MTRIP2500921

EN: TRANSLATION OF THE ORIGINAL INSTRUCTIONS

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TRIPARK 25

Capacity 2500 Kg for each platform

Noise emissions 70dB(A)

USE AND MAINTENANCE MANUAL

INDEX ..... ENGLISH

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Symbols used in the manual

The signage (ISO) indicated below is used within this manual to focus attention on those operations that must be performed carefully in order to guarantee safety during installation.

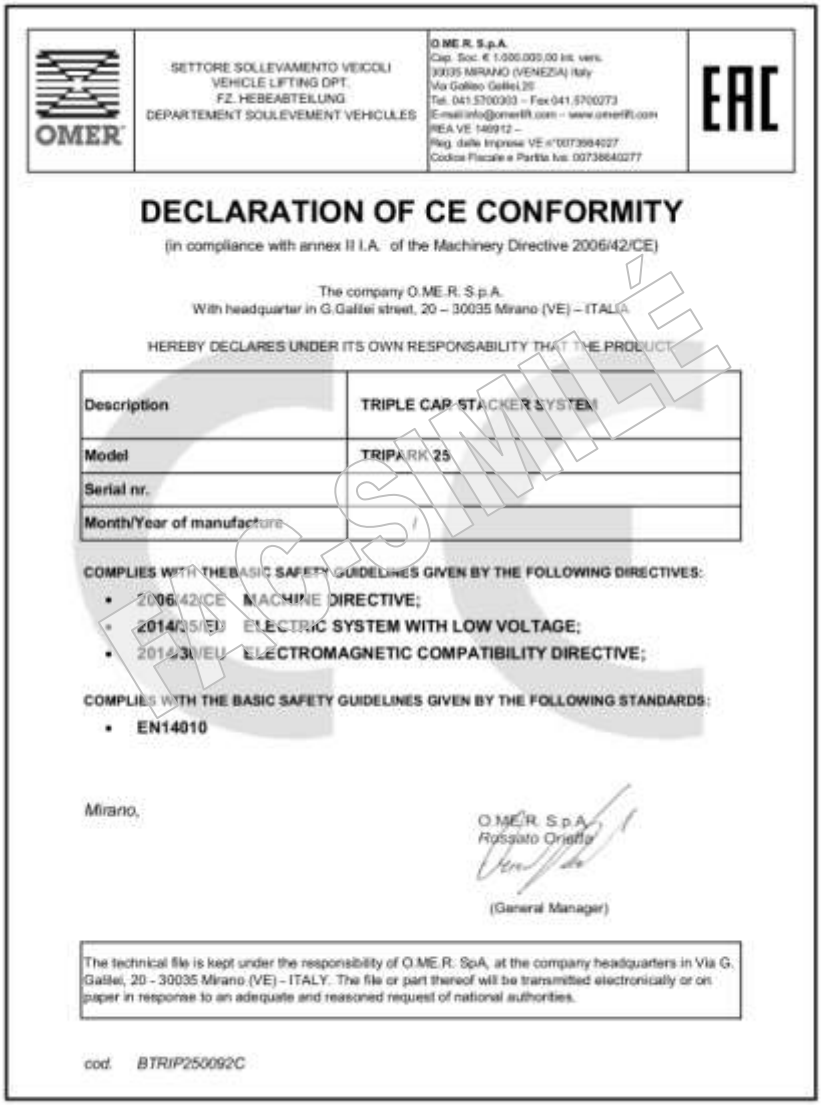
	**GENERAL DANGER**	Indicates that, when performing the operation, great care must be taken to prevent the onset of events that could cause serious injury or damage.
	**ELECTRICAL DANGER**	Indicates that, when performing the operation, an event (of an electrical nature) could arise leading to injury or damage.
	**DANGER OF PINCHING**	Indicates that, during installation or transport of system components, suitable lift equipment must be used and utmost attention applied.
	**DANGER OF FALLING**	Indicates that, during installation, the operator crosses zones where there is high risk of falling; always be particularly careful.
	**IMPORTANT**	Indicates that the indications or instructions described in the text must be followed to the letter. Non-compliance with the indications can be dangerous for the operator and can damage the system.
	**PROHIBITION**	Indicates that the specific activity or operating sequence must be avoided

1. GENERAL INFORMATION

1.1. *Marking data*

Lift identification plate:

1.2. *Declaration of CE conformity*



SETTORE SOLLEVAMENTO VEICOLI
VEHICLE LIFTING DPT.
FZ. HEBEABTEILUNG
DEPARTEMENT SOULEVEMENT VEHICULES

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REA VE 146912 –
Reg. dalle Imprese VE n°00739840277
Codice Fiscale e Partita Iva: 00739840277

EAC

DECLARATION OF CE CONFORMITY

(in compliance with annex II I.A. of the Machinery Directive 2006/42/CE)

The company O.ME.R. S.p.A.
With headquarter in G.Galilei street, 20 – 30035 Mirano (VE) – ITALIA

HEREBY DECLARES UNDER ITS OWN RESPONSABILITY THAT THE PRODUCT

Description	TRIPLE CAR STACKER SYSTEM
Model	TRIPARK 25
Serial nr.	
Month/Year of manufacture	

COMPLIES WITH THE BASIC SAFETY GUIDELINES GIVEN BY THE FOLLOWING DIRECTIVES:

- 2006/42/CE MACHINE DIRECTIVE;
- 2014/35/EU ELECTRIC SYSTEM WITH LOW VOLTAGE;
- 2014/30/EU ELECTROMAGNETIC COMPATIBILITY DIRECTIVE;

COMPLIES WITH THE BASIC SAFETY GUIDELINES GIVEN BY THE FOLLOWING STANDARDS:

- EN14010

Mirano,

O.ME.R. S.p.A.
Rossato Oriella

(General Manager)

The technical file is kept under the responsibility of O.ME.R. SpA, at the company headquarters in Via G. Galilei, 20 - 30035 Mirano (VE) - ITALY. The file or part thereof will be transmitted electronically or on paper in response to an adequate and reasoned request of national authorities.

cod. BTRIP250092C

1.3. *Installer responsibilities*

The installer must put into practice all platform installation instructions provided by the Manufacturer and apply the guards in order to guarantee compliance with the Machinery Directive 2006/42/EC.

1.4. *Assistance*

Please use the following contact details for assistance requests :

TEL. +39 041/5700303
(O.ME.R. switchboard)

FAX. +39 041/5700273
(FAO the Car Park Department)

1.5. *Description of personnel*

TERMS AND DEFINITIONS

- OPERATOR/SPECIALISED TECHNICIAN:
  the person(s) appointed to:
  - install,
  - set up,
  - adjust
  - perform maintenance on,
  - clean,
  - repair
  - transport the lift.
  - perform certain maintenance operations that require specific preparation and expertise in the mechanics, electrical, electronic, oil-hydraulic and pneumatic fields.

The specialised technician is aware of any risks present on the machine and the procedures to be followed to avoid damage to his/herself or others during such maintenance operations.

- EXPOSED PERSON: any person wholly or partly in a hazardous area.
- HAZARDOUS OR RISKY AREA: any area inside and/or close to a machine in whose presence an exposed person constitutes a risk for his/her health and safety.
- USER: anyone who buys or possesses the lift in any way (on loan, hire, lease, etc.), with the intention of using it as indicated by the manufacturer.
- MAINTENANCE: all activities, which shall be done to keep the system in efficiency and in good condition.
- DPI: (PPE) Personal protection equipment.

2. DESCRIPTION OF THE MACHINE

Addressees:

- USER;
- OPERATOR / SPECIALISED TECHNICIAN.

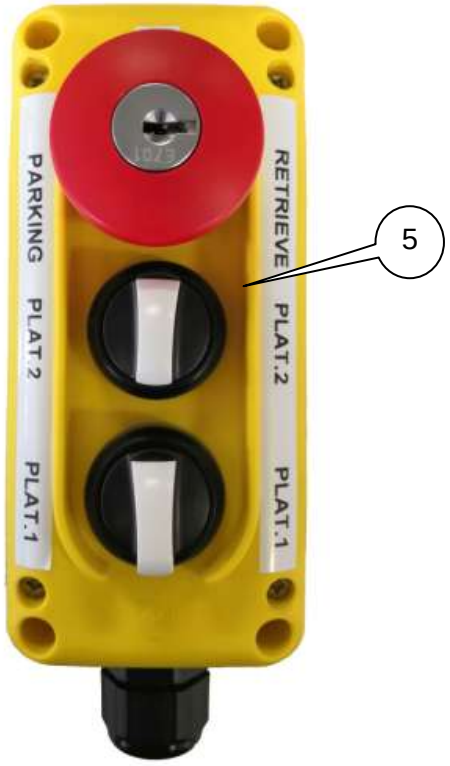
Model	Capacity Kg Lbs	Power Kw	Pressure bar	Electrical supply	Nominal current A	Starting current A	Average speed m/s
TRIPARK 25	2500 +2500 5500+5500	2,5	300	400V 3ph 50Hz	6,4	35,8	0,05
		2,5	300	230V 1ph 50Hz	13	91	0.03
		2,2	300	208-220V 1ph 60Hz	23	126	0.03
		2,6	300	208V 3ph 60Hz	13,5	50	0.05

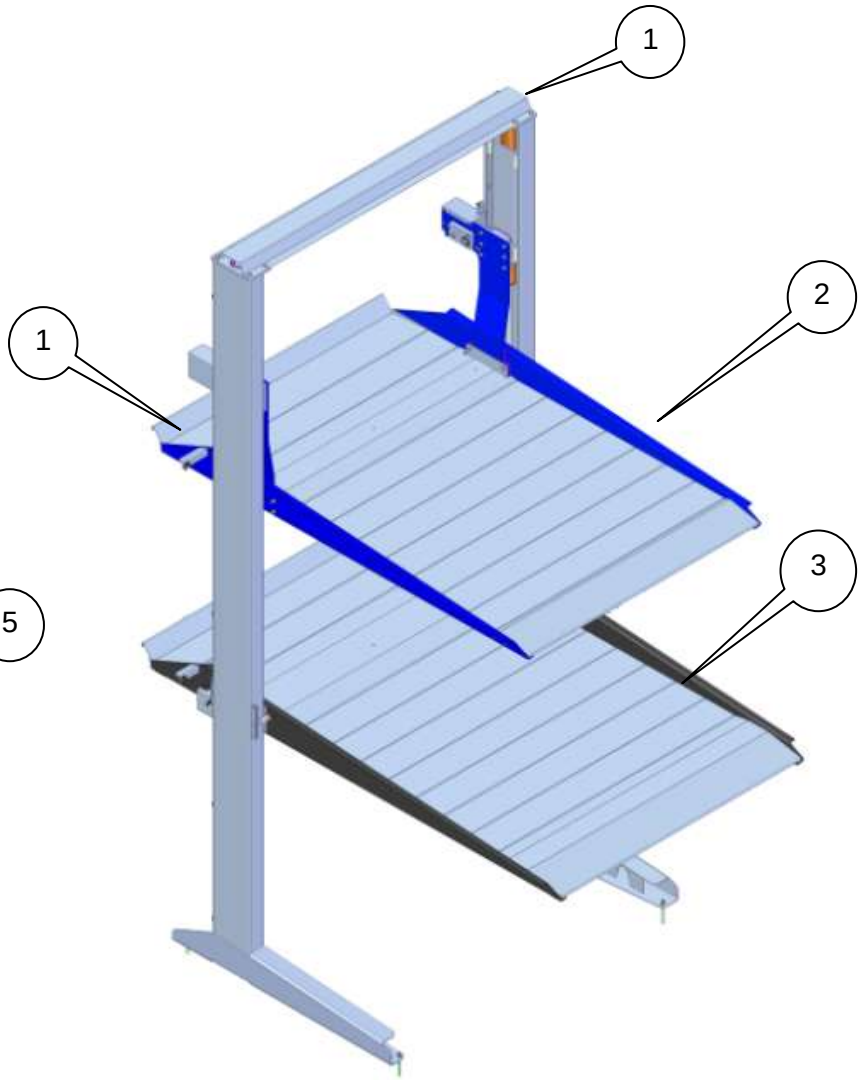
OPERATING TEMPERATURE:
FROM -10 TO 40 ° C.

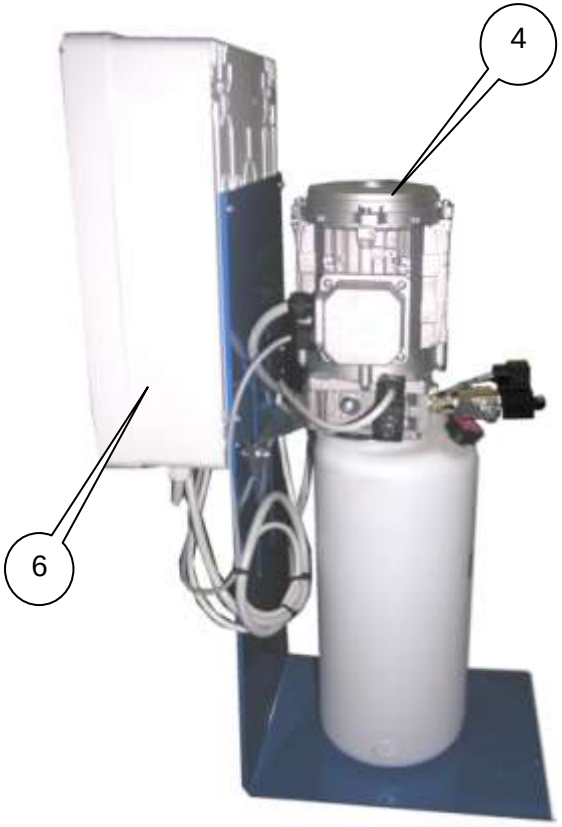
INSTALLATION SITE: INDOOR

2.1. *Nomenclature*

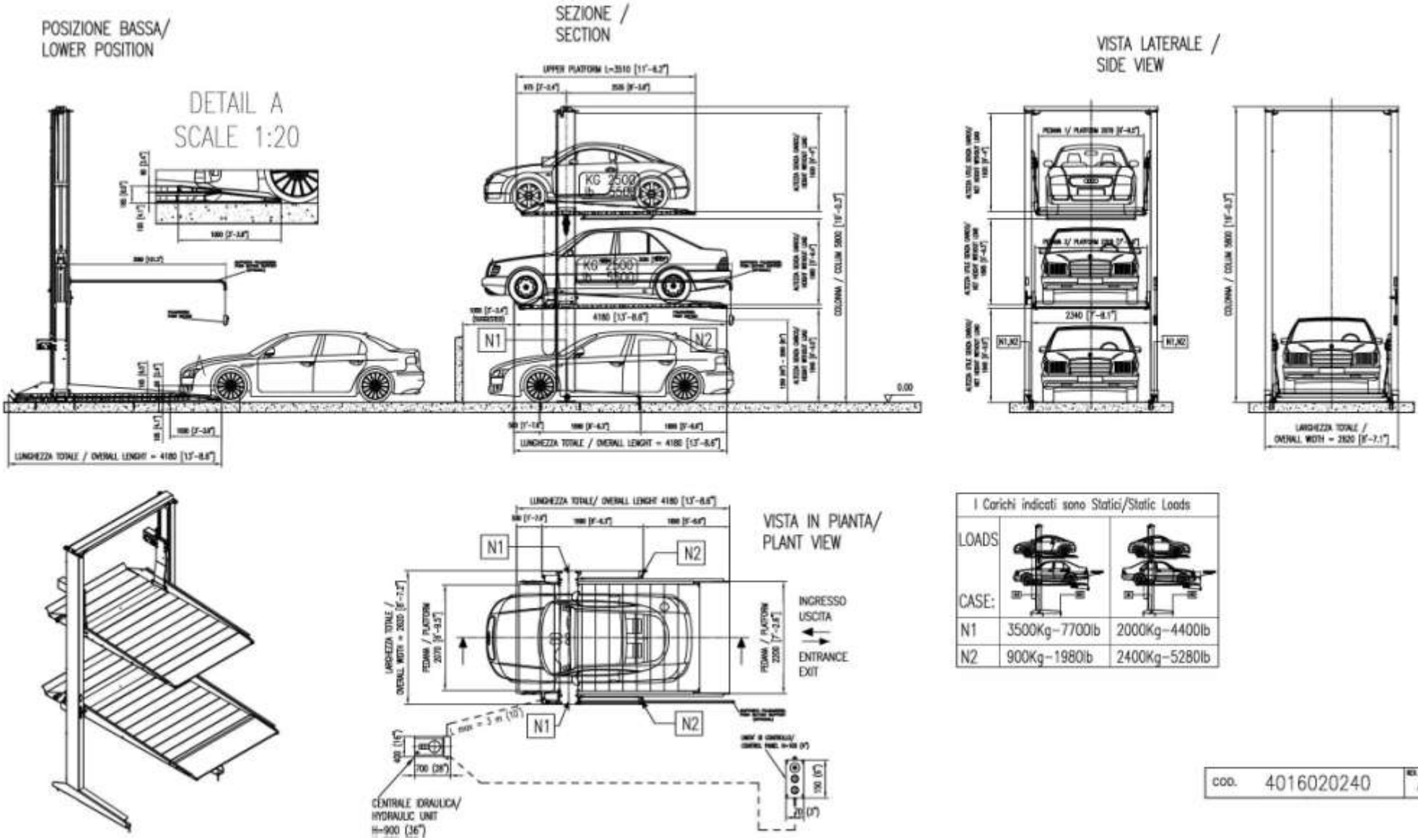
N°	DESCRIPTION
1	Columns
2	Upper platform (2)
3	Lower platform (1)
4	Hydraulic control unit
5	Command button panel
6	Electric box







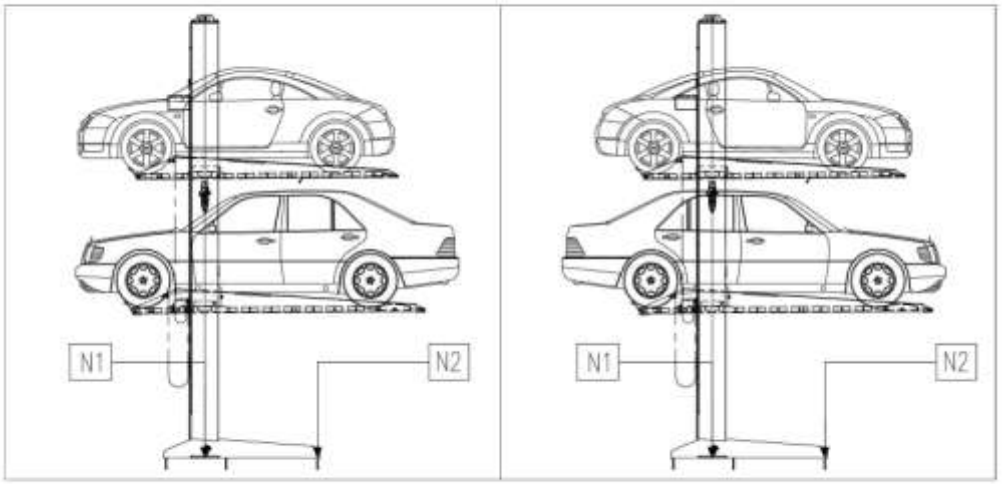
2.2. *Stacker dimensions and foundation loads*



I Carichi indicati sono Statici/Static Loads		
LOADS / CASE:		
N1	3500Kg-7700lb	2000Kg-4400lb
N2	900Kg-1980lb	2400Kg-5280lb

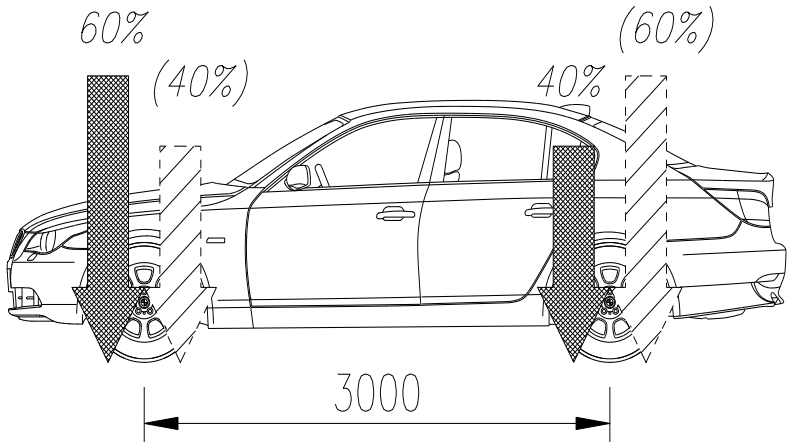
COD. 4016020240 REV. A

2.3. *Type of platform loading*



The vehicle can be loaded on both directions

2.4 Maximum vehicle load distribution



CARICO	**60%**	**40%**
2500Kg	1500Kg	1000Kg

3. SAFETY

Addressees:

- USER;
- OPERATOR / SPECIALISED TECHNICIAN.

3.1. *Intended use*

The scope of the lifting platform is to lift and park cars.
The load distribution has to be according the standard in force.
The accessories indicated in the relating chapter can be used.

3.1.1. Plan of user training

The user must be trained on:

- Use of lift commands
- Emergency stop
- Residual risks

3.2. *General safety regulations*

For instant consultation by the operator, this manual must:

- be kept in a well known, easily accessible place
- be kept in good condition

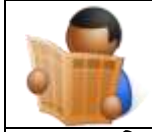
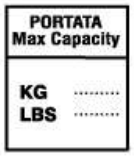
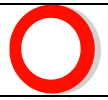
Before proceeding with installation and use of the machine, the user must read the manual carefully, especially the safety rules.

The machine should be used by authorised, trained personnel only.
The user (owner and/or employee) must make sure that the fitter has provided:

- all accessories
- the spares provided with the lift
- this use and maintenance manual
- the certification of installation
- the certification of start-up

Use as described in this manual only. Always use the accessories recommended by the manufacturer.
O.ME.R. S.p.A. declines all responsibility for non-compliance with the indications given in this manual

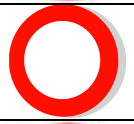
3.3. *Precautions*

	Read all instructions carefully
	Put the main switch to the zero position when the machine is not in use. .
	To reduce the risk of fires, avoid using the lift close to open drums of inflammable liquid (such as gas oil) and/or in explosive environments.
	Make sure the work area is adequately aired when using internal combustion engines.
	Avoid contact between parts of the body and/or clothing and moving parts.
	Protect the control unit adequately if used outdoors.
	When loading the lift never exceed the capacity shown on the ID plate on the lift.
	It is strictly forbidden to remove the safety devices
	Never lift people.
	Never stand under the platform while moving. The platform work area is off limits to children and animals and other obstacles.

	• Park the car until the axle wheels are in contact with the platform front stop plate. • Check that the axle wheels are in contact with the platform front stop plate before other operations.
	Lock the vehicle on the platform with the hand brake or other device before leaving the car.
	WARNING: The net car parking height is includes the car height and all the accessories as antenna, roof bars, etc
	Any modifications to the lift must be authorised by the manufacturer.
	The equipment must be used by specifically trained and authorised personnel only.
	Do not tamper with the lift's upstroke and downstroke speeds, which have been adjusted by OMER during factory tests in compliance with applicable legislation.
	Always check the stability of thevehicleor the goods
	Do not use the lift in the event of hindrances to operation or hazardous conditions. The recognized faults have to be reported to the plant responsabile, which will put out of service the lifting platform until the faults will be repaired
	Check the lift carefully after long periods of inactivity before putting it back into service.
	The lift comes complete with an instruction manual and warnings designed to last over time. Ask the manufacturer for a replacement immediately if damaged or destroyed.

3.4. *MISUSE*

NEVER:

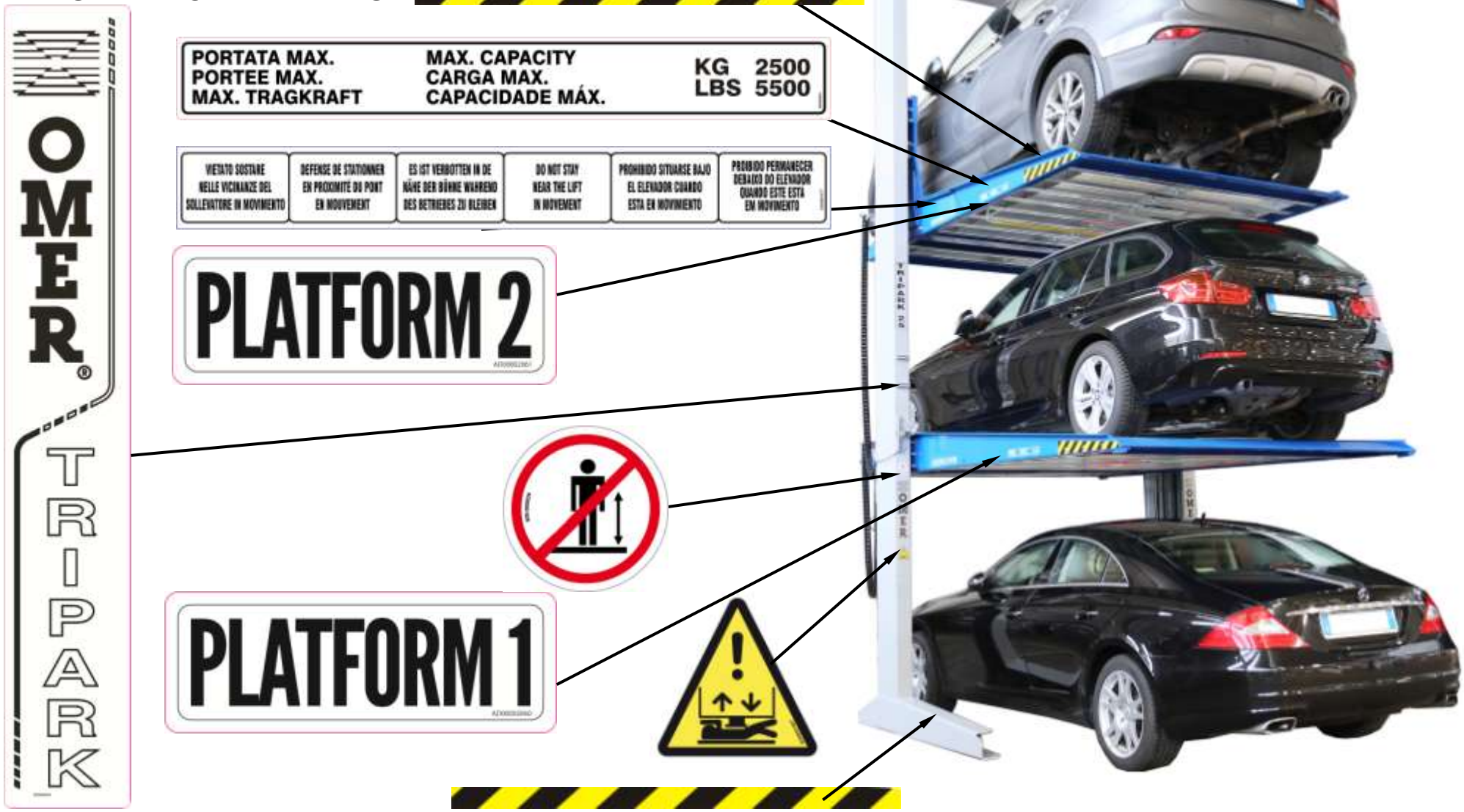
	ALLOW MINORS TO OPERATE THE UNIT
	TRANSPORT ANIMALS
	STAND UNDER THE PLATFORM WHILE MOVING.
	POSITION THE LOAD IN AN UNSTABLE MANNER
	LIFT LOADS THAT ARE TALLER THAN THE USABLE HEIGHT
	LEAVE THE KEYS INSERTED IN THE PUSHBUTTON PANEL
	TAMPER WITH THE SAFETY SYSTEMS
	OVERLOAD THE MACHINE
	USE THE PLATFORM WHEN “MACHINE UNDERGOING MAINTENANCE” AND/OR “MACHINE OUT OF SERVICE” SIGNS ARE POSTED

3.5. *Characteristics of the protective device*

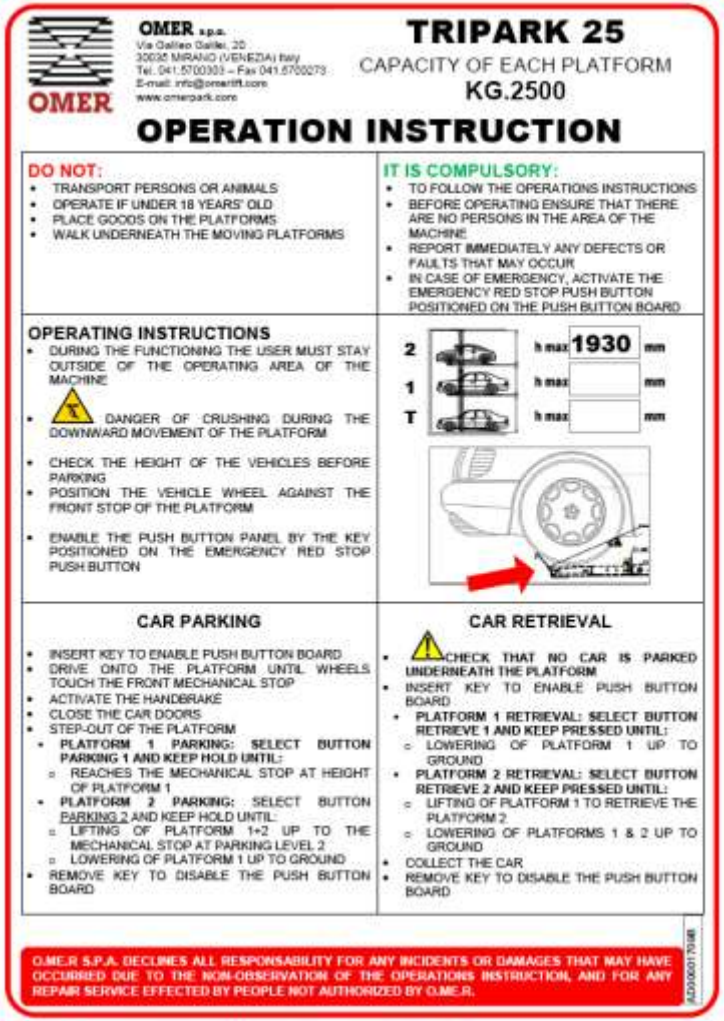
PROTECTIVE DEVICE	COMPOSED OF…	POSITION	IN CASE OF…	ACTION ON LIFT
DEADMAN CONTROLS	Pushbuttons	Pushbutton panel	Sudden danger	Blocks the lift as soon as the control is released.
MAXIMUM PRESSURE CONTROL	Pressure relief valve	Hydraulic control unit.	Load greater than lift capacity	The lift does not rise. Warning: the load causes the lift to lower.
LIFT CYLINDER PARACHUTE VALVES	Valve	In both lift cylinders	If a hose breaks, no manoeuvres are possible.	The control cuts in only when oil is fed in the direction of the movement.
LIMITING DOWNWARD SPEED INDEPENDENT OF LOAD	Balancing valves	Hydraulic circuit	-	The downward speed is controlled by the oil flow valve
MAXIMUM HEIGHT BARS	MIcroswitch	Under the upper platform	In case of contact between platform and vehicle	Stops the platform movement
SIGNAGE	Stickers and labels	See paragraph: *Stickers and labels*	-	Warns of residual risks and precautions for use.
TORSION BAR LOCKS	Pinion and rack	Lower platform Upper platform	Positioning of the platform	Locks the lowering of the platform
CAR PRESENCE CHECK ON LOWER PLATFORM (OPTIONAL)	Photocell and reflector	Lower platform	Car on lower platform	Stop the lifting of the platform

3.6. *Stickers and plates*

LIFTING PLATFORM MARKING



THE PLATFORM INTRUCTION NOTICE IS INSTALLED IN A CLEAR AREA NEXT TO EACH FLOOR PUSHBUTTON PANEL



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www.omerpark.com

TRIPARK 25

CAPACITY OF EACH PLATFORM
KG.2500

OPERATION INSTRUCTION

DO NOT:
- TRANSPORT PERSONS OR ANIMALS
- OPERATE IF UNDER 18 YEARS' OLD
- PLACE GOODS ON THE PLATFORMS
- WALK UNDERNEATH THE MOVING PLATFORMS

IT IS COMPULSORY:
- TO FOLLOW THE OPERATIONS INSTRUCTIONS
- BEFORE OPERATING ENSURE THAT THERE ARE NO PERSONS IN THE AREA OF THE MACHINE
- REPORT IMMEDIATELY ANY DEFECTS OR FAULTS THAT MAY OCCUR
- IN CASE OF EMERGENCY, ACTIVATE THE EMERGENCY RED STOP PUSH BUTTON POSITIONED ON THE PUSH BUTTON BOARD

OPERATING INSTRUCTIONS
- DURING THE FUNCTIONING THE USER MUST STAY OUTSIDE OF THE OPERATING AREA OF THE MACHINE
- DANGER OF CRUSHING DURING THE DOWNWARD MOVEMENT OF THE PLATFORM
- CHECK THE HEIGHT OF THE VEHICLES BEFORE PARKING
- POSITION THE VEHICLE WHEEL AGAINST THE FRONT STOP OF THE PLATFORM
- ENABLE THE PUSH BUTTON PANEL BY THE KEY POSITIONED ON THE EMERGENCY RED STOP PUSH BUTTON

2 h max 1930 mm
1 h max mm
T h max mm

CAR PARKING
- INSERT KEY TO ENABLE PUSH BUTTON BOARD
- DRIVE ONTO THE PLATFORM UNTIL WHEELS TOUCH THE FRONT MECHANICAL STOP
- ACTIVATE THE HANDBRAKE
- CLOSE THE CAR DOORS
- STEP-OUT OF THE PLATFORM
- **PLATFORM 1 PARKING: SELECT BUTTON PARKING 1 AND KEEP HOLD UNTIL:**
  - REACHES THE MECHANICAL STOP AT HEIGHT OF PLATFORM 1
- **PLATFORM 2 PARKING:** SELECT BUTTON PARKING 2 AND KEEP HOLD UNTIL:
  - LIFTING OF PLATFORM 1+2 UP TO THE MECHANICAL STOP AT PARKING LEVEL 2
  - LOWERING OF PLATFORM 1 UP TO GROUND
- REMOVE KEY TO DISABLE THE PUSH BUTTON BOARD

CAR RETRIEVAL
- CHECK THAT NO CAR IS PARKED UNDERNEATH THE PLATFORM
- INSERT KEY TO ENABLE PUSH BUTTON BOARD
- **PLATFORM 1 RETRIEVAL: SELECT BUTTON RETRIEVE 1 AND KEEP PRESSED UNTIL:**
  - LOWERING OF PLATFORM 1 UP TO GROUND
- **PLATFORM 2 RETRIEVAL: SELECT BUTTON RETRIEVE 2 AND KEEP PRESSED UNTIL:**
  - LIFTING OF PLATFORM 1 TO RETRIEVE THE PLATFORM 2
  - LOWERING OF PLATFORMS 1 & 2 UP TO GROUND
- COLLECT THE CAR
- REMOVE KEY TO DISABLE THE PUSH BUTTON BOARD

O.M.E.R S.P.A. DECLINES ALL RESPONSABILITY FOR ANY INCIDENTS OR DAMAGES THAT MAY HAVE OCCURRED DUE TO THE NON-OBSERVATION OF THE OPERATIONS INSTRUCTION, AND FOR ANY REPAIR SERVICE EFFECTED BY PEOPLE NOT AUTHORIZED BY O.M.E.R.

3.7. *Customer responsibilities*

The customer must:

- collect and preserve the certifications for the overall installed system such as:
  - CE product certifications
  - declaration of correct installation
- Notify the offices having jurisdiction when the unit is installed
- Stipulate a maintenance contract

3.7.1. Reference standards

The standards to be considered in order to evaluate the conformità of the tecnica solutions by taking into account the Machine Directive 2006/42/CE

(installation shaft, protective devices, lighting, interfaces, aeration, etc) are herebelow listed:

EN 12100	Safety of machinery
EN 349	Minimum gap sto avoid crushing of parts of human body
EN 953	Guards - General requirements for the design and construction of fixed and movable guards
EN 982	Safety requirements for fluid power systems and their components - Hydraulics
EN 1037	Prevention of unexpected start-up
EN 1088	Interlocking devices associated with guards
EN 13850	Emergency stop
EN 13857	Safety distances to prevent hazard zones being reached by upper and lower limbs
EN 953	Guards - General requirements for the design and construction of fixed and movable guards
CEI EN 60204-1	Electrical equipment of machines Part 1 General requirements
EN 61000-6-2 EN 61000-6-3	Electromagnetic compatibility (EMC)
EN 14010	Safety Of Machinery - Equipment For Power Driven Parking Of Motor Vehicles - Safety And Emc Requirements For Design, Manufacturing, Erection And Commissioning Stages
Local standards of the installation site	

3.7.2. Platform documentation

	**The customer must keep on hand all lift platform documentation and fill it out as needed.**
	**The User's Manual is an integral part of the machine.** **Safe operation of the machine requires thorough knowledge of the information in this Manual.**
	**The User's Manual and all attachments must be kept in a place that is easily accessible to the maintenance technicians and inspectors.**

The platform documentation is composed of:

- User's Manual
- Installation Manual (if the installation is performed by any party other than OMER)
- Hydraulic diagram
- Electrical diagram
- Spare parts list
- Machine layout
- Loads on foundations
- Register of periodic adjustments and controls (*)
- Start-up report (**)
- Declaration of conformity
- Detailed list of documentation delivered.

(*)The **Register of periodic adjustments and controls** contains the information on the:

- Main characteristics of the machine
- Maintenance contractor
- Major repairs and modifications
- Other useful information
- Outcome of six-months inspections

(**)The **Start-up report contains the:**

- Main characteristics of the machine
- The list of:
  - Element controlled
  - Control modes
  - Outcome of control
- Date performed
- Name of tester
- The persons charged by the customer to receive consignment of the lift platform

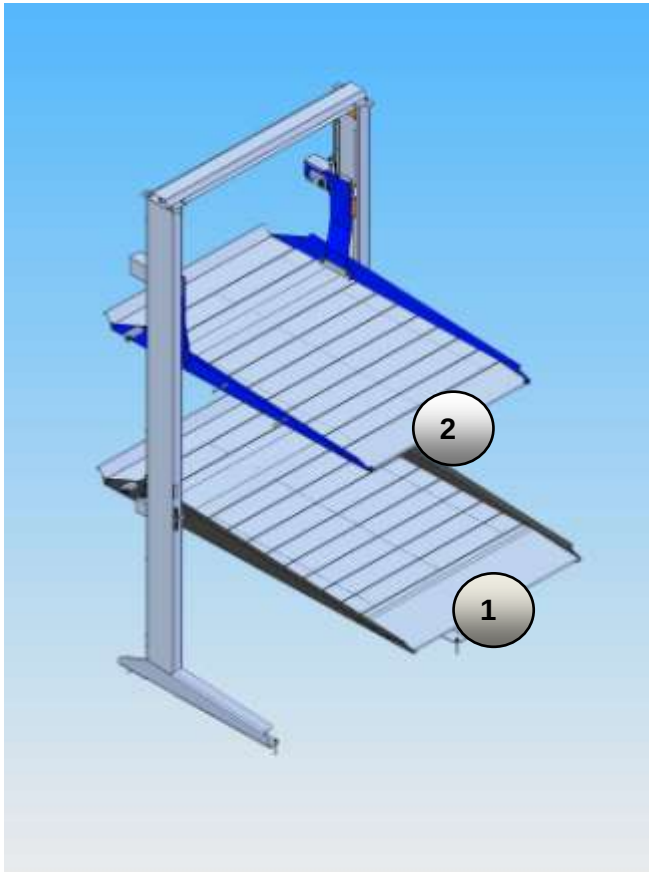
4. USE

Addressees:

- USER;
- OPERATOR / SPECIALISED TECHNICIAN.

4.1. *Description*

The stacker Tripark 25 is a dependent parking system for three cars, with two platforms stopping at different levels.
The lower vehicle parks directly on the ground floor while the other two cars are parked one on each platform
Before lowering any platform, the car parked below has to be removed.
The stacker is operated by a dead men push button control.

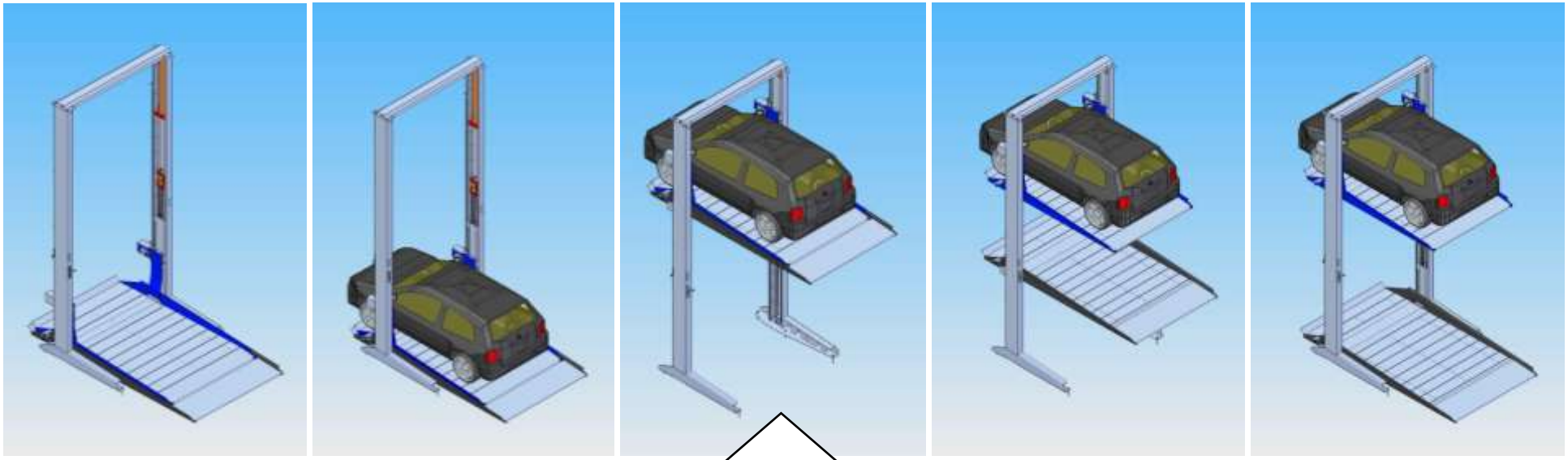


4.1.1. CAR STACKER SEQUENCE

We can consider the two platforms like platform 1(lower platform) and platform 2 (upper platform).
The movements of platform 1 and 2 are identified by the push button selector.

4.1.1.1. PLATFORM 2

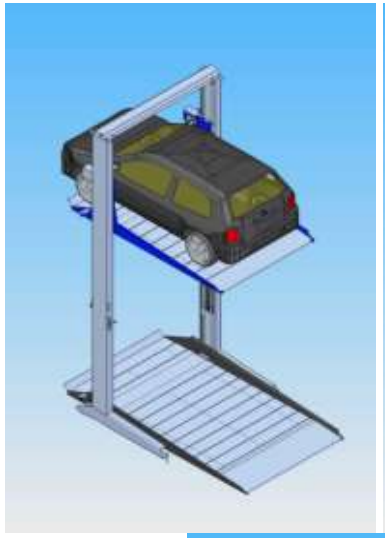
Park the car on top of the platform 2. Use the switch D2 in order to park the car at the highest top level.
Platform 1 brings up platform 2 at the highest top level.
After this operation, platform 1 get back at its original position at the ground floor, ready to park the second car

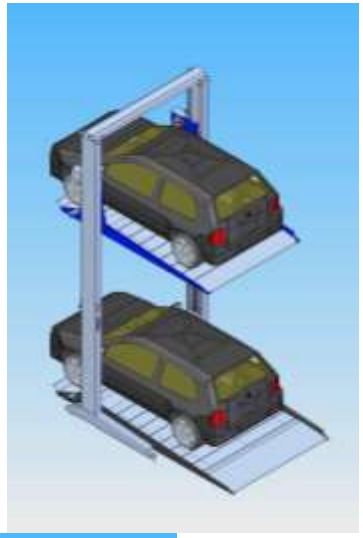


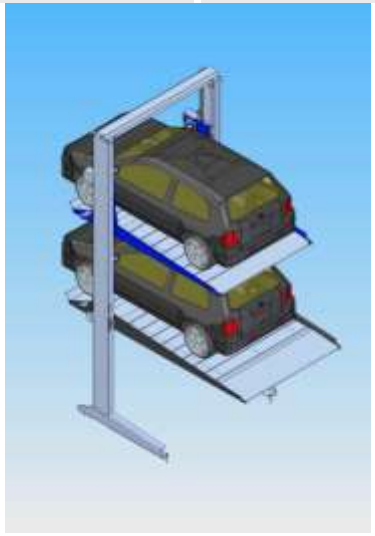
Platform 2
is moved
UP and DOWN
by the Platform 1.

4.1.1.2. PLATFORM 1

In order to park the second car, place it on top of platform 1 and, switching D1 button, it goes from ground floor up to the first position, stopped by a micro-switch

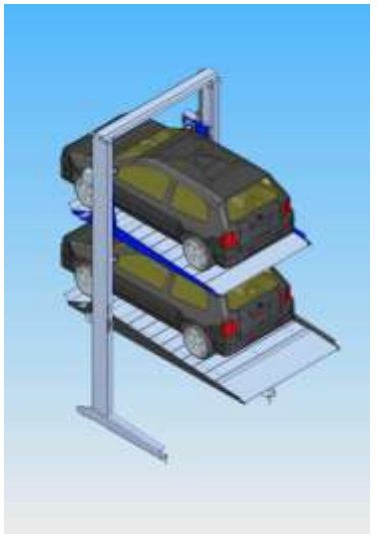


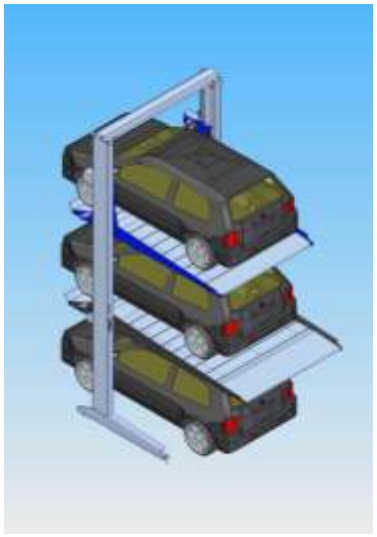




4.1.1.3. GROUND PARKING LEVEL

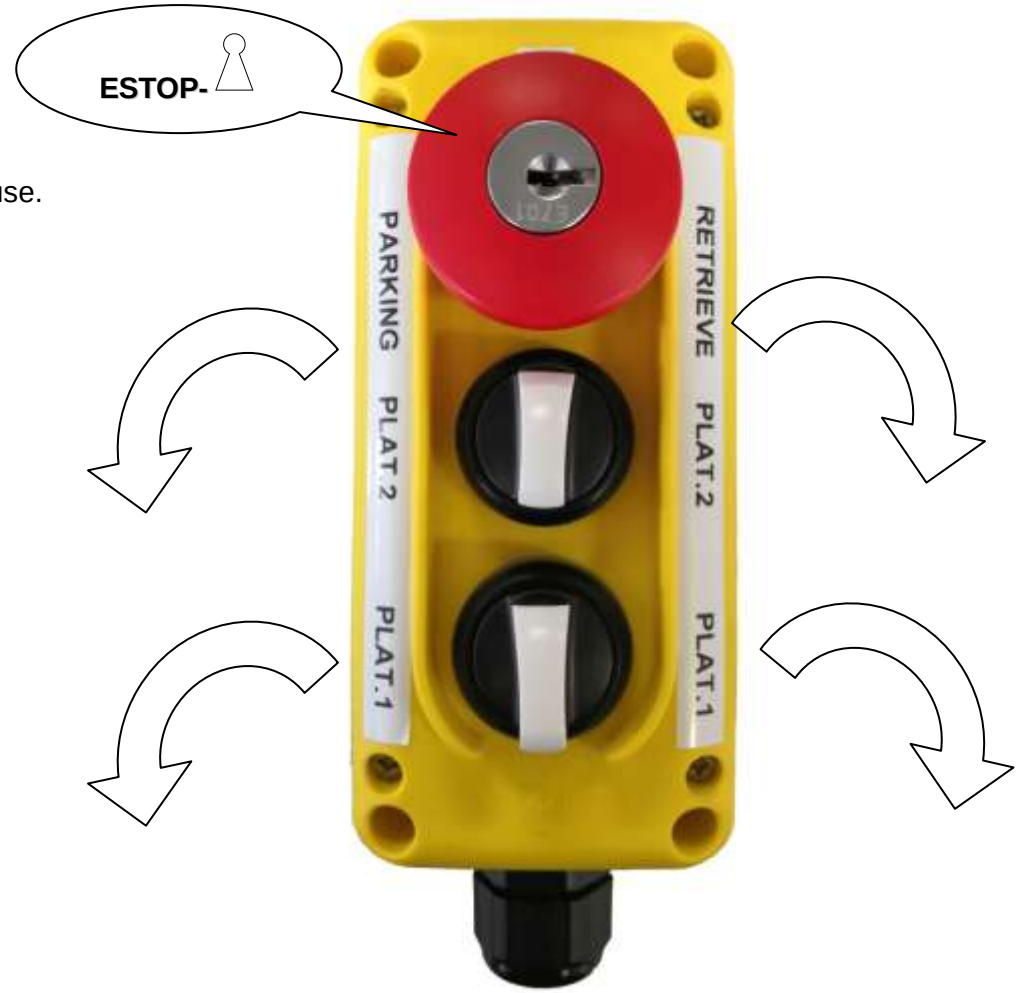
At this point, it ready to park the third car on the ground floor





4.2. *Commands*

The Command button panel must be positioned so
as to guarantee the operator a full view of the machine during use.



ESTOP-	**Emergency stop button** Button that causes immediate stoppage of the lift upstroke/downstroke phase.

1 – 2 PARKING	**CAR PARKING**
	• INSERT KEY TO ENABLE PUSH BUTTON BOARD
	• DRIVE ONTO THE PLATFORM UNTIL WHEELS TOUCH THE FRONT MECHANICAL STOP
	• ACTIVATE THE HANDBRAKE
	• CLOSE THE CAR DOORS
	• STEP-OUT OF THE PLATFORM
	  • **PLATFORM 2 PARKING:** SELECT BUTTON PARKING 2 AND KEEP HOLD UNTIL:
	  o LIFTING OF PLATFORM 1+2 UP TO THE MECHANICAL STOP AT PARKING LEVEL 2
	  o LOWERING OF PLATFORM 1 UP TO GROUND
	  • **PLATFORM 1 PARKING:** SELECT BUTTON PARKING 1 AND KEEP HOLD UNTIL:
	  o REACHES THE MECHANICAL STOP AT HEIGHT OF PLATFORM 1
	• REMOVE KEY TO DISABLE THE PUSH BUTTON BOARD

1 – 2 RETRIEVE	**CAR RETRIEVAL**
	• **CHECK THAT NO CAR IS PARKED UNDERNEATH THE PLATFORM**
	• INSERT KEY TO ENABLE PUSH BUTTON BOARD
	  • **PLATFORM 1 RETRIEVAL**: SELECT BUTTON RETRIEVE 1 AND KEEP PRESSED UNTIL:
	  o LOWERING OF PLATFORM 1 UP TO GROUND
	  • **PLATFORM 2 RETRIEVAL: CHECK THAT NO CAR IS PARKED ON THE PLATFORM 1**
	  • SELECT BUTTON RETRIEVE 2 AND KEEP PRESSED UNTIL:
	  o LIFTING OF PLATFORM 1 TO RETRIEVE THE PLATFORM 2
	  o LOWERING OF PLATFORMS 1 & 2 UP TO GROUND
	• COLLECT THE CAR
	• REMOVE KEY TO DISABLE THE PUSH BUTTON BOARD

4.3. *Residual risks*

	HAZARD	WHO	CONDITION	RISK
	PIPE BREAKING AIR ELIMINATION FROM CYLINDERS PIPES LOOSENING	Maintenance technician	MAINTENANCE	Contact with squirts of pressurised oil
	ELECTRIC SHOCK	Maintenance technician	MAINTENANCE	Contact with live components
	SHEARING	Maintenance technician Operator	MAINTENANCE	Shearing of hands and feet with lift is in movement.
	TIPPING OVER OF THE LOAD	Maintenance technician	MAINTENANCE	During manual lowering, check that the load moves smoothly, without being thrown out of balance. Operate the valves so that the bridge is realigned step by step.
	REDUCED VISIBILITY	Operator	OPERATING	Possible outstanding person damage

5. MAINTENANCE

Addressees:

- OPERATOR / SPECIALISED TECHNICIAN.

All scheduled maintenance operations must be performed by adequately trained personnel able to work in full safety.
The lift bodies, control devices and safety devices must be periodically checked by the user to ensure that the unit is always in good condition

5.1. *Safety standards for maintenance*

Before starting the maintenance and inspection procedures, always perform the following operations:

- pick-up the technical documentation for the system;
- check that the documentation and system match;
- equip themselves with the appropriate P.P.E (work gloves, safety goggles/glasses, helmet with chin strap)
- have on hand a portable lamp to light the areas under maintenance.
- identify system cut-off switches;
- post signs reading “DO NOT PERFORM ANY OPERATIONS, machine undergoing maintenance”
- make certain that the system is not repowered while the works are in progress.

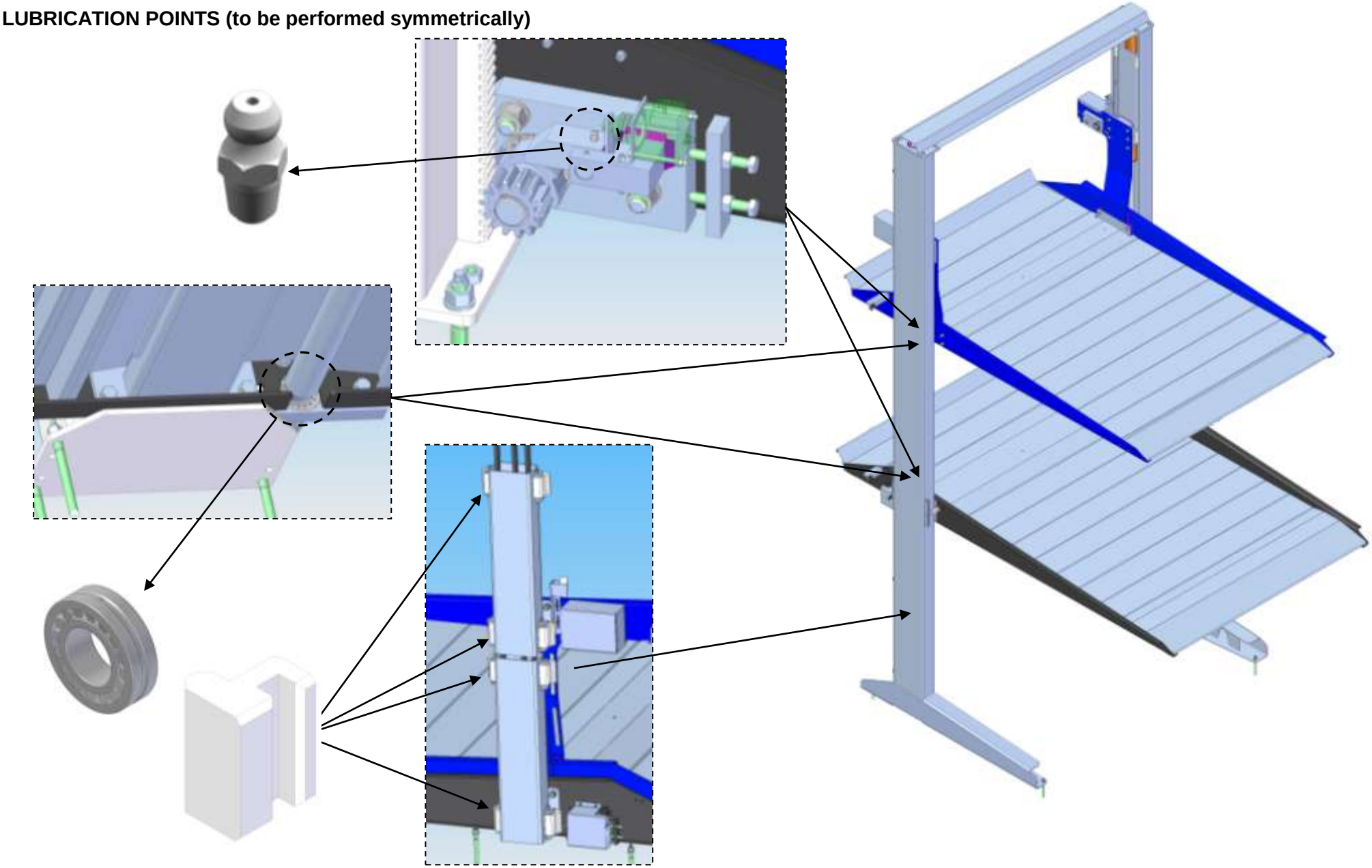
5.2. *Routine maintenance*

We recommend the following ordinary routine maintenance operations

	WHERE	WHAT	LIFT STATUS	HOW	TYPE OF GREASE	TYPE OF LUBRICANT
6 months	ELECTRIC SYSTEM	PUSH BUTTONS EMERGENCY STOP	IN MOTION	INSPECTION AND OPERATION		
6 months	STRUCTURE	PADS, CHAINS AND BEARINGS **+ ENTIRE COLUMN**	OFF	LUBRICATE GREASE	Grease LC 2	
6 months	HYDRAULIC CIRCUIT	CYLINDER – TUBE UNIONS	IN MOTION	INSPECTION FOR LEAKS		
6 months	HYDRAULIC UNIT	TANK	OFF	OIL LEVEL CHECK		HYDROIL GF 46
6 months	PLATFORMS	STOP PLATES MAX HEIGHT	IN MOTION	MANUAL DRIVE		
6 months	MECHANICAL LOCKS	PROPER ENGAGEMENT	OFF	INSPECTION AND OPERATION		
6 months	MECHANICAL LOCKS	SWITCH CONTACT	IN MOTION	INSPECTION AND OPERATION		
6 months	PINION AND RACK	WEAR	OFF	INSPECTION AND OPERATION		
2 years	HYDRAULIC UNIT	TANK + FILTER	OFF	CLEAN		
2 years	HYDRAULIC UNIT	TANK	OFF	OIL CHANGES		HYDROIL GF 46

Periodically check the electrical safety devices and report any faults to the Service Centre.

LUBRICATION POINTS (to be performed symmetrically)



5.3. *Lift adjustment procedure*

5.3.1. Connection of hydraulic unions

The union locking procedure is as follows:

:

A	On THE BENCH
A1	Fit the nut manually on the ogive using the manual pre-assembly tool provided.
A2	Turn the wrench through 1.5 turns to compress the ogive and fasten it to the hydraulic tube.
A6	Remove the nut. Check that the ogive can turn but does not slide.

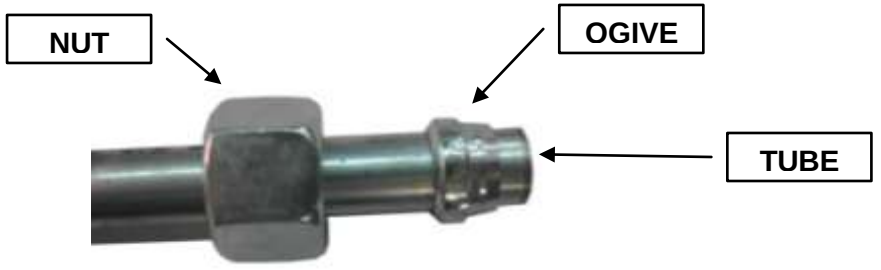
B	ON SITE OF INSTALLATION
B1	Manually fit the nut.
B2	Close with wrench as follows: - 0.5 TURNS for DIAMETER < 16 MM - 0.75 TURNS for DIAMETER >= 16 MM

C	After these operations the union is closed correctly. Tightening the nut more than indicated causes excessive deformation of the ogive and can compromise the hold of the hydraulic union.

N.B :

The hydraulic pipe must have the following characteristics:

- It must be cut perpendicular to the axis
- It must be burr-free.



5.4. *Pressure relief valve calibration*

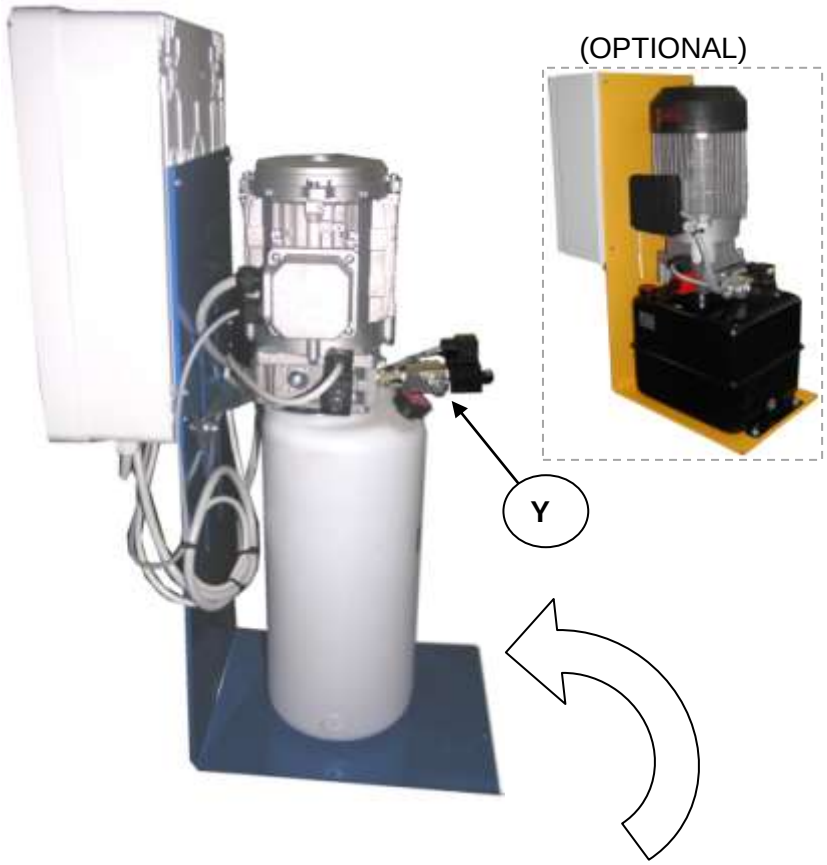
To calibrate the pressure relief valve, proceed as follows:

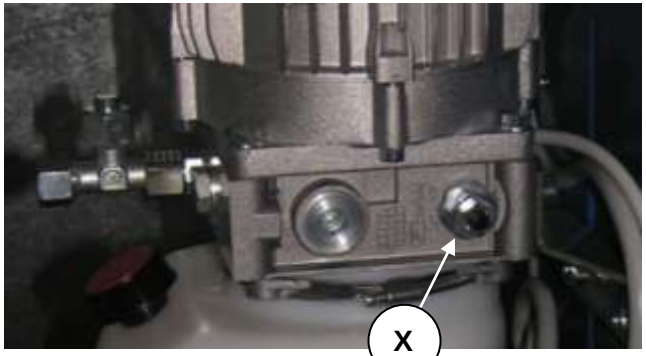
1) Install a pressure gauge (not included) in place of cylinders supply pipe (Y)
2) Raise the lift using the dedicated command.
3) Remove the cap nut (**X**)
4) Loosen the nut by turning it 2 revolutions counter-clockwise
5) Keeping the up command pressed, check the pressure on the pressure gauge.
6) Adjust the pressure with an Allen wrench:
   Tightening (turning clockwise) raises the calibration pressure
   Loosening (turning counter-clockwise) lowers the calibration pressure
7) If pressure is equal to P, close the nut loosened in point 6 by turning clockwise, paying attention not to alter the adjustment performed in point 4.
8) Restore the hydraulic unit to the initial condition.

P (*)	UM	MODEL	CAPACITY	UM
280	Bar	TRIPARK 25	2500x2	Kg

(*) working pressure

5.5.





Chain maintenance instruction

5.5.1.1. Adjustment

After the installation, verify that all of the chains are properly tightened

Adjust the length of the tie rods terminals so that the chains are evenly loaded

5.5.1.2. Test

It is reccomended to test the system for the following reasons:

- To verify the correct funcioning
- To verify that the chains don't have folds and that they are evenly loaded
- Check for noise or vibrations

5.5.1.3. Maintenance planning

Regular maintenance of the chain is important to increase its durability. In a well-balanced system kept with a good maintenance, the average lifetime of a chain is 6000 hours or 3 years.

The following maintenance planning is suggested:

Regularly

- Check the tension for a proper load distribution
- Check the smooth movement with load both going up and down
- Check for lateral links in the chain (Max 5% of the height of the mesh)
- Check the rotation or side-twist of the meshes
- Check for the wear or breakage of some meshes
- Check the stretching of the chain (max 3% FLT chains, 2% for roller chains)
- Check for the rotation or spillage of the pins
- Check the cleaning of the components
- Check the alignment of the sprockets or pulleys
- Check for the wear of pins or pulleys
- Check the lubrication. If necessary grease again
- Check the presence of the lubrication system if provided

The frequency of inspection of lubrication depends on environmental conditions such as the presence of moisture, extreme temperatures, corrosive atmospheres, etc.

In case of hits or overload the duration will be reduced and will increase the number of regular inspections

At least every 6 months

Perform the mentioned checkings on all the chain

If the chain is not accessible, remove the chain and replace it according to the manufacturer's instructions

5.6. *EMERGENCY LOWERING OPERATION*

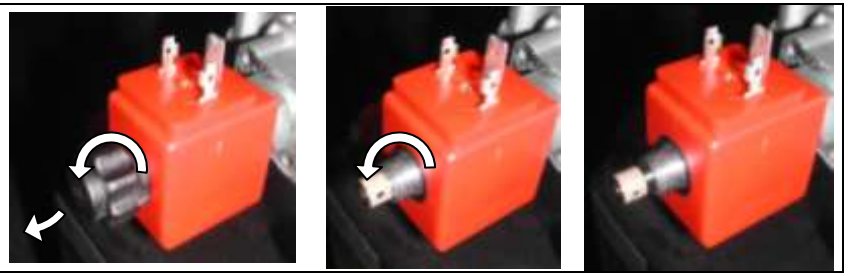
5.6.1. MANUAL (HAND PUMP OPTIONAL)

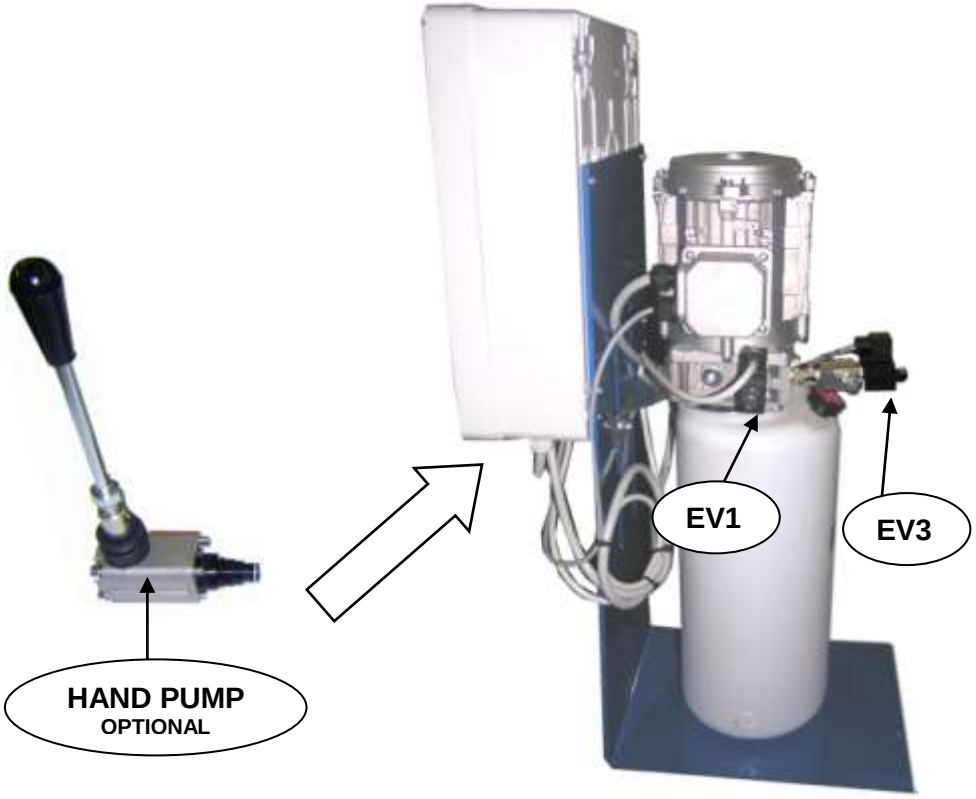
This is used to lower the unit when power is cut off or when the platform is blocked.

1. Manually open the lowering valve (**EV1**) to release the pressure
2. Remove the plug from the manifold
3. Install the hand pump (OPTIONAL)
4. Close EV1

Then:

5. Manually open the valve (**EV3**)
6. Operate the hand pump to lift the platform
   Unlock the mechanical locks and keep them open with some shims (~11 mm, SEE PHOTO)
7. Manually open the descending flow regulating valve (**EV1**)
8. Let the platform go down
9. Restore everything

EV1	



5.6.2. BY USING A BACKUP PANEL (OPTIONAL)

The emergency lowering is carried out with an auxiliary panel:

5.6.2.1. Backup panel 24Vdc.

The backup panel is used to supply the auxiliary voltage 24 Vdc to the control circuits of the stacker electrical panel

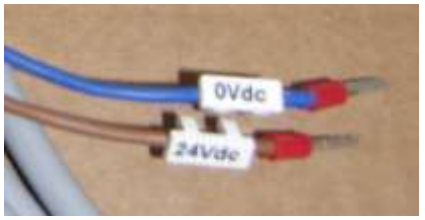
Green lamp of 230Vac power supply		Red lamp: of 24Vdc output voltage
Yellow lamp: In case of low voltage level or damaged batteries, switches on		Selector: output voltage OFF/ON

Power supply connection cable:

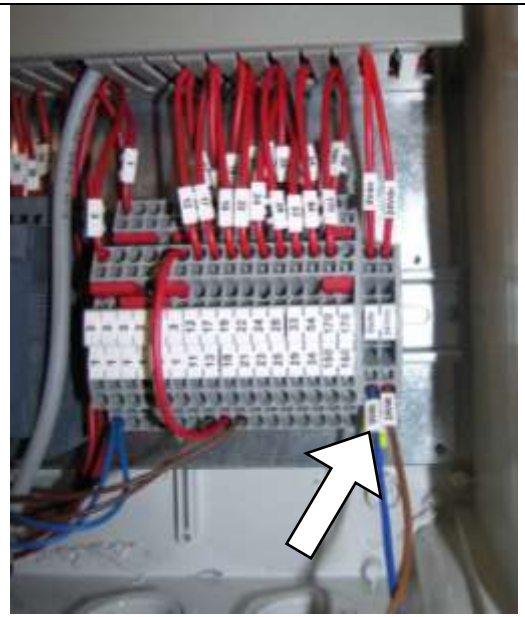
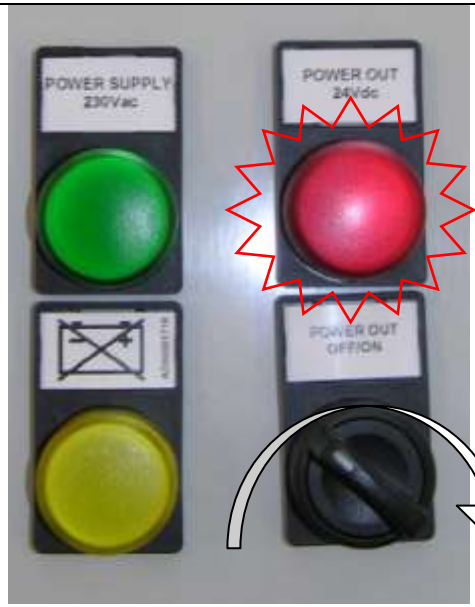
- It is advised to connect the backup panel to the power supply in order to charge the batteries.
- If necessary, disconnect the backup panel from the power supply.

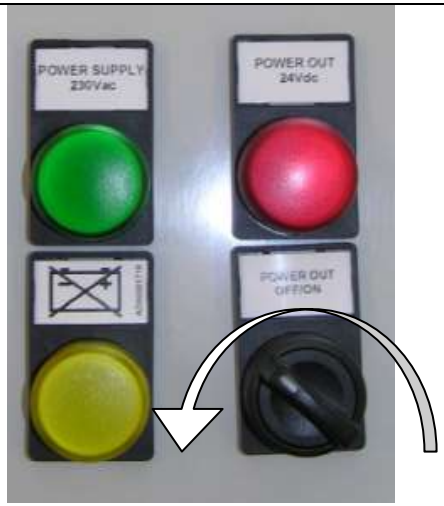
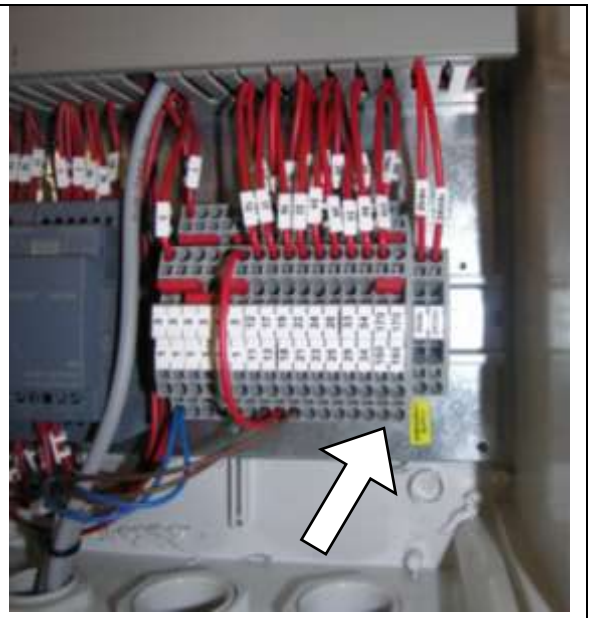
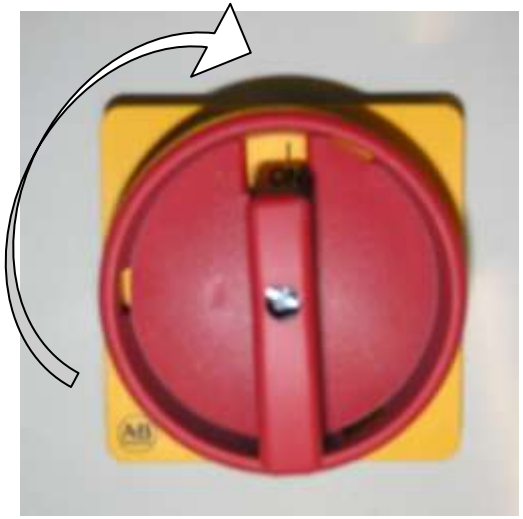
Connection cable from backup panel to stacker electrical panel.

Blue cable: 0 Vdc
Brown cable: 24 Vdc



5.6.2.2. Emergency lowering sequence

1	Manually open the lowering valve (**EV1**) to release the pressure	
2	Remove the plug from the manifold	
3	Install the hand pump (OPTIONAL) 	
4	Close EV1	
5	Take the backup control panel near the electrical panel of the stacker. Turn the power switch to "0 OFF" and open the electrical panel of the stacker.	
6	Connect the 24Vdc cable of the backup control panel to the electrical panel of the stacker. Respect the 24Vdc - 0Vdc polarity. 	
7	Turn the "POWER OUT" selector to "ON". The red warning light, of 24Vdc output voltage, switches on.	

8	Operate the hand pump to lift the platform few millimeters.	
9	Now it is possible to lower the platform through the push button of the stacker.	
10	Once the lowering of the platform is ended, turn the selector to "OFF". The red warning light, of 24Vdc output voltage, switches off. **Warning: never leave the selector on "ON" to avoid a short circuit between the cables marked 0 and +24 dc**	
11	Disconnect the 24Vdc cable of the backup control panel from the electrical panel of the stacker.	
12	Close the electrical panel of the stacker and turn power switch to "1 ON".	

6. SOFTWARE OPERATING SPECIFICATIONS

6.1. *I/O Configuration*

The basic module and an additional module.

	Ref.	Description	Ref.	Description
Basic module	I1	PLATFORM 1 PLACE BUTTON	Q1	MOTOR PUMP
	I2	PLATFORM 1 PICK BUTTON	Q2	PLATFORM 2 MAGNETS
	I3	PLATFORM 2 PLACE BUTTON	Q3	PLATFORM 1 MAGNETS
	I4	PLATFORM 2 PICK BUTTON	Q4	DESCENT VALVE
	I5	PLATFORM 1 STOP LIMIT SWITCH		
	I6	PLATFORM 1 PHOTOCELL (OPT)		
	I7	PLATFORM 2 RATCHETS LIMIT SWITCH 1		
	I8	PLATFORM 2 RATCHETS LIMIT SWITCH 2		
1ST digital module	I9	PLATFORM 2 STOP LIMIT SWITCH 1	Q5	ASCENT/DESCENT VALVE
	I10	PLATFORM 2 STOP LIMIT SWITCH 2	Q6	
	I11	ANTI-CRUSH BYPASS LIMIT SWITCH	Q7	
	I12	ANTI-CRUSH LIMIT SWITCH	Q8	

6.2. *List of alarms*

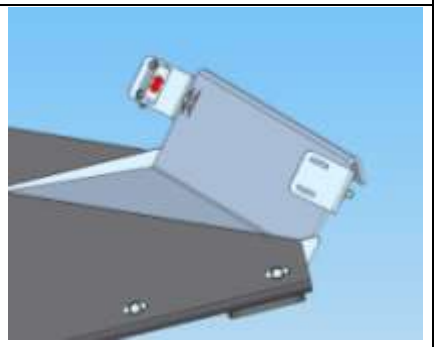
alarm	description
A01-ALARM LOCKS FCSX OR FCDX	Inconsistency between command of the magnets and the limit switches of the ratchets of platform 2. With magnets not enabled.
A02-ALARM LOCKS FCSX OR FCDX	Inconsistency between command of the magnets and the limit switches of the ratchets of platform 2. With magnets enabled.
A03-ALARM STOP FC2SX OR FC2DX	Manoeuvre request platform 1 with stop limit switch platform 2 not present.
A04-ALARM MAX TIME UNLOCK FCSX OR FCDX	Maximum time surpassed which must pass between unlocking of a platform 2 ratchet and another.
A05-ALARM MAX TIME BETWEEN FC2SX AND FC2DX	Maximum time surpassed which must pass between enabling of a platform 2 stop limit switch and another.
A06-ALARM LIMIT SWITCH SECURITY BAR	Anti-crush bar enabling.
A07-1st PLATFORM ENGAGED	Platform 2 manoeuvre request with platform 1 engaged.
A08-ALARM LIMIT SWITCH BYPASS SECURITY BAR	Platform 1 place request with anti-crush bypass limit switch enabled.

7. TROUBLESHOOTING

DESCRIPTION OF MALFUNCTION	*WHAT TO CHECK*	*CAUSE OF FAULT*	*CORRECTIVE ACTION*
MOTOR NOT ROTATING	POWER SUPPLY VOLTAGE PRESENT	SWITCH OPEN	CLOSE SWITCH
	POWER SUPPLY FUSES	BURNT FUSE	REPLACE THE FUSE
	THERMAL SAFETY SWITCH	MOTOR OVERLOAD	WAIT FOR SWITCH TO RESET IF AUTOMATIC CHECK THERMAL RELAY STATUS
	COILS RESISTANCE	COILS BURNT	CHANGE MOTOR
MOTOR NOT ROTATING BUT MAKING NOISE	MOTOR PHASES	ONE OR MORE PHASES ABSENT	RESET PHASES
MOTOR ROTATING BUT PLATFORM NOT RISING	MOTOR ROTATION	PHASES INVERSION	INVERT TWO POWER SUPPLY PHASES
	DESCENT VALVE	MANUAL LOCKING OF DESCENT VALVE IN OPEN POSITION	MANUALLY CLOSE VALVE
	OIL LEVEL	NO OIL IN TANK	FILL TANK
	POWER SUPPLY VALVE	VALVE LOCKED IN CLOSED POSITION	CLEAN VALVE OR REPLACE IT
	POWER SUPPLY VOLTAGE	LOW VOLTAGE OR UNDERSIZED POWER SUPPLY CABLES	CHECK POWER SUPPLY VOLTAGE ON MOTOR START-UP
	WEIGHT TO LIFT	OVERLOAD	REDUCE LIFTED LOAD
	MAXIMUM PRESSURE VALVE ADJUSTMENT	VALVE LOST CALIBRATION	CHECK VALVE CALIBRATION PRESSURE
	HYDRAULIC PUMP	PUMP DAMAGE	REPLACE PUMP
	SUCTION AND FILTER TUBE	NO OIL SUCTION	RESET SUCTION
PLATFORM LOWERS	CHECK VALVE	HYDRAULIC OIL DIRTY	CLEAN VALVE
	DESCENT VALVE	HYDRAULIC OIL DIRTY	CLEAN VALVE REPLACE OIL
	HYDRAULIC CYLINDERS	GASKETS LEAKING	CHECK GASKETS REPLACE GASKETS
	HYDRAULIC CIRCUITS LEAKING	TUBE BROKEN OR JOINTS LOOSE	CHECK JOINTS CLOSURE REPLACE TUBING
	HYDRAULIC CYLINDERS FILLING	AIR IN HYDRAULIC CIRCUIT	FOLLOW PROCEDURE TO PURGE AIR FROM HYDRAULIC CIRCUIT

DESCRIPTION OF MALFUNCTION	WHAT TO CHECK	CAUSE OF FAULT	CORRECTIVE ACTION
THE PLATFORM LOWERS AND THE MOTOR NOT POWERED ROTATES IN THE OPPOSITE DIRECTION	CHECK VALVE	CHECK VALVE BROKEN/DIRTY	RESET VALVE
PLATFORM NOT LOWERING	MECHANICAL RATCHETS	UNLOCK MAGNET SUPPLY BROKEN	CHECK MAGNET AND SUPPLY SLEEVE
	MECHANICAL RATCHETS	NO ADJUSTMENT OR BROKEN POSITION CONTROL LIMIT SWITCH	ADJUST OR REPLACE THE LIMIT SWITCHES
	DESCENT VALVE	VALVE LOCKING	CLEAN VALVE REPLACE VALVE
	TUBING	PIPE RUPTURE VALVE	REPLACE TUBING
PLAFFORM SLOWLY LOWERS	OIL VISCOSITY	LOW TEMPERATURES	CHANGE OIL VISCOSITY
PLATFORM LIFTS AFTER COMMANDS RELEASE	MOTOR CONTACTOR	CONTACTS GLUING	REPLACE THE CONTACTOR
	POWER SUPPLY VALVE	VALVE LOCKING OPEN	CLEAN OR REPLACE THE VALVE
THE PLATFORM MOVES IN STEPS	HYDRAULIC OIL	AIR IN CIRCUITS	PURGE THE MASTER/SLAVE CIRCUITS
	GUIDES LUBRICATION/CLEANING	FRICTION BETWEEN SLIDES AND GUIDES	CLEAN AND LUBRICATE
NOISE PRESENT	BEARINGS	NO LUBRICATION	GREASING OF PINS
	SLIDES	SLIDING ON SURFACES WITHOUT LUBRICATION	LUBRICATE THE SURFACES
COMMANDS NOT WORKING	TRANSFORMER	ERROR CONNECTING THE TRANSFORMER	CHECK OUTPUT VOLTAGE
		SAFETY CIRCUIT ENABLING	REPLACE THE FUSE RE-ENABLE THE SAFETY CIRCUIT
	PLC	PLC NOT WORKING	REPLACE THE PLC
	PLC ALARMS	SEE LIST OF ALARMS	CHECK COMPONENTS
PLATFORM 1 COMMANDS NOT WORKING	PLATFORM 2 STOP LIMIT SWITCH	LIMIT SWITCH NO ADJUSTMENT OR DAMAGED	ADJUST OR REPLACE THE LIMIT SWITCHES
PLATFORM 2 COMMANDS NOT WORKING	PHOTOCELL (OPT)	PHOTOCELL NOT WORKING	CHECK AND/OR REPLACE THE PHOTOCELL

8. ACCESSORIES

CODE	DESCRIPTION	PHOTO
3047002400	EMERGENCY LOWERING BACKUP CONTROL PANEL	
1120109011	HAND PUMP	
	PHOTOCELL KIT FOR CAR PRESENCE ON PLATFORM 1	
	SPRINKLER ATTACHMENT PLATES	
	PUSH-BUTTON ARM HOLDER PLATES	
	METALLIC TANK