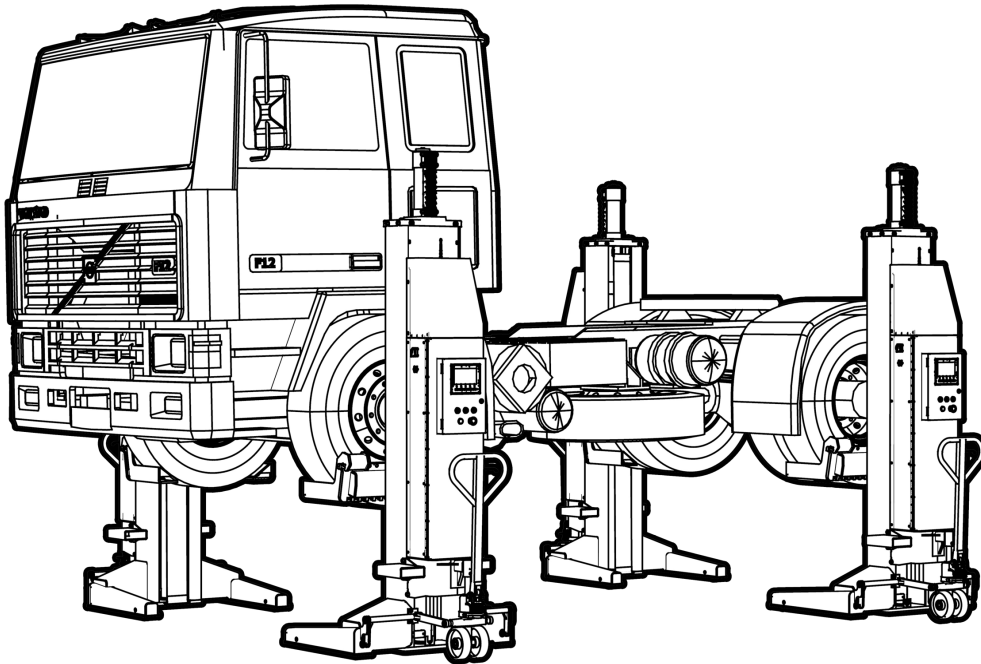


ORIGINAL
USE AND
MAINTENANCE
MANUAL





MOBILE LIFTING COLUMNS FOR
HEAVY DUTY VEHICLE


STD-9650YW
STD-9685YW



PRINTING CHARACTERS AND SYMBOLS

Throughout this manual, the following printing characters and symbols are used to facilitate reading:

	Indicates the operations which need proper care
	Indicates prohibition
	Indicates a possibility of danger for the operators
	Indicates the direction of access for motor vehicles to the lift
BOLD TYPE	Important information

	WARNING: before operating the lift and carrying out any adjustment, carefully read chapter 7 “INSTALLATION” and chapter 8 “CONTROLS” where all proper operations for a better functioning of the lift are shown.
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CHAPTER 1 – GENERAL INFORMATION

This chapter contains warning instructions to operate the lift properly and prevent injury to operators or objects.

This manual has been written to be used by shop technicians in charge of the lift (operator) and routine maintenance technician (maintenance operator).

The operating instructions are considered to be an integral part of the machine and must remain with it for its whole useful life.

Read every section of this manual carefully before operating the lift and unpacking it since it gives helpful information about:

- SAFETY OF PEOPLE
- SAFETY OF THE LIFT
- SAFETY OF LIFTED VEHICLE

The company is not liable for possible problems, damage, accidents, etc. resulting from failure to follow the instructions contained in this manual.

Only skilled technicians of **AUTHORISED DEALERS** or **SERVICE CENTRES AUTHORISED** by the manufacturer shall be allowed to carry out lifting, transport, assembling, installation, adjustment, calibration, settings, extraordinary maintenance, repairs, overhauling and dismantling of the lift.

THE MANUFACTURER IS NOT RESPONSIBLE FOR POSSIBLE DAMAGE TO PEOPLE, VEHICLES, OR OBJECTS IF SAID OPERATIONS ARE CARRIED OUT BY UNAUTHORIZED PERSONNEL OR THE LIFT IS IMPROPERLY USED.

Any use of the machine made by operators who are not familiar with the instructions and procedures contained herein shall be forbidden.

1.1 MANUAL KEEPING

For a proper use of this manual, the following is recommended:

- keep the manual near the lift, in an easily accessible place.
- keep the manual in an area protected from the damp.
- use this manual properly without damaging it.
- any use of the machine made by operators who are not familiar with the instructions and procedures contained herein shall be forbidden.

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

1.2 OBLIGATION IN CASE OF MALFUNCTION


	In case of machine malfunction, follow the instructions contained in the following chapters.
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1.3 CAUTIONS FOR SAFETY OF OPERATORS


Operators must not be under the influence of sedatives, drugs, or alcohol when operating the machine.

	Before operating the lift, operators must be familiar with the position and function of all controls, as well as with the machine features shown in chapter 8 “CONTROLS” and chapter 9 “OPERATION AND USE”.
---	--

1.4 WARNINGS

	Unauthorized changes and/or modifications to the machine relieve the manufacturer of any liability for possible damages to objects or people. Do not remove or make inoperative the safety devices, this would cause a violation of safety at work laws and regulations.
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	Any other use which differs from that provided for by the manufacturer of the machine is strictly forbidden.
---	---

	The use of non-genuine parts may cause damage to people or objects.
--	--

DECLARATION OF WARRANTY AND LIMITATION OF LIABILITY

The manufacturer has paid proper attention to the preparation of this manual. However, nothing contained herein modifies or alters, in any way, the terms and conditions of manufacturer agreement by which this lift was acquired, nor increase, in any way, manufacturer’s liability to the customer.


TO THE READER

Every effort has been made to ensure that the information contained in this manual is correct, complete, and up-to date. The manufacturer is not liable for any mistakes made when drawing up this manual and reserves the right to make any changes due the development of the product, at any time.

CHAPTER 2 – PRODUCT IDENTIFICATION

The identification data of the machine are shown in the label placed on the control unit.

LOGO	
Type:
Model:
Serial Number:
Year of Manufacturing:
Capacity:
Voltage:
Power:

 **Use the above data both to order spare parts and when getting in touch with the manufacturer (inquiry). The removal of this label is strictly forbidden.**

The lift may be updated or slightly modified from an aesthetic point of view and, as a consequence, they may present different features from these shown, this without prejudicing what has been described herein.

2.1 WARRANTY CERTIFICATE

The warranty is valid for a period of 12 months starting from the date of the purchase invoice.

The warranty will come immediately to an end when unauthorized modifications to the machine or parts of it are carried out.

The presence of defects in workmanship must be verified by the Manufacturer's personnel in charge.

2.2 TECHNICAL SERVICING

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

Only skilled personnel who are familiar with the lift and this manual shall be allowed to carry out packing, lifting, handling, transport, and unpacking operations.

CHAPTER 3 - PACKING, TRANSPORT, AND STORAGE

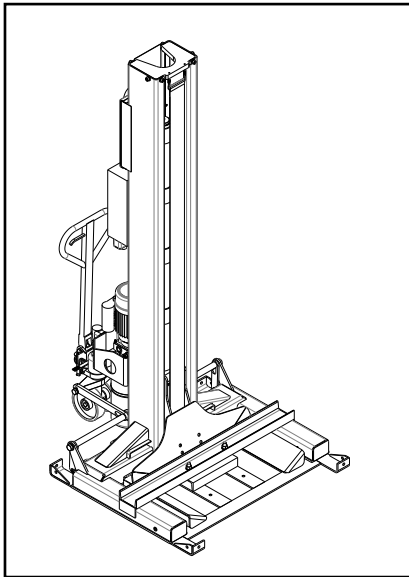
3.1 PACKING (ref. fig.1)

The column is delivered in following components:

- The basic unit fixed on the steel frame

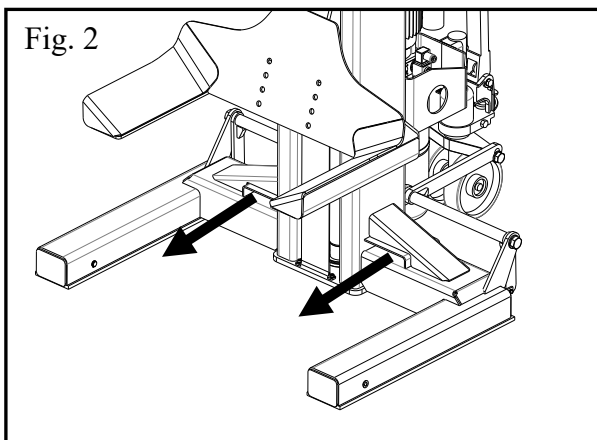
If requested, optional accessories are available to satisfy each customer's requirements.

Figure 1 –PACKING



3.2 LOADING/UNLOADING AND TRANSPORTATION

When loading/unloading or transporting the equipment to the site, be sure to use a forklift with the capacity no less than 1000kg and be sure to insert the forks into the fork holders under the post shown in the picture 2. Be sure also to load/unload the column securely so that it cannot fall, taking into consideration its size, weight, and center of gravity.



Handle only one column at a time.

3.3 STORAGE AND STACKING OF PACKAGES

Packages must be stored in a covered place, out of direct sunlight and in low humidity, at a temperature between 0°C and +40°C.

Stacking is not allowed.

3.4 DELIVERY AND CHECK OF PACKAGES

When the lift is delivered, check for possible damages due to transport and storage; verify that what is specified in the manufacturer's confirmation of order is included. In case of damage in transit, the customer must immediately inform the carrier of the problem.

Packages must be opened paying attention not to cause damage to people (keep a safe distance when opening straps) and parts of the lift (be careful the objects do not drop from the package when opening).

3.5 SCRAPPING

When your machine's working life is over and it can no longer be used, it must be made inoperative by removing any connection to power sources.

These units are considered as special waste material and should be broken down into uniform parts and disposed of in compliance with current laws and regulations.

If the packing is not polluting or non-biodegradable, deliver them to appropriate handling station.

CHAPTER 4 - PRODUCT DESCRIPTION

4.1 INTENDED USE

The lift is suitable for lifting heavy-duty vehicles, such as a truck or a bus, with maximum weight 5500kg or 8500kg for each column of the different type.

The lift can and must be used in a group combined with 2, 4, 6.....16 columns.

Wheels of the vehicle should be in compliance with the lifting fork dimensions. For any special vehicles, the manufacturer can supply the special adaptors for option described in the chapter 10 "OPTIONAL ACCESSORIES".

4.2 LIFT DESCRIPTION (ref. fig.3)

This chapter describes the lift's principal elements, allowing the user to be familiar with the lift.

Any column can be set as master or slave. All operation is carried out by "dead-man" controls on the control panel as described in the chapter 8 "CONTROLS".

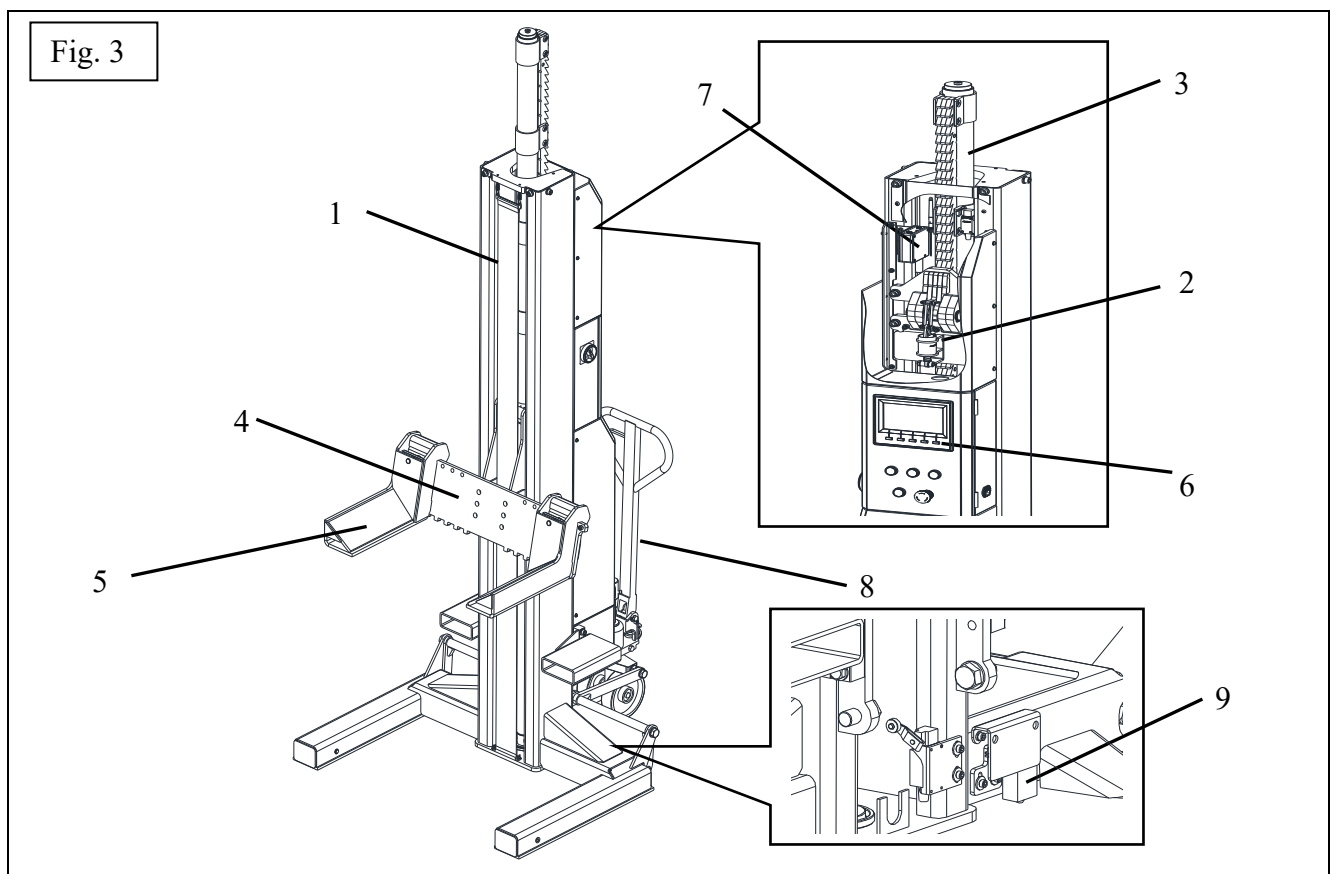
As shown in figure 3, each column is composed mainly of a post (1) with the mechanical safety device (2) and a hydraulic cylinder (3) built-in and carriage (4) with a pair of adjustable lifting forks (5).

Lifting is carried out by means of the control panel (6) composed of the touchscreen and soft keys acting on the power unit to deliver the fluid to the cylinder.

Synchronization of system is detected by means of the sensor (7) which gives the signal to PCB for controlling each carriage at the same lifting/lowering speed

The column can be moved by means of a mobile jack (8).

One safety switch (9) is installed for making sure the column is put stably on floor before attempting to work.




CHAPTER 5 - TECHNICAL SPECIFICATION

5.1 SIZES AND MAIN FEATURES (ref. fig. 4)

CAPACITY of each column	5500kg	8500kg
Lifting stroke	0 – 1750mm	0 – 1700mm
Width between two lifting forks adjustable	166 – 550mm	240 – 624mm
Max. synchronization error between columns	50mm	
Overall height	3770mm	3730mm
Lifting time	80s	120s
Lowering time	70s	
Noise level	80dB(A)/1m	
Working temperature	0°C – 40°C	
Package weight	510kg	810kg

5.2 ELECTRIC MOTOR

Voltage	DC 24V
Motor power	2.2kW
Speed	2000 – 4000rpm

	<p>Motor connection must be carried out referring to the attached wiring diagram attached in this manual.</p> <p>It is extremely forbidden to connect DC power unit to AC power supply. Improper electrical hook-up can damage motor and will not be covered under warranty.</p>
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5.3 BATTERY

Voltage	DC 12V
Volume	280AH
Cold start current	650A
Average consumption cycle per charging	15
Sizes	253(L) x 168(W) x 200(H) mm

	<p>Make sure all batteries keep in same volumes. It is suggested to replace the batteries every three years.</p>
---	---

5.4 PUMP

Type	Gear	
Flow rate	1.6cm ³ /g	1.6cm ³ /g
Continuous working pressure	240bar	260bar

Figure 4a – 5.5T COLUMN LAYOUT

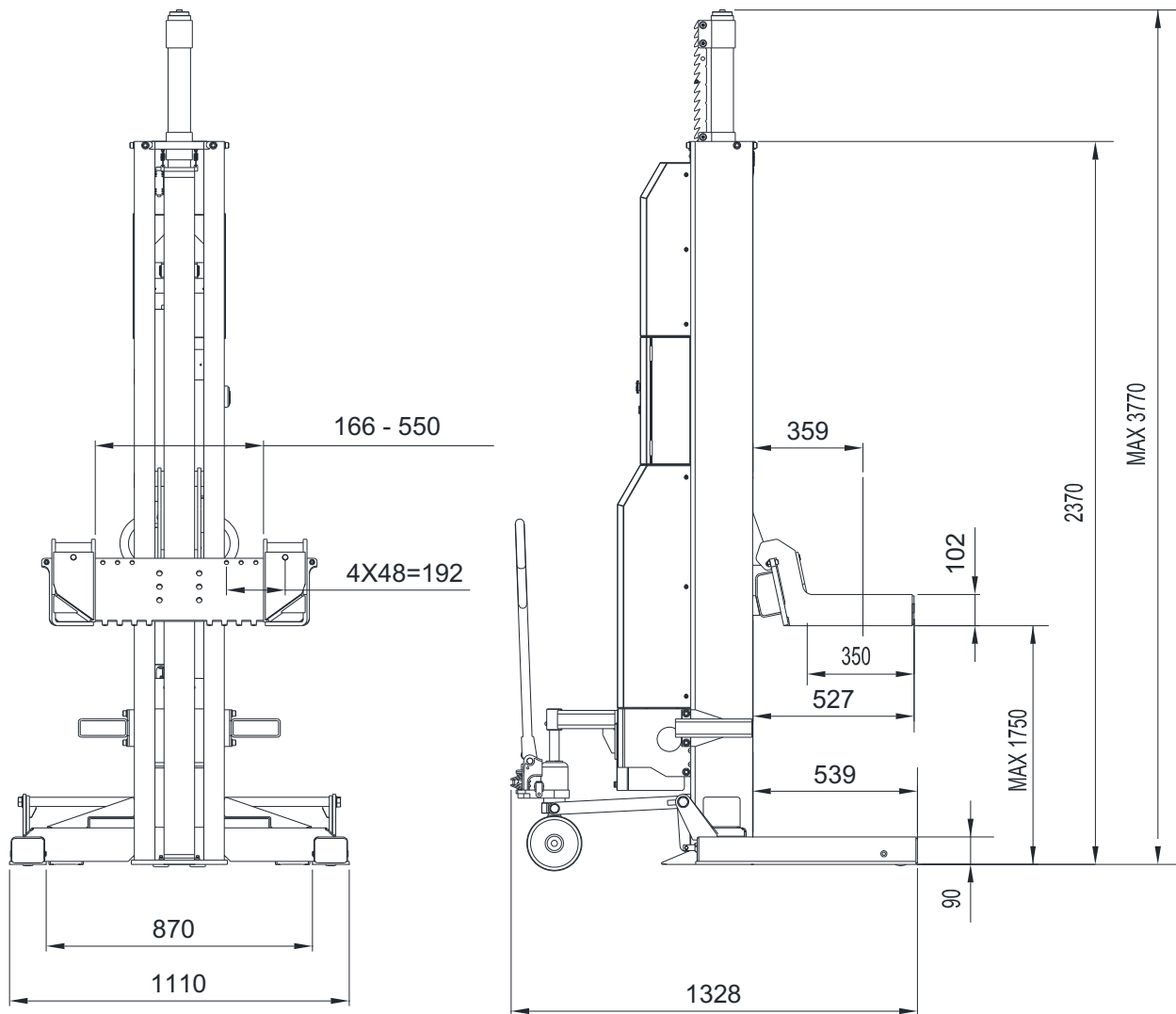
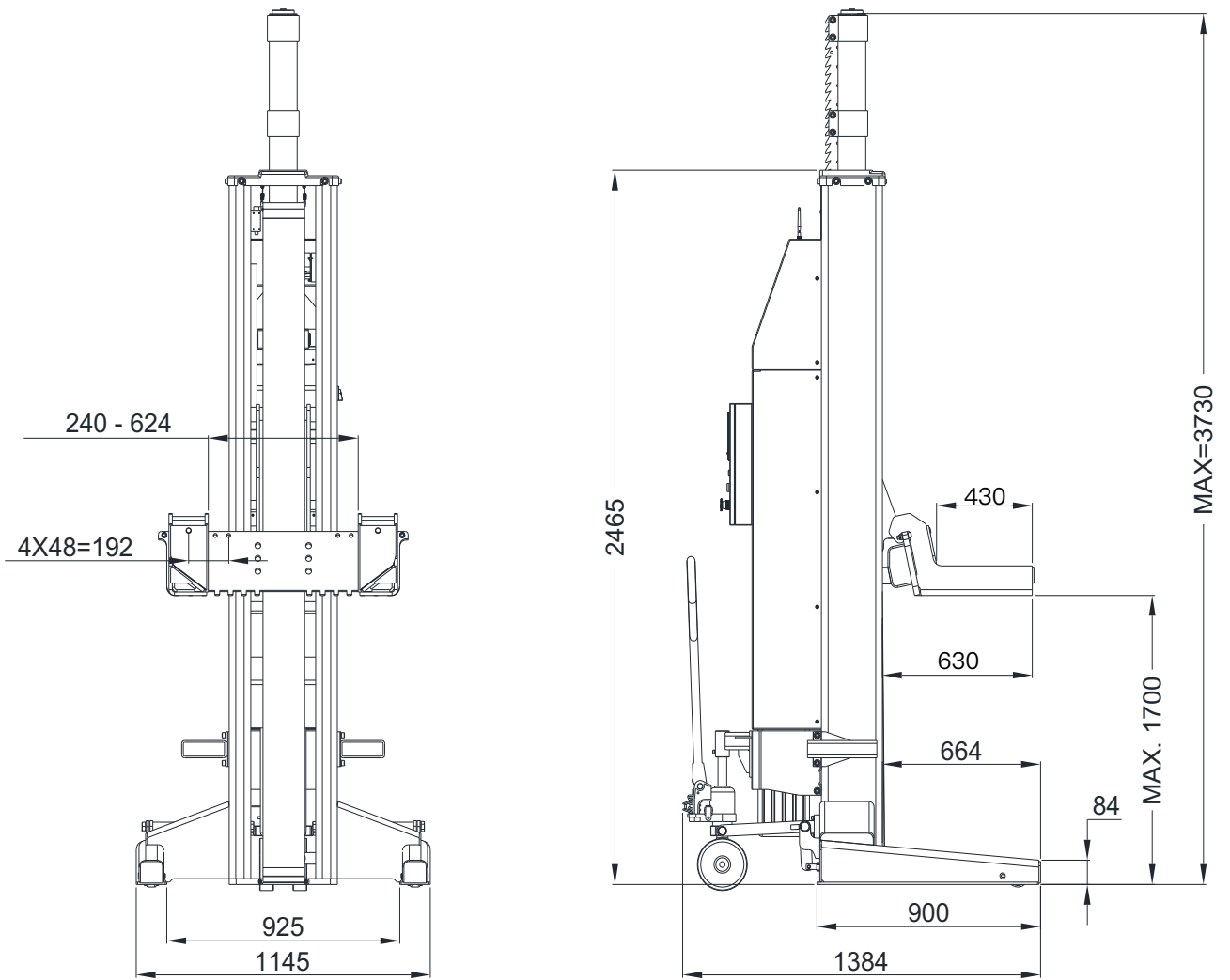


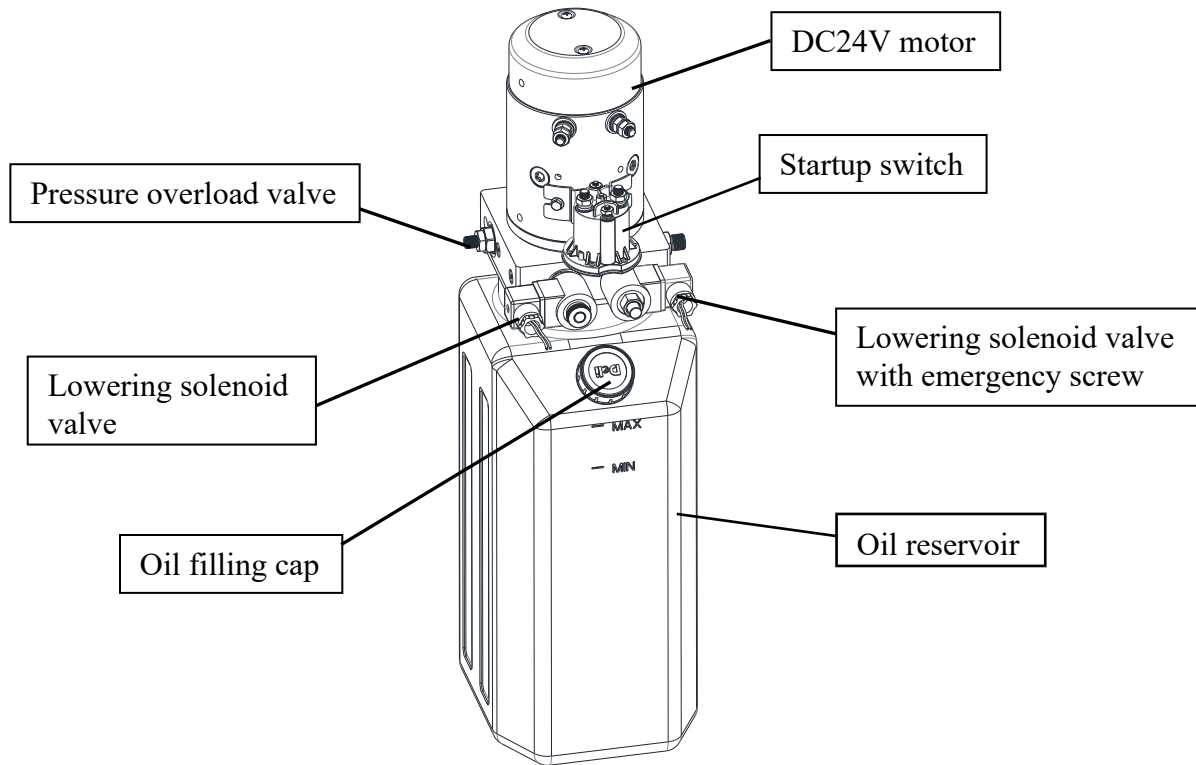
Figure 4b – 8.5T COLUMN LAYOUT




5.5 HYDRAULIC POWER UNIT

The power unit is equipped with

Figure 5 – HYDRAULIC POWER UNIT




 **If the oil filling cap is lost or broken, order the replacement. The oil tank must be vented well.**

5.6 OIL

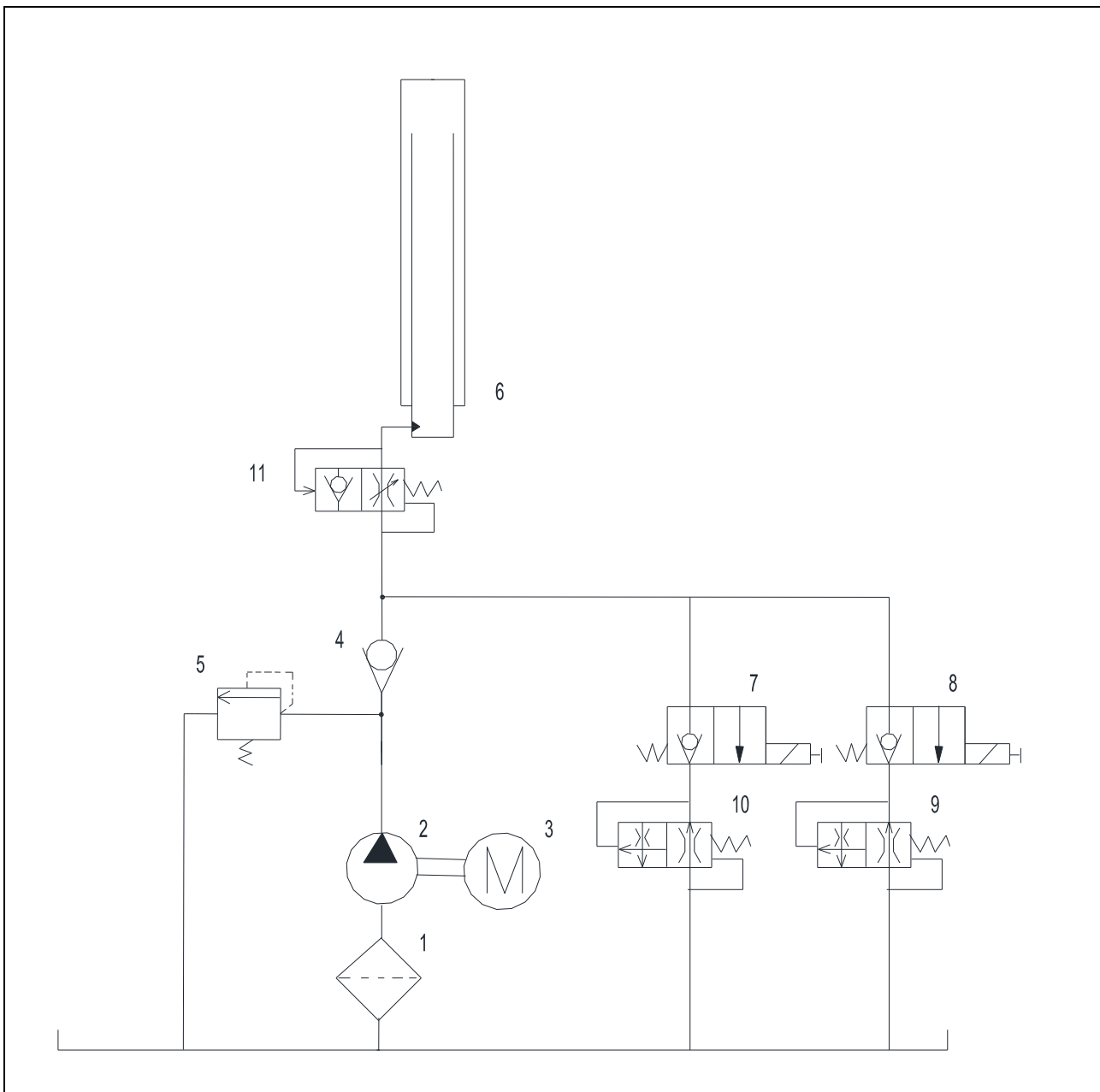
Use wear proof oil for hydraulic drive, in conformity with ISO 6743/4 rules (HM class). The oil with features similar to those shown in the table is recommended.

TEST STANDARDS	FEATURES	VALUE
ASTM D 1298	Density 20°C	0.8 kg/l
ASTM D 445	Viscosity 40°C	32 cSt
ASTM D 445	Viscosity 100°C	5.43 cSt
ASTM D 2270	Viscosity index	104 N°
ASTM D 97	Pour point	~ 30 °C
ASTM D 92	Flash point	215 °C
ASTM D 644	Neutralization number	0.5 mg KOH/g

 **CHANGE HYDRAULIC OIL AT 1 YEAR INTERVALS.**

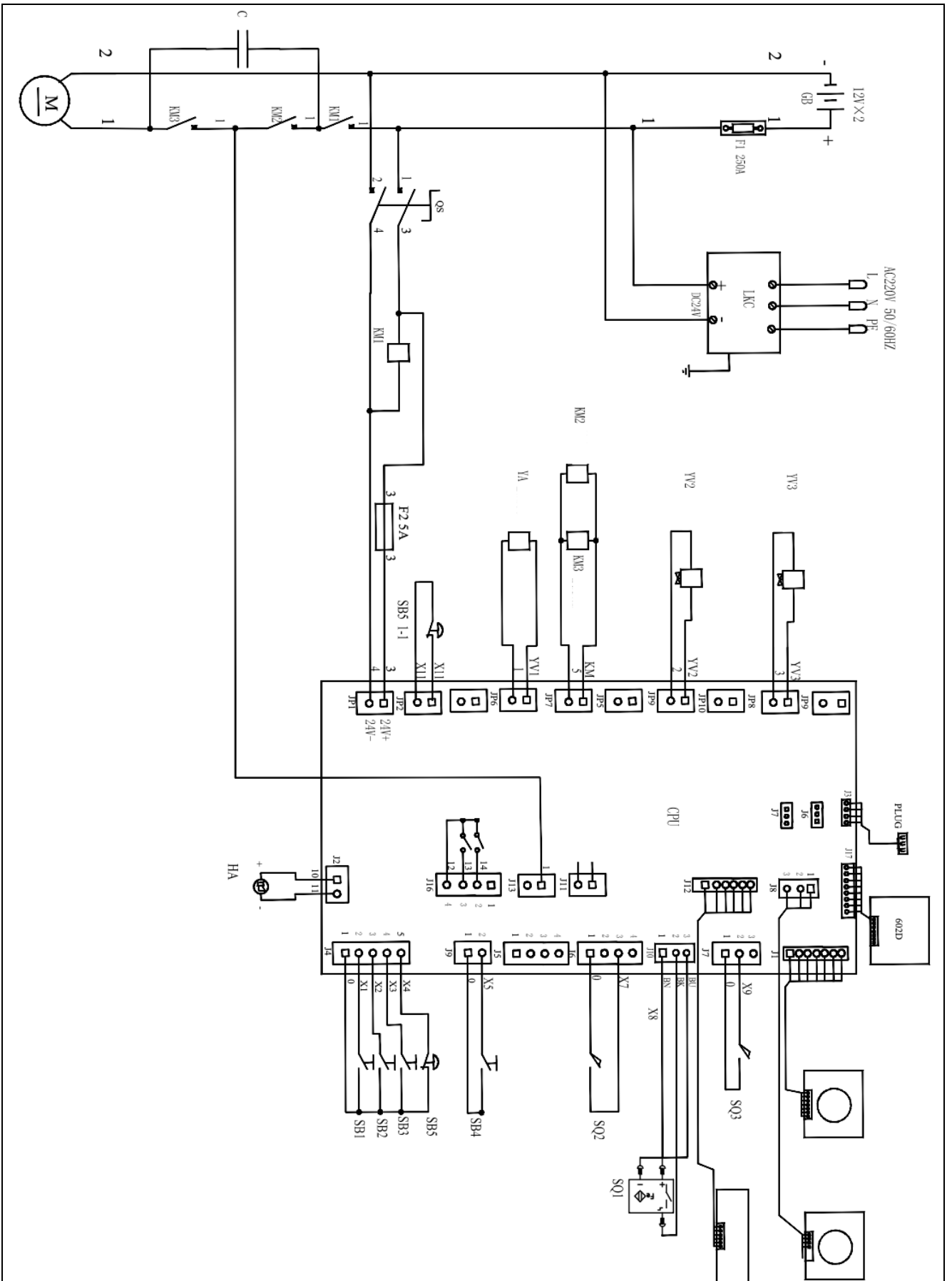
5.7 ELECTRIC AND HYDRAULIC SCHEMES

Figure 6 - HYDRAULIC SCHEME



1	Gear pump	7	Solenoid lowering valve 1
2	Oil filter	8	Solenoid lowering valve 2
3	DC24V motor	9	Lowering speed control valve D1.0
4	Non return valve	10	Lowering speed control valve D2.0
5	Pressure overload valve	11	Burst valve
6	Hydraulic cylinder		


Figure 7 – ELECTRICAL SCHEME



QS	Power switch
KM1	Contactora DC
KM2	Contactora DC
KM3	Contactora DC
M	Motor DC24V
SB1	Lifting pushbutton
SB2	Lowering pushbutton
SB3	Parking pushbutton
SB4	Low speed lowering pushbutton
SB5	Emergency stop button
HA	Buzzer
SQ1	Lock safety limit switch
SQ2	Resetting limit switch – lowest position
SQ3	Grounding safety limit switch
YA	Lock release electromagnet
YV2	Solenoid lowering valve 2
YV3	Solenoid lowering valve 2

CHAPTER 6 – SAFETY

Read this chapter carefully and completely because it contains important information for the safety of the operator and the person in charge of maintenance.

	<p>The lift has been designed and built for lifting vehicles and making them stand above level in a closed area. Any other use is forbidden:</p> <p>The manufacturer is not liable for possible damages to people, vehicles, or objects resulting from an improper or unauthorized use of the lift.</p>
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For operator and people safety, the safety area shown in the figure 8 must be vacated during lifting and lowering.

Operator's presence under the vehicle, during working, is only admitted when the vehicle lifted is not running and securely properly with the safety system locked.


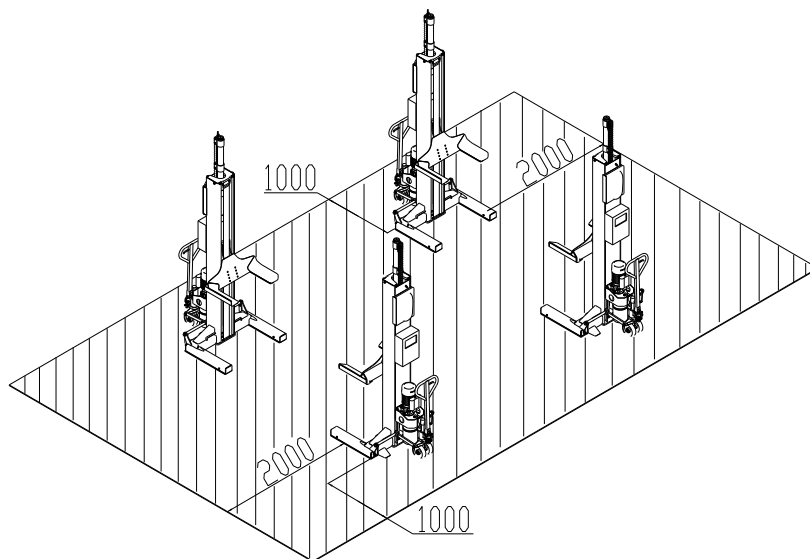
	<p>Never use the lift when safety devices are off-line. People, the lift and the vehicles lifted can be seriously damaged if these instructions are not followed.</p>
---	--

Figure 8 - SAFETY AREA



SAFETY AREA (min. 1 meter)

6.1 GENERAL WARNINGS

The operator and the person in charge of maintenance must follow accident-prevention laws and rules in force in the country where the lift is installed.

They also must carry out the following:

- neither remove nor disconnect hydraulic, electric or other safety devices;
- carefully follow the safety indications applied on the machine and included in the manual;
- observe the safety area during lifting;
- be sure the motor of the vehicle is switched off, the gear engaged and the parking brake put on;
- be sure only authorized vehicles are lifted without exceeding the maximum lifting capacity;
- verify that no one is on the lift during lifting or standing.

6.2 RISKS FOR PEOPLE

All risks the personnel could run, due to an improper use of the lift, are described in this section.

6.3 PERSONNEL CRUSHING RISKS

During lowering of vehicles, personnel must not be within the safety area covered by the lowering trajectory. The operator must be sure no one is in danger before operating the lift.



6.4 BUMPING RISK

When the lift is stopped at relatively low height for working, the risk of bumping against projecting parts occurs.

6.5 ELECTROCUTION RISKS

Avoid use of water, steam, and solvent, varnish jets in the lift area where electric cables are placed and, in particular, next to the electric panel.



6.6 RISKS FOR UNAUTHORIZED USES



Any use of the lift other than that herein specified can cause serious accidents to people or vehicle in close proximity of the machine.

The presence of unauthorized persons next to the lift is strictly forbidden during lifting as well as when the vehicle has been already lifted.

6.7 SLIPPING RISKS

The risk of slipping can be caused by oil or dirt on the floor near the lift.



Keep the area under and around the lift clean. Remove all oil spills.

6.8 RISKS RESULTING FROM IMPROPER LIGHTING

Make sure all areas next to the lift are well and uniformly lit, according to local regulations.

6.9 RISKS OF BREAKING COMPONENT DURING OPERATION

Materials and procedures, suitable for the designed parameters of the lift, have been used by the manufacturer to build a safe and reliable product. Operate the lift only for the use it has been designed for and follow the maintenance schedule shown in chapter 11 “Maintenance”.

6.10 SAFETY DEVICES



It is strictly forbidden to modify any safety device. Always ensure the safety device for proper operation during the service.

Each column is equipped with the following safety devices:

- emergency knob is placed on each control panel for easy access to stop the column for working immediately once it is pressed in case of emergency;
- passwords are needed to avoid the unauthorized operation or setting up;
- mechanical safeties in each column so that any parking position can be secured;
- advanced synchronization system makes sure that the height difference of each carriage cannot exceed 50mm. In case a carriage encounters an obstacle under to inhibit descent, the system stops immediately;
- all errors can be displayed on the screen and meanwhile the beeper is alarming;
- a safety switch to prevent the column from working before it is put on floor stably;
- burst valve is fitted in the cylinder to prevent the carriage from a sudden lowering in case of hose burst or line failure;
- pressure overload valve in the hydraulic unit to prevent excessive weight.



The pressure overload valve has been preset by the manufacturer to a proper pressure. DO NOT try to adjust it to overrun the rated lifting capacity.

DO NOT temper any safety device.

CHAPTER 7 – INSTALLATION



Only skilled technicians, appointed by the manufacturer, or by authorized dealers, must be allowed to carry out installation. Serious damage to people and to the lift can be caused if installations are made by unskilled personnel.

7.1 WORK SITE REQUIREMENT



Specifications of concrete must be adhered to. Failure to do so could cause lift failure resulting in personal injury or death.

The lift is designed to be used in enclosed places with the shelter, free of overhead obstructions. The lift must be placed on a concrete floor C25 at least in conformity with local regulations. The surface where the lift has to be installed must be even and leveled in all directions. The place of installation must not be next to washing areas, painting workbenches, solvent, or varnish deposits. The work site near to rooms, where a dangerous situation of explosion can occur, is strictly forbidden. The relevant standards of the local Health and Safety at Work regulations, for instance, with respect to minimum distance to wall or other equipment (ref. fig. 8), must be observed. Lighting must be carried out according to the effective regulations of the place of installation. All areas next to the lift must be well and uniformly lighted.

7.2 MOVING COLUMNS TO SITE



Make sure that the site is free of obstruction.

- make sure the mobile jack is connected to the column properly;
- move each column to the site determined by means of mobile jack. Be careful to keep the column in the vertical position and not bump other objects during moving.

7.3 ELECTRIC CONNECTION



It is extremely forbidden to connect DC power unit to AC power supply. Improper electrical hook-up can damage motor and will not be covered under warranty.

The electric connection (if needed) must be carried out by a qualified electrician in compliance with the local regulation.

The power unit must be kept dry. Damage to power unit caused by water or other liquids such as detergents, acid, etc., is not covered under warranty.

If no special packing is requested, the electric hookup is pre-made in the manufacturer. In case, the electric hookup is to be done on the work site, follow the procedures as below:

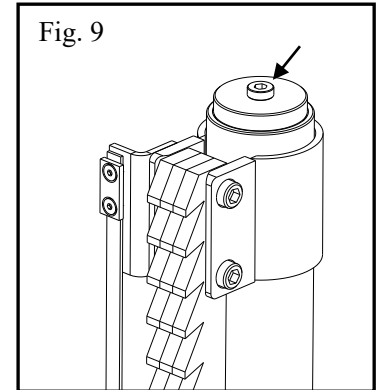
- make the electric hookup referring to the wiring diagram figure 7;
- make sure all connections are correct;
- contact the manufacturer if there is any doubt.

7.4 OIL FILLING AND BLEEDING



DO NOT run power unit with no oil. Damage to pump can occur.

- remove the oil filling cap of the oil tank and pour the hydraulic fluid recommended in chapter 5 “TECHNICAL SPECIFICATION” in the tank by about 5 liters;
- set the power switch to 1 to turn the lift on;
- set the mode selector into 1 to set the lift into single operation mode (ref. chapter 8 “CONTROLS”);
- raise the carriage to the maximum height. Fill more fluid till the tank is full;
- lower the carriage completely;
- open the bleeder of each cylinder by turning it anticlockwise approximate two turns (ref. fig. 9);
- close the bleeder when the fluid streams;
- repeat the above procedure again to bleed the hydraulic system for other columns completely.



7.5 CHECKS BEFORE USE



**During this procedure, observe all operating components and check for proper installation and adjustment.
DO NOT attempt to raise vehicle until a thorough operation check has been completed.**

7.5.1 MECHANICAL SAFETIES FOR PROPER INSTALLATION

- Check to make sure that the mechanical safeties of each column can engage properly and be released completely.

7.5.2 HYDRAULIC SYSTEM FOR PROPER OPERATION

- check the proper oil level in the tank, refill if needed;
- raise the carriage to the full height and keep the motor running for 5 seconds;
- check all hoses connections to make sure there is no leakage.

7.5.3 SYNCHRONIZATION CHECK

- Check on the screen and make sure the height value difference for all carriages not exceeding 50mm when raising and lowering all carriages fully.

7.5.4 LIMIT SWITCHES FOR PROPER OPERATION

- check to make sure the power unit stops working when the carriage is raised at the top height;
- check to make sure the height value displayed on the screen is reset to “0” or similar but not minus when the carriage is lowered fully, recalibrate if needed (ref. chapter 8 “CONTROLS”);
- check to make sure the power unit cannot work if the column is not put stable on floor.

CHAPTER 8 – CONTROLS



**Only authorized person must be allowed to carry out any operation.
Operator must read this captor thoroughly before carrying out any operation.**

8.1 INTRODUCTION

The complete control system consists of two parts:

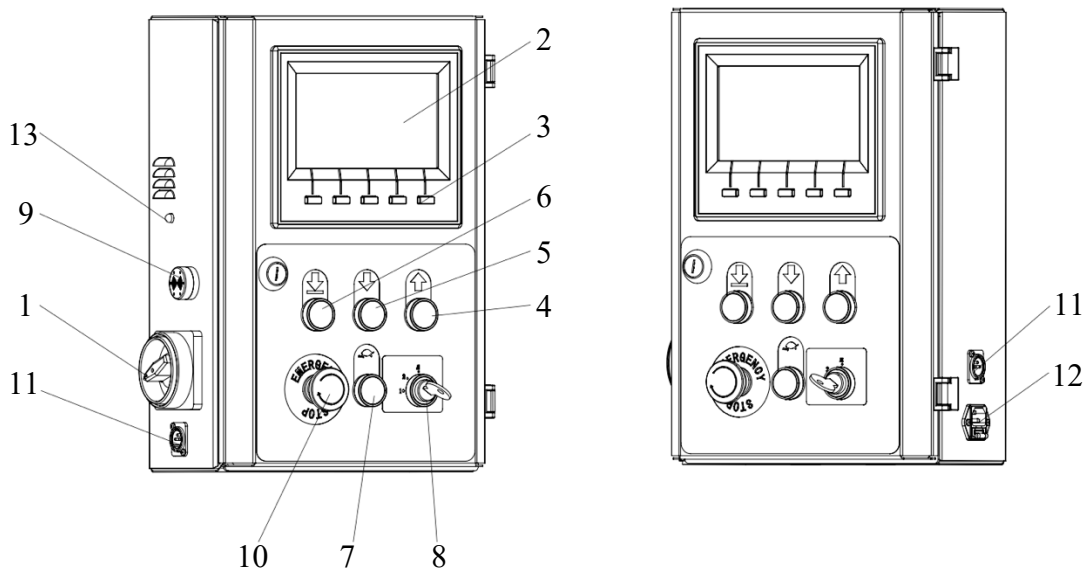
- button controls;
- touchscreen controls.

Button controls are mainly for the movement of the column, including lifting, lowering, parking, etc. Touchscreen controls are mainly for the settings, including language, grouping, calibration, etc.

8.2 BUTTON CONTROLS

Button controls are mainly for the movement of the column.

Figure 10 – BUTTON CONTROLS



POWER SWITCH (1)

The power switch can be set in two positions:

- **0**: the electric circuit is not powered; the switch can be padlocked to prevent the use of the lift.
- **1**: the electric circuit is powered.

TOUCHSCREEN (2)

- The respective operation can be carried out on it.
- Respective information is displayed on it during working.

FUNCTION BUTTONS (3)

- Each function shown on the touchscreen can be performed by pressing the respective key.

LIFTING BUTTON (4)

- When pressed, the electric circuit operates the motor(s) to raise the carriage(s).

LOWERING BUTTON (5)

- When pressed, the carriage(s) of column(s) takes a few seconds at first to release the mechanical safeties then the carriage(s) begins to descend under its weight or load lifted.

PARKING BUTTON (6)

- When pressed, the carriage(s) descends to engage the nearest mechanical safeties.

TURTLE BUTTON (7)

- It provides the same function as lowering button (5), but only the lowering speed is much slower.

MODE SELECTOR (8)

The mode selector can be set in three positions:

- **1:** only the current column works when lifting button (4), lowering button (5), parking button (6), or turtle button (7) is pressed.
- **2:** only columns at the current axle work when lifting button (4), lowering button (5), parking button (6), or turtle button (7) is pressed.
- **All:** all columns in the whole system work when lifting button (4), lowering button (5), parking button (6), or turtle button (7) is pressed.
- The mode selectors must be set at the same position on the columns that need to work. For example, all mode selectors must be set at **All** when you need all columns in the whole system to work.

BEEPER (9)

- When it is alarmed, a warning happens. Check the message shown on touchscreen (2).

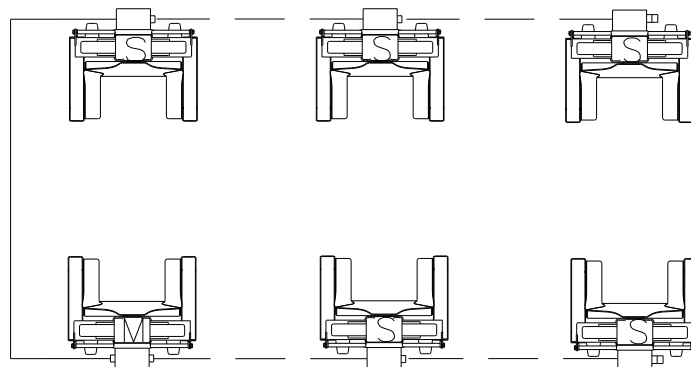
EMERGENCY STOP BUTTON (10)

- When pressed on any control panel, the whole system is stopped immediately.
- The whole system will not work if any of the emergency stop buttons is pressed.
- Turn clockwise to release it.

COMMUNICATION CABLE SOCKET (11)

- When the communication cable is connected, the system is possible to be switched to the wired communication.
- The communication cable has to be ordered separately from the Dealer.
- The opening of the connection of the communication cables has to be at the front or the rear of the lifted vehicle, as shown in picture 11.

Figure 11 – HORSESHOE CONNECTION



CHARGING SOCKET (12)

- Insert the supplied charging cable to charge the batteries.
- Remove the charging cable before attempting to operate the column.

CHARGING INDICATOR (13)

- Indicates if the batteries are being charged.
- If the indicator is off, the batteries are not being charged.
- If the indicator is red, the batteries are being charged.
- If the indicator is green, the batteries are charged fully.

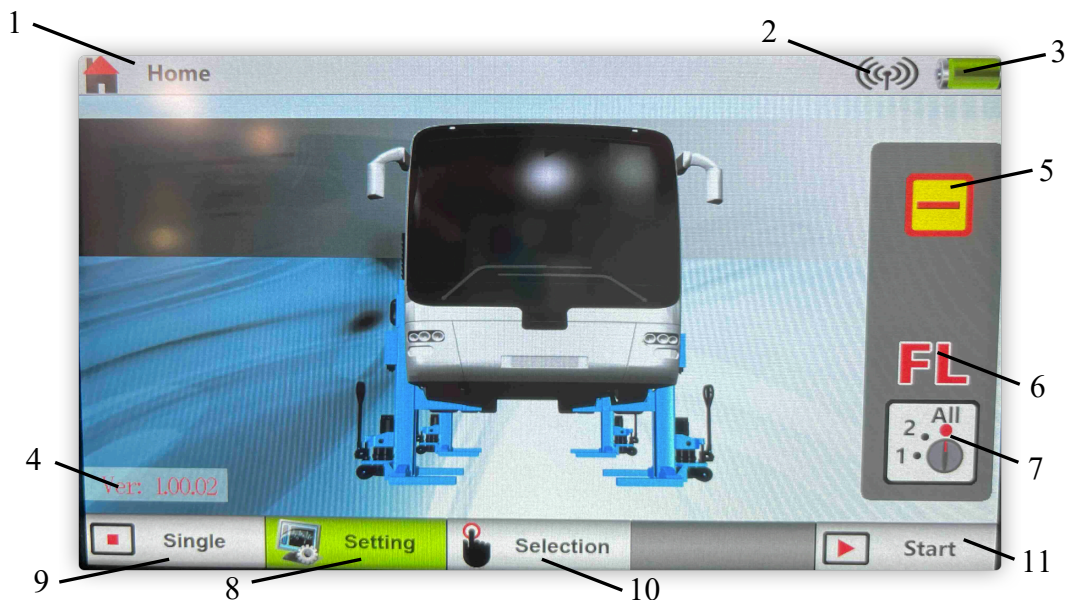
8.3 TOUCHSCREEN CONTROLS

Touch screen controls are mainly for the settings.

- this touchscreen is a resistive one and has to take a bit of pressure to work properly.

8.3.1 HOME PAGE

Figure 12 – HOME PAGE



TITLE (1)

It shows the name of the current page.

This shows on most pages.

SIGNAL (2)

It shows if all the columns in the whole system are in working state or not.

This shows on most pages.

- When the signal is off, only the operations of a single column can be done properly.
- When the signal is off, please regroup the system refer to “Setting Page” in this chapter.

BATTERY (3)

It shows the status of the battery on the current column.

This shows on most pages.

- Recharge the column is the battery is empty.
- Recalibrate the battery if the battery does not work properly.

- Replace the battery if necessary.

VERSION (4)

It shows the version of the software.

- It has to be the same on all columns in the whole system to let the system work properly.
- Only when it of a column or more is not the same as it of the others', ask your Dealer for a software update.

STATUS (5)

It shows the current status of the current column.

This shows on some pages.

IDENTIFICATION (6)

It shows the identification of the current columns.

This shows on some pages.

- **FL – FRONT LEFT:** this is the left column on the first row in the whole system.
- **FR – FRONT RIGHT:** this is the right column on the first row in the whole system.
- **R1L – REAR 1 LEFT:** this is the left column on the second row in the whole system.
- **R1R – REAR 1 RIGHT:** this is the right column on the second row in the whole system.
- **R2L – REAR 2 LEFT:** this is the left column on the third row in the whole system.
- **R2R – REAR 2 RIGHT:** this is the right column on the third row in the whole system.
-
- **R7L – REAR 7 LEFT:** this is the left column on the eighth row in the whole system.
- **R7R – REAR 7 RIGHT:** this is the right column on the eighth row in the whole system.
- It of all columns has to be set correctly before carrying out any movement to the carriages of the columns.
- Check if it of all columns is correct before operating the system.
- Refer to “Setting Page” in this chapter to setup it.

MODE SELECTOR (7)

It shows the current status of the mode selector on the current column.

This shows on some pages.

SETTING (8)

Press it to enter setting page.

This shows only on home page.

That pressing the function button below has the same function as touching this button on screen.

- Refer to “Setting Page” in this chapter for detailed instruction.

SINGLE (9), SELECTION (10), AND START (11)

Press any button to enter operation page.

Single (9) shows only on home page.

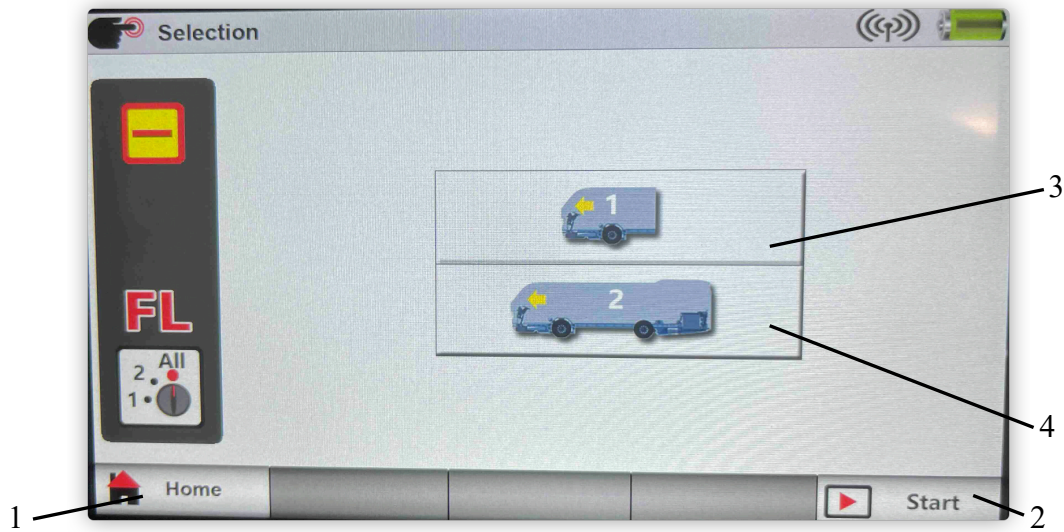
Selection (10) and start (11) show on some pages.

That pressing the function button below has the same function as touching this button on screen.

- All three buttons can enter operation page.
- If the operation page is entered with start (11), the column can then to choose to work in **1**, **2**, or **All** mode.
- If the operation page is entered with single (9), the column can only work in **1** mode.
- If the operation page is entered with selection (10), the selection page will show up, and it is then possible to choose to work in **2** or **All** mode.

8.3.2 SELECTION PAGE

Figure 13 – SELECTION PAGE



HOME (1)

Press it to return to home page.

That pressing the function button below has the same function as touching this button on screen.

START (2)

Press it to enter operation page.

That pressing the function button below has the same function as touching this button on screen.

- If the operation page is entered with start (11), the column can then to choose to work in **1**, **2**, or **All** mode.

VEHICLE ICON WITH 1 (3)

Press it to enter operation page.

- The number on the icon indicates the number of axes.
- If the operation page is entered with this icon, the column can only work in **2** mode.

VEHICLE ICON WITH 2 OR ... (4)

Press it to enter operation page.

- The number on the icon indicates the number of axes.
- If the operation page is entered with this icon, the column can only work in **ALL** mode.

8.3.3 OPERATION PAGE

There are three kinds of operation pages:

- individual operation page, in which you can operate the current column;
- axle operation page, in which you can operate the current column and the opposite column;
- group operation page, in which you can operate all columns.

8.3.3.1 INDIVIDUAL OPERATION PAGE

Figure 14 – INDIVIDUAL OPERATION PAGE



HOME (1)

Press it to return to home page.

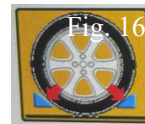
That pressing the function button below has the same function as touching this button on screen.

HEIGHT (2)

It shows the current height of the carriage.

Tips:

- In this page, only the operation of a single column can be carried out. Please set the mode selector in **1** before operation.
- If the mode selector is not set in **1**, a warning (ref. fig. 15) will show.
- When the carriage is raised or lowered to just more than 100mm, a warning (ref. fig. 16) will show, which is to ask you to check if the wheel(s) is lifted correctly before further operation.



8.3.3.2 AXLE OPERATION PAGE AND GROUP OPERATION PAGE

Figure 17 – AXLE OPERATION PAGE

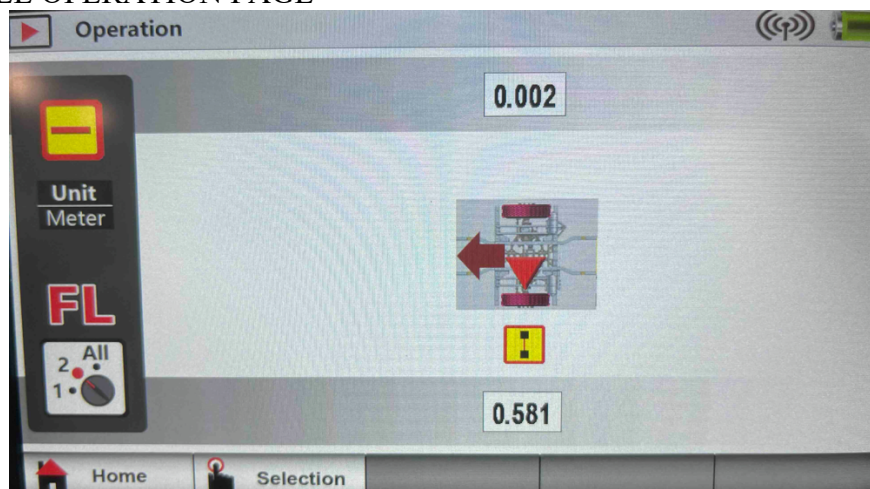
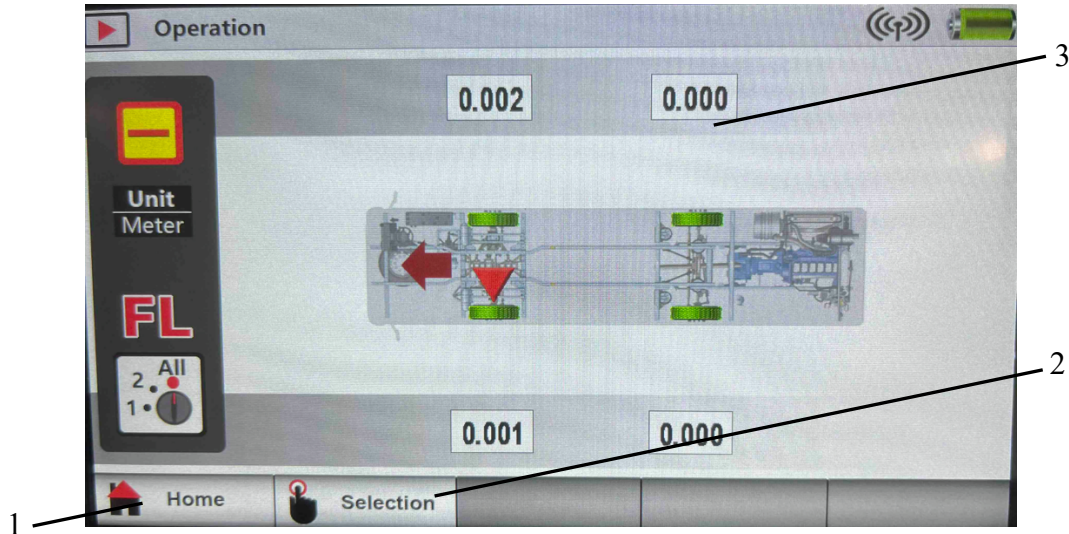


Figure 18 – GROUP OPERATION PAGE



Axle operation page and group operation page are basically the same.

The only significant difference is that:

- in axle operation page, only two columns/wheels are shown.
- in group operation page, all columns/wheels in the system are shown.

Furthermore, the amount of the columns shown is the amount of the columns that can be operated.

For example:

- In axle operation page, if:
 - the mode selector is set in **1**, the current column can be operated alone;
 - the mode selector is set in **2**, the current column and the opposite column can be operated;
 - even the mode selector is set in **All**, only the current column and the opposite column can be operated.
- In group operation page, if:
 - the mode selector is set in **1**, the current column can be operated alone;
 - the mode selector is set in **2**, the current column and the opposite column can be operated;
 - the mode selector is set in **All**, all columns can be operated.

HOME (1)

Press it to return to home page.

That pressing the function button below has the same function as touching this button on screen.

SELECTION (2)

Press it to return to selection page.

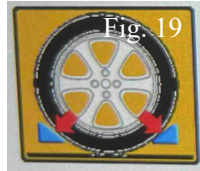
That pressing the function button below has the same function as touching this button on screen.

HEIGHT (3)

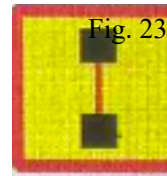
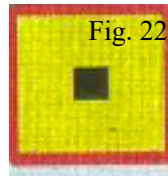
It shows the current height of the carriage.

Tips:

- When the carriage is raised or lowered to just more than 100mm, a warning (ref. fig. 19 or 20) will show, which is to ask you to check if the wheel(s) is lifted correctly before further operation.



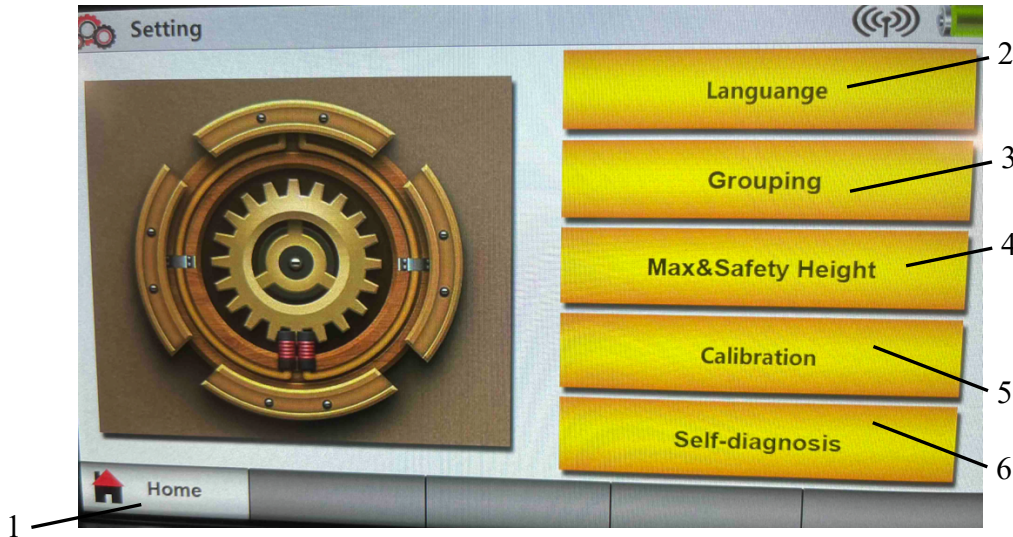
- If fig. 21 is shown beside a column, it means that this column is now being operated directly.
- If fig. 22 is shown beside a column, it means that the mode selector of this column is set in **1**.
- If fig. 23 is shown beside a column, it means that the mode selector of this column is set in **2**.
- If nothing is shown beside a column, it means that the mode selector of this column is set in **All**.



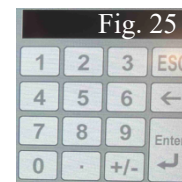
- Set the mode selector of the to-be-operated column in **1** before operation, if only one column is to be operated.
- Set the mode selectors of the to-be-operated columns in **2** before operation, and the two columns must be opposite to each other, if only two columns are to be operated.
- Set the mode selectors of all the columns in **All** before operation, if all columns are to be operated.
- After switching mode and before operation, make sure all the to-be-operated columns are at the same or similar (within 50mm difference) height. If not, adjust each column in **1** mode.
- If the whole system stops due to an unlevel column, recalibrate the height sensor of this column refer to “Setting Page” in this chapter.

8.3.4 SETTING PAGE

Figure 24 – SETTING PAGE



When the setting button is pushed on the main page, or when the corresponding function button is pressed, a dialog box will show. Enter the password 12345 to enter setting page.



HOME (1)

Press it to return to home page.

That pressing the function button below has the same function as touching this button on screen.

LANGUAGE (2)

Press it to enter the language selection page.

GROUPING (3)

Press it to enter the page where to wireless connect the columns.

MAX&SAFETY HEIGHT (4)

Press it to enter the height setting page.

CALIBRATION (5)

Press it to enter the height calibration page and battery calibration page.

SELF-DIAGNOSIS (6)

Press it to enter the diagnosis page.

8.3.4.1 LANGUAGE

Figure 26 – LANGUAGE



ESC (1)

Press it to return to setting page or press it to save the language option.

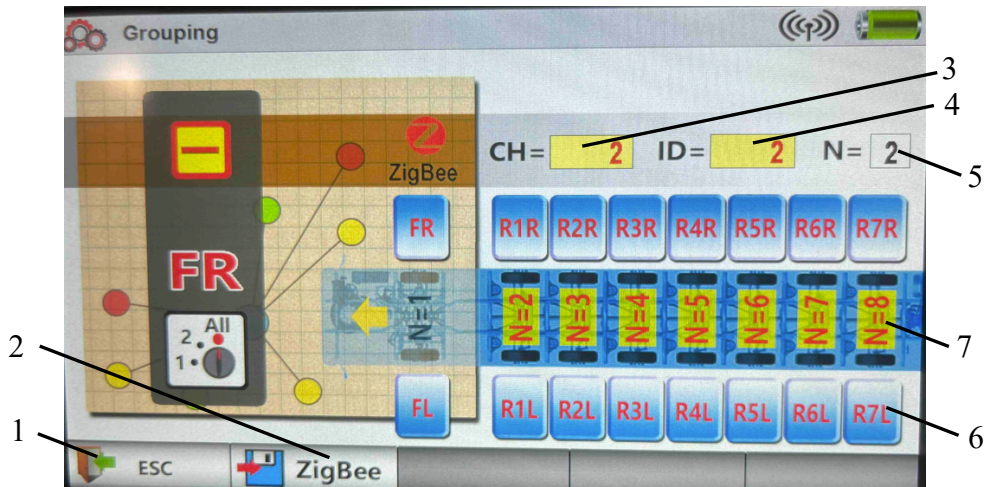
That pressing the function button below has the same function as touching this button on screen.

LANGUAGE OPTION (2)

Press a language to select.

8.3.4.2 GROUPING

Figure 27 – GROUPING



ESC (1)

Press it to return to setting page without saving the grouping option.

That pressing the function button below has the same function as touching this button on screen.

ZIGBEE (2)

Press it to save the grouping option and return to setting page.

That pressing the function button below has the same function as touching this button on screen.

- Be sure to press this button to save the new grouping option if needed.

CH (3) AND ID (4)

They show the factory identification of the columns.

Do not change without Dealer or Manufacturer's approval.

N (5)

It shows the amount of the set axles.

- It must be exactly the same as the actual amount of axles of the lifted vehicle.
- It is adjustable. Refer to below instruction.
- Be noted that N is the amount of axles, but not the amount of columns. Normally the columns are twice as many as the axles.
- Make sure to check if it is correct before saving the grouping option.

IDENTIFICATION OPTION (6)

Press an identification to select.

- Each column to be grouped as a whole system must have a different identification.
- The identification of each column must correspond with the position of the column. For example, the column on left of the first row in drive-in direction must be selected as FL. For detailed information, refer to **IDENTIFICATION (6)** at page 26.
- Make sure to check if it is correct before saving the grouping option.
- Make sure to check if it is correct before operation, by checking the identification on screen.

N OPTION (7)

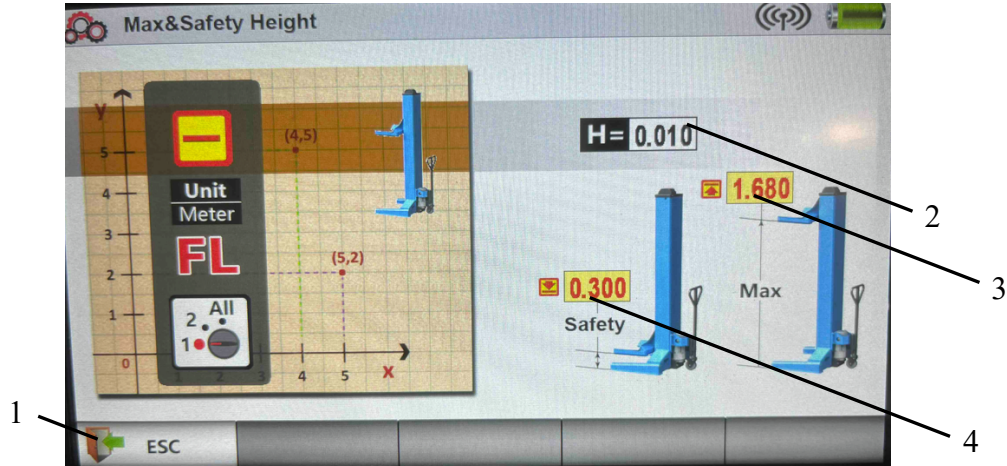
Press a number to select.

- Press the yellow area to select.
- It must be exactly the same as the actual amount of axles of the lifted vehicle.
- Be noted that N is the amount of axles, but not the amount of columns. Normally the columns

- are twice as many as the axles.
- Make sure to check if it is correct before saving the grouping option.

8.3.4.3 MAX&SAFETY HEIGHT

Figure 28 – MAX&SAFETY HEIGHT



ESC (1)

Press it to return to setting page or press it to save the max&safety height option. That pressing the function button below has the same function as touching this button on screen.

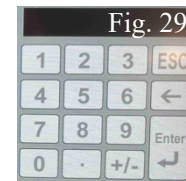
CURRENT HEIGHT (2)

It shows the current height of the carriage.

MAX HEIGHT (3)

It shows the max height.

- Press it to adjust. Input the value into the pop-up dialog box (ref. fig. 29) then press enter to confirm.
- The default value is 1.700.
- The unit is meter.
- It is not suggested to adjust it.
- If it has to be adjusted, the value must be no more than 1.700 but more than the value of safety height.



SAFETY HEIGHT (4)

It shows the safety height.

- Press it to adjust. Input the value into the pop-up dialog box (ref. fig. 29) then press enter to confirm.
- The default value is 0.1.
- The unit is meter.
- It is not suggested to adjust it.
- If it has to be adjusted, the value must be less than the value of max height.

Tips:

- In this page, the mode selector must be set in 1 before adjusting or saving any value.

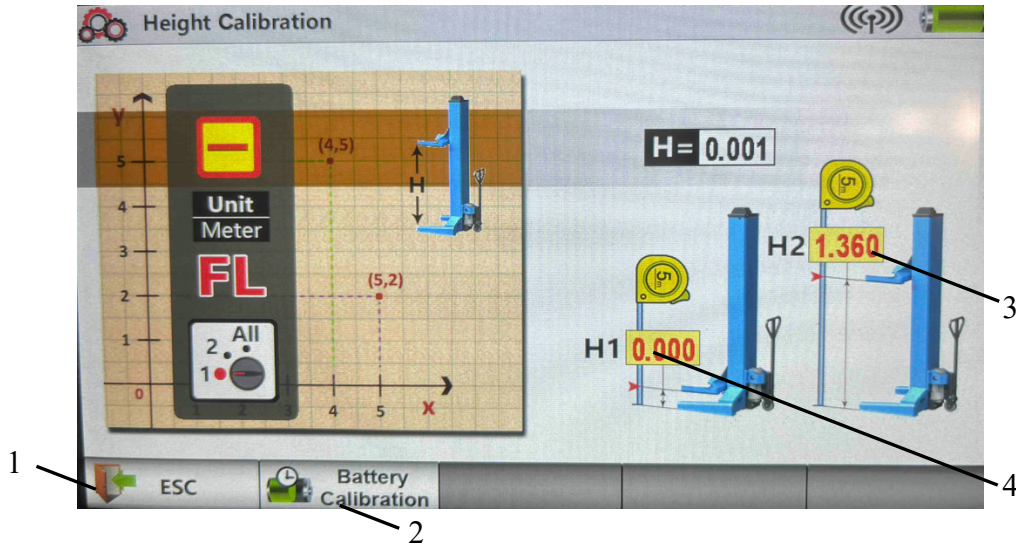


8.3.4.4 CALIBRATION

There are two pages of calibration:

- the default page is height calibration;
- and battery calibration.

Figure 31 – HEIGHT CALIBRAITON



ESC (1)

Press it to return to setting page or press it to save the height calibration option.

That pressing the function button below has the same function as touching this button on screen.

BATTERY CALIBRATION (2)

Press it to enter battery calibration page.

- Do not make the battery calibration unless the battery has issue.

H2 (3)

A button used for height calibration.

See below instruction for detail.

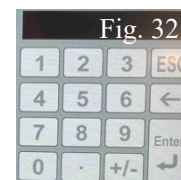
H1 (4)

A button used for height calibration.

See below instruction for detail.

INSTRUCTION FOR HEIGHT CALIBRATION:

- Set the mode selector in 1.
- Fully lower the carriage of the column.
- Press H1 (4) and enter 0 into the pop-up dialog box (ref. fig. 32) then press enter to confirm.
- Raise the carriage to at least about 1.5m from the ground.
- Measure the actual distance from the ground to the bottom of the carriage by a ruler.
- Press H2 (3) and enter the measured value into the pop-up dialog box (ref. fig. 32) then press enter to confirm.
- Press ESC (1) to save the height calibration option.
- Return to main page then press the single button to enter individual operation page.

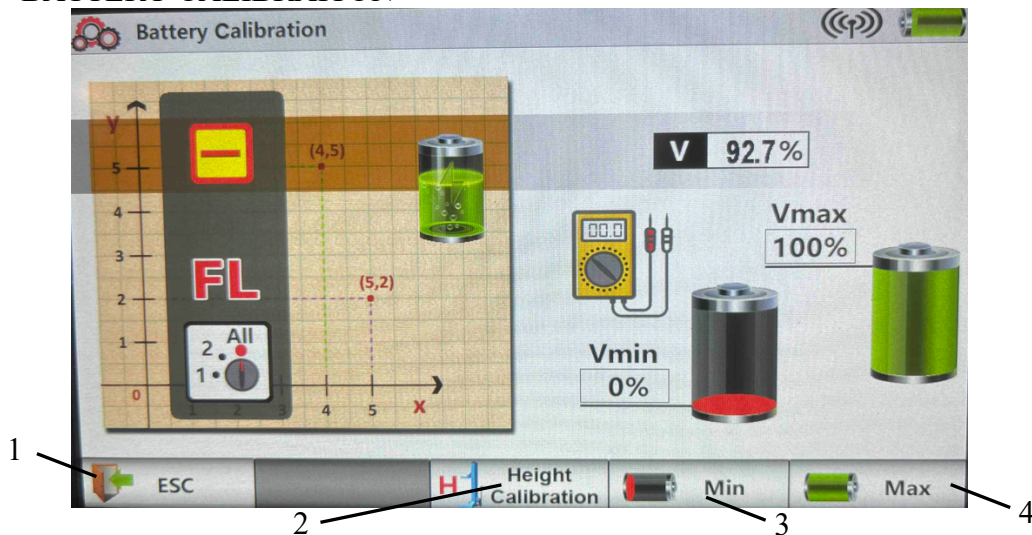


- Fully lower the carriage of the column and record the height shown on screen as H3.
- Fully raise the carriage of the column and record the height shown on screen as H4.
- Check if H4 is similar or exactly the same to the set safety height (1.700 as default).
- Check if H3 is similar or exactly the same to 0.
- Redo the calibration if any of them is not.

Tips:

- It is suggested to make the height calibration every two or three months on each column.

Figure 33 – BATTERY CALIBRAITON



ESC (1)

Press it to return to setting page or press it to save the battery calibration option.
That pressing the function button below has the same function as touching this button on screen.

HEIGHT CALIBRATION (2)

Press it to return to height calibration page and save the battery calibration option.

MIN (3)

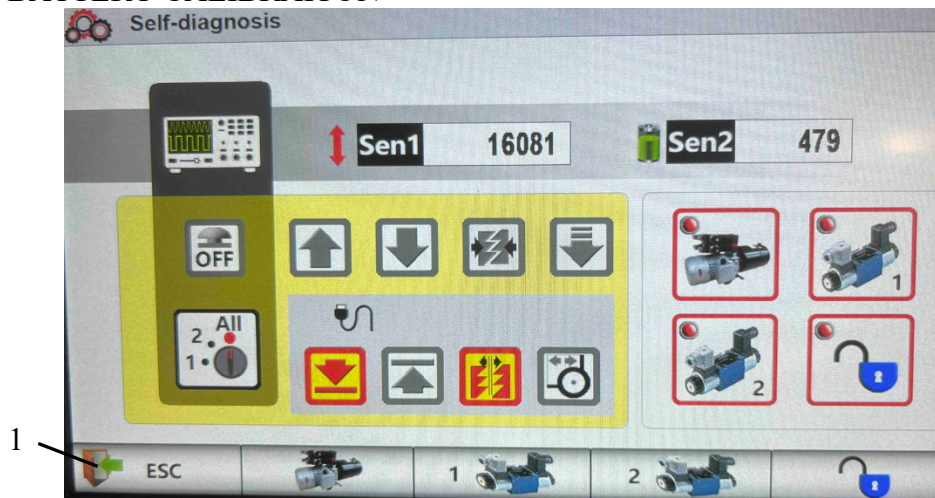
A button used for battery calibration.
Do not press it at any time unless you receive the approval from the Deal or Manufacturer.
The battery calibration can only be made if the battery has issue.
Ask your Deal for the detailed battery calibration instruction if necessary, before attempting to make the calibration.

MAX (4)

A button used for battery calibration.
Do not press it at any time unless you receive the approval from the Deal or Manufacturer.
The battery calibration can only be made if the battery has issue.
Ask your Deal for the detailed battery calibration instruction if necessary, before attempting to make the calibration.

8.3.4.5 SELF-DIAGNOSIS

Figure 34 – BATTERY CALIBRAITON



ESC (1)

Press it to return to setting page.

That pressing the function button below has the same function as touching this button on screen.


INSTRUCTION FOR SELF-DIAGNOSIS:

When a function is active, the corresponding icon will light up.

For example, when the lifting button is pressed, the lifting button icon on screen will light up.

Feel free to use this function to detect if any function has issue.

CHAPTER 9 – OPERATION AND USE

	<p>Never operate the lift with any person or equipment under.</p> <p>Never exceed the rate lifting capacity.</p> <p>Do not permit the control unit to get wet!</p>
---	---

9.1 SETUP BEFORE USE


Before the first use, make sure the following procedure has been carried out:

- Make sure that the height calibration is carried out on all columns.
- Group the columns into a whole system, refer to **8.3.4.2 GROUPING** on page 32.
- Before operation, make sure that all columns are in the correct positions, refer to **8.3.1 HOME PAGE** on page 25.
- Make sure that the capacity is sufficient.
- Make sure that the batteries have power.
- Make sure the mode selectors are in correct positions.

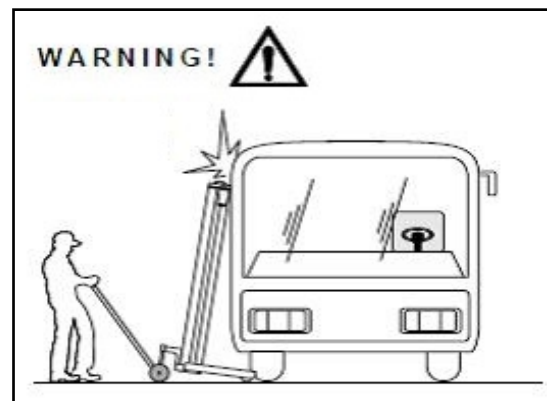
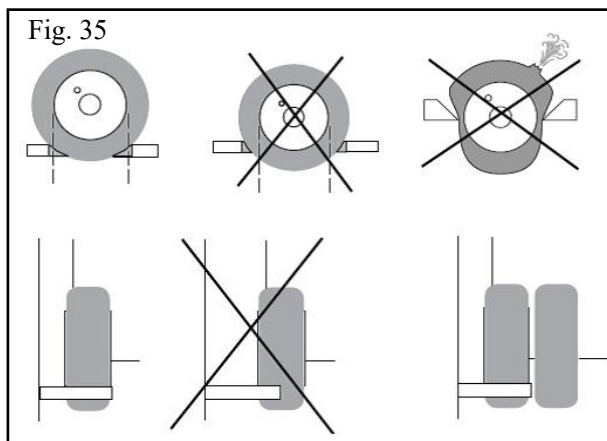
Before daily use, make sure the following procedure has been carried out:

- Before operation, make sure that all columns are in the correct positions, refer to **8.3.1 HOME PAGE** on page 25.
- Make sure that the capacity is sufficient.
- Make sure that the batteries have power.
- Make sure the mode selectors are in correct positions.

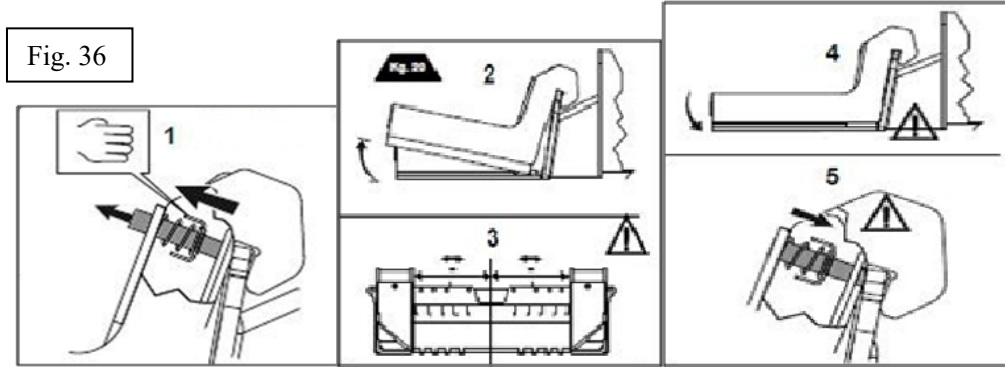
9.2 POSITIONING FOR VEHICLE LIFTING

	<p>Make sure all tires have the good condition and are rested on the lifting forks well, or if the special adaptors are needed.</p>
---	--

- move each column to the relevant position determined. Pay attention that the column must be in a vertical position and not bump the vehicle;
- check to make sure all tires of vehicle are inflated well and have good condition (ref. fig. 35);
- determine if the fork position is in compliance of the tire size, adjust the fork position if necessary (ref. fig. 36), or if special adaptors are needed;




- make sure all carriages are lowered at the lowest height;



- slowly raise each carriage until the tire is rested on forks very well and keep forks symmetrically toward to the axis of tire. Make sure the tire resting area on the forks is never beyond the fork center line and all tires are rested on forks fully (ref. fig. 35).
- make sure the vehicle is balanced;

9.3 LIFTING AND PARKING

	<p>This operation MUST be performed online and after grouping is completed.</p> <p>The operation can be performed on any column.</p> <p>During this procedure, observe the lifting status carefully and push the emergency button immediately in case of any improper lifting status.</p> <p>Always ensure that the mechanical safeties are engaged properly before any attempt is made to work on or near the vehicle.</p>
--	---

- set the mode selectors on all columns to correct positions;
- raise the vehicle by the lifting button;
- when raised to just more than 100mm from the ground, the system will stop and please check if the wheels are handled properly;
- if yes, continue to raise the vehicle by the lifting button;
- release the lifting button when the vehicle is raised to the desired height;
- park the carriages onto locks by the locking button

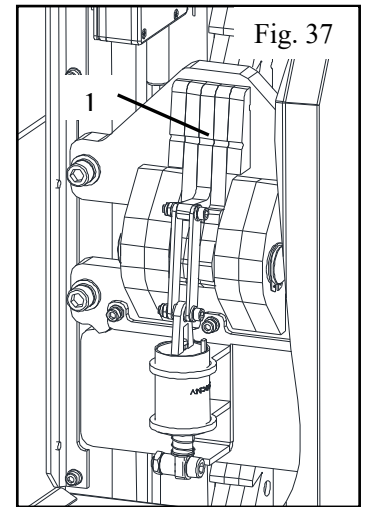
9.4 LOWERING

- set the mode selectors on all columns to correct positions;
- be sure the vehicle area is free of people and objects;
- lower the vehicle by the lowering button and meanwhile check the screen to make sure all carriages are lowered synchronously;
- when lowered to just more than 100mm from the ground, the system will stop and please check if the wheels are handled properly;
- if yes, continue to lower the vehicle by the lifting button until it is fully lowered.

8.7 MANUAL LOWERING IN EMERGENCY

In case of emergency, it is possible to lower the vehicle manually:

- padlock the power switch;
- remove the back cover of the column;
- if the mechanical lock is engaged, disengage its hook (1/fig.37) by hand;
- unscrew the emergency lowering screw (ref. fig.5) in the power unit by turning it anticlockwise to lower the carriage. Make sure each time never lower the carriage at more than 3 locking heights (each locking height is about 30mm);
- make sure to re-engage the lock before attempting to lower another carriage;
- repeat the above procedure to low all carriages fully;
- be sure to retighten the emergency lowering screw by turning it clockwise. The lift cannot be lowered with the lowering valve is open.



8.8 COMMUNICATION CABLE CONNECTION (optional)



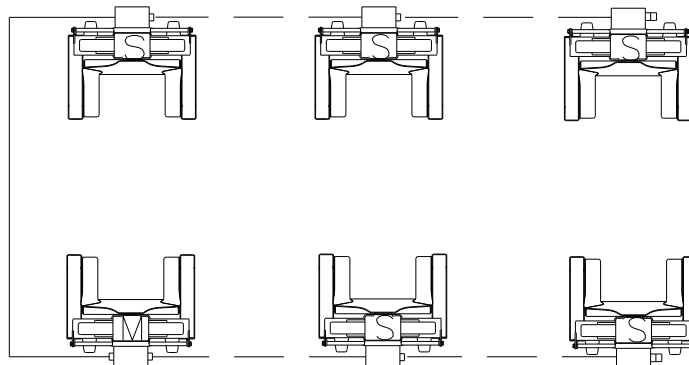
Make sure to switch off all columns before making the cable connection.

At requested, the columns can be supplied with the communication cables in case that wireless communication is malfunction.

To change the wireless communication to wired, do as follows:

- switch off the power for all columns;
- plug the each cable into its socket;
- connect the columns with cables as per the figure 38;
- power on the columns.
- make the operation same as the procedures described in above chapters.

Figure 38 – CABLE CONNECTION

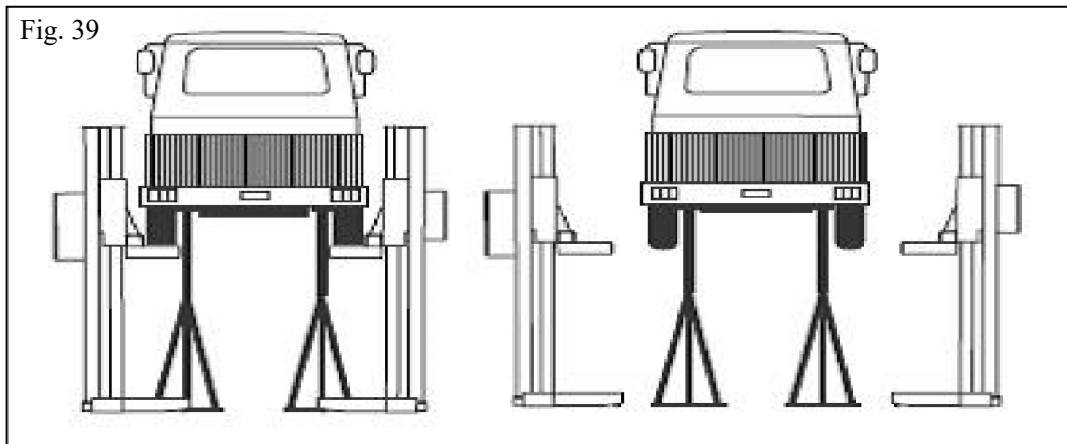


CHAPTER 10 – OPTIONAL ACCESSORIES

The manufacturer can supply optional accessories as follows.

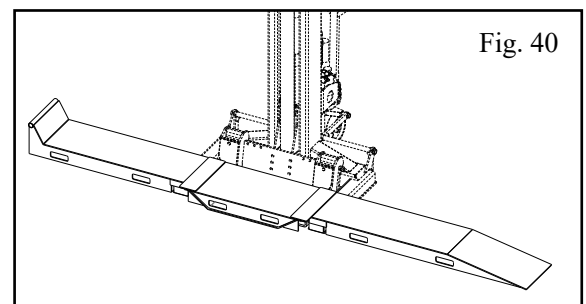
TRIPOD STAND:

- This stand can give more stability to the vehicle lifted, or to allow the people to work under the vehicle when the lift is used to lift another vehicle.
- Make sure to position the stands correctly under the vehicle lifting points recommended by the vehicle manufacturer (ref. fig. 39).
- The height of this stand is adjustable.
- The capacity of each stand is 8500kg.



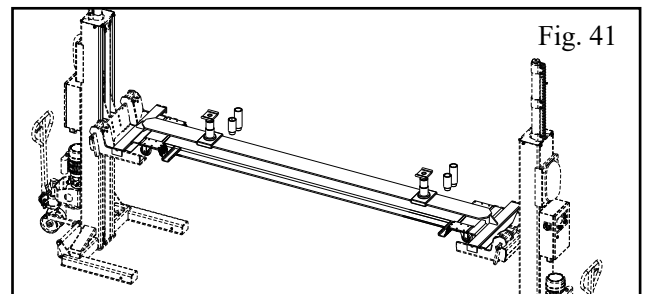
FORKLIFT ADAPTOR:

- This adaptor (ref, fig. 40) is designed only for the forklifts that are not possible to be raised on wheels.
- This adaptor is supplied as a pair.




AXLE ADAPTOR:

- This adaptor (ref, fig. 41) is designed for the trucks such as the light trucks that are not possible to be raised on wheels. It needs to be used as a pair or more.
- Make sure to position under the vehicle lifting points recommended by the vehicle manufacturer.



CHAPTER 11 - MAINTENANCE


	Only trained personnel who knows how the lift works, must be allowed to service the lift.
---	--

To service properly the lift, the followings have to be carried out:

- use only genuine spare parts as well as equipment suitable for the work required;
- follow the scheduled maintenance and check periods shown in the manual;
- discover the reason for possible failures such as too much noise, overheating, oil blow-by, etc.

Refer to documents supplied by the dealer to carry out maintenance:

- functional drawing of the electric and hydraulic equipment;
- exploded views with all data necessary for spare parts ordering;
- list of possible faults and relevant solutions.

	Before carrying out any maintenance or repair on the lift, disconnect the power supply, padlock the general switch, and keep the key in a safe place to prevent unauthorized persons from switching on or operating the lift.
---	--

9.1 ORDINARY MAINTENANCE

The lift has to be properly cleaned at least once a month using self-cleaning clothes. Lubricate all pivot pins at least once a week.

	The use of water or inflammable liquid is strictly forbidden.
---	--

Be sure the rod of the hydraulic cylinders is always clean and not damaged since this may result in leakage from seals and, as a consequence, in possible malfunctions.

9.2 PERIODIC MAINTENANCE

Every 3 months	Hydraulic circuit	<ul style="list-style-type: none"> ▪ check oil tank level; refill with oil, if needed; ▪ check the circuit for oil leakage; ▪ check seals for proper conditions and replace them, if necessary.
	Hydraulic pump	<ul style="list-style-type: none"> ▪ verify that no noise changes take place in the pump when running and check fixing bolts for proper tightening.
	Safety system	<ul style="list-style-type: none"> ▪ check safety devices for proper operation.
Every 6 months	Oil	<ul style="list-style-type: none"> ▪ check oil for contamination or ageing. Contaminated oil is the main reason for failure of valves and shorter life of gears pumps.
Every 12 months	General check	<ul style="list-style-type: none"> ▪ verify that all components and mechanisms are not damaged.
	Electrical system	<ul style="list-style-type: none"> ▪ a check of the electrical system to verify that motor, limit switch and control panel operate properly must be carried out by skilled electricians.
	Oil	<ul style="list-style-type: none"> ▪ empty the oil tank and change the hydraulic oil.

CHAPTER 12 – TROUBLE-SHOOTING

A list of possible troubles and solutions is given below:

TROUBLE:	POSSIBLE CAUSE:	SOLUTION:
The column does not work	Power switch is not switched on	Turn on the switch
	Emergency stop button is not released	Release the button
	The grounding safety switch is not activated	Position the column on floor very well
	Battery is off power	Charge the battery
	The electrical wires are disconnected	Check and reconnect
Some columns can work but some cannot	Some columns are not grouped online	Check for proper grouping online
The carriage does not raise when the lifting button is pressed	The oil in the hydraulic unit is not sufficient	Fill more hydraulic oil
	The lifting button is faulty	Check the lifting button and connection for proper operation. Replace, if needed
	The lowering solenoid valve does not close	Check and clean, if dirty, or replace, if faulty
	The emergency screw of lowering valve does not close	Retighten the screw
	The suction pump filter is dirty	Check and clean if needed
	The electrical wires to this button are disconnected	Check and reconnect
The carriage does not lower when the lowering button is pressed	The locks are not released	Check if the electrical wires to the electromagnet are loosened. Fix tightly if needed
	The lowering solenoid valve is not operating	Verify if it is powered and check the magneto for damages (replace if disconnected or burnt)
	The lowering button is faulty	Check the lowering button and connection for proper operation. Replace, if needed
	The electrical wires to this button are disconnected	Check and reconnect
The height value is not displayed properly during lifting phase	The carriage is raised from the lowest position	Make sure the carriage rises from the lowest position
	The reset switch is not adjusted correctly or it is faulty	Adjust or change the limit switch
	The wire to the height sensor is disconnected or loosened	Check the connection for proper operation
The system is out of synchronization	The height sensor shows unstable number	Check or replace the sensor
	The wire to the height sensor is disconnected or unloosened	Check the connection for proper operation
	The oil in the hydraulic unit is not	Add some hydraulic oil

	sufficient	
	The lowering solenoid valve in one of power units does not close	Check and clean, if dirty, or replace, if faulty
	The emergency screw of lowering valve in one of power units does not close	Retighten the screw
	The suction pump filter in one of power units is dirty	Check and clean if needed
The lifting capacity is not sufficient	The oil in the tank is not enough	Fill oil in the tank
	The pump is faulty	Check the pump and replace if necessary
	The pressure overload valve is not adjusted correctly	Adjust it correctly
The motor does not stop when reaching it the top height	The top limit switch does not work	Check the limit switch and replace if needed
The lift does not lift or lower smoothly	Leakages or presences of air into hydraulic circuit	Bleed the hydraulic system
	The pump filter is dirty	Check and clean if needed
	The pump suction is blown	Check the seal and replace if needed
Nothing is displayed on screen	The power switch is not turned on	Turn the switch on
	There is no power	Check power and restore if necessary
	The electrical wires are disconnected	Replace