

SICE
AUTOMOTIVE EQUIPMENT



PSR 43 CT LT

SOLLEVATORE A FORBICE ELETTRIDRAULICO
ELECTRO-HYDRAULIC SCISSOR LIFT
ÉLÉVATEUR À CISEAUX ÉLECTROHYDRAULIQUE
ELEKTROHYDRAULISCHE SCHERENHEBEBÜHNE
ELEVADOR A TIJERA ELECTROHIDRÁULICO



MANUALE ISTRUZIONI	3
INSTRUCTION MANUAL	56
MANUEL D'INSTRUCTIONS	109
BETRIEBSANLEITUNG	163
MANUAL DE INSTRUCCIONES	215



TRANSLATION OF ORIGINAL INSTRUCTIONS

INDEX

TECHNICAL DATA	57
LIFT	57
PLAY DETECTOR TECHNICAL DATA	59
LIFT MODEL DESCRIPTION	59
LIFT IDENTIFICATION DATA	60
INTENDED USE	60
GENERAL SAFETY REGULATIONS	62
TRANSPORT	62
UNPACKING	63
INSTALLATION AREA	63
INSTALLATION	64
ELECTRICAL HOOK-UP	70
SAFETY DEVICE SPECIFICATIONS	72
OPERATING PROCEDURES	74
COMMISSIONING	78
ROUTINE MAINTENANCE	78
LIFT USAGE	80
PLAY DETECTOR USAGE	81
EMERGENCY PROCEDURES	84
LAY-OFFS	87
SCRAPPING	87
RECOMMENDED FIRE EXTINGUISHING EQUIPMENT	88
INFORMATION AND WARNINGS ABOUT HYDRAULIC FLUID	88
PROBLEM-SOLVING AND TROUBLESHOOTING	89
COMMISSIONING PROCEDURE	93
PNEUMATIC SYSTEM DIAGRAM FOR CT LT	94
HYDRAULIC SYSTEM DIAGRAM	98
CALIBRATION (ONLY INSTALLATION TECHNICIANS)	106

TECHNICAL DATA

LIFT

Fig. 1

MAIN LIFT

- maximum power	4300 kg
- runway length	4650 mm
- runway width	630 mm
- distance between runways.....	800 / 1020 mm
- raising time	45 s
- lowering time	53s
- raising time ("FAST" version)	22s
- descent time with load ("FAST" version)	30s
- oil tank capacity.....	15 l
- compressed air supply	6-10 bar
- motor power.....	2.6 kW
- motor power (" <u>FAST</u> " version)	5.5kW
- lift weight	
• LT PD2 / LT PD2 FAST.....	2,595 kg
• LT / LT FAST.....	2,495 kg
- floor flatness	3 mm/m
- contact area of base	7300 cm ²

Technical specifications of fixing devices

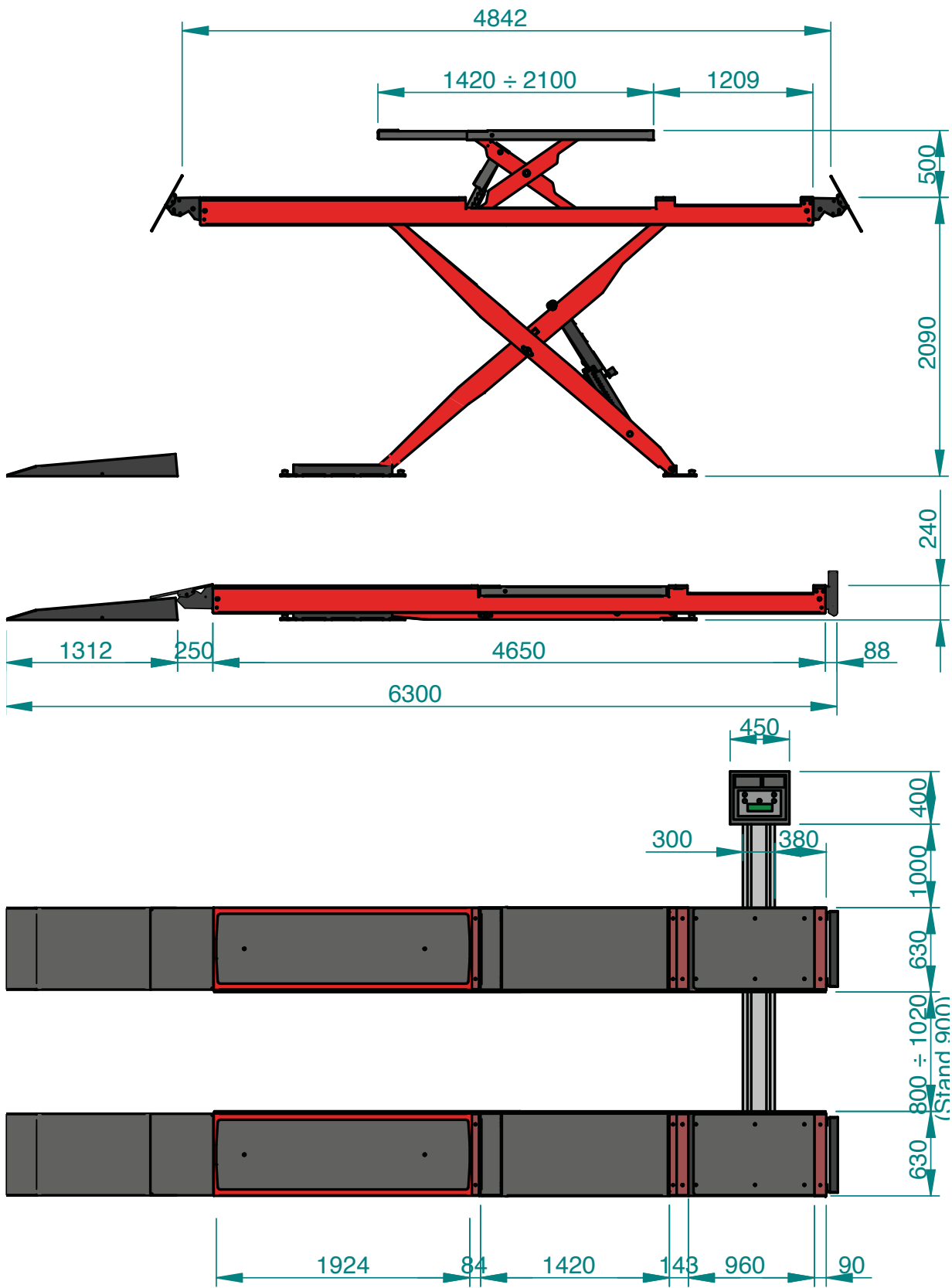
- type	mechanical
- length	133 mm
- hole diameter	Ø 12 mm
- thread diameter	M8
- allowable traction load on concrete of class B25	390 kg
- weight of the electrical/electronic components	10 kg
- absorbed power	2.8 kW
- absorbed power ("FAST" version)	5.7 kW
- power supply	
•	400 V - 3 ph - 50/60Hz
•	230 V - 3 ph - 50Hz
- noise measured in operator's working position standard version.....	76.9 db (A)

BUILT-IN FREE-WHEEL LIFT TABLE (LT)

- maximum power.....	3500 kg
- runway length	1420 mm
- runway length with extension	2100 mm
- runway width.....	630 mm
- distance between runways.....	800 / 1020 mm

IMPORTANT

The most complete version of the vehicle lift is always depicted in the figures



PLAY DETECTOR TECHNICAL DATA

Mobile plate size	570x355 mm
Plate diagonal stroke	65 mm
Longitudinal / transverse stroke	46 mm
Single plate translation force	7,000 N
Hydraulic operating pressure	150 bar
Maximum load per axle	25,000 N
Halogen lamp	12V / 20 W

Work environment conditions

	min	max
Operating temperature	0°C	45°C
Humidity range	57/95% to 40°C	

LIFT MODEL DESCRIPTION

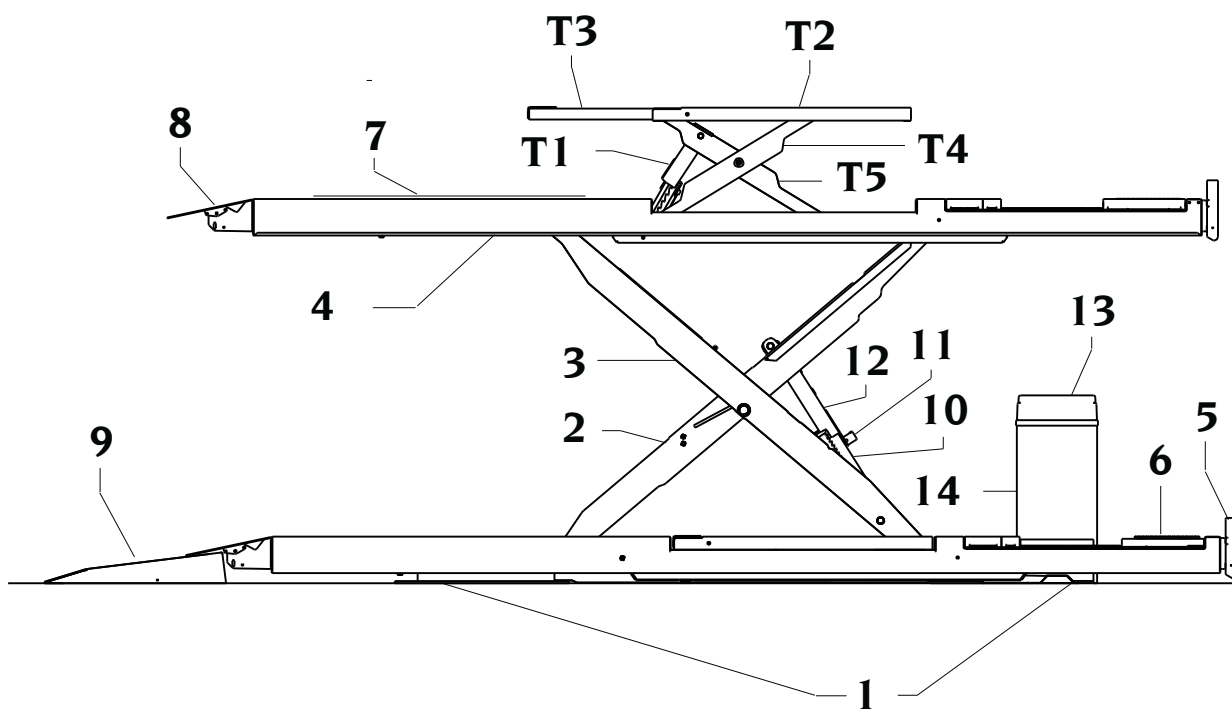
Fig. 2

Main lift components

- 1 Base
- 2 Inside scissors element
- 3 Outside scissors element
- 4 Runway structure
- 5 Vehicle stop barrier
- 6 Play detector (version with PLAY DETECTOR only)
- 7 Slip plates
- 8 Flap
- 9 Fixed up-going ramp
- 10 Mechanical safety device
- 11 Pneumatic cylinder for safety device release
- 12 Hydraulic cylinder
- 13 Control unit controls cover
- 14 Control unit

Components of built-in free-wheel lift table

- T1 Hydraulic cylinder
- T2 Runway
- T3 Pull-out extension
- T4 Outside scissors element
- T5 Inside scissors element



LIFT IDENTIFICATION DATA

A complete description of the LIFT MODEL and SERIAL NUMBER and any ACCESSORIES fitted will simplify service by our after-sales service.

For greater clarity, remember that the following information about your lift will be found on its nameplate:

Lift type

Serial number:

Capacity max. kg

Power supply voltage

Max. power absorption A

Motor power kW

Phases

Frequency Hz

INTENDED USE

This operator's manual forms an integral part of the product: if the lift is sold on, all the documentation must accompany it.

Read the warnings and instructions in this manual carefully; they supply important information concerning **SAFETY IN USE** and **MAINTENANCE**.

KEEP THIS MANUAL IN A SAFE PLACE FOR FURTHER REFERENCE

This product has been designed to be used as a lifting device for cars and light transport vehicles up to a maximum weight of 4300 Kg.

For rear wheel alignment, the lift is equipped with slip plates adjustable in three directions, transverse, longitudinal and diagonal, to allow all the movements necessary for the adjustments.

The lift is effectively used also for maintenance and repairing operations and for the vehicle testing lines by means of the play detector bench; the play detector bench is hydraulically controlled by the same lift control unit.

The design specifications of this lift make it suitable for use indoors and outdoors sheltered under a roof.

The load must be distributed over the runways in accordance with the regulations in force which, for lifts having maximum capacity in excess of 3000 kg, stipulate 1/3 at the front and 2/3 at the rear or vice-versa, with the vehicle's wheels placed at least 300 mm from the end of the runway.

Therefore the maximum useful load fraction, 2866 kg per axle of the vehicle corresponding to 2/3 of the maximum capacity, must absolutely never be exceeded, as this may impair the stability and thus the intrinsic safety of the lifting device. For the same reason, load differences between the two runways must not exceed 10%;

example: left hand runway 2,250 Kg, right hand runway 2,750 kg.

IMPORTANT: for correct, safe use of the equipment, users must ensure a lighting level of at least 300 lux in the place of use.



Never use the lift for washing cars.



Use of the machine in potentially explosive atmospheres is forbidden.



Never lift even very light loads on one runway only, as the lift might become dangerously unstable.



The lift may not be used in any working condition not specifically envisaged in this manual. In particular, lifting people is absolutely forbidden.

The manufacturer cannot be held responsible for any damage caused by improper, incorrect or unreasonable uses.



Never use the lift for lifting rail vehicles.

GENERAL SAFETY REGULATIONS

This equipment is for professional use only.



WARNING

Only one operator may work with the equipment at a time.

The lift must only be used by specifically trained, authorised staff.

Any tampering with or modification of the equipment not authorised in advance by the manufacturer relieves the latter of responsibility for damage deriving from or due to such procedures.

Removal of or tampering with the safety devices constitutes a violation of European Regulations on safety. The manufacturer therefore declines all liability deriving from tampering with these devices.

- The machine may only be used in places free from explosion or fire hazards.
- Original accessories must be used. Our machines are designed to take original accessories.
- Installation must always be carried out by qualified staff in full accordance with the instructions given below.
- Make sure there are no risky conditions while the equipment is being operated: in case of malfunctioning, stop the machine at once and consult the technical support service of the authorised dealer.
- Standing underneath the vehicle during raising and lowering is forbidden.



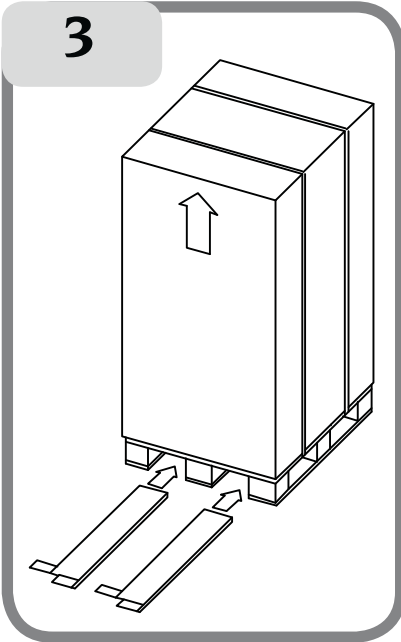
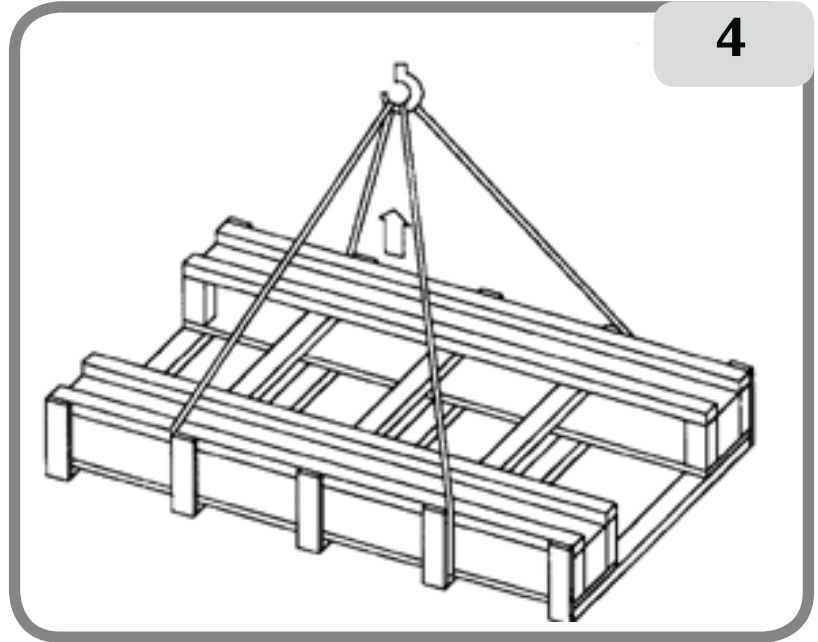
WARNING

Even minor work on the electrical system must be done by professionally qualified staff (see specific legislation on this subject).

TRANSPORT

The machine, in its packaging, must be transported in accordance with the instructions provided below:

- Protect the control unit from exposure to the weather and ensure that it is not subjected to substantial variations in temperature. Since it is in its packaging, it must be handled with a pallet truck or fork-lift truck, inserting the forks in the points shown in figure 3.
- As the lift structure is of considerable size, it is packaged with a wooden structure which allows slinging with suitable slings. Never use steel ropes. The positions of the slings and the hook are indicated in figure 4. For correct lifting, with the slings taut the hook should be at least 2.5 m from the packaging.

3**4**

UNPACKING

After removing the packaging make sure that the equipment's various components are undamaged, by checking that there are no visibly damaged parts (control unit, lift structure). In case of damage **do not use the equipment (the lift)** and contact professionally qualified staff (your dealer).

The packaging materials (plastic bags, expanded polystyrene, nails, screws, pieces of wood, etc....) must not be left within reach of children since they are potential sources of danger.

Consign these materials to the specific collection centres if they are pollutant or not biodegradable.

INSTALLATION AREA

The machine installation requires a usable space of min. 4,060 x 7,760 mm (fig.5).

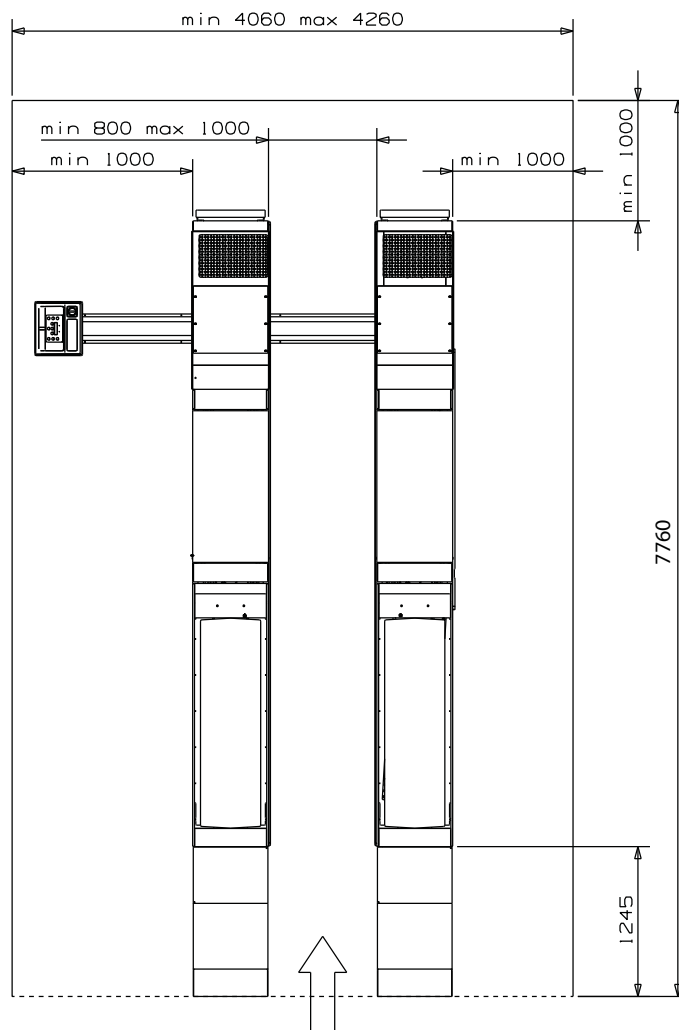
From the control position the operator has a clear view of the entire lift and the surrounding area. The operator must not let any unauthorised person enter this area, and must ensure that it is clear of potentially hazardous objects.

Do not install on loose or unstable surfaces.

The surface on which the lift is installed must withstand the loads transmitted during operation.

This surface must have a capacity of at least 25 kg/cm² and a resistance class of 250R'bk.

The lift contact zones to the floor must be levelled.



Work environment conditions

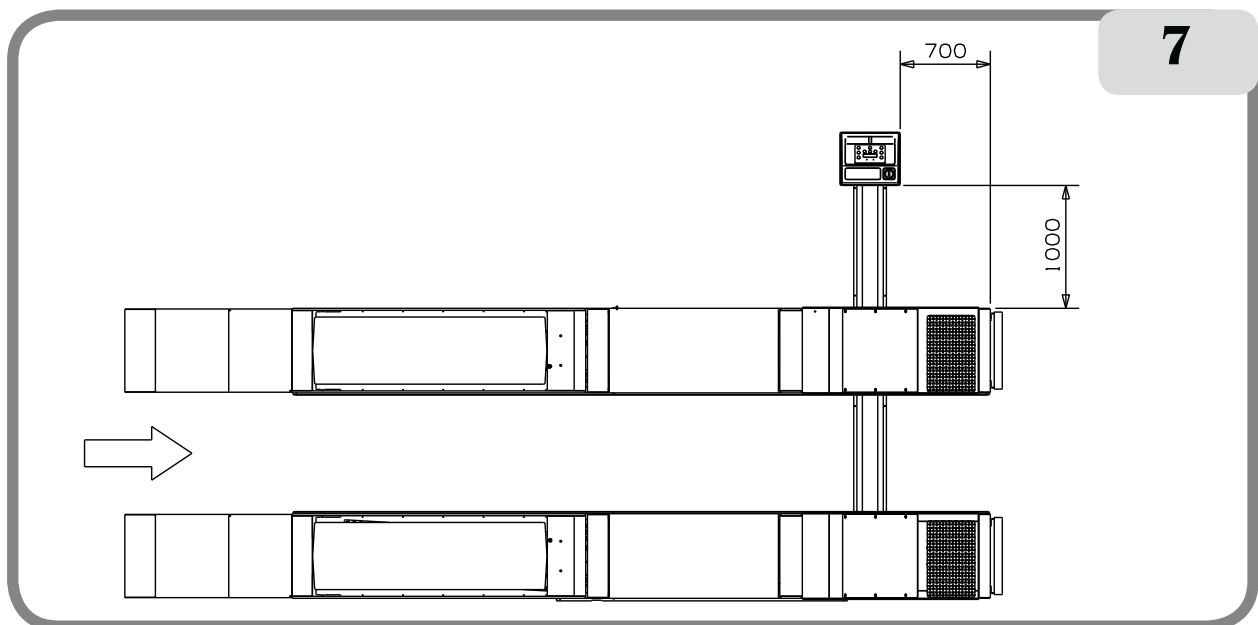
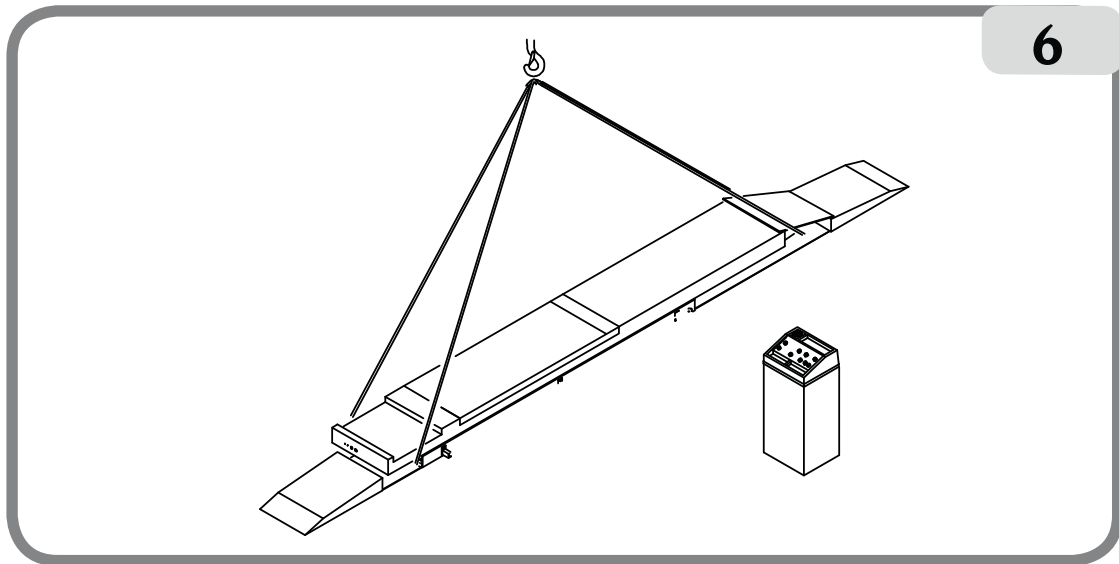
- Relative humidity: from 30% to 95% without condensation.
- Temperature range: from 0°C to 40°C.

INSTALLATION

After unpacking, position the parts ready for assembly. During the handling phase, necessary to find the right positioning of the lift on the ground, suitable slings or chains must be used (fig. 6).

Once the exact position of the lift has been established place the control unit. The standard positioning is the one shown in figure 7, with the control unit on the left of the lift and its control panel oriented on the other side of the lift. This will allow the operator a good view of the whole working area.

The positioning distances are shown in figure 7, assuming as reference the front left corner of the runway.



Procedure for fitting the dowels

The lift must be fixed to the floor; for this operation, the following devices are necessary:

1. Hammer drill for drilling concrete, with 12 mm bit.
2. 16 FISCHER expansion plugs for heavy fixing duty, type FH II 12/50 H (or equivalent model produced by other manufacturers).
3. Torque wrench with maximum setting at least 25 Nm.

Make sure that the concrete belongs to a R_{bk} resistance class greater than 250 kg/cm² to a minimum depth of 140 mm.

Proceed as follows:

- Drill with bit $\varnothing = 12$ mm to a depth of 120 mm.
- Clean the hole.
- Tap the expansion plugs into the hole with a hammer.
- Tighten the bolts with a torque wrench, set at 25 Nm (if this value cannot be obtained, the hole is too large or the concrete is not sufficiently solid).



WARNING

Any damage deriving from failure to follow the instructions given above cannot be charged to the manufacturer and may cause the warranty to become null and void.



WARNING

When choosing the installation site, current regulations on safety at work must be complied with.



WARNING

The vehicle lift may only be installed indoor or covered locations protected from the weather.

- IN THE CASE OF RECESSED INSTALLATION, USE THE DOCUMENTATION SUPPLIED BY THE MANUFACTURER AS REFERENCE FOR THE PIT.

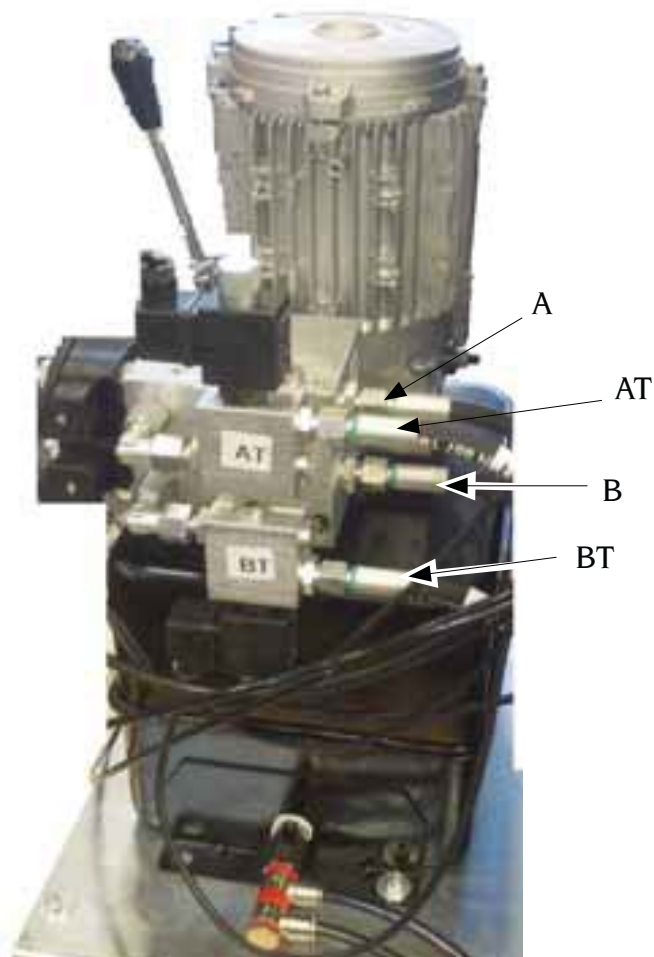
Hydraulic system connection

Proceed as follows to connect the lift hydraulically to the control unit:

1. Remove the control unit door by unscrewing the 4 fixing screws
2. Remove the protective cover
3. Extract the hydraulic pipes under the main lift runways.
4. Remove the hydraulic plugs from the hydraulic control unit unions.
5. Connect the hydraulic lines to the control unit, matching the numbers on the lines correctly with the numbers indicated in figure 8, and tightening correctly.
6. Connect the fluid recovery lines R (figure 8_1).

N.B.: When all the pipes R have been connected, open the cock A (fig.8_1).

8



UK

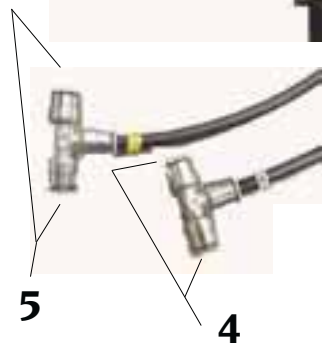


Compressed air connection

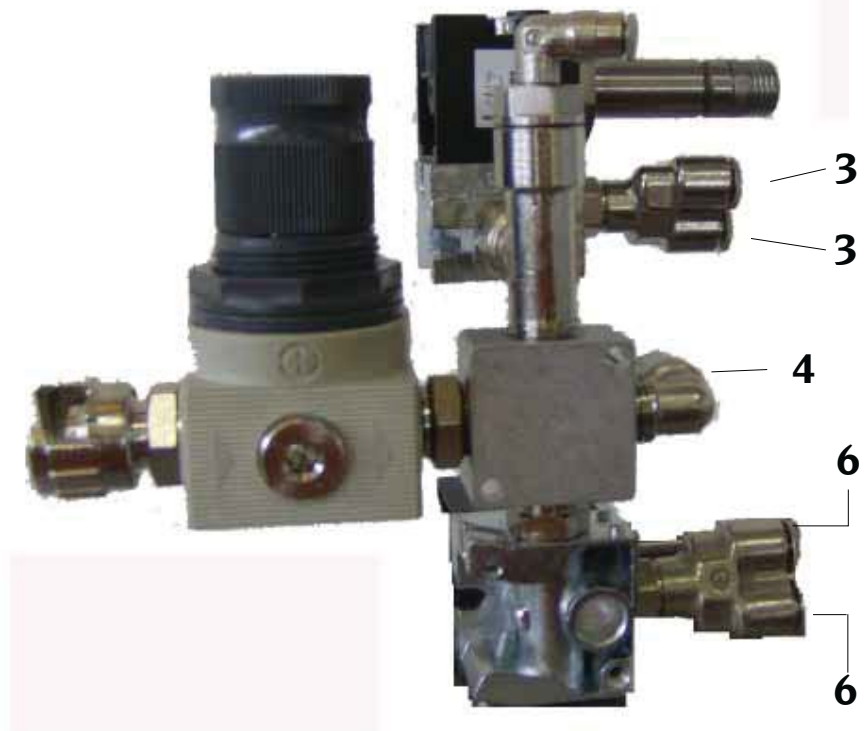
Proceed as follows to connect the lift pneumatically to the control unit:

1. Remove the control unit door by unscrewing the 4 fixing screws.
2. Extract the pneumatic pipes under the main lift runways.
3. Connect the pneumatic pipes to the pressure regulator, by following the numbers indicated in figure 9.
4. Connect the compressed air supply to the screw connection provided, shown in figure 9.

9



COLLEGARE I TUBI RYLSAN DEI CILINDRI
PIANI OSCILLANTI



ELECTRICAL HOOK-UP

The procedure for connection of the electrical system comprises the following phases:

- Connecting to the electricity mains
- Connecting position sensor transducers (potentiometers)
- Connecting the lighting system (if any).

Note. For simplicity, the position sensor transducers are referred to in this manual as “POTENTIOMETERS”

Connection to the mains



WARNING

All operations required for the electrical hook-up of the machine to the power supply network must be carried out exclusively by qualified personnel.

- The electrical hook-up must be performed according to:
 - the electrical power absorbed by the machine, specified in the machine data plate provided;
 - the distance between the machine and the electric hook-up point, so that voltage drops under full load do not exceed 4% (10% when starting up) of the rated voltage specified on the data plate.
- The user must:
 - fit a plug that respects the current regulations onto the power supply cable;
 - connect the machine to its own electrical connection fitted with a suitable differential circuit breaker;
 - fit power supply protection fuses sized in compliance with specifications in the main wiring diagram of this manual;
 - provide the workshop electrical installation with an efficient grounding circuit.
- To prevent unauthorised use of the machine, always disconnect the power supply plug when the machine is not used (switched off) for extended periods of time.
- If the machine is connected directly to the power supply by means of the main electrical board and without the use of a plug, a key-operated or padlockable switch must be installed to restrict machine use exclusively to qualified personnel.



WARNING

For correct operation of the machine it must be connected to an efficient grounding circuit.

NEVER connect the ground wire to a gas pipe, water pipe, telephone line or other unsuitable item.

Connecting the potentiometers

Connect the potentiometers as follows:

- 1 Remove the control unit door.
- 2 Turn the master switch to "0" and remove the unit controls cover.
- 3 Unwind the bundle of potentiometer wires on the lift, and lay them along the chosen route to the control unit.
- 4 Pass the two potentiometer wires through the hole provided on the galvanised plate supporting the electrical equipment.
- 5 Connect the wire marked X16.L to the connector X16 on the electronic control board. Connect the black wire with cap to electrical system "PE" ground terminal.
- 6 Connect the wire marked X17.L to the connector X17 on the electronic control board. Connect the black wire with cap to electrical system "PE" ground terminal.
- 7 Secure the two potentiometer wires with a clamp so that any pulls or jerks will not damage connectors X16 and X17.
- 8 Bundle any excess length of cable into a single coil and secure it with a clamp. Fit the coil inside the control unit where it does not obstruct any other equipment.
- 9 Put the cover back on the control unit controls.
- 10 Close the control unit door.



WARNING

Any work on the electrical system, including minor operations, must be carried out by a qualified technician.



UK

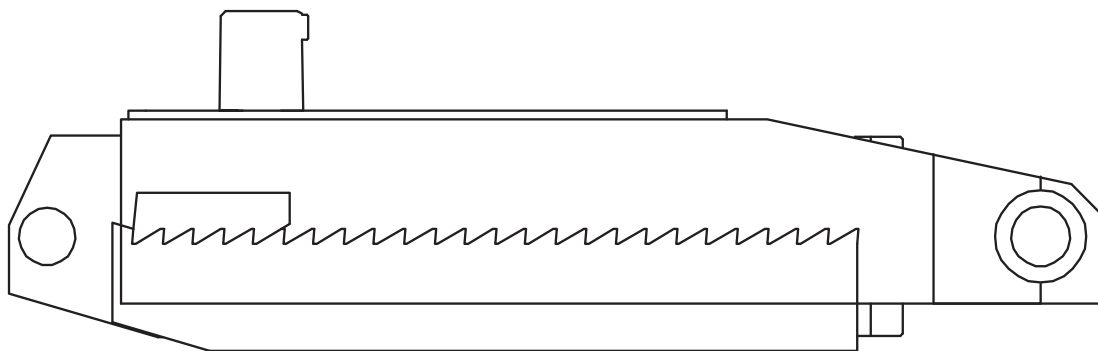
SAFETY DEVICE SPECIFICATIONS

The lift is provided with safety devices which grant the user the maximum security the event of failure.

The safety devices are the following:

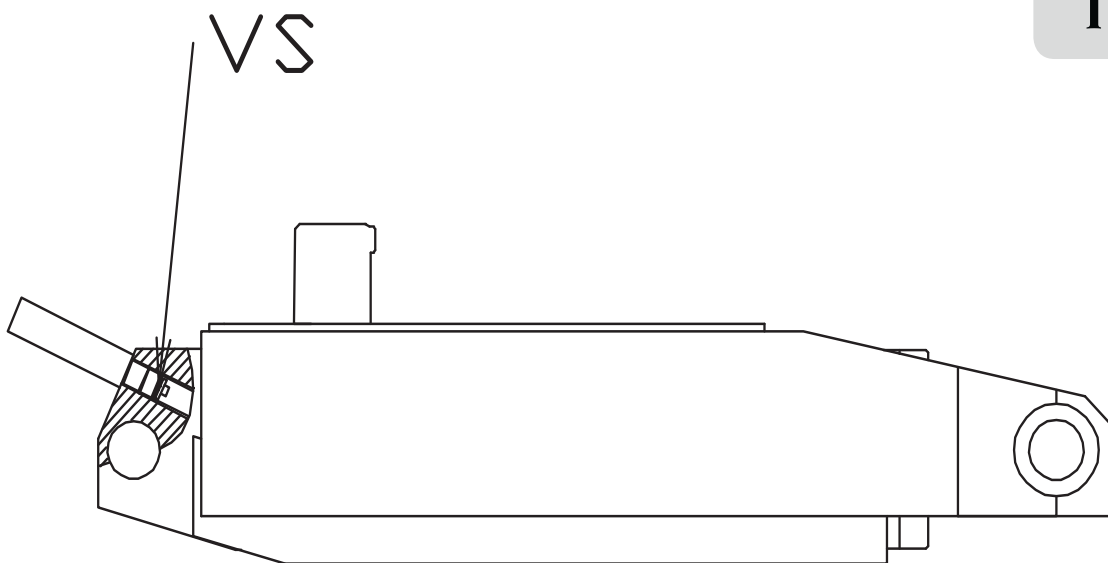
Mechanical device: this device is essentially composed of a claw and a rack (see fig. 11), and immediately stops the sudden descent of the lift (within 100 mm height) in the event of hydraulic line failure or a blow-out in the circuit. Therefore this very important device must always be kept in perfect efficiency and any tampering or removal is forbidden. It is pneumatically operated.

11



Hydraulic safety: this consists of a counterbalancing valve (see fig. 12) positioned on the discharge of the lifting cylinder, which has the function of stopping the sudden descent of the lift in the event of the hydraulic hoses breaking. The valve is calibrated so that the lift's descent speed will be lower than the value set by the regulations in force.

12



Electronic aligner (fig. 13): this device consists of 2 position transducers (potentiometers) and the electronic control board.

The electronic control board reads the signals from the two position transducers to check continuously whether the misalignment of the two runways has reached or exceeded 50 mm; if so, the circuit board cuts out the current function immediately, and switches the lift to "alarm" status.

For further information on the behaviour of the lift in case of misalignment between the runways, read the Chapter "Indicators and audible signals".

The device does not cover the runways of the built-in lift table.

Anti-crushing safety: the control board stops the descent when the runways reach a height of approx. 780 mm from the ground and emits an intermittent sound:

To continue the descent, the pressed button must be released and then pressed again; in this way, the runway descent will continue until the lift complete closure.



WARNING

No safety devices must ever be tampered with, disabled, moved or removed, as this might put the operator at risk. The manufacturer declines all liability deriving from failure to comply with the above rule.

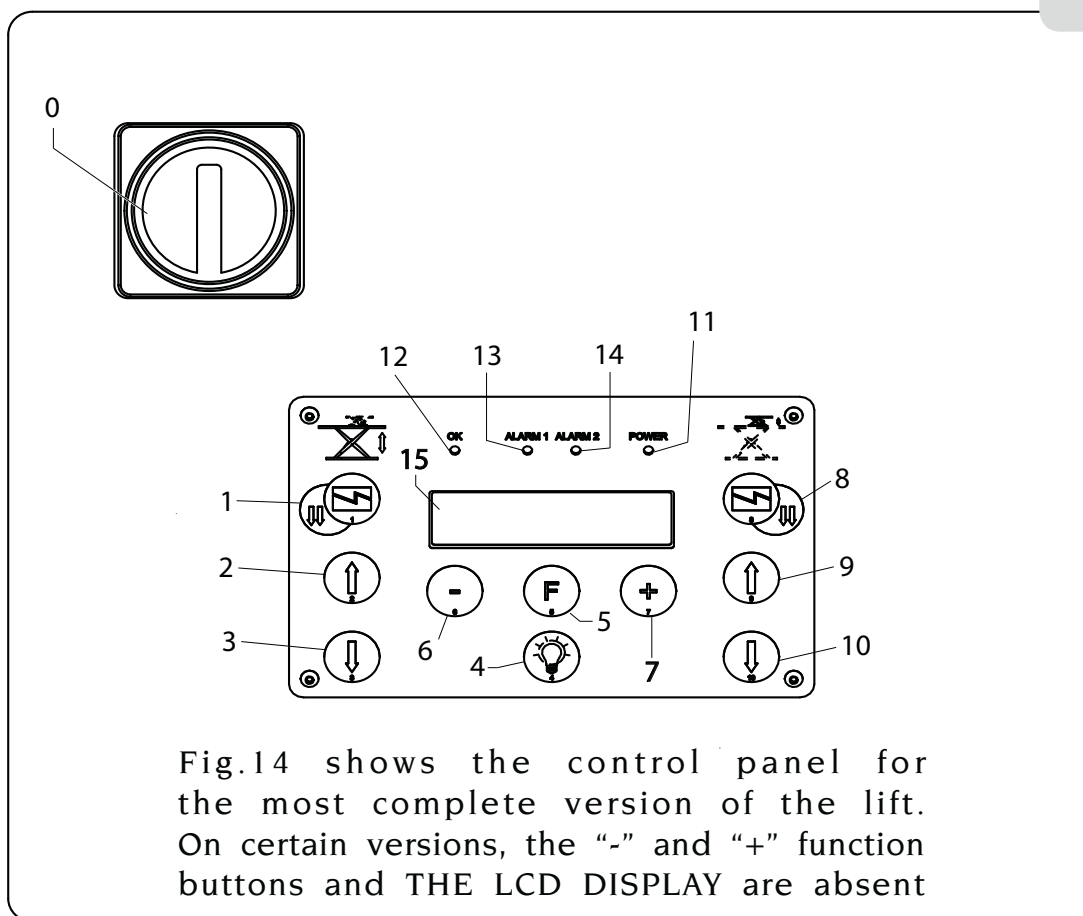


OPERATING PROCEDURES

Control panel for COMPLETE VEHICLE LIFTS fig. 14:

- 0 Main switch
- 1 Safe parking button/Main lift quick positioning
- 2 MAIN LIFT up button
- 3 MAIN LIFT down button
- 4 Light button
- 5 "F" Function button (select second function/confirm menu selection/exit menu)
- 6 "-" Function button (decrease value)
- 7 "+" Function Button (increase value)
- 8 Safe parking button/Free-wheel lift table quick positioning
- 9 FREE-WHEEL LIFT TABLE up button (LT)
- 10 FREE-WHEEL LIFT TABLE down button (LT)
- 11 Power on led indicator (orange)
- 12 Led indicator OK (green)
- 13 Led indicator ALARM1 (red)
- 14 Led indicator ALARM2 (red)
- 15 Alphanumeric LCD display

14



The individual functions of each control on the panel are described below.

0 MASTER SWITCH

Simply turn the power switch clockwise to switch on the control unit (from 0 to 1).
The switch may be padlocked in position "0" to prevent unauthorised use of the lift.

1 SAFE PARKING BUTTON/MAIN LIFT QUICK POSITIONING

This button has 2 functions

- a - if the button is directly pressed, the lift starts the descent without raising the mechanical safety devices claws to make the lift stand on the mechanical safety devices;
- b - if the button F is pressed and held down and then button 1 is pressed, the lift will descend immediately, without raising again.

2 MAIN LIFT UP BUTTON

By pressing this button, the lift starts its raising stroke.

3 MAIN LIFT DOWN BUTTON

By pressing this button, the lift raises for about 1.5 seconds to disengage the mechanical safety device and then starts the descent stroke.

4 LIGHT BUTTON

By pressing this button, the lighting system lights turn on / off (OPTION).

5 BUTTON F

Allows the button second function usage, where available.

6 BUTTON -

Not used.

7 BUTTON +

Not used.

8 SAFE PARKING BUTTON/FREE-WHEEL LIFT TABLE QUICK POSITIONING

This button has 2 functions

- a - if the button is pressed directly, the lift begins to descend but without raising the pawls of the mechanical safety devices, and the built-in lift table will remain held on the mechanical safety devices;
- b - if button F is pressed and held and then button 8 is pressed, the built-in lift table will descend immediately without performing the return ascent stage.

9 FREE-WHEEL LIFT TABLE UP BUTTON

By pressing this button, the free-wheel lift table starts its raising stroke.

10 BUILT-IN LIFT TABLE (LT) DOWN BUTTON

By pressing this button, the free-wheel lift table raises for about 1.5 seconds to disengage the mechanical safety device and then starts the descent stroke.

11 POWER ON LED INDICATOR (ORANGE)

The light comes on to indicate that the control unit is receiving power.

12 LED INDICATOR OK (GREEN)

Not used.

13 LED INDICATOR ALARM1 (RED)

The indicator lamp illuminates to indicate a fault or malfunction of the vehicle lift.

Read the Chapter: PROBLEM-SOLVING AND TROUBLESHOOTING

14 LED INDICATOR ALARM2 (RED)

The indicator lamp illuminates to indicate a fault or malfunction of the vehicle lift.

Read the Chapter: PROBLEM-SOLVING AND TROUBLESHOOTING

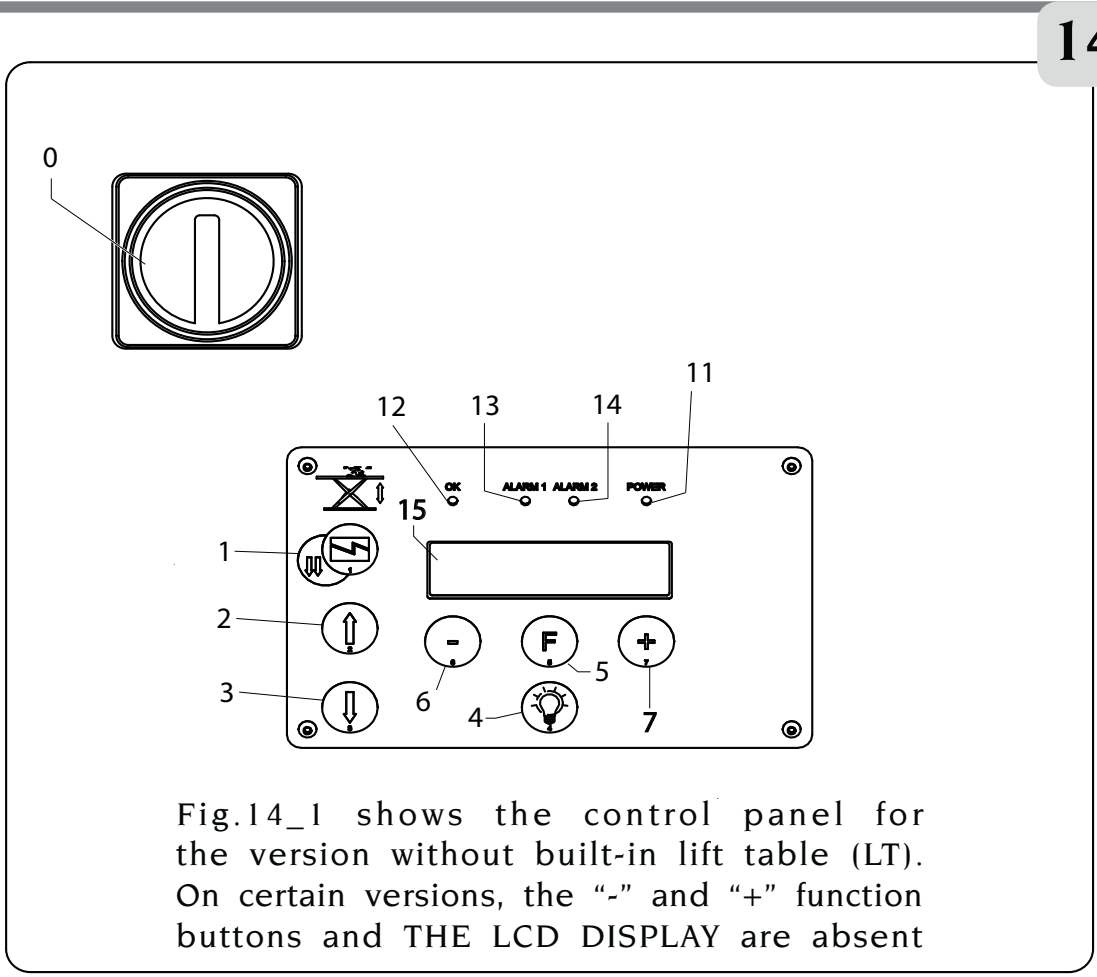
15 LCD DISPLAY

The LCD display is only included on certain versions of the lift and displays information relative to the current state of the lift and/or alarm conditions.

Control panel for VEHICLE LIFTS without built-in lift table (LT) fig. 14_1:

- 0 Main switch
- 1 Safe parking button/Main lift quick positioning
- 2 MAIN LIFT up button
- 3 MAIN LIFT down button
- 4 Light button
- 5 "F" function button (select second function/confirm menu selection/exit menu)
- 6 "-" function button (decrease value)
- 7 "+" function button (increase value)
- 8 NOT APPLICABLE
- 9 NOT APPLICABLE
- 10 NOT APPLICABLE
- 11 Power on led indicator (orange)
- 12 Led indicator OK (green)
- 13 Led indicator ALARM1 (red)
- 14 Led indicator ALARM2 (red)
- 15 Alphanumeric LCD Display

14_1



The individual functions of each control on the panel are described below.

0 MASTER SWITCH

To switch on the control unit simply turn the master switch clockwise (from 0 to 1). The switch may be padlocked in position "0" to prevent unauthorised use of the lift.

1 SAFE PARKING BUTTON/MAIN LIFT quick positioning

This button has 2 functions

a - if the button is pressed directly, the lift begins to descend but without raising the pawls of the mechanical safety devices, and the lift will remain held on the mechanical safety devices

b - if the button F is pressed and held down and then button 1 is pressed, the lift will descend immediately, without raising again

2 MAIN LIFT up button

By pressing this button, the lift starts its raising stroke.

3 MAIN LIFT DOWN BUTTON

When this button is pressed, the lift ascends for about 1.5 seconds to disengage the mechanical safety device and then starts to descend

4 LIGHT BUTTON

By pressing this button, the lighting system lights turn on / off (OPTION)

5 "F" BUTTON

Allows the button second function usage, where available.

6 "-" BUTTON

Not used

7 "+" BUTTON

Not used

8 NOT APPLICABLE

9 NOT APPLICABLE

10 NOT APPLICABLE

11 POWER ON LED INDICATOR (ORANGE)

The light comes on to indicate that the control unit is receiving power.

12 LED INDICATOR OK (GREEN)

Not used.

13 ALARM1 INDICATOR LED (RED)

The indicator lamp illuminates to indicate a fault or malfunction of the vehicle lift; Read the Chapter: PROBLEM-SOLVING AND TROUBLESHOOTING.

14 ALARM2 INDICATOR LED (RED)

The indicator lamp illuminates to indicate a fault or malfunction of the vehicle lift; Read the Chapter: PROBLEM-SOLVING AND TROUBLESHOOTING.

15 LCD DISPLAY

The LCD display is only included on certain versions of the lift and displays information relative to the current state of the lift and/or alarm conditions.

COMMISSIONING



WARNING

The lift must be commissioned by specially trained staff capable of ensuring that the lift and all its mechanical and electrical safety systems are operating correctly.

The instructions to be followed are provided at the back of this manual, in a section for the use of authorised commissioning staff only.

No persons other than the personnel of the Manufacturer's Support Service or of third party companies authorised to perform technical maintenance work must be allowed to perform any of the procedures described.



WARNING

Any damage deriving from failure to follow the instructions given above cannot be charged to the manufacturer and may cause the warranty to become null and void.

ROUTINE MAINTENANCE



WARNING

The "Spare parts" handbook does not authorise the user to carry out work on the machine with the exception of those operations explicitly described in the operator's manual, but enables the user to provide the technical assistance service with precise information, in order to reduce delay.



WARNING

The manufacturer declines all liability for problems and/or damages derived from the use of non-original spare parts or accessories.



WARNING

It is forbidden to change any operating pressure calibration value for the maximum-pressure valves or the pressure limiter.

The manufacturer declines all liability for damage caused by tampering with these valves.



WARNING

Before proceeding with any adjustment or maintenance work, disconnect the machine from pneumatic and electric power supply, and check that all the moving parts are locked in place.



WARNING

Do not remove or modify any part of this machine.



CAUTION

Keep the working area clean.

Never use compressed air, water jets or aggressive chemical substances to remove dirt or traces from the machine.

When cleaning, try as far as possible to avoid generating or raising dust.

Maintenance by unauthorised staff is strictly forbidden.

To ensure the machine remains in good working order and operates correctly, it is essential to follow the instructions given below, carrying out cleaning and routine maintenance every 1000 working hours.

Routine cleaning and maintenance operations must be carried out in accordance with the instructions given below:

- Cleaning and maintenance operations must be carried out in conditions of maximum safety, setting the lift in a mechanically safe position.
- Turn the master switch to zero '0' and disconnect the machine's electrical contacts.
- Change the hydraulic fluid in the control unit tank (capacity 15 l) about every 1,000 working hours, using the fluids recommended in the table below:

SUPPLIERS NAMES	HYDRAULIC CONTROLS	GREASE LUBRICATION
API	CIS 32	PIGREASE LT-S
MOBIL OIL	DTE24	MOBILPLEX 46
SHELL	TELLUS 25	ALVANIA EP 1
ESSO	NUTO HP 32	BEACON EP 1
BP	ENERGOL HLP65	ENERGREASE LS 1 EP
AGIP	OSO 35	GR.MU EP 1
FINA	HYDRAN 31	MARSON EPL 1

- Clean the lift, taking special care over any outside objects which might cause malfunctions of the mechanical and electrical safety devices.



LIFT USAGE

The lift must be used by authorised personnel only. Remember that any use by staff not familiar with the procedures specified in this manual might cause dangers. Position the machine as follows:

MAIN LIFT

Positioning the vehicle: after positioning the vehicle on the lane of the lift be sure that the wheels are as centred as possible on the centre line of the lanes, then block the parking brake of the vehicle to avoid dangerous movements.

When you use the free-wheel lift you must introduce the spacing pads between the lift and the vehicle. Position them on the proper supports designed by the vehicle manufacturer and as lined up as possible with the centre line of the lane.

Lifting the vehicle: turn on the main switch and press the Up button (2).

Once the desired working height is reached, release the button and press the Safe Parking button (1) to render the lift mechanically safe.

Turn off the master switch, lock it with the padlock provided and start work on the vehicle.

Lowering the lift: remove the padlock from the master switch and switch on the machine; press the Down button (3) The lift will ascend for approximately 1.5 seconds to release the pawl of the mechanical safety device from the rack and then begin to descend.

Safe parking: remove the padlock from the master switch and switch on the machine; press the Safe Parking button (1). The lift starts to descend immediately, keeping the mechanical safety devices lowered; keep the button pressed until the safety devices of both runways are firmly engaged with the teeth underneath. Now release the button.

NB: there may be a delay of approximately 2 seconds after pressing the button before the safe parking manoeuvre begins. This is to allow the pressure remaining in the pneumatic lines after any previous manoeuvres to release.

Quick positioning: remove the padlock from the master switch and switch on the machine; press buttons F+Quick positioning (5+1).

The main lift will start to descend immediately.

FREE-WHEEL LIFT TABLE

Lifting the vehicle: turn on the main switch and press the LT Up button (9).

Once the desired working height is reached, release the button.

Switch off the master switch, lock it with the padlock provided and start work on the vehicle.

Lowering the built-in lift-table: remove the padlock from the master switch and switch on the machine; press the LT Down button (10). The built-in lift table will ascend for approximately 1.5 seconds to release the pawl of the mechanical safety device from the rack and then begin to descend.

Safe parking: remove the padlock from the master switch and switch on the machine; press the LT Safe Parking button (8). The free-wheel lift table will start to descend immediately, keeping the mechanical safety devices lowered; keep the button pressed

until the safety devices of both runways are firmly engaged with the teeth underneath. Now release the button.

Built-in lift-table quick positioning: remove the padlock from the master switch and switch on the machine; press the F button and the LT Quick positioning button (5+8) simultaneously. The lift will start to descend immediately.

This function is especially useful when fitting rubber pads.

PLAY DETECTOR USAGE

The play detector must be used by authorised personnel only. Remember that any use by staff not familiar with the procedures specified in this manual might cause dangers. The machine operates as follows:

Preliminary operations:

- a) the tyres must be inflated to the established pressure, of the same type and uniformly worn;
- b) position the vehicle with the front axle and centred on the mobile plates;
- c) by pressing the brake pedal, an operator on the vehicle must block completely the front wheels to make them not to slide in the running direction.
If the operator is not on the vehicle, the same conditions can be achieved by applying the special brake pedal depressor;
- d) assess the possible clearance on the steering system gears, by operating on the steering wheel;
- e) press the buttons on the torch to obtain the desired movements of the mobile plates.

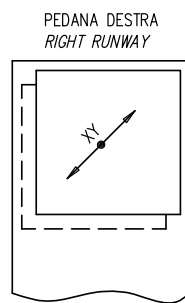
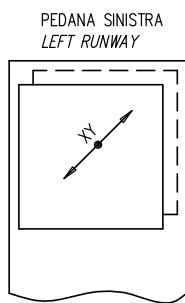


WARNING

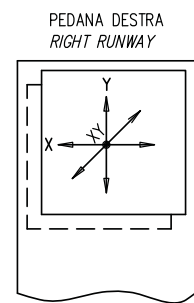
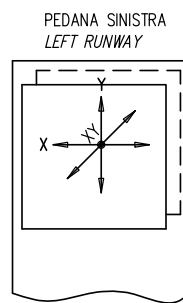
- Prepare the runway front connection transom in order to reduce the transverse stress caused by the play detector.

Depending on the version, the lift may be equipped with either a 2-movement or 6-movement play detector.

The movements possible of the mobile test plates are illustrated in figure 16.



PROVAGIOCHI 2 MOVIMENTI
2 MOVEMENTS PLAY TESTER OPTION



PROVAGIOCHI 6 MOVIMENTI
6 MOVEMENTS PLAY TESTER OPTION

The solid line outline of the plates indicates the initial position of the plate (rest position), while the dotted line outline indicates the end position (control activated). The play detector controls are located on the control torch. The configuration of the torch is different for the 2 and 6 movement play detectors.

2-MOVEMENT PLAY DETECTOR

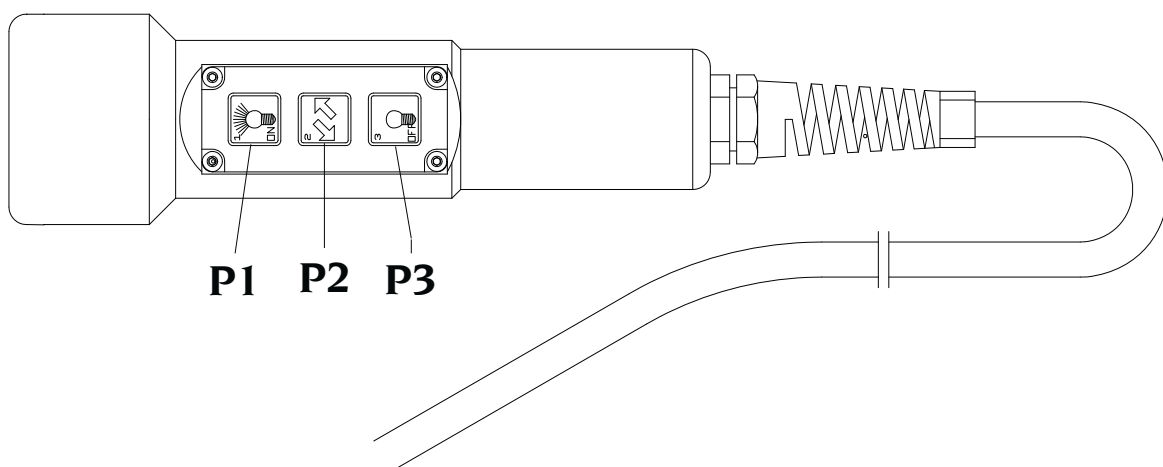
Button P1 turns the spot lamp on.

Button P2 actuates movements of the plates from the initial position to the end position along the XY axis.

Button P3 turns the spot lamp off.

Release button P2 to allow the plates to return automatically to the initial position.

To perform large movements, press and hold button P2. To perform small, pulsed movements, press P2 briefly.





P1 P2 P3 P4 P5

- P1 Actuates movement of the plates from the initial position to the end position along the Y axis.
- P2 Actuates movement of the plates from the initial position to the end position along the X axis.
- P3 Actuates movement of the plates from the initial position to the end position along the XY axis.
- P4 Pause. Stops plate movement and holds plates in current position. Function not currently implemented.
- P5 Lamp on/off.
Release button P1 to allow the plates to return automatically to the initial position along the Y axis

Releasing buttons P2 and P3 have the same effect for X and XY axes respectively.

To perform large movements, press and hold the respective control button (P1, P2 or P3). To perform small, pulsed movements, press the respective button (P1, P2 or P3) briefly

EMERGENCY PROCEDURES

The lift has two emergency modes:

- MAIN LIFT MANUAL EMERGENCY
- BUILT-IN LIFT TABLE MANUAL EMERGENCY ----- for version with LT only

These two modes are intended for handling emergency situations which may arise due to malfunction, incorrect loading, power failure, etc..

The purpose is to enable the operator to retract the runways of the lift in order to allow for removal of the vehicle.

Emergency procedures may be executed by the user, but we recommend contacting our technical service department to clear up any uncertainties first.

Emergency procedures are potentially hazardous and must be executed with extreme caution: make sure that all persons are at a safe distance from the lift before proceeding.

Main lift manual emergency

To lower the main lift in the event of a power failure, proceed as follows:

- 1) turn off the master switch;
- 2) open the control unit door;
- 3) press and hold button A on pneumatic solenoid valve YV6 to raise both mechanical safety devices;
- 4) if a mechanical safety device remains engaged, tighten the handwheel C (located on the right hand side of the base block) on solenoid valve YV3 (for the RH runway) or YV4 (for the LH runway). (see figure I 7).

Operate the manual pump PM so as to raise the lift sufficiently to disengage the safety pawl.

If the other mechanical safety device is hooked too, repeat the same operation by screwing the handwheel C in the other solenoid valve;

- 5) unscrew cap B1 of the hydraulic solenoid valve YV5. Turn anticlockwise the brass adjuster screw B2 of the solenoid valve;
- 6) operate alternatively the hydraulic solenoid valves YV3 and YV12 with the supplied handwheel C, so that the misalignment between the two runways is never excessive;
- 7) once the lift is completely lowered, release the pneumatic solenoid valve YV6 button A; then turn the adjuster screw B2 of the hydraulic solenoid valve YV5 fully clockwise and re-tighten the cap B1 covering the screw;
- 8) Remove the handwheel C from valve YV3 or YV12 and return to its original position.

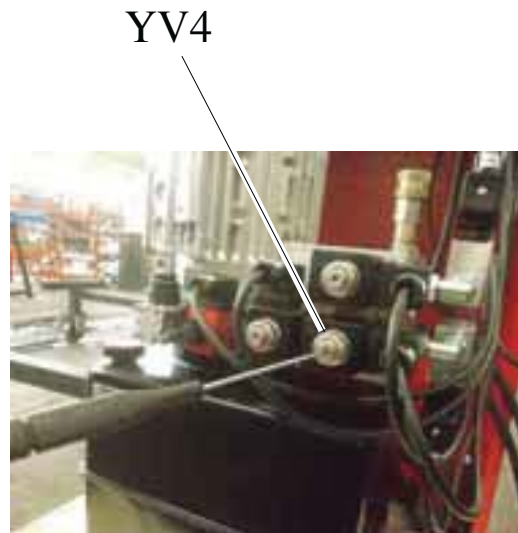
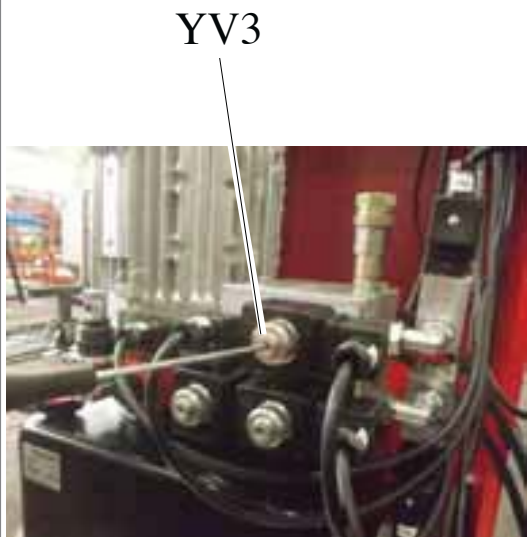
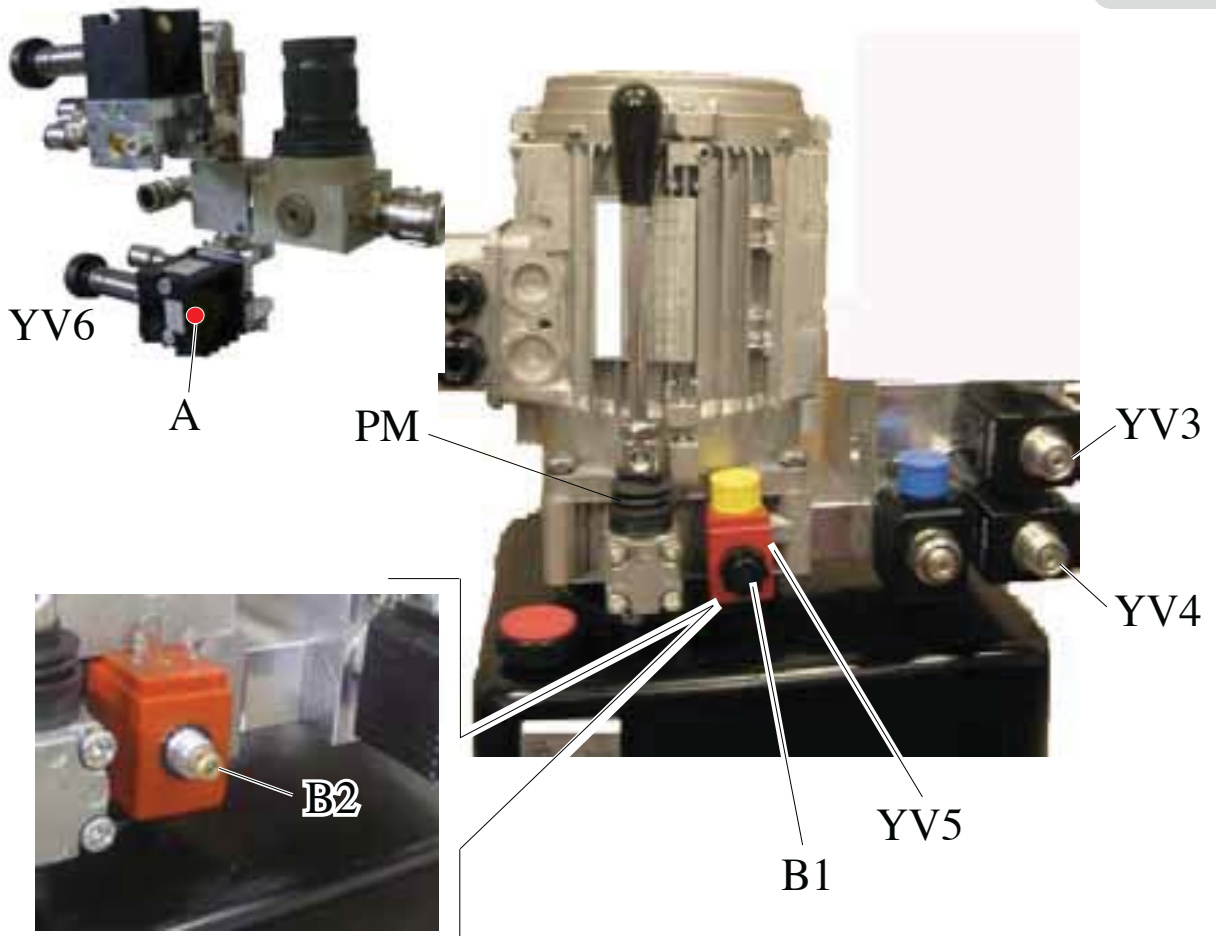


WARNING

Never leave a manual emergency operation on hold as the lift could slowly misalign.

Stop or cancel the manual emergency operation, if necessary.

Always carry out points 6-7-8 of the procedure.



UK

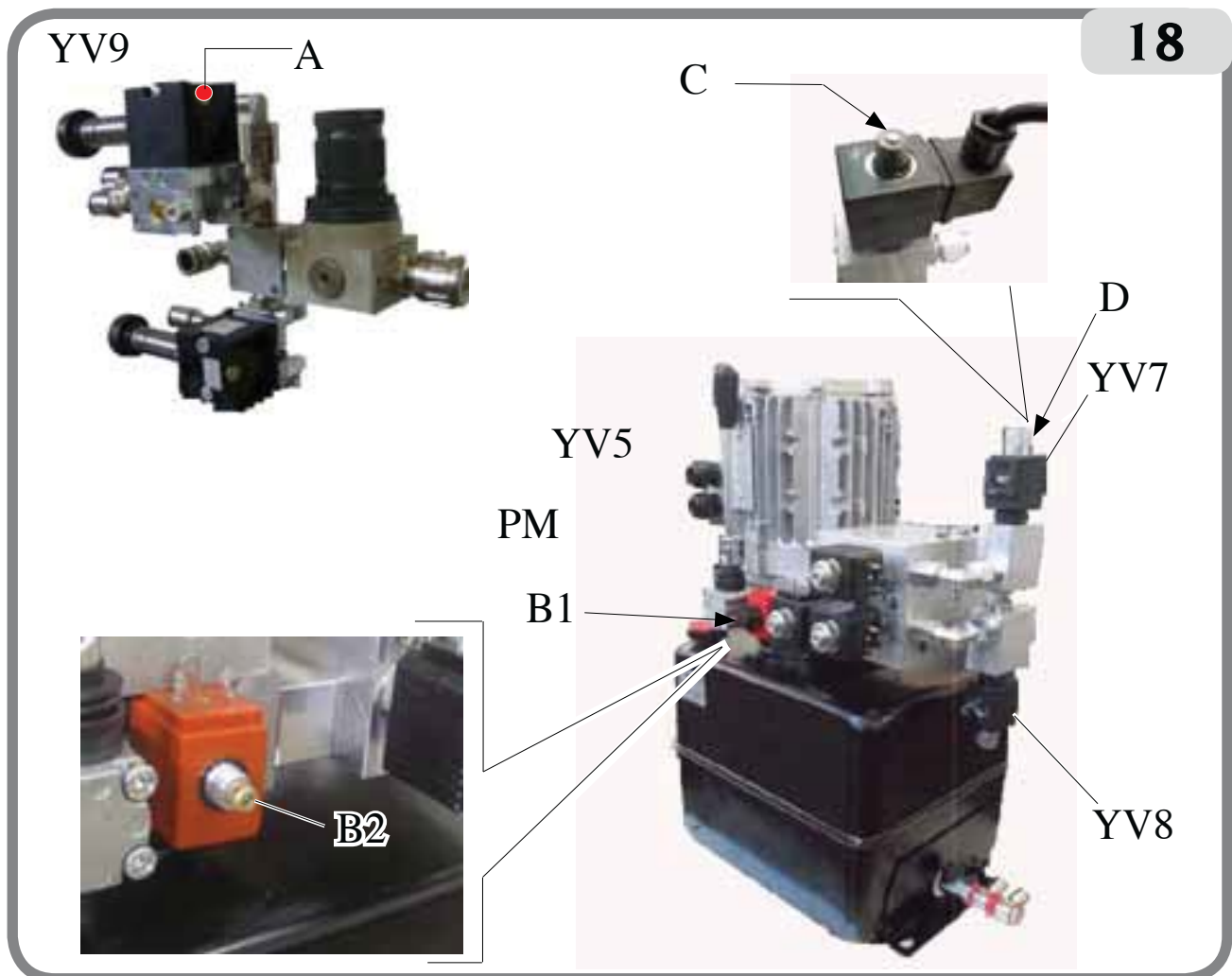
Manual emergency operation on built-in lift table LT (Fig. 18)

To lower the free-wheel lift table in the event of a power failure, proceed as follows:

- 1) turn off the master switch
- 2) open the control unit cabinet door
- 3) press and hold button A on pneumatic solenoid valve YV9 to raise the mechanical safety devices. Check that both safety devices are raised before proceeding: if both mechanical safety devices are not raised, operate the manual pump PM to raise the built-in wheel lift table sufficiently to disengage both mechanical safety device claws.
- 4) unscrew cap B1 of the hydraulic solenoid valve YV5. Turn the adjuster screw B2 of the solenoid valve anticlockwise
- 5) undo cap D of hydraulic solenoid valve YV7 or YV8, and press and hold button C on solenoid valve YV7/YV8

IMPORTANT: make progressive adjustments using the two solenoid valves YV7 and YV8 in alternating order to prevent excessive misalignment between the two runways.

- 6) Once the built-in lift (LT) is in the completely closed position, release button A on the pneumatic solenoid valve YV9, release the button C on the hydraulic solenoid valve YV7/YV8, tighten the cap D, then turn the adjuster screw B2 on the hydraulic solenoid valve YV5 fully clockwise and tighten the cap B1 covering the screw.
- 7) restore the normal operating conditions of the lift (close the control unit cabinet door and arm the main switch).



LAY-OFFS

If the lift is to be out of use for a long period, disconnect the energy supplies, empty the tank(s) containing operating liquids and protect any parts which might be damaged by dust.

SCRAPPING

If the lift is to be decommissioned, it must be made unusable by removing the control unit components (the hydraulic pump and electric motor) from the control unit.

All parts which might be sources of danger must be rendered harmless.

Assess the lift's category in relation to waste disposal.

Scrap as metal or electronic waste, consigning the various parts of the lift to the appropriate collection centres.

If the lift is classified as special waste, dismantle it and subdivide its parts by type, then dispose of them as required by law.

Environmental information

This product can contain substances that can be hazardous for the environment and for human health if not disposed of appropriately

Therefore, follow the instructions below to avoid releasing these substances and to improve the use of natural resources.

Electrical and electronic equipment must not be disposed of together with the normal urban wastes. On the contrary, they must be sent to the selective waste collection for their correct treatment.

The crossed-out bin symbol, placed on the product and on this page, reminds the user that the product must be disposed of properly at the end of its life. This prevents the inappropriate disposal of the substances which this product contains, or the improper use of some of them, from having hazardous consequences for the environment and human health. Furthermore, this helps to recover, recycle and reuse many of the materials contained in these products.

For this purpose, producers and distributors of electrical equipment organise adequate collection and disposal systems for the equipment itself.

At the end of the product life, contact your distributor for further information on the collection procedures.

When purchasing the product, your distributor will inform you about the possibility to hand in an old machine at the end of its life cycle free of charge, provided it belongs to an equivalent type and that it had the same functions as the purchased one.

A product disposal not complying with what described above will be subject to the sanctions provided for by the law in force in the country where the disposal takes place.

Moreover, we recommend you to adopt other environment-friendly precautions: recycle the inner and outer packaging with which the product is supplied and dispose of old batteries appropriately (only if contained in the product).

With your co-operation, we can reduce the quantity of natural resources used for the production of electrical and electronic equipment, minimise the use of landfill for the disposal of materials and improve the quality of life by avoiding release of potential dangerous substances in the environment.

RECOMMENDED FIRE EXTINGUISHING EQUIPMENT

When choosing the most suitable fire extinguisher consult the following table:

	Dry combustibles	Inflammable liquids	Electrical equipment
Water	YES	NO	NO
Foam	YES	YES	NO
Powder	YES*	YES	YES
CO ₂	YES*	YES	YES
YES*	<i>Can be used in the absence of more appropriate methods or to control small fire outbreaks</i>		



WARNING

This table contains general instructions to be used as guidelines for the users. All the applications of each type of extinguisher must be obtained from the relevant manufacturer.

INFORMATION AND WARNINGS ABOUT HYDRAULIC FLUID

Disposing of spent fluid

Do not dispose of used oil in sewers, storm drains, rivers or streams; collect it and consign it to an authorised disposal company.

Fluid leaks or spills

Contain the spilt product from spreading using soil, sand or any other absorbent material. The contaminated zone must be degreased with solvent, taking care not to allow vapours to form or stagnate, and the residual material from the cleaning process must be disposed of as envisaged by law.

Precautions for the use of hydraulic fluid

- Avoid contact with the skin.
- Avoid the formation or spreading of hydraulic fluid mists in the atmosphere.
- The following fundamental health precautions must therefore be adopted:
 - Avoid spatters (suitable clothing, protective shields on machines).
 - Wash frequently using water and soap; do not use irritants or solvents which remove the skin's protective sebum coating.
 - Do not dry your hands using soiled or greasy rags.
 - Change your clothes if soaked or, in any case, at the end of the work shift.
 - Do not smoke or eat with greasy hands.
- Also adopt the following preventive and protective measures:
 - Mineral oil resistant gloves with plush lining.
 - Goggles, in case of spatters.
 - Mineral oil resistant aprons.
 - Protective shields, in case of spatters.

Mineral oil: first aid procedures

- Swallowing: go to Casualty with the characteristics of the type of oil swallowed.
- Inhaling: in case of exposure to strong concentration of vapours or mists, take the affected person out into the open air and then to Casualty.
- Eyes: rinse with plenty of water and go to Casualty as soon as possible.
- Skin: wash with soap and water.

PROBLEM-SOLVING AND TROUBLESHOOTING

Initial buttons test

1 - When the lift is switched on, the ALARM1, ALARM2 and OK indicator LEDs on the control panel light for 2 seconds (indicator function test).

The buzzer also sounds during this period (buzzer function test).

The buzzer sounds continuously with standard lifts or intermittently in the case of a FAST type lift.

2 - At the start and end of the 2 second test cycle, the processor checks that all the buttons are released (not pressed). The processor also checks the state of the buttons on the play detector control torch (if applicable).

3 - If one or more buttons on the control panel or play detector control torch are pressed during the test cycle, the system activates the alarm indicator lamp and enters ALARM 1 state.

4 - It is possible to find out which button has been pressed (or was jammed in down position) during the initial test by pressing them all in sequence. Pressing any button which was not pressed (or stuck) during the test deactivates the alarm indicator lamp, whereas if a button that was pressed (or stuck) during the test is pressed, the alarm indicator lamp remains lit.

Using the keypad in normal operation

The control panel may have up to 10 buttons.

6 of them are of operating-type, they control the up, down and safe parking functions and quick positioning for the main lift and, where present, for the free-wheel lift.

Simultaneously pressing several operating buttons is not permitted and immediately halts the function in progress.

To resume normal operation of the lift, all the buttons must be released.

The 4 remaining buttons are context-dependent function buttons and may even be pressed while manoeuvres are in progress.

In particular, the F button (5) has no operational functions itself, but is used to allow access to the secondary function available for certain buttons.

The correct sequence to access the second function is the following:

a - press and hold button F(5)

b - press and hold the button with the desired secondary function.

The second function is started

c - release both buttons to stop the current secondary function.

Definition of "LOCK-OUT" and "ALARM" conditions

LOCK-OUT

Condition in which all operating controls are completely disabled.
The lock-out continues until the lift is switched off

ALARM

Condition in which a function is temporarily disabled to warn the operator of a malfunction or hazard.

There are different alarm conditions, each of which is associated with a different type of signal.

All possible alarm conditions are described in the table AUDIBLE AND VISUAL SIGNALS. In the case of multiple alarm conditions, the condition with the highest priority is indicated.

Priority is determined by the alarm code:

alarm 0 has the highest priority and alarm 10 has the lowest priority.

Indicators and audible signals

LIFT STATUS	ALARM1 INDICATOR	ALARM2 INDICATOR	ACOUSTIC INDICATOR	DISPLAY	CAUSE	RECOVERY ACTION
ALARM0	-	-	-	-	NOT USED	-
ALARM1	CONTINUOUSLY LIT, BUT DEACTIVATED (SIMULTANEOUSLY) BT PRESSING CERTAIN BUTTONS		OFF	STUCK KEY A01	ONE OR MORE BUTTONS OF THE CONTROL PANEL AND/OR CONTROL TORCH PRESSED DURING POWER-ON	RELEASE THE PRESSED BUTTONS AND SWITCH MACHINE ON AGAIN. CONTACT TECHNICAL SUPPORT IF THE PROBLEM PERSISTS
ALARM2	FLASHES SLOWLY	FLASHES SLOWLY	OFF	THERMAL PROTECTION A02	MOTOR THERMAL INTERVENTION FLASHING TIME: 2 SECONDS	RELEASE THE PRESSED BUTTONS AND WAIT FOR THE MOTOR TO COOL DOWN. IF THE PROBLEM PERSISTS, CONTACT THE TECHNICAL ASSISTANCE
ALARM3	FLASHES	FLASHES	OFF	A03 MISSING POTS	ONE OR BOTH POTENTIOMETERS DISCONNECTED. FLASHING TIME: 0.5 SECONDS	CHECK POSITION TRANSDUCER CONNECTIONS. CONTACT TECHNICAL SUPPORT IF THE PROBLEM PERSISTS
ALARM4	-	-	-	-	NOT USED	-
ALARM5	FAST FLASHES	FAST FLASHES	OFF	UNCALIBRATED A05 UNCALIBRATED	MAIN LIFT HAS NOT BEEN CALIBRATED AND OPERATION IS INHIBITED. THE BUILT-IN LIFT TABLE (LT) MAY STILL BE USED	CALIBRATE THE MAIN LIFT. THE OPERATION MUST BE EXECUTED BY THE TECHNICAL ASSISTANCE STAFF
ALARM6	-	-	-	-	NOT USED	-
ALARM7	-	-	-	-	NOT USED	-
ALARM8	ON STEADY	ON STEADY	OFF	A08 MISALIGNMENT	MAIN LIFT RUNWAYS MISALIGNED	PERFORM THE OPPOSITE MANOEUVRE TO THE MANOEUVRE IN PROGRESS. THE MISALIGNMENT IS PERMANENT IF IT DOES NOT RETURN WITHIN PERMISSIBLE LIMITS WITHIN 1,5 SECONDS; CONTACT TECHNICAL SUPPORT
ALARM9	-	-	-	-	NOT USED	-
ALARM10	-	-	-	-	NOT USED	-
WARNING: ACTION SUSPENDED	OFF	OFF	INTERMITTENT: 10% ON 90% OFF	-	THIS INDICATES THAT THE OPERATION IN PROGRESS HAS STILL NOT CONCLUDED AND THE MACHINE IS WAITING FOR A BUTTON TO BE PRESSED OR RELEASED	-
WARNING: DANGER	OFF	OFF	INTERMITTENT 50% ON 50% OFF	-	THIS IS NOT AN ALARM SIGNAL, BUT A NOTICE OF DANGER DUE TO THE IMMINENT CLOSURE OF THE LIFT SCISSORS	-



Troubleshooting table

PROBLEM	POSSIBLE CAUSE	REMEDY
The main switch is on, the power on light is off	1- No connection to the network socket 2- Transformer protection fuses or line fuses blown 3- Electric transformer fault	1- Check the exact connection of the power supply cable with the network socket 2- Replace the burnt fuses; if the burnt one burns again, contact the technical assistance 3- Contact the technical assistance
The main switch is on, the power on light is on but the lift does not answer to any control	Fuse burning on the electronic board	Replace the burnt fuse on the electronic board; if the fuse burns again, contact the technical assistance
Pushing the up button, the motor turns but the lift does not go up	1- Incorrect phase connection in the mains power plug (motor rotating in the opposite direction) 2- Electrical system anomaly	1- Check connection to the network socket and restore it, if necessary 2- Contact the technical assistance
The ascent becomes irregular and uncoordinated after reaching a certain height	Air intake in the hydraulic circuit due to a too low oil level	Add oil until the regular maximum level as specified in the operator's manual is obtained
Motor stops while ascending after repeated lifting cycles	Thermal protection intervention due to the motor overheating. ALARM 02	Wait for a certain period of time until the motor cools down
The MAIN LIFT raises and stops before descending when the down button is pressed; or the lift does not start to descend when the quick positioning button is pressed	Solenoid valve YV5 connector disconnected	Contact the Technical Assistance
The BUILT-IN LIFT TABLE LT raises and stops before descending when the down button is pressed; or the lift does not start to descend when the quick positioning button is pressed	Solenoid valve YV7 connector disconnected	Contact technical support
The motor is very noisy and the control unit vibrates greatly; the lift is not powered	1- One electrical phase missing due to burnt fuse 2- One electrical phase missing but the fuses are not damaged; probable clamp loosening	1- Replace the blown fuse; contact technical support if the motor is still noisy 2- Contact the technical assistance for a check
The lift blocks during a manoeuvre	Load imbalanced	Put the load to the ground following the manual emergency procedure and contact the technical assistance

COMMISSIONING PROCEDURE

The machine must be put into service by specially trained personnel, in order to assure the correct functioning of the lift and all its mechanical and electrical safety systems.

The commissioning procedures for the electrical, hydraulic and safety systems and the accessories are described in the following paragraphs.

Carry out the steps of the commissioning procedure in the order given below, to avoid malfunctions that may damage the machine and put the safety of personnel at risk.



WARNING

The manufacturer declines liability for any damages resulting from failure to follow the above instructions, which may invalidate the warranty.

Electrical system

Switch on the control panel with the main switch and check that the pilot light (white) illuminates. Then press and hold the start button for a few seconds and check that the motor turns in the correct direction; if the motor starts but the lift does not ascend, swap two of the phases of the power cable. Then check operation again.

Hydraulic and pneumatic system

When putting into service the hydraulic system carry out the following operations:

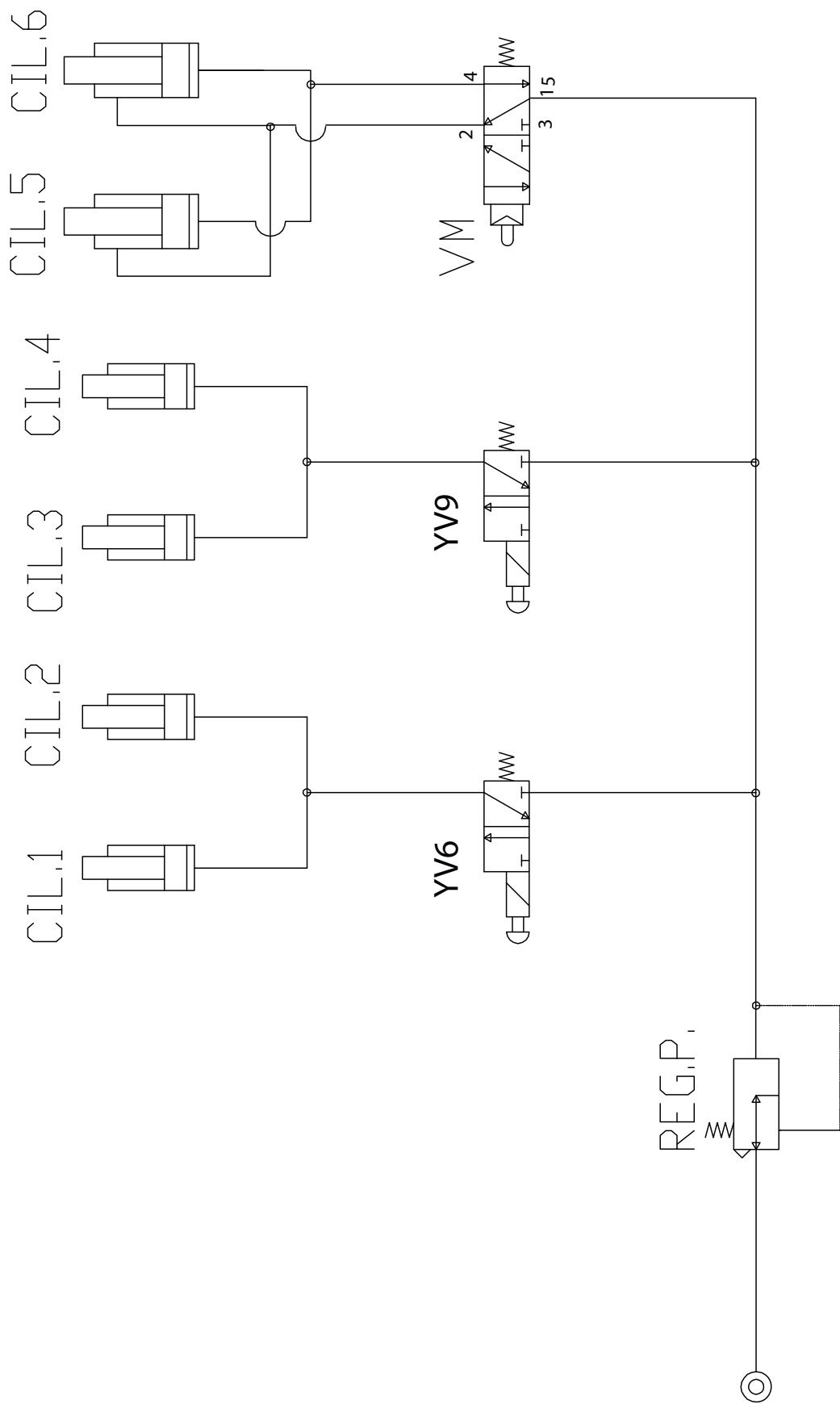
- a) Supply power to control panel.
- b) Carry out some up/down complete cycles. Check that no oil leakage from piping fittings, or air ones from the pneumatic system are present. Tighten fitting if leakage is present.
Stay for a few seconds in travel end position with the free-wheel lift table to bleed air from pipes and cylinders.
- c) For models LT, provide for the free-wheel lift table adjustment procedure following the operating directions reported in paragraph "ROUTINE MAINTENANCE".
- d) Check the oil level in the tank is correct when the lift is completely lowered.



PNEUMATIC SYSTEM DIAGRAM FOR CT LT

Fig. 19

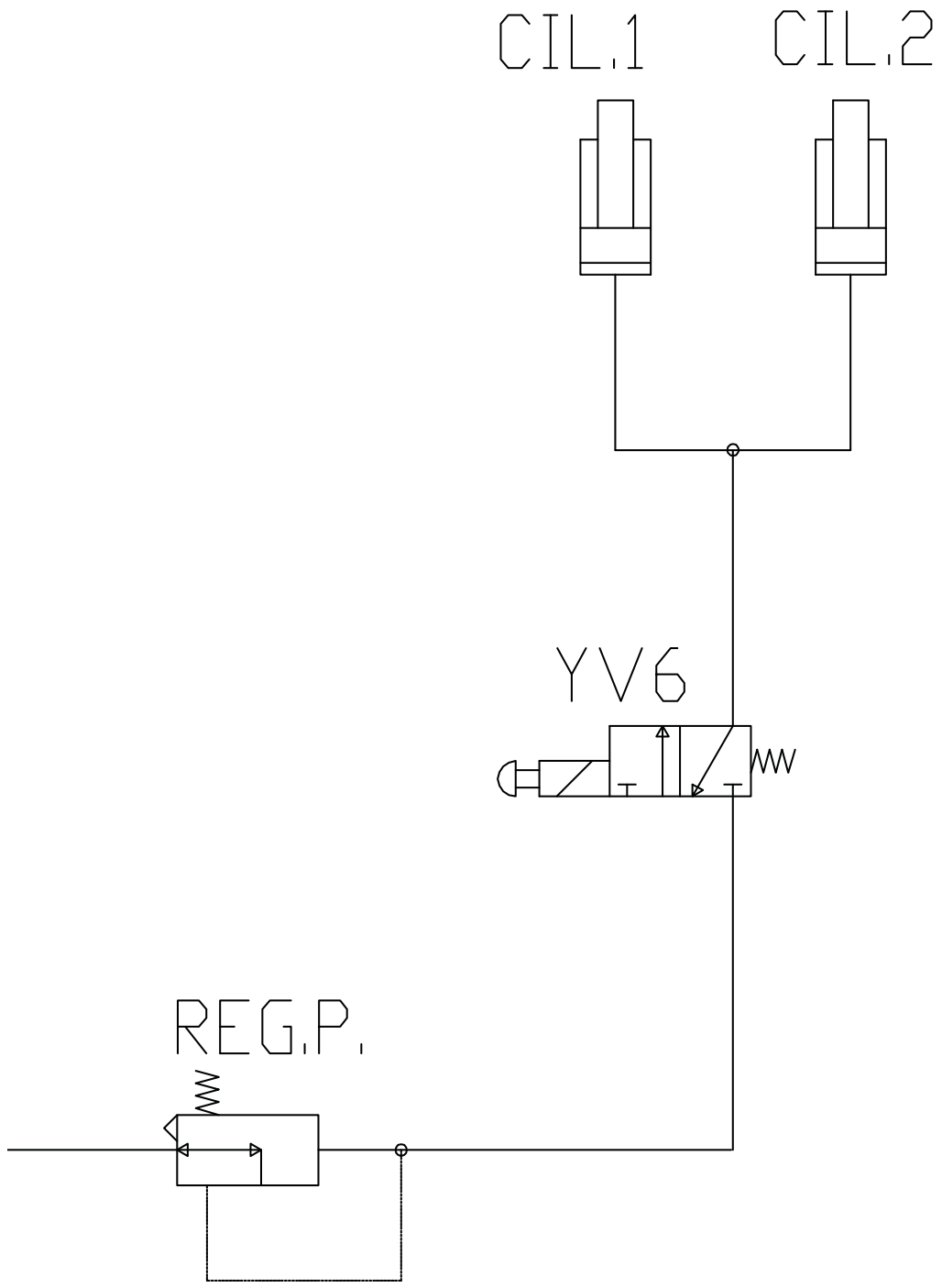
VM	MANUAL SLIP PLATE LOCKING VALVE
YV6	MECHANICAL SAFETY DEVICE SOLENOID VALVE
YV9	MECHANICAL SAFETY DEVICE SOLENOID VALVE FOR LT
REG.P.	PRESSURE REGULATOR (max. 10 BAR)
CIL.1	CYLINDER OF LH MECHANICAL SAFETY DEVICE FOR MAIN LIFT
CIL.2	CYLINDER OF RH MECHANICAL SAFETY DEVICE FOR MAIN LIFT
CIL.3	CYLINDER OF LH MECHANICAL SAFETY DEVICE FOR BUILT-IN LIFT TABLE
CIL.4	CYLINDER OF RH MECHANICAL SAFETY DEVICE FOR BUILT-IN LIFT TABLE
CIL.5	LH CYLINDER FOR LOCKING LH SLIP PLATES
CIL.6	RH CYLINDER FOR LOCKING RH SLIP PLATES



PNEUMATIC SYSTEM DIAGRAM

Fig. 19_1

VM	MANUAL SLIP PLATE LOCKING VALVE
YV6	MECHANICAL SAFETY DEVICE SOLENOID VALVE
YV8	MECHANICAL SAFETY DEVICE SOLENOID VALVE FOR LT
REG.P.	PRESSURE REGULATOR (max. 10 BAR)
CIL.1	CYLINDER OF LH MECHANICAL SAFETY DEVICE FOR MAIN LIFT
CIL.2	CYLINDER OF RH MECHANICAL SAFETY DEVICE FOR MAIN LIFT

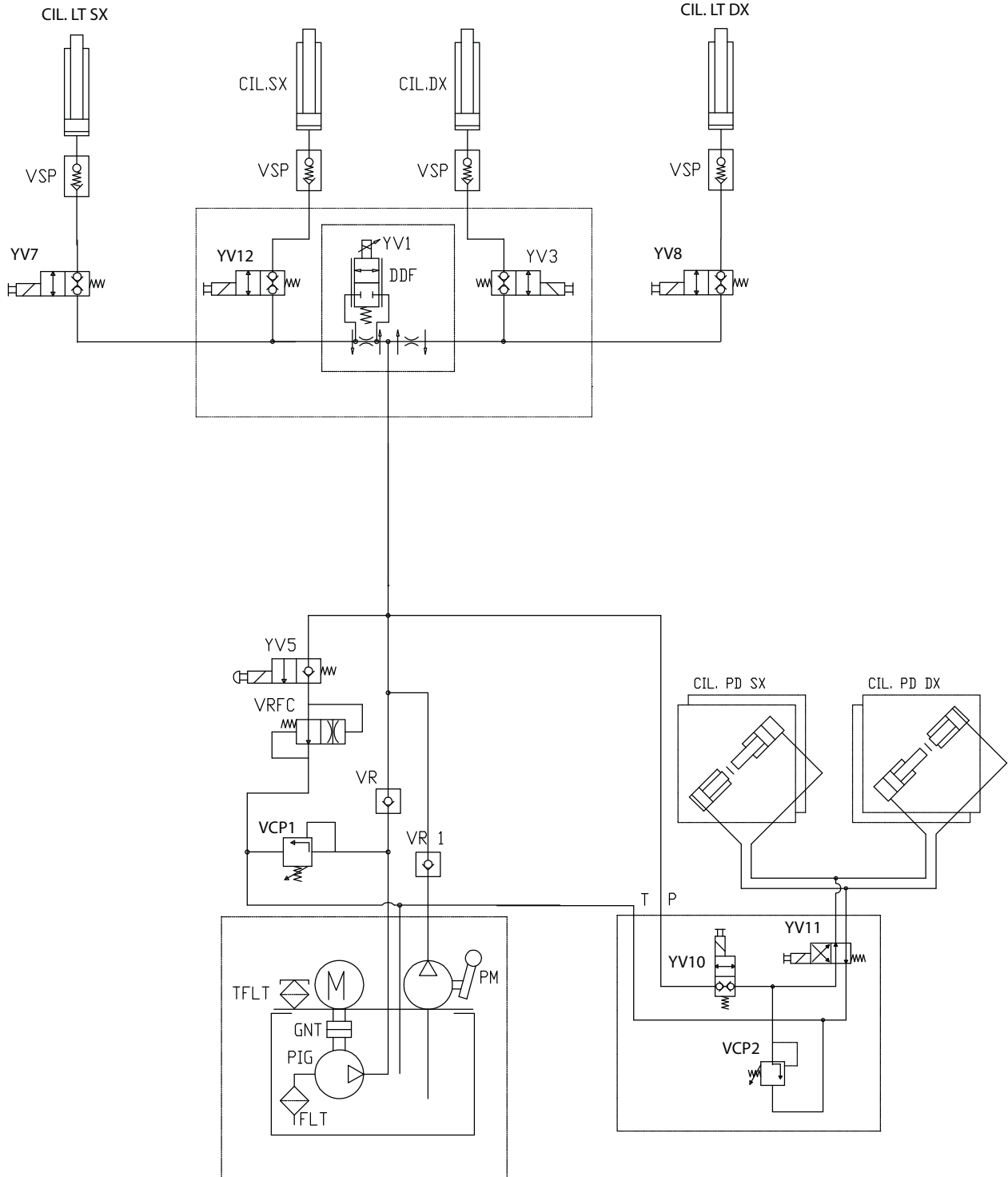


HYDRAULIC SYSTEM DIAGRAM

CT LT 2 MOVEMENTS, FAST

Fig. 20

DDF	FLOW DIVIDER
VRFC	FLOW REGULATOR
VCP1	LIFT PRESSURE REGULATOR VALVE (max. 270 Bar)
VCP2	PLAY DETECTOR PRESSURE REGULATOR VALVE (max. 150 Bar)
VR	CHECK VALVE
VR1	CHECK VALVE
VRF	SYNCHRONISER VALVE
VSP	SAFETY VALVE
PM	HAND PUMP
PIG	HYDRAULIC PUMP
M	MOTOR
GNT	COUPLING
FLT	INTAKE FILTER
TFLT	CAP WITH BUILT-IN FILTER
CIL.LH	MAIN LIFT LH CYLINDER
CIL.RH	MAIN LIFT RH CYLINDER
CIL.PD LH	LH CYLINDER OF PLAY DETECTOR
CIL.PD RH	RH CYLINDER OF PLAY DETECTOR
CIL.M	FREE-WHEEL LIFT TABLE MASTER CYLINDER
CIL.S	FREE-WHEEL LIFT TABLE SLAVE CYLINDER
YV1	LH RUNWAY PROPORT. SLAVE SOLENOID VALVE FOR MAIN LIF
YV3	RH RUNWAY LOCKING MASTER SOLENOID VALVE FOR MAIN LIFT
YV12	LH RUNWAY LOCKING SLAVE SOLENOID VALVE FOR MAIN LIFT
YV5	OIL DRAIN S.V.
YV7	LT LIFT LOCKING SOLENOID VALVE
YV8	LT LIFT LOCKING SOLENOID VALVE
YV10	PLAY DETECTOR BLOCK S.V.
YV11	PLAY DETECTOR MOVEMENT SOLENOID VALVE
SCF	FIXED COMPENSATED THROTTLE
RF+R	FLOW REGULATOR+CHECK

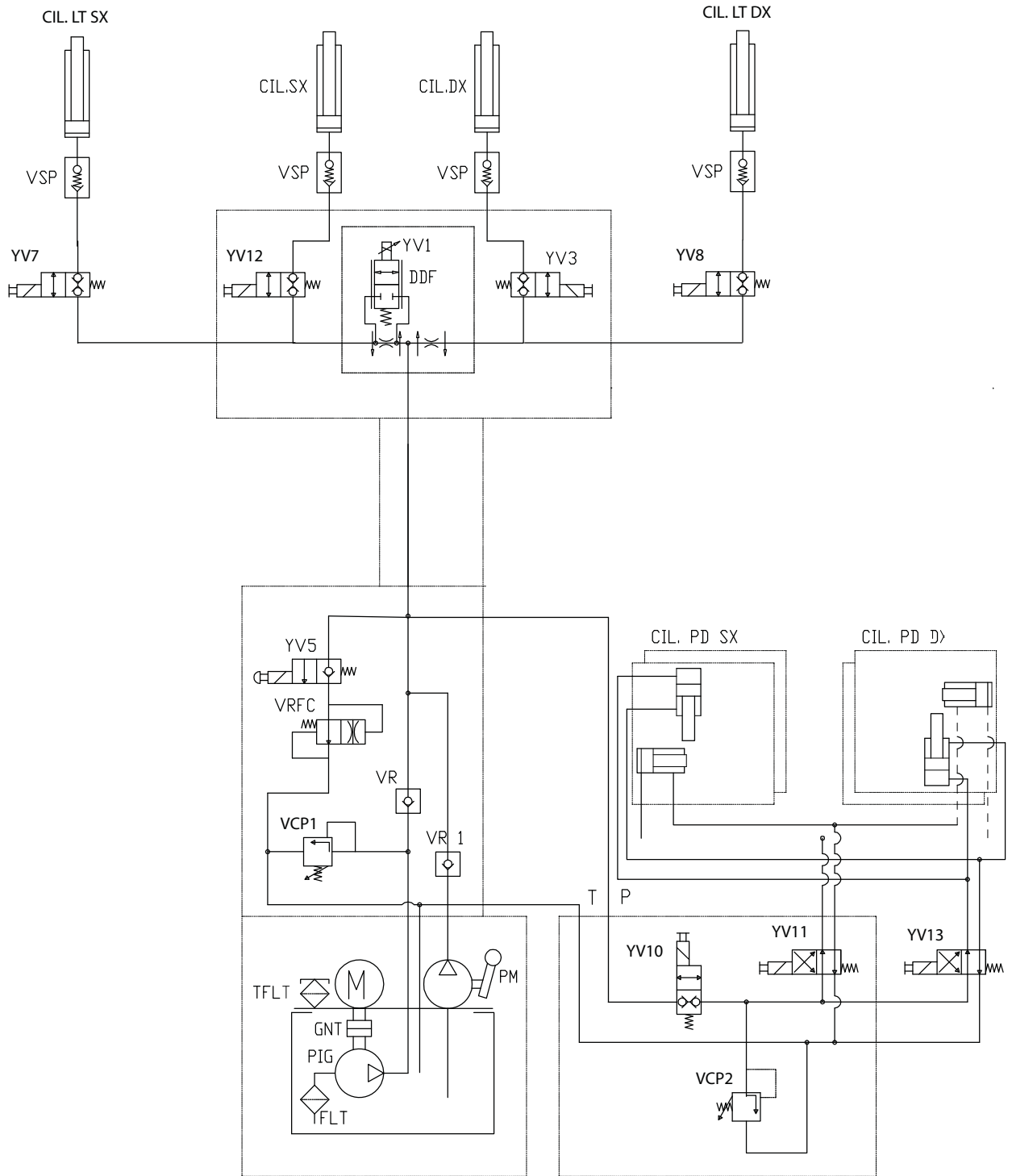


HYDRAULIC SYSTEM DIAGRAM

CT LT 6 MOVEMENTS FAST

Fig. 20_1

DDF	FLOW DIVIDER
VRFC	FLOW REGULATOR
VCP1	LIFT PRESSURE REGULATOR VALVE (max. 270 Bar)
VCP2	PLAY DETECTOR PRESSURE REGULATOR VALVE (max. 150 Bar)
VR	CHECK VALVE
VR1	CHECK VALVE
VRF	SYNCHRONISER VALVE
VSP	SAFETY VALVE
PM	HAND PUMP
PIG	HYDRAULIC PUMP
M	MOTOR
GNT	COUPLING
FLT	INTAKE FILTER
TFLT	CAP WITH BUILT-IN FILTER
CIL.LH.	MAIN LIFT LH CYLINDER
CIL.RH.	MAIN LIFT RH CYLINDER
CIL.PD LH	LH CYLINDER OF PLAY DETECTOR
CIL.PD RH	RH CYLINDER OF PLAY DETECTOR
CIL.M	FREE-WHEEL LIFT TABLE MASTER CYLINDER
CIL.S	FREE-WHEEL LIFT TABLE SLAVE CYLINDER
YV1	LH RUNWAY PROPORT. SLAVE SOLENOID VALVE FOR MAIN LIFT
YV3	RH RUNWAY LOCKING MASTER SOLENOID VALVE FOR MAIN LIFT
YV12	LH RUNWAY LOCKING SLAVE SOLENOID VALVE FOR MAIN LIFT
YV5	OIL DRAIN S.V.
YV7	LT LIFT LOCKING SOLENOID VALVE
YV8	LT LIFT LOCKING SOLENOID VALVE
YV10	PLAY DETECTOR BLOCK S.V.
YV11	PLAY DETECTOR 1° MOVEMENT SOLENOID VALVE
YV13	PLAY DETECTOR 2° MOVEMENT SOLENOID VALVE



ELECTRICAL SYSTEM DIAGRAM

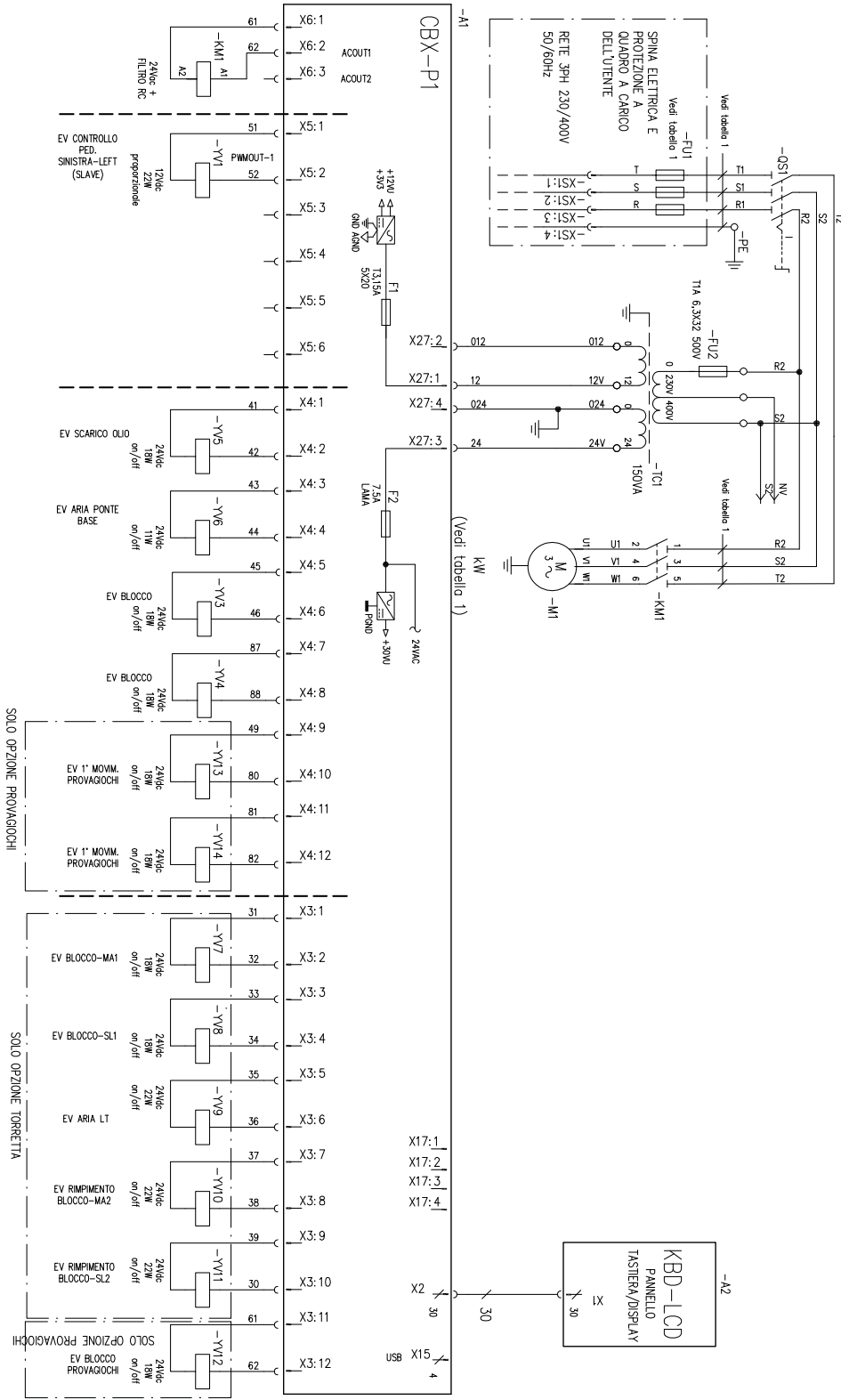
Fig. 21 - 21_1

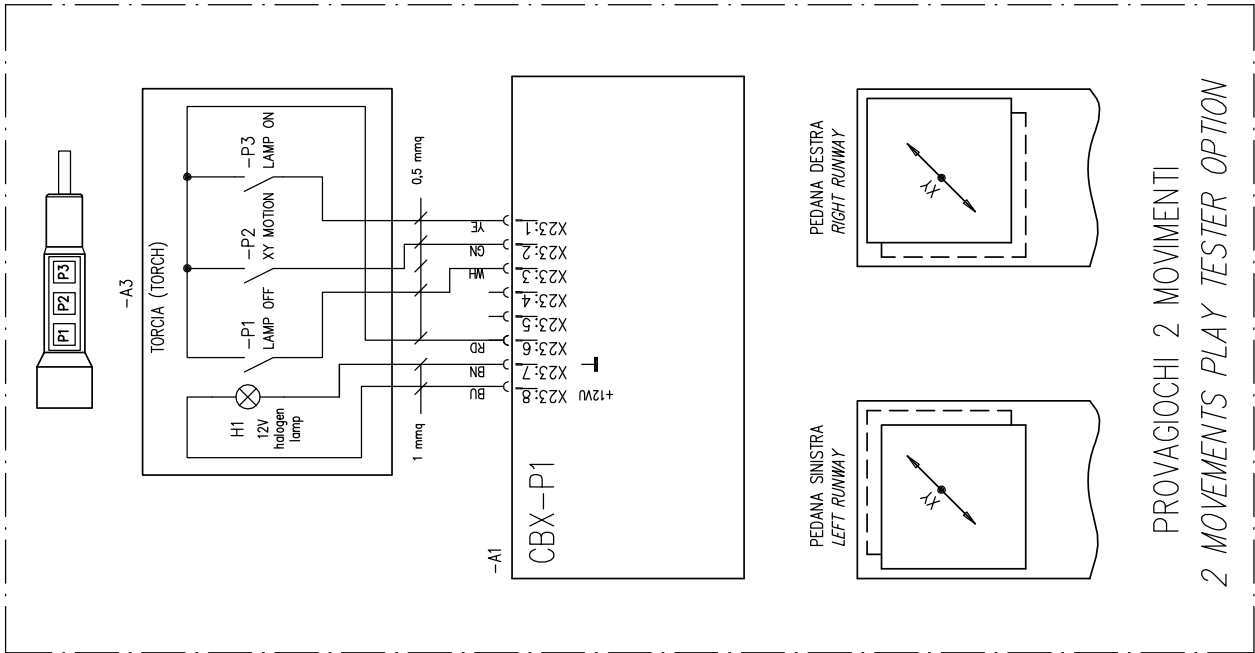
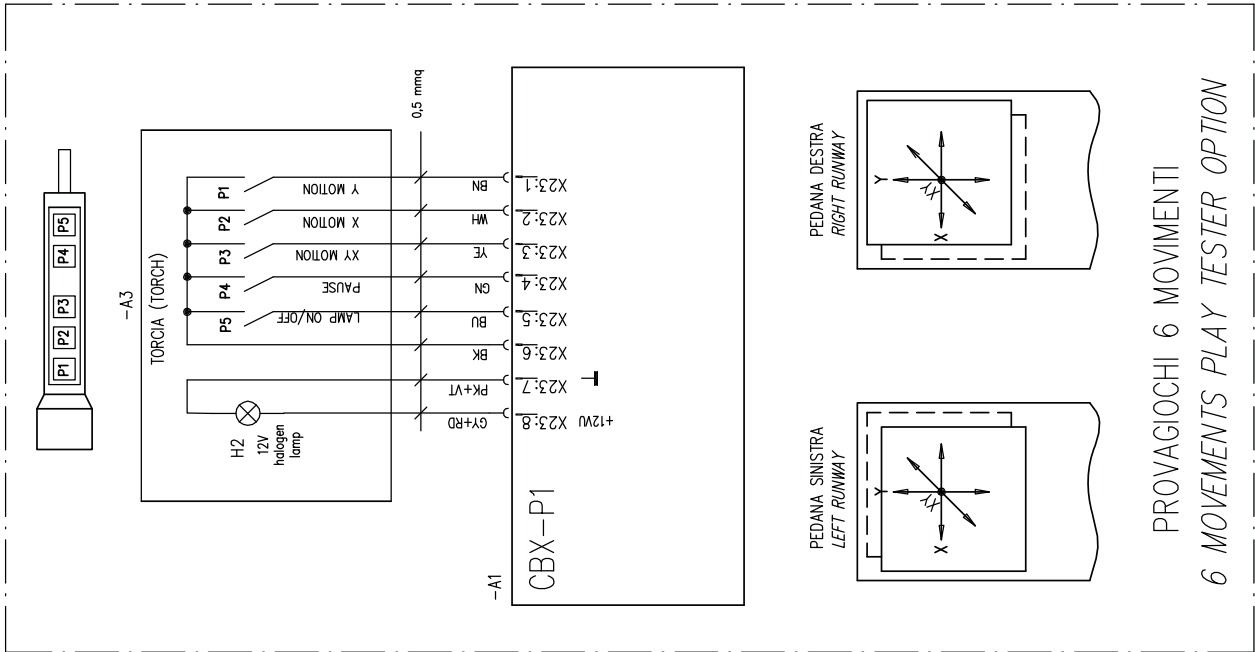
A1	ELECTRONIC CONTROL BOARD CBX-P1
A2	CONTROL PANEL WITH OR WITHOUT DISPLAY DEPENDING ON LIFT VERSION
A3	PLAY DETECTOR TORCH
A4	FRONT RH LED ILLUMINATION LAMP
A5	REAR RH LED ILLUMINATION LAMP
A6	FRONT LH LED ILLUMINATION LAMP
A7	REAR LH LED ILLUMINATION LAMP
BQ1	LH RUNWAY POTENTIOMETER (SLAVE) FOR MAIN LIFT
BQ2	RH RUNWAY POTENTIOMETER (MASTER) FOR MAIN LIFT
F1	T3.15A 5x20 FUSE (on ELECTRONIC CONTROL BOARD)
F2	7.5A BLADE FUSE (on ELECTRONIC CONTROL BOARD)
FU1	LINE FUSES (SEE TABLE)
FU2	PRIMARY FUSE T1A 6.3x32 500V
KM1	MOTOR REMOTE CONTROL M1
M1	HYDRAULIC POWER UNIT MOTOR
QS1	MASTER SWITCH
S1	MOTOR TEMPERATURE SENSOR M1
TC1	150VA TRANSFORMER
XS1	ELECTRIC PLUG AND SOCKET (NOT INCLUDED)
YV1	LH RUNWAY PROPORT. SOLENOID VALVE (SLAVE) FOR MAIN LIFT
YV3	RH RUNWAY LOCKING SOLENOID VALVE (MASTER) FOR MAIN LIFT
YV12	LH RUNWAY LOCKING SOLENOID VALVE (SLAVE) FOR MAIN LIFT
YV5	OIL DRAIN S.V.
YV6	MAIN LIFT AIR SOLENOID VALVE
YV7/YV8	LT LIFT LOCKING SOLENOID VALVE
YV9	LT LIFT AIR SOLENOID VALVE
YV10	PLAY DETECTOR BLOCK S.V.
YV11	PLAY DETECTOR PLATE MOVEMENT S.V.
YV13	PLAY DETECTOR PLATE MOVEMENT SOLENOID VALVE (USED ONLY ON 6 MOVEMENT VERSION)

TABLE

VERSION		WIRE SECTION	FUSES FU1
VOLTAGE	MOTOR POW.		
230V	5.5 kW	4 mm ²	25 A gG 10.3x38
400V	5.5 kW	2.5 mm ²	16A gG 10.3x38
230V	2.6 kW	2.5 mm ²	16A gG 10.3x38
400V	2.6 kW	2.5 mm ²	16A gG 10.3x38

VERSIONI		SEZIONE		FUSIBILI FUI	
TENSIONE	POT. MOTORE	FUI			
230 V	5,5 kW	4 mmq	25 A gG	10,3x38	
400 V	5,5 kW	2,5 mmq	16 A gG	10,3x38	
230 V	2,5 kW	2,5 mmq	16 A gG	10,3x38	
400 V	2,5 kW	2,5 mmq	16 A gG	10,3x38	



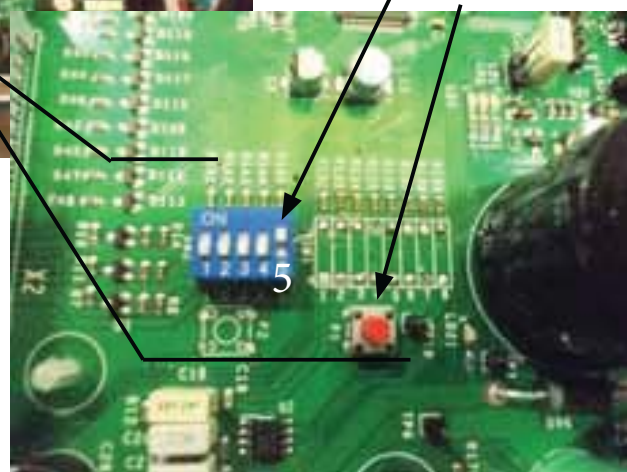
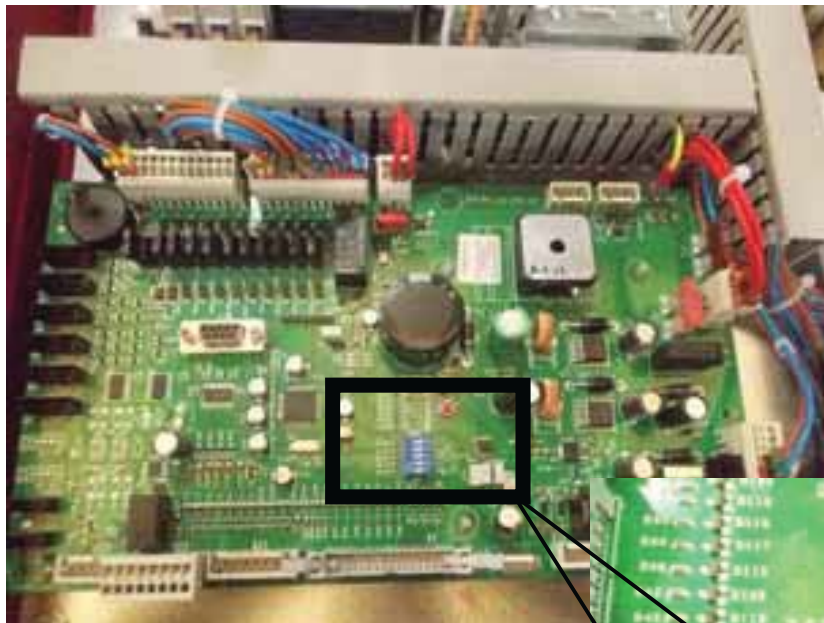


CALIBRATION

(only installation technicians)

MAIN LIFT CALIBRATION

1. Turn the lift off.
2. Set dip switch 5 to ON
3. Turn the lift on
4. Wait 2 seconds then set dip switch 5 to OFF.
5. Move the lift to the CAL 0 point (lowered completely to the floor), then press the button on the board.
6. Move the lift to the CAL1 point (first tooth from bottom), then press the button on the board.
7. Move the lift to the CAL2 point (last tooth at the top), then press the button on the board.
8. Wait for the message "CALIBRATION OK", then turn the lift off. The main lift is now calibrated.



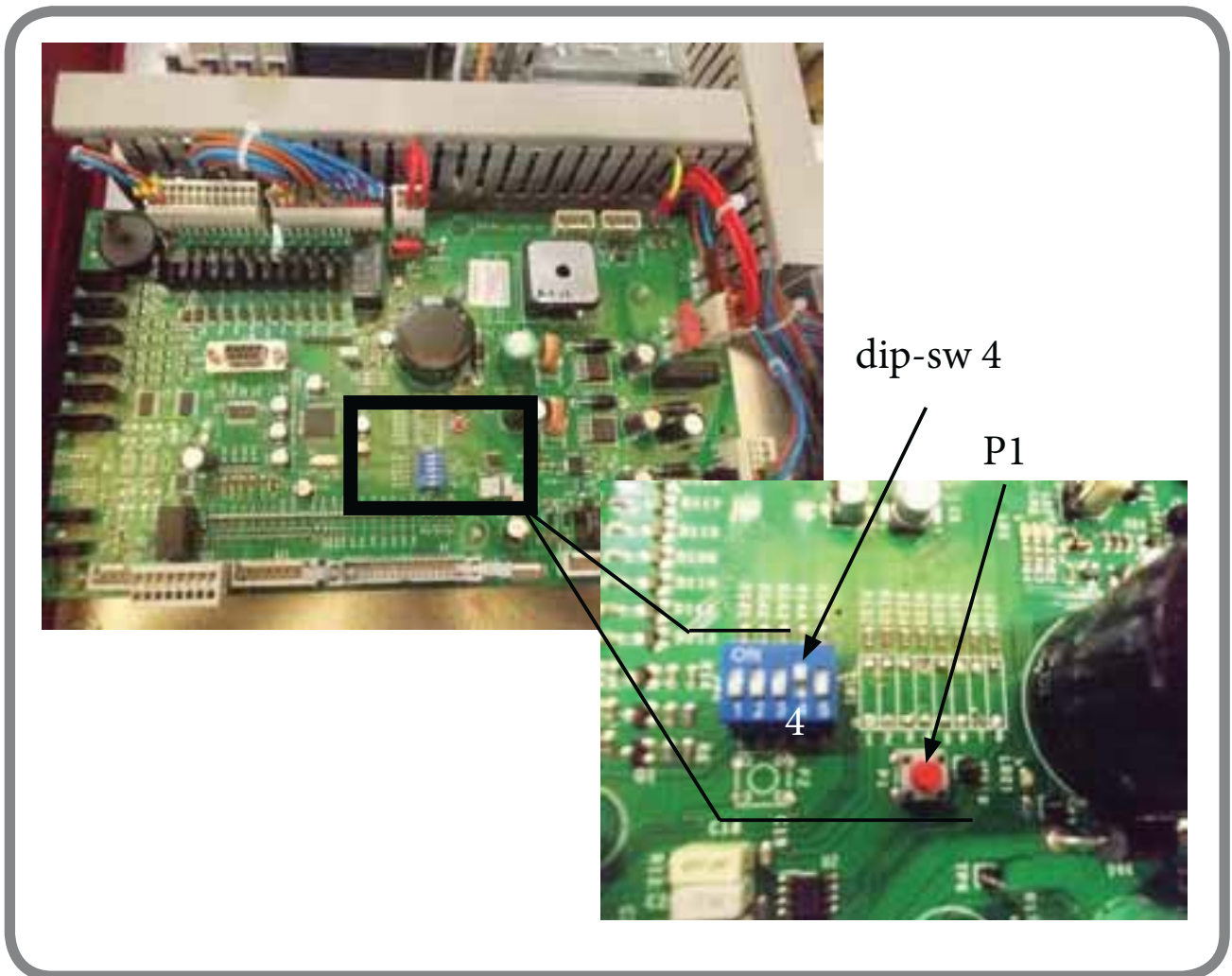
dip-sw 5

P1

5

LIFT TABLE CALIBRATION

1. Turn the lift off.
2. Set dip switch 4 to ON
3. Turn the lift on
4. Wait 2 seconds then set dip switch 4 to OFF.
5. Move the lift to the CAL LT 0 point (lift table closed), then press the button on the board.
- 5.1 Move the lift to the CAL LT 1 point, lift table opened and mechanical safety device in proximity of the last tooth on the top and then press the key P1 on card.
6. Wait for the message "CALIBRATION OK", then turn the lift off. The integrated lift table is now calibrated.



REMARKS: The integrated lift table (LT) is disabled if it has not been calibrated.

