



RPSP Platform Stairlift Installation manual

INS-SP06-EN-02

ThyssenKrupp Encasa



ThyssenKrupp

Model:

RPSP (Internal product configurator: starting from SP06)

Manufacturer:

ThyssenKrupp Encasa srl

Via S. Cannizzaro, 2 - 56121 Pisa - Italy

E-mail: info@encasa.it

Website: www.encasa.it

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Table of Contents

1	GENERAL INFORMATION.....	4
1.1	Recipients.....	4
1.2	Language.....	4
1.3	Operators.....	4
1.4	Symbols used in the manual.....	5
1.5	Personal Protection Equipment.....	5
2	Preparation for Installation.....	6
2.1	Requirements.....	6
2.2	Shipping Configuration.....	6
2.3	Tools.....	7
2.4	Installation Tools (optional).....	8
2.5	Tightening torques.....	8
3	Installation.....	9
3.1	Installation of the guide.....	9
3.1.1	Guide with floor supports.....	10
3.1.2	Guide with wall anchor plugs (pre-bored guide).....	15
3.1.3	Supplementary high Anchoring.....	16
3.1.4	Special anchoring.....	17
3.1.5	Coupling the track.....	17
3.1.6	Guide Assembly Diagram.....	18
3.2	Stairlift Assembly.....	19
3.2.1	Self-bearing support bracket.....	19
3.2.2	Uncoupling the Drive Unit from the Frame.....	21
3.2.3	Assembling tractor unit to frame.....	25
3.2.4	Frame Anti-crushing.....	25
3.3	Final Operations and Connections.....	26
3.3.1	Electrical connection.....	26
3.3.2	Casing Fixing.....	27
3.3.3	Mechanical Stop on the track.....	29
3.3.4	Adjustment of the stop positions.....	30
3.3.5	Assembly of the call devices.....	31
4	Adjustments.....	32
4.1	Adjustment of the platform inclination.....	32
4.2	Calibration of the load control device (optional).....	33
4.3	Regulation of safety bars inclination.....	34
4.4	Clutch adjustment for electromechanical tilting.....	35
4.5	Hinge adjustment.....	37
4.6	Electromechanical tilting clutch adjustment (REM).....	38
5	Final checks.....	39
5.1	Guide and anchor tests.....	40
5.2	Flap test.....	40
5.3	Safety bar test.....	40
5.4	Speed limiter and overspeed governor test.....	41
5.5	Operational checks.....	41
5.6	Safety device check.....	41
5.7	Stop distance check.....	42
5.8	Manual emergency manoeuvre check.....	42
6	Appendix I – Overall and Exploded Drawings.....	43
6.1	Product overview.....	43
6.2	Electrical connections layout.....	56
7	Appendix II – Electronics.....	59
7.1	Mainboard.....	59
7.1.1	Right hand or left hand machine (X2L and X2R connectors).....	59

7.1.2	LED signals.....	60
7.1.3	Possible configurations with dip switches.....	61
7.1.4	Side Mobile Ramp (SMR) Configuration - DIP switch 8.....	62
7.1.5	Possible jumper configurations.....	63
7.2	Radio Devices.....	65
7.2.1	Radio Receiver (on board).....	65
7.2.2	Transmission frequency and power.....	66
7.2.3	Transmission distance calibration operation.....	67
7.3	Call devices.....	69
7.3.1	Standard call boxes.....	69
7.3.2	4 function call boxes and wireless remote control.....	70
7.3.3	Summary of the wireless remote control device functions (Transmitters).....	71
7.4	On board alarm.....	72
7.5	Released Condition.....	72
7.6	Inverter (present on variable speed machines).....	73

1 GENERAL INFORMATION

1.1 Recipients

The manual is intended for skilled operators assigned to installing the stairlift at the customer's site.

It contains the instructions for correct and safe installation procedure of the machine without technical problems.

1.2 Language

The original manual was drafted in **Italian**.

Any translation into additional languages must be carried out using the original instructions.

The Manufacturer is responsible for the information contained in the original instructions. The translations into different languages cannot be entirely verified, therefore if there are any inconsistencies the text in the original language must be followed or our Technical Documentation Office must be contacted.

1.3 Operators

For the purpose of establishing with certainty the skills and qualifications of the operators in charge of the various tasks (start-up, cleaning, routine maintenance), see the following table:



User

The User is intended as the person who, having received the user manual and read and understood its contents, is suitable for operating and using the machine safely.



Trained person

Educated person/s who have received information from the authorised installer/maintenance worker regarding the execution of emergency manoeuvres as shown below in this manual.






Skilled Personnel:

Person (or entity) in possession of the legal requirements and any necessary authorisations for the installation and/or maintenance of the machine described in this manual.

Such personnel must have received formal appointment by entitled parties and must operate in accordance with the manufacturer's specifications and in accordance with applicable requirements and/or laws for the assembly, maintenance and periodic testing by a notified body or other third parties.

1.4 Symbols used in the manual






Below is a list of the symbols used in this manual:

SYMBOL	DESCRIPTION
	GENERIC DANGER
	DANGEROUS ELECTRICAL VOLTAGE
	PARTICULARLY RELEVANT INFORMATION. RECOMMENDATIONS FOR OPTIMAL USE/WORK PROCEDURES.

1.5 Personal Protection Equipment

For the purpose of protecting the safety of those in charge of installing the machine, the use of personal protection equipment is required as indicated on each sheet which describes the installation phase. This equipment must be in good condition and working order as also required by the relevant prevailing laws.

Below is a list of PPE required during the installation phase:

SYMBOL	DESCRIPTION
	HELMET
	PROTECTIVE EYEWEAR
	SAFETY SHOES
	GLOVES
	EAR PROTECTION



WARNING!

For each installation phase the icons relative to the protection devices will be highlighted considering the minimum safety level required for correct and safe completion of the described activities. These requirements must be integrated with the prevailing safety regulations relative to the country in which the installation takes place, as well as with any further improvements stemming from experience gained and good practice techniques.

2 Preparation for Installation

2.1 Requirements

Before installing the machine carefully read and comprehend ALL the instructions contained in this manual. **Failure to follow these instructions can result in danger or unsatisfactory operation.**

The manufacturer shall not be liable for any failure, breakdown, or accidents due to non-compliance or non-application of the instructions contained in this manual.

In these cases, warranty conditions shall also be voided.

The operations described in this manual must be performed by specialised and properly trained personnel.

Suitable equipment and personal protective equipment in compliance with current health protection standards must be used. All applicable laws and rules of good practice must be observed.

Any modifications to and/or tampering with the machine are strictly prohibited.

This documentation must be kept in a safe place for the entire service life of the machine.

2.2 Shipping Configuration

Machine Box(es)

The lower box contains the assembled machine and the relative accessories.

The upper box contains the adjustable feet and the relative accessories.



Guide Box(es)

The content of the box(es) varies depending on the length of the guide and therefore the number of track pieces.

Each track piece comes with:

- Main track
- Guide casing in 2 pieces
- Bolts and Accessories



2.3 Tools

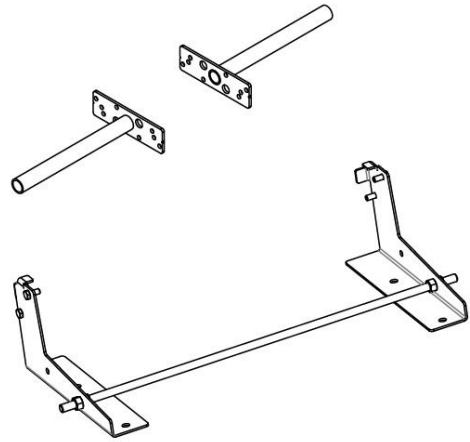
Below is a list of **recommended tools** for installation of the chairlift and the relative track.

RECOMMENDED TOOL	PHOTO
OPEN/CLOSED SPANNERS <ul style="list-style-type: none"> ▪ 1 number 8 spanner ▪ 2 number 10 spanners ▪ 2 number 13 spanners ▪ 1 number 17 spanner ▪ 1 number 19 spanner ▪ 1 number 20 spanner ▪ 1 number 21 spanner ▪ 2 number 24 spanners 	
10, 13 SOCKET SPANNER	
FLATHEAD SCREWDRIVER: <ul style="list-style-type: none"> ▪ 0.5 x 3 x 75 ▪ 0.8 x 4 x 125 	
PHILLIPS SCREWDRIVER: <ul style="list-style-type: none"> ▪ PH1 x 80 ▪ PH2 x 100 ▪ PH3 x 200 	
NEEDLE-NOSE PLIERS	
HAMMER	
PLASTIC MALLET	
CUTTER	
3 M MEASURING TAPE	
TESTER	
FELT TIP MARKER	
NORMAL LEVEL	
BUBBLE GONIOMETER	
IMPACT DRILL	
MASONRY BITS, DIAMETER 6 – 8 – 12 – 14	
METAL BITS, DIAMETER 3 – 4 – 6 – 6.5 – 6.75 – 8 – 8.5 – 10	
ALLEN KEY, DIAMETER 4 – 5 – 6 – 8	
SOFT BRUSH	
CLOTH	
CUTTING OIL BOTTLE	
INSULATING MAT	

2.4 Installation Tools (optional)

For a quick and efficient installation the manufacturer offers an **INSTALLATION KIT**:

- Self-bearing support bracket
- Handles for lifting the Drive Unit



and a **SPECIAL TOOLS KIT**:

- Electrical motor drive unit for movement of the Drive Unit
- Tool to remove the guide casing



2.5 Tightening torques

To guarantee correct assembly of the machine the bolts must be tightened with the appropriate tightening torques indicated in the table below:

SCREW DIAMETER [mm]	TIGHTENING TORQUE [Nm]	SCREW DIAMETER [mm]	TIGHTENING TORQUE [Nm]
M5	6	M14	136
M6	10	M16	210
M8	25	M18	290
M10	49	M20	410
M12 NUT	86	M22	550

3 Installation

3.1 Installation of the guide

REQUIRED PPE



For correct installation of the track you must refer to the measurements indicated on the order drawing attached to each system



The various heights of the feet to be used are listed on the drawing. The height of the foot is indicated under the floor resting plate. The number represented indicates the height of the foot in dm

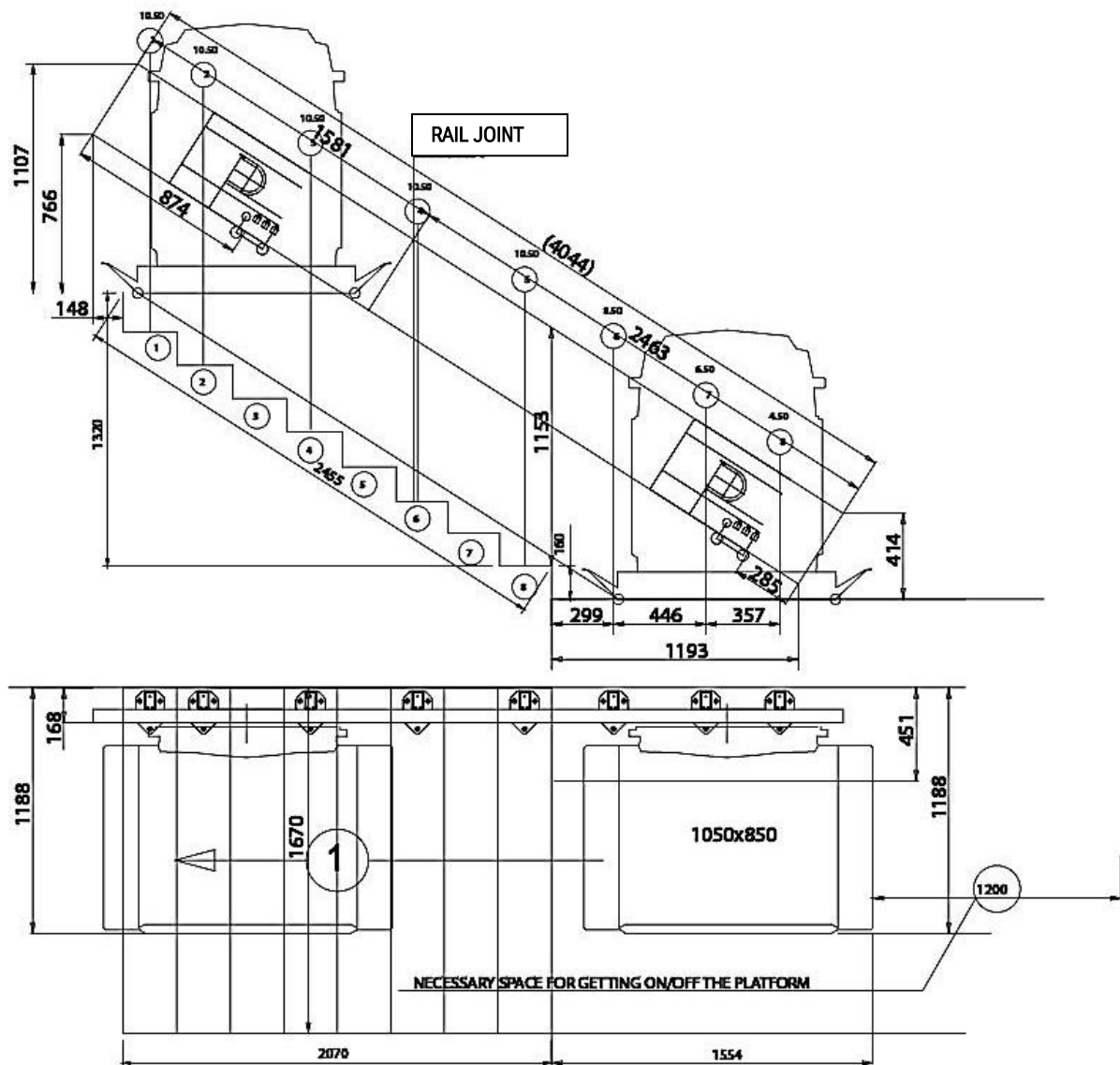


Fig. 1 - Order drawing (example)

3.1.1 Guide with floor supports

MOUNTING SEQUENCE

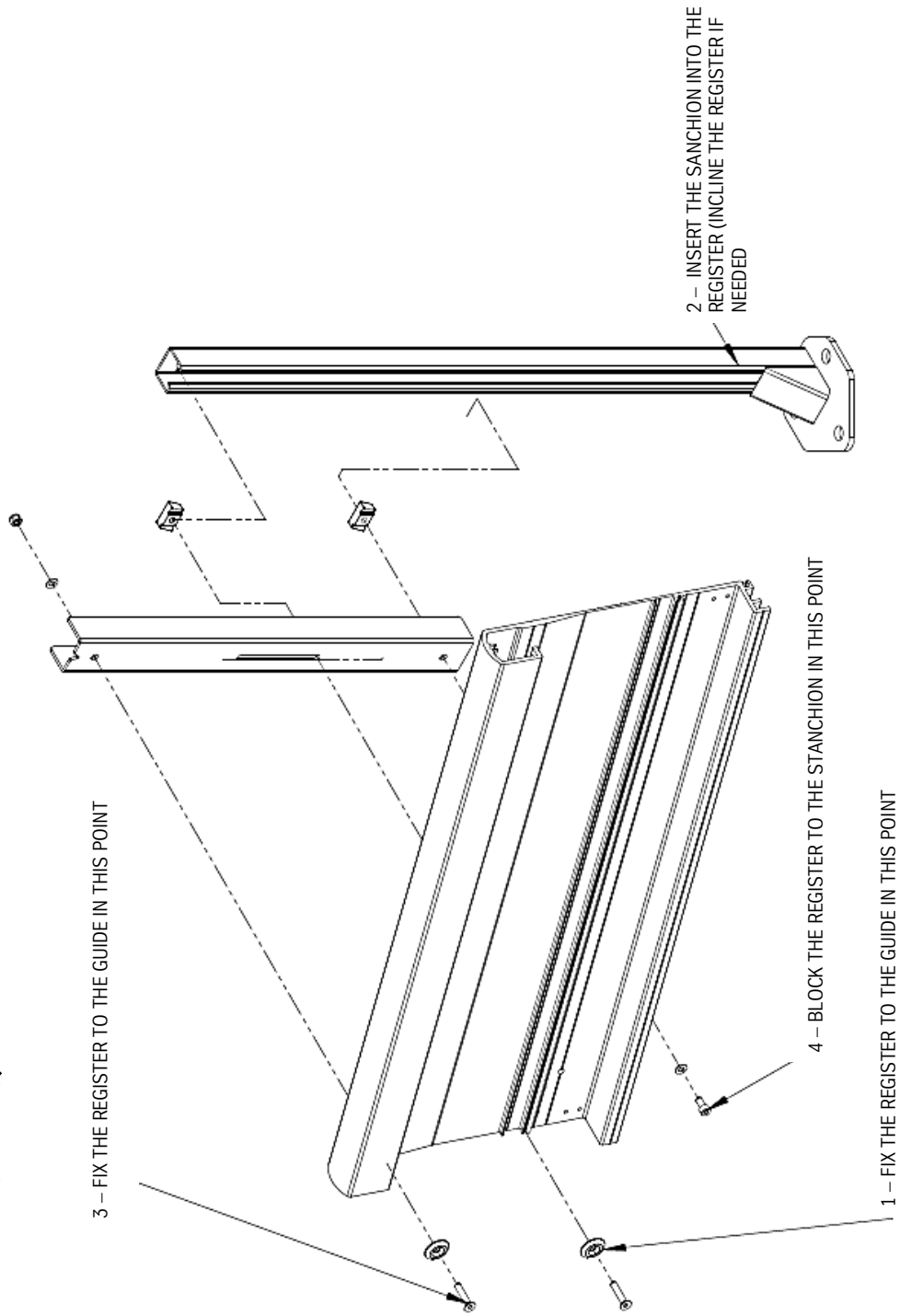


Fig. 2 – Foot assembly sequence

- Remove the guide from the packaging and place it in a position close to the stairs. Do not destroy the packaging because it may be useful to keep from scratching the guide during operations.
- Position the track, observing the distances in correspondence to the high lifting and the inclination on the drawing, using the holes already on the guide and the included adjustable feet.

Alternatively you can use clamps to fasten the track to the feet (see Fig. 3)



Fig. 3 – Positioning, adjustment and securing of the feet to the end of the guide

- Position the track at half stair width (in other words, not right next to the wall) so it is easier to mark the hold positions (see Fig. 4).
- Only resting them on the stair tread, arrange the remaining feet in the position indicated on the drawing. The spread of the anchors should not exceed 750 mm and in any case always refer to the indications on the specific assembly drawing.



Fig. 4 – Positioning of the guide at mid stair

- Mark the position of the upper and lower hold of the feet on the rear part of the guide, using a pencil and a plumb line, in correspondence to the “v” shaped notches on the track (Fig. 5 e Fig. 6). The notches are on both parts of the track.

(Alternatively you can use a foot as a straight edge and a level or a very long level)



Fig. 5 – Various methods for marking the holes



Warning! The holes must be well aligned on the upright.

- At this point you can drill the 8.5 mm pass-through holds in correspondence to the marks you have just made.
- Continue as described above for the remaining feet.



Fig. 6 – Detail of drilling the marked holes

- In reference to **Fig. 2 – phase 1**, secure the register to the guide using the bushing, the M8 screw and the special nut included (the register is illustrated in **Fig. 8B**, assembly in **Fig. 8A**).
- Incline the register and insert the foot into it (**Fig. 2 – phase 2**). Ensure that the special nut threads onto the foot and tighten it by hand.
- Return the register and the foot to a vertical position, fasten the upper screw (with a lock nut) and the lower screw (with the other special nut) as indicated in **Fig. 2 – phase 3 and 4**.

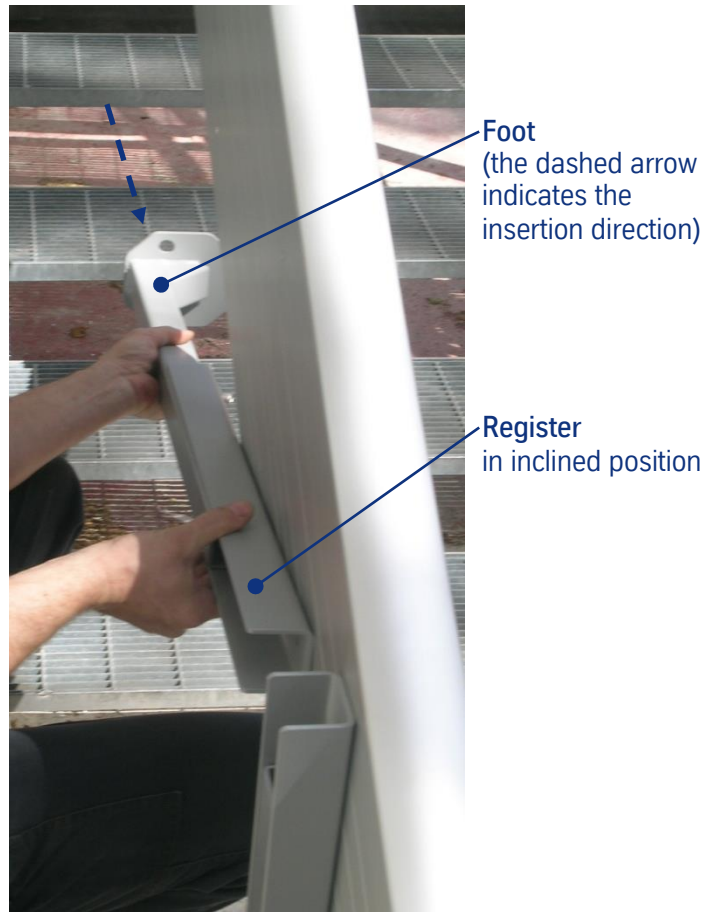


Fig. 7 – Foot assembly detail

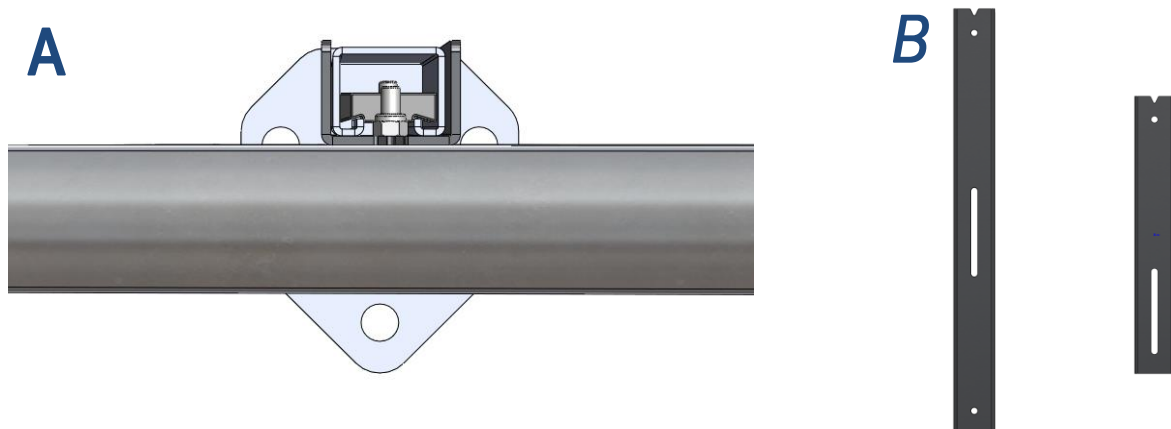


Fig. 8 – Details of the register

In **Fig. 8B** the two foot registers that come with the system are illustrated (standard on the left, short on the right). The V mark at the top indicates the high part of the register. The short register is always used for the first foot at the bottom. For very low inclination angles only “standard” registers are used

- Move the guide next to the wall into the correct position and begin to fasten the supports to the floor.



Fig. 9 – Securing the feet to the floor



Tip: For easy assembly the shortest foot (the one at the bottom) can be moved a few centimetres from the position indicated on the drawing in order not to interfere with the limit stop cam.



Warning! Install only the main part of the guide. The closing casing will be secured subsequently (and in any case only after placing the chairlift on the guide).



Warning! Before permanently securing the brackets to the floor use a level to ensure that the guide is perfectly vertical.



Tip: apply the anchor plugs to the wall side first (Fig. 9), ensure that the guide is perfectly vertical and then apply the anchor plugs on the front part. Use shims if necessary.



Warning! Due to the reduced space between the fixed parts and the mobile parts the use of anchoring systems other than those provided by the manufacturer must be verified ahead of time

3.1.2 Guide with wall anchor plugs (pre-bored guide)

The installation-ready guide for wall mounting is different from the others because it is pre-bored along its entire length. The holes are 19 mm. On the installation drawing the position of the preparation holes for installation of the guide and the control auxiliary quotas are indicated (Fig. 10, X,Y,Z etc. quotas). Instructions:

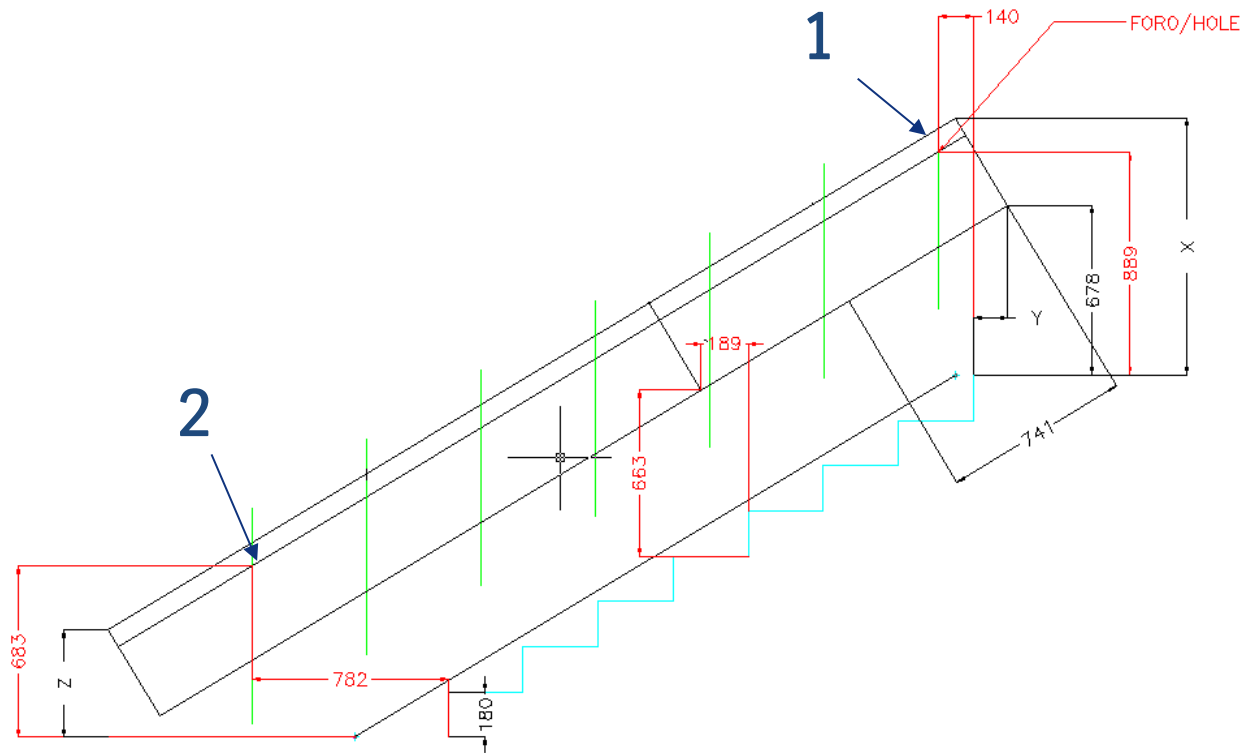


Fig. 10 – Guide wall mounting assembly diagram

- Check the consistency of the mounting wall (concrete) and its flatness (if necessary remove any unevenness).
- Drill a hole high on the wall (**Fig. 10 detail “1”**), insert the anchor plug, take the piece of guide and anchor it to the wall only using this hole. This way the guide is hinged around one point and can freely rotate.
- Place the guide on the step (guide in several parts) or on the floor (single part guide), drill the second hole (**Fig. 10 detail “2”**), lift the guide (rotating it around the fixed point) until the hole in the guide lines up with the one just drilled in the wall, insert the anchor plug and fasten the guide. The remaining holes in the wall must be drilled using the guide as a template.



Note: When using a guide in several pieces the height of the individual track sections is quoted.



Warning! Use only the anchor plugs supplied with the machine.



Warning! Install only the main part of the guide, leaving the closing casing to the side to be secured later (and in any case only after placing the chairlift on the guide).

3.1.3 Supplementary high Anchoring

Supplementary wall anchoring can be installed after having found the position of the feet on the guide. The correct assembly sequence is:

- Approach the guide to the wall (ensure that you are in the correct position)
- Mark the two ends of the foot on the wall using a pencil
- Move the guide away from the wall
- Remove the foot from its register
- Position the foot close to the wall using the previously obtained references
- Mark the drilling point



- Drill the hole for the anchor plug



- Fasten the foot to the wall
- Remount the register on the foot (the guide is already in the correct position)

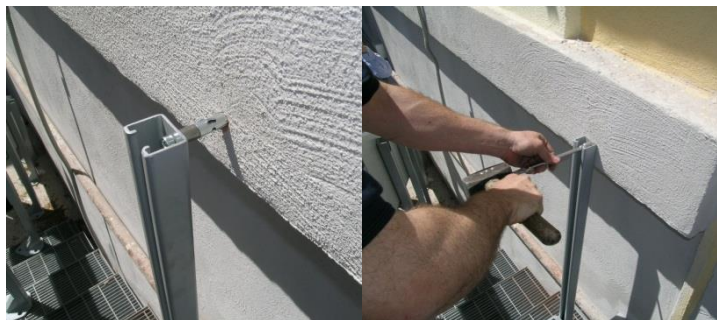


Fig. 11 - Supplementary high Anchoring



Tip: the foot can also be inserted into the register from the front: position the special nuts with their long side vertical and then approach the guide to the foot forcefully.



Tip: As an alternative to the anchor plug, if the wall is far from the guide, a threaded bar can be used.

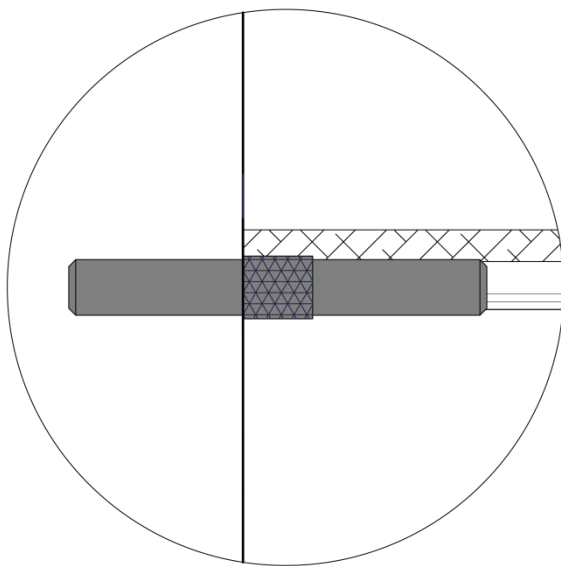
3.1.4 Special anchoring

Special anchoring can be provided in addition or as an alternative to the above mentioned anchoring. Specific instructions will be provided on a case by case basis.

3.1.5 Coupling the track

- with reference to the figure insert the pins into the two holes at the top and bottom on the same side of the track being coupled.

The pins must be inserted with a mallet and the knurled part of the surface must disappear into the guide as illustrated in the figure below.



- After inserting the pins connect the two parts of the track together using the two locking brackets and the countersunk screws supplied.

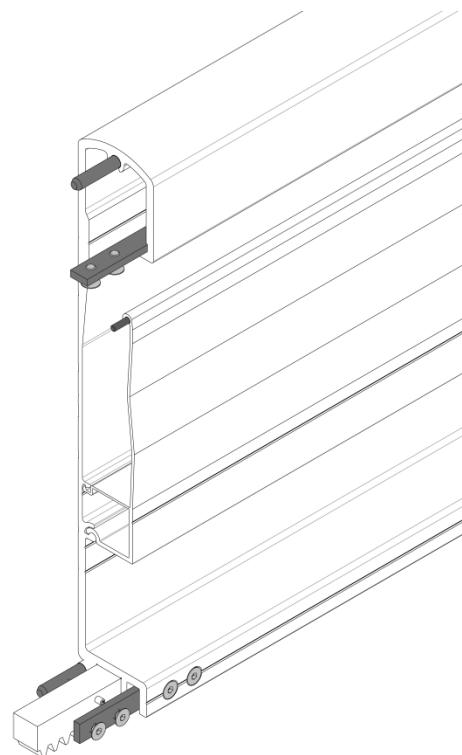


Fig. 12 – Guide coupling diagram



Warning - Safety: At the end of the installation, and after checking correct installation of the track apply EXTRA-STRONG threadlock on the coupling screws and tighten them.

3.1.6 Guide Assembly Diagram

After securing the guide, measure the α assembly angle and write it in the dedicated space in the Figure

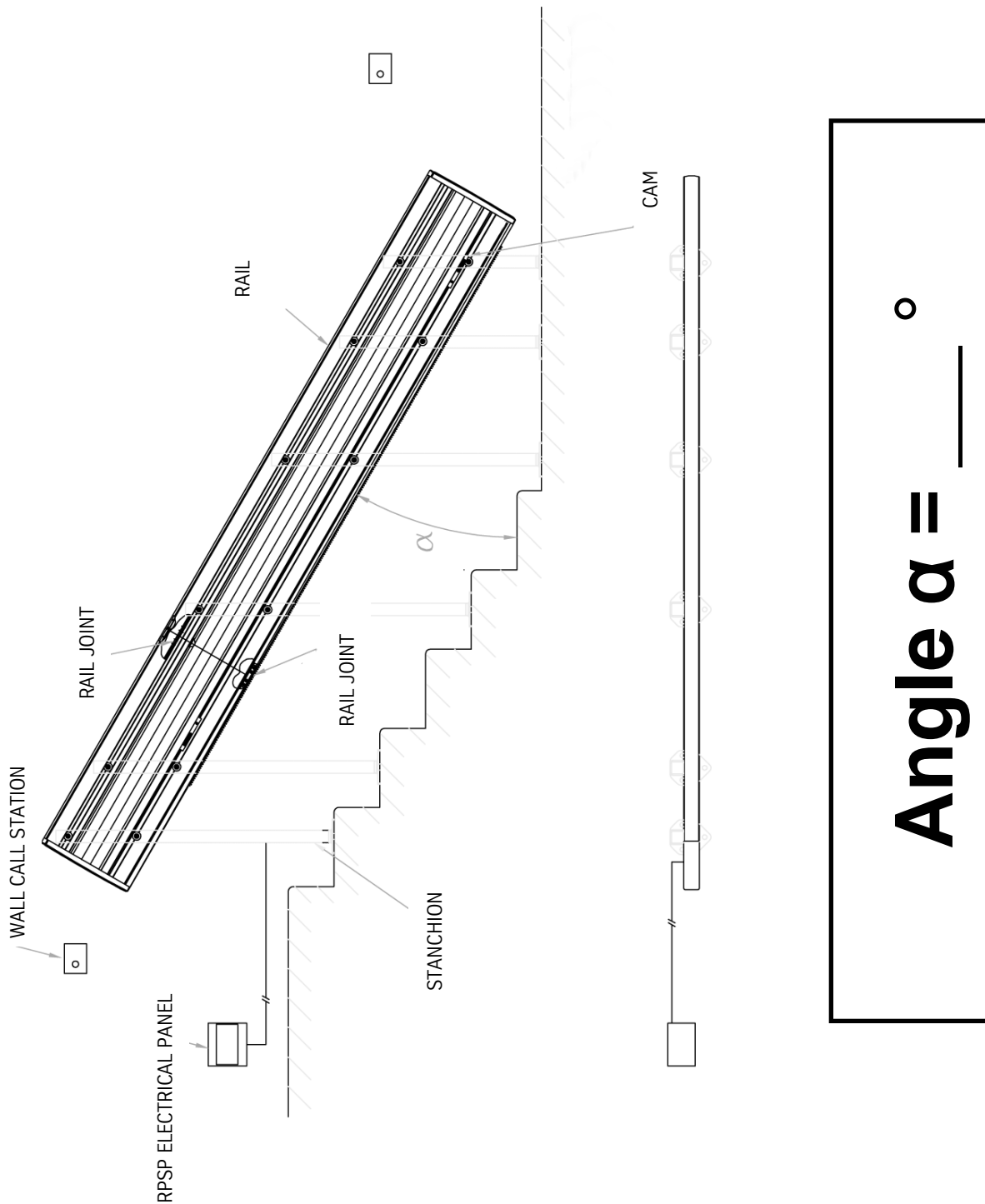


Fig. 13 – Guide Assembly Diagram

3.2 Stairlift Assembly



The machine is usually supplied pre-assembled and ready for installation on the track at the gradation indicated in the installation drawing.

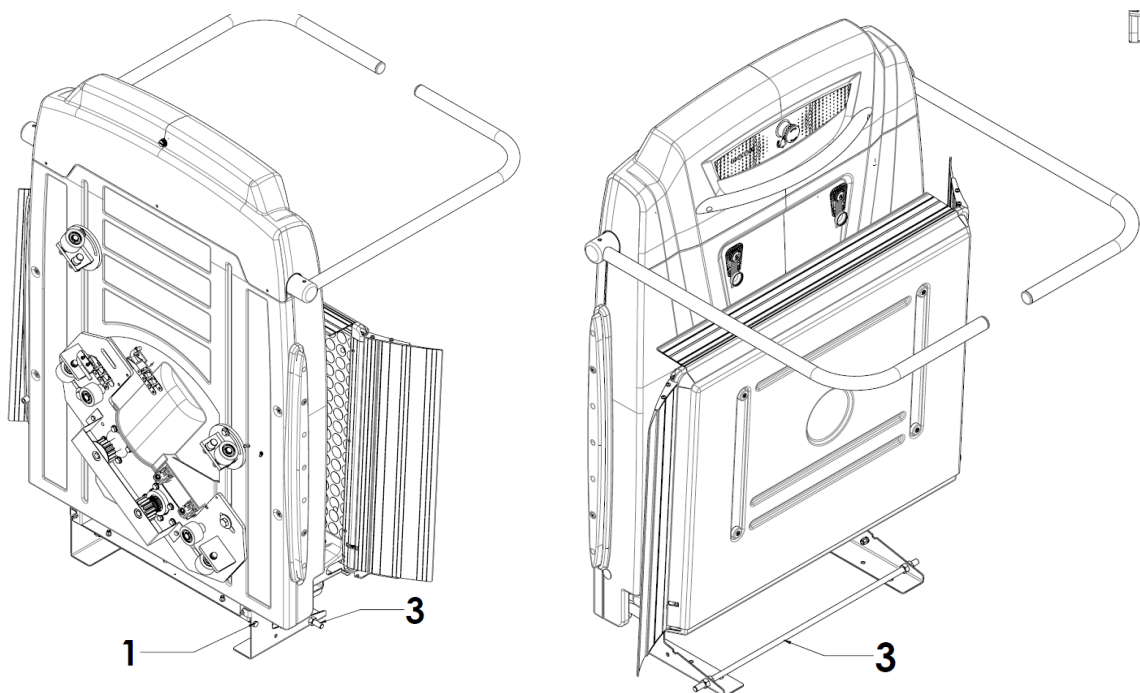
To carry out the assembly phases and to ensure the integrity of all the components you must perform the following preliminary operations:

- Open the Machine Box and check the integrity of the packaging.
- Identify and remove the casing, accessories and bolts that may be positioned near the Guide, sheltered from foul weather.
- Destroy the side parts of the packaging box and make the frame accessible. It should be noted that the sides of the box can be used as a resting base for the subsequent assembly phases and therefore to prevent soiling or damaging the components.

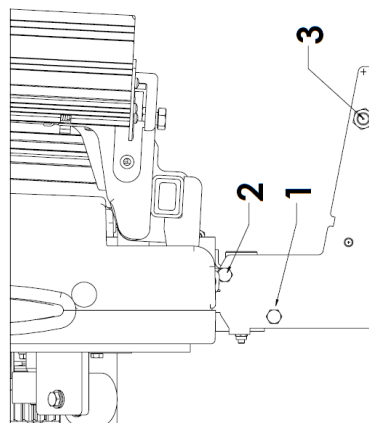
Additional instructions not contained in this manual are necessary in the event that machine is to be personalised.

3.2.1 Self-bearing support bracket

The machine may be fitted with a support bracket already mounted from the factory or an existing bracket can be connected to it. The components that identify the self-bearing bracket are indicated in the figure with 1), 2) and 3).



- With the box on the floor the brackets can be positioned as shown in the figure, securing them to the structure of the machine before applying the threaded bar 3) and then tightening the screws 1) and 2).



- The sole purpose of the screws is to hold them into place. Take care not to deform the brackets when they are tightened.

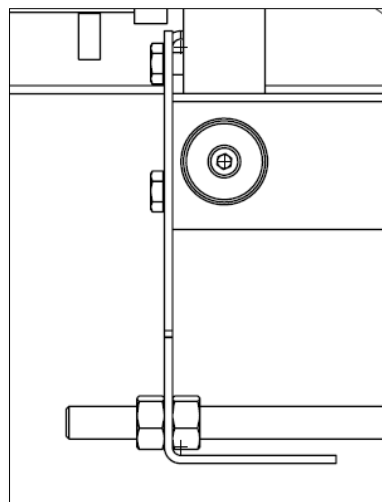
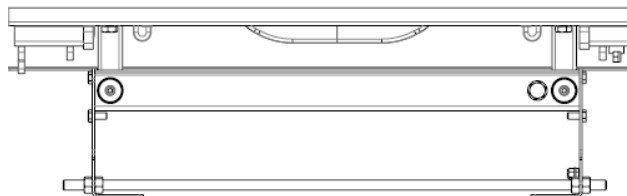


Fig. 14 – Assembly of the support

3.2.2 Uncoupling the Drive Unit from the Frame



Warning! Do not apply excessive force in handling at the risk of breaking the platform automatic opening device.

- After finishing any personalisation operations you must position the Frame vertically (using the support bracket).
- Open the platform slowly, avoiding any abrupt movements that could damage the motorised tilting clutch device.

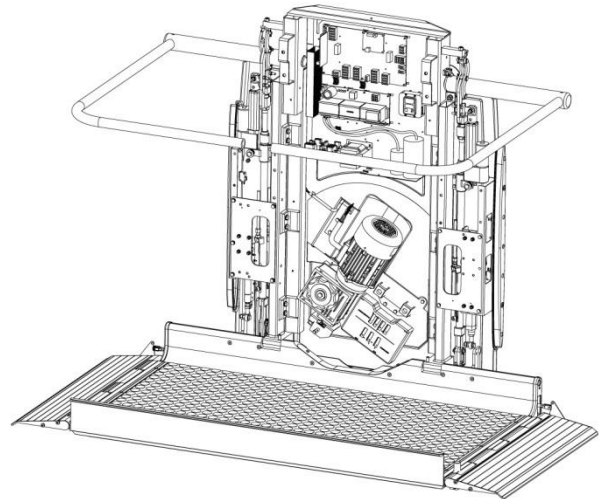


Fig. 15 - Disconnect the Motor Unit from the Frame

- Unscrew the M6 screws that fasten the rear casing to the frame (highlighted circles in the Figure).

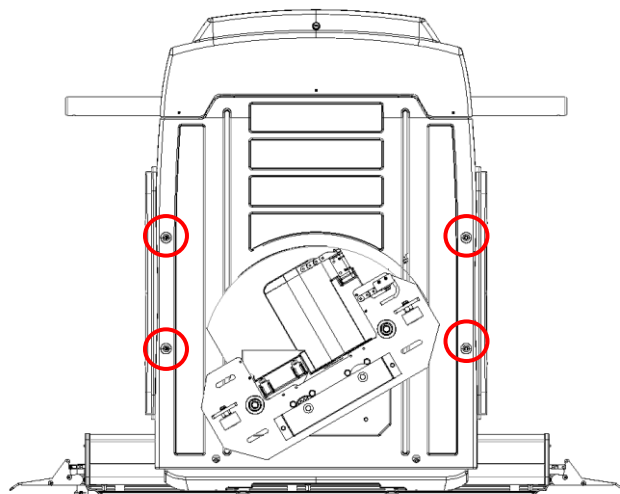


Fig. 16

- Lower the machine gently to the floor, resting the rear casing and taking care not to damage the components.
- Referring to Electrical connections layout, remove the following connectors:
 - on the main terminal block the electric motor connector (M2 for slow version / M1 for fast version);
 - on the panel the X3 connector.
- Staying on the front part of the machine (platform side), disconnect the Motor Unit from the Frame, unscrewing the 8 M8 screws.
- Remove the M6 screw that secures the electrical panel to the internal frame.

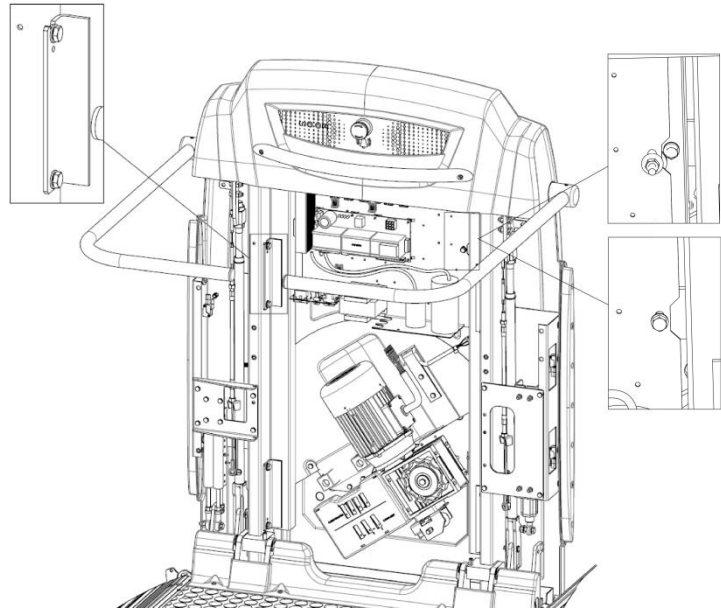


Fig. 17

At this point the Motor Unit (2) is released from the Frame (1) and they can be separated.

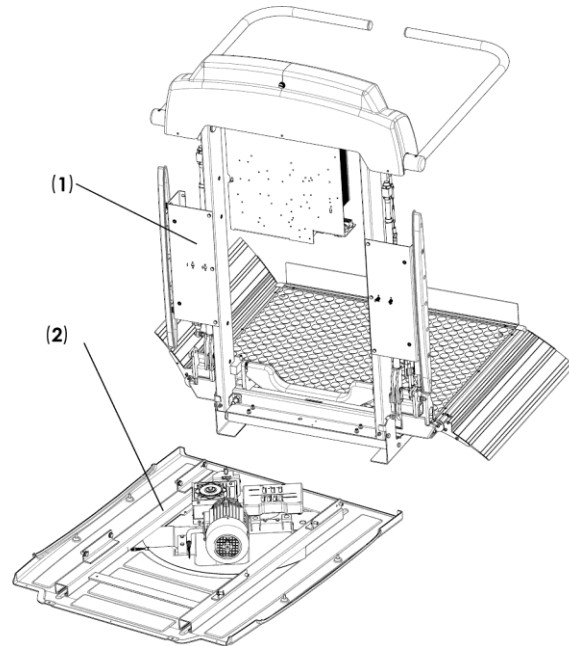
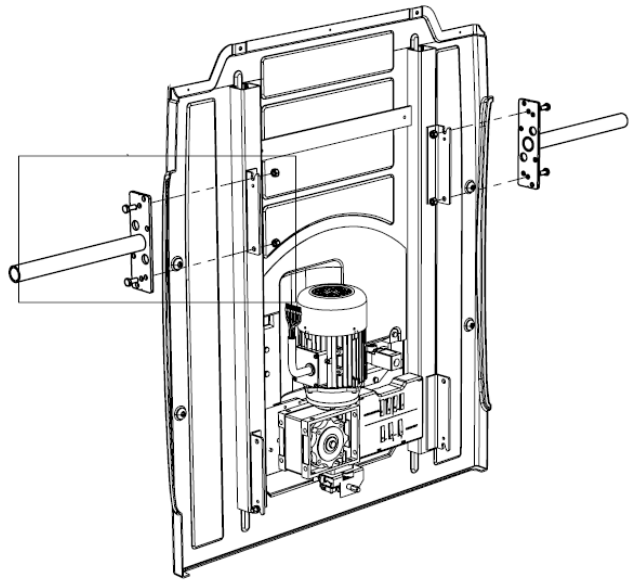


Fig. 18



Warning! Two people can easily move the motor unit using the appropriate handles.

- Mount the appropriate handles to the motor unit frame



- Lift the motor unit using the handles, move it up along the stairs and insert it slowly from the end of the track.
- Once the motor sprocket locks onto the rack the machine has been inserted.

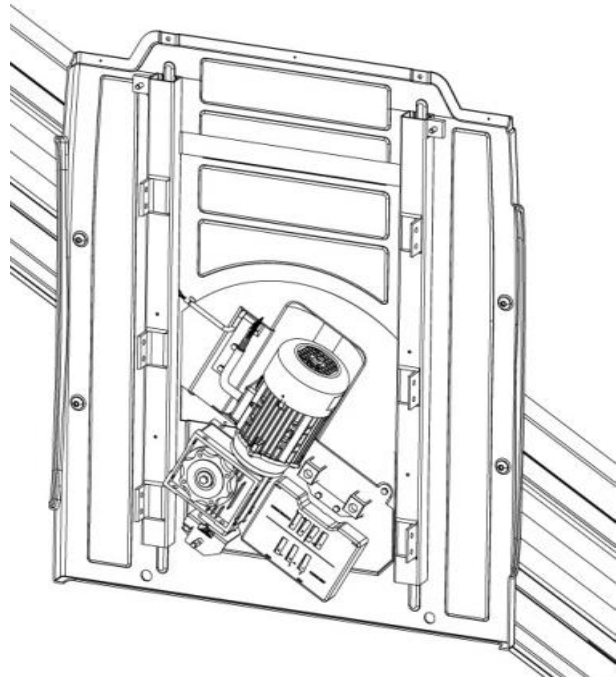


Fig. 19 – Motor Unit inserted at the end of the Guide

- Cut the adhesive tape that holds the chain and stretch it out in the descent direction. The guide has 2 holes located at about half-length. Use them to secure the bracket.



Fig. 20 – Detail of fastening chain to the guide

- Insert the mobile part of the guide into the lower section of the guide (use the 1.1 m long piece).



- The mobile part of the guide must have a special pin with a 4 mm external diameter for coupling.
- Insert the pin as indicated in the figure. The knurled part of the pin must disappear into its seat.



Fig. 21 - Detail of assembly of the pin on the guide casing

- To complete assembly of the mobile part of the guide you must slide the drive unit all the way downward. This can be done using the manual emergency handle that comes with the machine or using an electric screwdriver fitted with an appropriate pipe insert.

To make the operation easier you can use the special **activation device** contained in the SPECIAL TOOLS KIT (sect. 0)



Warning! Take care that the chain does not become entangled and tear during the lowering phase

- At this point the other piece of the mobile casing can be inserted in order to complete closing the guide



Fig. 22



Warning! If the drive unit is too high you will not be able to insert the other mobile casings.

3.2.3 Assembling tractor unit to frame

- Move the drive unit upward again with the mobile device so that it can be easily connected to the frame-platform unit.
- Using the rest provided by the support bracket approach the Frame to the Motor Unit.
- Align the two components (you can act on both sides, moving them along the direction of the guide) and connect them to one another using the previously removed screws.

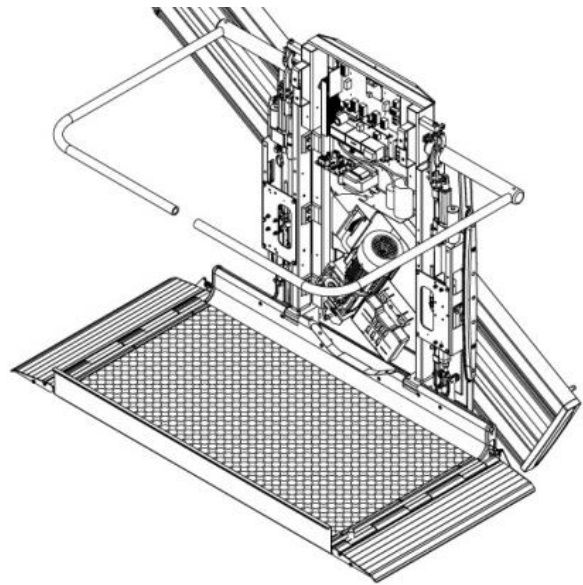


Fig. 23 Drive unit fastened to the Frame Unit



Tip: To aid coupling of the Frame to the Motor Unit we recommend acting on the two fastening screws of the self-bearing support in order to “widen” the end part of the frame and facilitate positioning.



Warning! A safety interlock prevents the machine from being moved with the lateral mobile slide open. On first operation the platform must be forced closed before the machine can be moved.

3.2.4 Frame Anti-crushing

- To mount the anti-crushing move the machine from the lower stop.
- Remove the self-bearing support (detail 1 in the figure).
- Then connect the support to the frame (detail 2) using the screws (detail 3) on the rivets highlighted in red.

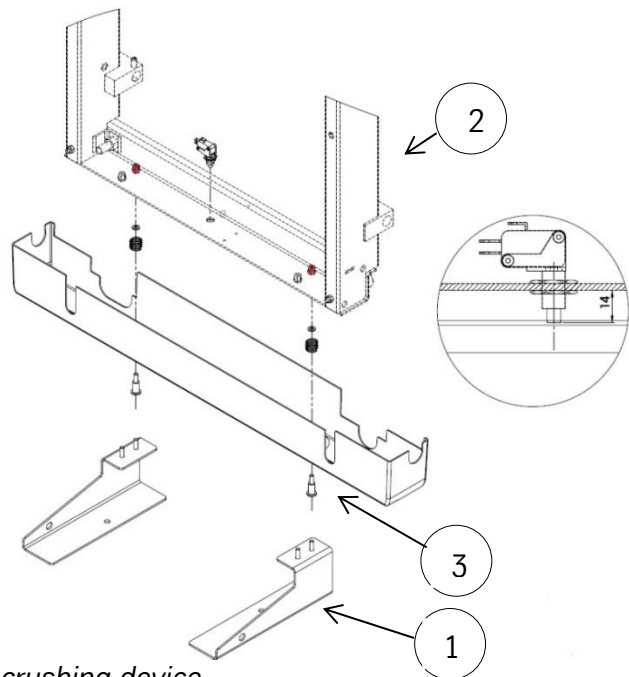


Fig. 24 - Anti-crushing device



Warning! The head of the microswitch must be 14 mm away from the bottom of the frame.

3.3 Final Operations and Connections



3.3.1 Electrical connection

- The long section of cable coming out of the chain must be lodged in the special space created on the surface of the guide casing and then this must be inserted into the appropriate seat. These two components of the guide are secured with a latch mechanism.
- Use the special space created between the closing plug and the guide to pass the corrugated conduit for external power supply. The corrugated conduit must overlap the special lodging as shown in the figure. This precaution prevents water from entering the corrugated conduit in the event of outdoor installation.
- Carry out the following hook-ups on the chairlift:
 - Single phase version: insert the chain cable terminal block labelled M1 into the terminal block labelled M1 on the Powerboard.
 - Three phase version: insert the chain cable terminal block labelled M1 into the intake terminal block labelled M1.
- On the electrical panel (if present) connect the wires labelled 1 and 2 downline of the differential breaker switch
- Connect the YELLOW-GREEN coloured wire to the ground terminal block.



Fig. 25 – Electrical connection



Warning! Connection of the stairlift to the electrical mains must be carried out by a qualified electrical Installer / maintenance operator.

3.3.2 Casing Fixing



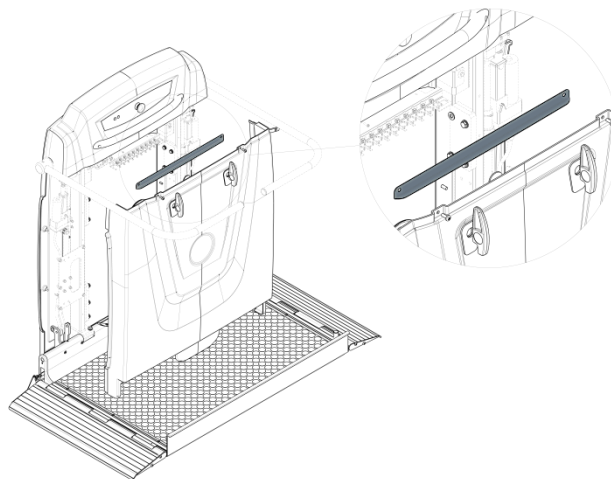
Before closing the stairlift with the relative protection casing, ensure that:

- you have restored the connectors previously disconnected to uncouple the Drive Unit
- you check functionality of the machine, running it on the track

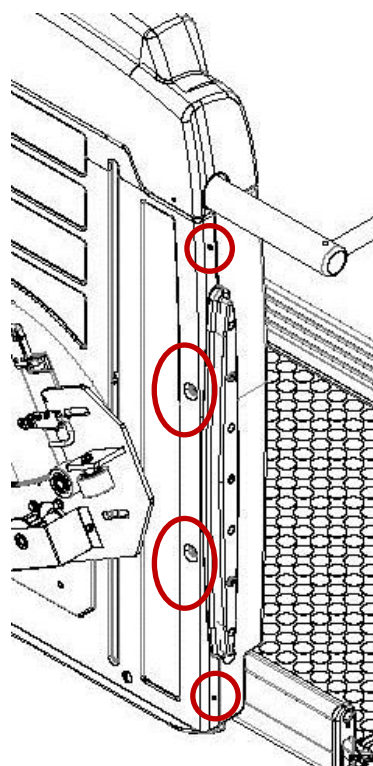
The machine is completely configured in the factory and therefore no particular electrical connections or settings are required.

In the event of specific needs see the technical attachments in the Appendix.

- Secure the support bar at the top of the casing using the two screws.



- Fix the casing to the machine using the supplied screws.



- After fixing the casing it must be completed using the self-tapping screws to be positioned as indicated in the figure.

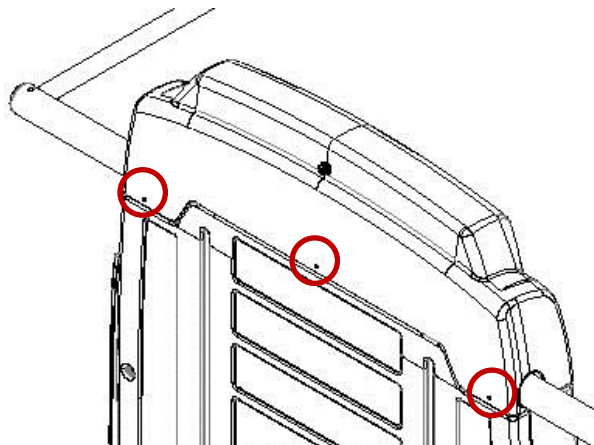


Fig. 26 – Casing fixing points

3.3.3 Mechanical Stop on the track

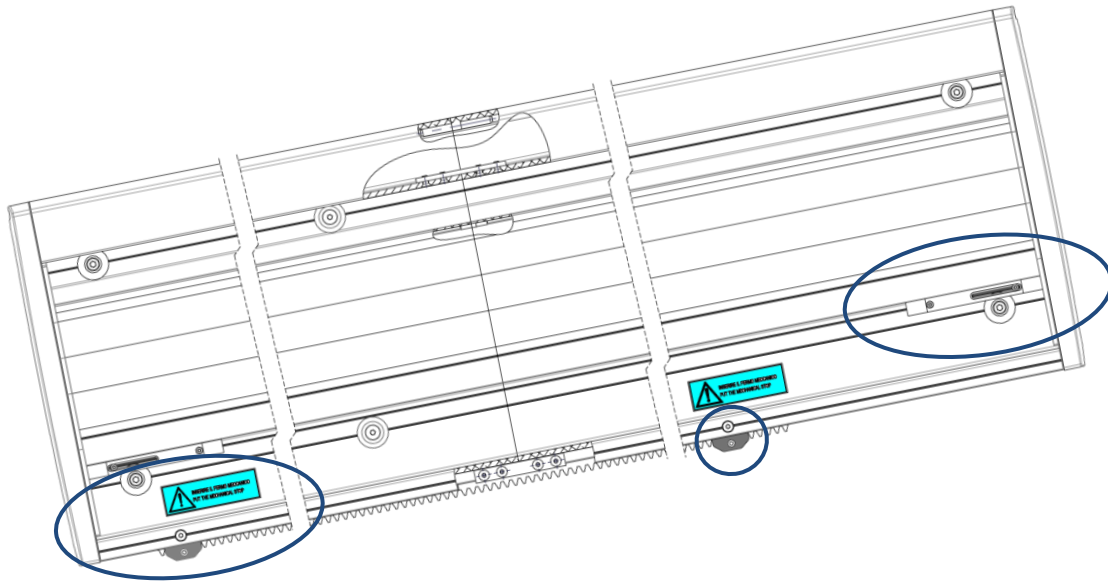
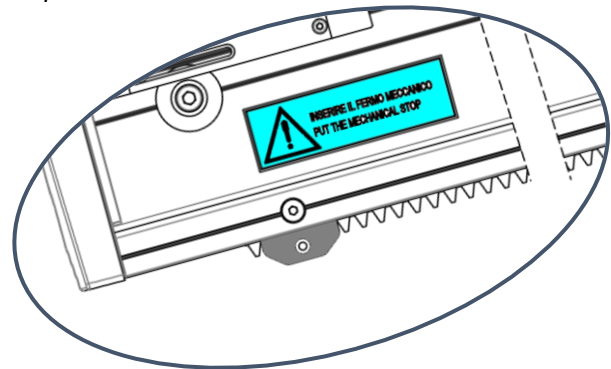
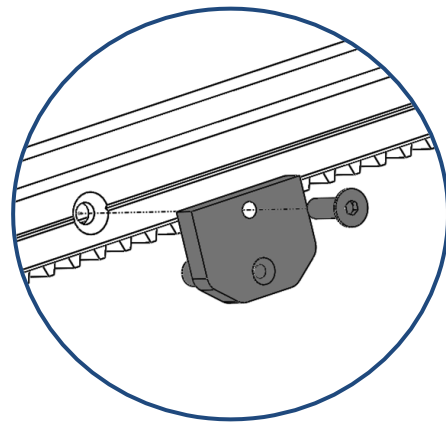


Fig. 27 – Mechanical Stops on the track

The mechanical stop at the bottom of the track is supplied pre-assembled onto the track itself.



The mechanical stop at the top of the track must be inserted if the corresponding hole and label are provided.



Attention! Install the mechanical stop immediately after having inserted the traction unit on the track.

3.3.4 Adjustment of the stop positions



The machine is fitted with two adjustable limit stops.

After having installed them check that the stop point is correct.

The cam position can be adjusted by loosening the set screw (the one inside the slot) and moving the cam.

After verifying the correct boarding position insert the second screw as well, the stop screw.

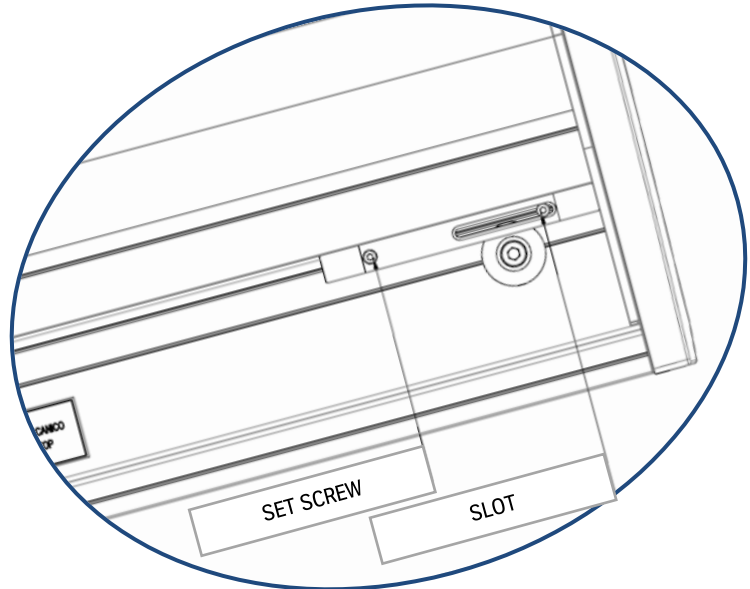


Fig. 28 – Adjustable limit stop



Warning! The limit stop end that has the slot must be at the opposite side of the one the machine is coming from.



Warning! The limit stop cam could interfere with the guide fixing device.

3.3.5 Assembly of the call devices



At this point you can fix the call boxes.

The machine generally comes with as many call boxes as there are floors served. The call boxes are intended to be wall mounted with expansion anchor plugs.

The call boxes have already been programmed before shipment and are marked with labels placed on the back of the box: lower floor, upper floor.

Identify the box to be installed and ensure, testing the device, that in the preselected position there are no obstacles or environmental conditions that may disturb the radio system.

Carry out the test for each of the available calls. Only then will it be possible to open the containers and anchor them to the wall.

Another internal label allows you to check the configuration. For further details see Appendix II.

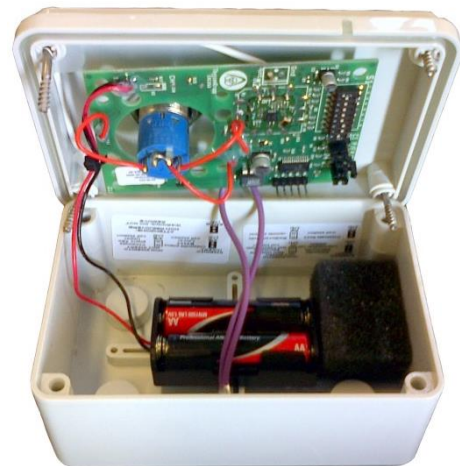


Fig. 29 – Call devices



Warning! A safety interlock prevents the machine from being moved with the lateral mobile slide open. On first operation the platform must be forced closed before the machine can be moved.

4 Adjustments

4.1 Adjustment of the platform inclination



The platform inclination adjustment can be carried out acting on the adjustment screws located on the platform structure. Ensure that both screws are all the way in.

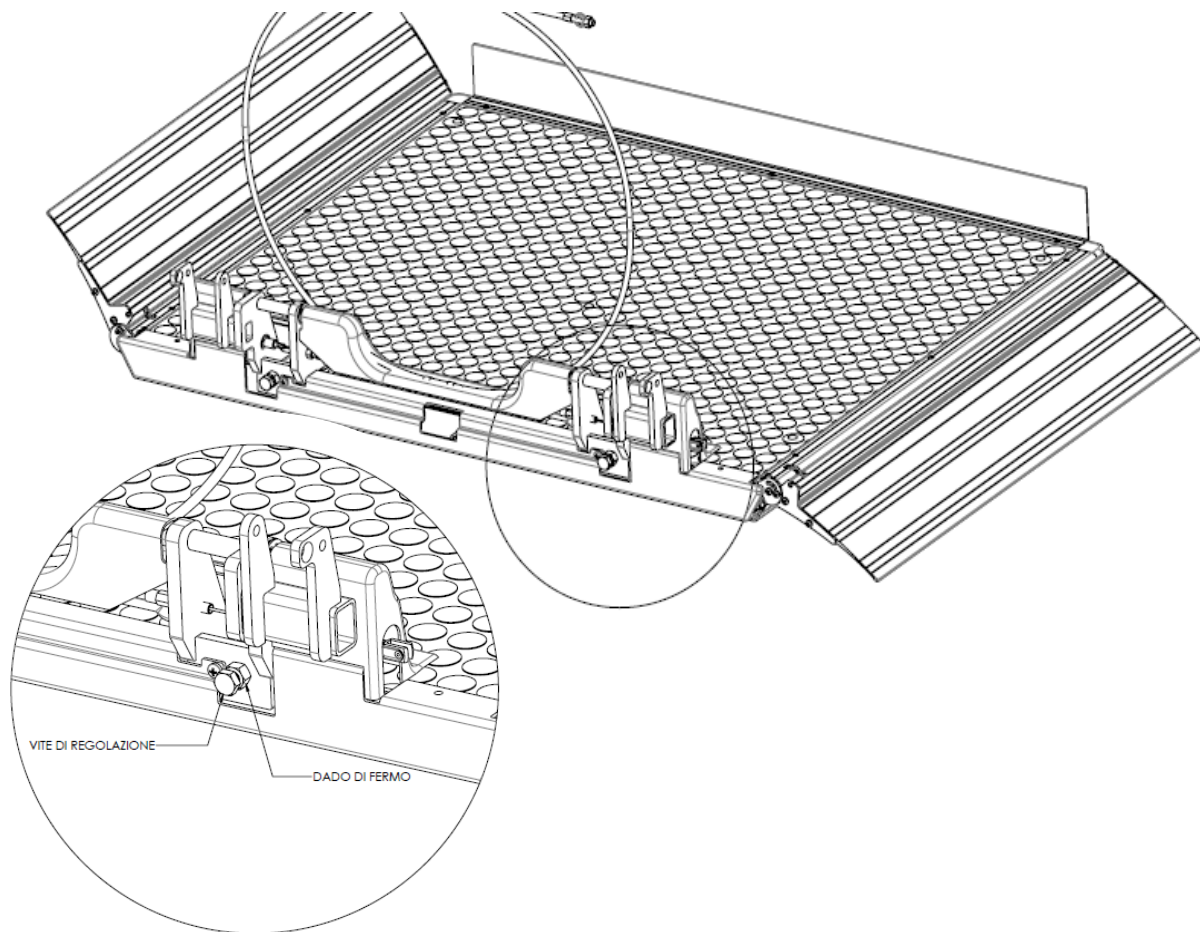


Fig. 30 – Platform horizontal adjustment



Warning! Use the stop nut to lock the screw.



Warning! Ensure that both the stop points rest on the frame to discharge the load evenly.

4.2 Calibration of the load control device (optional)

REQUIRED PPE



This device prevents the machine from departing in the event that the load on the platform exceeds a determined value (only at the stop).

The load control kit is not calibrated in the factory. Calibration can be carried out by applying a weight equal to the rated capacity plus an overload of 25% on the platform. The device is designed to meet the specifications of the standard, therefore different calibrations may not always be possible.

For adjustment:

1. loosen the stop screws (pos. 1 in the figure);
2. act on the set screw (pos. 2) until the lever (pos. 3) triggers the microswitch
3. tighten the stop screws again (pos. 1).

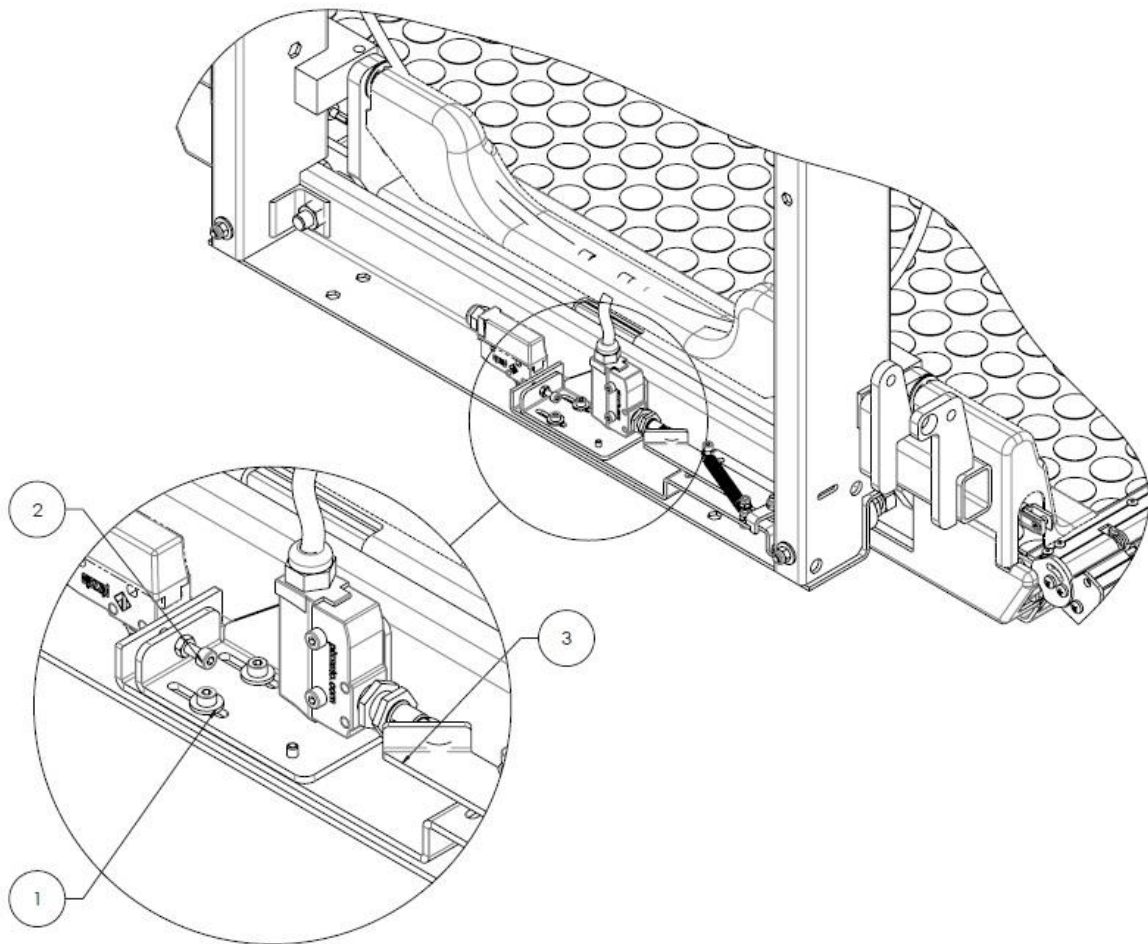


Fig. 31 – Load cell calibration



Warning! The selection of the type and number of Belleville washers is made in the factory based on the machine configuration. Therefore calibrations other than those foreseen during the order phase may not be available.



Tip: For correct operation of the device the washers should be periodically greased to reduce friction.

4.3 Regulation of safety bars inclination



After adjusting the platform inclination open it and ensure that both the safety arms are aligned with $1\frac{1}{2}^\circ$ of upward inclination.

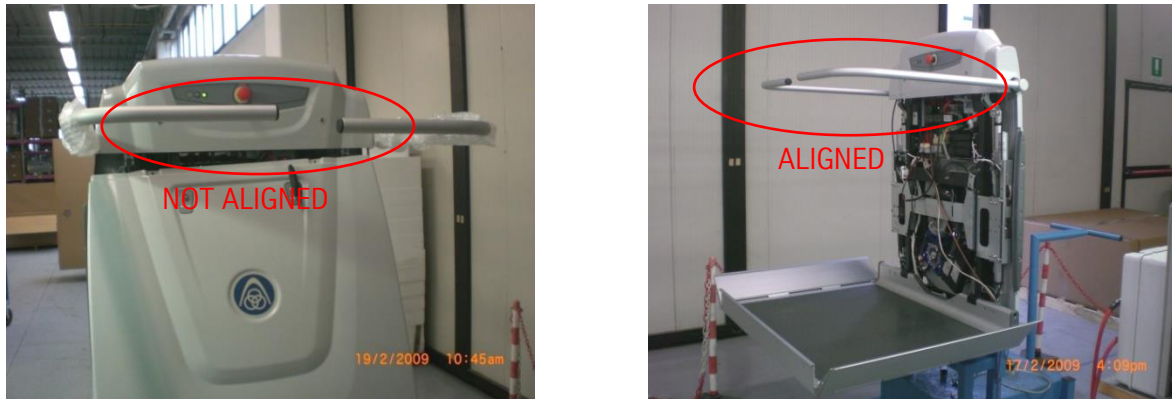


Fig. 32 – Bars alignment verification

Should this not take place, act as follows to carry out the adjustment:

1. ensure that the actuator stem is at zero course;
2. loosen the clutch tightening screw (1) until the actuator slides freely on the rod;
3. Use the two ring nuts to adjust the position of the safety arms, adjusting the inclination $1\frac{1}{2}^\circ$ upward with respect to the horizontal plane.
4. Once the adjustment has been made tighten the two ring nuts with a pin punch.



Fig. 33 – Bars alignment adjustment

4.4 Clutch adjustment for electromechanical tilting

REQUIRED PPE



Adjustment of the REB clutch allows the safety arms to be opened and closed, preventing any overloading of the actuator that may occur in the following cases:

- The safety arm encounters an obstacle during movement
- The safety arm is moved manually by the user

Once adjustment of the safety bars inclination is carried out, adjust the clutch as follows:

1. Tighten the clutch screw to the necessary tightness in order to allow the actuators to move the safety arms.



Fig. 34 – Clutch adjustment

2. Adjust the upper stop of the actuators leaving a small margin of 2-3 mm that occurs when the clutch slides on the lever rod

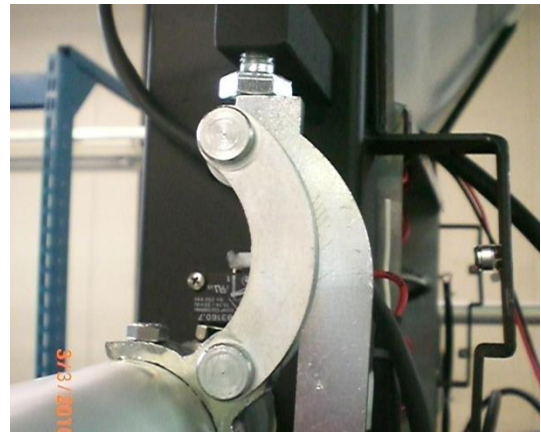


Fig. 35 – Clutch adjustment

3. Check the correct operation of the emergency arms release system on both sides (ascent and descent) as follows:

- 3.1 Insert the included flywheel in the appropriate seat



Fig. 36 – Clutch adjustment verification

3.2 Release the lever, simultaneously lifting the safety arm until it locks into the upper position

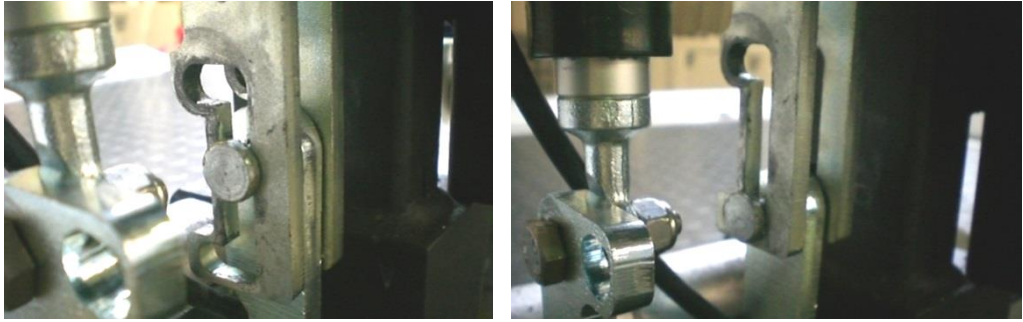


Fig. 37 – Clutch adjustment verification



Warning! Should the lever not reach the upper lock position, act on the upper stop of the actuators, increasing the upward stroke.

3.3 Carry out the procedure in reverse to restore the operating configuration.

4. Carry out a few movement cycles with the arm and, if necessary, tighten the clutch screw further (adjust by turning the screw $\frac{1}{4}$ turn at a time).
5. Carry out the adjustment described above for both the arms and carry out a series of cycles to test correct adjustment.

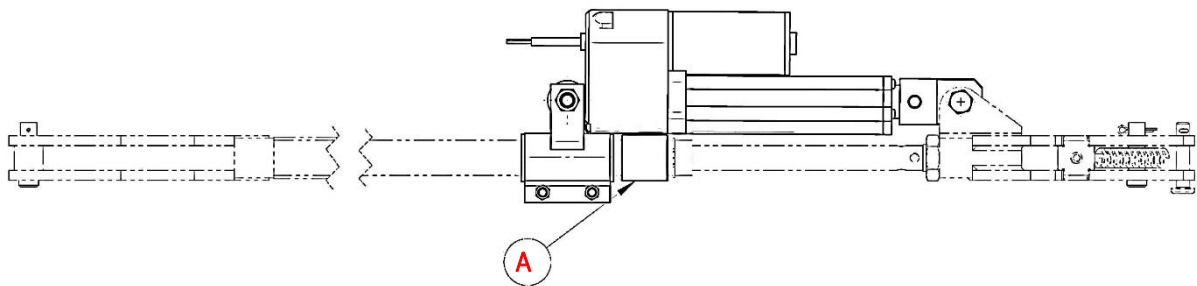


Warning! Adjustment of the clutch must be checked with all the stairlift casings mounted.

6. Repeat the procedure illustrated above until obtaining the correct adjustments. (carry out the adjustment turning the screw $\frac{1}{4}$ turn at a time).



Warning! In some cases a shim (A) can be used on the lever. This shim guarantees correct operation of the retaining devices during machine movement.



4.5 Hinge adjustment

REQUIRED PPE



- To adjust the position of the hinge act on registers (3), (2) and (1)

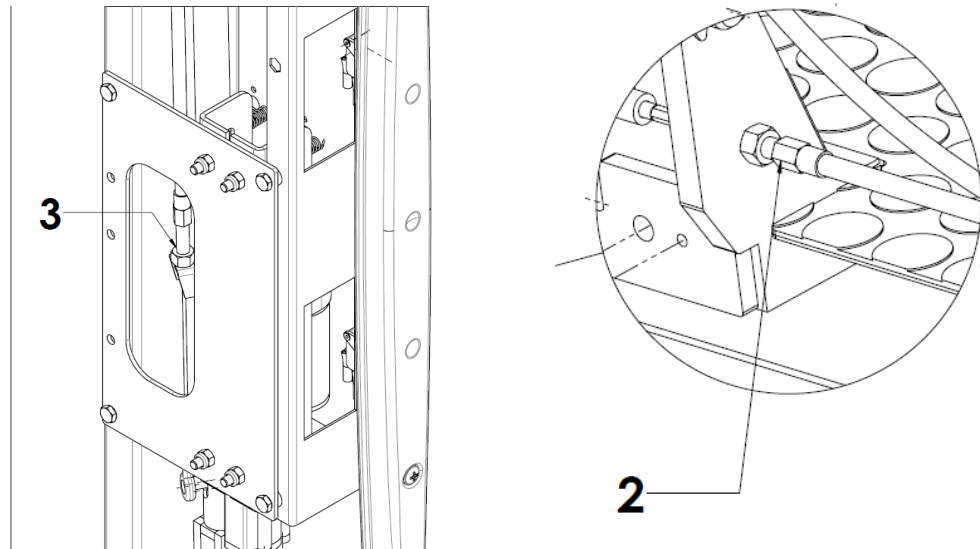


Fig. 38 – Hinge adjustment

- To adjust the safety function position the hinge high (running condition) and act on the adjustment cam (4): the hinge must engage the microswitch after impact with an obstacle.
- After carrying out the adjustment verify operation at the stops (correct boarding) and the triggering of the anti-collision safety device both with the platform open and with the platform closed.

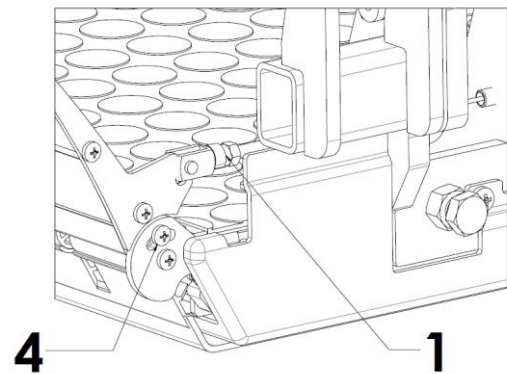


Fig. 39 – Hinge adjustment

4.6 Electromechanical tilting clutch adjustment (REM)

REQUIRED PPE



As with the safety arms, adjustment of the REM clutch allows the platform to be opened and closed, preventing any overload that may occur in the event that:

- The platform encounters an obstacle during opening or closing movement
- The platform is moved manually by the user

For correct adjustment of the clutch proceed as follows:

1. Carry out an opening and closing cycle of the platform and ensure that it opens/closes completely to the stop
2. If the platform does not open/close completely due to the clutch slipping act on the nut (1), turning it 1/4 turn at a time until obtaining the correct tightness

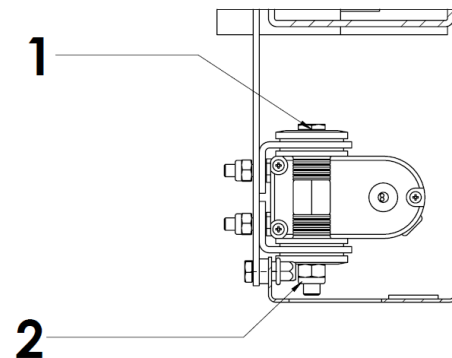
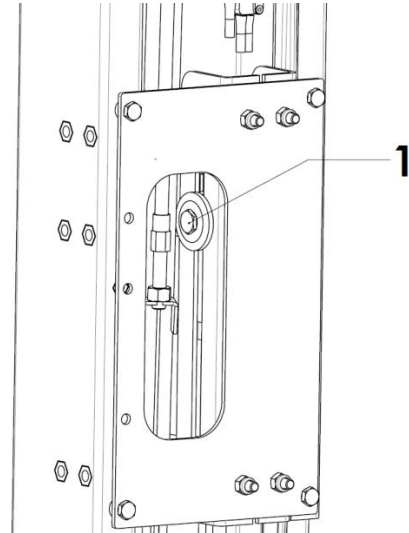


Fig. 40 – Tilt adjustment



WARNING! AT THE END OF OPENING/CLOSING THE PLATFORM THE REM CLUTCH MAY BE SUBJECT TO A FEW MILLIMETRES OF SLIDING. EXCESS TIGHTENING PREVENTS THE CLUTCH FROM SLIDING AND THEREFORE SHOULD BE LOOSENED TURNING THE NUT 1/4 TURN AT A TIME



WARNING! EXCESSIVE TIGHTENING OF THE CLUTCH MAY CAUSE DANGEROUS OVERLOADS TO THE ACTUATOR.

5 Final checks



WARNING!

All verifications indicated in the list below must be completed prior to issuance of the machine. The test list must be filled out and signed by the installer.



WARNING!

Failure to perform final testing can compromise system operation and terms of the warranty.

Ref.	Test	RESULT		
		Positive	Negative	Value
1	Guide and anchor tests	-	-	-
	Maximum guide rotation in degrees (°)	<input type="checkbox"/>	<input type="checkbox"/>	
	Guide residual deformation (mm)	<input type="checkbox"/>	<input type="checkbox"/>	
2	Flap test	-	-	-
	Flap deformation under load (mm)	<input type="checkbox"/>	<input type="checkbox"/>	
3	Safety bar test	-	-	-
	Deformation under vertical load (mm)	<input type="checkbox"/>	<input type="checkbox"/>	
	Deformation under horizontal load (mm)	<input type="checkbox"/>	<input type="checkbox"/>	
4	Speed limiter and overspeed governor test	<input type="checkbox"/>	<input type="checkbox"/>	-
5	Operational checks	<input type="checkbox"/>	<input type="checkbox"/>	-
6	Safety device check	<input type="checkbox"/>	<input type="checkbox"/>	-
7	Stop distance check	-	-	-
	for safety intervention (mm)	<input type="checkbox"/>	<input type="checkbox"/>	
	resulting in the interruption of the run command (mm)	<input type="checkbox"/>	<input type="checkbox"/>	
8	Manual emergency manoeuvre check	<input type="checkbox"/>	<input type="checkbox"/>	-
9	Any observations			
System Serial Number				
Test Date				
Signature of technician (legible)				
Installation Company				

5.1 Guide and anchor tests

Guide tests have the purpose of verifying stiffness under normal use and resistance to stress caused by safety devices. Any point along the guide must be able to withstand the stiffness test described below:

- move the machine away from the point where the test will be performed
- check the position of the guide on the vertical plane
- load the vehicle with a load equal to the capacity, equally distributed over the lift
- verify that maximum guide rotation does not exceed 2° with respect to the horizontal plane
- unload the lift and move the machine away
- verify that the guide returns to the original position with a tolerance of 2mm (residual deformation)
- verify anchor and bolted junction conditions on the parts making up the guide and the fastening components

5.2 Flap test

This test was performed at the factory. In the event of later "on-site" adjustments, proceed as follows:

- place the flap in a raised position
- apply a force of 150N at the end of the flap in a direction perpendicular to the surface of the flap applied in the opening direction
- check that no points along the flap present deformations exceeding 30 mm (flap deformation under load)
- remove the force and verify that no parts are deformed permanently and check operation

5.3 Safety bar test

This test was performed at the factory. In the event of later "on-site" adjustments, proceed as follows:

- place the bar in a safe position
- at the end of the bar, apply a force of 100N in the vertical direction (downward) on the longer side (before the beginning of the "L" curve)
- verify that no points along the bar present deformation exceeding 50 mm (Deformation under vertical load)
- remove the force and apply it in the horizontal direction (in the direction of the side opposite the guide) (immediately after the beginning of the "L" curve)
- verify that deformations are smaller than 50 mm (Deformation under vertical load)
- check that no plastic deformation residue remains
- check bar functionality

5.4 Speed limiter and overspeed governor test

On at least on section of the guide, safely perform a practical test on the speed limiter and the overspeed governor, inserting the device manually. Check correct operation after reset.

Manual insertion of the device

Perform tests with the lift machine open and without any load.

- Remove the front machine casing without disconnecting the control selectors.
- Remove the protective cover on the overspeed governor.
- Position the machine near the upper stop.
- Command the platform lift downward.
- During movement, put slight pressure on the locking lever to "engage" the overspeed governor ("LOCK").

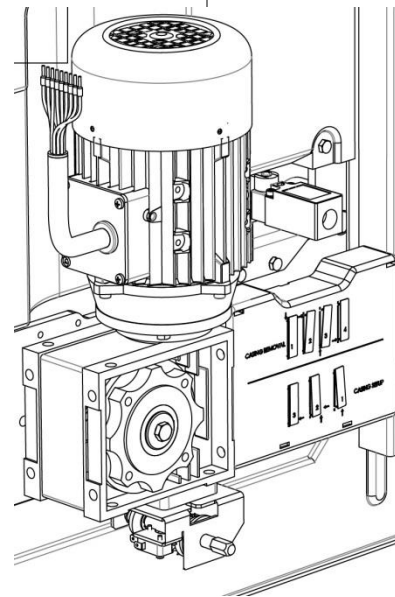
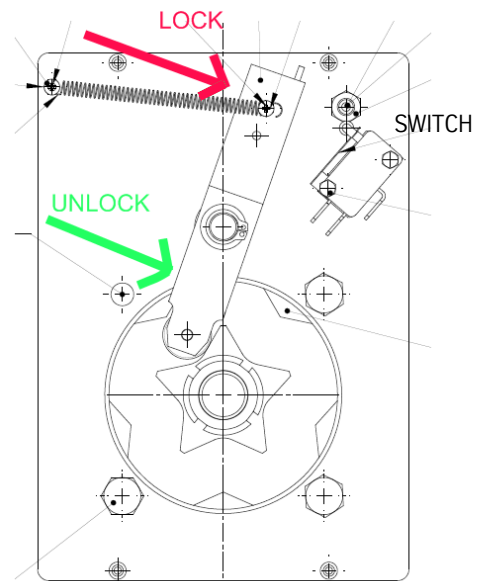
The device is operating correctly if the machine stops.

The corresponding LED on the control panel switches on.

Controls can be electrically disabled.

Resetting the device

- Disconnect power.
- Move the ascending platform lift using the handwheel and the manual emergency manoeuvre.
- Put slight pressure on the locking lever to "disengage" the overspeed governor ("UNLOCK").
- Make sure that the lever is moved away from the micro switch.
- Power the machine.
- The LED on the control panel should switch off. The brake is unlocked.
- Verify correct operation of the ascending and descending platform lift.



5.5 Operational checks

Check correct machine operation by issuing commands from the floor devices, on-board and from any auxiliary devices (wired remote control and/or remote control) in compliance with instructions contained in the USER manual.

5.6 Safety device check

Check correct operation of the safety devices in compliance with instructions contained in the USER manual.

5.7 Stop distance check

Verify that the stop distance of the platform lift is within specification limits:

Max. 20 mm if consequent upon a safety intervention.

Max. 50 mm resulting in the interruption of the run command.

5.8 Manual emergency manoeuvre check

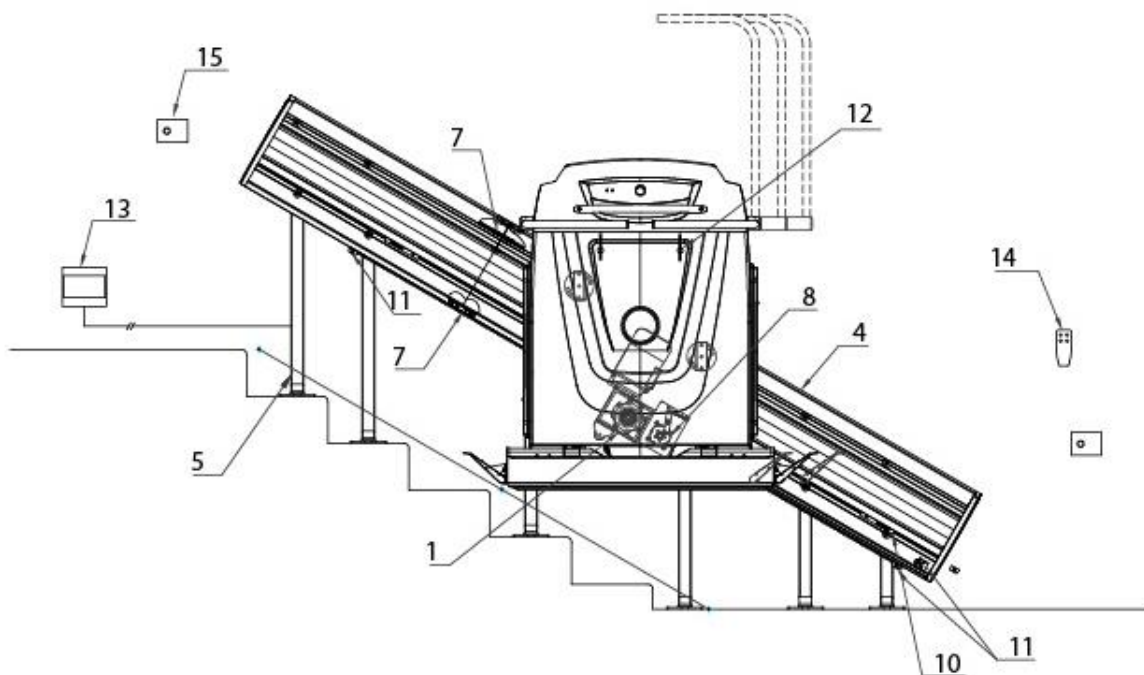
Insert the handwheel in the press on the front casing and turn it in the desired direction of travel, verifying correspondence between the symbols indicated on the component and its actual direction of travel.

6 Appendix I – Overall and Exploded Drawings

The presence of some components may vary depending on the destination market and the prevailing regulations.

6.1 Product overview

Fig. 41 – Product overview



1. Lower carriage
2. Machine body
3. Platform
4. Guide
5. Foot
6. Frame anti-crushing unit
7. Junction
8. Overspeed governor
9. Guards kit
10. Limit stop plate (plastroferrite)
11. Mechanical safety limit stop
12. Ergonomic key
13. Electrical panel
14. Wireless remote control
15. Wall mounted call box

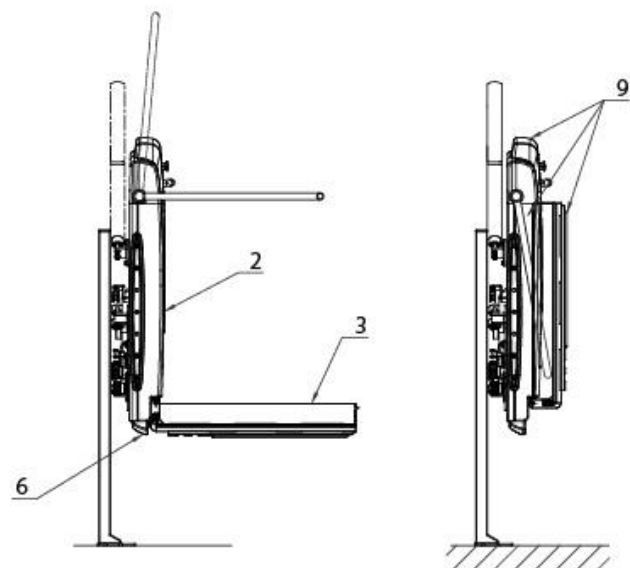


Fig. 42 - Overall Exploded View

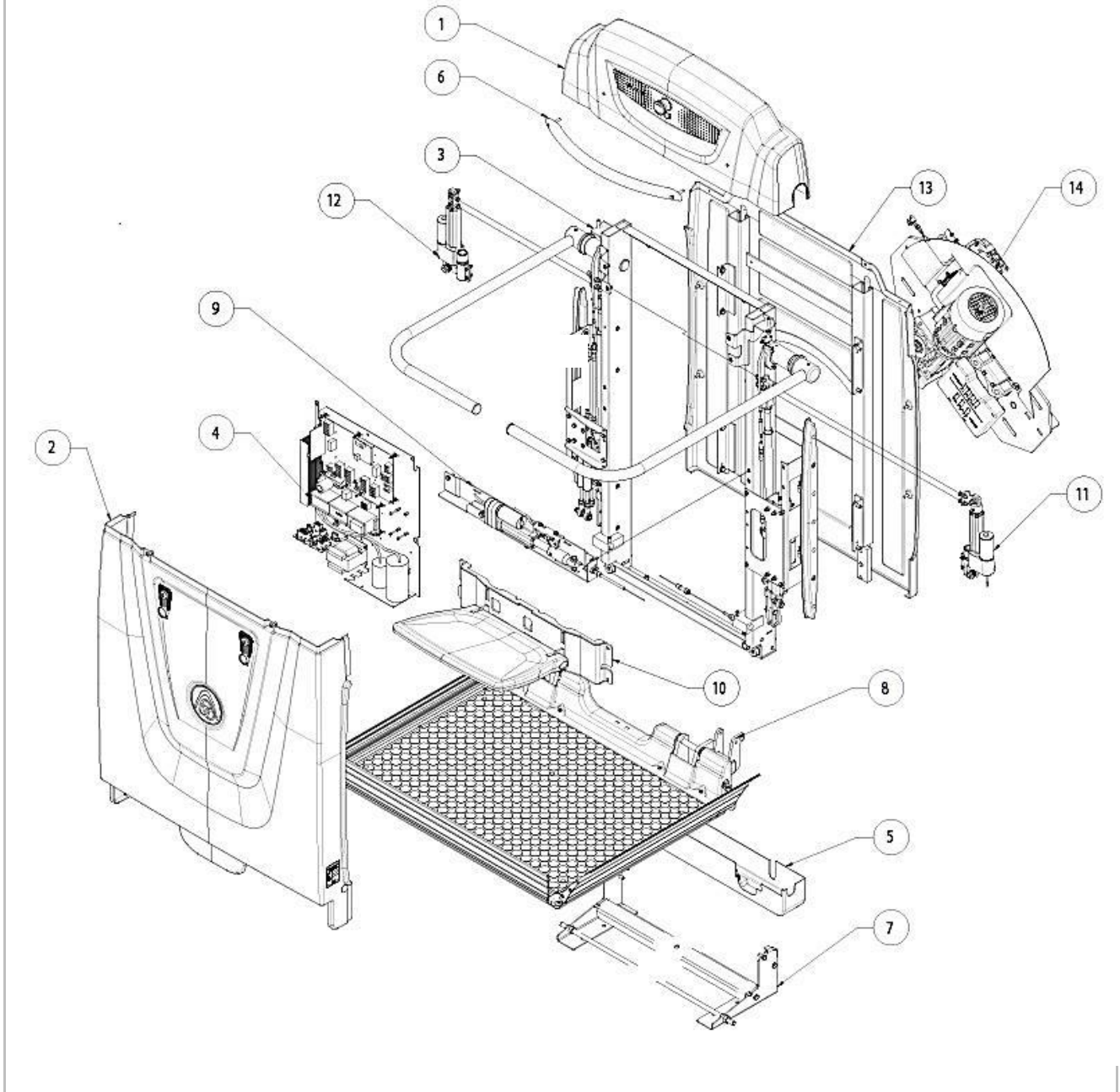


Fig. 43 - Adjustable feet

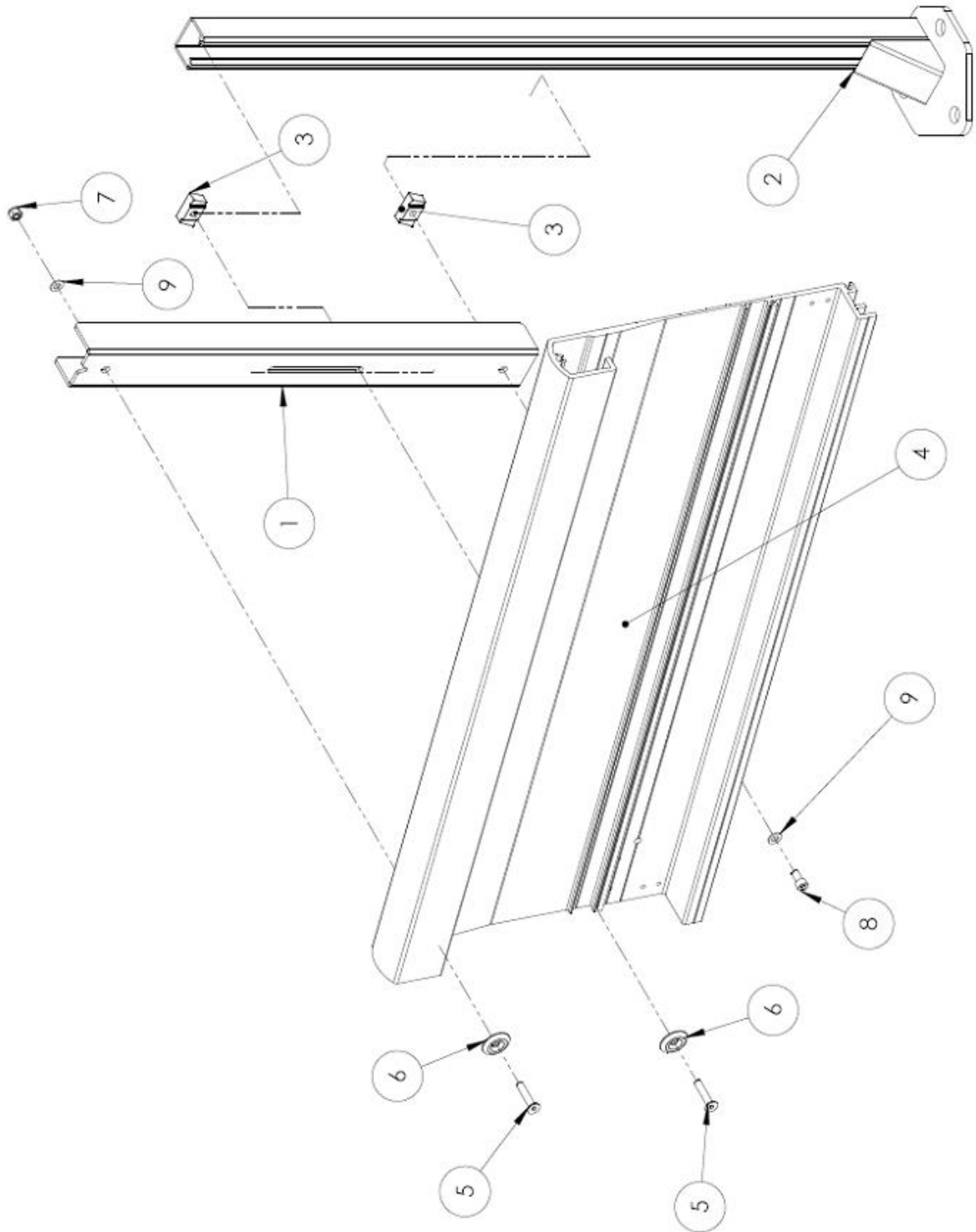


Fig. 44 - Guide

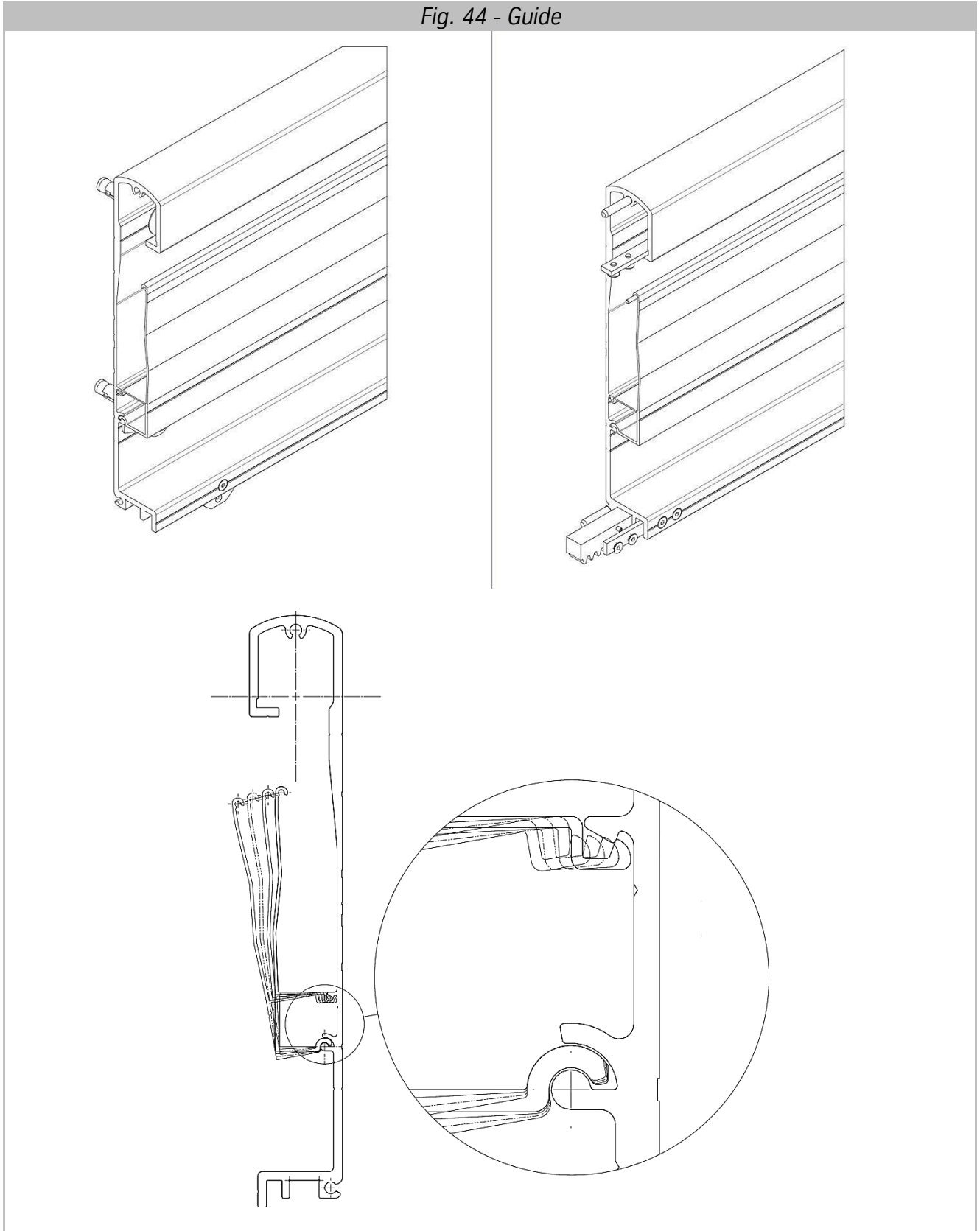


Fig. 45 - Machine Body

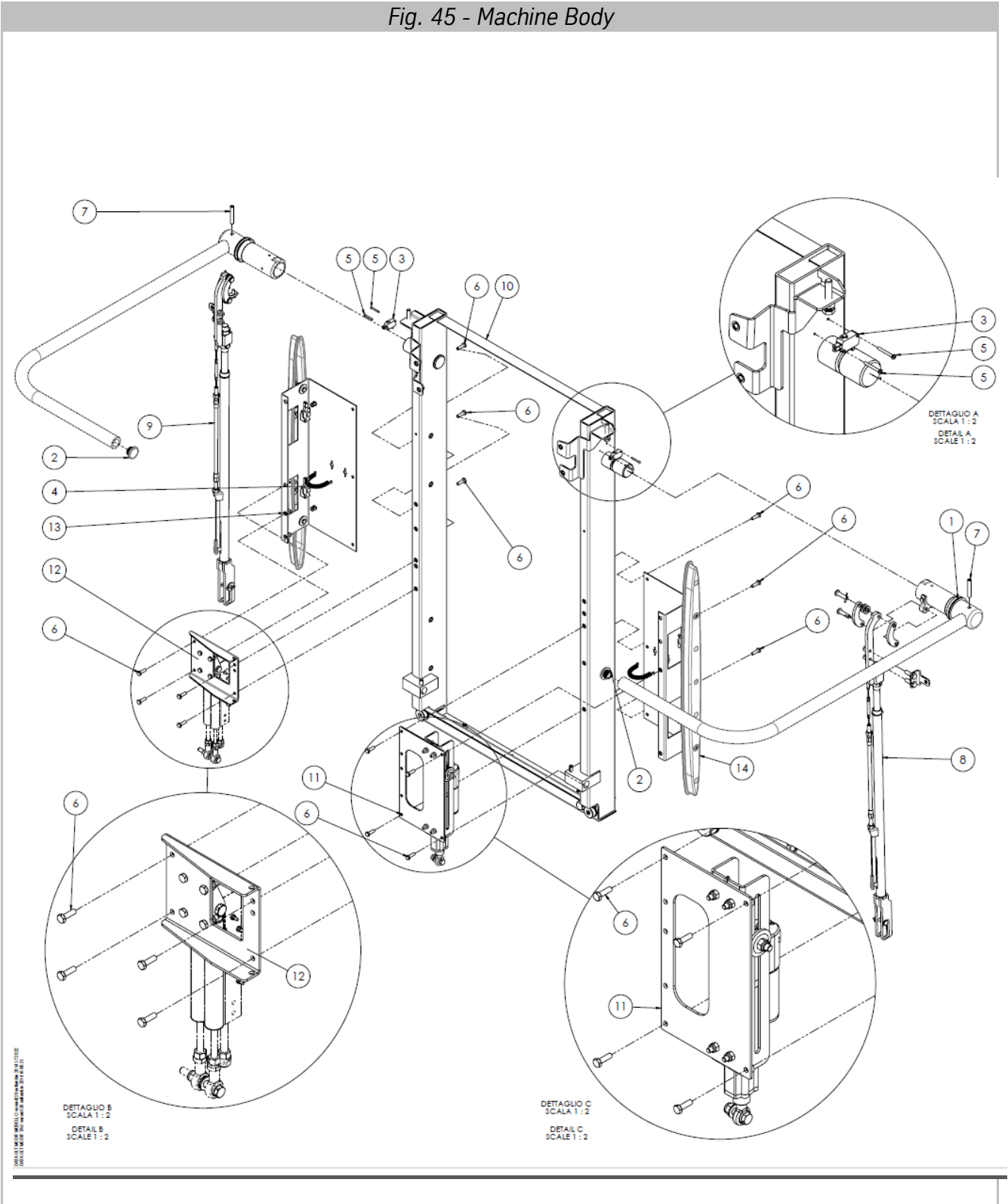
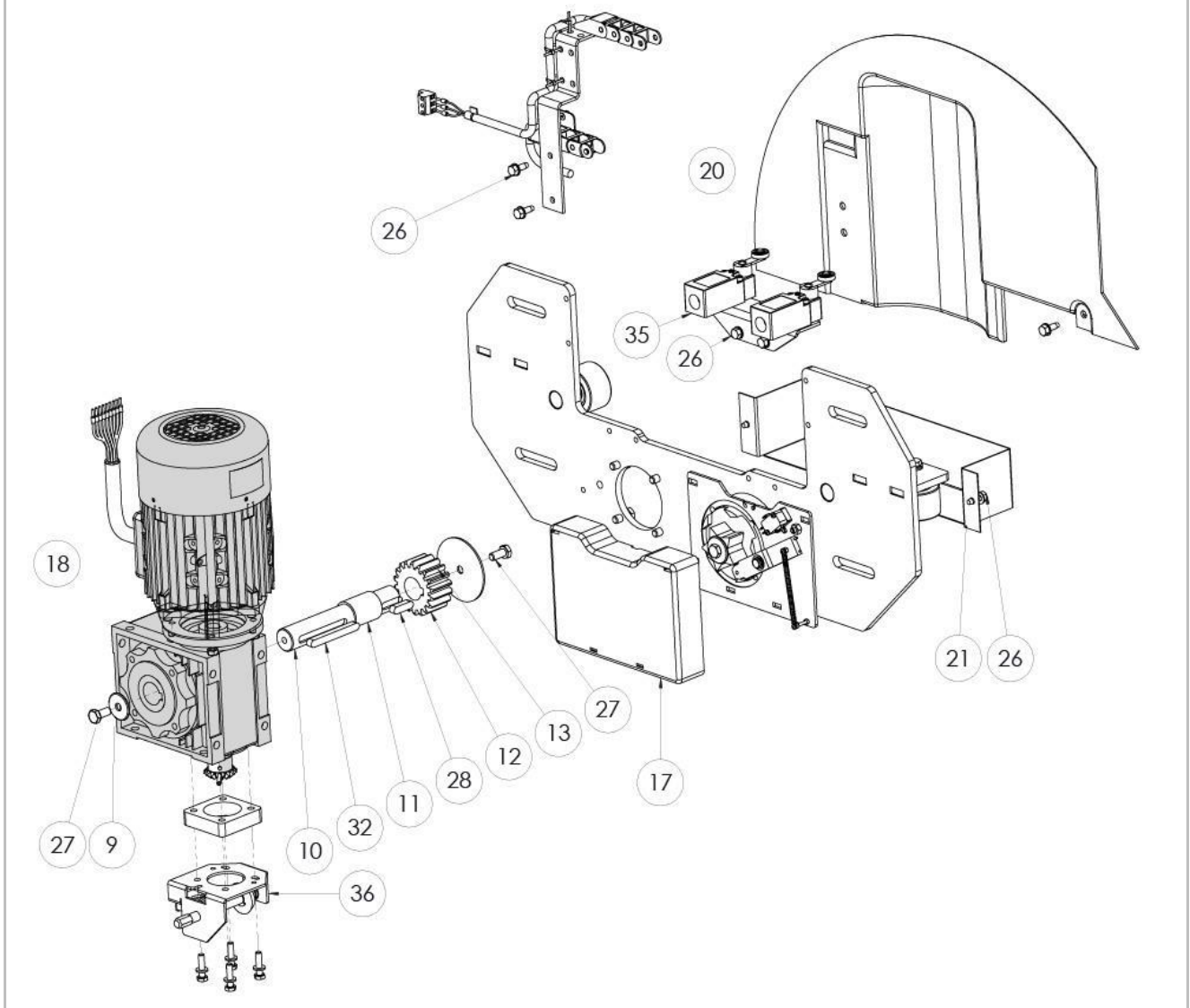


Fig. 46 - Drive Unit



WARNING! The Gear Motor Unit (detail 18) CANNOT be uncoupled.



WARNING! The Motor Casing (detail 20) is required for outside installations.

Fig. 47 – Platform

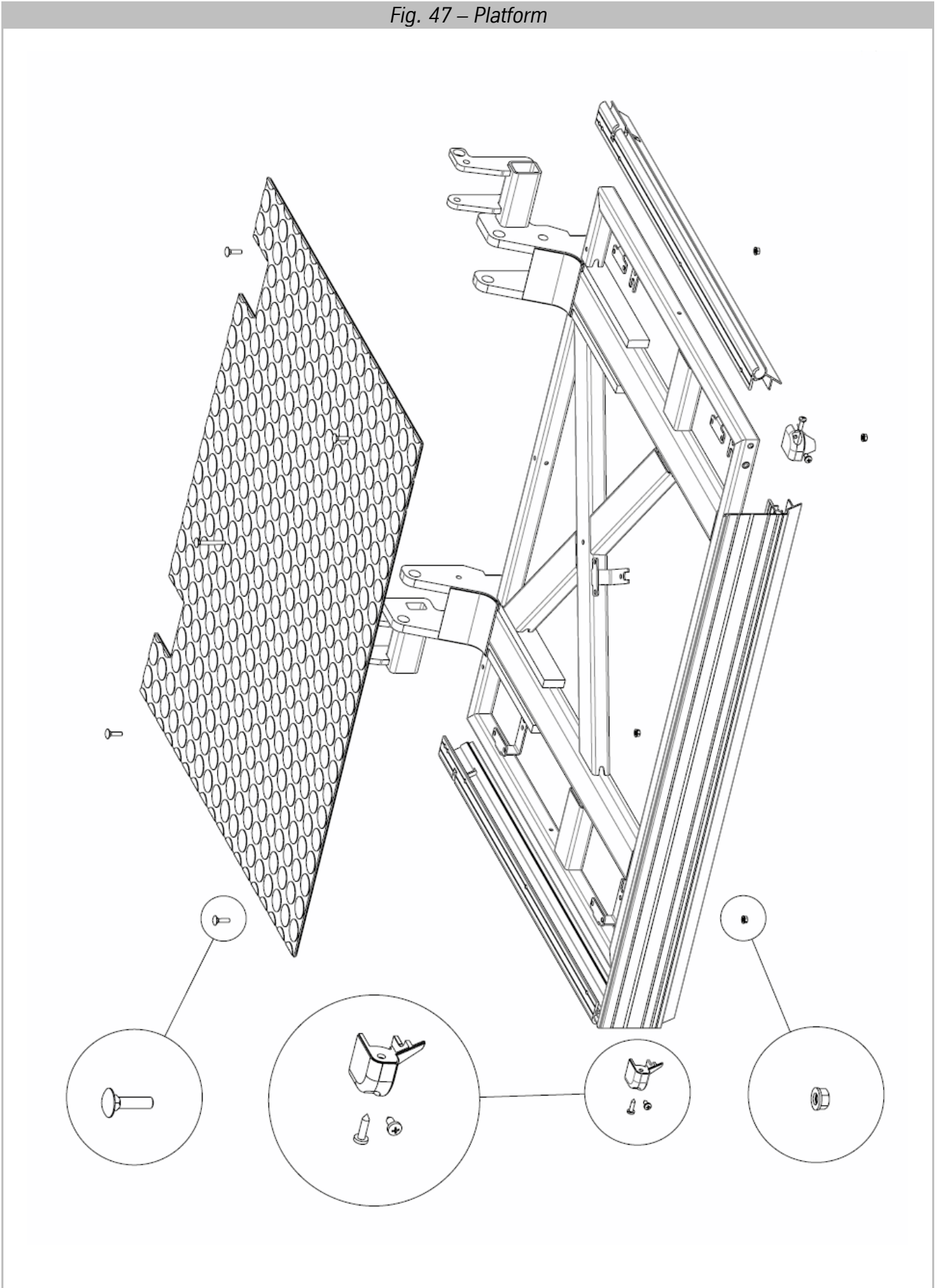


Fig. 48 – Platform

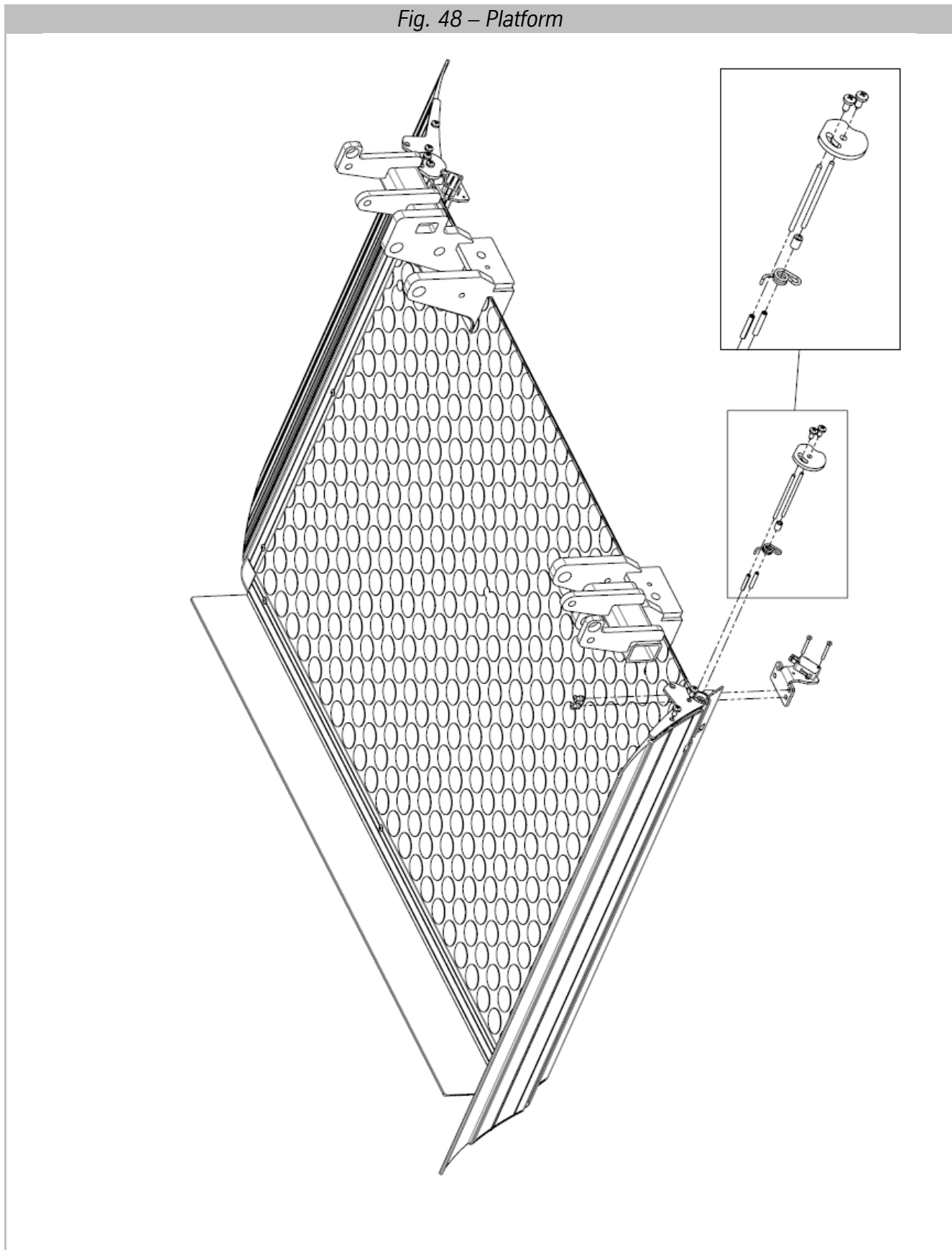


Fig. 49 – Platform

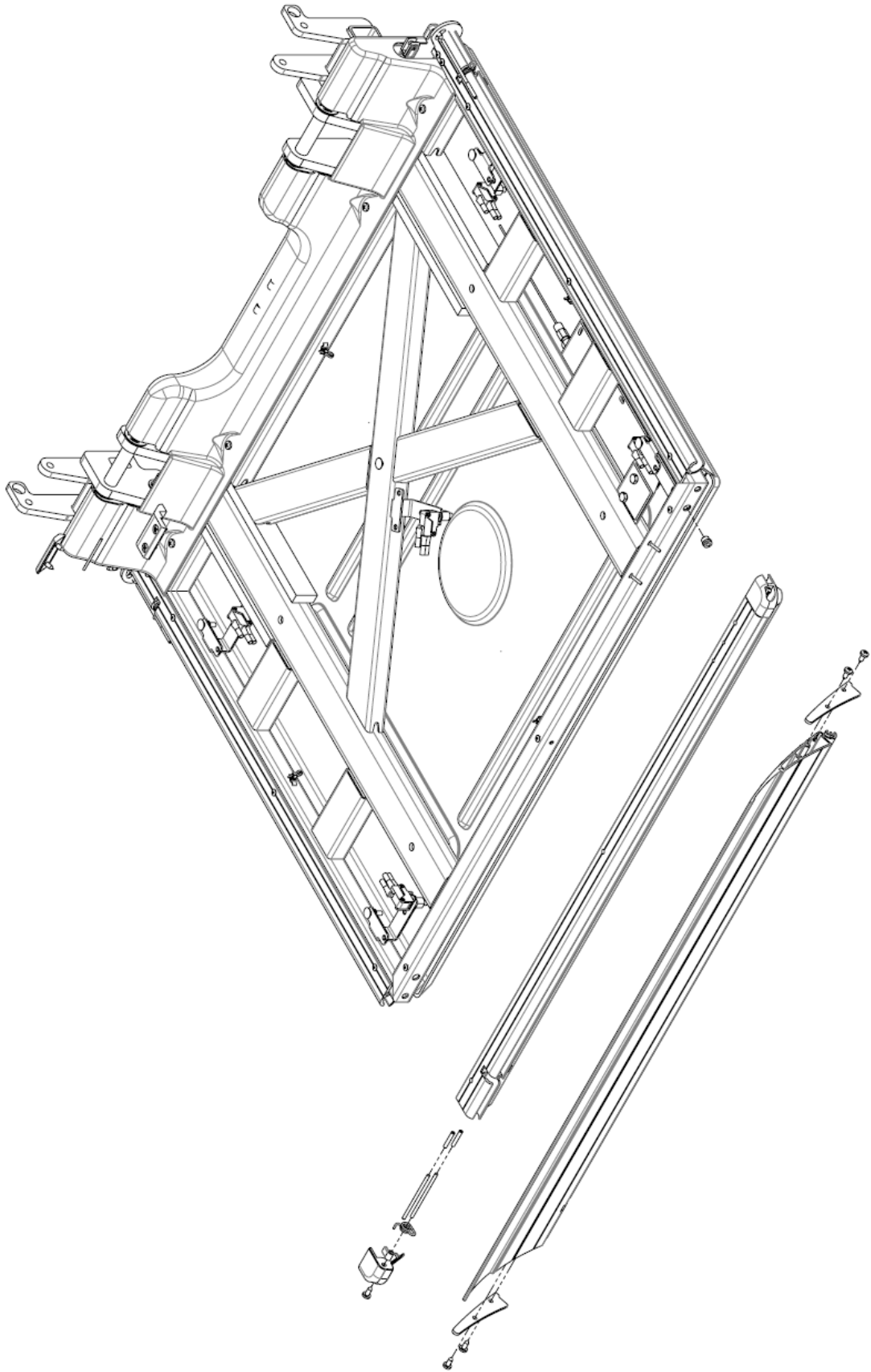


Fig. 50 – Platform

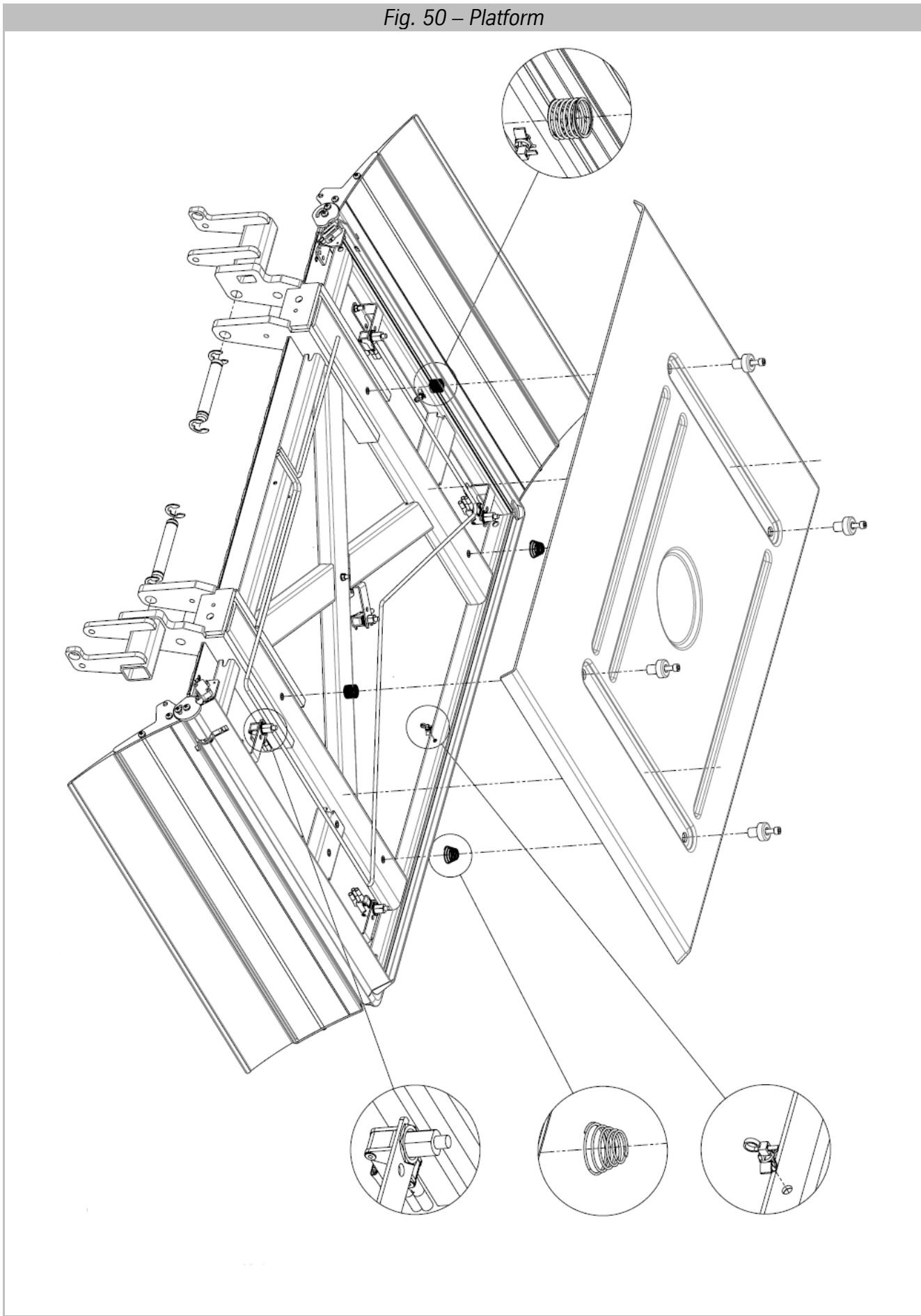


Fig. 51 – Platform

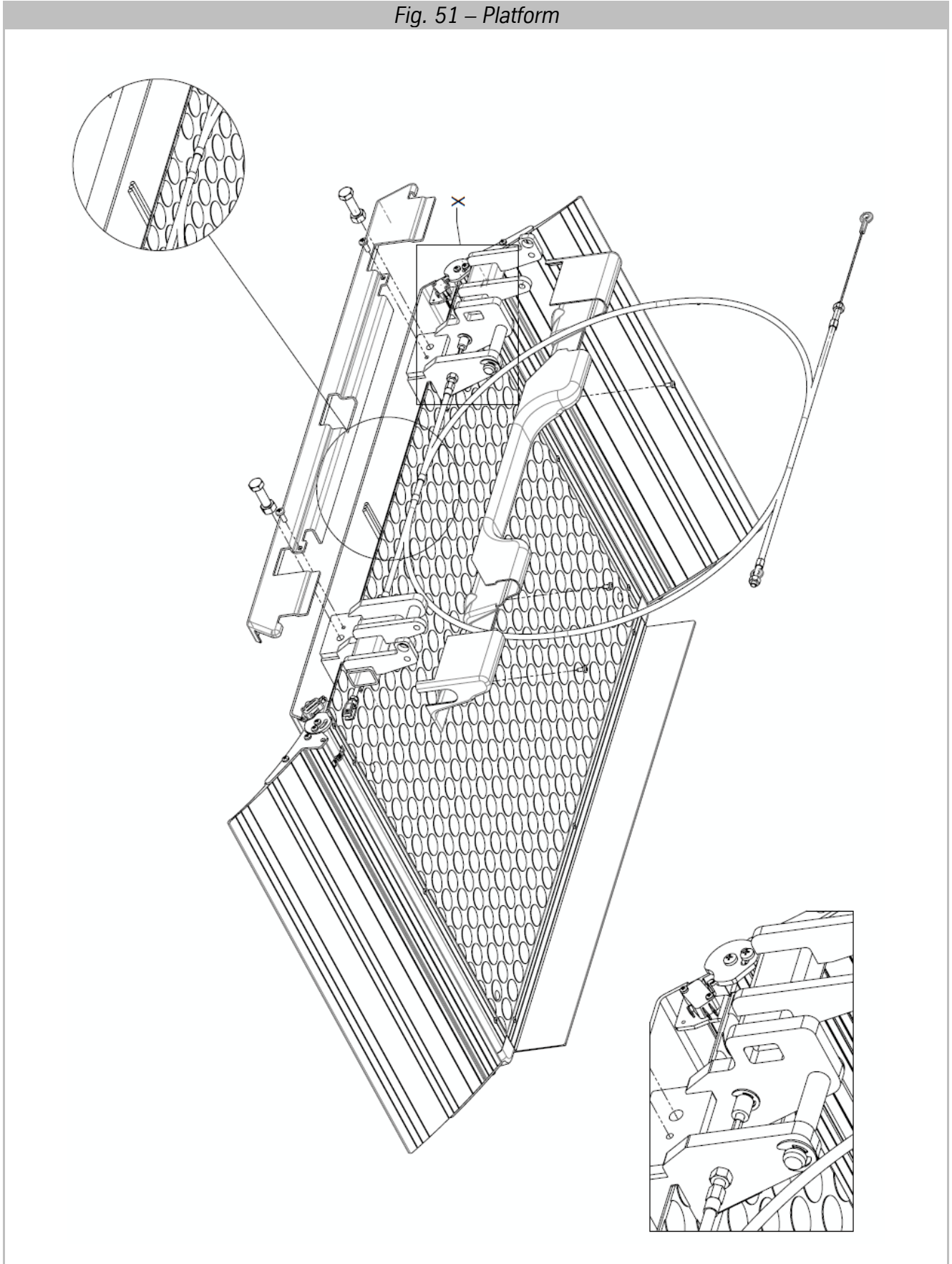


Fig. 52 - Side Mobile Ramp (SMR)

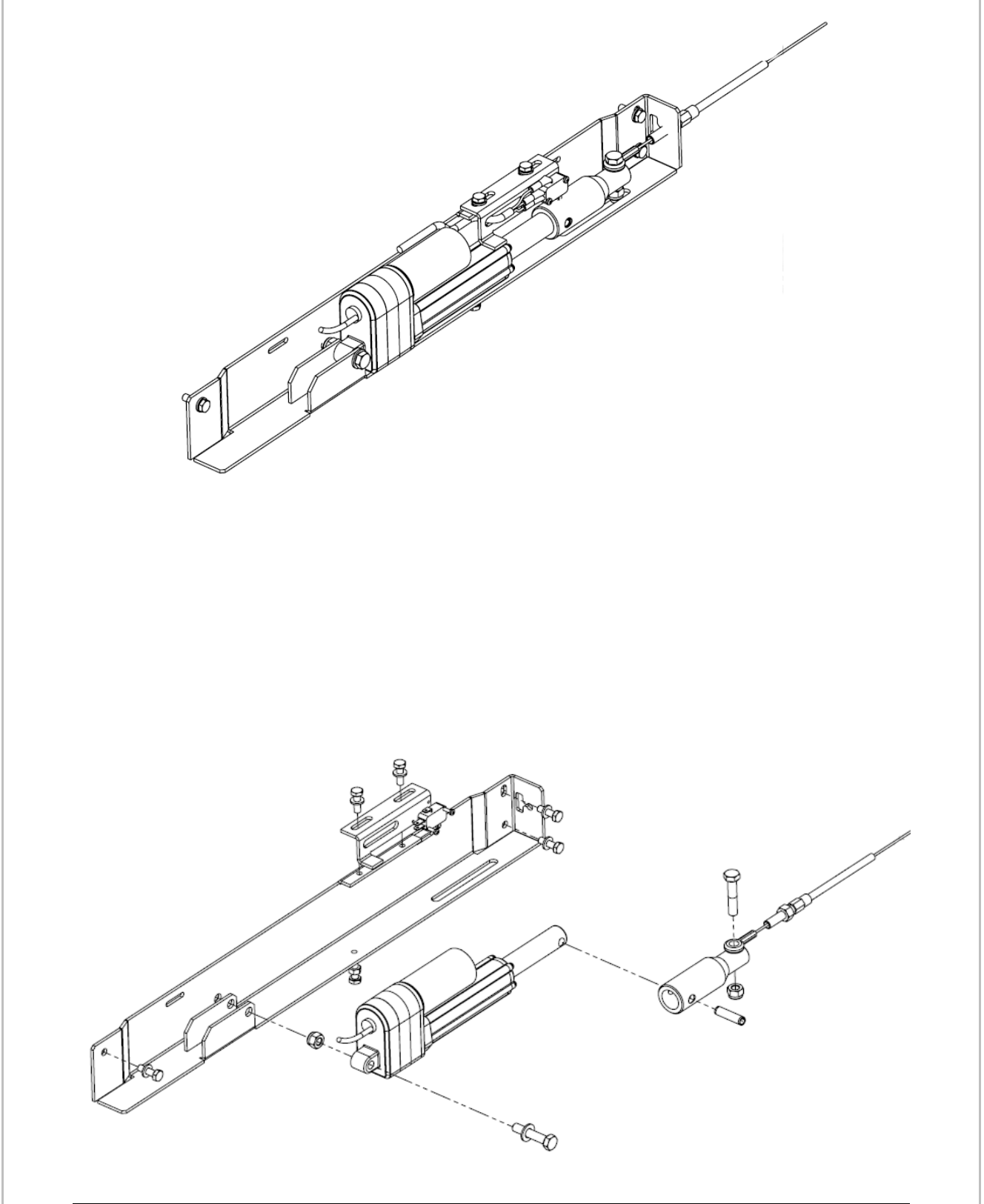


Fig. 53 - Frame Anti-crushing

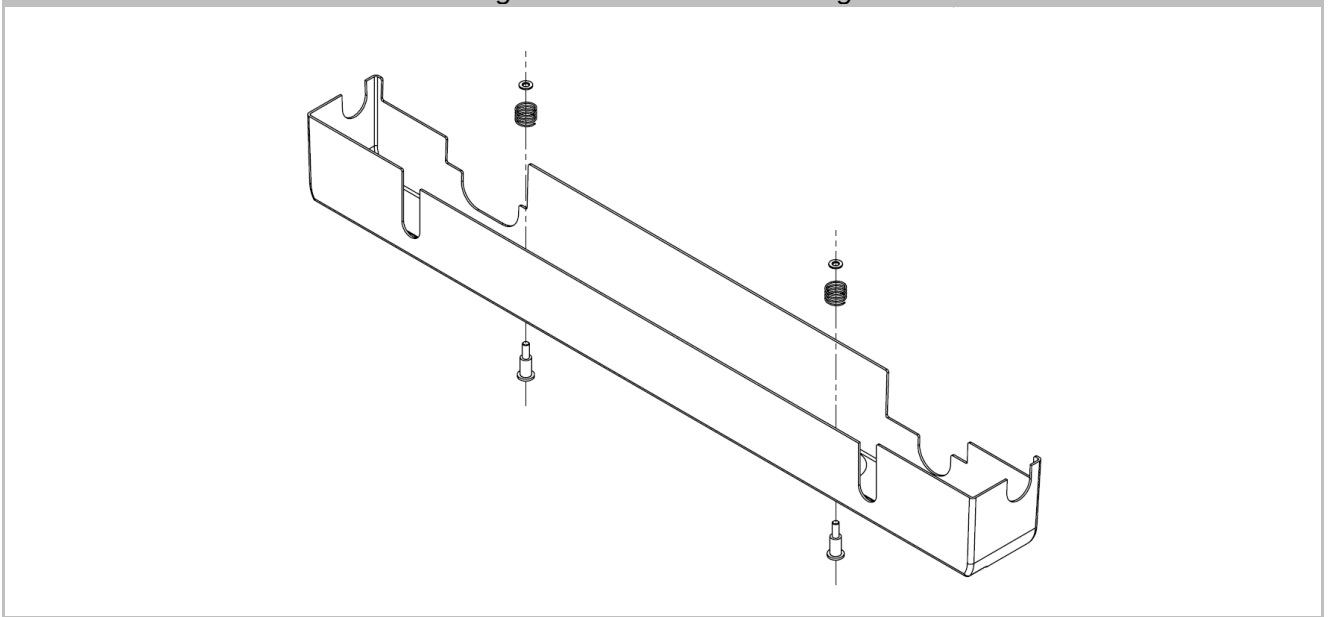
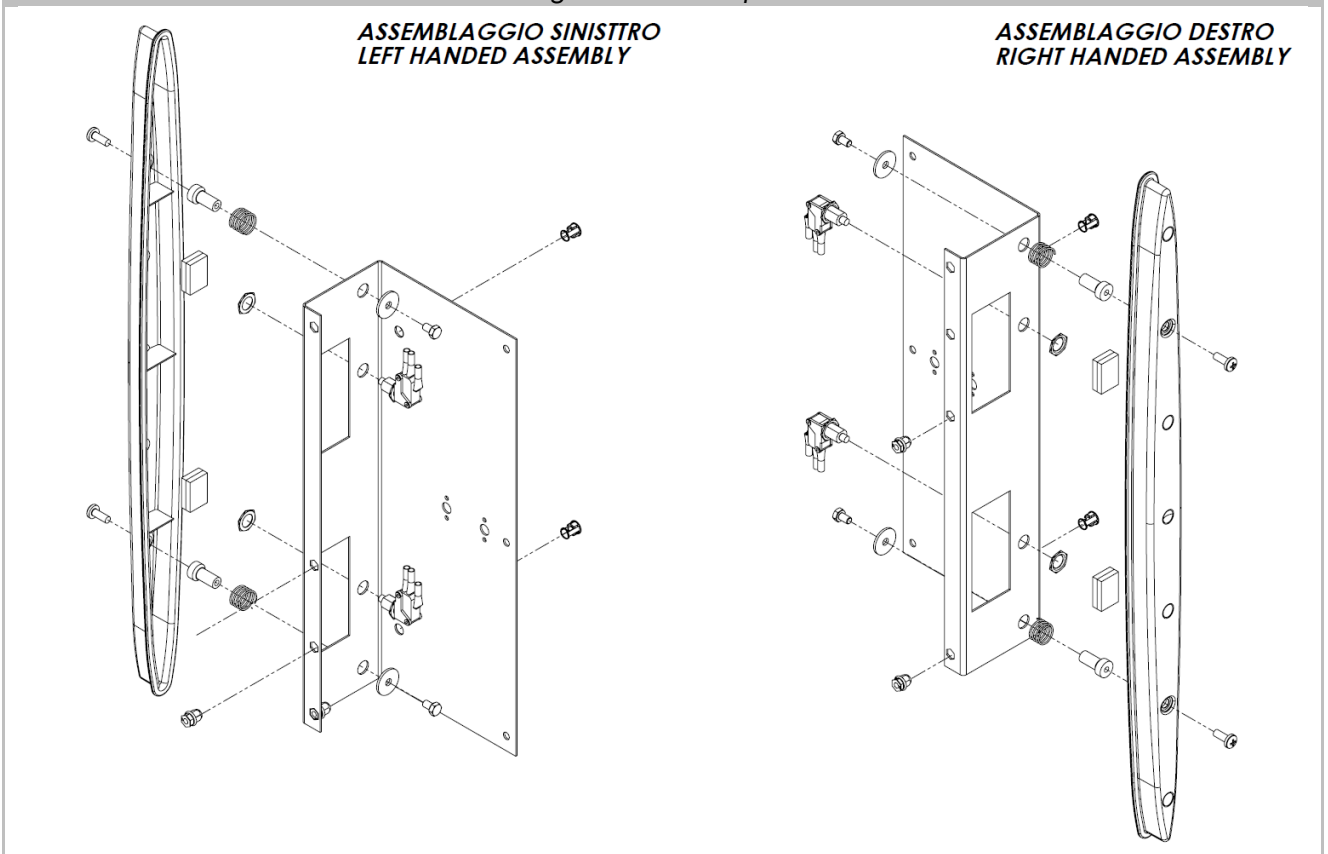


Fig. 54 – Anti-impact



6.2 Electrical connections layout

Fig. 55 - Single phase motor electrical connections

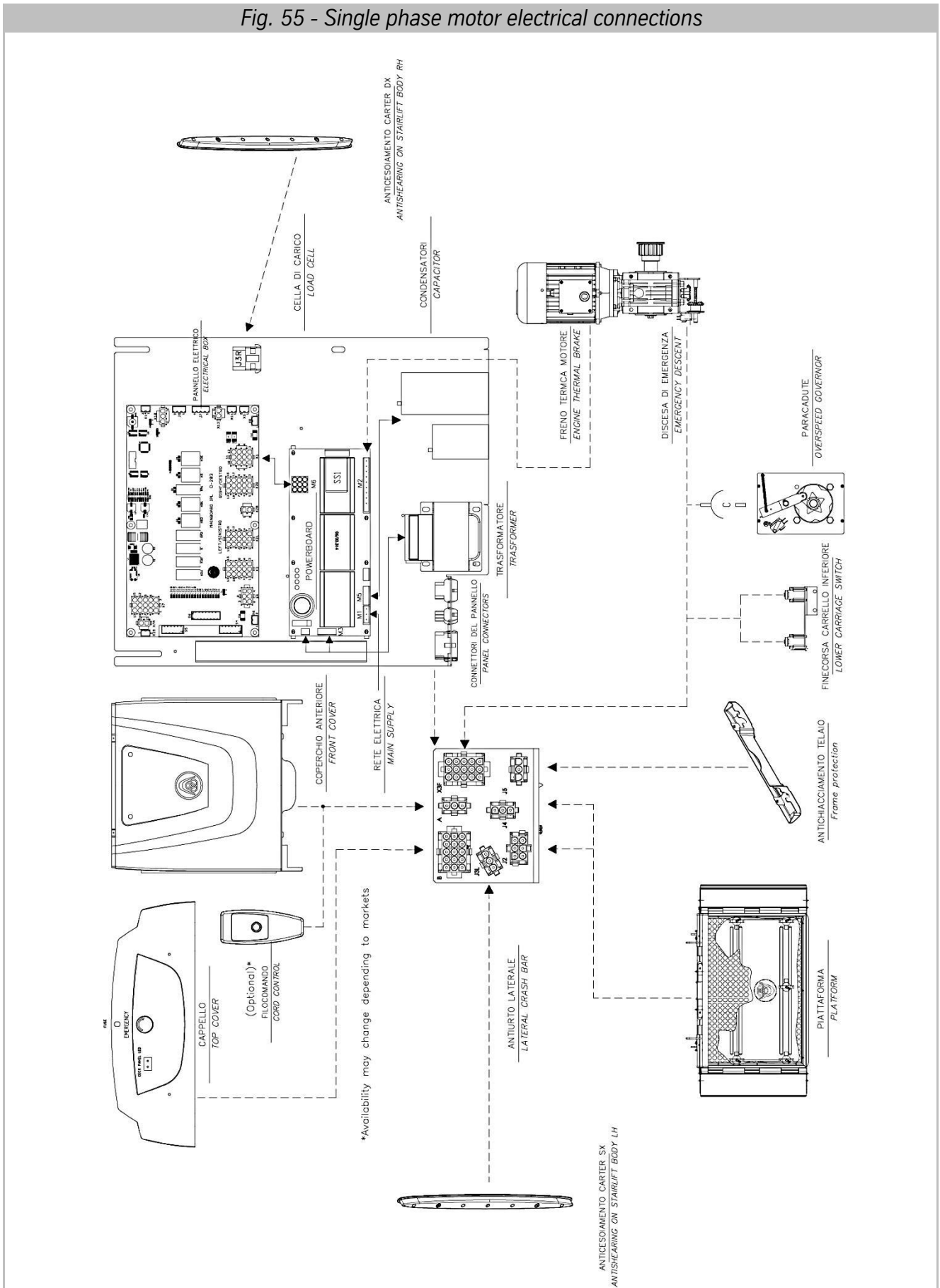
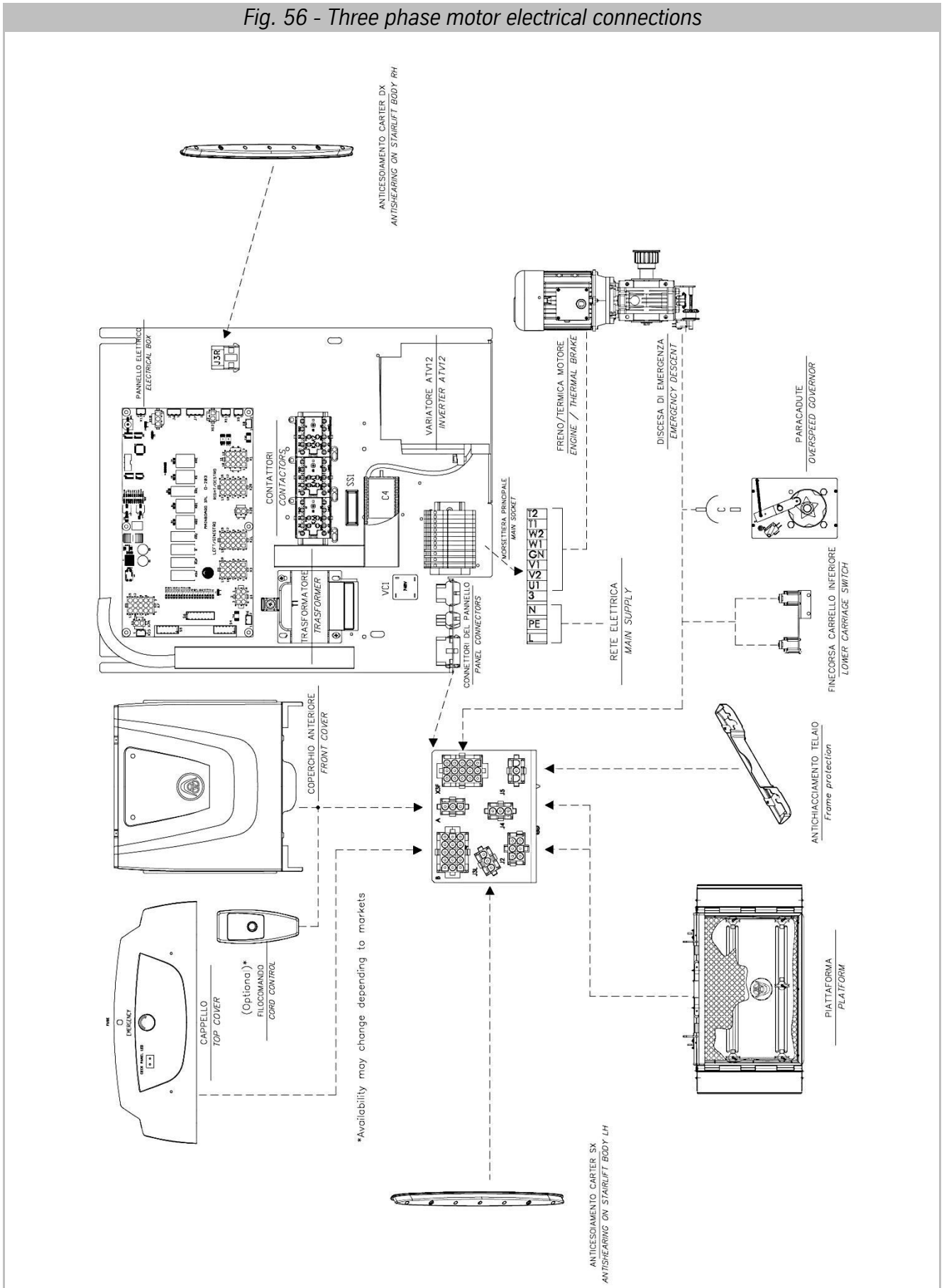


Fig. 56 - Three phase motor electrical connections



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7 Appendix II – Electronics

7.1 Mainboard

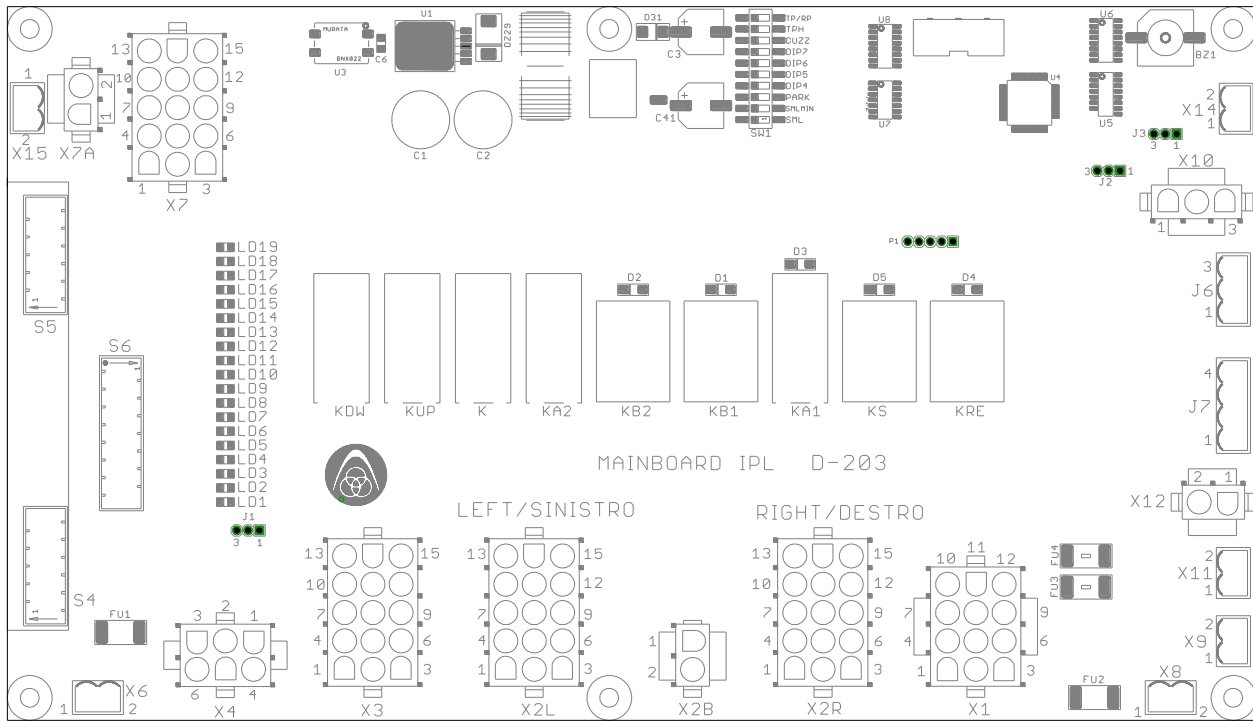


Fig. 57 – Mainboard

The D-203 Mainboard manages all of the stairlift automatism. The machine can be on the right or left depending on the type of installation. Connections on the board vary depending on the type of installation as described below.

7.1.1 Right hand or left hand machine (X2L and X2R connectors)

These connectors, positioned on the mainboard, allow the machine's safety devices to be configured based on the type of installation.

During the installation (of not already configured from the factory) the male X" connector must be inserted as shown in the figure.

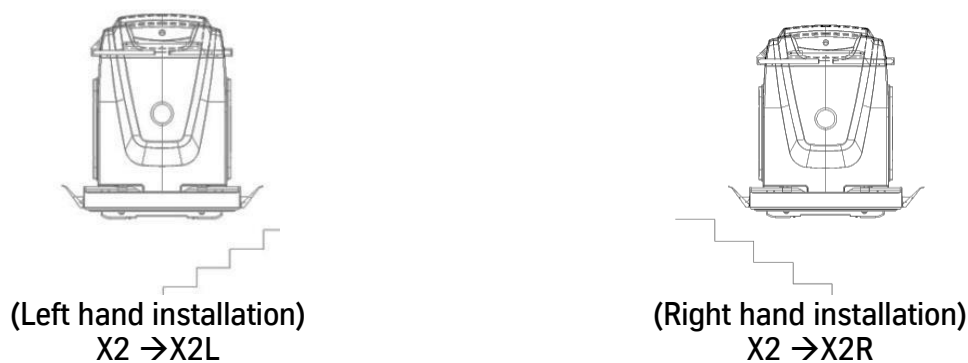


Fig. 58 – X2L and X2R connectors

7.1.2 LED signals

LED

The Mainboard has some LEDs that signal the condition of the stairlift.

For detailed information see the electrical diagram.

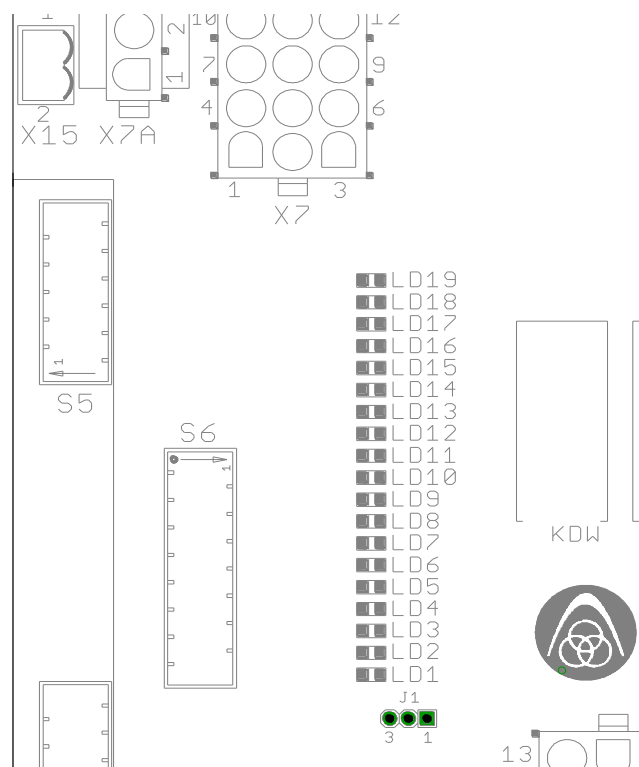


Fig. 59 – Mainboard LEDs

Table 1 – Mainboard LEDs

LED	FUNCTION
LD1	+24VDC
LD2	MOVEMENT ENABLED (K CONTACT CLOSED)
LD3	K RELAY EXCITED
LD4	HORIZONTAL SAFETY BARS
LD5	HORIZONTAL PLATFORM
LD6	DESCENT CONTROL
LD7	ASCENT CONTROL
LD8	DESCENT MOVEMENT (DESCENT SAFETY CHAIN VERIFIED)
LD9	ASCENT MOVEMENT (ASCENT SAFETY CHAIN VERIFIED)
LD10 ⁽¹⁾	LOWER STOP
LD11 ⁽¹⁾	UPPER STOP
LD12	PLATFORM ACTUATOR ACTIVATION
LD13	SMR ACTUATOR ACTIVATION
LD14 ⁽²⁾	MAGNETIC SENSOR 1 (J7-2)
LD15 ⁽²⁾	MAGNETIC SENSOR 2 (J7-4)
LD16	SLOW DOWN IN CURVE LIMIT STOP 1 (J6-2)
LD17	SLOW DOWN IN CURVE LIMIT STOP 2 (J6-3)
LD18	MICROPROCESSOR LIFE LED
LD19	+5VDC POWER SUPPLY

⁽¹⁾ LEDs 10 and 11 on simultaneously indicate the lower stop with J1 across PINs 2-3
⁽²⁾ LEDs 14 and 15 on simultaneously indicate the intermediate stop

Table 2 - Buzzer signals

BEEP	SIGNAL
200ms ON, 200ms OFF	ALARM ⁽³⁾ /LOAD CELL TRIGGERED WITH RUN REQUEST
300ms ON, 300ms OFF	INCONSISTENCY ⁽⁴⁾
400ms ON, 400ms OFF	MACHINE IN OPERATION
800ms ON, 800ms OFF	LOAD CELL TRIGGERED WITHOUT RUN REQUEST

⁽³⁾ Lack of alarm SMR contact within 8 seconds of the command
⁽⁴⁾ This signal is triggered if there is a run request without authorisation (because of the safety interlocks).

7.1.3 Possible configurations with dip switches



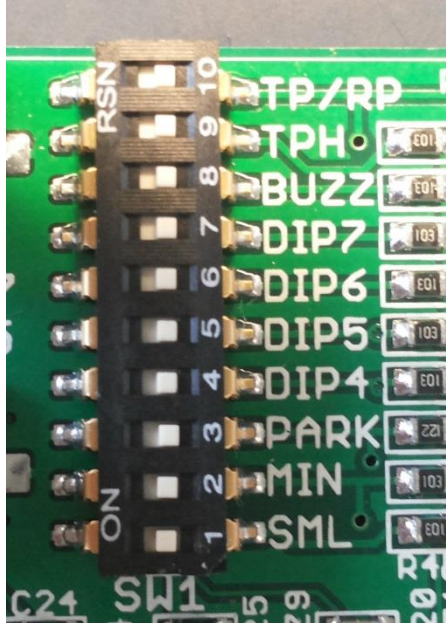
Warning! The machine already comes configured from the factory. Change this configuration only if necessary, carefully assessing the possible introduction of risks in operating the system. When in doubt contact the manufacturer.



Warning! For any operations and checks to be carried out on the electrical panel – with live mains voltage, always use an insulating mat.

Table 3 – Mainboard Dip Switches

CONFIG.	MODEL	DESCRIPTION	DIP ON
SMR	TP / RPSP	SIDE MOBILE RAMP	1
SMR MIN	TP / RPSP	MINIMUM BULK FOR SIDE MOBILE RAMP ENABLED (DIP 1 MUST BE ENABLED)	1 + 2
PARK	TP	PARKING FUNCTION ENABLED (SAFETY BARS CLOSED AT THE UPPER STOP)	3
BUZZ	TP / RPSP	CHANGES THE SMR HINGE RECOVERY TIME AFTER PLATFORM CLOSING	8
TPH	TP	FAST TP MACHINE (SLOW DOWN MANAGEMENT)	9 + 10
TP/RP	TP / RPSP	TP IDENTIFICATION (DIFFERENT DEPARTURE DELAY MANAGEMENT)	10



THE DIP SWITCHES FROM 4 TO 7 ARE NOT USED

7.1.4 Side Mobile Ramp (SMR) Configuration - DIP switch 8



Warning! The machine already comes configured from the factory. Change this configuration only if necessary, carefully assessing the possible introduction of risks in operating the system. When in doubt contact the manufacturer.



Warning!

For any operations and checks to be carried out on the electrical panel – with live mains voltage, always use an insulating mat.

The mobile ramp is a platform option that allows side access to the lower floor.

During the platform closing phase the side appendage opens all the way and in the final phase is partially recalled in order to reduce the bulk on the stair.

The hinge closing time is adjusted in the factory before shipping but it can be set differently during installation and then it must be adjusted again.

The adjustment is made using DIP switch 8 “BUZZ” on the mainboard.

1. Unscrew the fuse holder on the guard (carriage side) or disconnect the electrical panel.
2. Wait for the LEDs to switch off entirely.
3. Set DIP switch 8 to ON.
4. Restore electrical power.
5. The board will emit a sound indicating that the programming mode is enabled.
6. Set DIP switch 8 to OFF and immediately back to ON.
7. At each variation the board will emit sounds indicating that the command has been received. The board will emit a number of consecutive beeps indicating the set delay time (1 beep = 100 ms) with respect to the base interval.
8. Repeat the operation in succession to increase the recovery time (10 steps of 100 ms each).
9. Wait 5 seconds and the machine will repeat the stored number.
10. Once the operation has been completed Set DIP switch 8 to OFF.



Warning! After 5 seconds of inactivity the board automatically exits the programming mode, emitting a sound.



Warning! Once the maximum recovery extra-time is reached the count restarts from 1

7.1.5 Possible jumper configurations



Warning! The machine already comes configured from the factory. Change this configuration only if necessary, carefully assessing the possible introduction of risks in operating the system. When in doubt contact the manufacturer.



Warning!

For any operations and checks to be carried out on the electrical panel – with live mains voltage, always use an insulating mat.

Opening the safety bars at the lower floor

The opening of one or both of the safety bars on the lower floor can be enabled:

- Jumper J1 inserted on the right (PINs 1-2): Only the descent side safety bar open on the lower floor

- Jumper on the left on J1 (PINs 2-3): both safety bars open at the lower floor

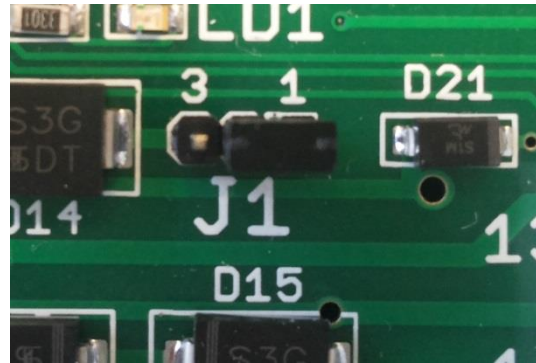


Fig. 60 – J1 on the right

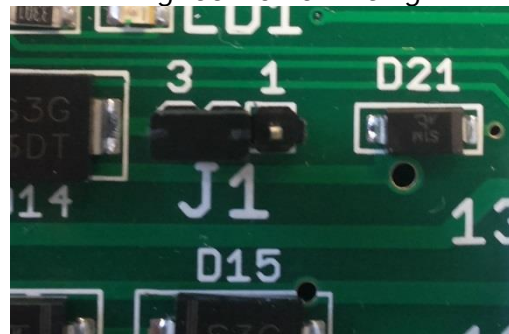


Fig. 61 – J1 on the left

Enabling/Disabling Load cell

- Jumper J2 inserted on the right (PINs 1-2): load cell enabled

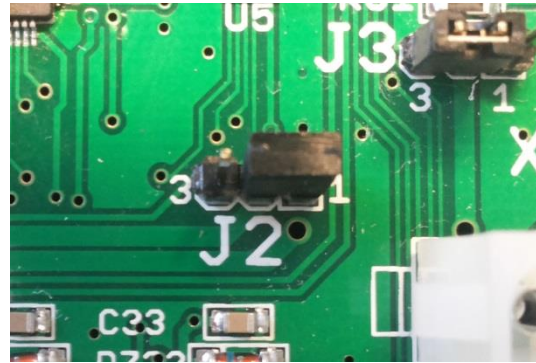


Fig. 62 – J2 on the right

- Jumper on the left on J2 (PINs 2-3): load cell disabled

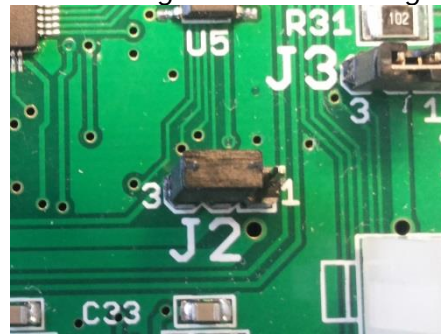


Fig. 63 – J2 on the left

Enabling/Disabling ON/OFF selector switch on the cover

- Jumper J3 inserted on the right (PINs 1-2): key selector 0/1 on the cover enabled



Fig. 64 – J3 on the right

- Jumper on the left on J3 (PINs 2-3): ON/OFF selector switch on the cover disabled



Fig. 65 – J3 on the left

7.2 Radio Devices

7.2.1 Radio Receiver (on board)

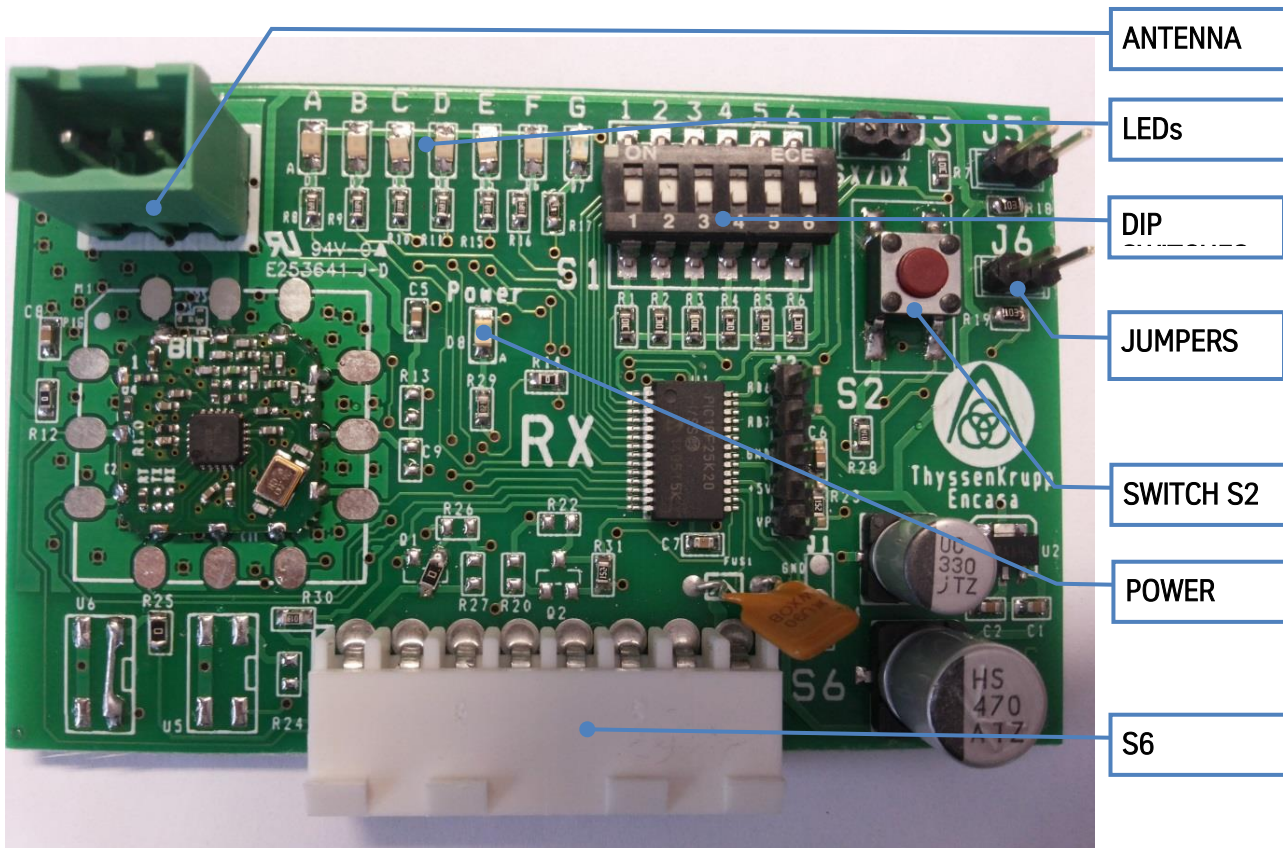


Fig. 66 – Radio Receiver

- 16 radio channels on the 433 Mhz band (from 433.150 Mhz to 434.650 Mhz)
- TTL Serial (to communicate with the mainboard)
- Interface with mainboard through S6 connector

Dip switches:

- Dip 1: Frequency selection
- Dip 2: Frequency selection
- Dip 3: Frequency selection
- Dip 4: Frequency selection
- Dip 5: Not utilised
- Dip 6: REPEATER presence selection

Jumper:

J5: inserting this jumper may eliminate the far/near interlock (only use in the event of RPSP straight line machine based on the stair configuration)

J6: inserting this jumper accesses a view of the second level that can be used only with the support of technical support.

J3: not used

Button

S2: for NEAR/FAR calibration

Table 4 - Radio Receiver LEDs

LED	FUNCTION
Power	Power supply
A	Machine in normal mode
A+B	Machine in DEMO mode
A+B+C ⁽⁵⁾	Machine in locked state
D	Not utilised
E	Not utilised
F	Radio signal reception
G	Serial activity: flashes when there is a command or every minute. Low battery: at the end of the radio command the LED stays on for 2-3 seconds
⁽⁵⁾ See also section 7.5	

7.2.2 Transmission frequency and power

This radio system allows the use of several systems simultaneously without creating reciprocal disturbances. If there are several systems set each system on a different channel.

The radio devices (RX and TX) in the same system must be configured on the same channel.

Table 5 – Transmission frequencies (dip switches 1-4 on TX and RX)

Channel	FREQUENCY	DIP 1	DIP 2	DIP 3	DIP 4
1	433.150 Mhz	OFF	OFF	OFF	OFF
2	433.250 Mhz	ON	OFF	OFF	OFF
3	433.350 Mhz	OFF	ON	OFF	OFF
4	433.450 Mhz	ON	ON	OFF	OFF
5	433.550 Mhz	OFF	OFF	ON	OFF
6	433.650 Mhz	ON	OFF	ON	OFF
7	433.750 Mhz	OFF	ON	ON	OFF
8	433.850 Mhz	ON	ON	ON	OFF
9	433.950 Mhz	OFF	OFF	OFF	ON
10	434.050 Mhz	ON	OFF	OFF	ON
11	434.150 Mhz	OFF	ON	OFF	ON
12	434.250 Mhz	ON	ON	OFF	ON
13	434.350 Mhz	OFF	OFF	ON	ON
14	434.450 Mhz	ON	OFF	ON	ON
15	434.550 Mhz	OFF	ON	ON	ON
16	434.650 Mhz	ON	ON	ON	ON

Table 6 – Transmission power (dip switches 6-7 on TX)

POWER	DIP 6	DIP 7
-20 dbm	OFF	OFF
10 dbm	ON	OFF
0 dbm	OFF	ON
+ 10 dbm	ON	ON

7.2.3 Transmission distance calibration operation



Warning! The receiving radio is calibrated in the factory. Change this only if necessary, carefully assessing the possible introduction of risks in operating the system. When in doubt contact the manufacturer



Warning!

For any operations and checks to be carried out on the electrical panel – with live mains voltage, always use an insulating mat.

The calibration of the maximum operating distance of the open platform radio system has the purpose of increasing the safety of the plant in this condition.

To calibrate the radio receiver you must work on two components:

- RX Module: radio frequency board connected through the S6 connector to the mainboard inside the machine.
- TX Module: wireless remote control with battery.

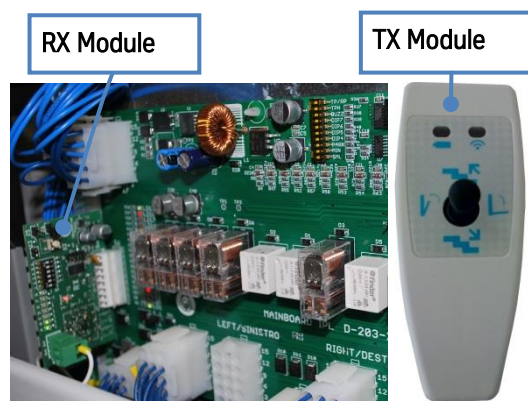


Fig. 67 – RX and TX module

- Unscrew the fuse holder on the guard (carriage side) or disconnect the electrical panel.
- Wait 5 seconds to make sure there is no power.



Fig. 68 – Fuse holder on casing.

- Restore the power
- Within 3 seconds press the S2 button on the receiver until all the LEDs come on (A-B-C-D-E-F).

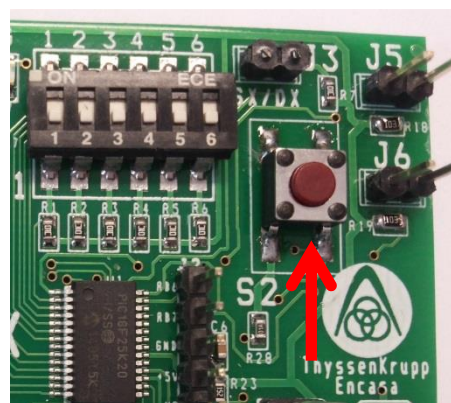


Fig. 69 – Receiver S2 switch

- Take the wireless remote control (TX module) to the maximum desired distance
- Press an up or down command for at least 5 seconds or in any case until the LEDs switch off and the green LED on the cover begins to flash.



Fig. 70 Press any command to calibrate the maximum operating distance.

The set distance will be indicative as the radio system changes its behaviour when the environmental conditions change.



Warning! In the event of a command sent with the wireless remote control out of the set range, the green LED on the cover will flash but the machine will not move.

7.3 Call devices

The machine generally comes with as many call boxes as there are floors served. The call boxes are intended to be wall mounted with expansion anchor plugs.

The configuration as high / low / intermediate call has been carried out at the factory and the boxes can be identified through a special label on the back of them. Another interior label allows the configuration to be verified.



Tip! Before installing the boxes on the wall open them and - depending on the jumper configuration - position them on the wall using the two anchor plugs supplied.

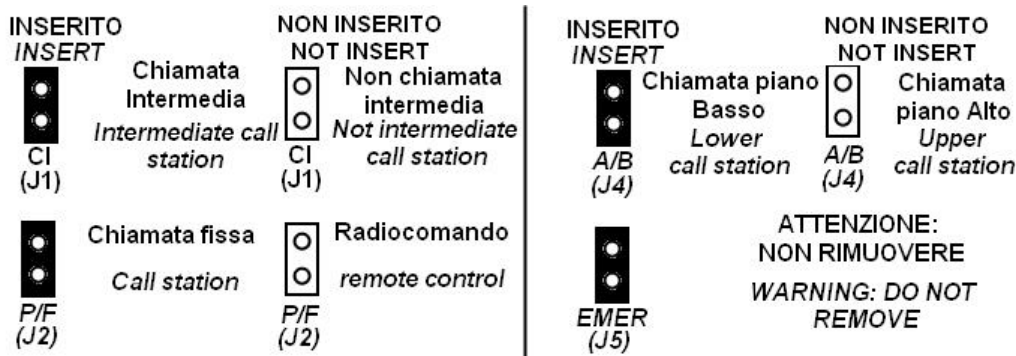


Fig. 71 – Jumper configuration interior label

7.3.1 Standard call boxes

The standard call box has two Up/Down commands and allows the machine to be opened/closed at the upper and lower stops

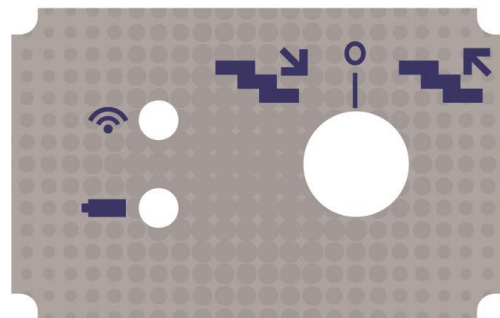


Fig. 72 – Standard call box label

Table 7 – Jumper combination for the standard call box

BOX	CI JUMPER	A/B JUMPER	EMER JUMPER ⁽⁶⁾
UPPER FLOOR	NO	NO	YES
LOWER FLOOR	NO	YES	YES
INTERMEDIATE FLOOR	YES	NO	YES

EMER Jumper⁽⁶⁾: Do not remove. May be absent in some markets.
 Jumper P/F: not used

7.3.2 4 function call boxes and wireless remote control

The 4 function call box can have a Joystick or 4 buttons.
It allows the Up / Down / Open / Close commands to be given

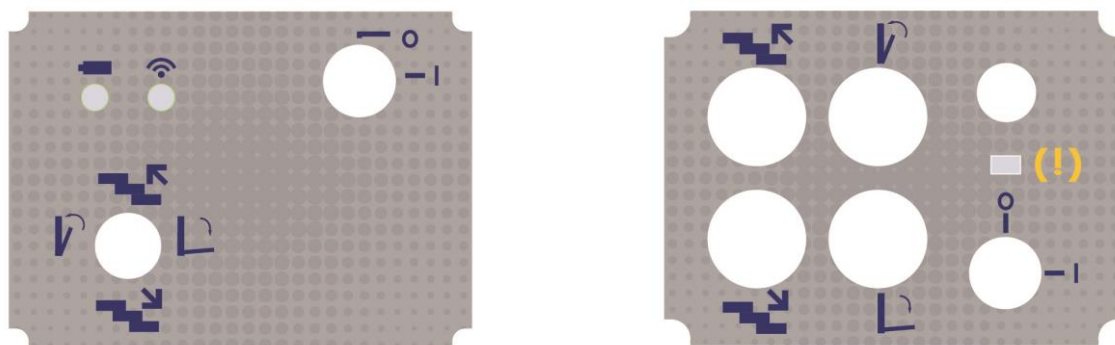


Fig. 73 – 4 function call box label

Table 8 – Jumper combination for the 4 function call box

BOX	CI JUMPER	A/B JUMPER	EMER JUMPER ⁽⁶⁾	P/F JUMPER
UPPER FLOOR	NO	NO	YES	YES
LOWER FLOOR	NO	YES	YES	YES
INTERMEDIATE FLOOR	YES	NO	YES	YES
EMER Jumper ⁽⁶⁾ : Do not remove. May be absent in some markets				

Table 9 - Jumper combination for wireless remote control

BOX	CI JUMPER	A/B JUMPER	EMER JUMPER ⁽⁶⁾	P/F JUMPER
UPPER FLOOR	NO	NO	YES	NO
LOWER FLOOR	NO	NO	YES	NO
INTERMEDIATE FLOOR	NO	NO	YES	NO
EMER Jumper ⁽⁶⁾ : Do not remove. May be absent in some markets				

7.3.3 Summary of the wireless remote control device functions (Transmitters)

The following tables sum up the various functions of the different wireless radio devices

- 2 function transmitters (standard call box)
- 4 function transmitter (boxes with joystick, buttons or wireless remote control)

Table 10 - Device with 2 Function radio control

	Control Device		
COMMAND	Upper Floor (2 functions)	Lower Floor (2 functions)	Intermediate Stop (2 functions)
UP	With Platform Closed	With Platform Closed	With Platform Closed
DOWN			
OPEN	Only at upper floor	Only at lower floor	Never
CLOSE			

Table 11 - Device with 4 Function Radio control

	Control Device			
COMMAND	Upper Floor (4 functions)	Lower Floor (4 functions)	Intermediate Stop (4 functions)	Wireless remote control
UP	With Platform Closed	With Platform Closed	With Platform Closed	With Platform Open or Closed
DOWN				
OPEN	Only at upper floor	Only at lower floor	Only at intermediate stops	Any stop
CLOSE				

7.4 On board alarm

This is located inside the machine body and pre-installed at the factory.

A simple electrical connection of the E connector may be necessary

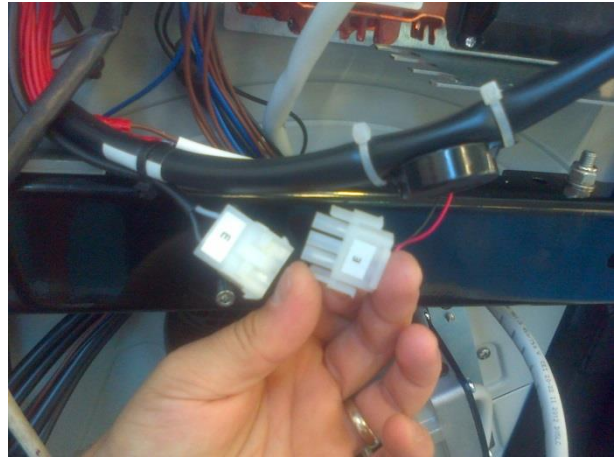


Fig. 74 – On Board Alarm Connection

7.5 Released Condition

In some conditions, the system could become blocked. Blocked conditions can be recognised as the system:

- is stopped on the lower or upper floor with the green LED on the check panel off;
- at each command a continuous acoustic signal is sounded for about 10 seconds;
- only opening / closing of the platform is permitted.

The locked condition of the machine can also be identified by the A + B + C LEDs on the radio receiver coming on.



Contact customer service if the system is blocked.

7.6 Inverter (present on variable speed machines)

This component is a frequency converter for asynchronous three phase motors that manage acceleration and deceleration ramps.

Warning!

When the device is powered the power components and some of the control components are connected to the power supply line and touching them is extremely dangerous. The cover must remain closed.



In general the power supply must be disconnected prior to carrying out any operation on the electrical or mechanical part.

After the ALTIVAR inverter has been switched off and the display is completely off wait 15 minutes before working safely on the devices. These 15 minutes are necessary to allow the condenser to discharge.

ALTIVAR 12 TROUBLESHOOTING

The signals which appear on the ALTIVAR12 inverter display listed in the table below lock up the inverter. The cause of the defect displayed must be eliminated before rearming the inverter. The inverter can be rearmed by removing and restoring the power supply.

Table 12 - ALTIVAR 12 (ATV12) Diagnostics

CODE ON THE DISPLAY	DESCRIPTION	SOLUTION
----	FIRMWARE PROBLEM	REPLACEMENT
<i>CFF</i>	CONFIGURATION DEFECT	<ul style="list-style-type: none"> • REDO THE INVERTER CONFIGURATION DESCRIBED IN THE FOLLOWING SECTION
<i>CFI</i>	INVALID CONFIGURATION	
<i>CrF 1</i>	FAULTY LOADING CIRCUIT	<ul style="list-style-type: none"> • SWITCH THE TRANSFORMER ON AND OFF • CHECK THE CONNECTIONS • CHECK THE STABILITY OF THE MAINS POWER SUPPLY • REPLACEMENT IF NOT EFFICIENT IN THE PREVIOUS POINTS
<i>InF 9</i>	CURRENT MEASUREMENT ERROR	<ul style="list-style-type: none"> • REPLACEMENT
<i>InF b</i>	INTERNAL TEMPERATURE SENSOR FAULT	<ul style="list-style-type: none"> • REPLACEMENT
<i>InF E</i>	CPU FAULT	<ul style="list-style-type: none"> • SWITCH THE TRANSFORMER ON AND OFF • REPLACEMENT IF NOT EFFICIENT IN THE PREVIOUS POINT
<i>ObF</i>	OVER-BRAKING	<ul style="list-style-type: none"> • CHECK THE POWER SUPPLY VOLTAGE. IT MUST BE 20% BELOW THE MAXIMUM DURING OPERATION
<i>OCF</i>	OVER-CURRENT	<ul style="list-style-type: none"> • EXCESSIVE LOAD • MECHANICAL LOCK. CHECK THE CONDITION OF THE MECHANICS • CHECK THE TRANSFORMER EARTH CONNECTION, THE MOTOR CABLE AND THE MOTOR INSULATION
<i>OHF</i>	TRANSFORMER OVERHEATING	<ul style="list-style-type: none"> • CHECK THE MOTOR LOAD, VENTILATION AND THE AMBIENT TEMPERATURE. WAIT FOR THE TRANSFORMER TO COOL DOWN BEFORE RESTARTING IT
<i>OLC</i>	OVERLOAD CURRENT	<ul style="list-style-type: none"> • CHECK THE MECHANICS (WEAR, MECHANICAL LOCKS, OBSTACLES)
<i>OLF</i>	MOTOR OVERLOAD	<ul style="list-style-type: none"> • CHECK THE MOTOR LOAD. WAIT FOR IT TO COOL, REMOVE VOLTAGE TO THE INVERTER AND THEN REPOWER IT.
<i>OPF 1</i>	LOSS OF PHASE 1 IN OUTPUT	<ul style="list-style-type: none"> • CHECK THE CONNECTION BETWEEN THE TRANSFORMER AND THE MOTOR • IF YOU USE A CONTACTOR DOWNLINE ENSURE THAT THE CONTACTOR CABLE IS PROPERLY CONNECTED
<i>OPF 2</i>	LOSS OF PHASE 3 IN OUTPUT	
<i>OSF</i>	OVERVOLTAGE	<ul style="list-style-type: none"> • CHECK THE MAINS VOLTAGE
<i>SCF 1</i>	MOTOR SHORT CIRCUIT	<ul style="list-style-type: none"> • CHECK THE TRANSFORMER CONNECTION CABLES TO THE MOTOR AND THE MOTOR INSULATION
<i>SCF 3</i>	SHORT CIRCUIT TO EARTH	
<i>SCF 4</i>	IGBT SHORT CIRCUIT	<ul style="list-style-type: none"> • REPLACEMENT
<i>SCF 5</i>	LOAD SHORT CIRCUIT	<ul style="list-style-type: none"> • CHECK THE CABLES THAT CONNECT THE TRANSFORMER TO THE MOTOR AND THE MOTOR INSULATION
<i>tJ F</i>	IGBT OVERHEATING	<ul style="list-style-type: none"> • WAIT FOR IT TO COOL DOWN BEFORE RESTARTING IT
<i>USF</i>	UNDERVOLTAGE	<ul style="list-style-type: none"> • CHECK THE VOLTAGE



Warning! The machine already comes configured from the factory. Change this configuration only if necessary, carefully assessing the possible introduction of risks in operating the system. When in doubt contact the manufacturer.



Warning!

For any operations and checks to be carried out on the electrical panel – with live mains voltage, always use an insulating mat.

ALTIVAR 12 INVERTER PROGRAMMING

This procedure should be carried out only if required by the diagnostics table.

Procedure

1. Power the panel
2. When the inverter switches on it displays the “Rdy” state

CLI parameter programming

- a. On the display “RDY” appears
- b. Press the wheel to enter the menu
- c. Turn the wheel until “CONFIG” appears on the display
- d. Press the wheel to enter the menu
- e. Turn the wheel until “FULL” appears on the display
- f. Press the wheel to enter the menu
- g. Turn the wheel until “FUN” appears on the display
- h. Press the wheel to enter the menu
- i. Turn the wheel until “CLI” appears on the display
- j. Press the wheel to enter the menu
- k. Turn the wheel until “5” appears on the display
- l. Press the wheel to confirm the selection
- m. Press “ESC” until you return to the main menu (“rdy”)

NCR parameter programming

- a. On the display “RDY” appears
- b. Press the wheel to enter the menu
- c. Turn the wheel until “CONFIG” appears on the display
- d. Press the wheel to enter the menu
- e. Turn the wheel until “FULL” appears on the display
- f. Press the wheel to enter the menu
- g. Turn the wheel until “DRC” appears on the display
- h. Press the wheel to enter the menu
- i. Turn the wheel until “NCR” appears on the display
- j. Press the wheel to enter the menu
- k. Set:

MARKET	USA	OTHER MARKETS
VALUE	3.5	4

- l. Press the wheel to confirm the selection
- m. Press “ESC” until you return to the main menu (“RDY”)

TCT parameter programming

- a. On the display **“rdy”** appears
- b. Press the wheel to enter the menu
- c. Turn the wheel until **“CONFIG”** appears on the display
- d. Press the wheel to enter the menu
- e. Turn the wheel until **“FULL”** appears on the display
- f. Press the wheel to enter the menu
- g. Turn the wheel until **“I/O”** appears on the display
- h. Press the wheel to enter the menu
- i. Turn the wheel until **“TCT”** appears on the display
- j. Press the wheel to enter the menu
- k. Turn the wheel until **“LEL”** appears on the display
- l. Press the wheel to confirm the selection
- m. Press **“ESC”** until you return to the main menu (**“rdy”**)

UFR parameter programming

- a. On the display **“rdy”** appears
- b. Press the wheel to enter the menu
- c. Turn the wheel until **“CONFIG”** appears on the display
- d. Press the wheel to enter the menu
- e. Turn the wheel until **“FULL”** appears on the display
- f. Press the wheel to enter the menu
- g. Turn the wheel until **“DRC”** appears on the display
- h. Press the wheel to enter the menu
- i. Turn the wheel until **“UFR”** appears on the display
- j. Press the wheel to enter the menu
- k. Turn the wheel until **“100”** appears on the display
- l. Press the wheel to confirm the selection
- m. Press **“ESC”** until you return to the main menu (**“rdy”**)

NST parameter programming

- a. On the display **“rdy”** appears
- b. Turn the wheel until **“CONFIG”** appears on the display
- c. Press the wheel to enter the menu
- d. Turn the wheel until **“FULL”** appears on the display
- e. Press the wheel to enter the menu
- f. Turn the wheel until **“FUN”** appears on the display
- g. Press the wheel to enter the menu
- h. Turn the wheel until **“STT”** appears on the display
- i. Press the wheel to enter the menu
- j. Turn the wheel until **“NST”** appears on the display
- k. Press the wheel to enter the menu.
- l. Turn the wheel until **“LIL”** appears on the display
- m. Press the wheel
- n. Press **“ESC”** until you return to the main menu

The display must show the NST message

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