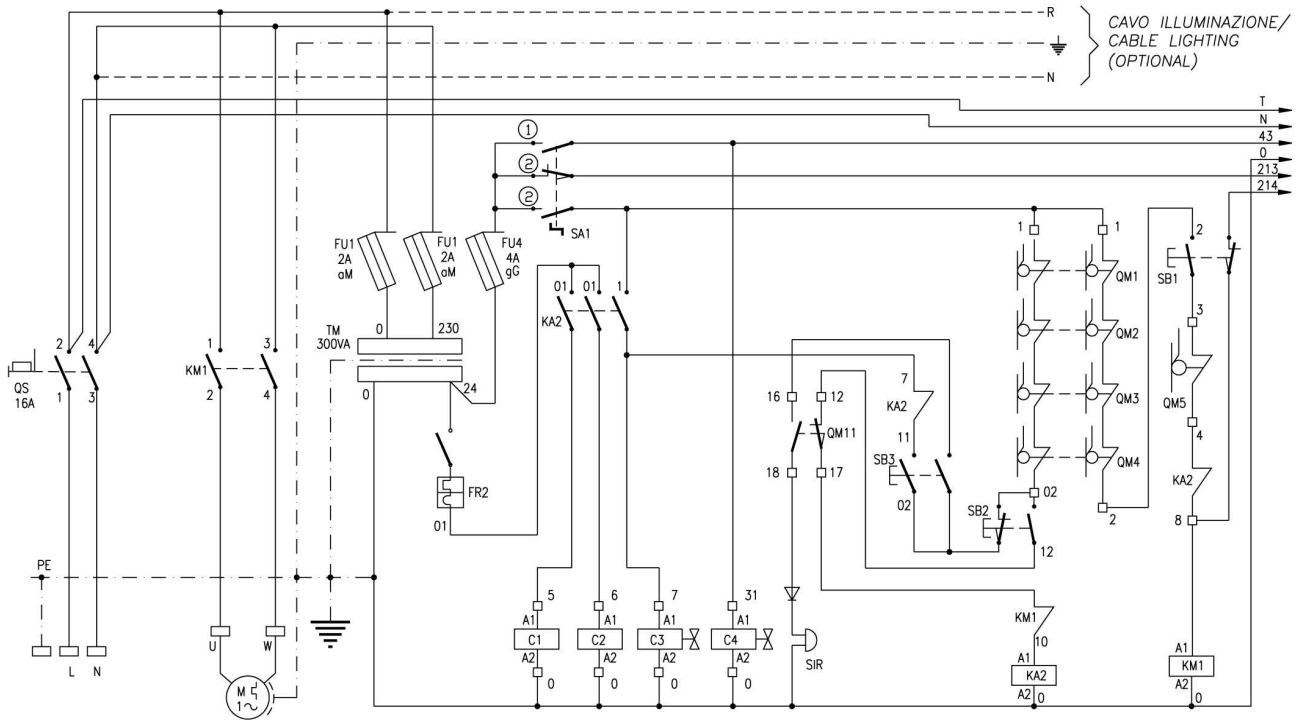
SCHEMI ELETTRICI ED OLEODINAMICI  
 Schema elettrico TRIFASE

WIRING DIAGRAMS AND HYDRAULIC  
 THREE-PHASE wiring diagram



Schema elettrico MONOFASE

SINGLE-PHASE wiring diagram



Ref	Description	Brand	Article	Qty
C1-C2	Electromagnet		E0425 24V CC 50Hz	2
C3	Solenoid Valve	Oil Sistem	24VAC 50/60Hz ED100%	1
C4	Deviation Solenoid Valve	Oil Sistem	24VAC 50/60Hz ED100%	1
FU1-FU4	Fuse Carrier	Weber	PCH10 x 38 + CH10 x 38	3
PTC	Thermal Limiter		Integrate in the motor 3ph only	1
QM5	Lift Microswitch	Piazzato	FR654	1
QM11	Lowering Microswitch	Piazzato	FR754	1
QS	Master switch	Sprecher	LA2-12-1754+LFS2-N-6-175+LA2-12-C4+LA2-G2853+LA2-G3194	1
KM1	Contactor		24V 50/60Hz	1
KA2	Descent Contactor		24V 50/60Hz	1
M	Electric motor		230/400V 50Hz	1
SA1	Selector Switch 1-0-2			1
SB1	Up Button		1 NO +1 NC	1
SB2	Down Button		1 NO +1 NC	1
SB3	Stop Button		2 NO	1
FR2	Magnetic Switch		20A Type C	1
QM1/QM4	Cable Microswitch	Piazzato	FR1454	4
TM	Transformer	C.E	230/400/24V 300VA 50/60Hz	1
SIR	Warning Siren			1
	Line Clamps	Cabur	CBD2 2.5mm	4
	Earth Clamp	Cabur	TE4/D-TE4/0 4 mm	1

# SCHEMATIC DIAGRAM



## WARNING

I cavi contrassegnati con colore Giallo possono essere in alternativa anche di colore Grigio.

The marked cables with Yellow color could be in alternative also of Grey color.

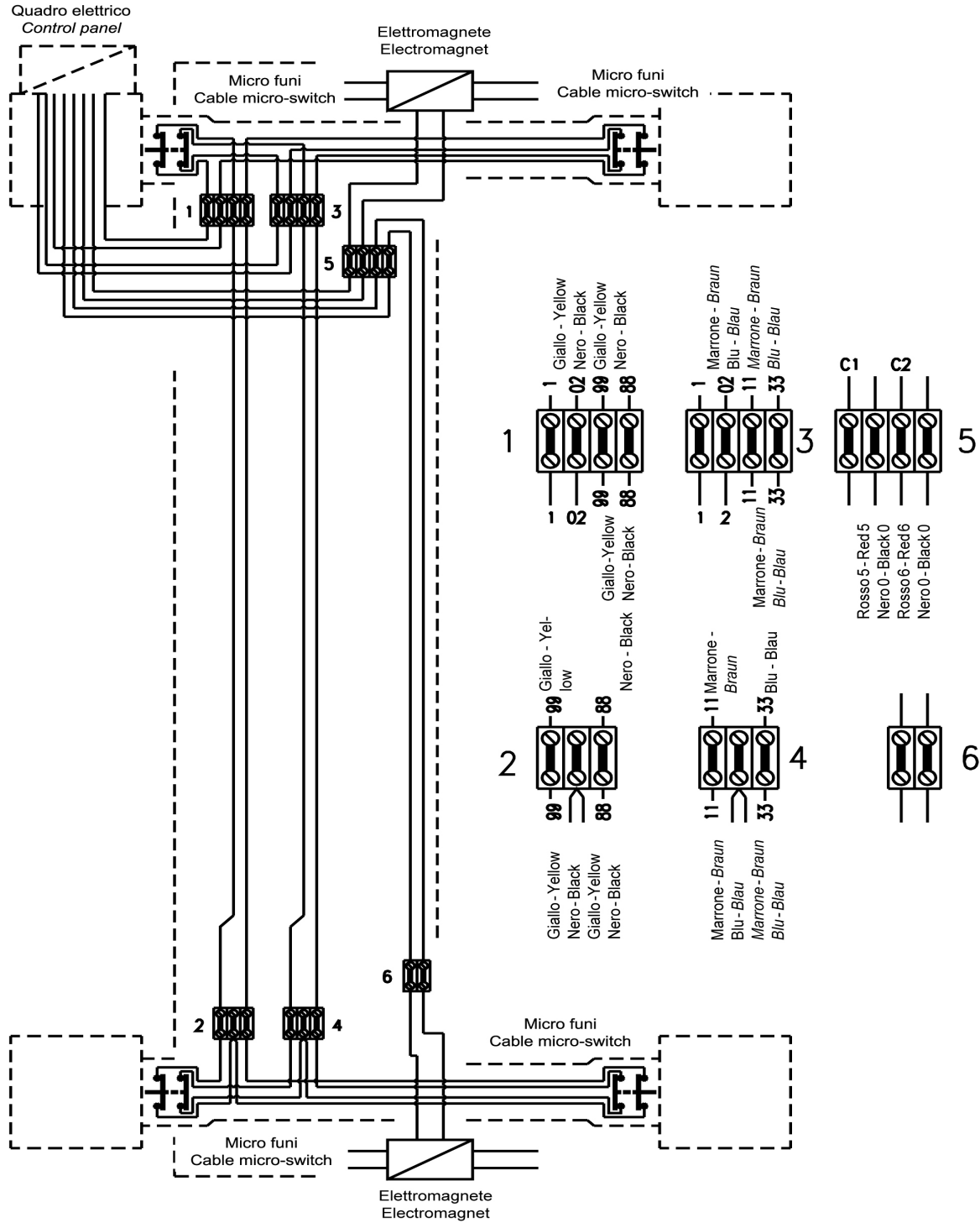
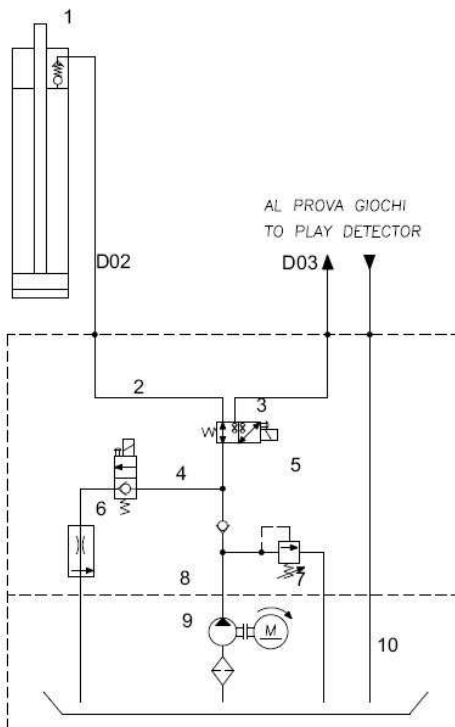
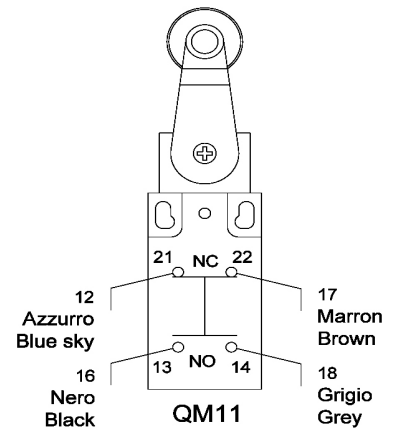
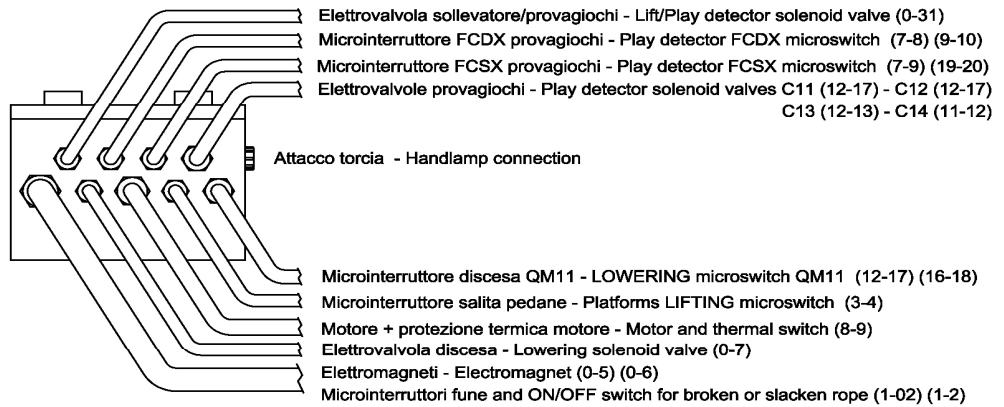
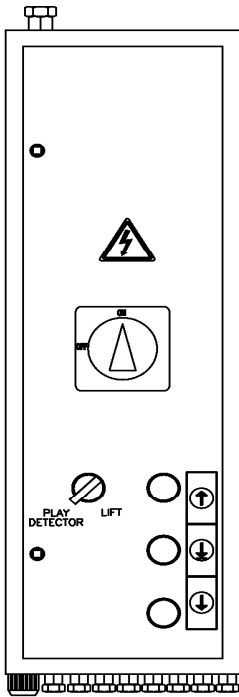


Fig.14



Ref	Description
1	Parachute valve
2	Solenoid valve
3	Solenoid valve
4	Check valve
5	Relief valve
6	Throttle valve
7	Motor
8	Pump
9	Filter
10	Reservoir

Fig.15

**TYPES OF VEHICLES SUITABLE FOR BEING LIFTED AND OVERALL DIMENSIONS**

Lifts are suitable for virtually all vehicles with total weight of no more than 4000 kg and with dimensions not exceeding the data below.

**MAXIMUM DIMENSIONS OF VEHICLES MAIN LIFTED**

Max. width: 2400 mm.

Max. wheelbase: 3000 mm.

Max. distance between outer wall of tyres, inclusive of bulge caused by weight of vehicle on ground: 2000 mm.

Min. distance between inner walls of tyres, inclusive of bulge caused by weight of vehicle on ground: 900 mm.

**Caution: the lower parts of the vehicle underbody could interfere with structural parts of the lift.**

Take particular care in the case of low ground clearance vehicles such as sports-cars. The lift will also handle customised or non-standard vehicles provided they are within the maximum specified carrying capacity.

**Also the personnel danger zone must be defined in relation to vehicles with unusual dimensions.**

The following diagrams illustrate criteria used to define the operating limits of the lift.

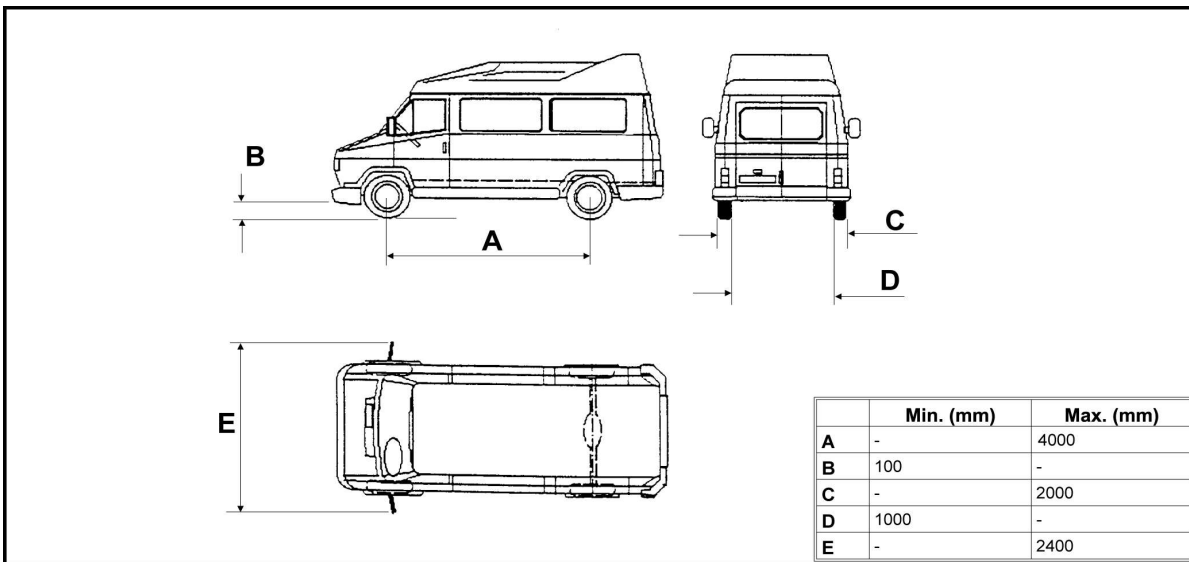


Fig.16 Maximum and minimum dimensions

**FOR LARGER DIMENSIONS CHECK THE MAXIMUM LOAD AND POSSIBLE UNBALANCE**

**MAXIMUM WEIGHTS OF VEHICLES BEING LIFTED**

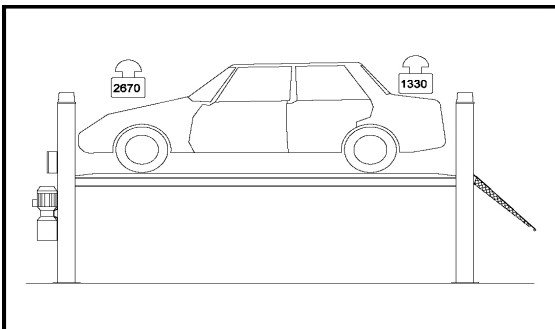


Fig. 17 Weight distribution "A"

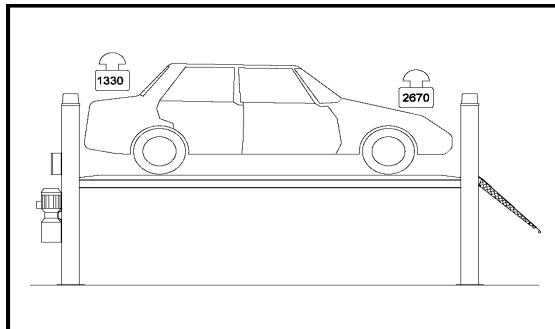


Fig.18 Weight distribution "B"



## 1.3 - SAFETY

***It is extremely important to read this chapter of the manual carefully and from beginning to end as it contains important information regarding the risks the operator or maintenance fitter may be exposed to if the lift is used incorrectly.***

***In the following text there are clear explanations regarding certain situations of risk or danger that may arise during the operation or maintenance of the lift, the safety devices installed and the correct use of such systems, residual risks and operative procedures to use (general and specific precautions to eliminate potential hazards).***



### **WARNING**

Lifts are designed and built to lift vehicles and hold them in the elevated position in an enclosed workshop.

All other uses of the lifts are unauthorised. In particular, the lifts are not suitable for:

- washing and respray work;
- creating raised platforms for personnel or lifting personnel;
- use as a press for crushing purposes;
- use as an elevator;
- use as a lift jack for lifting vehicle bodies or changing wheels.

The manufacturer is not liable for any injury to persons or damage to vehicles and other property caused by the incorrect and unauthorised use of the lifts.

During lift functioning, the operator must remain in the control 'zone' as defined in figure 19. The presence of persons beneath the cross-pieces and/or the platforms when they are moving, or the presence of persons inside the danger zone indicated in figure 19 is strictly prohibited.

The area occupied by the lift and perimetral band of width 1/2 metres of the lift are defined as "DANGER ZONE".

The operator area, only for actioning the lift, is defined as "OPERATOR ZONE".

During operational use, persons are admitted to the area beneath the vehicle only when the vehicle is already in the elevated position, when the cross-pieces and platforms are stationary, and when the mechanical safety devices (wedges) are firmly engaged in the slots on the safety rods.

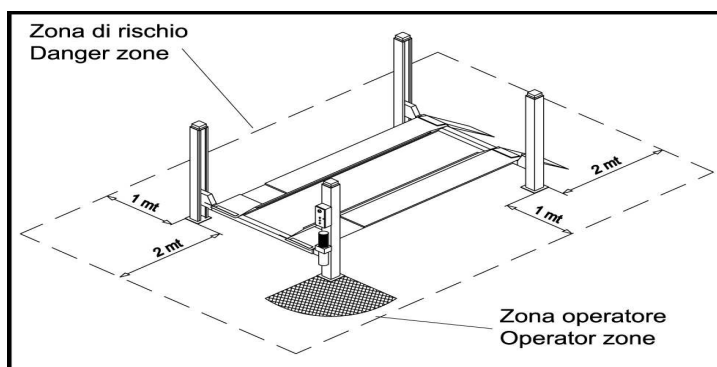


Fig 19



## **WARNING**

**THE PRESENCE OF PERSONS BENEATH THE VEHICLE IS PERMITTED ONLY WHEN THE LIFT IS IN THE PARKING POSITION ON THE SAFETY WEDGES.**

**DO NOT USE THE LIFT WITHOUT PROTECTION DEVICES OR WITH THE PROTECTION DEVICES INHIBITED. FAILURE TO COMPLY WITH THESE REGULATIONS CAN CAUSE SERIOUS INJURY TO PERSONS, AND IRREPARABLE DAMAGE TO THE LIFT AND THE VEHICLE BEING LIFTED.**

## **GENERAL PRECAUTIONS**

The operator and the maintenance fitter are required to observe the prescriptions of safety regulation in force in the country of installation of the lift.

Furthermore, the operator and maintenance fitter must:

- always work in the stations specified and illustrated in this manual;
- never remove or deactivate the guards and mechanical, electrical, or other types of safety devices;
- read the safety notices placed on the machine and the safety information in this manual.

In the manual all safety notices are shown as follows:

**DANGER:** indicates imminent danger that can result in serious injury to people or death.

**WARNING:** indicates situations and/or types of manoeuvres that are unsafe and can cause more or less harmful injuries or death.

**CAUTION:** indicates situations and/or types of manoeuvres that are unsafe and can cause minor injury to persons and/or damage the lift, the vehicle or other property.

**RISK OF ELECTRIC SHOCK:** a specific safety notice placed on the lift in areas where the risk of electric shock is particularly high.

## **RISKS AND PROTECTION DEVICES**

We shall now examine the risks that operators or maintenance fitters may be exposed to when the vehicle is standing on the platforms in the raised position, together with the various safety and protection devices adopted by the manufacturer to reduce all such hazards to the minimum:

### **LONGITUDINAL MOVEMENTS**

Longitudinal movements refer to forward and backward movement of the load (vehicle).

To protect against the consequences of longitudinal movement we have installed fixed wheel stops (1) at the front of the lift, and pivoting stops (2) at the rear. The stops are integral with the platforms and serve to secure the vehicle during lifting and lowering movements and when the vehicle is at a standstill in the raised position, thus preventing potentially dangerous movement.

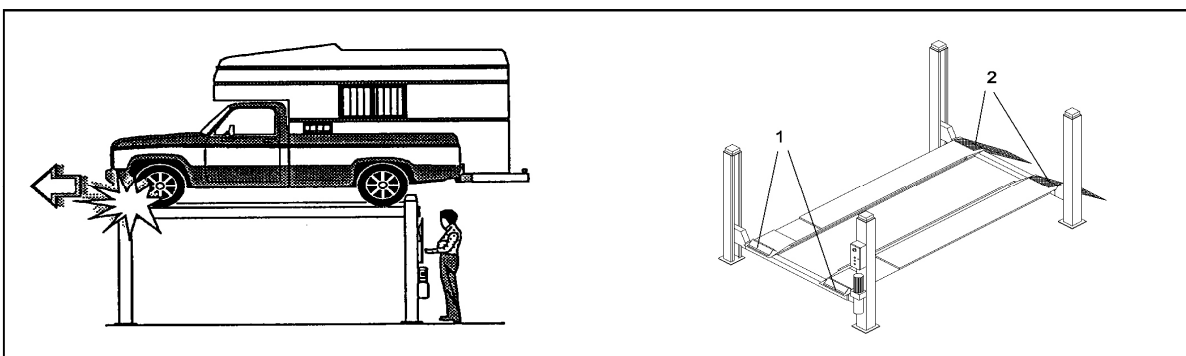


Fig 20 Longitudinal movement and Safety systems

## SIDE MOVEMENTS

Side movements refer to shifting of the vehicle toward the left or right of the lift, especially during the lifting cycle. The safety devices installed to protect against this type of movement comprise raised kerbs (1) on the inner edges of the platforms, which effectively stop lateral movement of the load – provided the platforms are correctly spaced.

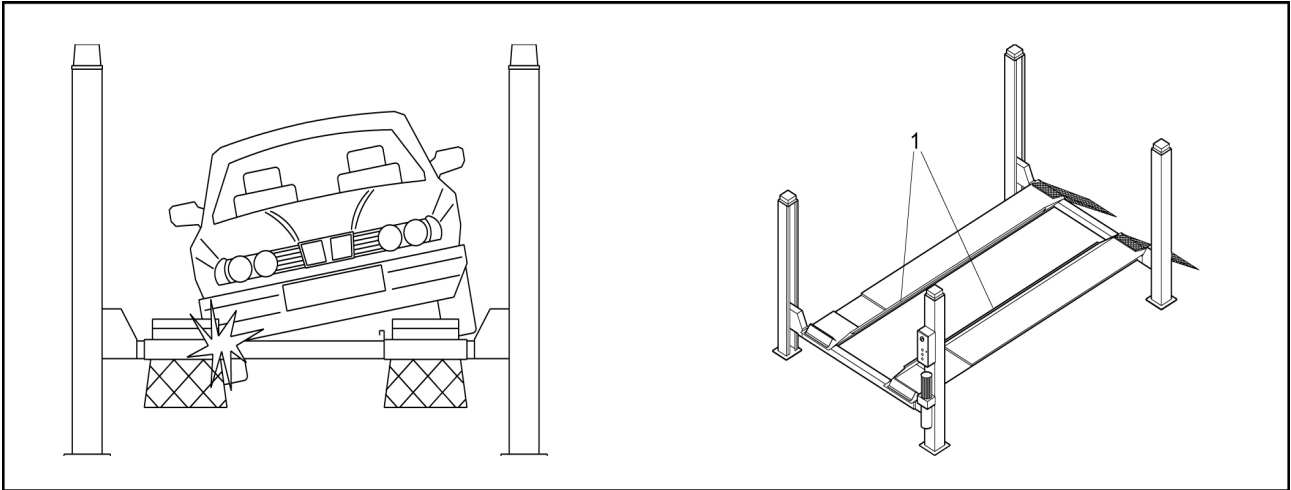


Fig.21 Side movements and platform kerbs

For optimal personal safety and safety of vehicles, observe the following regulations:

- do not enter the danger zone while vehicles are being lifted (see Fig.19),
- switch off the engine of the vehicle, engage a gear and engage the hand brake,
- make sure the vehicle is positioned correctly (see Fig.22);
- be sure to lift only approved vehicles, never exceed the specified carrying capacity, maximum height, and projections (vehicle length and width);
- make sure that there are no persons on the platforms during up and down movements and when the lift is stationary (see Fig.22).

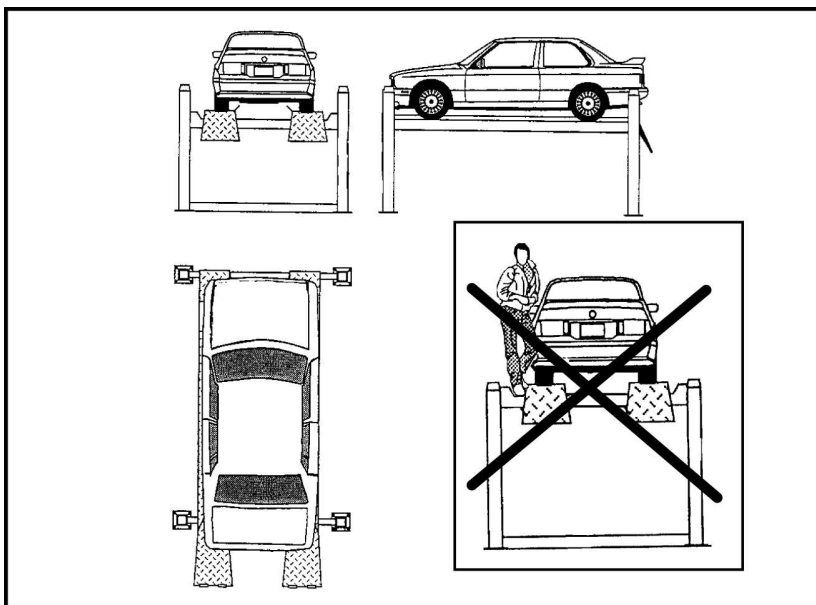


Fig.22 Correctly positioned vehicle

## POTENTIAL RISKS DURING LIFTING

The following safety devices are installed to protect against overloads and possible mechanical failures:

- In the case of excess weight on the lift the relief valve on the hydraulic power unit will open (Pos.1, fig.23).

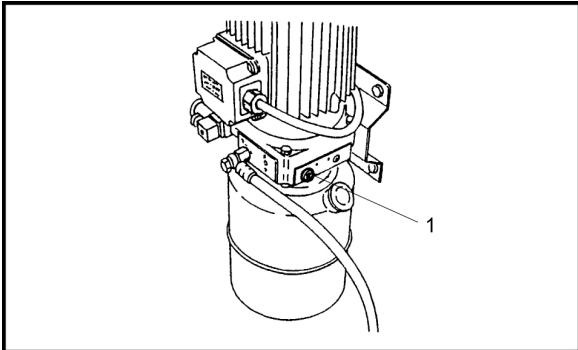


Fig 23 Relief Valve

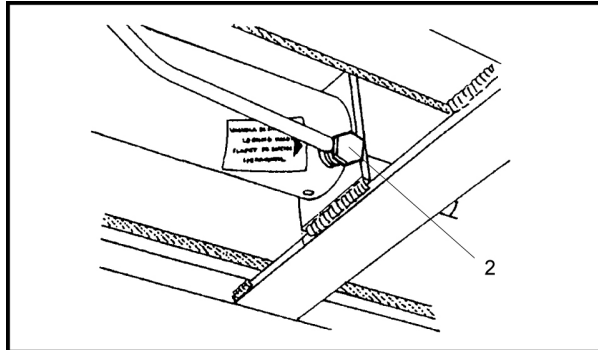


Fig.24 Cylinder locking valve

- If one or more hoses in the hydraulic circuit should break, a cylinder locking valve will operate (Pos.2, fig.24)

- If the movable part of the lift should attempt to move outside it's normal operating range there is an electric limit switch safety device (1) in the control post and a steel locking plate (2) on the top of all four posts (fig.25)

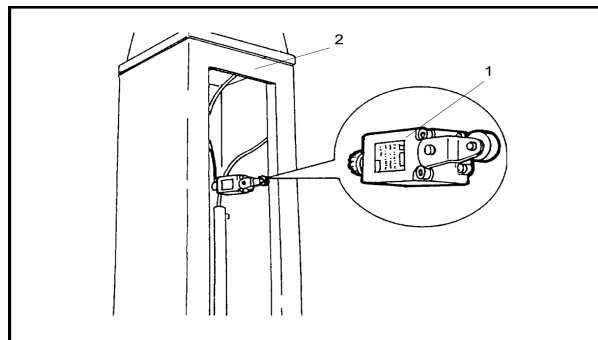


Fig.25 Movement safety device

- Should the steel cables slacken or break, the safety wedges (3) will stop the movable part of the lift and the vehicle in its current position (fig.26) and a microswitch (Pos.4, fig.26) located on the steel cables inside the cross-piece will disconnect the power supply to the motor.

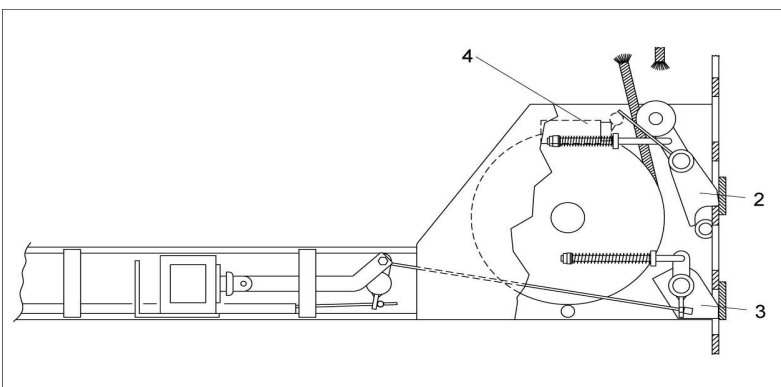


Fig. 26 Safety wedge and Limit switch

## RISKS FOR PERSONNEL

This heading illustrates potential risks for the operator, maintenance fitter, or any other person present in the area around the lift, resulting from incorrect use of the lift.

### RISK OF CRUSHING (OPERATOR)

Possible if the operator controlling the lift is not in the specified position at the control panel. When the platforms (and vehicle) are lowering the operator must never be partly or completely underneath or near of the movable structure. The operator should always remain in the operator zone (fig.28).

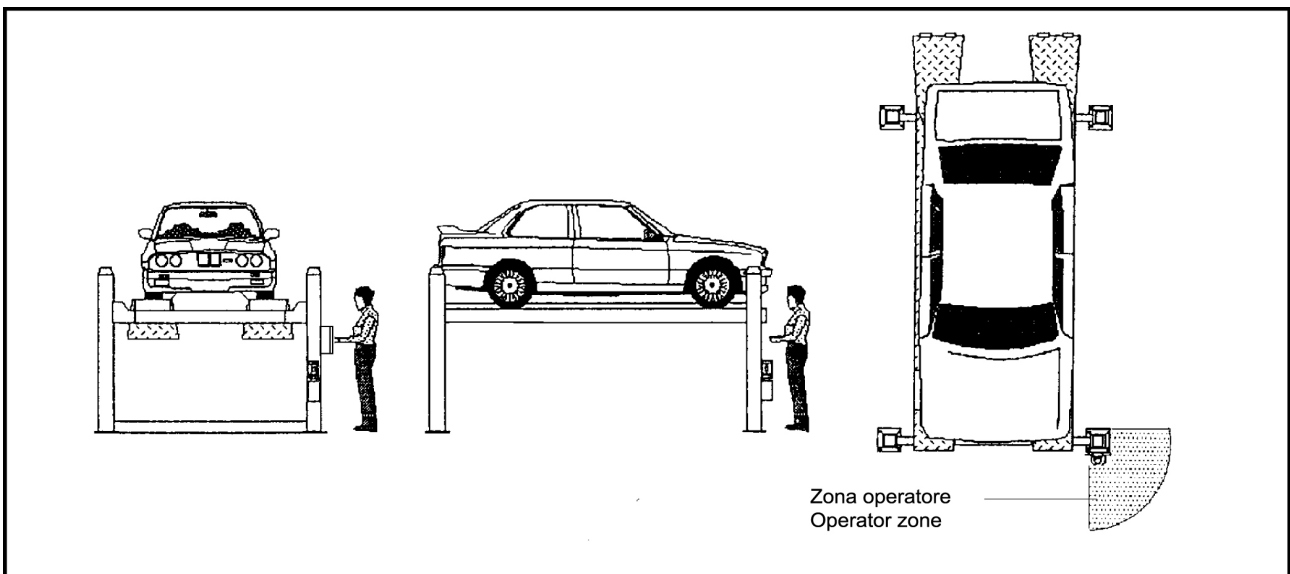


Fig.28 Operator area

### RISK OF CRUSHING (PERSONNEL)

When the platforms and the vehicle are lowering personnel are prohibited from entering the area beneath the movable parts of the lift (fig.29). The lift operator must not start the manoeuvre until it has been clearly established that there are no persons in danger zone (fig. 29, 30).

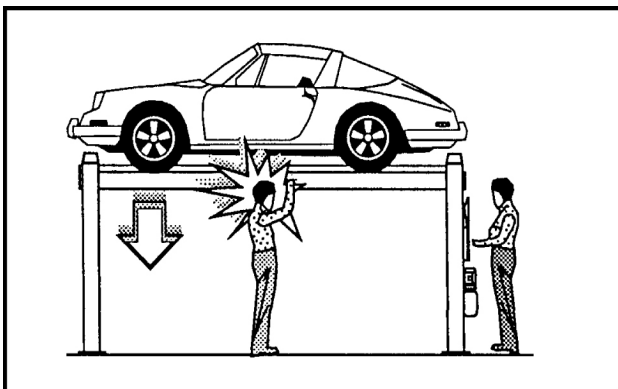


Fig 29

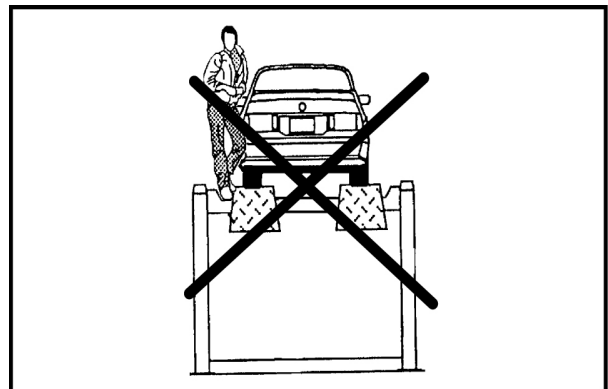


Fig 30

### RISK OF IMPACT

Caused by the parts of the lift or the vehicle that are positioned at head height. When, due to operational reasons, the lift is stopped 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 colours (Fig.31).

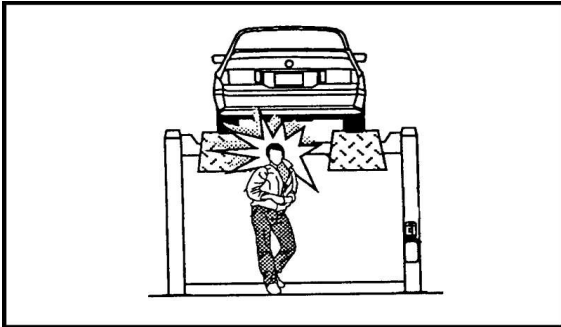


Fig.31 Risk of impact

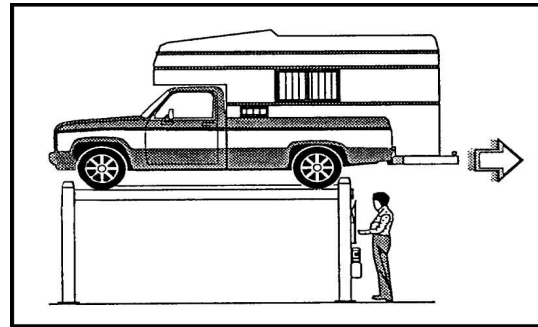


Fig.32 Risk of Moving

### RISK OF VEHICLE MOVING

Caused by operations involving the application of force sufficient to displace the vehicle. In the case of large or particularly heavy vehicles, sudden movement could create an unacceptable overload or uneven loadsharing. Therefore, before lifting the vehicle and during all operations on the vehicle **MAKE SURE THAT IT IS PROPERLY STOPPED BY THE HAND BRAKE.**

### RISK OF VEHICLE FALLING FROM LIFT

This hazard may arise in the case of incorrect positioning of the vehicle on the platforms, incorrect stopping of the vehicle, or in the case of vehicles of dimensions that are not compatible with the capacity of the lift.

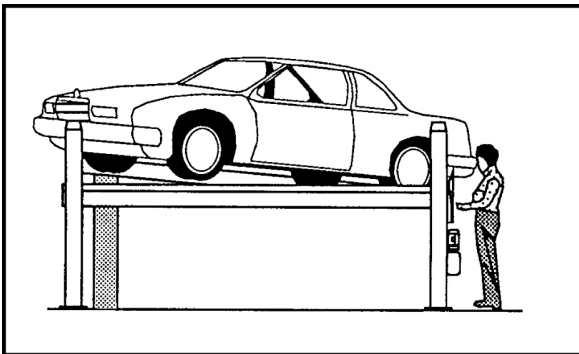


Fig.33 Risk of vehicle falling



**NEVER ATTEMPT TO PERFORM TESTS BY DRIVING THE VEHICLE WHILE IT IS ON THE PLATFORMS (e.g. reversing, etc.).**

### RISK OF SLACKENING OF LIFT CABLES

Caused by objects left leaning against the posts or on the platforms (fig.34).



**NEVER LEAN OBJECTS AGAINST THE POSTS OR LEAVE THEM IN THE LOWERING AREA OF THE MOVABLE PARTS OF THE LIFT.**

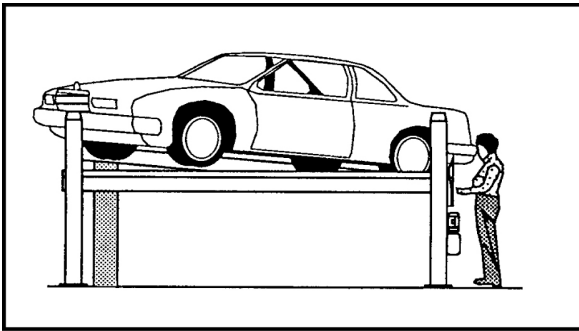


Fig.34 Risk of slackening of lift cables

If you leave objects that interfere with the free lowering of the platforms the lowering movement will be interrupted.

### **RISK OF SLIPPING**

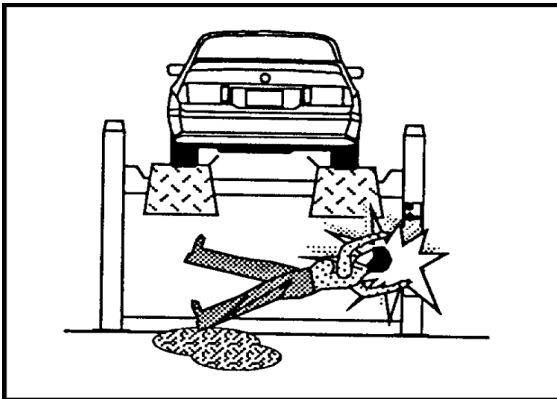


Fig.35 Risk of slipping

Caused by lubricant contamination of the floor around the lift (fig.35).

**THE AREA BENEATH AND IMMEDIATELY SURROUNDING THE LIFT AND ALSO THE PLATFORMS MUST BE KEPT CLEAN. Remove any oil spills immediately.**

When the lift is fully down, do not walk over the platforms or the cross-pieces in places that are lubricated with a film of grease for functional requirements. Reduce the risk of slipping by wearing safety shoes.

### **RISK OF ELECTRIC SHOCK**

Risk of electric shock in areas of the lift housing electrical wiring. Do not use jets of water, steam (high pressure washers units), solvents or paint next to the lift, and take special care to keep such substances clear of the electrical control panel.

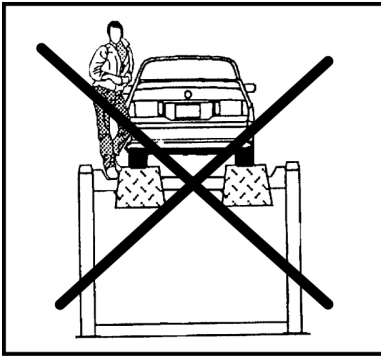
### **RISKS RELATED TO INAPPROPRIATE LIGHTING**

The operator and the maintenance fitter must be able to assure that all the areas of the lift are properly and uniformly illuminated in compliance with the laws in force in the country of installation.

### **RISK OF COMPONENT FAILURE DURING OPERATION**

The manufacturer has used appropriate materials and construction techniques in relation to the specified use of the machine in order to manufacture a reliable and safe lift. Note however, that the lift must be used in conformity with manufacturer's prescriptions, and the frequency of inspections and maintenance works recommended in 1.6 "MAINTENANCE" must be observed.





**RISKS RELATED TO IMPROPER USE**

Persons are not permitted to stand or sit on the platforms during the lift manoeuvre or when the vehicle is already lifted (fig.36).

Fig.36



**All uses of the lift other than the uses for which it was designed are liable to give rise to serious accidents involving the persons working nearby.**

It is therefore essential to adhere strictly to all regulations regarding use, maintenance and safety contained in this manual.

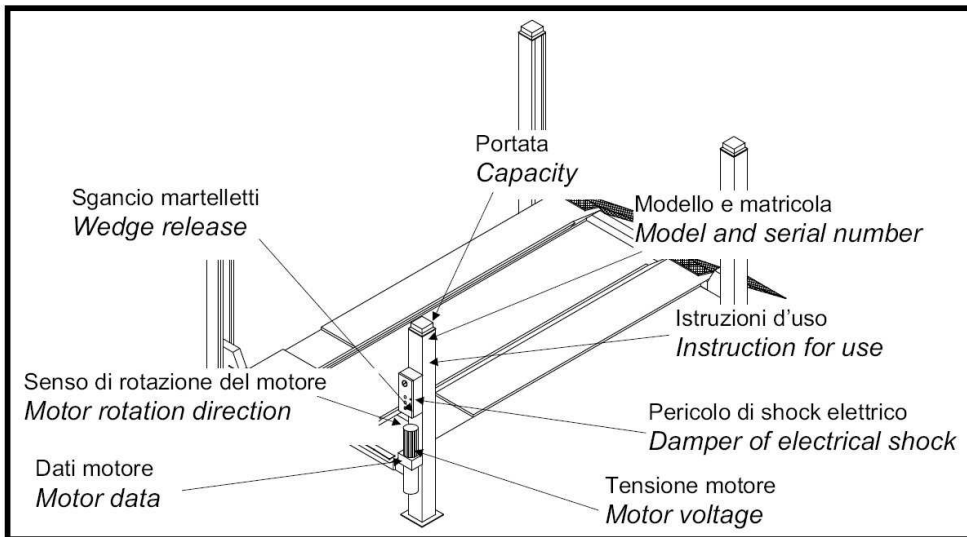


Fig. 37 Safety notices and data plates placed on the machine

**1.4 - INSTALLATION**



**THE FOLLOWING OPERATIONS MUST BE PERFORMED EXCLUSIVELY BY SPECIALISED TECHNICAL STAFF WITH AUTHORISATION FROM THE MANUFACTURER OR LICENSED DEALER. IF THESE OPERATIONS ARE PERFORMED BY OTHER PERSONS, SERIOUS PERSONAL INJURY AND/OR IRREPARABLE DAMAGE TO THE LIFTUNIT MAY RESULT.**

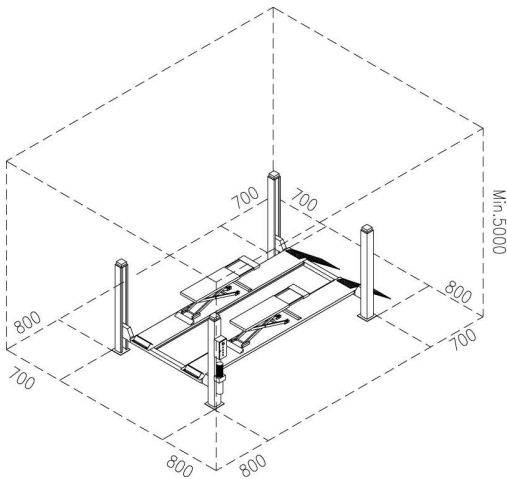
**INSTALLATION REQUIREMENT CHECK**

**MAKE SURE THAT THE INTENDED PLACE OF INSTALLATION IS SUITABLE.**

The lift is designed for installation in enclosed areas suitably protected from weather. The place of installation must be well clear of areas in which washing or painting work is performed, and away from solvent or paint storage area, or areas where there is a risk of potentially explosive atmosphere.

**CHECK OF ROOM SUITABILITY AND SAFETY CLEARANCES.**

The lift must be installed in compliance with the clearances between walls, pillars, other machines, etc. indicated in Figure 38 and in compliance with any law requirements in the country of installation. In any event, there must be a minimum clearance of 700mm between all movable parts of the lift and the vehicle itself and the nearest fixed or mobile structures in the workshop.



Check:

- height: 5000 mm min.  
(calculate also the height of the vehicles you intend to lift),
- distance from walls: 700 mm min.,
- working space: 800 mm min.,
- CONTROL POSITION area,
- maintenance area,
- access,
- escape routes for emergency situations,
- position in relation to other machines,
- orientation of the lift,
- possibility of electrical connection.

Fig.38 Safety distances

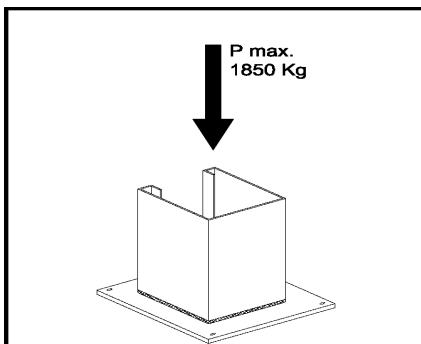
**If in a garage several lifts are installed, their placement has to be carried out according to the relevant labour safety rules.**

**LIGHTING**

All parts of the machine must be uniformly lit with sufficient light to make sure that the adjustment and maintenance operations specified in the manual can be performed safely, and without areas of shadow, reflected light, glare and avoiding all situations that could give rise to eye fatigue. The lighting must be installed in accordance with the laws in force in the country of installation (responsibility lies with the lighting equipment fitter).

**FLOOR**

The lift must be installed on a horizontal platform with suitable load capacity. The platform and the foundations must be suitable to resist the maximum stress values that the lift can transmit to the ground envisaging the worst operating conditions: specific ground pressure exerted by the lift in the prescribed conditions of use is approximately 5 kg/cm (Fig.39).



- Vertical load: 1850 kg
  - Shear force: negligible
- The floor must be flat and without gradients (+/-5mm tolerance)

Fig.39 Loads on foundations P max. 1850 Kg

## INSTALLING WITH EXPANSION ANCHORS

Example of installation on industrial floor in average mix concrete with embedded electrowelded reinforcing mesh, thickness approximately 160-180 mm and properly levelled

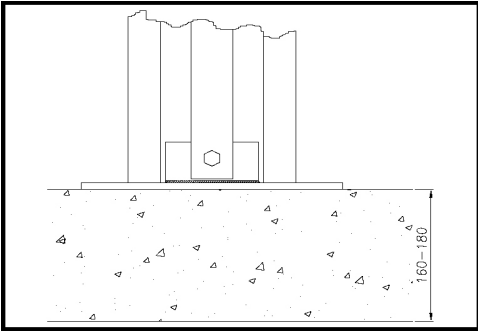
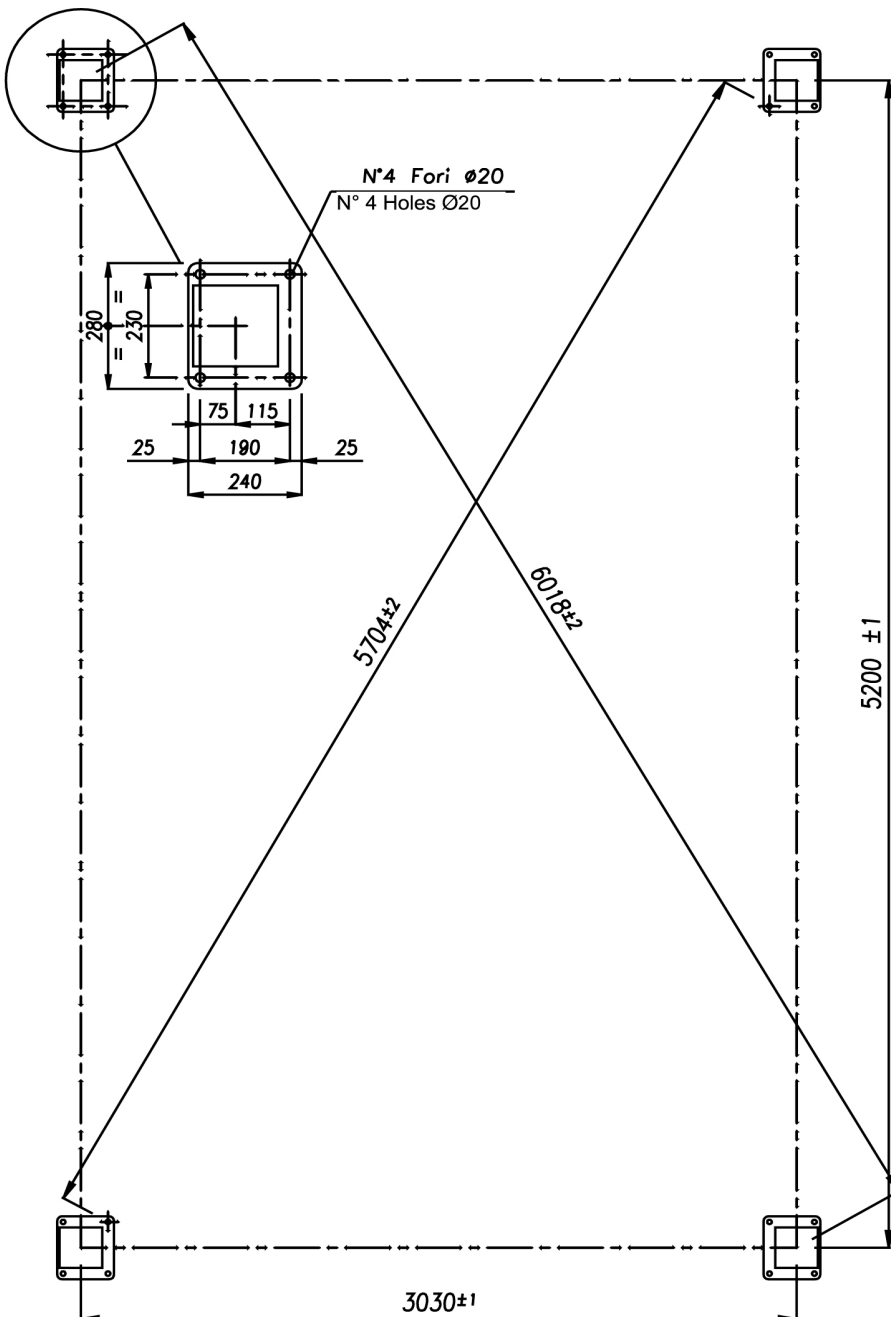


Fig.40 Floor thickness



## PREPARING THE FLOOR - MARKING

Mark the position of the posts on the floor as shown in figure 41.

The measurements shown in the figure are compulsory; maximum tolerance is:

- +/- 1 mm alignment
- +/- 2 mm squaring

Fig.41 Marking

## ASSEMBLY



**WARNING - UNAUTHORISED PERSONS MUST NOT BE ADMITTED DURING ASSEMBLY OPERATIONS.**

### ASSEMBLY OF MOVABLE STRUCTURE (PLATFORM)

1 - Place 4 trestles of the same height and suitably sturdy to hold 250 kg each, in the area where you intend to install the lift. Position the trestles as shown in the figure 42 (A-B-C-D).

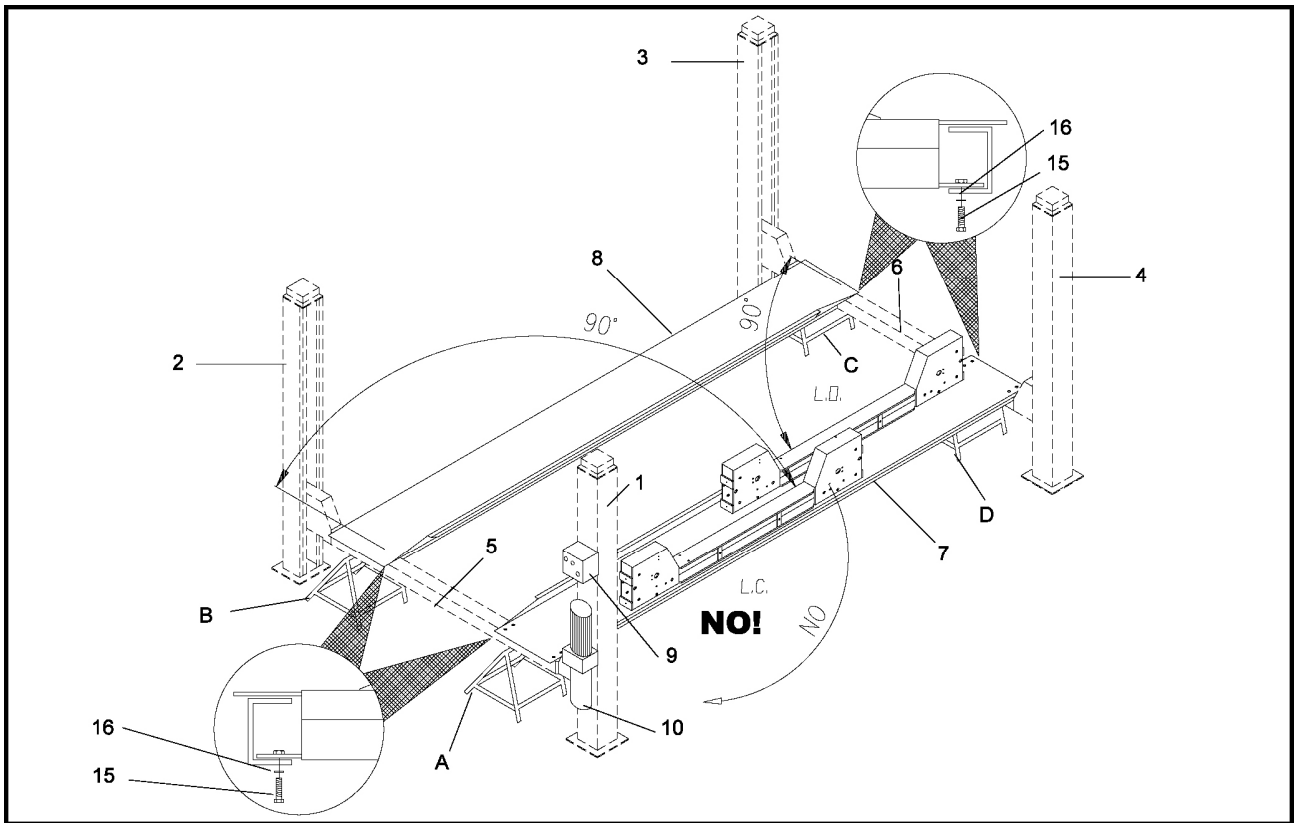


Fig.42

2 - Remove the posts from the packing (1-2-3-4), together with the platforms (7-8), the hydraulic power unit (10) and accessories.

3 - Place the platform (7) on two trestles (A - D) together with the two cross-pieces (5 - 6)

4 - Place the cross-piece (5) on trestle (B) and secure it to the platform (7) using M12 x 25 screws (15) and 12 x 20 toothed washers(16).

During these operations check that the steel cables are correctly positioned (see view "C" in fig.43).

5 - Place the platform (8) on the cross-pieces (pos.5-6, fig.42).

6 - Check squareness and the diagonals of the cross-piece - platform assembly; then fully tighten the screws (15) securing the platforms (7-8).

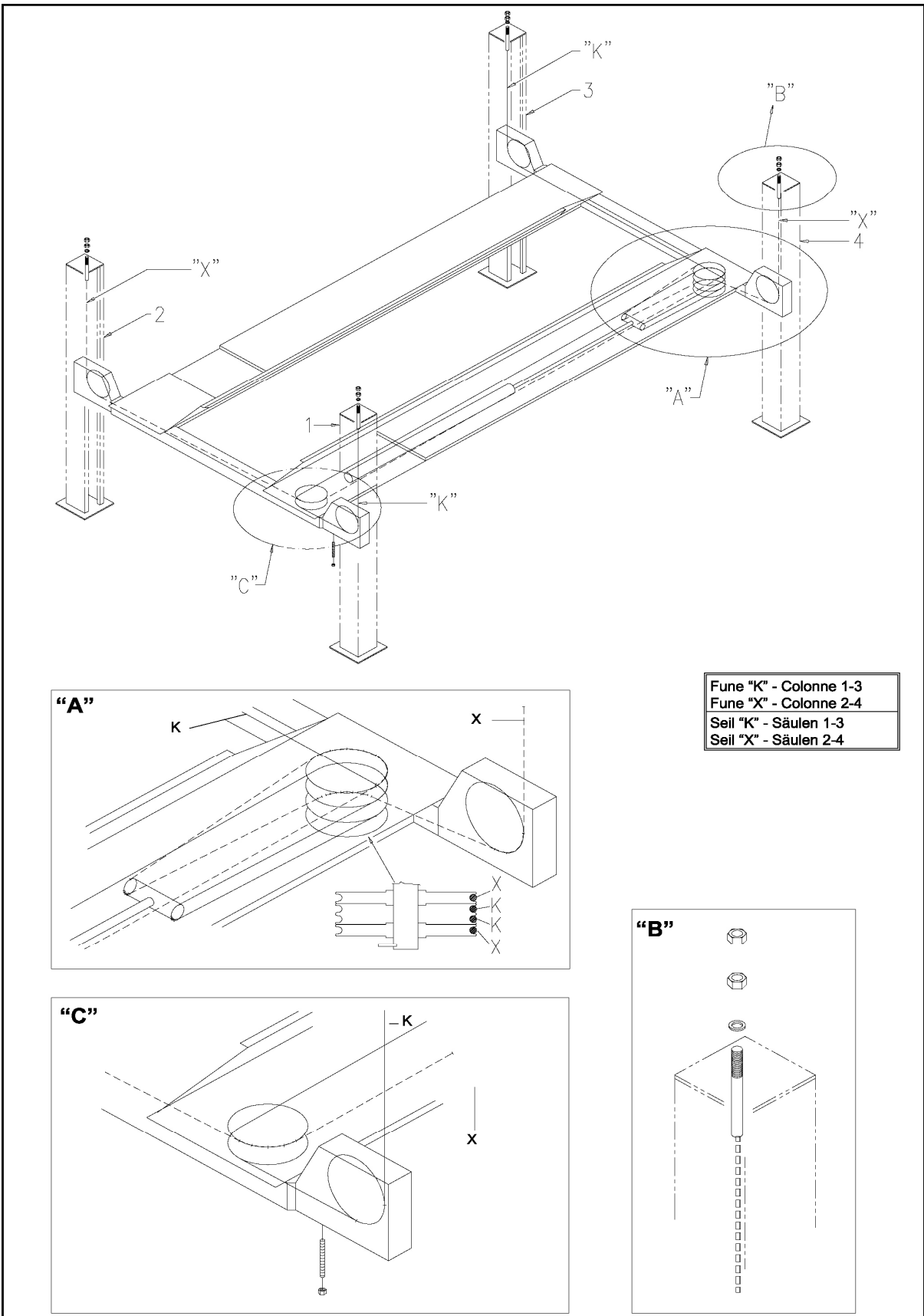
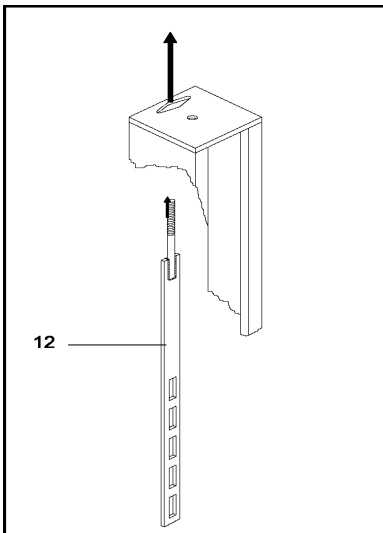


Fig 43



**POST ASSEMBLY**

Remove the safety rods (12) from the top of the posts (1-2-3-4) as shown in fig.44.

Fig.44 Removing safety rod from top of post

**Preparation of the control post (1).**

The posts can be identified by the numbers at the top. The control post (1) is also distinguished from the others because it has drilled holes to receive the control panel and the hydraulic power unit (fig.45).

Secure the hydraulic power unit (10) to the control post (1) using M8 x 20 H.H. screws (29) and 8 x 16 washers (28). Fit the control panel (9) using M8 x 20 socket head screws (30) and 8 x 16 washers (28).

Make the electrical connections to motor feeding terminals (14), lowering solenoid valve (15), lift limit switch (16) and lowering microswitch (50) (see wiring diagrams).

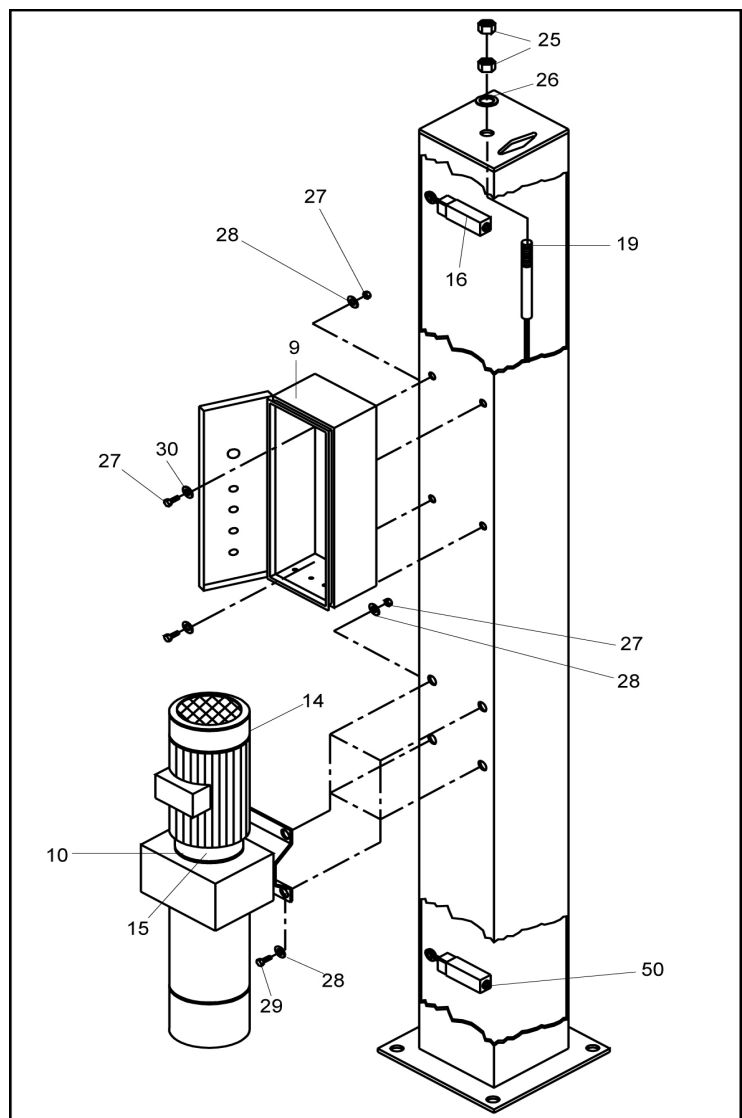
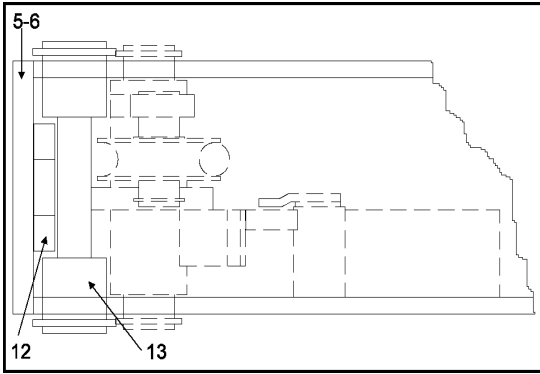


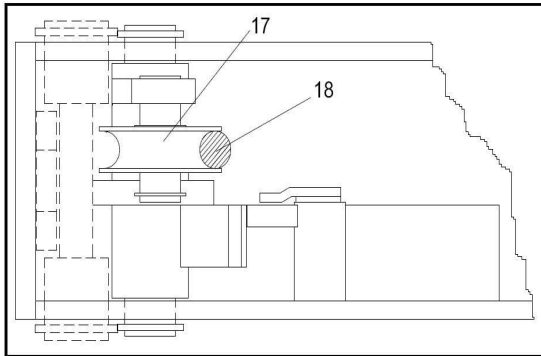
Fig.45 Preparation of post 1



Position the posts at the end of the cross-pieces (pos. 5-6, fig.42) Fit the safety rods (12) from the top of the posts, inserting them between the rear face of the cross-pieces (5-6) and the guide pins (13) as shown in figure 46.

**Check the safety rods are straight. Fit the Safety rods with the rounded edges of the slots towards the front of the posts.**

Fig.46 Housing for fitting safety rod



Remove the M20 nuts (pos.25, fig.45) and the 21 x 37 washers (26) from the ends of the lifting cables and install the terminal blocks (19) in the relevant holes on the top plates of the posts.

Fig. 42: screw the nuts (25) and washers (26) onto the terminal blocks (19). During this procedure make sure that the sensors (17) are correctly positioned on the lifting cables (18) as shown in figure 48.

Fig.48 Positioning of lifting cable sensors

## HYDRAULIC SYSTEM CONNECTION

Fig.49: Connect the rubber high pressure pipes (D02 and D03) to the cabinet with the screw and the washers, lock them. Insert the discharge pipes, connected to the connection placed on the principal lift cylinder bottom and to the connection of the play detector to the 3-ways connection (1). Fill the hydraulic power reservoir with oil to maximum level (for oil type see 1.2 Specifications).

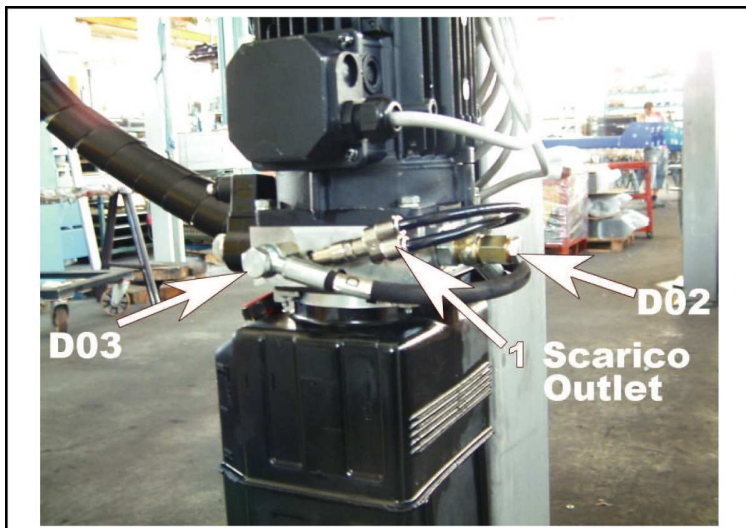


Fig.49 Hydraulic system

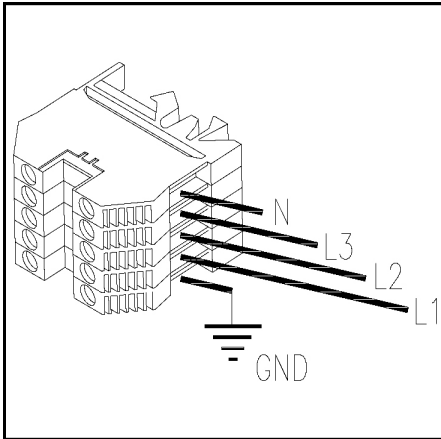


## ELECTRICAL SYSTEM CONNECTION



**WARNING** Electrical changes must only be made by a qualified electrician

**Before connecting the electric system, make sure that: the power supply circuit to the lift is equipped with protection devices as required by current standards in the country where the machinery is installed.**



Connect the electrical circuit of the cable micro switches, by fastening them to the suitable connector blocks placed in the central part of the posts and following the schematic diagram. Connect the electric cable coming out from control panel marked with the numbers 3-4 to the lift limit microswitch on the NC contact. Connect the electric cable coming out from control panel marked with the numbers 0-7 to the solenoid valve. Connect the wires of the safety wedge release electromagnets to the connector blocks placed in the central part of the cross-pieces, always complying with the schematic diagram.

Fig.50

Open the electric panel and fit the suitable supply cable (min. section 4x4 mm<sup>2</sup>) through the relevant cable-holder placed - for both models - in the electric panel upper part. Connect the cable to the terminals inside the panel lower part, including the yellow/green ground terminal.

Open the motor contact box and make the connection as shown on fig. 51, depending on the lift supply voltage. Connected temperature protection see Ref. 8-9 Fig. 51.

**The electric panels are arranged by the manufacturer for operating at 400 V, three-phase: therefore, if you wish the lift to operate at 230 V, three-phase, change the connection on the transformer (see terminal board of the transformer).**

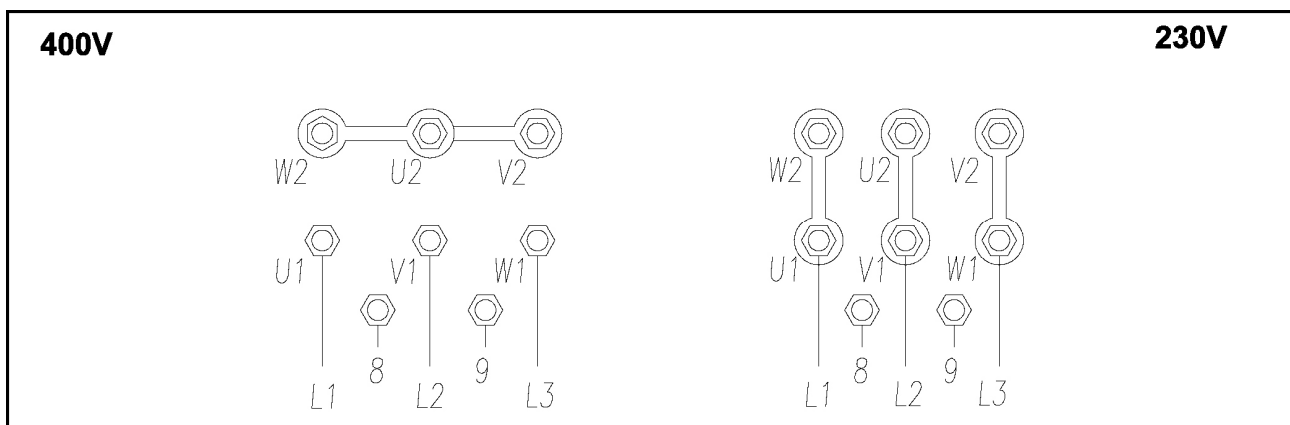


Fig. 51 - Motor connections and transformer

Once checked, if everything is complying, close the panel and check, by making the lift rise, the motor rotation direction: it should be the same of the one on the plate of the motor. If the rotation direction isn't complying, open the panel again, reverse two wires of the phases as per fig. 50, close the panel again and check the rotation direction.

### Before using the lift:

- Check the fluid level, and fill if necessary using mineral oil for hydraulic system ISO 32 - H-LP DIN 51525

- Check the rotation direction of the motor by pushing the lifting pushbutton momentarily

**WARNING: prolonged rotation in the wrong direction can seriously damage the pump.**

- adjust the opening of the wedges. Keeping the descent button pressed, check the distance between the safety device and the rod is 5 mm. A lesser space could cause the safety device hooking, while a greater space could prevent a perfect electromagnet closure with consequent noisy vibration.

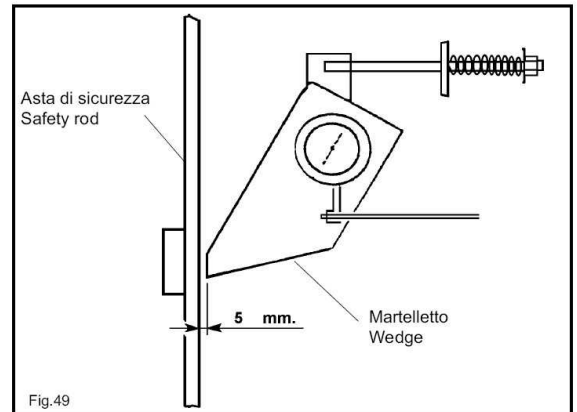


Fig.52 Wedge adjustment

### CABLE PRE-ADJUSTMENT

Before operating with the lifter check that the cables are in correct position on the pulleys.

Close the panel, put the switch (QS) in pos.1 and make the lift rise until clearing the wedges (A-B-C-D); then put the switch in position 0 and close them again. Put the main switch (QS in fig. 53) in position 1, press the lowering button (SB2) and check if the lift lowers. If this doesn't happen, check the adjustment of the four cable sensors (pos. 17, fig. 48) and, if necessary, adjust them by acting on the screw of the micro switch release lever (pos. 36, fig. 55).

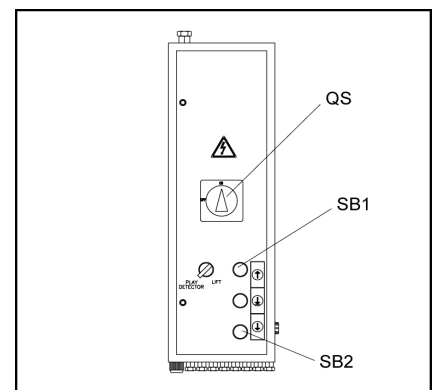


Fig.53 Control panel

Position the lift so that the four wedges (32) in fig.54 are firmly seated in the slots on the safety rods (12). Adjust the nuts (20) on the terminal blocks (19) of the lift cables (33) to level the platforms (7 and 8) so that the entire surface of the movable section of the lift is perfectly level. Turning the upper nuts (35) of the safety rods, adjust so that the distance between the wedges (31 and 32) and the slots in the safety rods (12) is identical on all four posts (1-2-3-4). Tighten the upper part with the lock nut (35). Lock the safety rods (12) with the collar (34) fixing it under the top plate of the column.

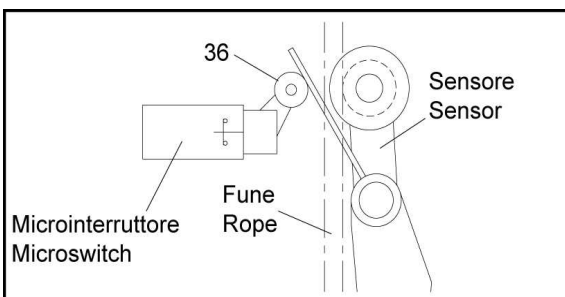


Fig 55

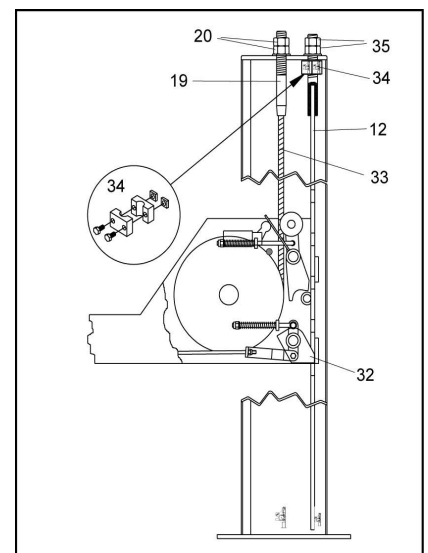


Fig.54 Pre-adjustment of lift cables

## SECURING THE POSTS TO THE GROUND

Lower the platform (see operating instructions) until it is about 30 cm from the ground. Position the posts so that the nylon skates (rear 37 and side 38) are in contact with the posts (fig.56).

Then proceed to drill into the floor through the fixing holes in the base plates.

Plumb the posts to ensure that they are perfectly perpendicular to the floor, inserting shims where necessary under the baseplates.

**Use shims that are as large as possible and always install them close to the anchor holes.**

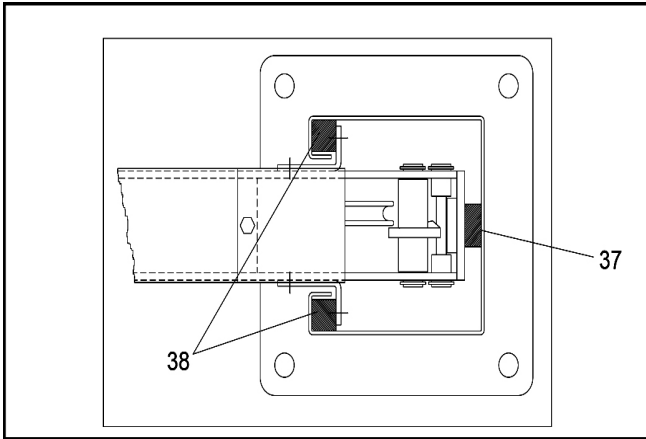


Fig 56 Shoe Adjustment.

Use approved screw anchors.  
(see table below).

Tighten the screws with a torque wrench set  
(see the table).

Press LIFT button (SB1 in fig.53) and complete the lift cycle; during the cycle check that the cross-pieces slide freely and without undue rubbing friction (you may want to stop the lift motion every 20 or 30 cm to make this inspection easier). If you notice any malfunction during this operation, check that the posts are perfectly perpendicular.



**WARNING -IMPORTANT FOR PLAY DETECTOR: CHECK THAT THE COLUMNS ARE CORRECTLY ASSEMBLED TO THE NYLON SKATES, AS INDICATED IN FIG. 56.**

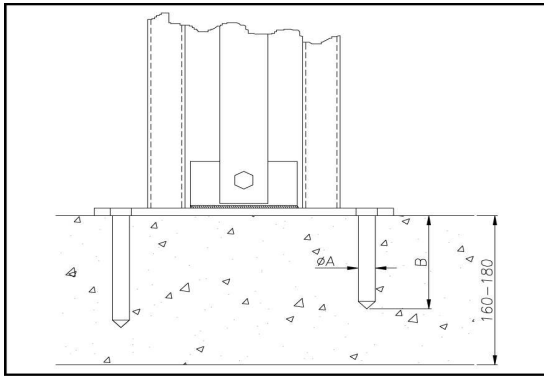


Fig.57 Post anchoring

When the lift cycle is completed, make sure that the lifting limit switch (pos.39, fig.55) is working properly and if necessary, adjust using the cam (40) on the cross-piece.

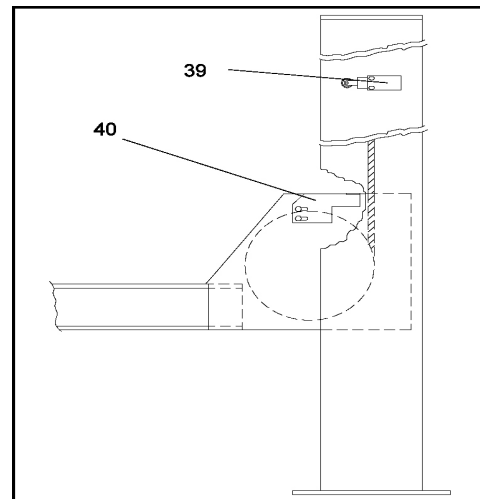


Fig.58

### Fixing Bolt details

Brand	Type	A mm	B mm	Torque Setting
Hilti	HSL-3 M12	18	105	80 Nm
Fischer	FB16/25	16	135	100 Nm
Crypton	BOLT1041	20	100	80 Nm

## INSTALLING THE VEHICLE RAMPS AND THE WHEEL STOPS

The vehicle ramps (pos.41, fig.59) and the wheel stops (42) can be fitted on either end of platforms (7 - 8) according to the user's requirements.

Fit the ramps (41) by slotting them into the platforms on the required end and then fix the wheel stops (42) on the opposite end using M10 x 25 H.H. screws (43), 11 x 30 washers (44) and M10 nuts (45).

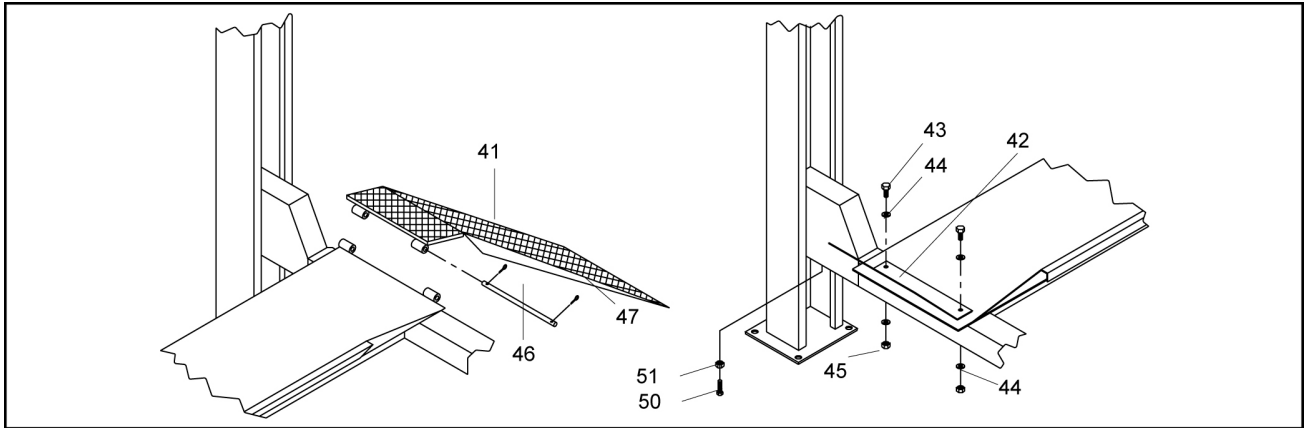


Fig.59 Securing the vehicle ramps and wheel stops

## ADJUSTING THE LIFTING CABLES

Drive a vehicle onto the lift.

Raise the lift to the maximum height and check if the four wedges (32) are fitted inside the slots of the safety rods (12). Check if the distance between the wedges (32) and the slots of the safety rods (12) on the 4 posts (1-2-3-4) is at least 20 mm from the support (fig. 60); a lower value would not allow the safety device to rotate, and it would stay attached to the rod.

If necessary, level the unit by adjusting the nuts (20) on the terminals (19) of the cables (33) and the limit micro switch. When the adjustment is completed, lock with the lock nuts (35).

**IMPORTANT: This adjustment must be repeated 1 or 2 weeks after setting up the lift.**

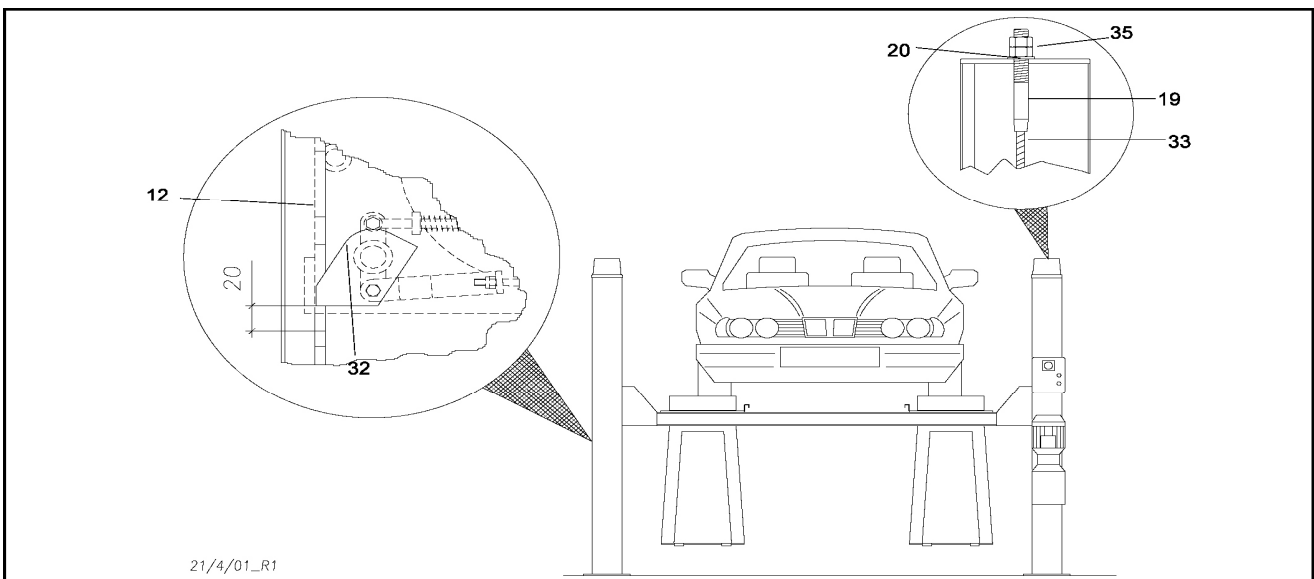


Fig.60 Adjusting the lift cables

## **PRELIMINARY TESTS AND INSPECTION BEFORE STARTING**

### **MECHANICAL CHECKS**

- Check that the cables are in the correct position on the pulleys;
- Levelling and alignment;
- Tightness of bolts, unions and connections;
- Free movement of all moving parts;
- Cleaning of the different machine parts;
- Position of guards and protection devices.

### **ELECTRICAL CHECKS**

- Correct connections in accordance with wiring diagrams;
- Earth connection of the lift;
- The operation of:
  - lifting limit switch,
  - cable slackening limit switch,
  - solenoid valve in the hydraulic system.

### **HYDRAULIC CHECKS**

- Make sure the reservoir is filled with sufficient oil;
- Check for leaks;
- Make sure the cylinder is working properly.  
N.B. If there is insufficient oil, top up the reservoir to the correct level.  
See 1.6 "MAINTENANCE" for details of the procedure.

### **CHECKING MOTOR ROTATION DIRECTION**

Check that the motor is turning as indicated by the arrow on the control unit hydraulic pump; do this by running the machine momentarily (maximum 2 seconds to avoid damage).

If the hydraulic system is not working correctly consult the "Troubleshooting" section 1.7

### **SET-UP**



***WARNING THE FOLLOWING OPERATIONS ARE TO BE PERFORMED EXCLUSIVELY BY TECHNICIANS FROM THE AUTHORISED SERVICE CENTRE.***

1. No-load check (no vehicle on lift) Check, in particular that:

- the LIFT and LOWERING buttons are working properly
- the lift reaches its maximum elevation;
- there are no undue vibrations in the posts or the cross-pieces;
- the wedges fit properly into the safety rod slots;
- the lift limit switch operates properly;
- the lift cable limit switches are operating properly;
- the electromagnets are working properly.

Perform the above checks and inspections during two or three complete lift and lowering cycles.

2. Checks with load.

- Repeat all the above checks with a vehicle on the lift.

3. After the checks with vehicle make a visual inspection of the lift and check that the nuts and bolts are tight for the second time.

## 1.5 - OPERATING PRINCIPLES AND USE

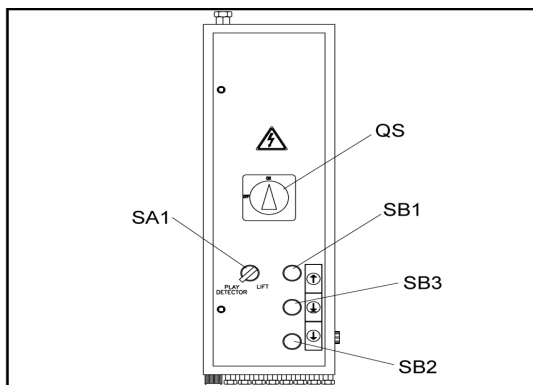


Fig.62 The lift operator controls are:

### MAIN SWITCH (QS)

POSITION 0: the lift is isolated from the electrical supply; you can open the control panel and install a lockout on the main switch to prevent unauthorised use of the unit.

POSITION 1: the lift is receiving electrical power; the door of the control panel is locked and cannot be opened inadvertently.

### LIFT / PLAY DETECTOR SELECTOR (SA1)

Enables functional change from the main lift to the play detector.

Turning the selector in hourly sense the left (LIFT) the cylinder of the main lift will be operating, instead turning in counterclockwise sense (PLAY DETECTOR) the cylinders of the play detector will be operating.

### LIFT BUTTON (SB1)

"Operator present" type, 24 V; when the LIFT button is pressed the hydraulic control unit will start.

### LOWERING BUTTON (SB2)

Also this button is "operator present" type, 24V; when pressed, it activates the release magnet of the safety wedges and the lowering solenoid valve of the hydraulic control unit.

### STOP BUTTON (SB3)

Operator present" type, 24 V; pressing the STOP button activates the lowering solenoid valve in the hydraulic control unit.

### LIFTING

Set the main switch (QS) to 1 and press the LIFT button until the lift reaches the desired height.

During its travel, the safety wedge release lever will remain in the "rest" position (raised) so that the wedges automatically engage with each slot of the safety rods.

### STOPPING

When a vehicle is stopped in the elevated position, the load must **NEVER** be supported by the lift cables, the load must instead be supported by the stopping wedges which must therefore be engaged automatically in the slots on the safety rods. When you reach the desired height press the STOP button (SB3). The movement will be halted automatically as soon as the wedges encounter the first safety rod slots during the initial lowering.

### LOWERING

Before performing a lowering manoeuvre disengage the wedges; in both models press the lift button (SB1) so that the lift rises about 3cm.

Press the lowering button (SB2), which automatically disengages the safety wedges and activates the lowering solenoid valve. If the platform should encounter an obstruction during its lowering the sensors that activate the lift cable slack safety microswitches will operate and stop the lowering movement. In this situation only the LIFT control is enabled. Note that during lowering cycles protection against the accidental falling of the vehicle is provided by the safety wedge controlled by the lift cable slack sensor (mechanical operation).

## 1.6 - MAINTENANCE

### IMPORTANT

For longer life of the platforms and preserving their good condition, it is essential to carry out the following maintenance:

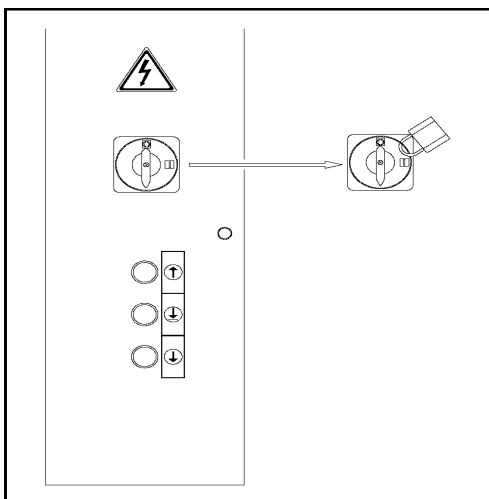
- Prevent or repair scratches to the paint
- Immediately clean drops of acid or other corrosive liquids
- Constantly wipe them dry from water, especially during the winter, because water contains salt



**WARNING – MAINTENANCE OPERATIONS MUST BE PERFORMED EXCLUSIVELY BY EXPERT PERSONNEL WITH A COMPLETE WORKING KNOWLEDGE OF THE LIFT.**

When servicing the lift use all necessary or useful precautions to PREVENT ACCIDENTAL STARTING OF THE UNIT:

- The main switch on the control panel  
MUST BE LOCKED OUT IN POSITION "0"; see figure 63.
- THE LOCKOUT KEY must be kept by the MAINTENANCE FITTER for the full duration of the work.



Remember:

- MAIN POSSIBLE POTENTIAL HAZARDS
- SAFETY INSTRUCTIONS IN SECTION 1.3 "SAFETY"

**RISK OF ELECTRIC SHOCK** on the machine supply terminal box.

**DO NOT ATTEMPT TO ADJUST OR LUBRICATE PARTS OF THE LIFT WHILE THEY ARE IN MOTION. AFTER EACH MAINTENANCE INTERVENTION REMEMBER TO REFIT THE GUARDS AND REFIT OR REACTIVATE GUARDS AND PROTECTION DEVICES THAT WERE REMOVED OR DISABLED TO MAKE THE MAINTENANCE WORK EASIER**

Fig.63

### IMPORTANT

for optimal maintenance of the lift:

- use only original spare parts and the right tools for the job; make sure the tools are in good condition.
- Observe the maintenance intervals recommended in the manual; these times are guidelines and should be construed as the maximum intervals between each intervention.
- Properly executed preventative maintenance calls for constant attention and surveillance of the machine. Immediately check the cause of any anomalies such as undue noise, overheating, leakage of fluids, etc.

Pay particular attention to:

- the condition of the lifting parts (lift cables, cylinder, hydraulic power unit);
- and the safety devices (microswitches, safety wedges).

For correct maintenance refer to the following documents supplied by the lift manufacturer:

- complete functional diagram of the electrical equipment and ancillary equipment, together with indication of the power supply connections;
- hydraulic circuit diagram with list of components and pressure setting values;
- exploded view with all necessary information for ordering spare parts; list of possible causes of faults and recommended solutions (Section 1.7 of the manual).

## PERIODIC MAINTENANCE SCHEDULE

To keep the lift working at optimal efficiency levels observe the recommended maintenance schedule.

**WARNING – THE EQUIPMENT WARRANTY MAY BE VOID IF YOU FAIL TO FOLLOW THE RECOMMENDED MAINTENANCE SCHEDULE.**

### NOTE:

The schedule indicated assumes normal operating conditions; in particularly hostile conditions, intervals between the operations should be reduced.



**ALL MAINTENANCE WORK MUST BE PERFORMED WITH THE LIFT STATIONARY, THE POWER SUPPLY DISCONNECTED AND A LOCKOUT ON THE MAIN SWITCH.**

### EVERY MONTH...

#### 1 - HYDRAULIC POWER UNIT.

- Check oil level using the dipstick fixed to the filler cap. Top up if necessary through the filler hole until the oil is at the recommended level. Refer to page 11 "SPECIFICATIONS" for information on the type of oil to use.
- After the first 40 hours of use check the level of contamination of the filter and the oil. (Clean the filter and change the oil if contamination is significant).

#### 2 - HYDRAULIC CIRCUIT

- Make sure there are no oil leaks from the various lines connecting the hydraulic power unit and the lift cylinder or from the lift cylinder seals. If you notice oil leaks from the cylinder check the seals and replace them if necessary.

### EVERY 3 MONTHS...

#### 1 - ANCHOR BOLTS

Check the tightness of the anchor bolts in the baseplates with a torque wrench and make sure they are properly torqued.

#### 2 - LIFT CABLES

- Check the tightening of the U bolts that hold the lifting cables (35 Nm).
- Check that the lift is levelled; if necessary adjust the cables tension.
- Check that the lock nuts of the cable tie rods and the lock nuts of the safety rods are tight.
- Check the condition of the pulleys and relative sheaves.
- Brush the lift cables with grease to avoid rusting and consequent weakening. Grease type: BRILUBE 30 or equivalent.

The grease must be taken from sealed and/or well conserved packages. Do not use grease that is too old or has undergone chemical changes to avoid irreversible damage to the lift cables.

- Check lift cable wear by measuring the diameter and checking for possible broken strands or other damage.



### WARNING

**THE STEEL CABLE HAS LIFTING AND SAFETY FUNCTIONS.**

**If in doubt or when you need to change the cables, CONTACT YOUR NEAREST AUTHORISED SERVICE CENTRE.**

### 3 - HYDRAULIC PUMP

- Make sure that the hydraulic power unit pump does not change tone during steady-state operation and make sure that the pump fixing bolts are properly torqued.

### 4 - SAFETY SYSTEM

- Check the operation and efficiency of the safety devices and the wear of the safety wedges and safety rods. Oil the pivot pins of the safety wedges. If excessively worn, replace the wedges and/or the rods.



## **5 - TOP SURFACE OF THE CROSS-PIECES**

- Keep the top surface of the cross-pieces lubricated with a light film of grease for a better sliding movement of the movable platform.

### **EVERY 6 MONTHS...**

#### **1 - OIL**

- Check the oil for contamination or ageing.  
Contaminated oil is the main cause of valve malfunctions and will reduce the working life of the gear pumps.

### **EVERY 12 MONTHS...**

#### **1 - GENERAL INSPECTION**

- Visual inspection of all structural and mechanical parts to assure that all is fault-free and in good condition.

#### **2 - ELECTRICAL SYSTEM**

- Have the electrical system, including motor, wiring, limit switches, and control panel, checked over by a specialised electrician (CONTACT THE SERVICE CENTRE).

#### **3 - HYDRAULIC SYSTEM OIL**

Change the oil as follows:

- Lower the lift completely.
- Make sure that the hydraulic cylinder is fully retracted.
- Disconnect the power supply.
- Drain the oil from the circuit by unscrewing the drain plug at the bottom of the reservoir.
- Refit the drain plug.
- Fill the reservoir through the filler hole on the top.
- Make sure the oil is filtered.
- For oil types and characteristics refer to the technical specifications (chapter 2, page 10).
- Close the filler plug.
- Connect the lift to the power supply.
- Perform two or three lift—lowering cycles (to a height of 20 - 30cm) in order to fill the circuit with oil.

**Oil changes: use only recommended oil brands or equivalents; never use oil that has deteriorated because of excessively long storage.**

Dispose of used oil as indicated in appendix "A"

## 1.7 - TROUBLESHOOTING

**Troubleshooting and possible repairs require absolute compliance with ALL THE SAFETY PRECAUTIONS indicated in Section 1.6 "MAINTENANCE" and Section 1.3 "SAFETY".**  
**POSSIBLE PROBLEMS AND SOLUTIONS**

<b>Problem</b>	<b>Possible cause</b>	<b>Solution</b>
The lift does not rise when the pushbutton is pressed (motor does not run)	Blown fuse  Electrical Supply problem  Malfunction in the electric plant: -broken limit switch -burnt motor	Replace fuse  Check and recify if required  Call Service Centre
The lift does not rise when the pushbutton is pressed (motor runs)	Not enough oil  Drain solenoid valve opened  Max pressure valve malfunction  Leaks in the hydraulic circuit.	Top up oil level as required  Check manual outlet or change it  Check the load and adjust the valve  Repair the line
Lift continues to rise after having released the up pushbutton	Faulty pushbutton	Unplug the lift and call Service Centre
Lift does not descend	Foreign object  Solenoid valve blocked  Malfunction in the electric plant  Carriages engaged with security devices  Block valves have tripped.	Remove object  Change it (call Service Centre)  Call Service Centre  Ensure the correct descent sequence is used  Repair the hydraulic circuit damage.
The lift does not rise to the maximum height	Oil level low	Top up oil level as required
After having released the up pushbutton, the lift stops and lowers slowly	Dirty drain valve  Defective drain valve	At the same time, set the rise and descent movements, to clean the valve  Change (call Service Centre)
The power unit motor overheats	Motor malfunction  Wrong voltage	Call Service Centre  Check voltage.
Power unit pump is noisy	Dirty oil  Incorrect assembly	Change oil  Call Service Centre
Oil leakage from cylinder	Damaged gaskets  Dirt in the cylinder	Change the damaged gaskets  Clean all parts Check the valves are not damaged.

## SECTION 2 - PLAY DETECTOR (OMA547)

### 2.1 - CHARACTERISTICS

Max Capacity on each plate .....	1300 Kg.
Max. stroke platform DX (RIGHT) .....	± 40 mm
Max. angle platform SX (LEFT) .....	± 10°
Max Thrust for each plate .....	800 Kg.
Minimum inner distance .....	890 mm
(to be respected according type of lift)	
Maximum outer distance .....	2020 mm
(to be respected according type of lift)	
Weight .....	90 Kg.
Power supply .....	230 V ±10% / 50 Hz ± 2% and 24 V ±10% / 50 Hz ± 2%
Power .....	3 Kw
Maximum oil pressure .....	185 Kg/cm <sup>2</sup>
Nominal Motors consumption .....	8,7 A
Working temperature .....	-10 - 55°c
Humidity .....	30 - 95% (non condensing)
Noise .....	Leq (A) < 75 dB (A)

The Play Detector to which this manual refers is guaranteed by the Manufacturer for a period of 12 months from the date of installation.

### 2.2 - LIMITATIONS ON USE

The Play Detector :

- cannot be used for vehicles whose inner dimension of wheel track is less than 890 mm, and outer dimension of wheel track greater than 1800 mm
- should be used in environments **free of explosion hazards.**
- must be housed in an environment having the following characteristics:
  - Temperature between -10 and 55 °C
  - Humidity between 30 and 95 % (non condensing)
- has been designed and constructed for being used exclusively with vehicle lift covered by this manual.

### 2.3 - IDENTIFICATION DATA

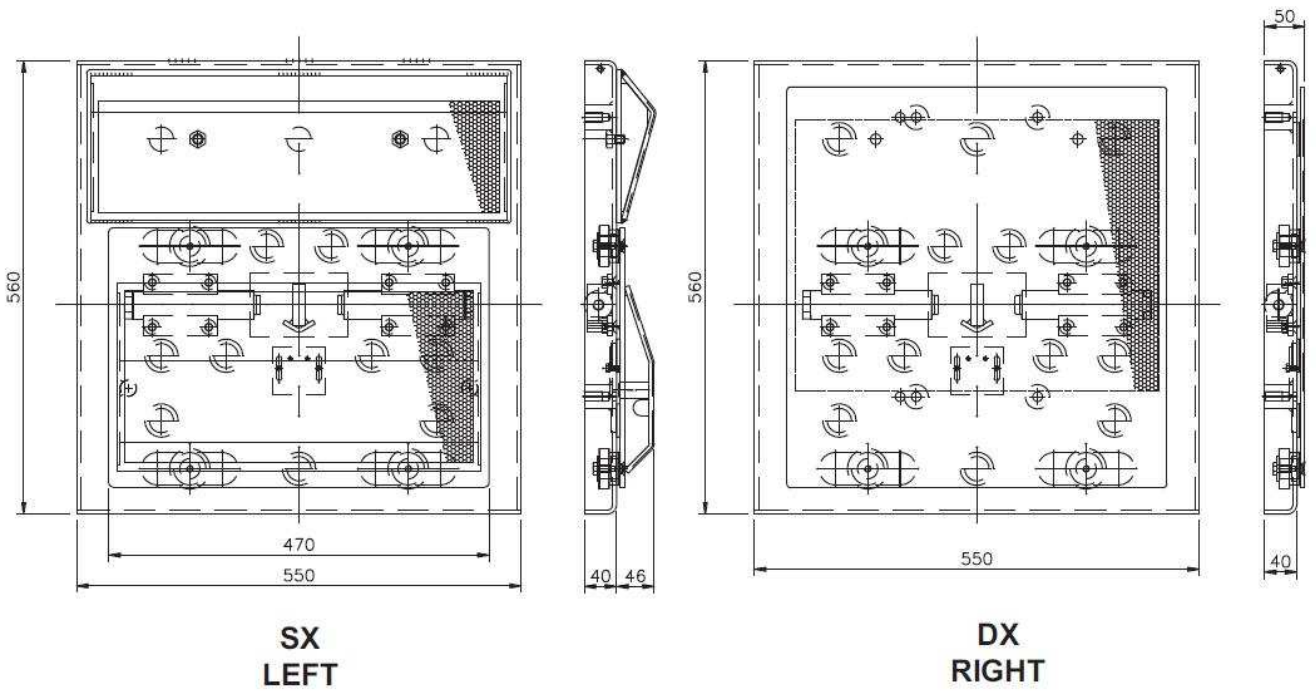
The identification data for the Play Detector is displayed on an aluminum plate fastened in a readily visible place on the Machine.

The figure shows the identification plate. See the nameplate position in the following drawing





**PLAY DETECTOR DIMENSIONS**



## 2.4 – SAFETY

The Play Detector has been manufactured in compliance with the provisions issued by “Machine Directive 98/37/CEE”.

### PRECAUTIONS

For the safety of the Play Detector and of the operator using it, the following general rules are provided for correct operation, for full safety instructions refer to Section 1.3 of this manual:

- The Play Detector should, at all times, be under the control of authorized personnel only.
- The work area should be free of unauthorized personnel.
- Before lifting the load, make sure the turning wheels of the vehicle are straight, if the case occurs. Locate the left wheel of the vehicle into the V recess of steering plate SX (LEFT)
- The stability of the vehicle, when in the raised position, should be checked before any kind of operation.
- Make sure the load to be lifted does not exceed the maximum nominal capacity of the play detector.
- Do not apply external forces on the raised vehicle (Traction, lifting, etc.)
- It is important to remember that mobile elements of the machine are potentially dangerous, and can cause crushing, pinching and shearing injuries to all parts of the human body.

### The danger of crush injuries particularly concerns:

**A. Persons working under the elevated vehicle,** it is essential that the operator at the Control Panel has complete visibility of the zone.

**B. Hands and fingers of operator who is performing the test.**

### SAFETY DEVICES

The Play Detector has been designed to function within ample safety margins, a number of devices have been incorporated to maximise operational safety.



**WARNING – NEVER DISCONNECT THE SAFETY DEVICES !**  
***The Manufacturer will not be responsible for any damage to property or persons caused by this type of negligence.***

The main devices provided are:

- Fixed flow limiter (to limit max cylinder speed).
- Mechanical stops at the end of each plate stroke.
- Hydraulic cylinders with overload valve.

## 2.5 – OPERATION



### WARNING

- **Ensure the lift area, platforms and vehicle under test are clear of all personnel.**
- **Ensure there are no tools or parts on or around either of the play detector sliding plates.**
- **Ensure the lift is placed in a locked position in each column, DO NOT USE THE PLAY DETECTOR WITHOUT THE LOCKS IN PLACE.**
- **In the case of an error message and block on the control unit, carefully check to ascertain the cause of the interruption and, if possible, remove it before attempting to restart the control unit.**
- **If the problem persists contact your local Approved Service agent.**

## CONTROLS

The controls for operating the play detector are on the inspection lamp, there you will find 2 push buttons and a selector.

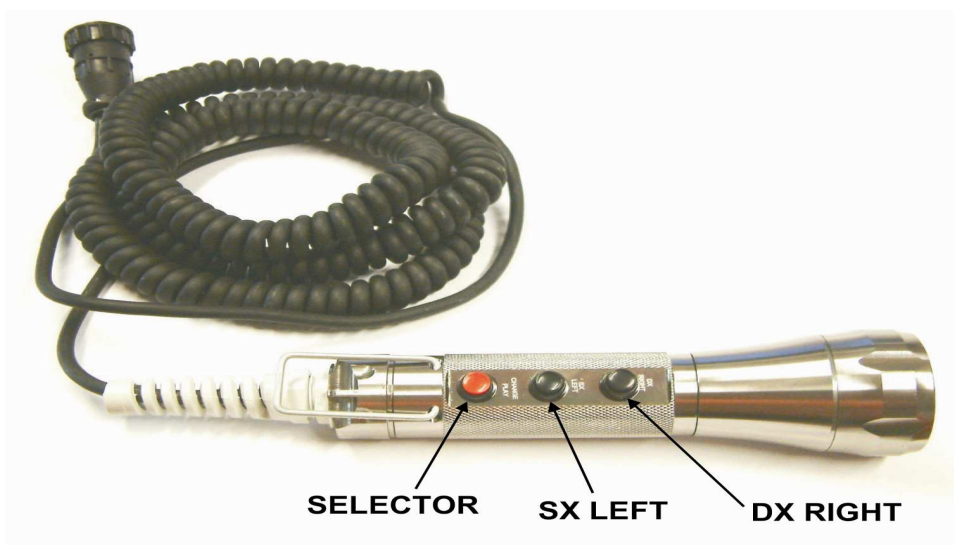
Each push button is able to provide movement in one direction by pushing and the opposite direction by releasing. The platform will slide back to its centered position automatically.

Push the other pushbutton firmly, the platform moves in the opposite direction, then release. The platform will slide back to its centered position automatically.

Selector CTP provides DX (RIGHT) or SX (LEFT) selection.

The sliding platform which tests the steering clearances consists of one fixed platform and one sliding platform.

The sequence of operation shall be in accordance with the current issue of:  
**THE MOT INSPECTION MANUAL Car and Light Commercial vehicle Testing**



## **2.6 - MAINTENANCE**

The play detector will require cleaning above and below the sliding plates, to ensure continued optimum performance, it is necessary to inspect and clean the surface below the sliding plate every 6 months.

- 1) Undo the 4 screws attaching the play detector to the main lift platforms.
- 2) Undo the 4 screws on sliding rollers inside the transversal guides. (Rollers are now free to be removed as well as the sliding plate)
- 3) Remove the sliding plate and clean the surface, take care of support face of plastic pads which work on the sliding plate. Remove any dust or other debris which could scratch the plastic pads.
- 4) Clean the transversal guide rollers, remove any old grease or dust.
- 5) Grease the dismantled part as little as you can (grease is able to capture dust or other hard parts which could damage plastic pads and rollers).
- 6) Re mount the sliding plate, re mount the sliding plastic rollers, and fix with 4 screws and washers. Reassemble the plate into the main lift recess, tighten the last 4 screws underneath the main lifting platform.

Check that other electrical and mechanical parts are in good condition, clean and suitably greased.

Check that the paint is in good condition and that there is no rust (treat if necessary)

### ***Note:***

***DISPOSE OF USED OILS AND LUBRICANTS IN ACCORDANCE WITH LOCAL REGULATIONS***

## **2.7 - CONTROLS AND CALIBRATION**

The following checks must be made during the lift maintenance visits:

Check the solenoid connectors are securely attached.

Check all hydraulic connections.

Verify if the centered position of each sliding plate DX (RIGHT) and SX (LEFT) is maintained with both pushbuttons.

Check that all other internal electric connections are secured correctly.

## 2.8 - TROUBLE SHOOTING

<b>SYMPTOM</b>	<b>CAUSE</b>	<b>REMEDY</b>
Plates DX (RIGHT) or SX (LEFT) do not return to centered position, but remain at one end of the stroke.	<p>Fault in either microswitch FCDX or FCSX.</p> <p>Position of microswitch is missed.</p> <p>Fault in the solenoid C13 or C14.</p>	<p>Replace Microswitch</p> <p>Open both plates as described in MAINTENANCE section and verify assembly of microswitch onto main play detector body.</p> <p>Check the position of sliders acting on the microswitch, adjust if necessary</p> <p>Check connections to solenoid valves C13 and C14, or into the main connector of handlamp.</p>
Platforms slide very slowly, even without load.	Blockage in the returning hoses from the aluminium solenoid block.	Unscrew nipple ¼" from delivery hose from aluminium block (made in RILSAN plastic). Inside check the small black screw M8 with an hexagonal female key, which has an opening of diameter 0,8mm. Ensure this is free from debris.
One platform is working correctly, the other is not.	Problem in the handlamp selector. It doesn't switch on C11 and C12	Check operation of selector on handlamp you should hear the "tic" which signals the activation of both C11 and C12. Check connections to the solenoid valves, and the main connector of handlamp.
Both plates work in one direction only.	One pushbutton is broken or contacts are failing.	Open the handlamp and verify the pushbutton and its contacts. Replace if necessary



## APPENDIX A - SPECIFIC INFORMATION (Lift)

### DISPOSAL OF USED OIL.

Used oil drained from the reservoir of the hydraulic power unit during an oil change is to be treated as a pollutant in accordance with the legislation in force in the country where the lift is installed.

### SCRAPPING THE MACHINE

#### WHEN SCRAPPING THE MACHINE OBSERVE ALL PRECAUTIONS ILLUSTRATED IN SECTION 1.3 ALSO ADOPTED DURING MACHINE ASSEMBLY.

The machine can only be scrapped by authorised technicians, as in the case of assembly. Used oil must be disposed off in compliance with the methods indicated in appendix "A".

Metal parts of the lift can be disposed of as scrap ferrous material. In all cases when the machine is scrapped all materials must be disposed in conformity with the laws in force in the country of installation of the machine.

Note also that for tax purposes the effective scrapping of the machine must be documented with reports and forms in compliance with the laws in force in the country of installation.

## APPENDIX B - SPARE PARTS – Lift

#### The replacement of parts and repair interventions require the full observance of ALL SAFETY PRECAUTIONS listed in chapter 6 "Maintenance" and chapter 3 "SAFETY."

Take all necessary steps to **AVOID POWERING UP THE LIFT INADVERTENTLY:**

- the main switch on the control panel must be locked out in position 0;
- the lockout key must be kept by the maintenance fitter for the full duration of maintenance work.

#### ORDERING PROCEDURE FOR SPARE PARTS

To order spare parts:

- specify the serial number and year of construction of your lift;
- specify the part code required (refer to the "codes" column in the tables).
- If in the two last posts of the code there are two "X" (e.g.:B5014XX), that means the part is available in different colours.

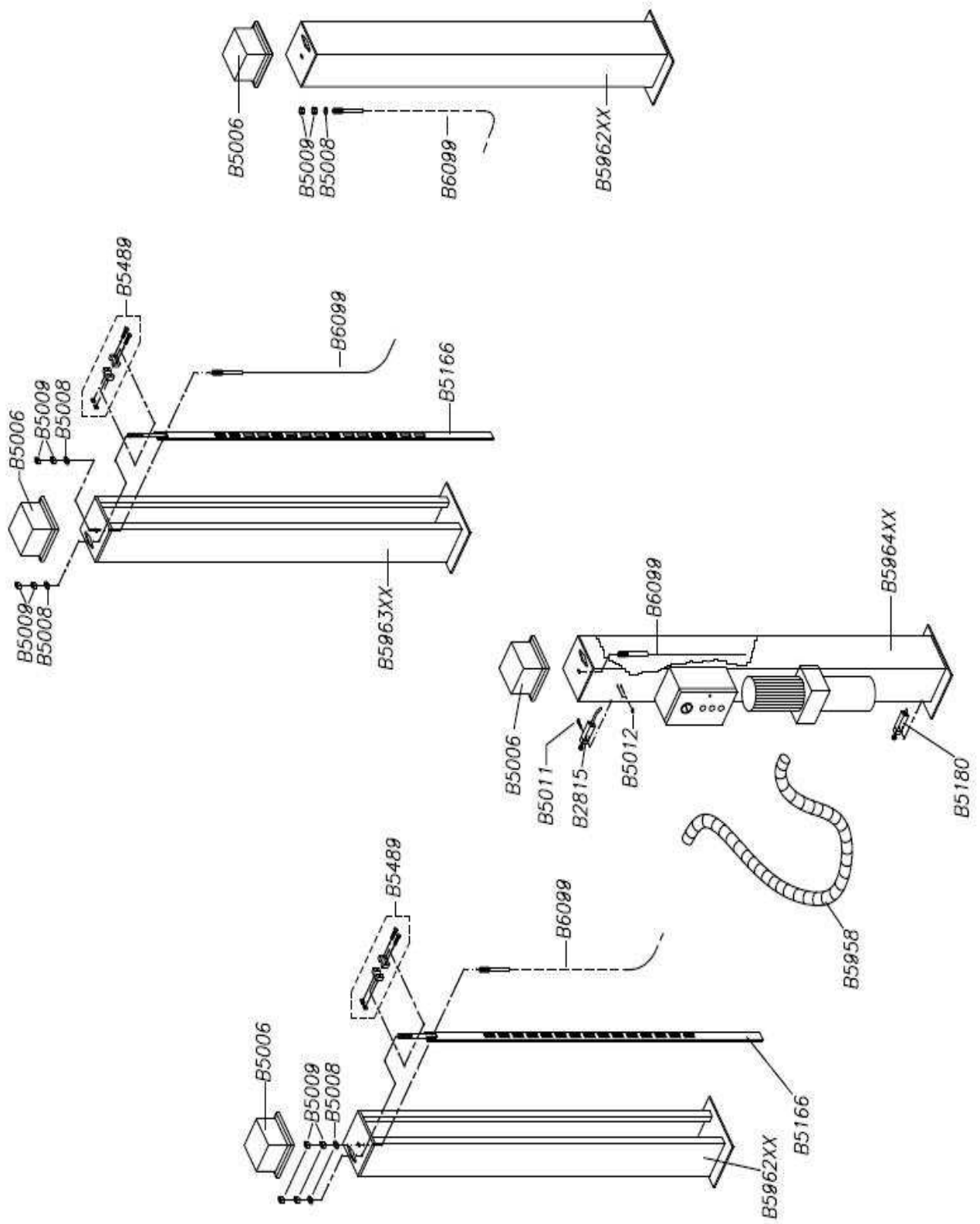
If you want the exact code, just replace "XX" with the colour code given in the table below.

- specify the quantity required.

The order must be made to the equipment supplier

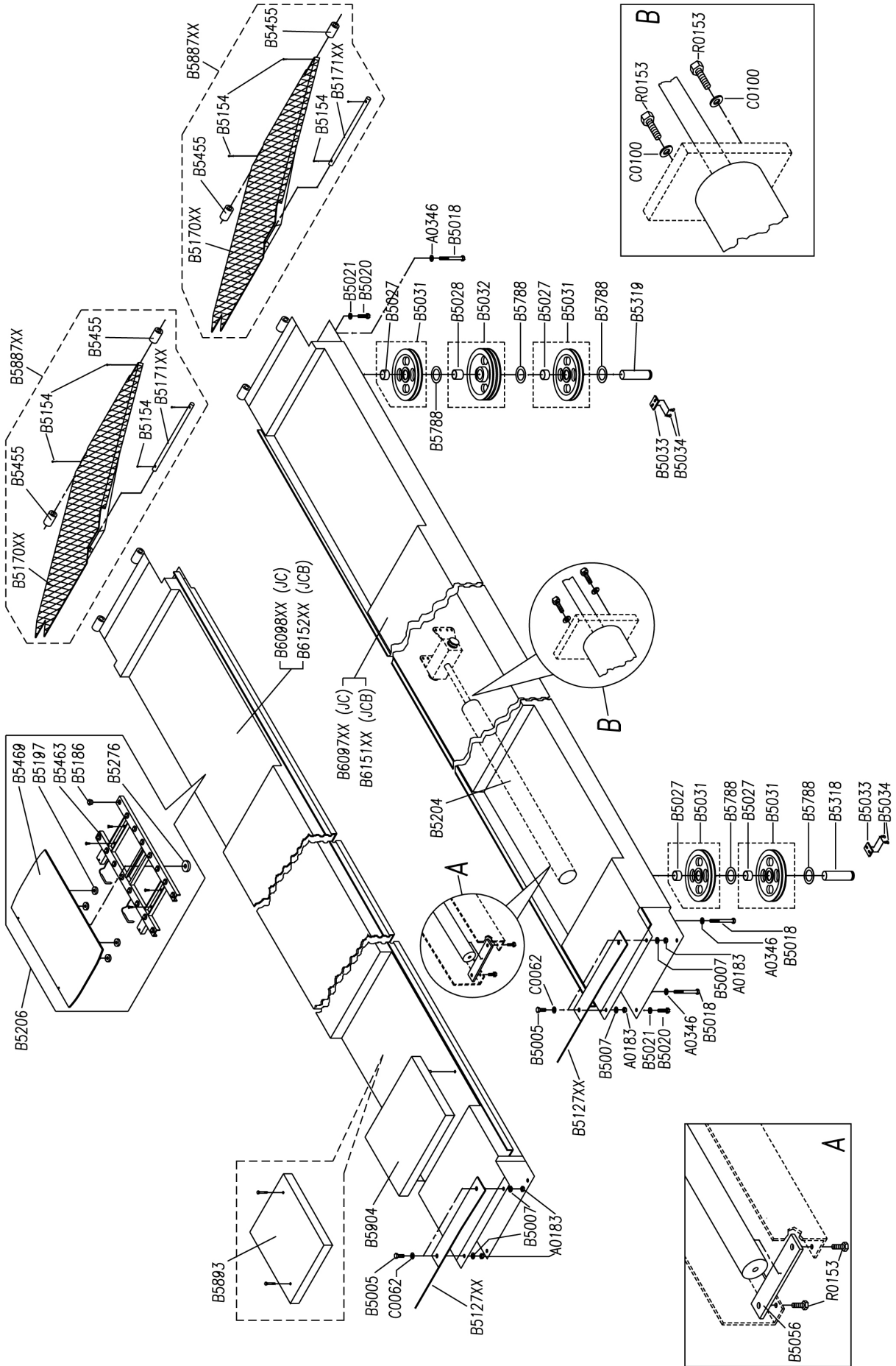
Colour Table			
Code	Colour	Code	Colour
01	Black	13	Violet RAL 4007
02	Red RAL 3002	14	White RAL 9010
03	Antracite	15	Bordeaux red RAL 3005
04	Blue RAL 5010	16	Grey RAL 7000
05	Blue RAL 5015	17	Yellow RAL 1021
06	Yellow RAL 1004	18	Green RAL 6005
07	Grey RAL 7016	19	Blue RAL 5007
08	Yellow RAL 1018	20	Yellow RAL 1007
09	White RAL 9002	21	Grey RAL 7032
10	Grey W	22	Orange RAL 2004
11	Red RAL 3000	23	Blue RAL 5012
12	Green RAL 6018	24	

# POSTS

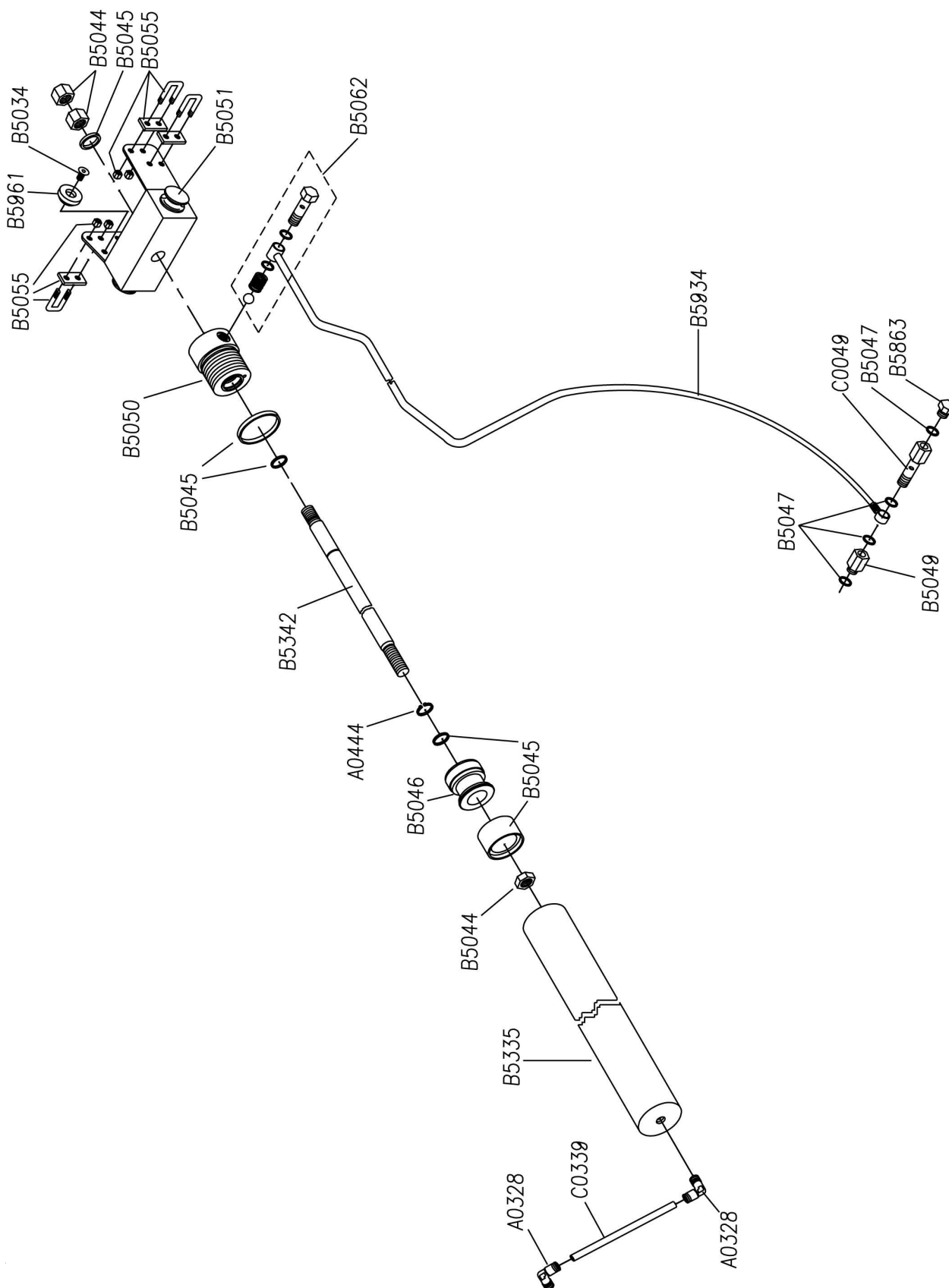




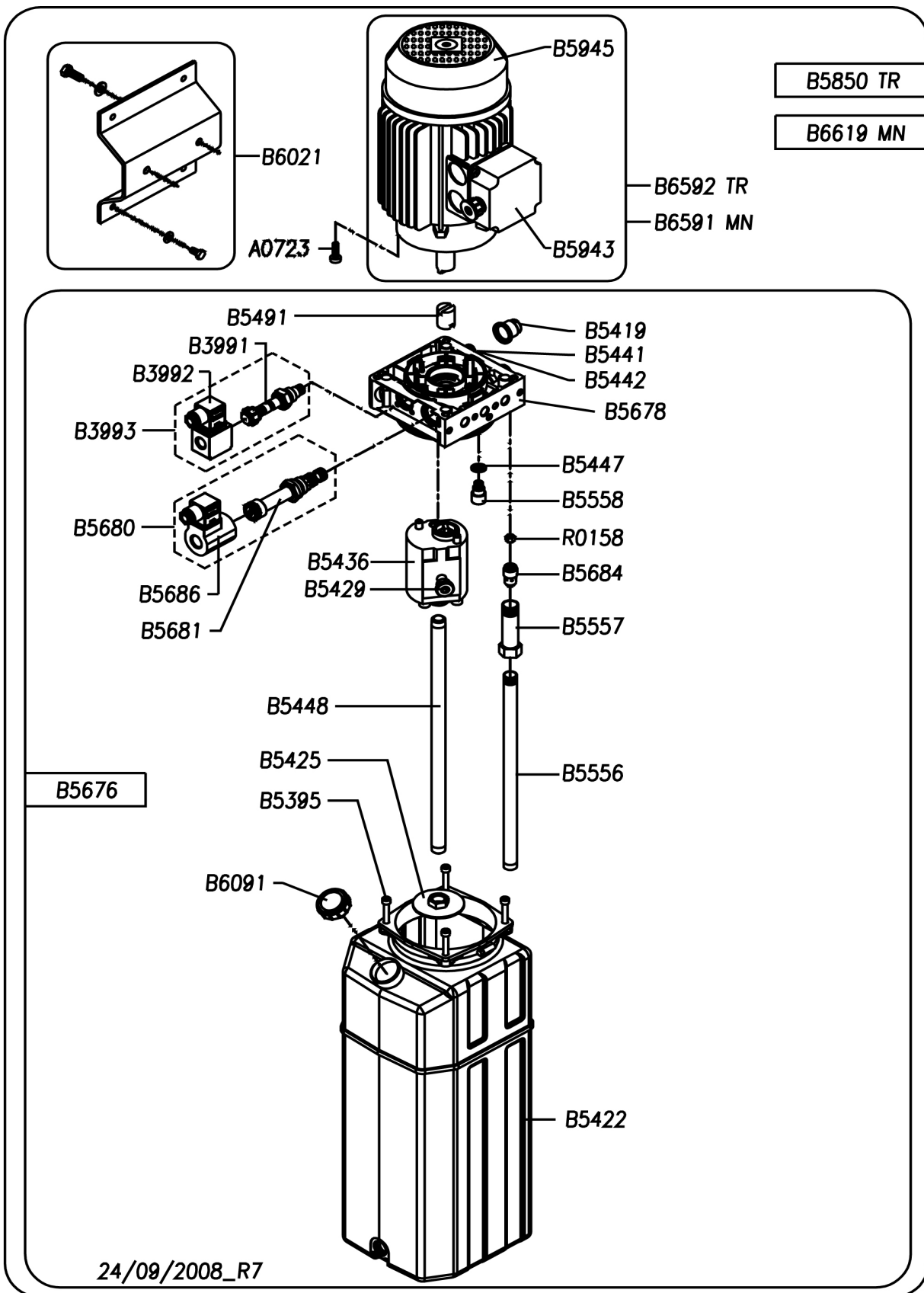
# PLATFORMS



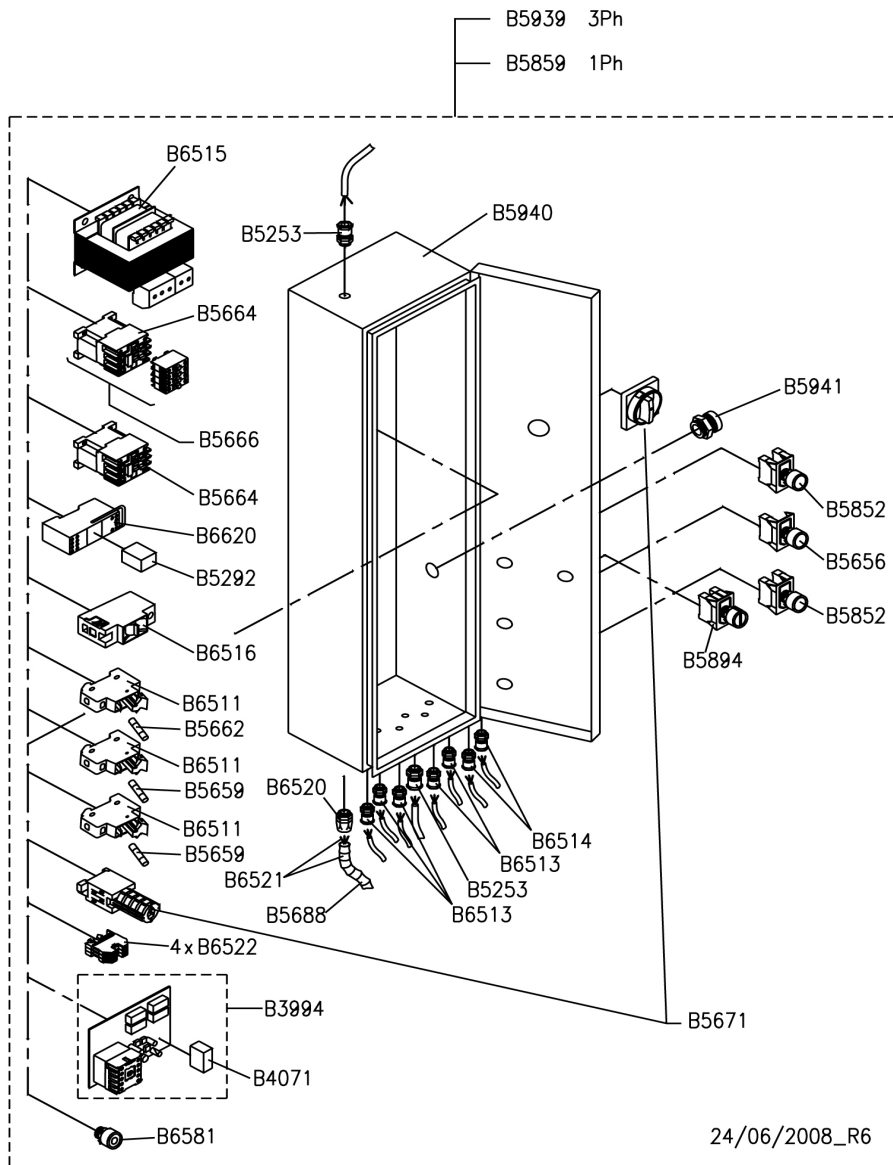
# CYLINDER



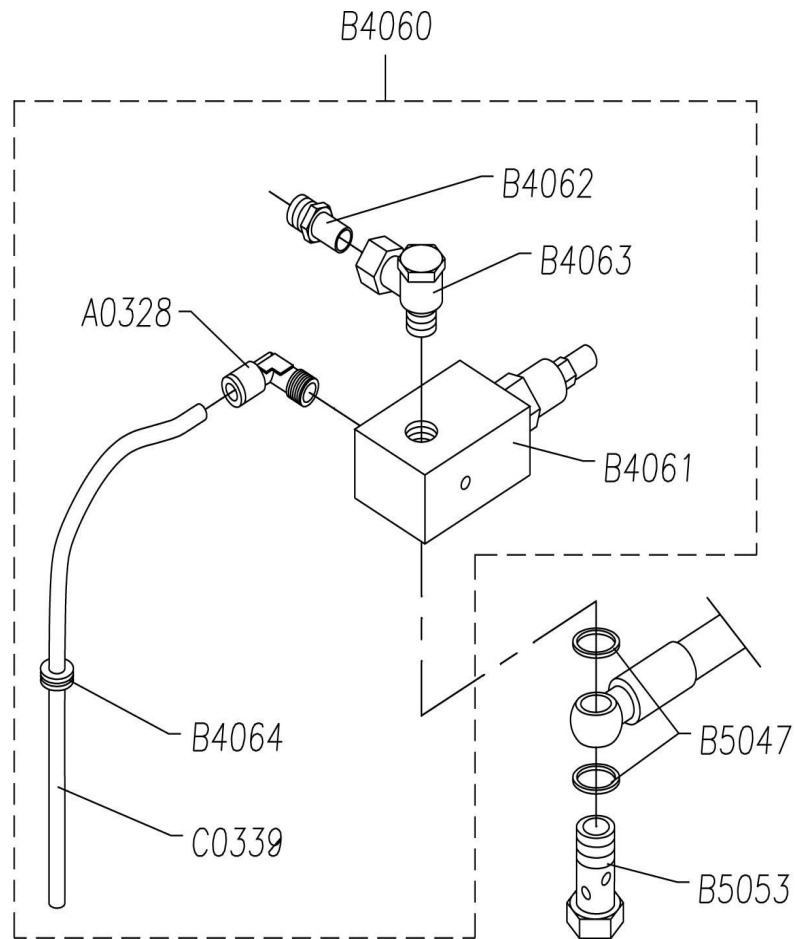
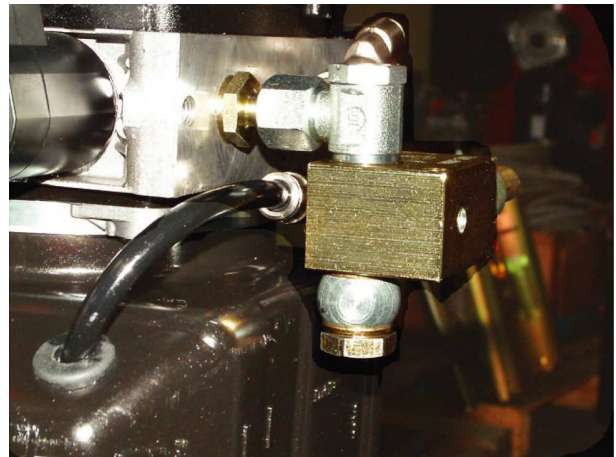
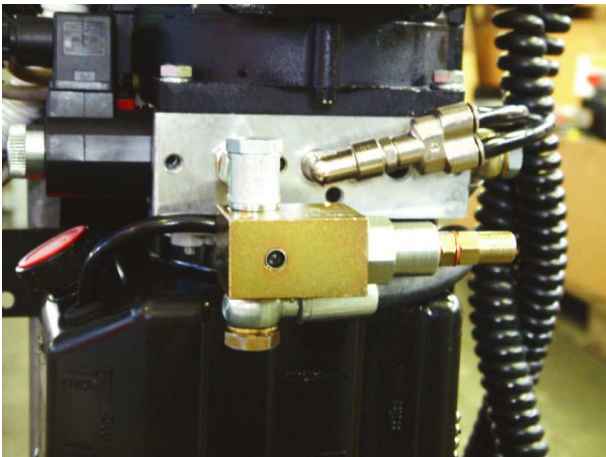
# CONTROL UNIT K3



# CONTROL PANEL



# PLAY DETECTOR PRESSURE REDUCER





Part Code	Sugg	Description
A0183		NUT M10 UNI 5588
A0184		SCREW TE M6X16 UNI 5739
A0185		SNAP RING E18 UNI 7435
A0328		L-SHAPED COUPLING 1/4" M FOR PIPE Ø 8
A0346		WASHER 12 X 24
A0400		SNAP RING E20 UNI 7435
A0444		SEGER E25 UNI 7435
A0723		SCREW TCEI M8X20 UNI 5931
A0900		SCREW M6 X 18 UNI 5933
B2158	*	CONTACTOR LC1K091087 24V 50/60HZ
B2815	*	ASCENT LIMIT SWITCH TYPE PIZZATO FR654
B2843	*	MICROSWITCH TYPE PIZZATO FR 1454
B2846		PULLEY
B3991		VALVE
B3992		COIL
B3993	*	ELECTRO-VALVE
B3994	*	ELECTRONIC BOARD
B4060		COMPLETE PRESSURE REDUCER
B4061		PRESSURE REDUCER
B4062		CONNECTION 10-1/4" TN 126 - 10 LR
B4063		CONNECTION DIN 2353 TN 131 - 10 LR
B4064		RUBBER CABLE CLAMP 11x8
B4071	*	ELECTRONIC BOARD RELAY
B5005		SCREW TE M10 X 25
B5006		PLASTIC COVER
B5007		WASHER 10 X 30 UNI 6593
B5008		WASHER Ø21X37X3 UNI 6592
B5009		NUT M20 UNI 5588
B5011		SCREW M6X35 UNI 5931
B5012		BLANK NUT M5 UNI 5721
B5018		H.H. SCREW M12 X 100 UNI 5737
B5019		OPPOSITE SIDE CROSS PIN
B5020		SCREW TE M12X25 UNI 5739
B5021		WASHER OD Ø12 DIN 6798 A
B5023		OPPOSITE SIDE CROSS PIN
B5027		BUSHING Ø 40 X 44 X 20 MBI - CB85 - 4020
B5028		BUSHING Ø 40 X 44 X 30 MBI - CB85 - 4030
B5031	*	1-RACE PULLEY Ø 230 X 25
B5032	*	2-RACE PULLEY Ø 230 X 31
B5033		PIN STOPPING PLATE
B5034		SCREW TSP6I M8X12 UNI 5933
B5035		MAGNET THE ROD

B5041		RIGHT PIN BOLT
B5045	*	CYLINDER GASKET KIT 09/2006
B5046		PISTON
B5047		GASKET WITH 1/4" SEAL
B5049		EXTENSION
B5050		CYLINDER HEAD
B5051		BEAM
B5053		SCREW 1/4
B5055		CLAMP
B5056		CYLINDER SUPPORT
B5057	*	1-RACE PULLEY 230 X 40+BUSHING
B5059	*	SPACER Ø40 X 9
B5060	*	SPACER Ø40X27
B5061		LIMIT SWITCH ACTUATOR
B5062	*	CYLINDER SAFETY VALVE ASSEMBLY
B5063		LEFT PIN BOLT
B5068		SAFETY PIN Ø16 X 101
B5069		SAFETY ROD PIN
B5070		PIN Ø20 X 101
B5071		CROSSPIECE PULLEY PIN Ø40 X 104
B5074		NUT M5 UNI 5588
B5075		SLIDING PAD
B5076	*	REAR SHOE Ø35 X 17
B5080		ROPE -FEELER THE ROD
B5085		SELF-LOCKING NUT M6
B5087		WEDGE RETURN SPRING
B5088		NUT M8 UNI 7474
B5089XXX		L.C. CROSSBEAM
B5098XXX		L.O. CROSSBEAM
B5108		CABLE CLAMP Ø2.5 MM
B5113		CONTROL SIDE CROSSPIECE 4-POLE TERMINAL BOARD
B5116		BENT TIE ROD
B5117		RIGHT ROPE -FEELER SENSOR
B5119		LEFT ROPE -FEELER SENSOR
B5120		OPERATOR SIDE CROSSPIECE CONNECTOR BLOCK
B5122		CONTROL SIDE CROSSPIECE 2-POLE TERMINAL BOARD
B5124		RIGHT AUXILIARY WEDGE
B5125		LEFT AUXILIARY WEDGE
B5127XX		WHEEL STOP
B5154		ZINC-PLATED COTTER PIN Ø3X40
B5166		SAFETY ROD
B5170XX		RISE RAMP
B5171		HINGE PIN
B5180	*	DESCENT LIMIT SWITCH PIZZATO FR 754
B5186		BALL FOR OSCILLATING PLATES

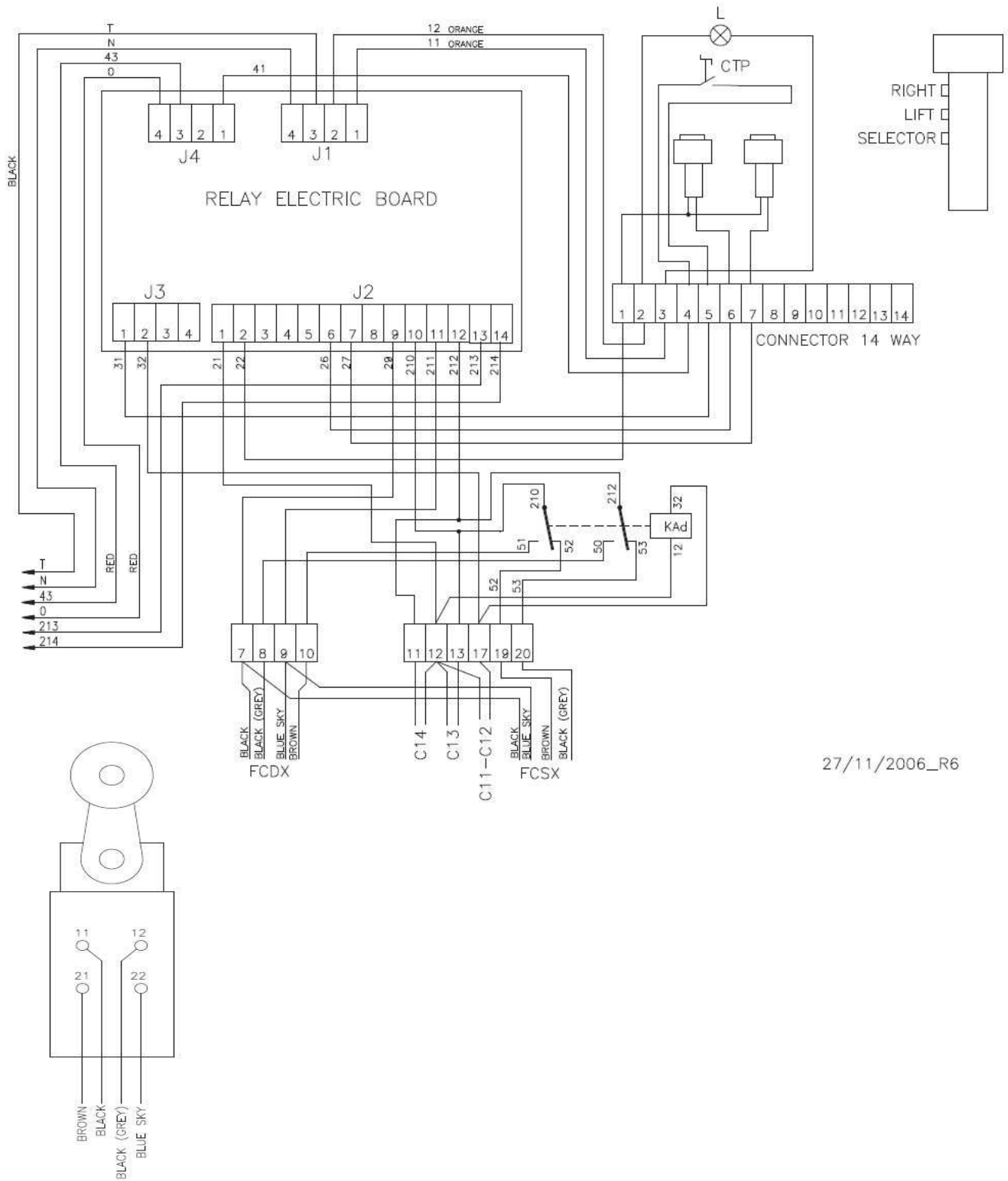
B5191	*	BUSHING Ø 40 X 44 X 40 MBI - CB85 - 4020
B5197		ROLLER
B5204		COMPLETE CYLINDRE
B5206		COMPLETE OSCILLATING PLATE
B5293		PG 13.5 CABLE HOLDER
B5296		LIMIT SWITCH ACTUATOR
B5276		ROLLER
B5292	*	RELAY FINDER 55 34 9.024.0040
B5300		SCREW 3.9X19
B5318		PIN L=92
B5319		PIN L=121
B5335		CYLINDER
B5342		ROD
B5391		SIDE SLIDING PAD SUPPORT
B5395		TANK FASTENING KIT
B5414		SRING
B5422		TANK
B5425		AIR FILTER
B5428		WASHER
B5429		PLUG
B5434		PLUG
B5436		PUMP
B5441		CHECK VALVE
B5442	*	MAX. PRESSURE VALVE15 80-250BAR
B5447		WASHER
B5448		DRAINPIPE
B5455		BALANCE RAMP ROLLER
B5459		RIGHT ROPE -FEELER SENSOR
B5460		LEFT ROPE -FEELER SENSOR
B5463		LOWER FRAME FOR ALIGNMENT
B5469		SUPERIOR FRAME FOR ALIGNMENT
B5484XX		CROSSPIECE CASING
B5485XX		CROSSPIECE CASING
B5489		SINGLE COLLAR BODY D19
B5491		CONNECTING PUMP K3
B5556		DRAINPIPE
B5557		STUND BOLT F-F 3/8" H=120
B5558		STUND BOLT M12x1
B5566	*	PUSH BUTTON
B5659	*	FUSE
B5662	*	FUSE
B5664		CONTRACTOR
B5666	*	CONTRACTOR
B5671	*	SWITCH LA2-12-1754+LF52-N-6-
B5676		GEARCASE
B5678		MANIFOLD
B5680		3 WAY COMPLETE ELECTRO-VALVE
B5681		VALVE
B5684		VALVE
B5686		COIL
B5688		SHEATH Ø20MM DIFLEX
B5788	*	NYLON WASHER
B5850		GEARCASE 230/400V 50Hz 3Ph

B5852	*	PUSH BUTTON
B5859		COMPLETE CONTROL PANEL 230V -1Ph
B5863		PLUG
B5887		COMPLETE LEFT RAMPKIT
B5893		PLUGGING ELEMENT
B5894		SELECTOR 3 POS.+2CONT. N.O. + 1 CONT. N.C.
B5904		PLUGGING ELEMENT
B5931		SCREW M12X100 UNI 5739
B5934	*	OIL DELIVERY HOSE
B5939		COMPLETE CONTROL PANEL 230/400V -3Ph
B5940		BOX
B5941		TORCH CONNECTION
B5943		MOTOR TERMINAL BOARD COVER
B5945		MOTOR AIR-CONVEYOR
B5958		SPIRAL FOR HOSES
B5961		SLIDING PAD
B5962XX		POST 2 - 4
B5963XX		POST 3
B5964XX		POST 1: CONTROL
B5983	*	ELECTROMAGNET E0425 2AVCC
B6021		SUPPORT BRACKER KIT
B6091		TANK PLUG
B6097XX		COMMAND SIDE PLATFORM JC
B6098XX		SERVICE SIDE PLATFORM JC
B6099		ROPE
B6151XX		COMMAND SIDE PLATFORM JOB
B6152XX		SERVICE SIDE PLATFORM JOB
B6163XX		MAGNET PROTECTION CRANKCASE
B6511		FUSE CARRIER 10X38 WIMEX PCH10X38
B6513		CABLE CLAMP GEWISS PG9
B6514		CABLE CLAMP GEWISS PG11
B6515	*	TRANSFORMER
B6516	*	MAGNET SWITCH SIEMENS QS20A
B6520		SHEATH HOLDER GEWISS Ø20MM
B6521		SHEATH Ø20MM DIFLEX WITH CABLES
B6522		TERMINAL SPRECHER VU4-4
B6581	*	SIREN
B6591		MOTOR B14 230V 50HZ 2.2KW-K3 1Ph
B6592		MOTOR B14 230-400/50T 3KW 4CO.K3 3Ph
B6619		GEARCASE 230V 50Hz 1Ph
C0043		SCREW TE M6X10 UNI 5739
C0049	*	SPECIAL SCREW 1/4

C0061		SCREW TE M8X10 UNI 5739
C0062		WASHER Ø10 5X21
C0099		SCREW M6X20 - 8.8
C0100		WASHER Ø8 4X17 UNI 6592
C0339		RILSANI HOSE D8X6
C0617		WASHER Ø6 4X12.5 UNI 6592
C0661		NUT M5 UNI 5587
R0046		NUT M12 UNI 5588
R0153		HH SCREW M8X25 UNI 5739
R0158		NUT M8 UNI 5588
R2497		RETAINING RING E16 UNI 7435
Z_RICAMBI		* = RECOMMENDED SPARE PARTS

# SPARE PARTS – Part 2 PLAY DETECTOR

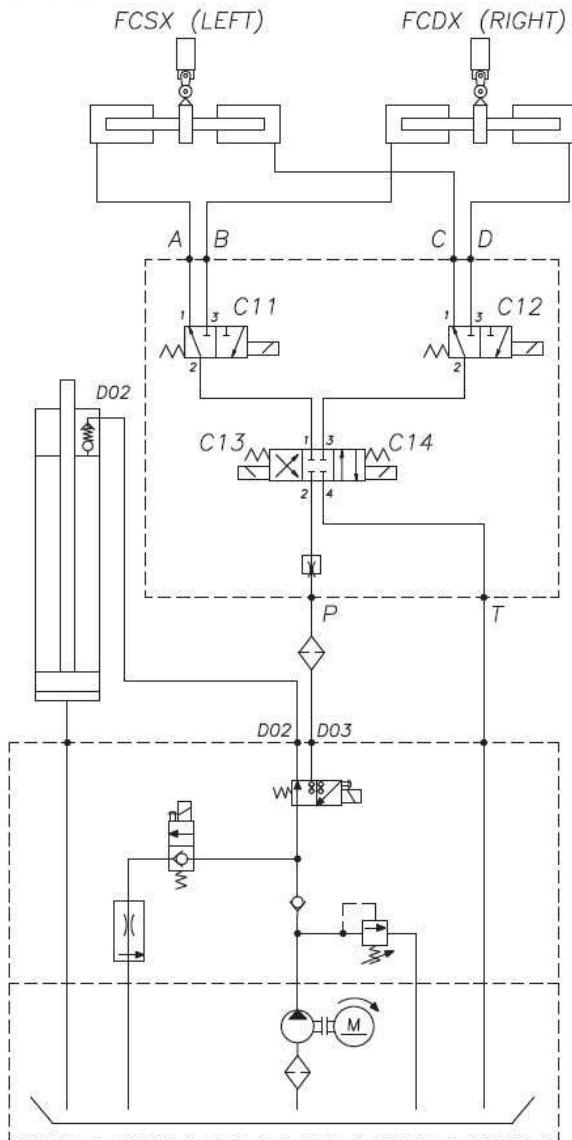
## WIRING DIAGRAMS AND HYDRAULIC



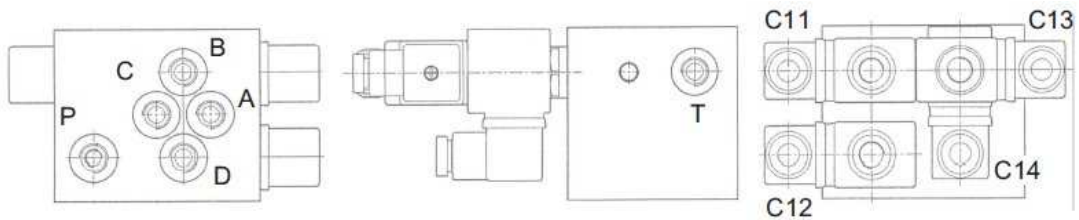
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# SPARE PARTS – PLAY DETECTOR

## HYDRAULIC CIRCUIT DIAGRAM



FCDX	Microswitches
FCSX	Microswitches
C11	Solenoid valve
C12	Solenoid valve
C13	Solenoid valve
C13	Solenoid valve







Part Code	Sugg.	Description
A0328		"L" MALE CONNECTION G1/4" Ø8
A0346		WASHER 12 X 24 UNI 6592
A1420		SCREW 6X12 8.8 UNI 5739
B0030		SCREW TE M8X16 UNI 5739
B0386		SCREW M8X40 UNI 5739
B3081		1/4" NIPPLES
B3873XX		LEFT SHEET PLAYDETECTOR
B3874XX		RIGHT SHEET PLAYDETECTOR
B3875		LEFT FLOWING PLATE
B3876		RIGHT UPPER COVER
B3878	*	WASHER SLIDING
B3899	*	COMPLETE ELECTRO-VALVE
B3900	*	COMPLETE ELECTRO-VALVE
B3912		CYLINDER
B3913	*	CYLINDER GASKET KIT
B3914	*	COMPLETE MANIFOLD
B3924		WASHER Ø12X36 UNI 6592
B3925	*	MICROSWITCH TYPE PIZZATO FR 1115-1
B3926	*	PRIMARY HOSE
B3927	*	A HOSE
B3928	*	B HOSE
B3929	*	D HOSE
B3931		LEFT UPPER FLOWING COVER
B3932		HOSE CASING
B3933	*	SLIDE PAD
B3934		MICROSWITCH SUPPORT
B3935		MANIFOLD SUPPORT
B3937	*	SOLENOID VALVE COIL
B3940	*	ELECTIC CABLES KIT
B3966		PROFILE
B3972		LEFT UPPER FIXED COVER
B3973		LEFT FIXED PLATE
B3974		WASHER
B3978		COMPLETE RIGHT PLAY DETECTOR PLATE
B3979		COMPLETE LEFT PLAY DETECTOR PLATE

B3984	*	SCREW M8X8 UNI 5923 WITH HOLE Ø0,8
B4019	*	COMPLETE HANDLAMP
B4052	*	OIL FILTER
B4065	*	ELECTRIC CABLE
B4066XX		HANDLAMP COUPLER
B4077	*	GRASS WITH LEDS
B4078		LAMP BOARD
B5034		SCREW M8X12 UNI 5933
B5047		GASKET WITH 1/4" SEAL
B5088		NUT M8 UNI 7474
B5112		CONNECTOR BLOCK
B5122		TERMINAL BOARD
B5488		DOUBLE COLLAR BODY 1/4
B5651	*	RECOVERY PIPE
B5849		QUICK "Y" CONNECTION M1/4"-Ø8 S6450
B5956	*	VALVE V3DS-2P
B5957	*	VALVE V3DS-3P
C0098		SCREW M8X20 UNI 5739
C0100		WASHER Ø8,4X17 UNI 6592
C0617		WASHER Ø6,4X12,5 UNI 6592
R0153		SCREW M8X25 UNI 5739
R0311		SCREW 5X30 UNI 5931
R2334		SCREW M6X8 UNI 5931
R2499		SCREW M12X20 UNI 5739
R3034		"L" CONNECTION M/M 1/4"
Z_RICAMBI		* = RECOMMENDED SPARE PARTS

## **AFTER SALES SERVICE**

Apart from the routine maintenance and adjustments stipulated in this manual the equipment must not be tampered with in any way. All further servicing must be carried out only by an engineer from our Authorised Agents. Failure to observe these conditions will invalidate the Guarantee.

On-Site Service / Overhaul / Spare Parts

### **UK Customers**

If you require a Service Engineer to attend ON SITE within the UK for any of the following reasons:

- An Equipment fault
- For machine calibration
- You need spare parts
- Equipment covered by this manual requires returning for factory overhaul

Please contact our Product Support Helpline at the following numbers:

- Tel: 0844 665 7610
- Fax: 0844 665 7604
- Email: [support@cryptontechnology.com](mailto:support@cryptontechnology.com)

Crypton provide information and contracts covering the following:

Car Data; Fault Code Information; Diagnostic Information; Software Support Contracts; Software Updates & Accessories

### **Overseas Customers**

Service outside the UK is provided by the agent from whom your equipment was purchased.



## Disposal of equipment

- Do not dispose of this equipment as miscellaneous solid municipal waste but arrange to have it collected separately.
- The re-use or correct recycling of electronic equipment (EEE) is important in order to protect the environment and the wellbeing of humans.
- In accordance with European Directive WEEE 2002/96/EC, special collection points are available for the delivery of waste electrical and electronic equipment.
- The public administration and producers of electrical and electronic equipment are involved in facilitating the processes of the re-use and recovery of waste electrical and electronic equipment through the organisation of collection activities and the use of appropriate planning arrangements.
- Unauthorised disposal of waste electrical and electronic equipment is punishable by law with appropriate penalties.



## Disposal of batteries

- Batteries must be recycled or disposed of properly.
- Do not throw batteries away as part of normal refuse disposal.
- Do not throw batteries into open flame.

