Infinity Curved Stair Lift

Installation Guide

DECEMBER 2024

AmeriGlide

ACCESSIBILITY SOLUTIONS

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The information contained within this manual has been designed for use by Bespoke approved engineers who have received the appropriate product training in the following categories:

1. Product installation

2. Testing and commissioning

It is also assumed that the person using this manual will have the basic knowledge and skills required in both the mechanical and electrical aspects to apply consideration and awareness for the safety of themselves and others involving their work.

The contents of this manual are in the recommended order of placement, which forms the full installation and commissioning of this standard model.

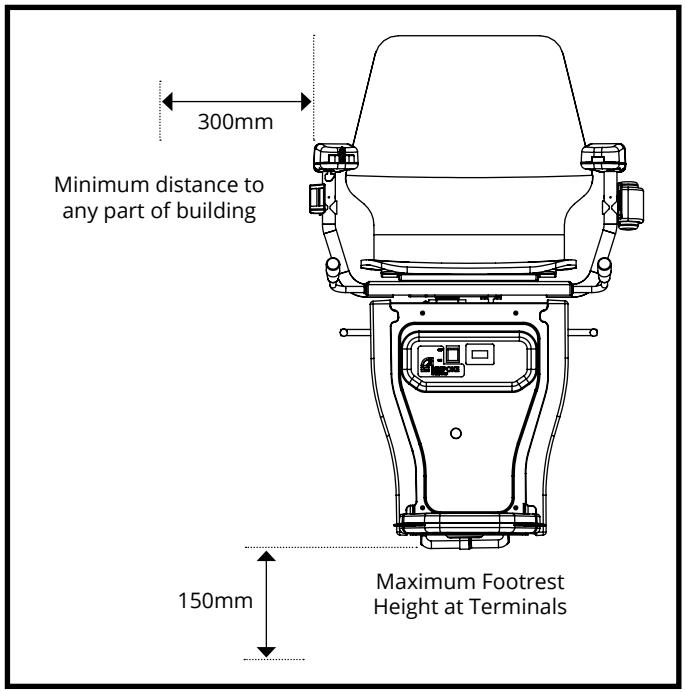
.01
Pre-Installation

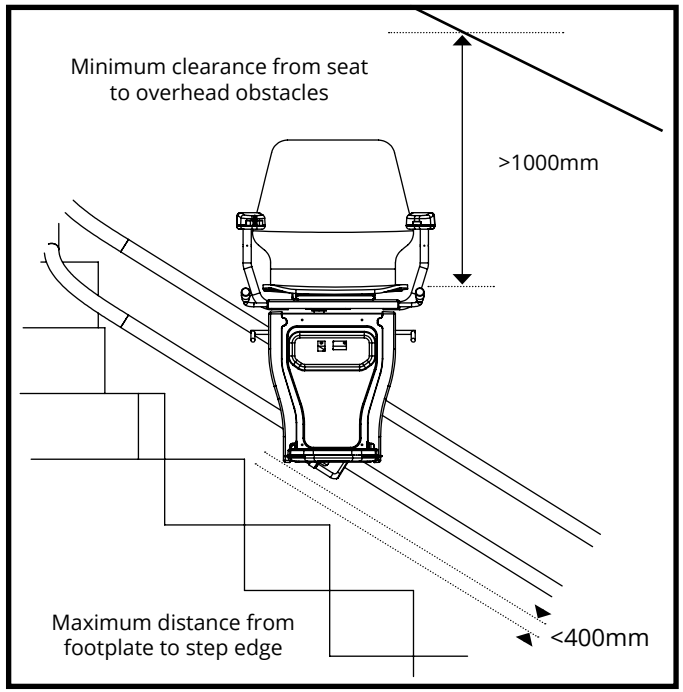
Tools Needed:

- Protective Eye Wear
- Gloves

1.1 Site Assessment

The guidance given in this document is to assist in the installation of a stairlift. It is designed to ensure that surveyors, designers and installers have necessary information that may adhere to requirements of international standards, and is intended to ensure the safety of stairlift users.

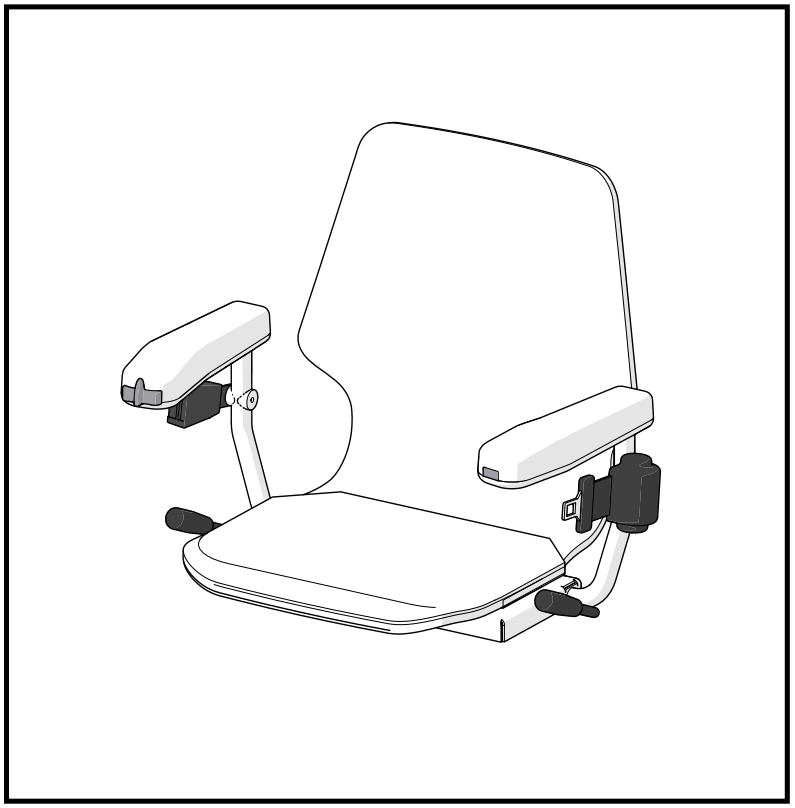




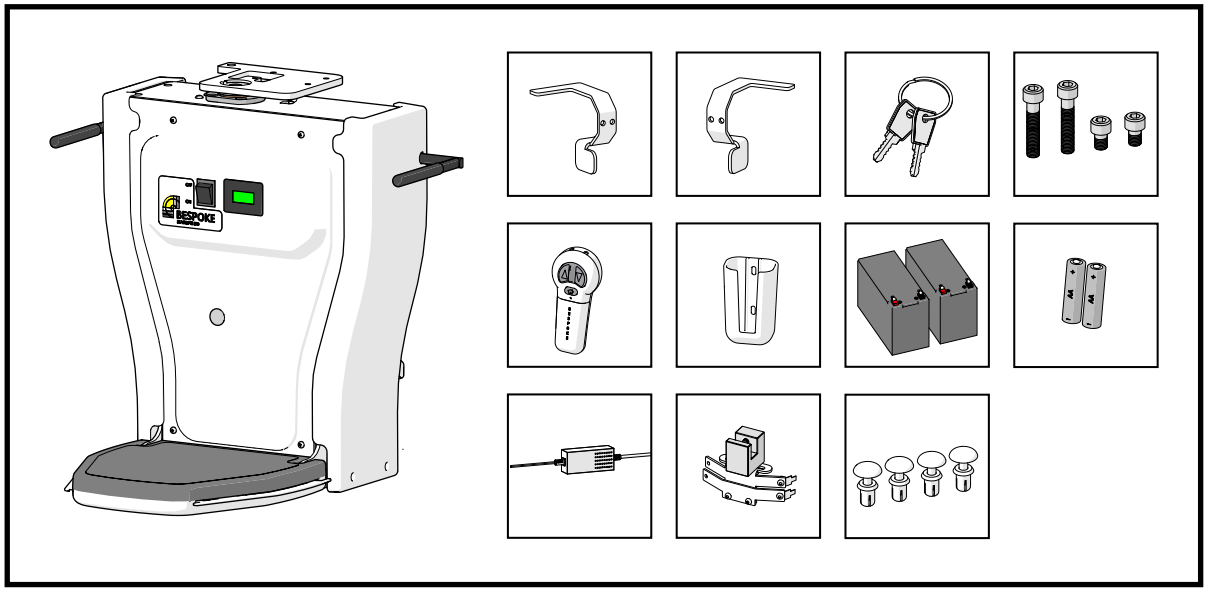
These diagrams are designed to illustrate the safe locating of the Infinity Curved Stairlift to advise both surveyors, designers and intallers. If these guidelines cannot be achieved, a detailed risk assessment must be carried out and agreed by both the customer and experienced surveyor.

1.2 Box Contents

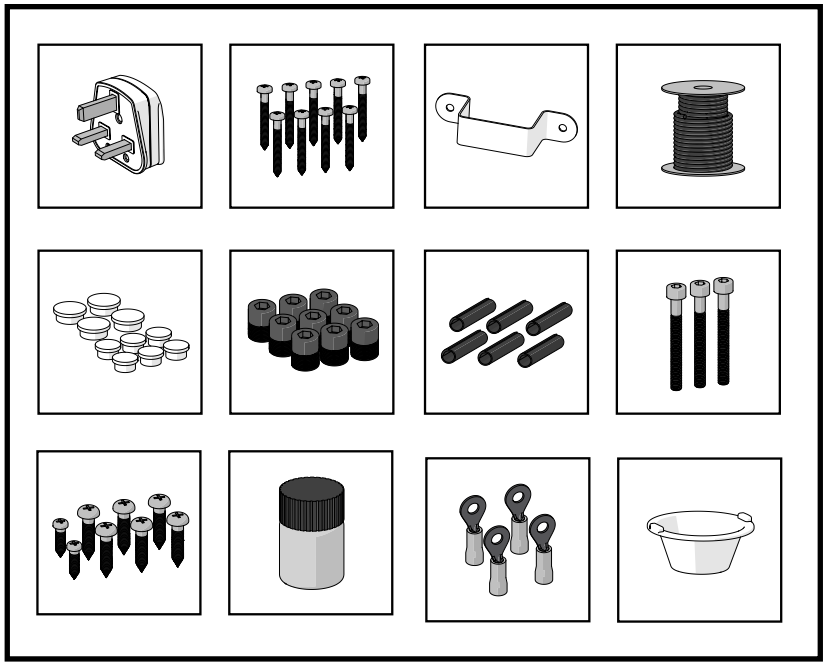
- 1 x Infinity Carriage Unit
- 1 x Infinity Carriage Kit Box



- 1 x Infinity Seat Unit



- Charger
- Charge points (x2 Min)
- Endstop A
- Endstop B
- Remote control (x2Min)
- Remote Holster (x2 Min)
- 2x 12V Batteries
- 4x AA Batteries
- Keys
- 2x M8x40mm bolts
- 2x M8x12mm bolts
- 4x 4mm set cover fixings

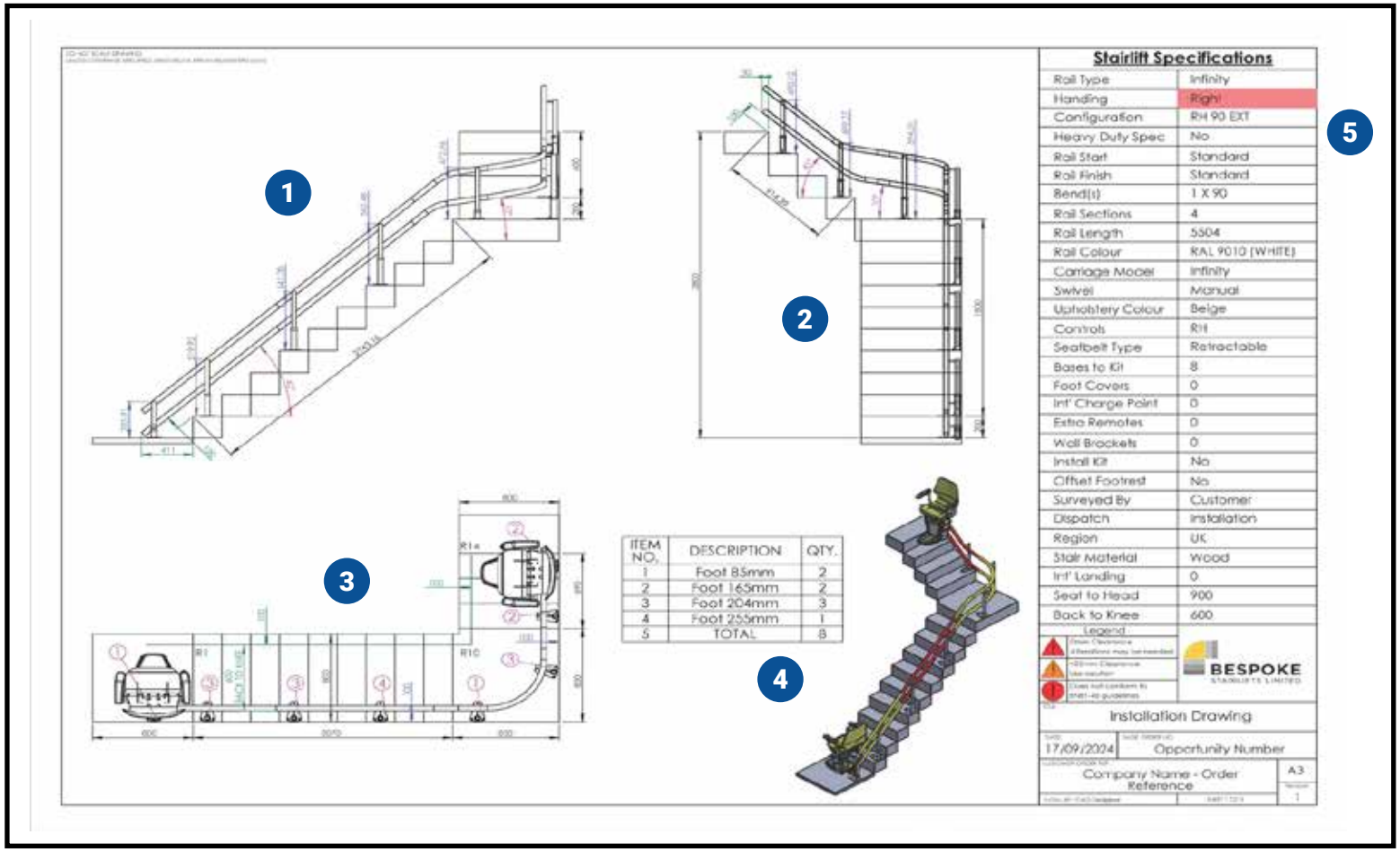


- Charger Plug (Regional)
- Base Screws (Quantity Varies)
- Charger Bracket
- 2-Core cable
- Charge Point Touch Up Paint
- Rail & Leg bungs
- Base Grub Screws M8x10mm
- Spiral Pins M6x45mm
- Racking Joint Bolt M5x45mm
- Eyelet Connector
- Grease
- Female Spade Connector

1.3 Tools Required

- Spirit Level
- Tape measure (5m)
- Magnetic Angle finder
- Digital multimeter (Voltage, Amps, Milliamps and Continuity)
- Battery Tester
- Socket Tester
- Stanley Knife/Utility Knife
- 6mm Twisted drill bit
- Hammer (Claw or Ball pein)
- Hexagon Keys Sizes 2-10mm (T handles or long series)
- Nut Runners sizes 5mm, 5.5mm, 7mm and 8mm
- Torque wrench/s with drive range of 12- 100
- Bit/Socket set 2.5mm – 10mm
- Square drive sockets 8-19mm
- Socket
- Extension Bar
- Ratchet
- Wire stripper
- Crimping tool
- Electrical or combination pliers
- Electrical side cutters
- External Circlip pliers
- Cross head screw driver set (variable sizes)
- Flat screwdriver set (variable sizes)
- Terminal screwdriver
- Electric Combi drill
- Lube Grease
- Dust sheet/ Floor protector
- Vacuum Cleaner
- Cable puller
- Scriber
- Finger File

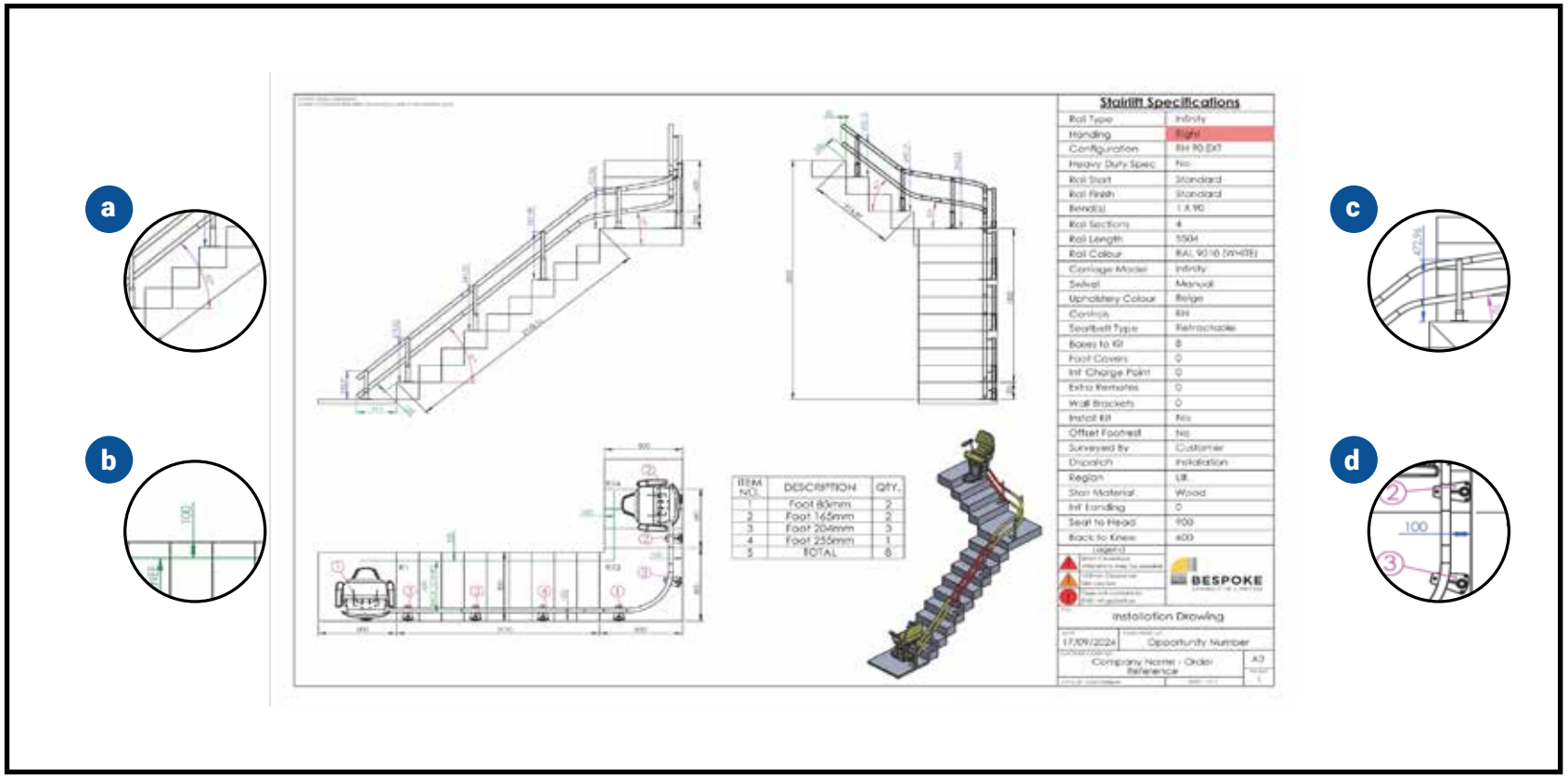
1.4 The Installation Drawing



1 - 3 Staircase elevations, staircase dimensions, leg heights and positions

4 Bases required

5 Order details



1 - 3 Staircase elevations, staircase dimensions, leg heights and positions

4 Bases required

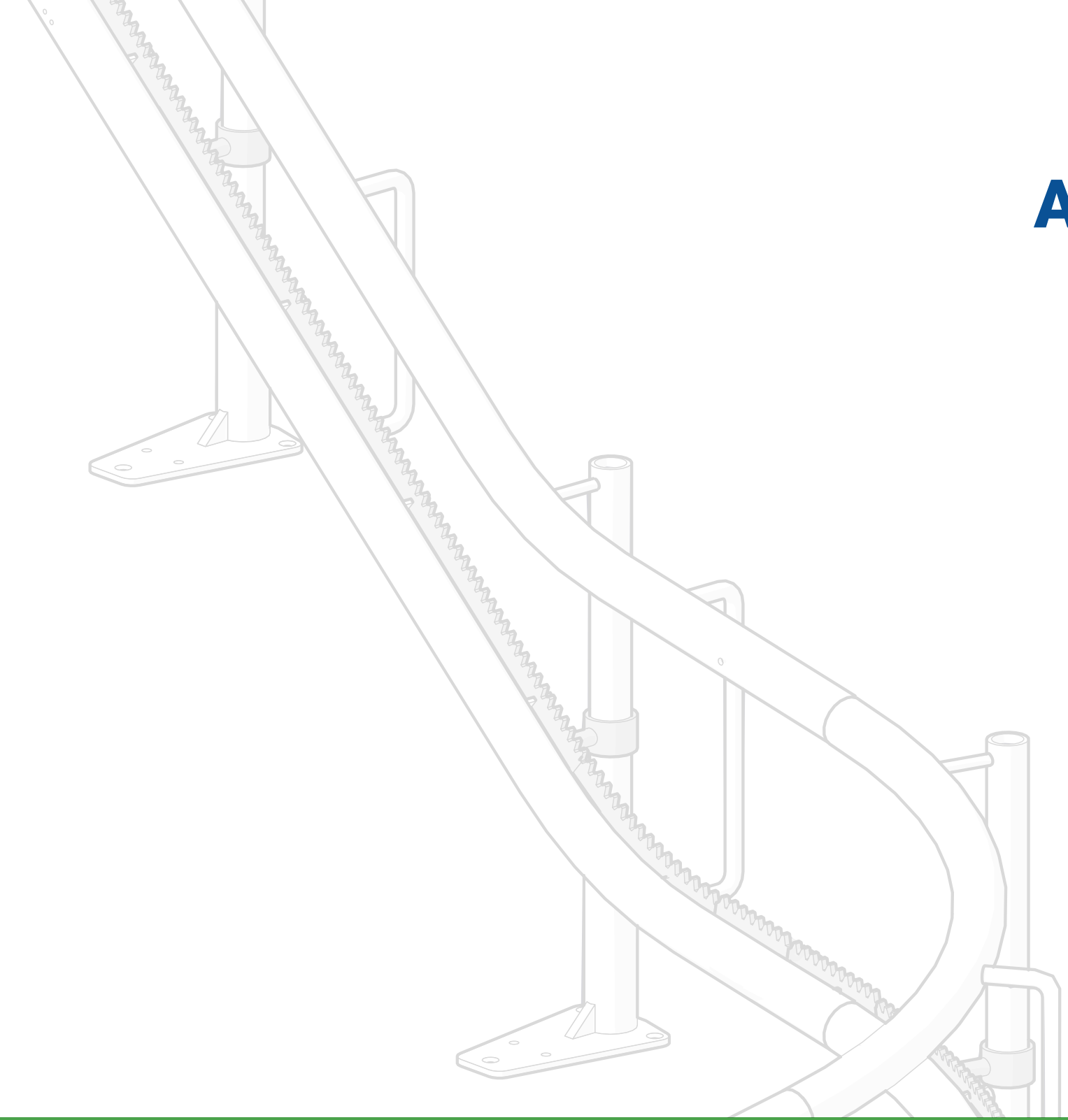
5 Order details

a Rail Angle

b Knee Clearance

c Total Leg Height

d Distance From Walls



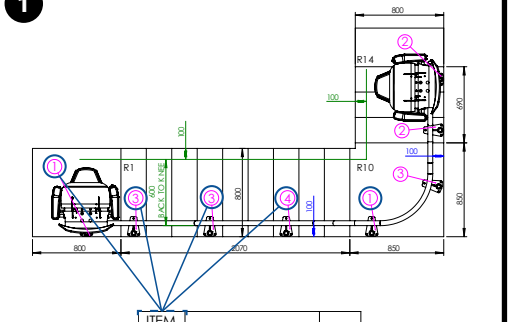
.02
Assembling the Rail

Tools Needed:

- Grease Gun
- Hammer
- Hex Key
- Tape Measure
- Level
- Drill
- Cable
- Digital Angle Finder
- Protective Eye Wear
- Gloves

2.1 Positioning the Bases

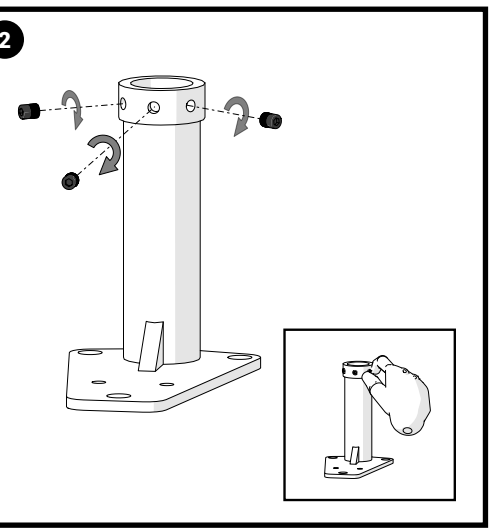
1



ITEM NO.	DESCRIPTION	QTY.
1	Foot 85mm	2
2	Foot 165mm	2
3	Foot 204mm	3
4	Foot 255mm	1
5	TOTAL	8

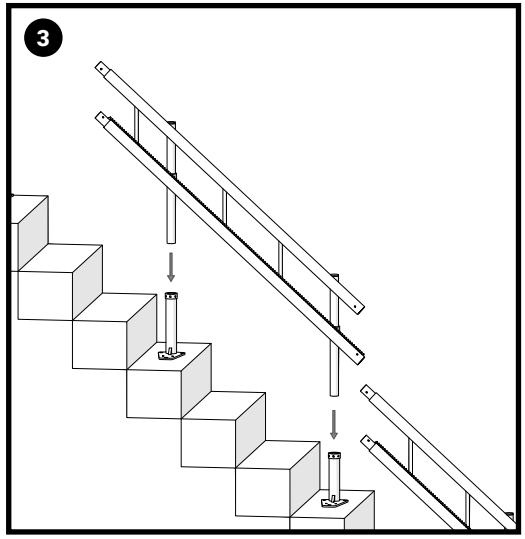
The number on the plan view of the installation drawing relates to the item number on the leg table. Item numbers are different sized bases.

2

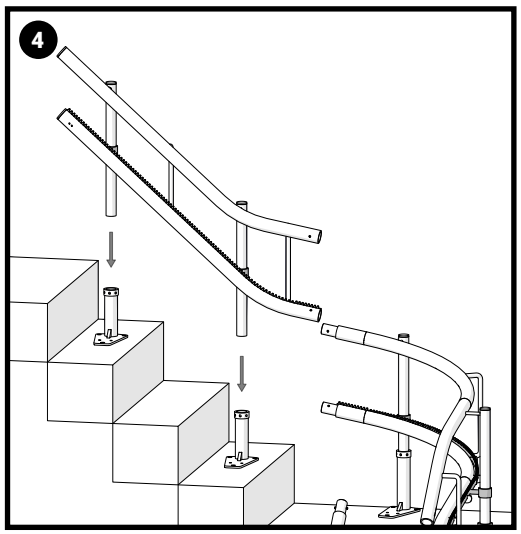


Before placing on the stairs, insert 3x M6 grub screws into each base.

3



4



Do the same for the next section.

Do not join the rails together at this point.

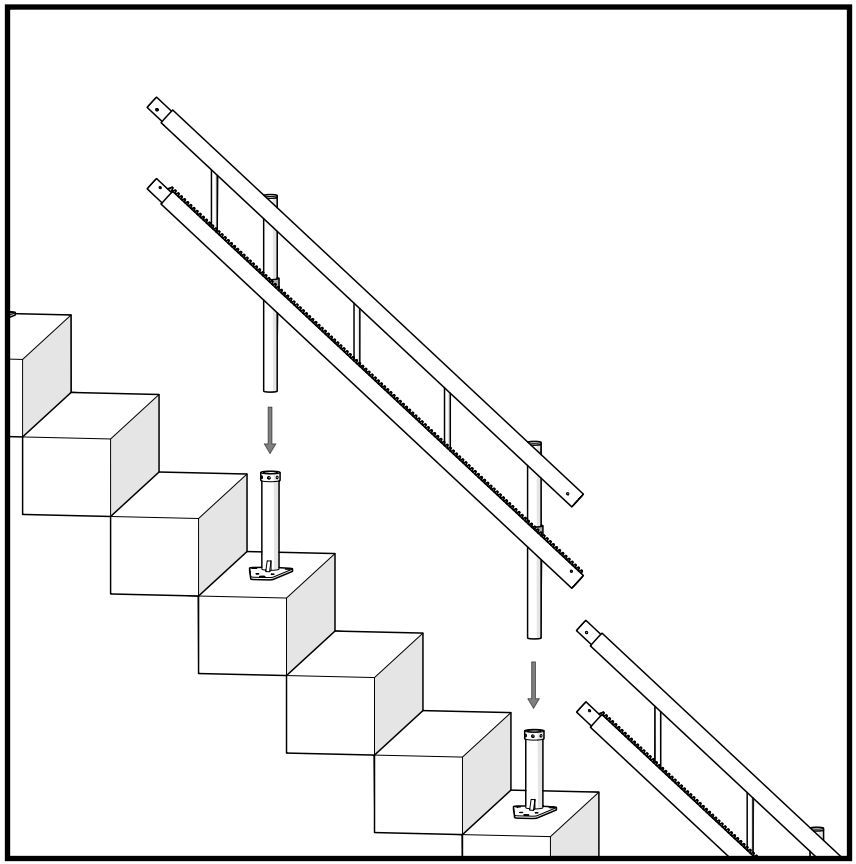
Continue to do the same for the remaining sections until all the sections are in the correct bases and in their correct position on the stairs.

Need Help?

How to Measure Stairs Using an iPhone

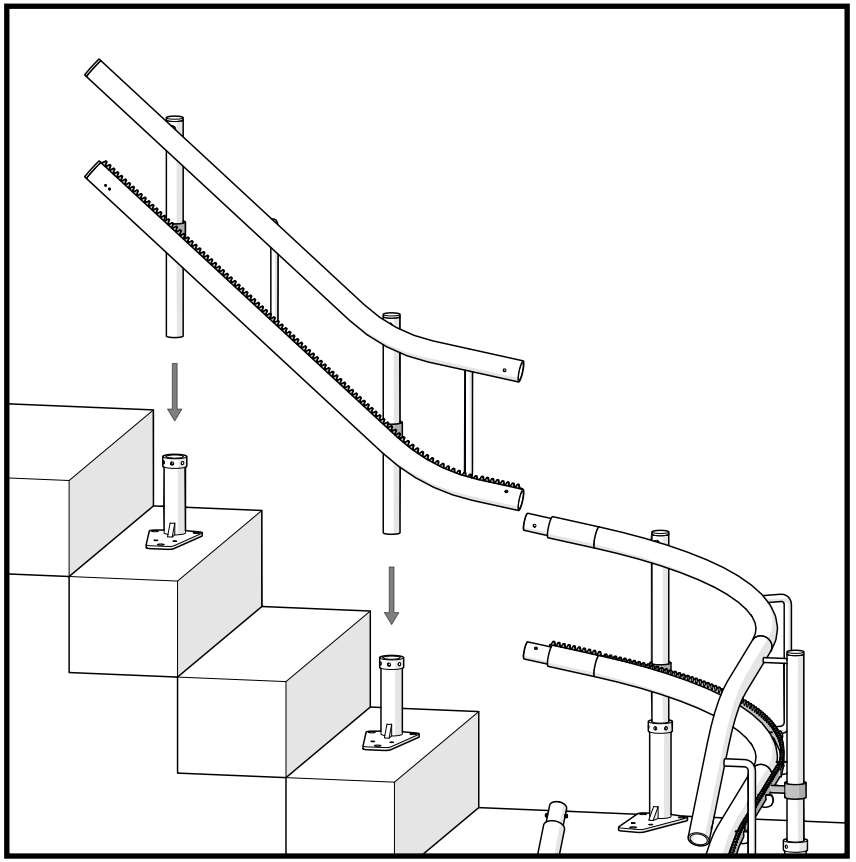
Scan to watch!

2.2 Rail Positioning



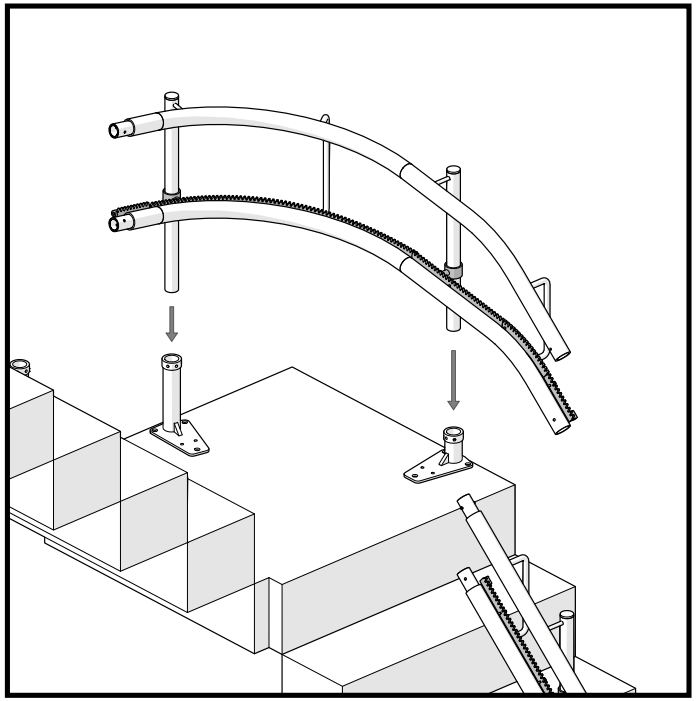
Do the same for the next section.

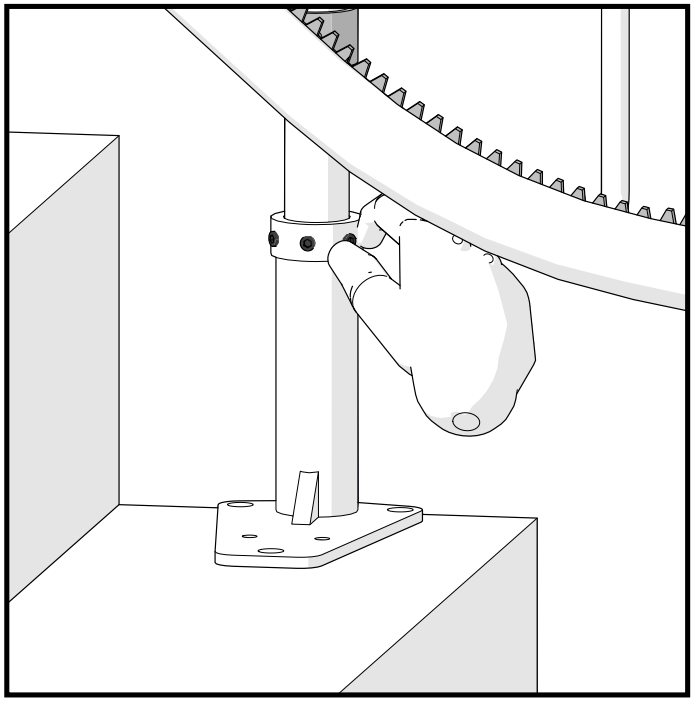
Do not join the rails together at this point.



Continue to do the same for the remaining sections until all the sections are in the correct bases and in their correct position on the stairs.

2.3 Positioning the Rails into Bases





Place the stanchion into the correct base. Insert the 3x M6 Grub screws into the base.

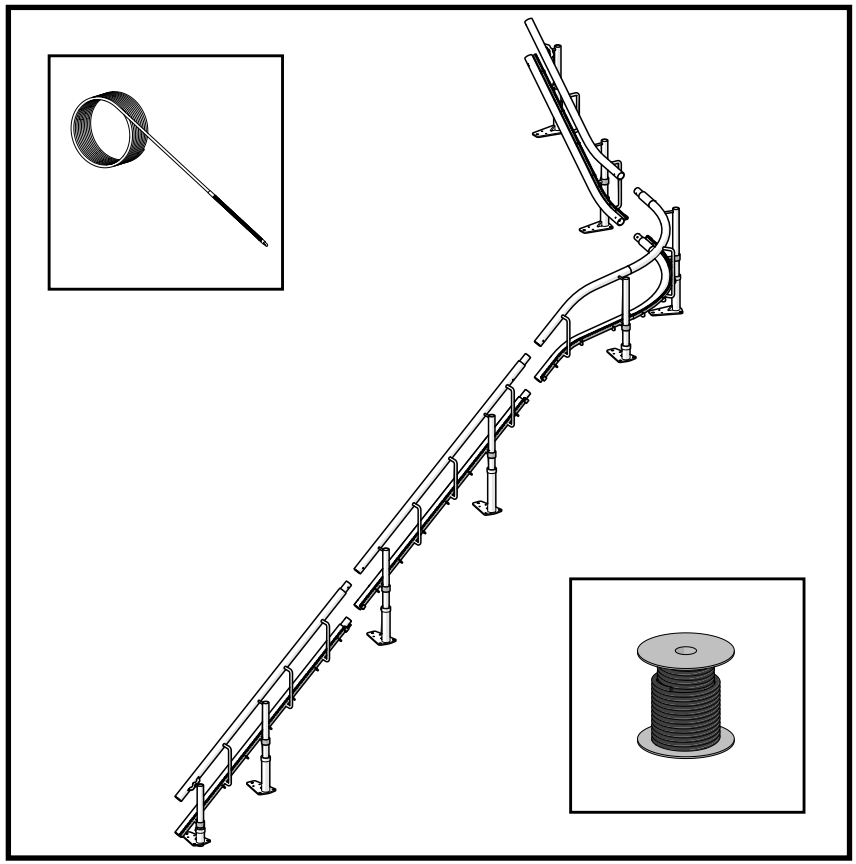
The grubscrews need to be lightly tightened to support the rail. These will need to be adjusted before fully tightening.

Need Help?

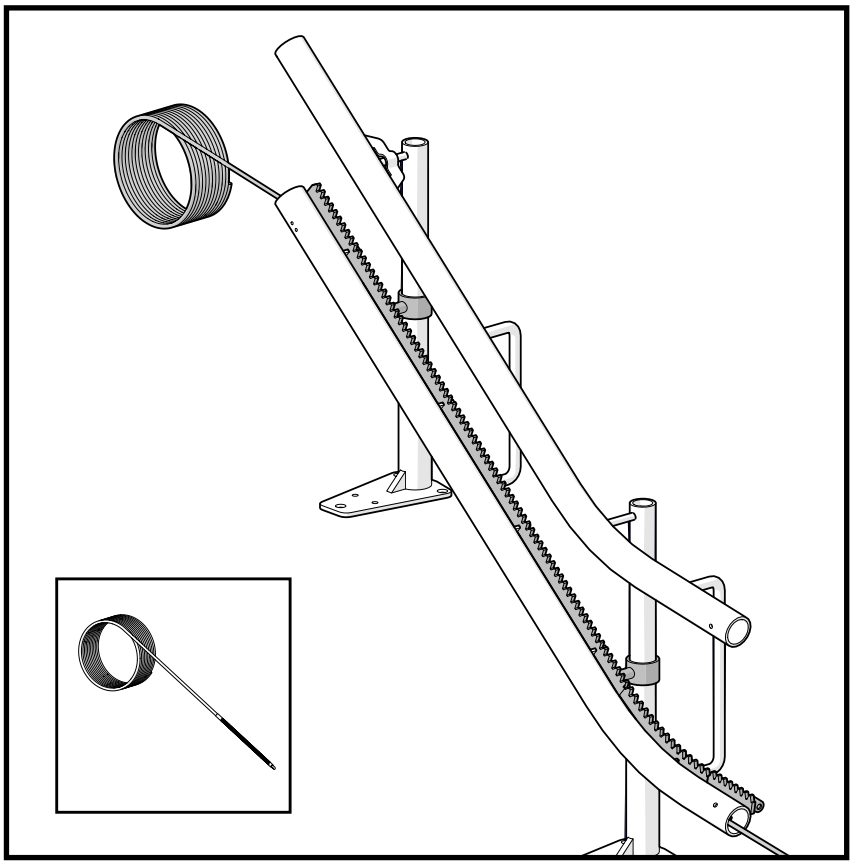
Infinity Stair Lift Installation

Scan to watch!

2.4 Inserting the Wiring



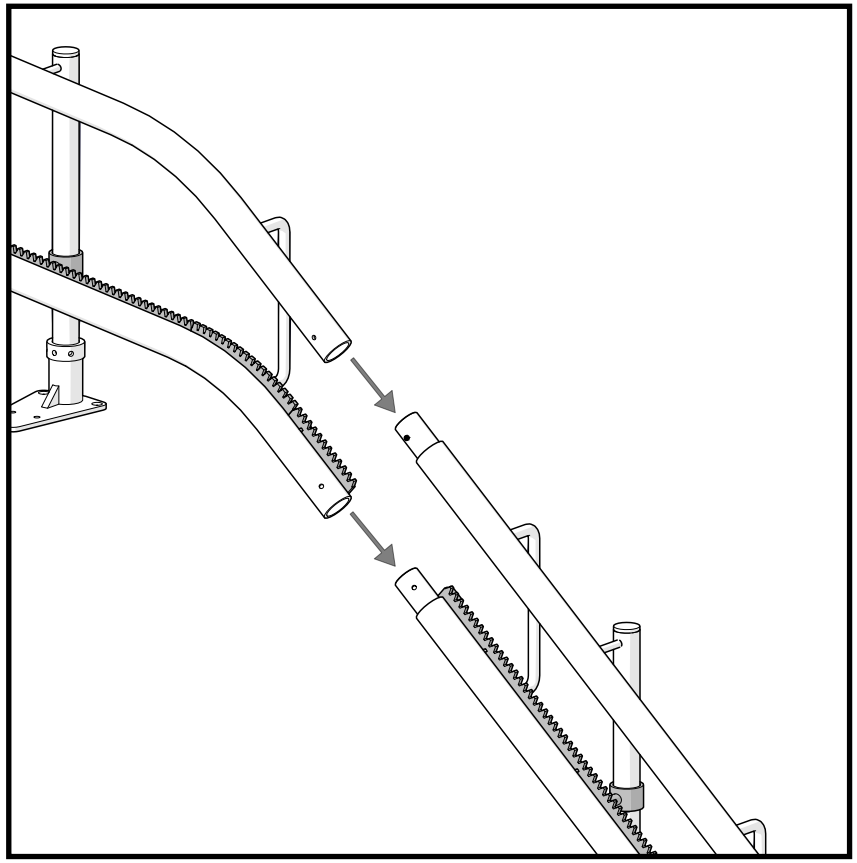
Start with positioning the cable supplied with your curved stair lift near the bottom rail section of the stair lift.



Feed your cable puller into the bottom tube of the top section of rail and feed down through all the sections of the rail until the bottom is reached.

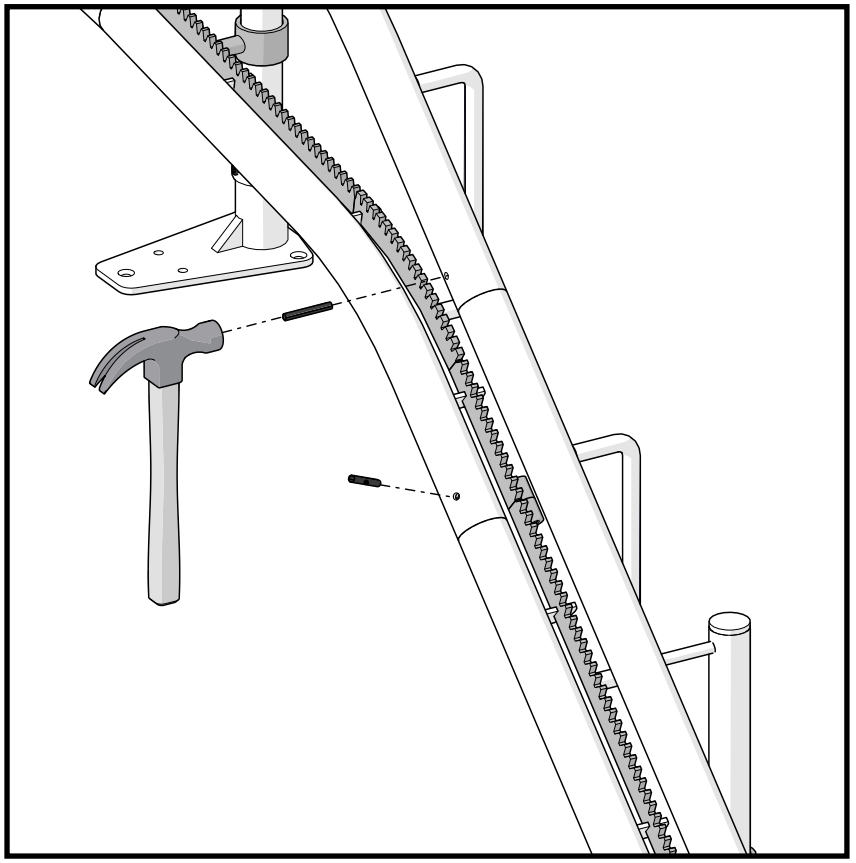
(For longer rails this may be done in sections from the top down.)

2.5 Assembling the Rail



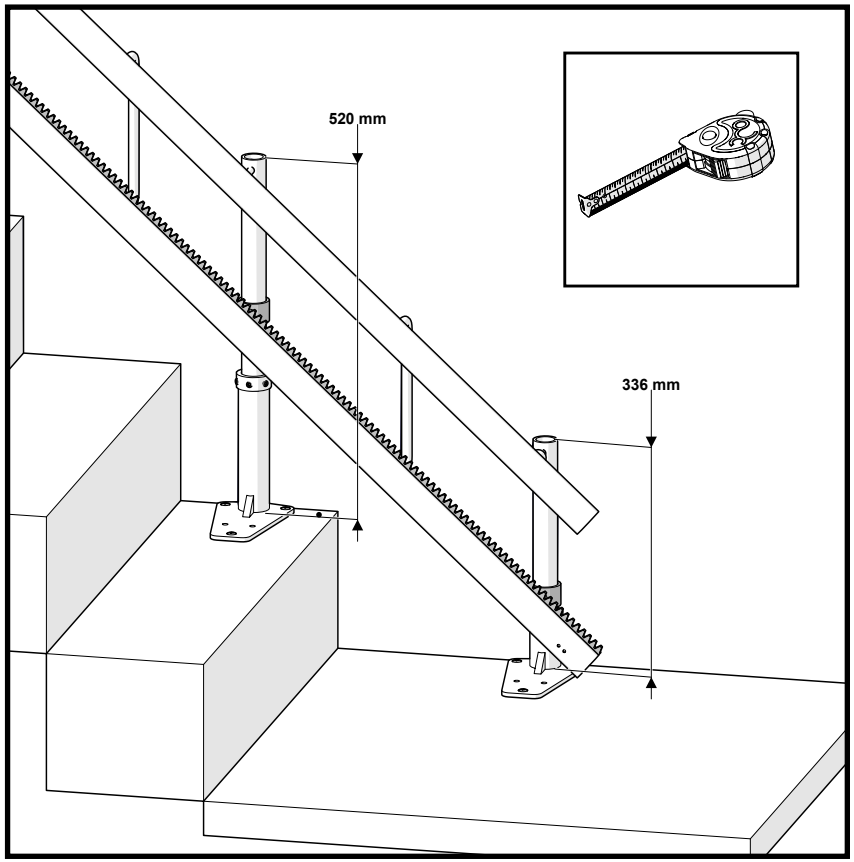
Apply grease to male part of joint.

Assemble rail joints together working from bottom to top of stairs, working with top tubes first.

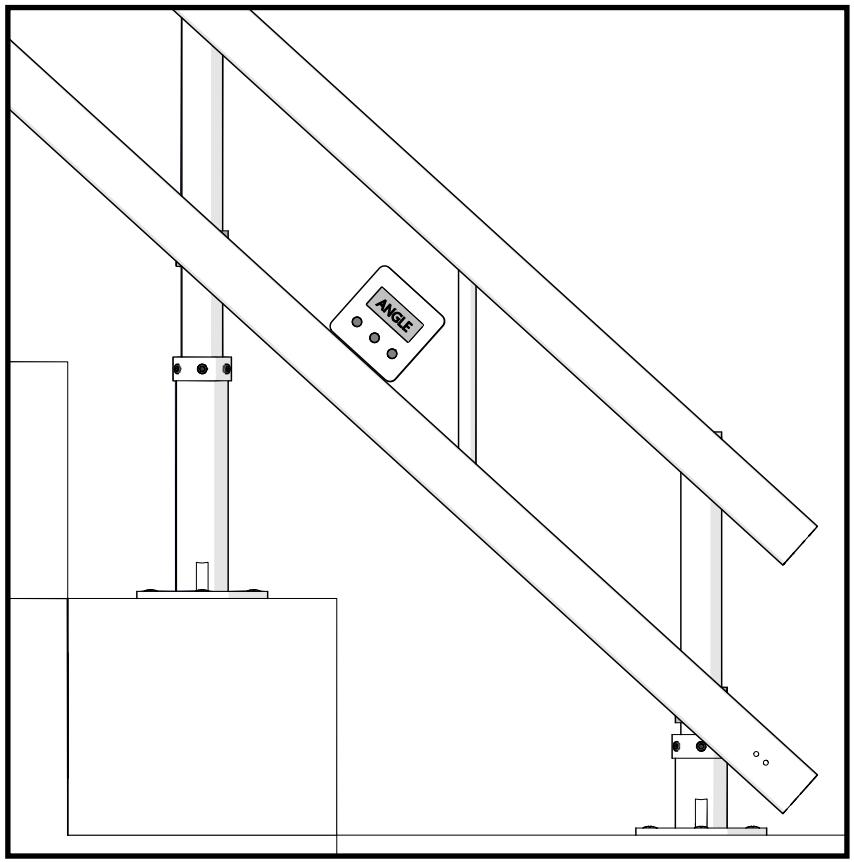


Pins should be flush with stair side of rail. Take care not to damage cable when inserting pins by looking through the hole to see if the cable is not in the way.

2.6 Heights and Angles

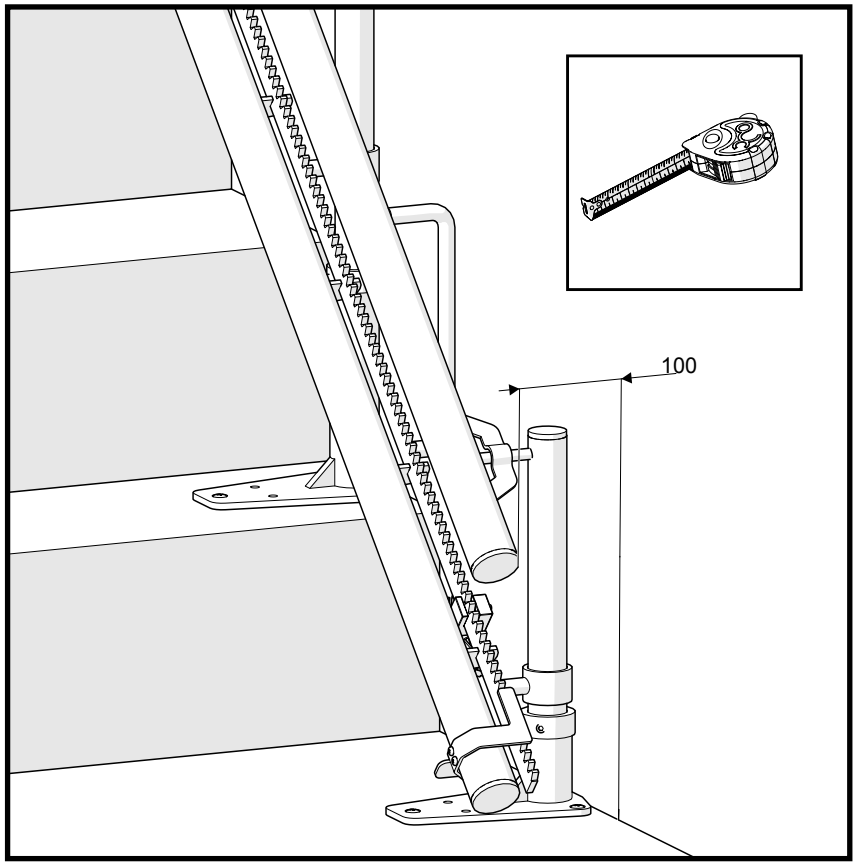


Now the rail is assembled check the heights of the stanchions and bases. These measurements are a guide, due to uneven stairs the numbers may not be exact.

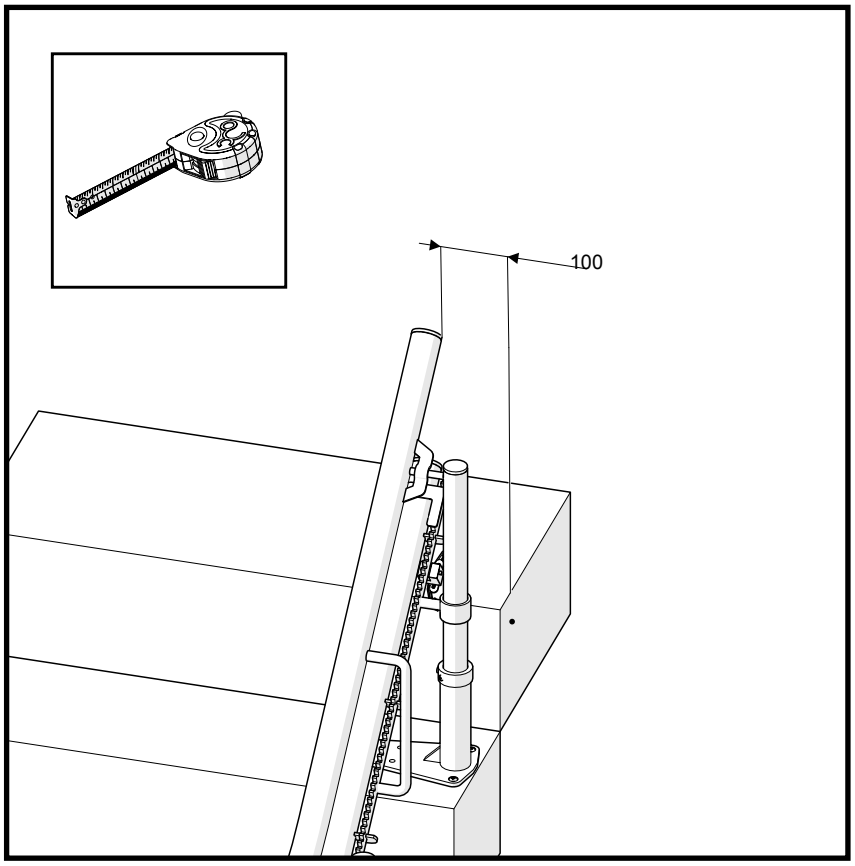


Check the angle of the stairlift rail using a digital angle finder. The angle of the rail should be used as a guide and closely correspond with the installation drawing.

2.7 Measurements to Walls



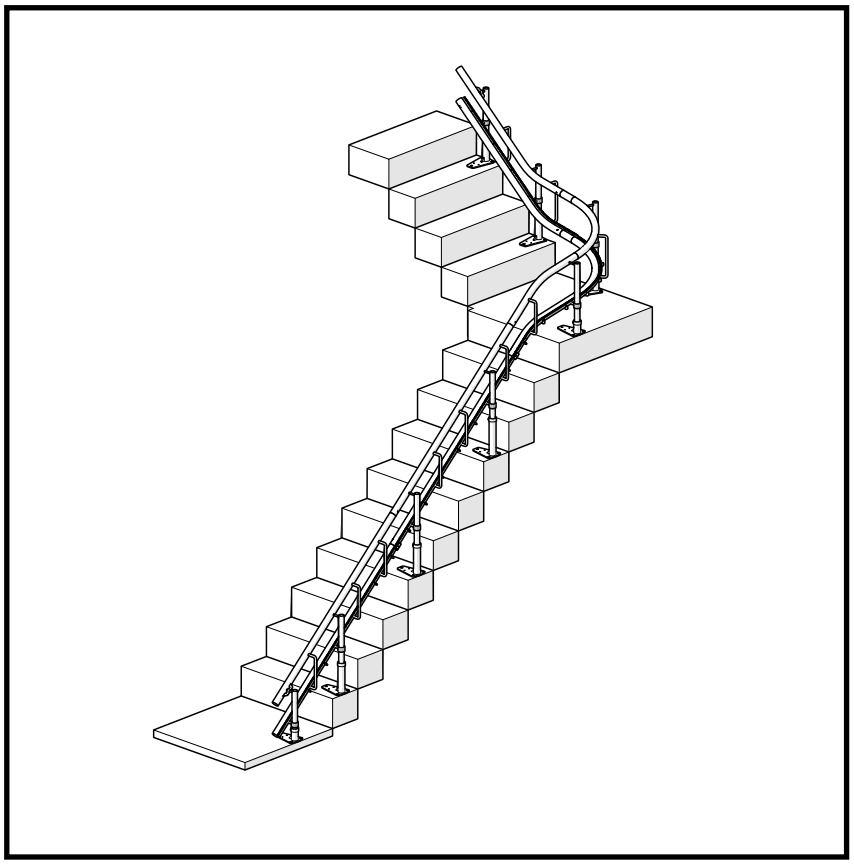
Check the clearance measurement of the rail at the bottom against the wall or closest obstruction. This should be no less than 100mm.



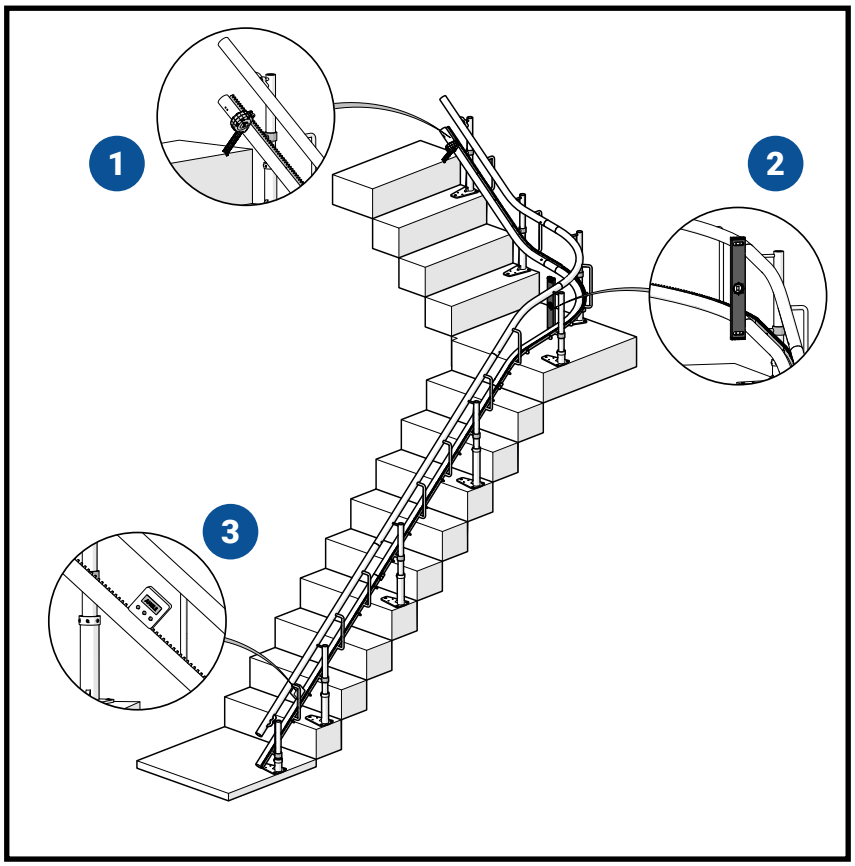
Work your way up the rail and position the straight sections the same 100mm from any wall or obstruction.

Finally position the rail 100mm from any wall or obstruction at the top stanchion.

2.8 Check Rail Dimensions

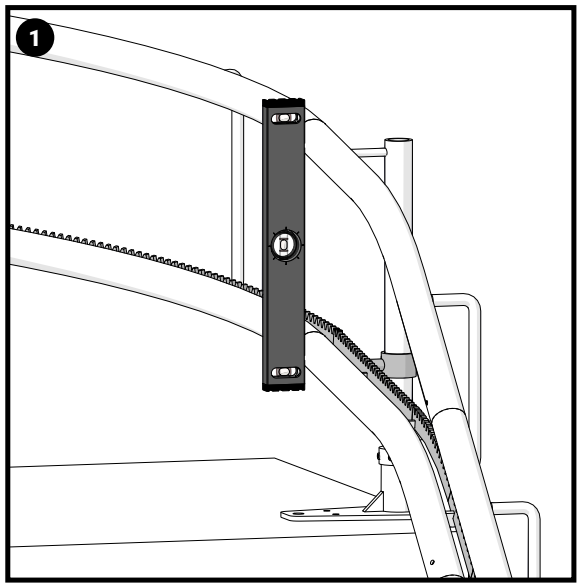


The rail should now be in an approximate position, before the rail is fixed to the stairs the clearances and angles must be checked to ensure the carriage runs correctly.

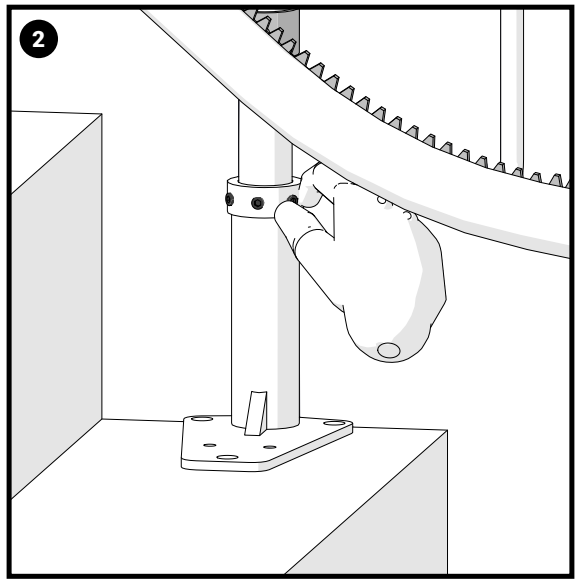


1. The rail should have a minimum clearance from the top nose of 100mm
2. The rail should be level
3. The angles of the rail should correspond closely to the install drawing

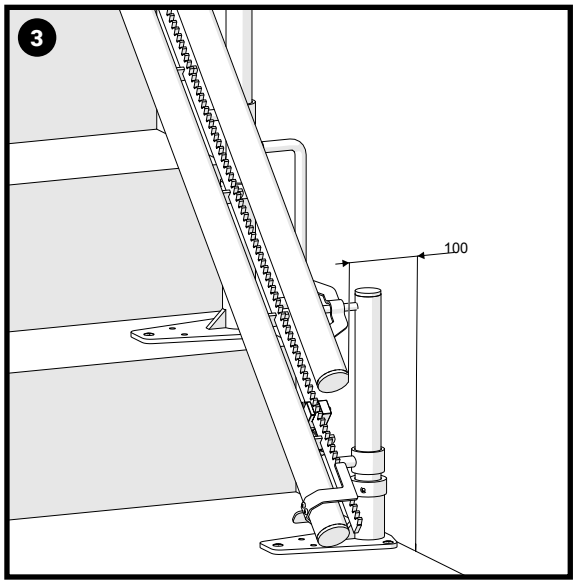
2.9 Adjusting the Rail



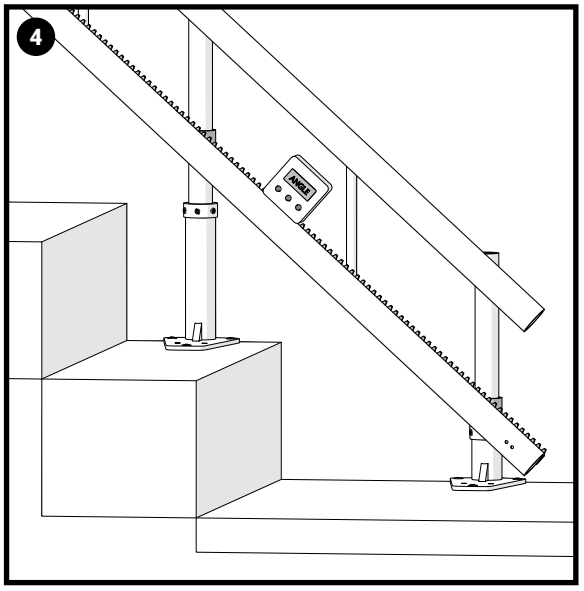
If the rail is out of level is can be adjusted by raising or lowering the base opposite to correct.



These should be hand tight as there may be further movement once the final fixing is completed.

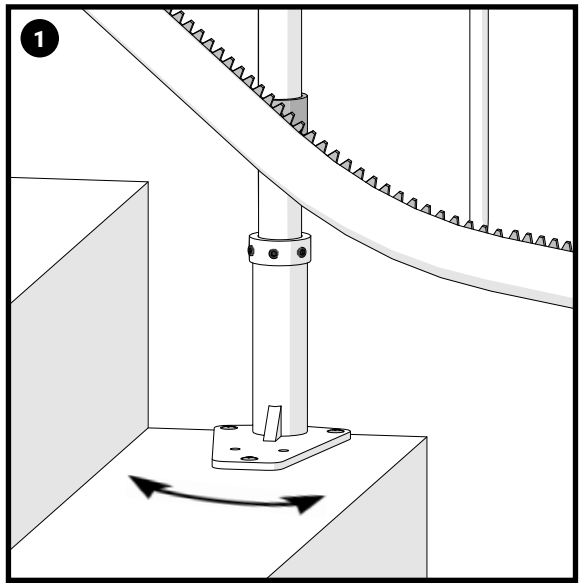


Once the rail is level carry out final checks on the position of the rail as in section 2.6 - 2.8.



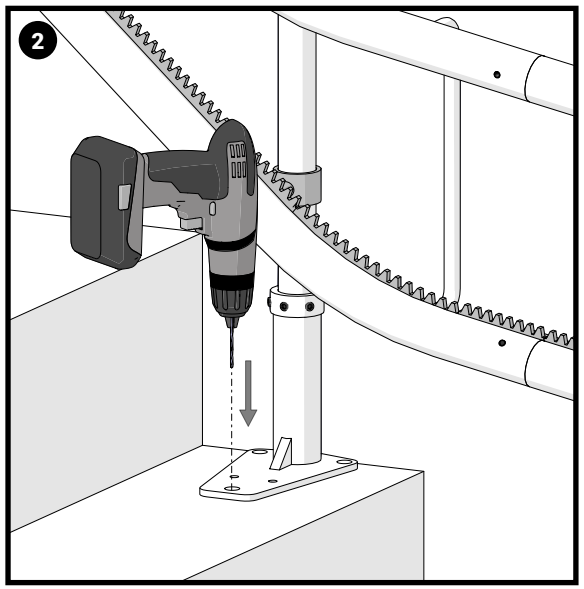
Check the angle corresponds closely with the install drawing, once complete we can fix the rail to the stairs.

2.10 Adjusting the Bases

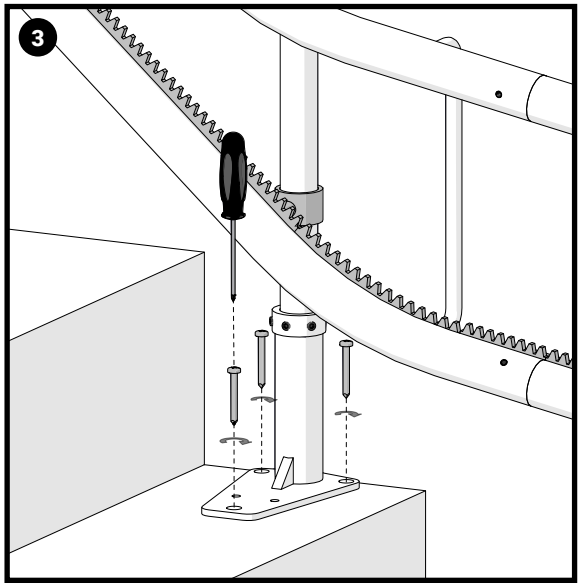


Once the final rail position checks are complete the rail can now be fixed in position.

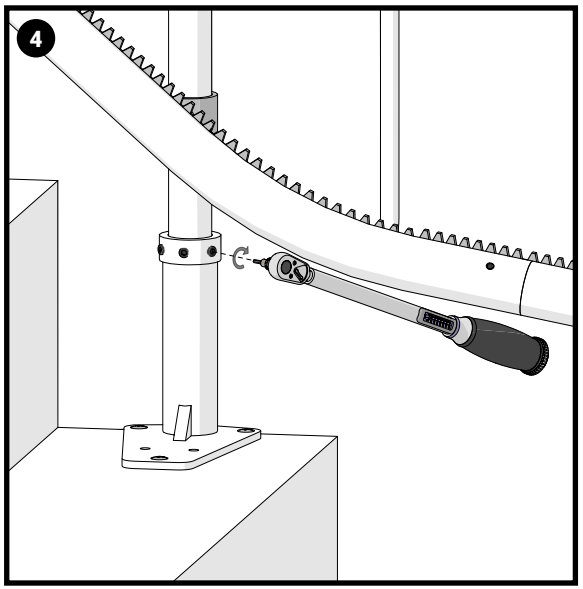
Straighten up the footplates on the step ready for fixing.



Start fixing at the bottom base.
If the stairs are made of a material other than wood drill each of the 3 base holes using a 5.5mm drill bit and insert red rawl plugs. Wood stairs require no drilling.



Fix the base to the stair tread using (3x) M10x50mm screws, ensuring they are fixed neatly.



Once the bases are fixed tighten the grub screws to 20Nm.

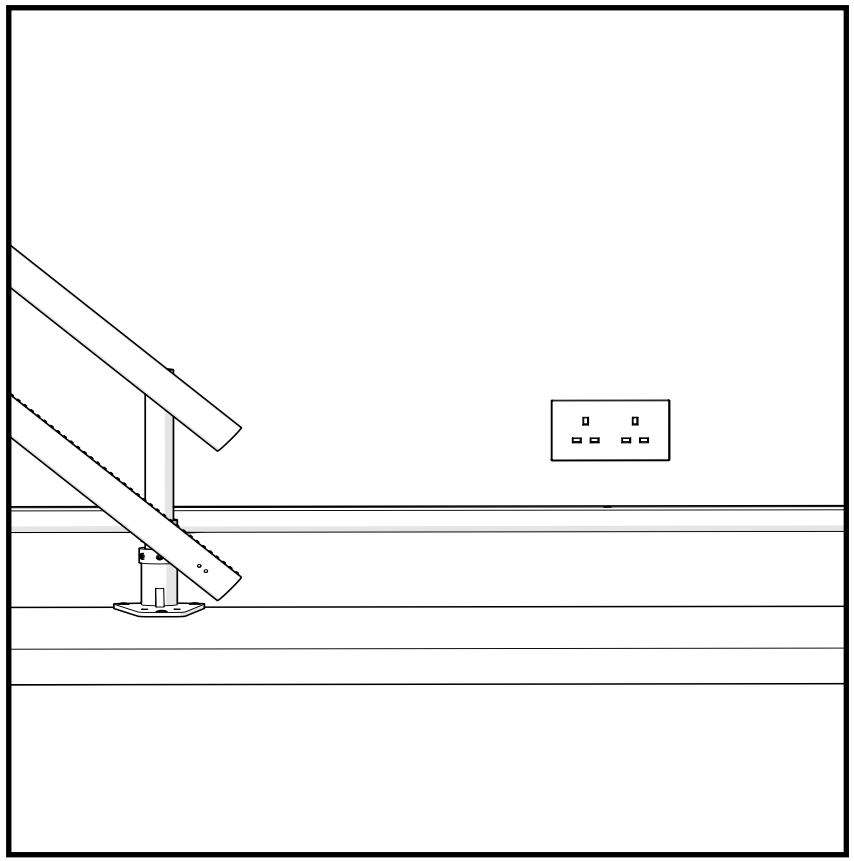
Repeat the process for each base moving up the rail, checking the rail position, untill all the bases are complete.

.03
Mounting the Charger

Tools Needed:

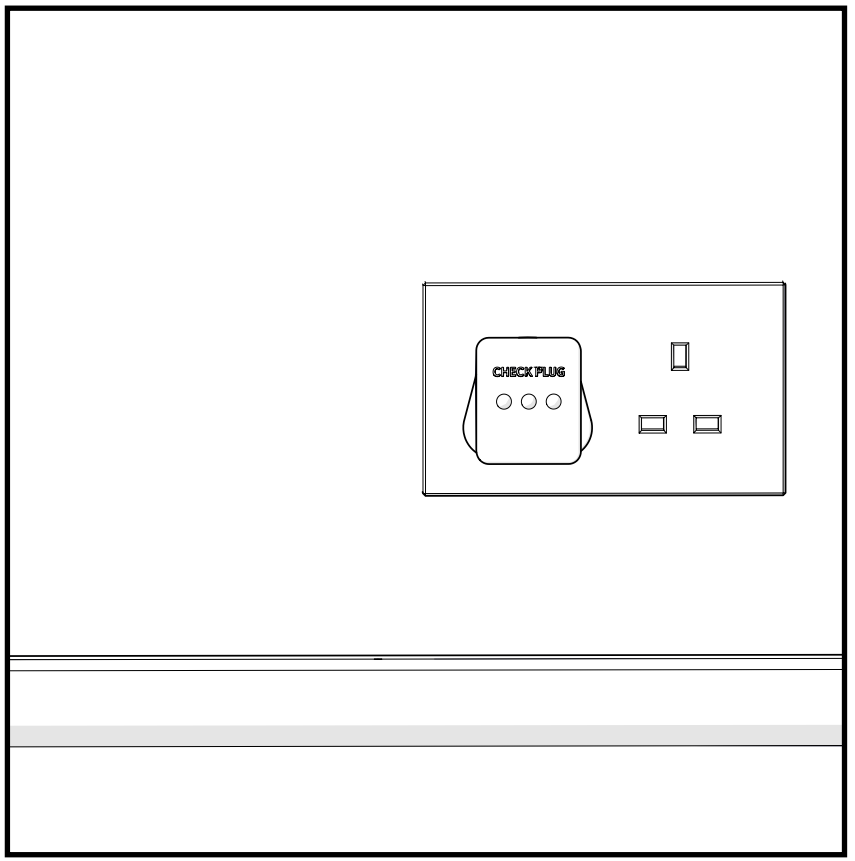
- Drill
- Level
- Tape Measure
- Protective Eye Wear
- Gloves

3.1 Charging Location and Power Test



Identify a suitable location for the charger. This needs to be at either the top or the bottom terminations of the rail.

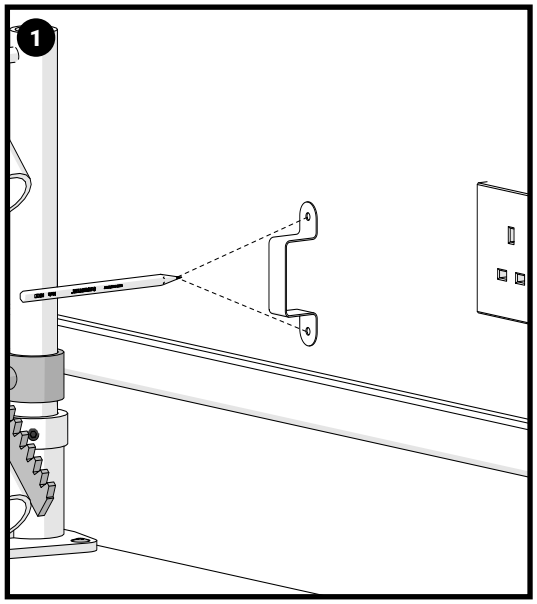
Cable must not be run under the carpet or accross walkways.



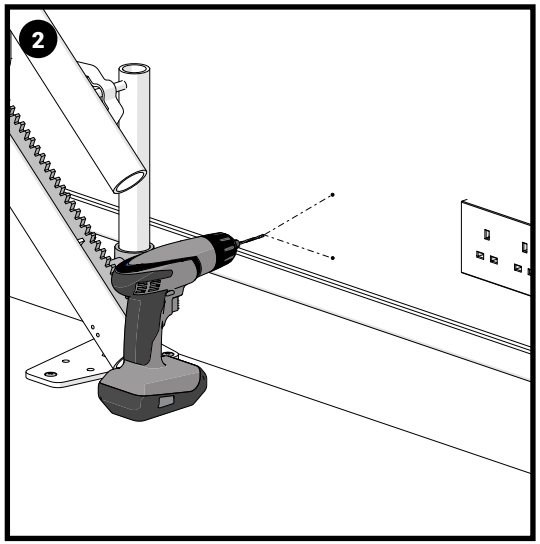
Using a mains socket tester to ensure the site wiring is safe and free from faults.

If not suitable please find an alternative power source.

3.2 Mounting the Charger

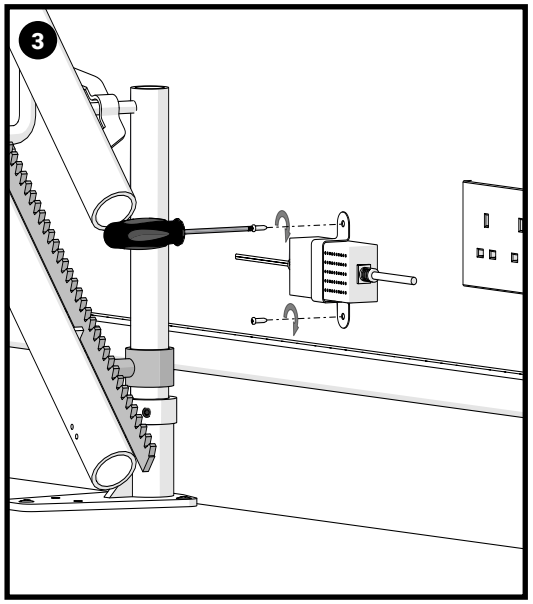


Once a suitable location is found, take the charger bracket and mark 2 holes with a pencil.



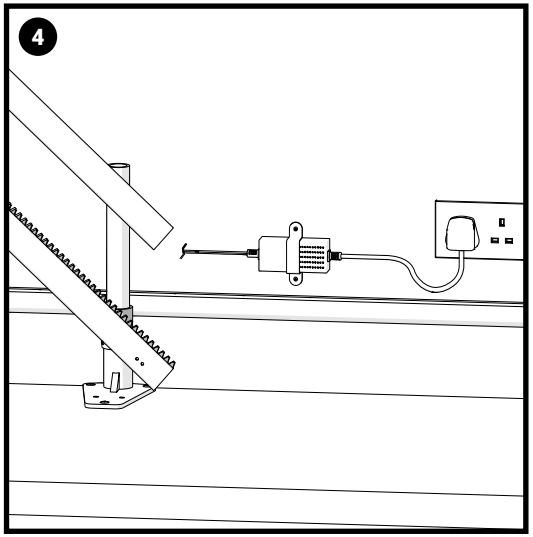
Using a 5.5mm drill bit, drill 2x holes for the wall plugs should they be required.

Please use correct fixing methods for the material the charger will be fixed to.



Once the plugs (if required) are inserted.

Attach the charger, using the charger bracket, to the wall.



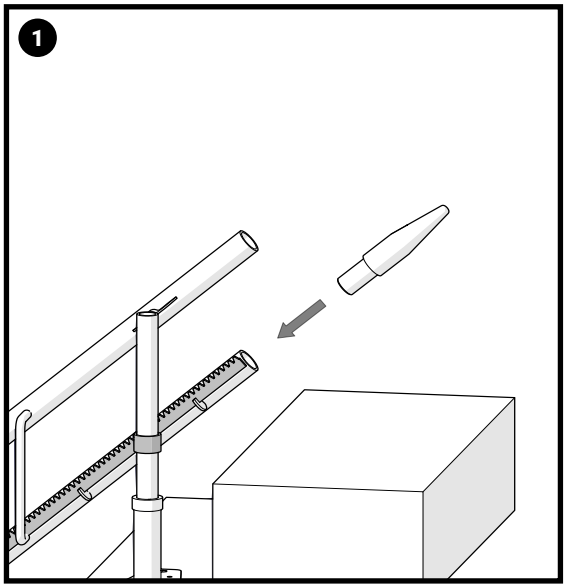
Once attached to the wall **DO NOT** switch the power on.

.04 Carriage Preperation

Tools Needed:

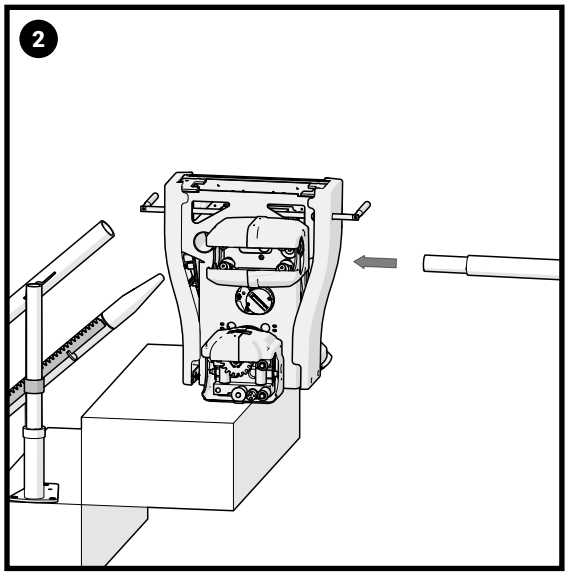
- Hex Key
- Screwdriver
- Protective Eye Wear
- Gloves

4.1 Loading the Carriage



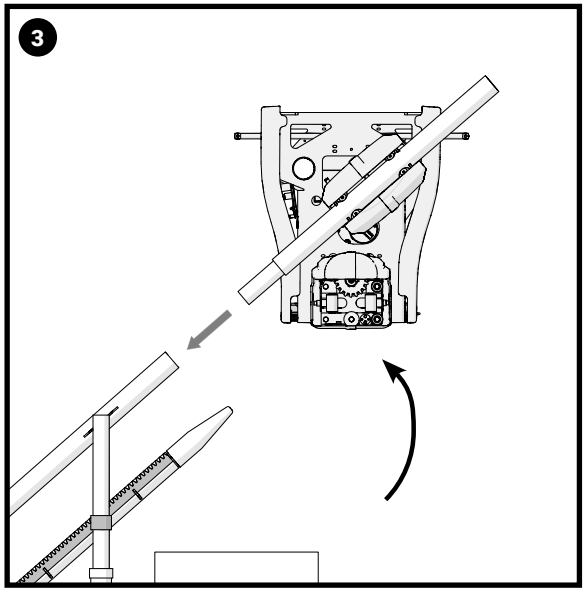
To begin loading, take the carriage to the top of the stairlift along with the loading cone and loading bar.

Insert the cone in the bottom tube, this helps load the carriage safely.



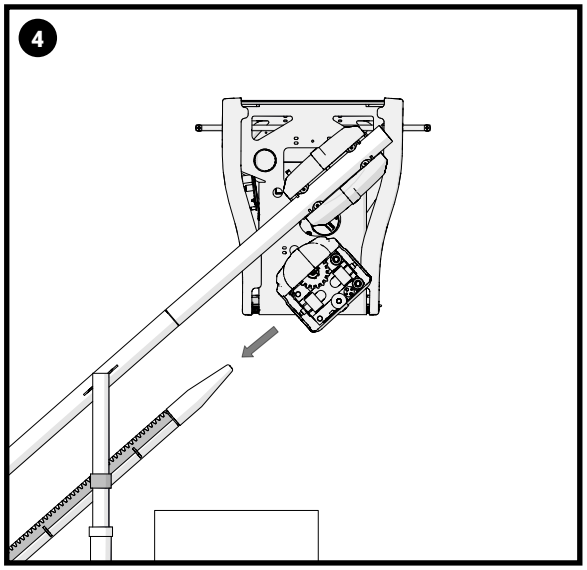
Place the loading bar in the top skate of the carriage.

This is to simplify loading the carriage and to avoid any damage.

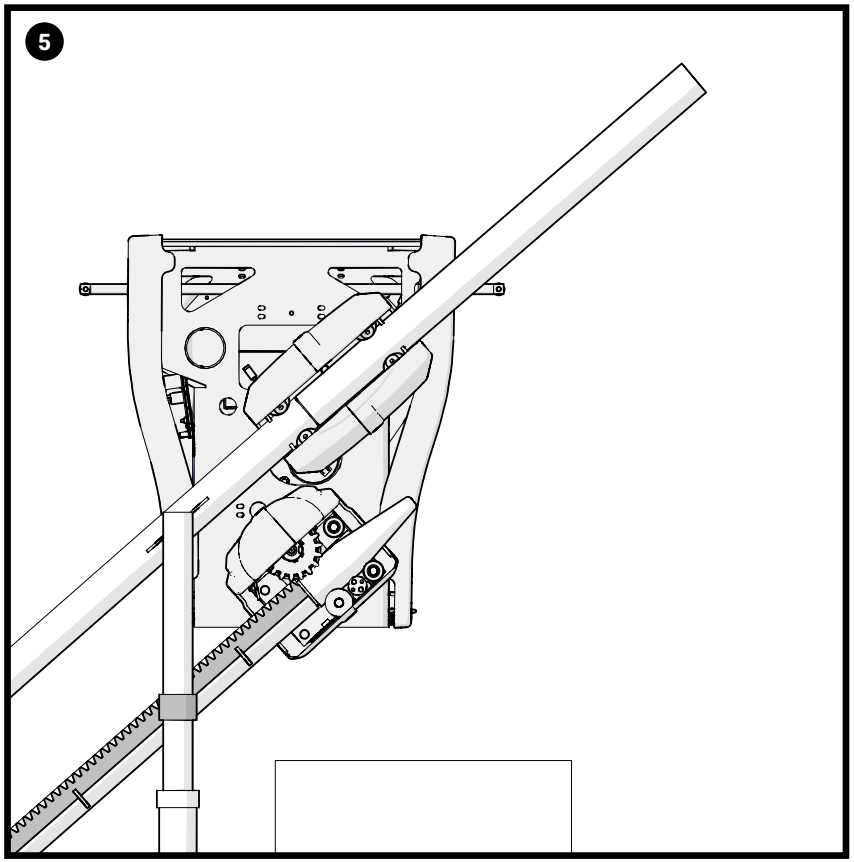


Support the carriage by the loading bar and insert the smaller end into the top tube of the rail. Be careful to avoid the carriage slipping down the loading bar.

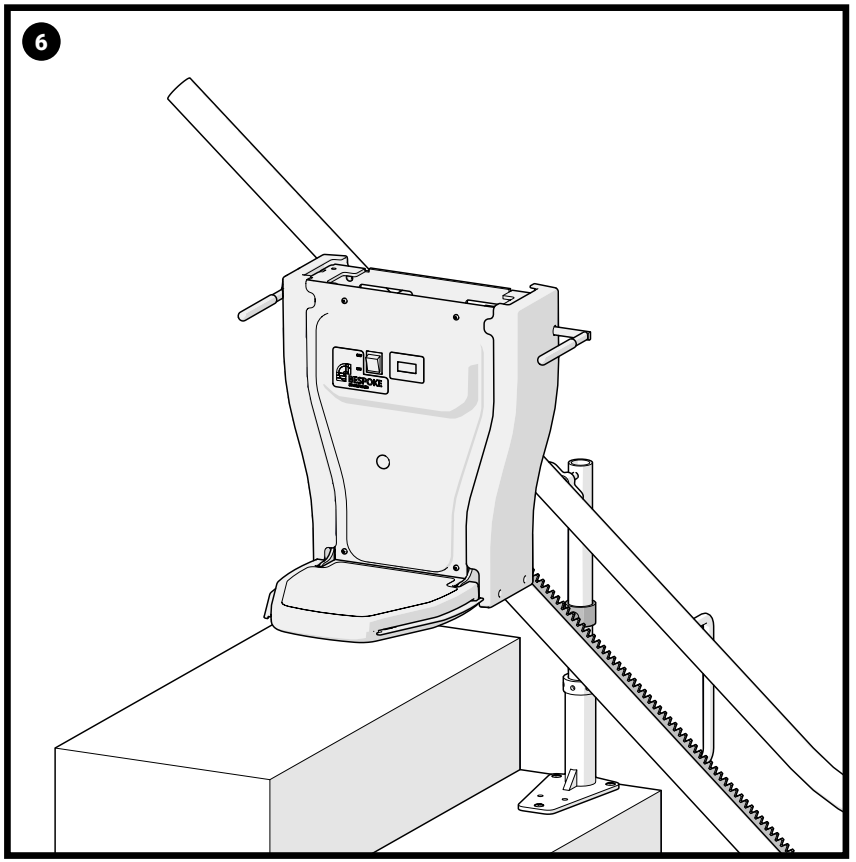
Pivot the loading bar and locate fully into the top tube.



With the loading bar inserted, gently guide the carriage and bottom skate onto the loading cone, ensuring correct alignment to avoid damage to the bottom skate.



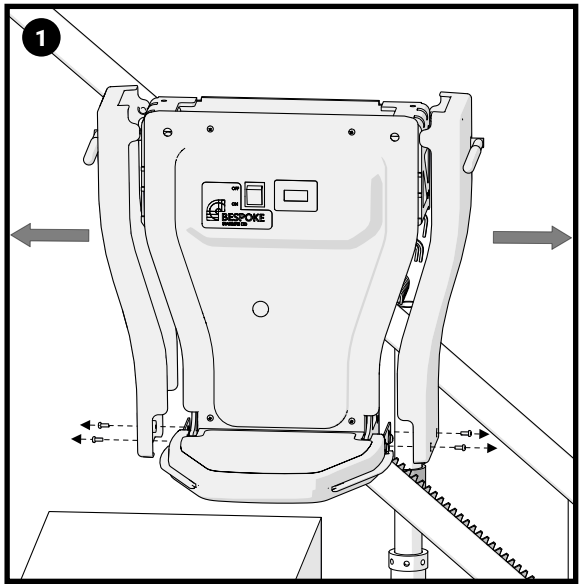
Gently lower the carriage to rest the pinion onto the rack. Keep the loading bar and cone in place.



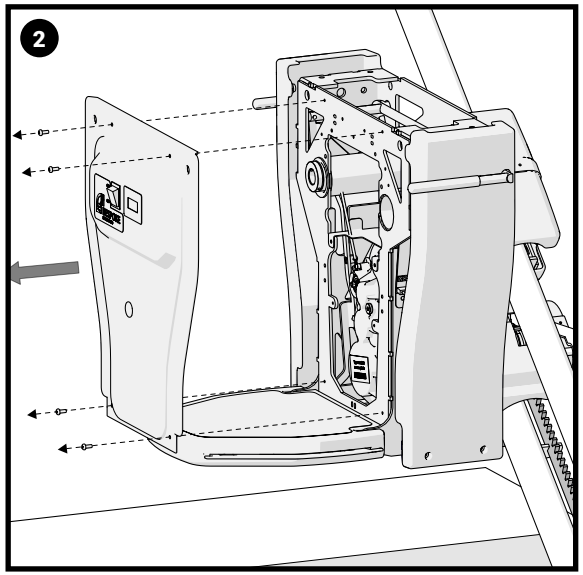
The carriage is now loaded onto the rail.

To move the carriage the batteries must be inserted.

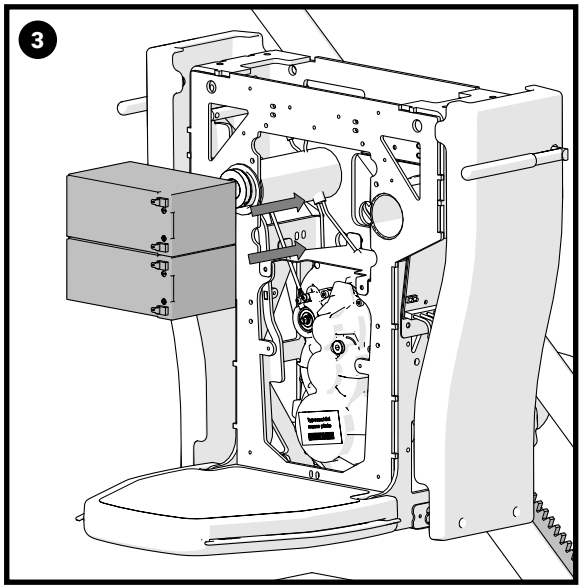
4.2 Inserting the Batteries



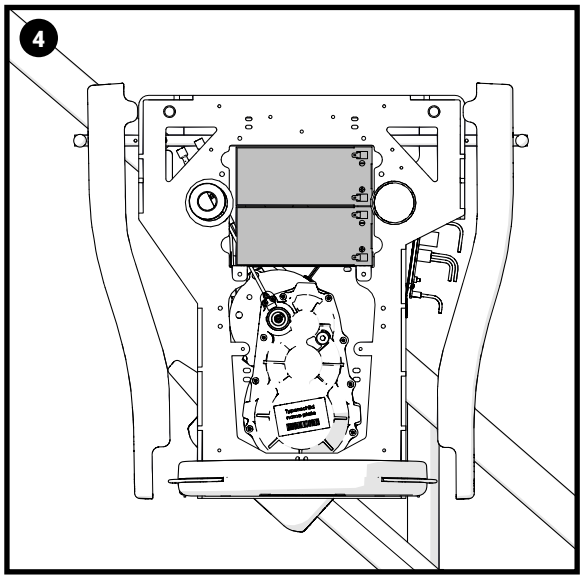
Carefully remove the screws from the side panels and remove. Store carefully to one side.



Carefully remove the screws from the front panel to enable the installation of the batteries.

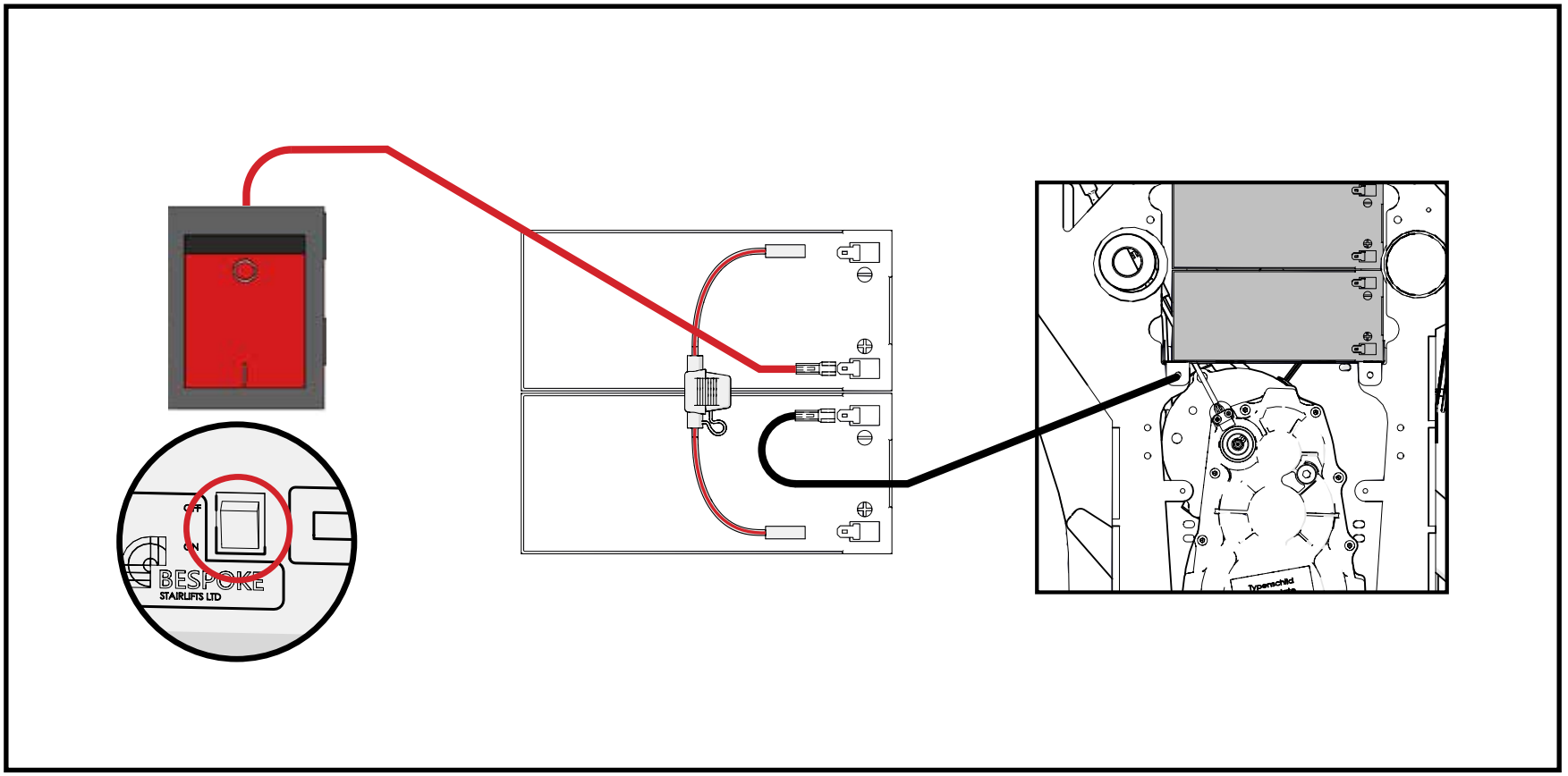


Carefully insert the batteries as shown into the battery tray, being careful not to damage any cables.



Once the batteries are in the correct position, they can now be connected to the carriage.

4.3 Connecting the Batteries

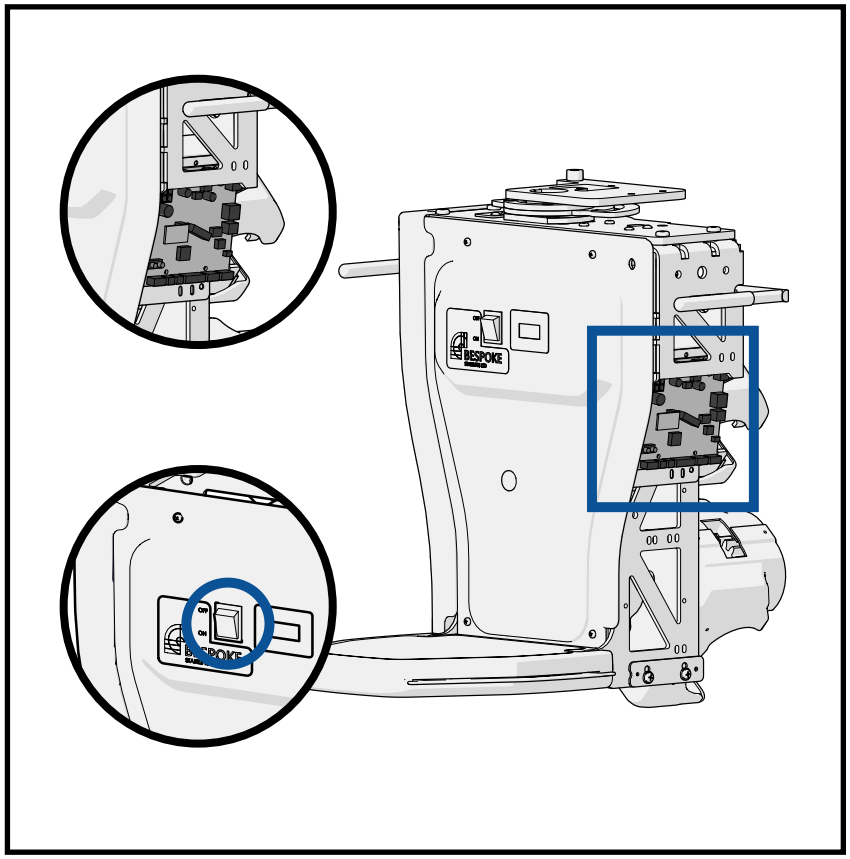


Connect the red cable from the main power switch to the '**+**' terminal on the top battery.

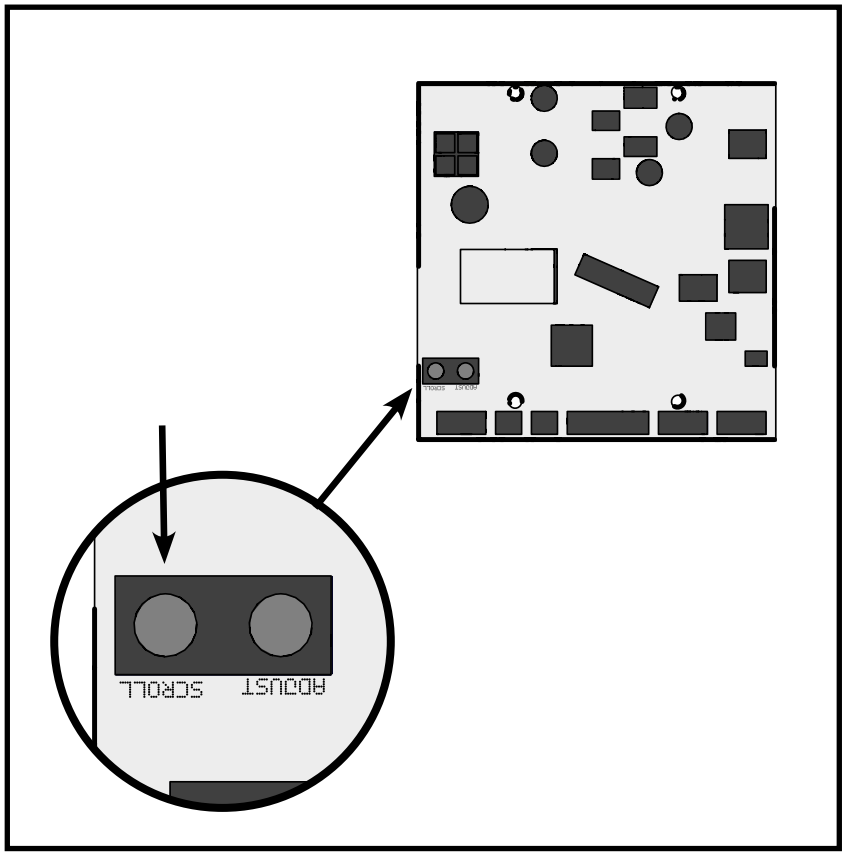
Connect the '**Earth**' cable from the chassis to '**-**' of the bottom battery.

Then connect the fused link to the remaining '**+**' and '**-**' terminals on the batteries.

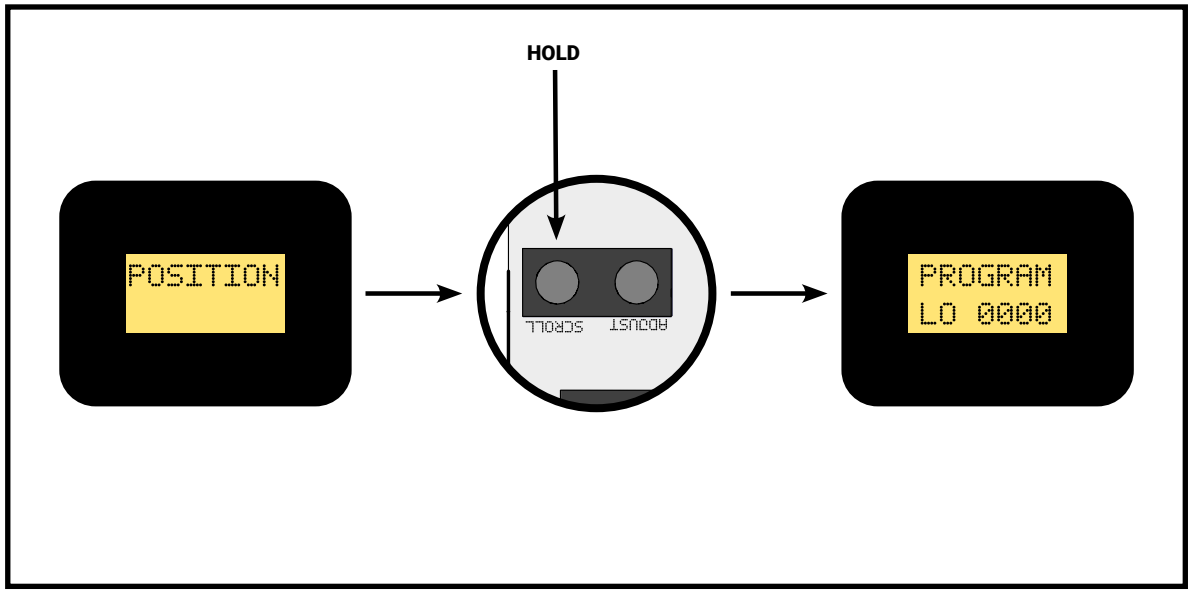
4.4 Moving the Carriage



Switch the carriage on and locate the main PCB board.

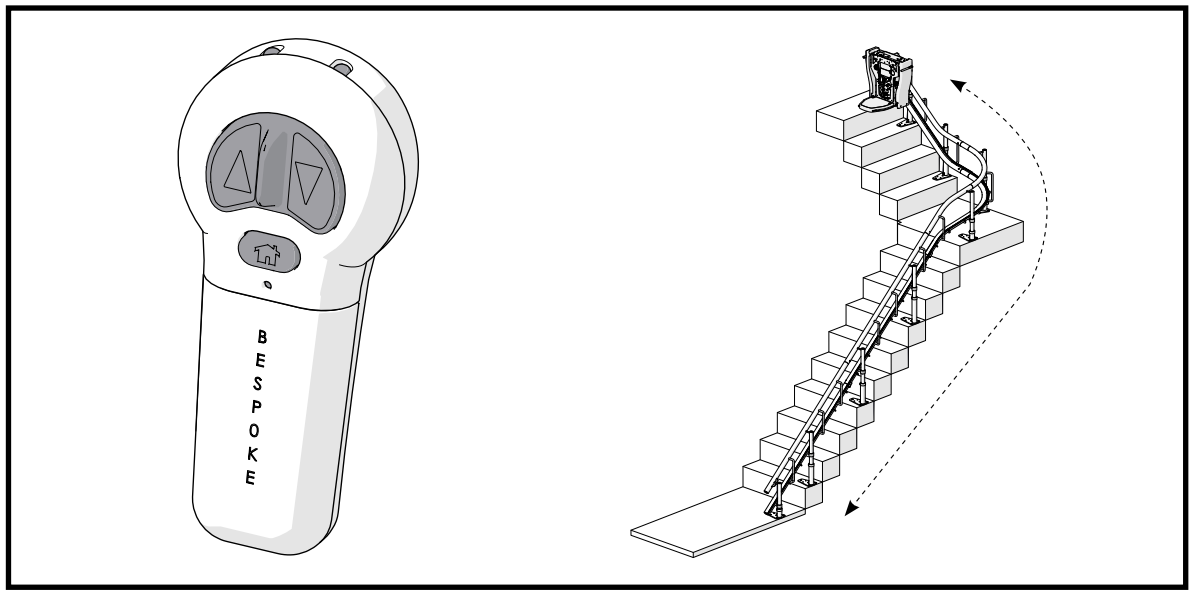


Press and hold the **'SCROLL'** button.



1. The display should read '**POSITION**'
2. Then press and hold the '**SCROLL**' button

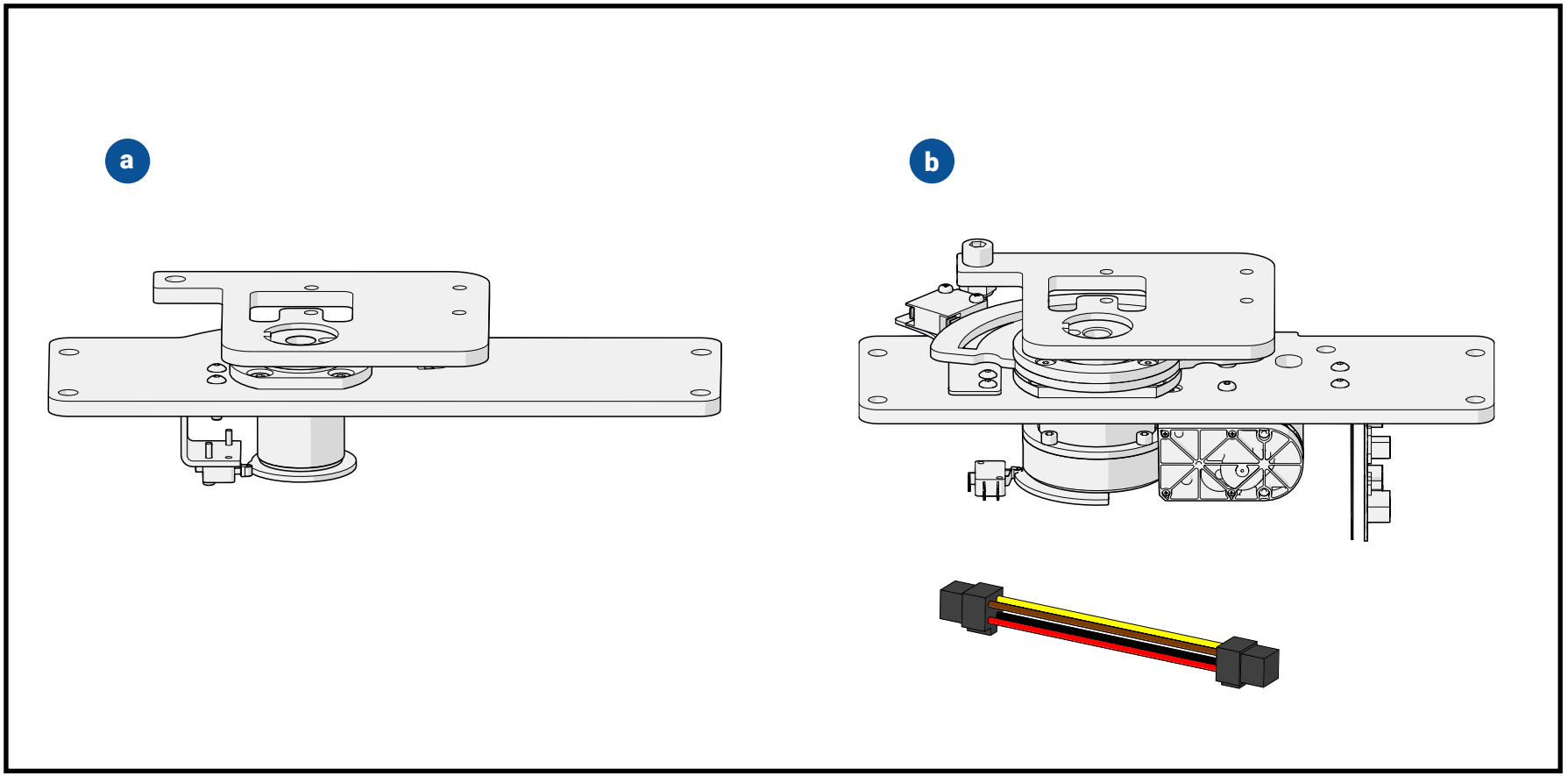
   The display should read '**PROGRAM LO 0000**' (the numbers will be different on each carriage)



The carriage can now be moved using the remote controls.

The remote controls are paired to the lift in the factory and you can now use them to move the carriage up and down the rail.

4.5 Assembling the Swivel

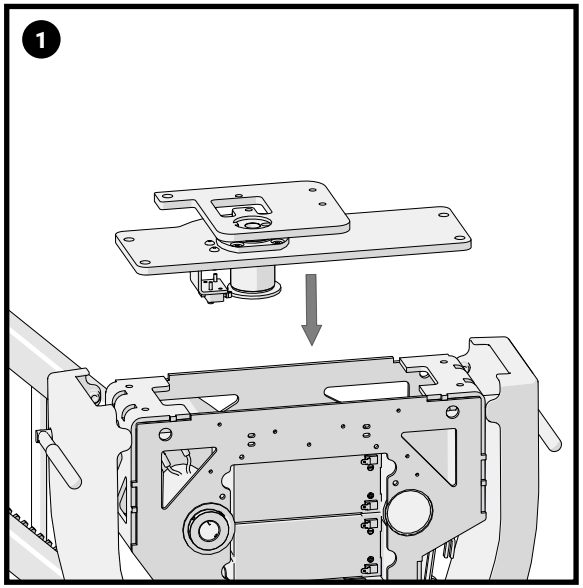


The next step is to mount the swivel. Select which swivel type and move onto the correct section for installation details.

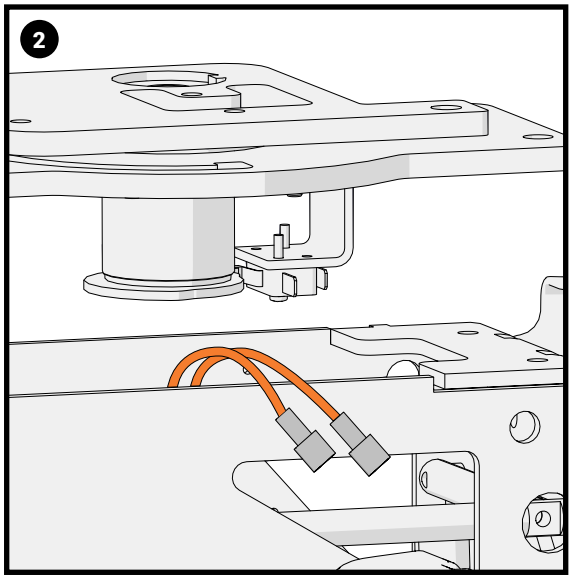
PAGE 34: Manual Swivel a

PAGE 36: Powered Swivel b

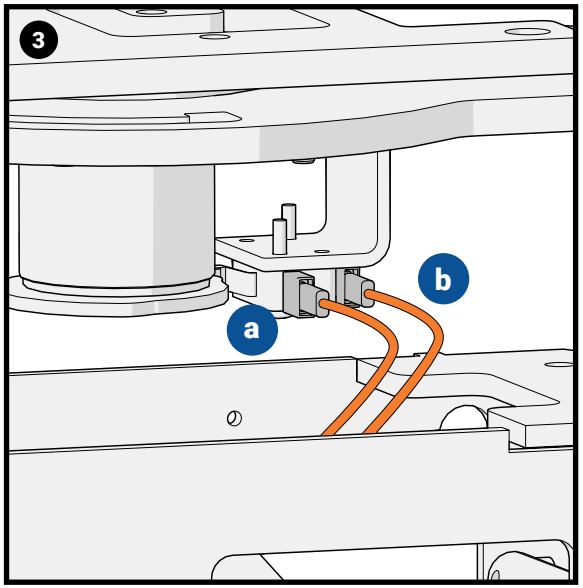
4.6 Assembling the Manual Swivel



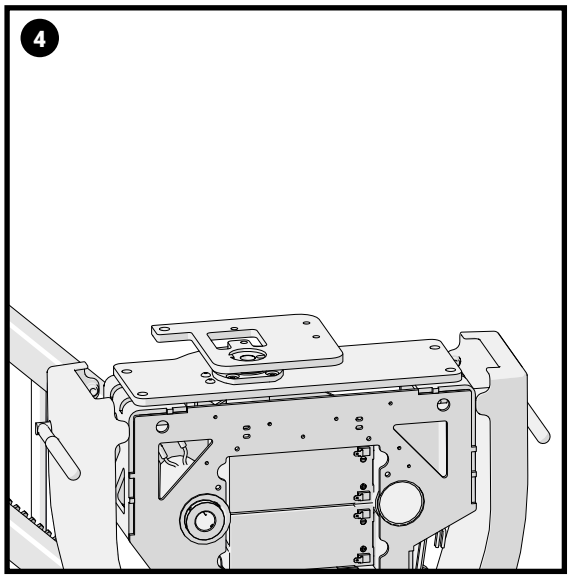
Position the Swivel Assembly onto the Carriage.



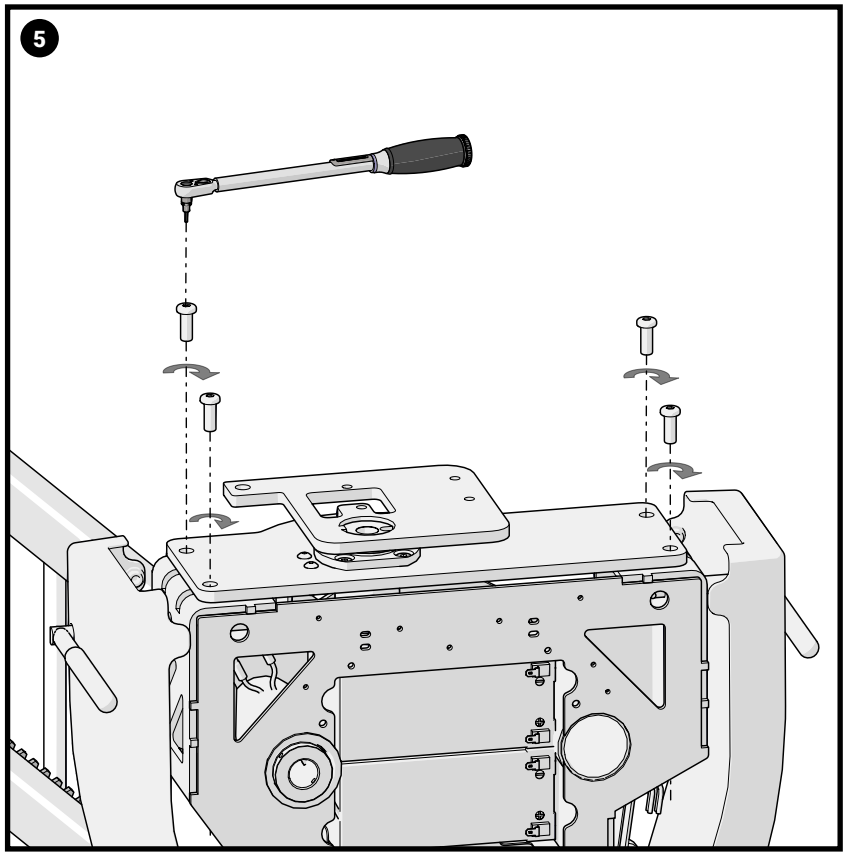
Identify the two orange connecting cables inside the Carriage.



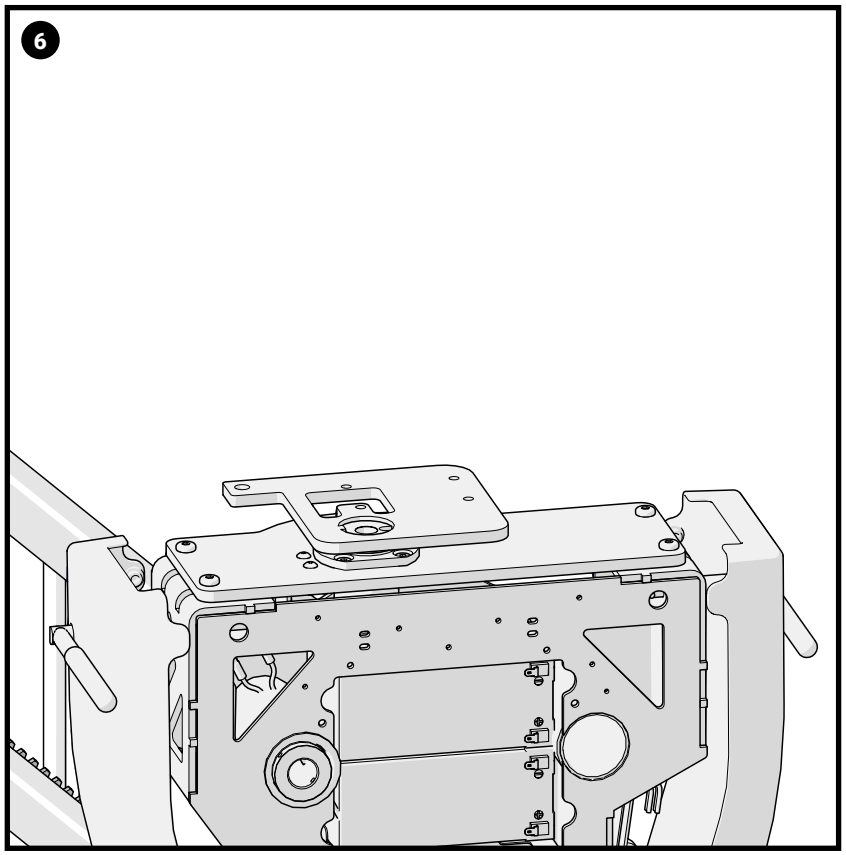
Connect the two cable terminals to terminals a and b on the Swivel Assembly Switch.



Carefully place the swivel onto the carriage body ensuring the cables are not damaged.

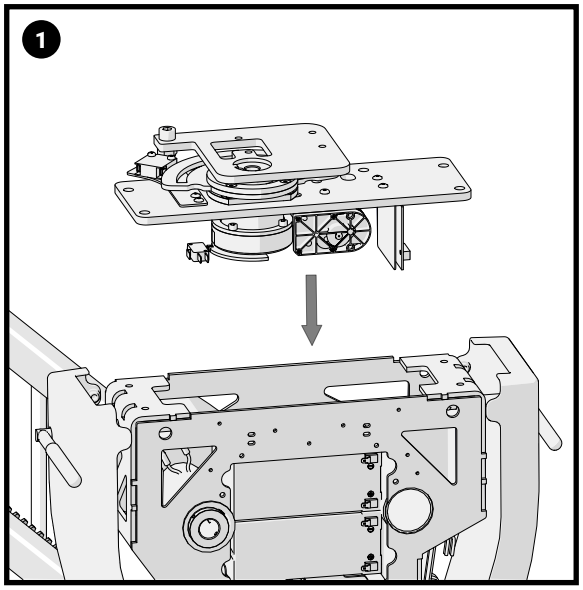


Secure the Swivel Assembly to the Carriage with the 4xM8 screws and tighten to 30Nm.

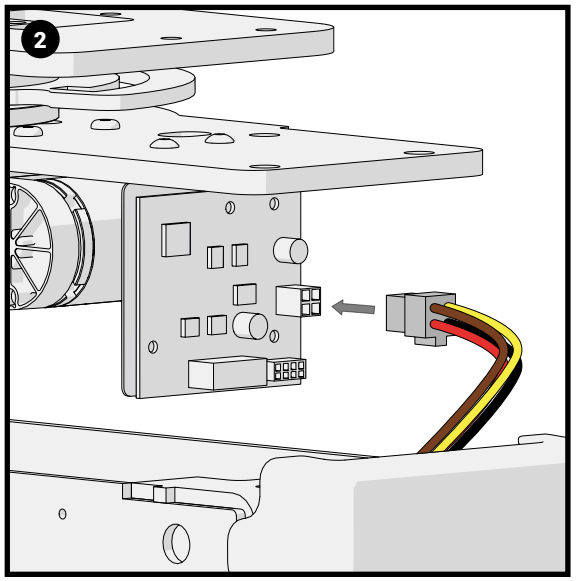


The manual swivel is now secured.

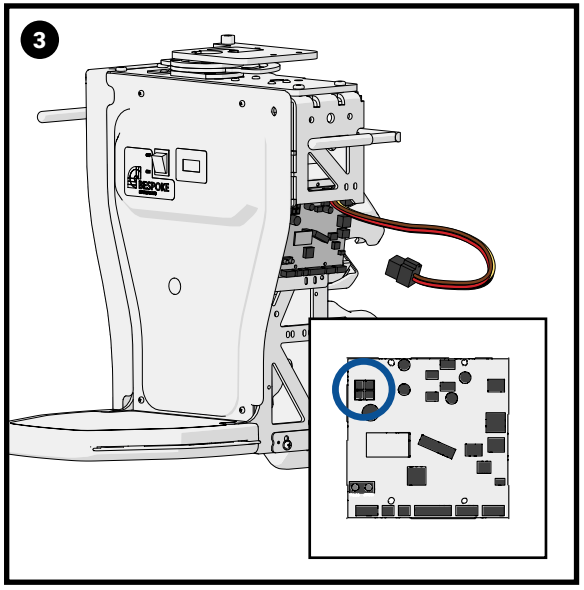
4.7 Assembling the Powered Swivel



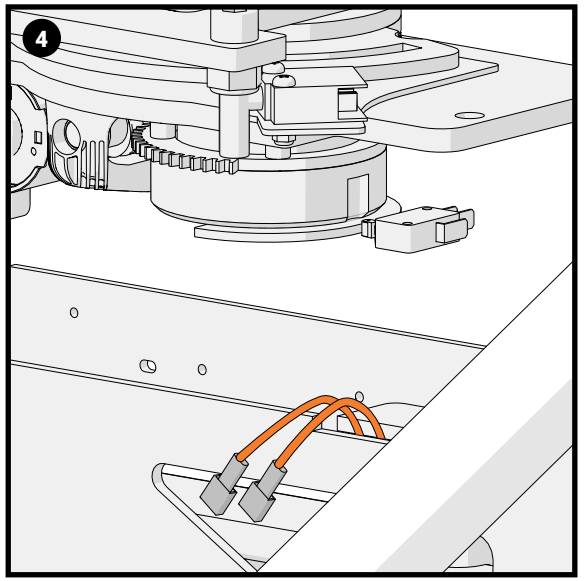
Position the Powered Swivel assembly on the carriage.



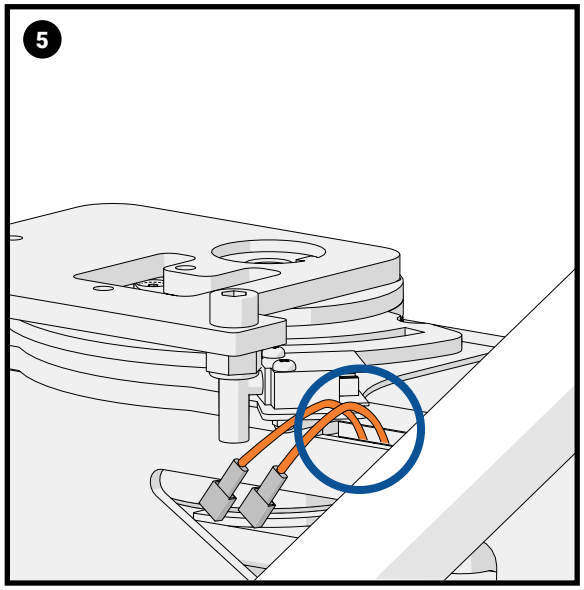
Using the auxiliary cable provided, connect to the powered swivel board.



Connect the other end of the auxiliary cable to the main PCB AUX connection.

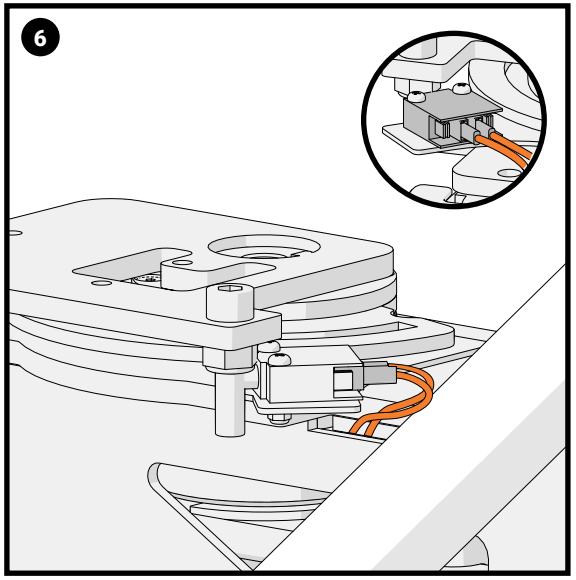


Identify the two orange connecting cables inside the Carriage.

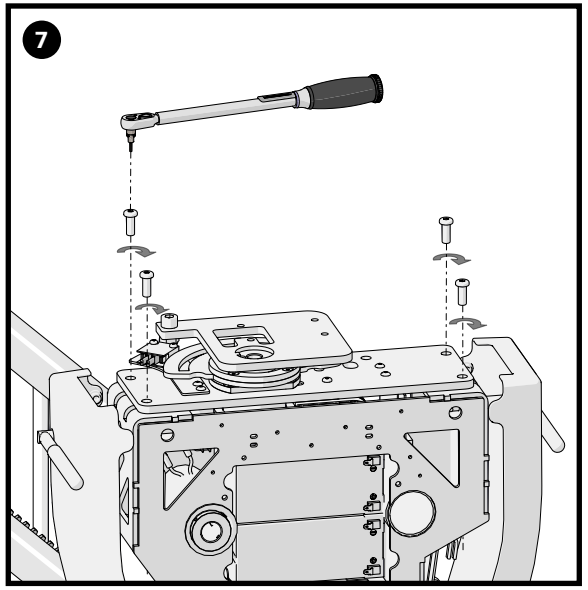


Lower the powered swivel unit onto the chassis frame.

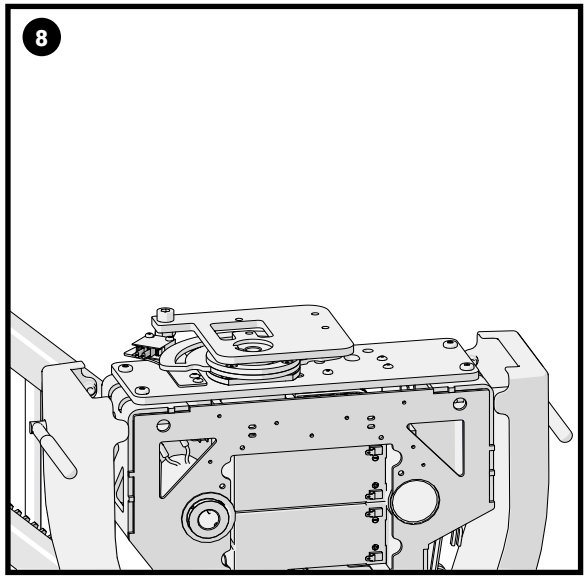
Carefully position the orange cables in the chassis cut-away to avoid damage.



Now connect the orange cables to the powered swivel unit.

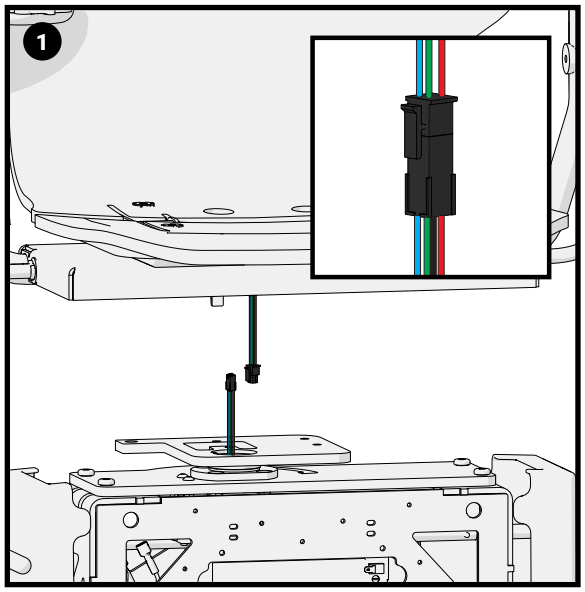


Secure the Swivel Assembly to the Carriage with the 4xM8 screws and tighten to 30Nm.



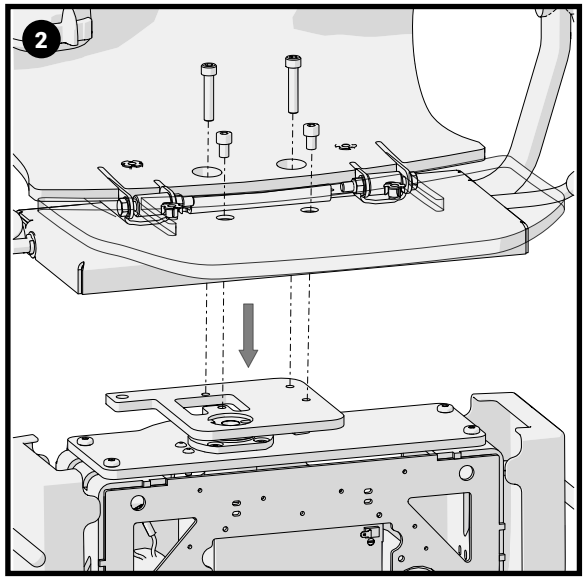
The Powered Swivel Unit is now assembled.

4.8 Attaching the Seat Unit

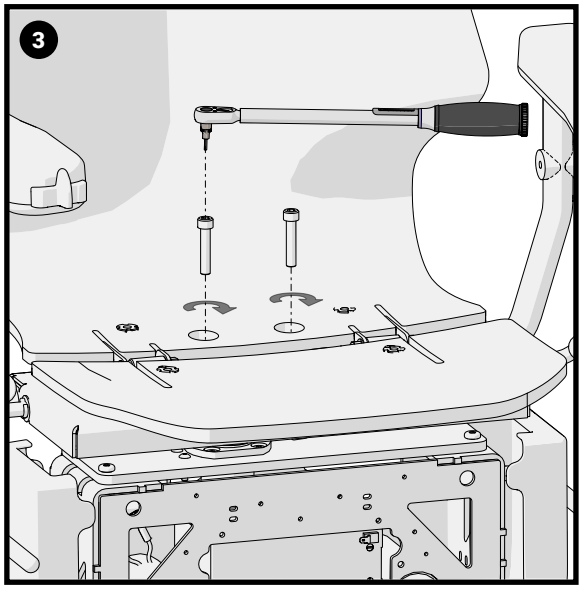


Align the seat with the swivel boss.

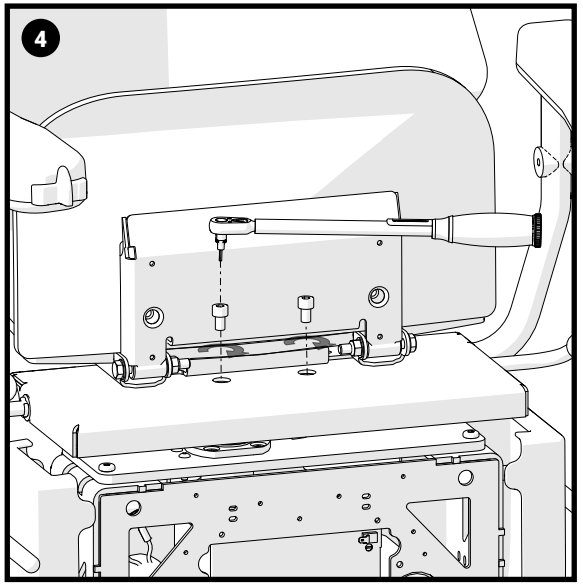
Locate the cable from the carriage and connect.



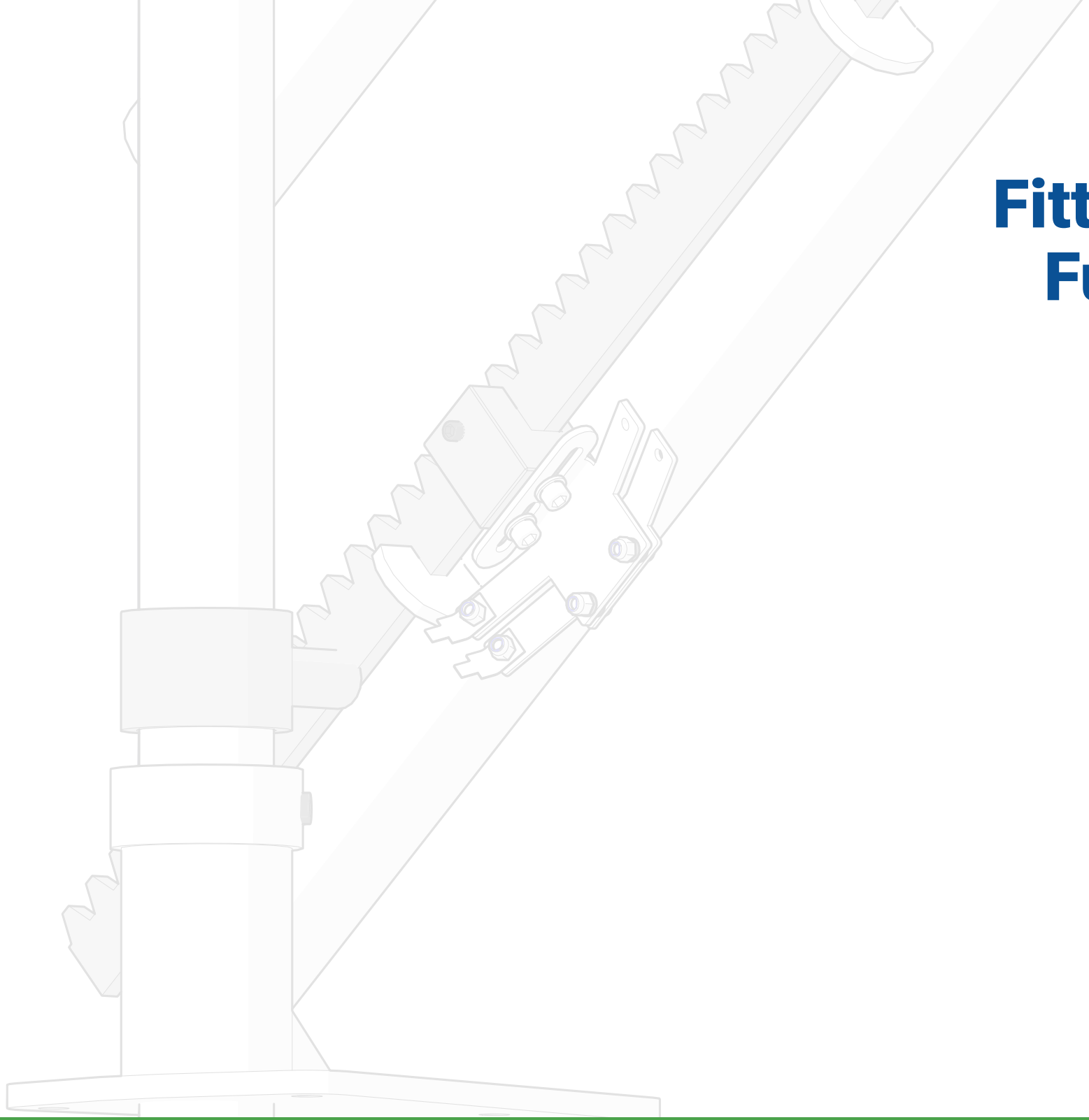
It is important that, with both the powered and manual swivel types, the swivel boss is in the front facing position when locating the seat to avoid misalignment and de-synchronization.



Attach the seat by using the M8 x 40mm bolts through the rear section of the seat into the seat swivel boss. Tighten to 22Nm.



Lift the flip sction of the seat to enable insertion of the M8x12 screws in the front section. Tighten to 22Nm.

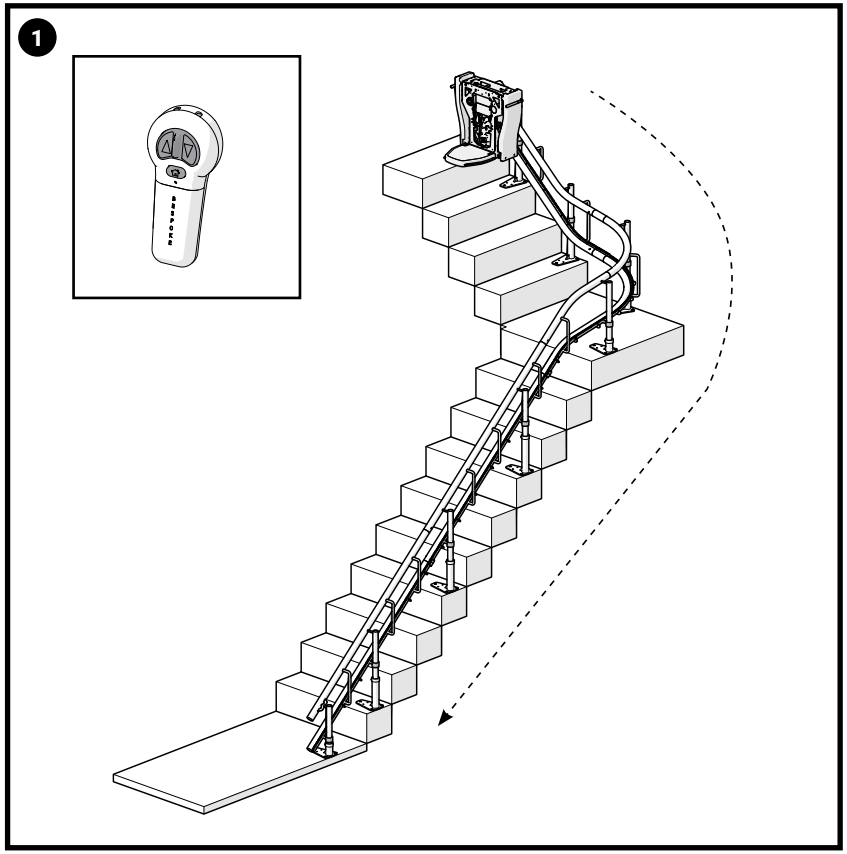


.05
Fitting Rail Furniture

Tools Needed:

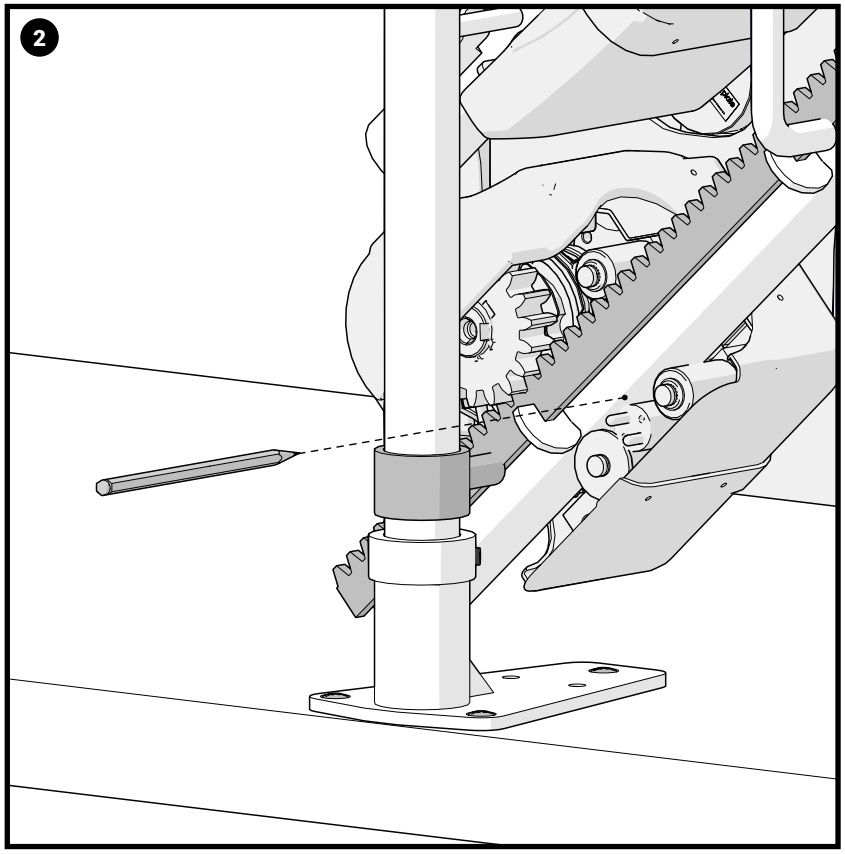
- Hex Key
- Wire Cutters
- Tape Measure
- Protective Eye Wear
- Gloves

5.1 Bottom Charge Point



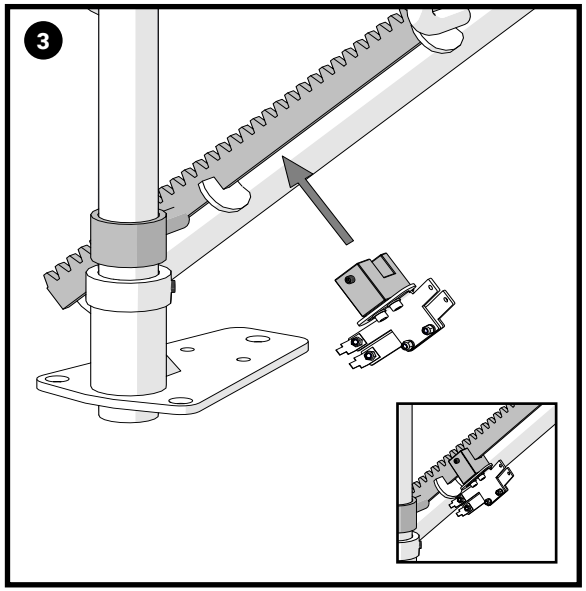
To locate the bottom charge point position use the remote control to drive the carriage to the lower part of the rail.

Switch off the carriage.



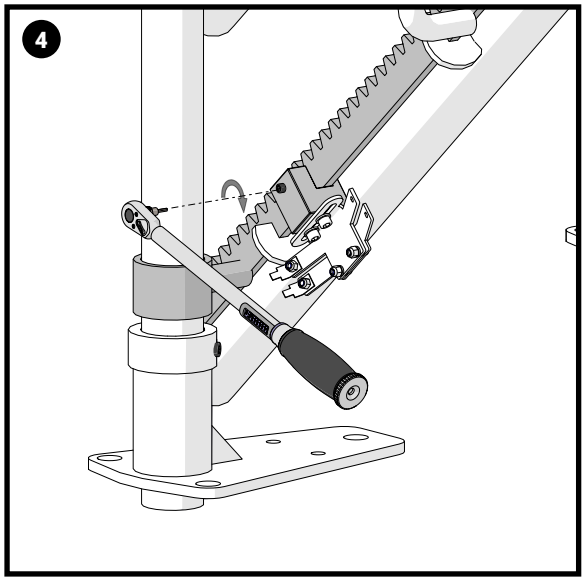
With the carriage in the desired position, stop the carriage and mark the position of the of the charge pins on the bottom skate.

Mark this position with a pencil.

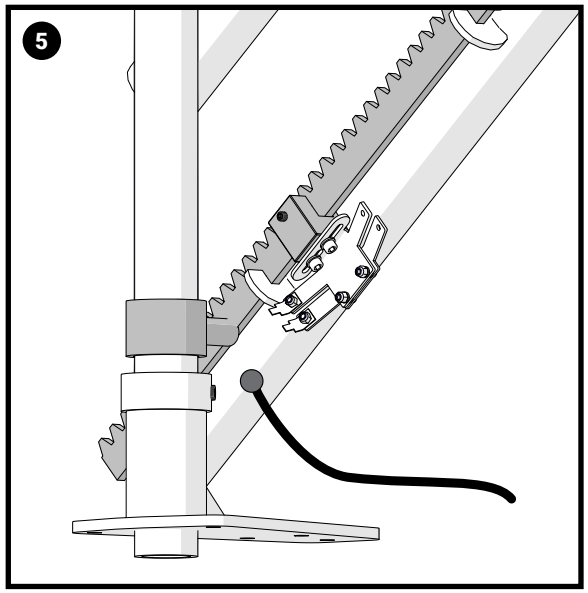


Switch the carriage on and move the carriage up; away from the charge point location.

Attach to the racking using the grub screw.

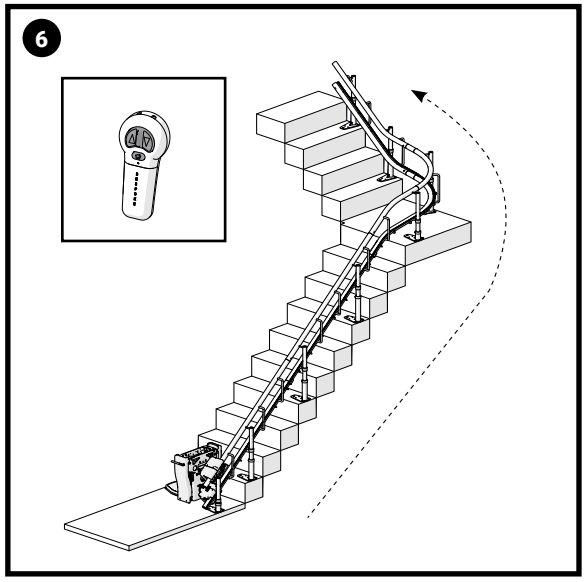


Tighten the charge point securely at the bottom of the rail to 10Nm.



The bottom charge point is now secure.

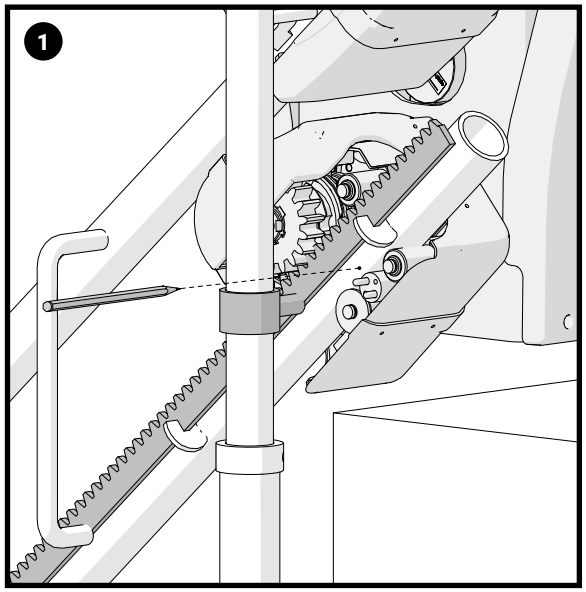
Now feed the cable through the hole located near the bottom of the rail in preparation for connection.



Move the carriage to the top of the rail to the desired teminal location.

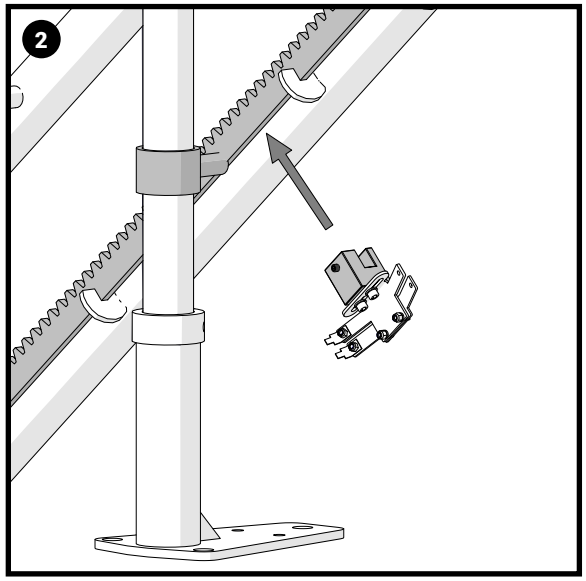
Switch off the carriage.

5.2 Top Charge Point



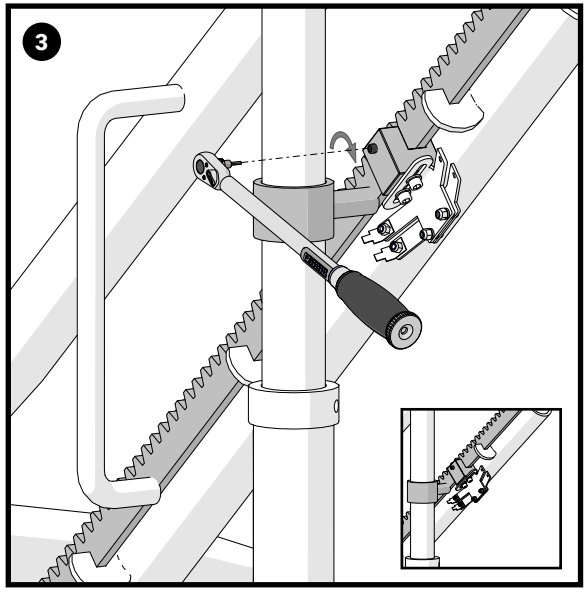
With the carriage in the desired position mark the position of the charge pins located on the bottom skate.

Mark this position with a pencil.

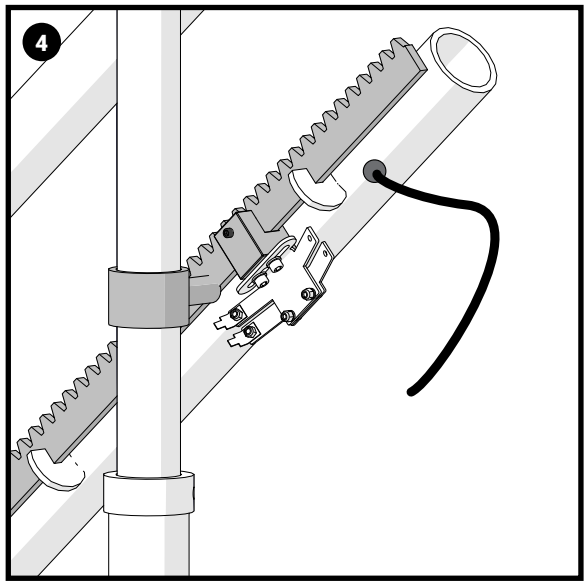


Switch the carriage on and move the carriage down, away from the charge point location.

Attach to the racking using the grub screw.



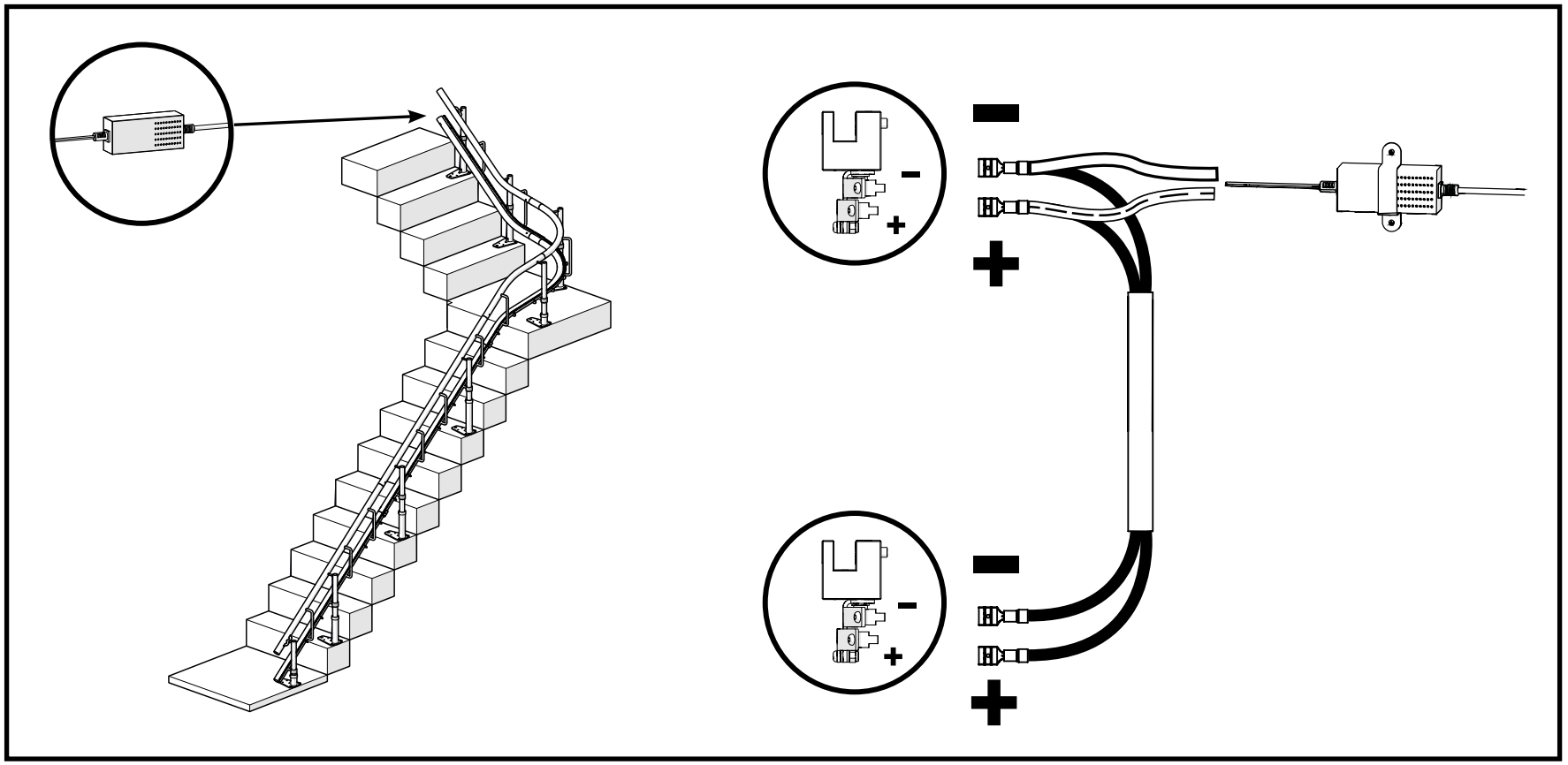
Tighten the charge point securely to the bottom rail, to 10Nm.



The top charge point is now secure.

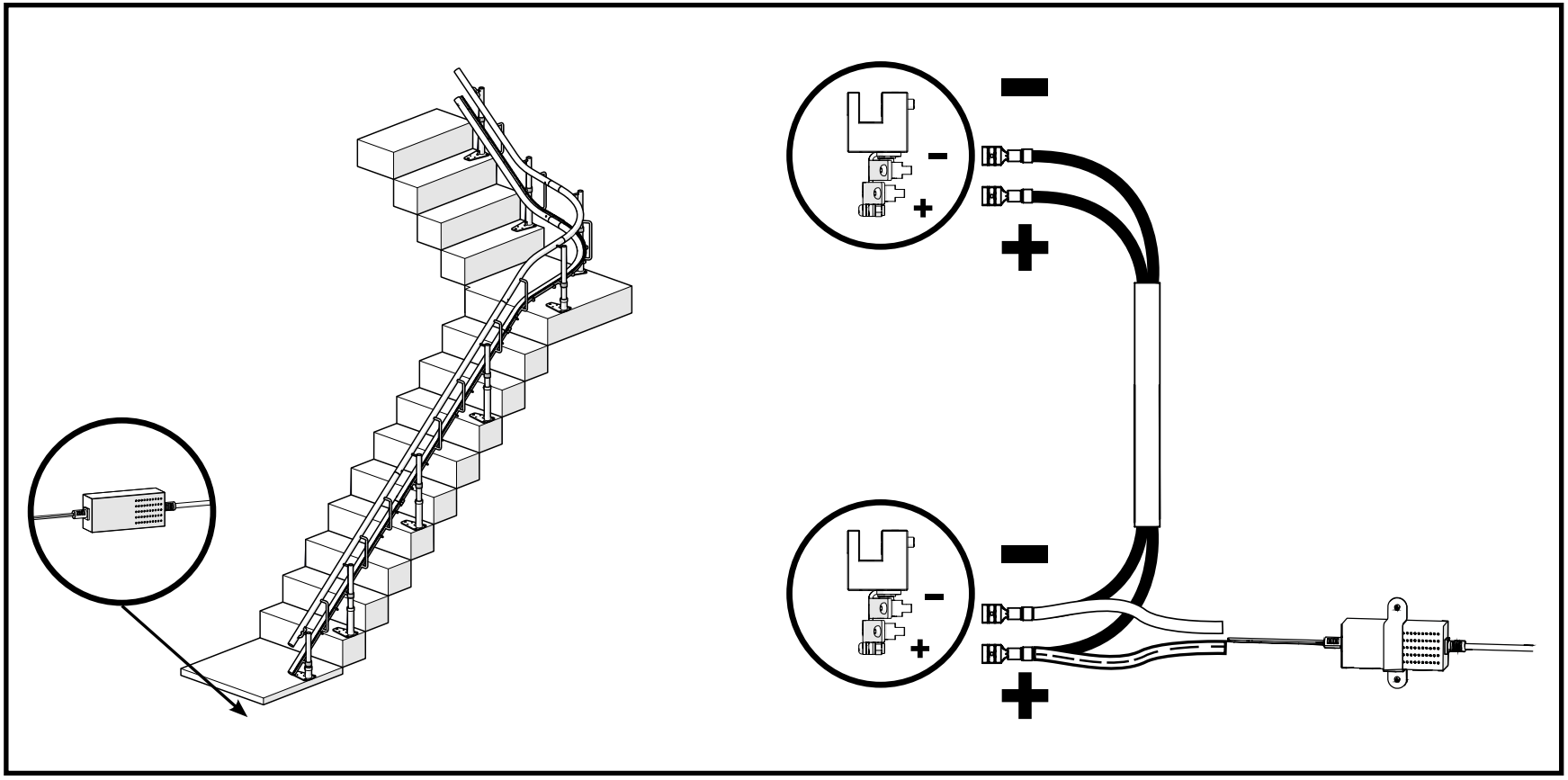
Now feed the cable through the hole in located near the top of the rail in preparation for connection.

5.3 Top Charging Wiring



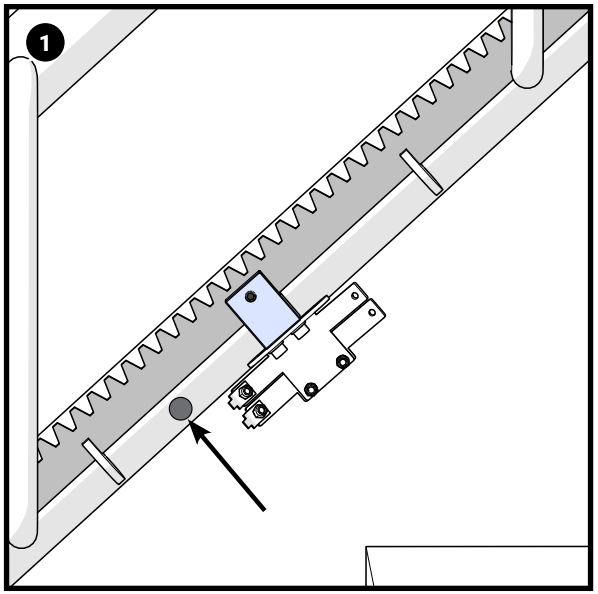
If the charger is connected to a power supply on the upper level of the stair lift use the diagram to correctly connect the power charger to the charge points.

5.4 Bottom Charging Wiring



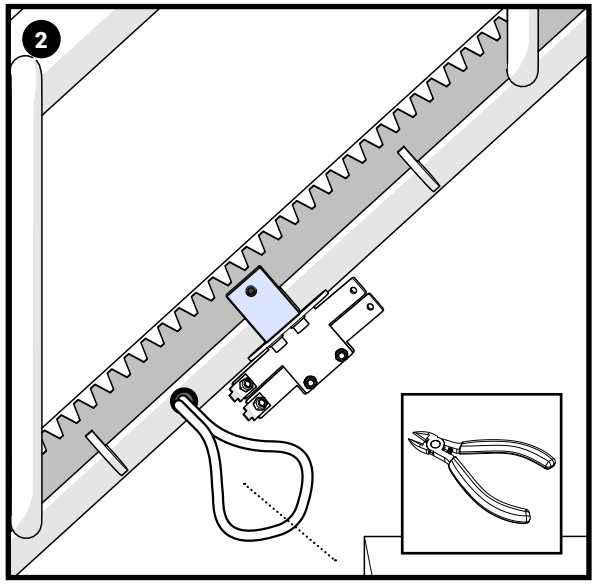
If the charger is connected to a power supply on the lower level of the stair lift use the diagram to correctly connect the power charger to the charge points.

5.5 Intermediate Charge Point

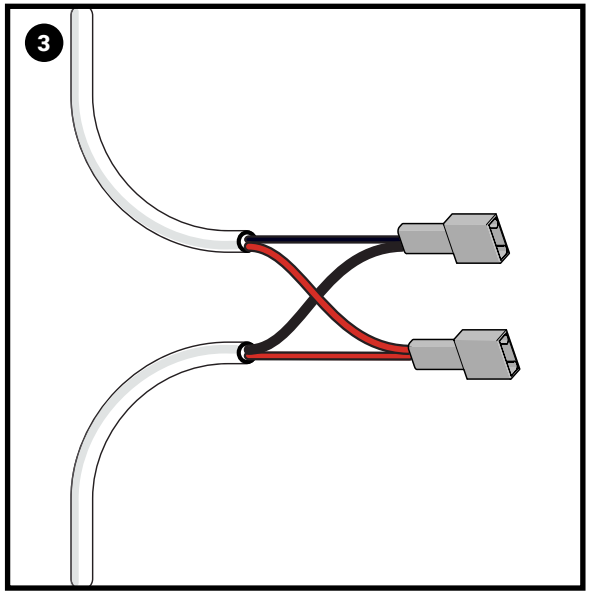


If the rail has an intermediate charge point to park the stair lift in a position other than the top or bottom, locate the pre-drilled hole at the location specified on the installation drawing.

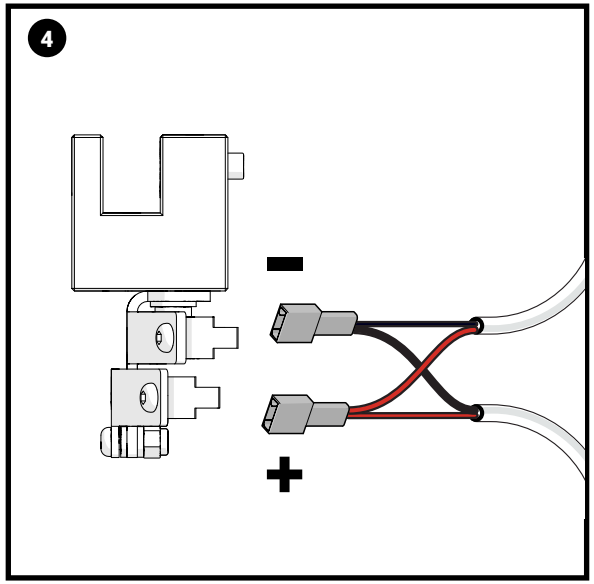
Attach the charge point using the provided grub screw.



Feed the cable through the hole, ensuring enough cable is available to connect to the charge point.

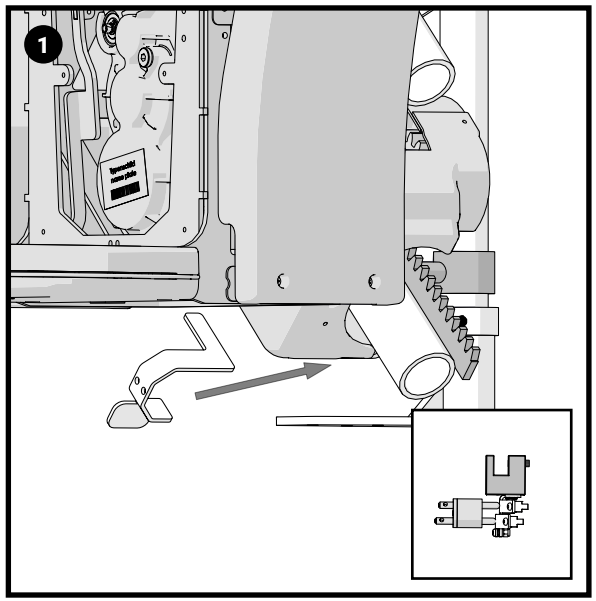


Connect the cables together as shown and crimp into the female spade terminals.



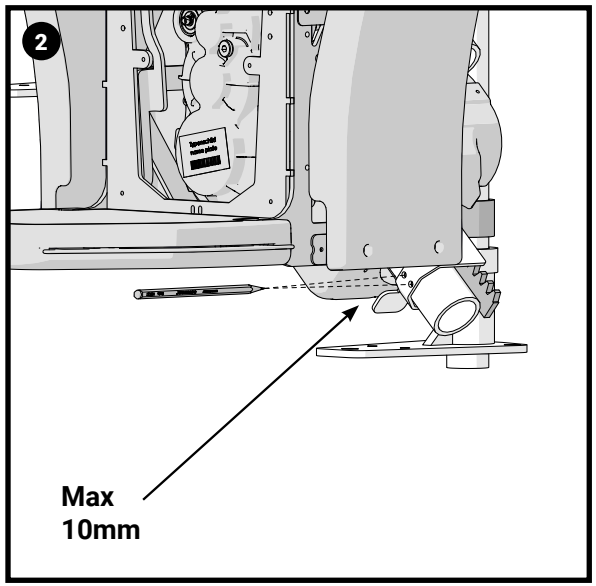
Now connect to the charge point.

5.6 Bottom End Stop



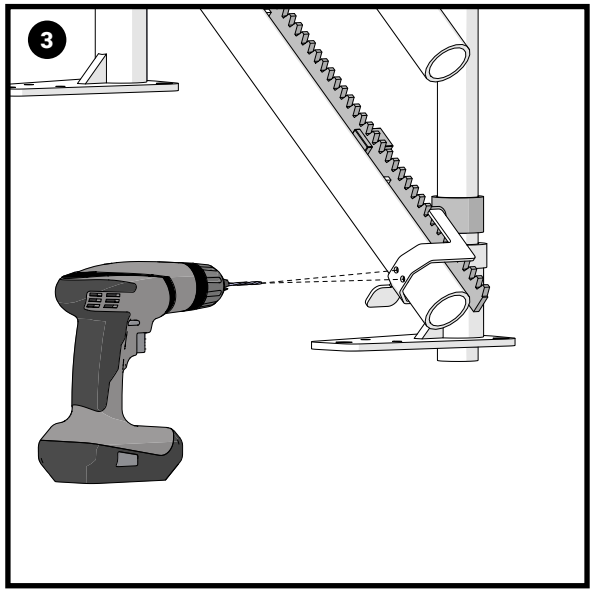
To mark the position of the end stops, run the carriage down so that the charge pins are engaged with the charge point at the bottom of the rail.

Place the end stop on the bottom rail.

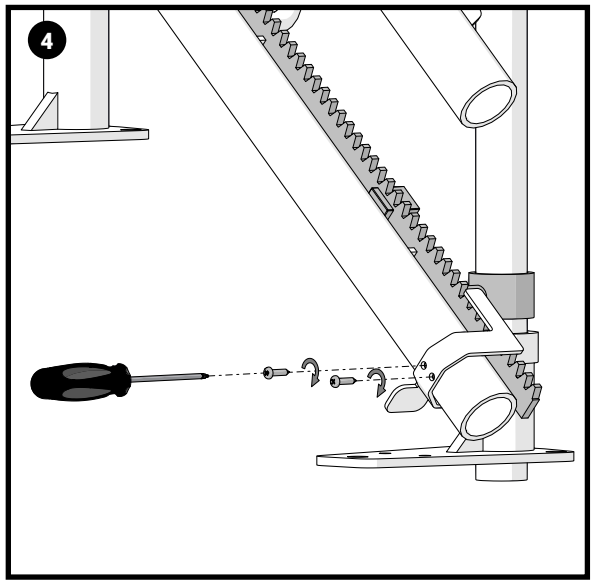


To ensure the carriage still charges should the end stop engage the safety edge, the maximum distance from the end stop to the bottom skate cover is 10mm.

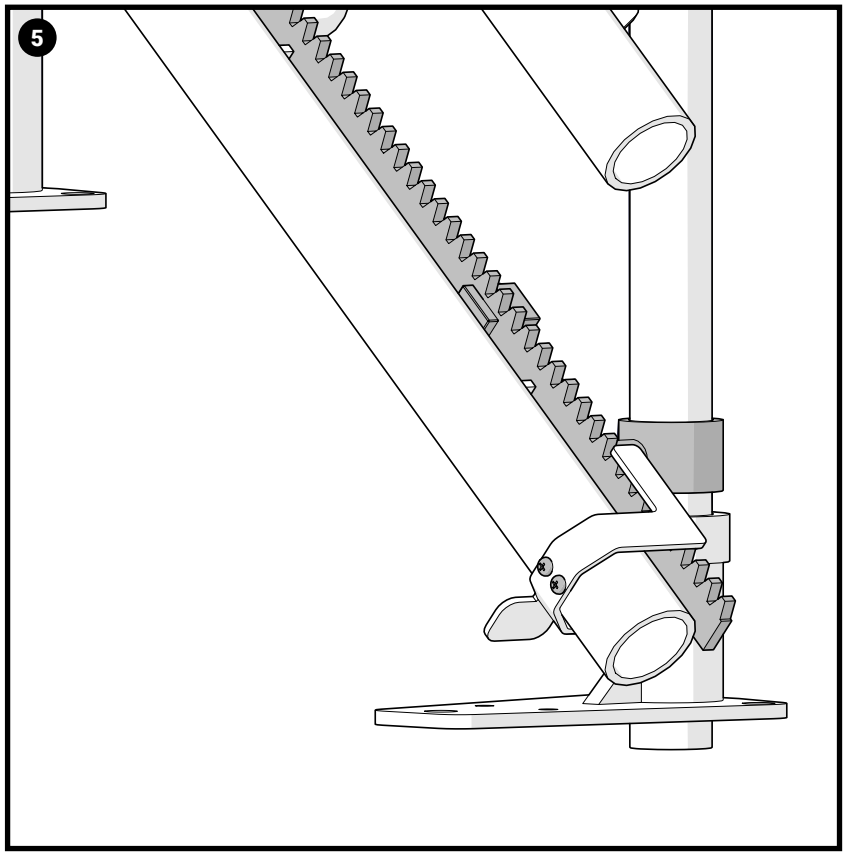
Mark the position with a pencil.



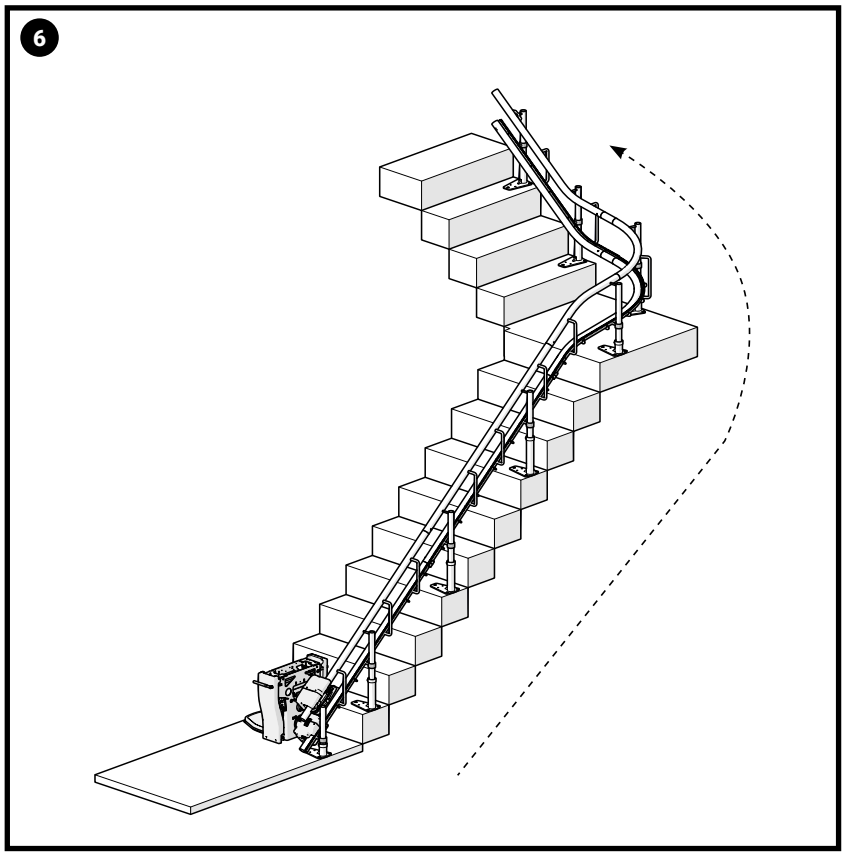
Using a 4mm drill, create a pilot hole for the fixing screws.



Attach the end stop using the self tapping screws provided.

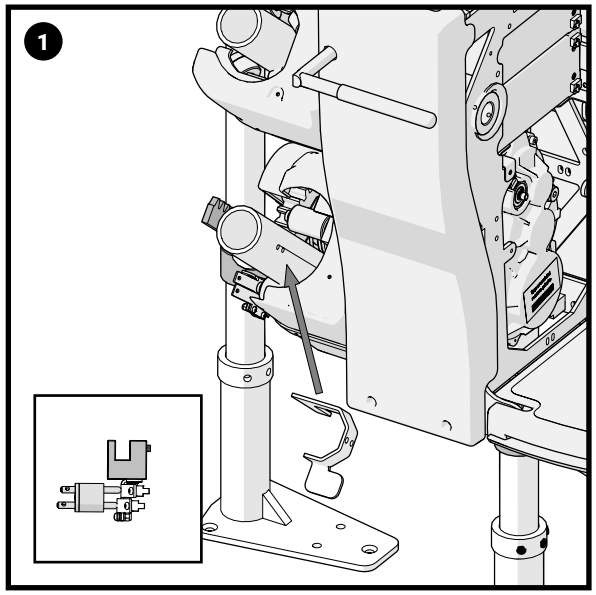


The bottom end stop fitting is now complete.



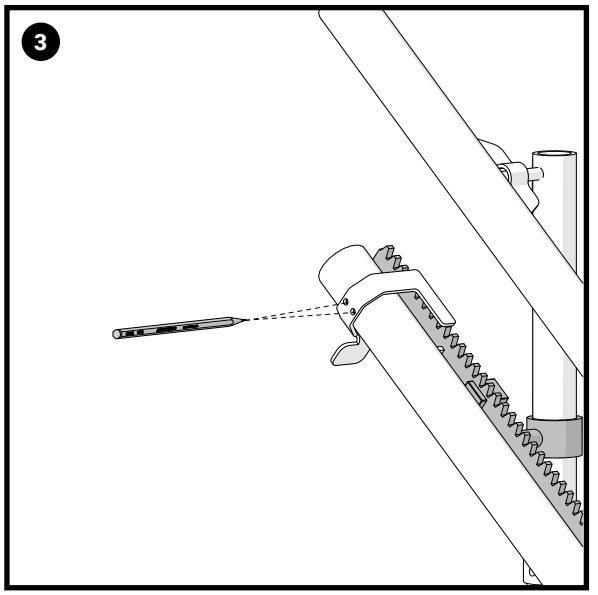
Now run the carriage to the top section of the rail, ready for installing the top end stop.

5.7 Top End Stop

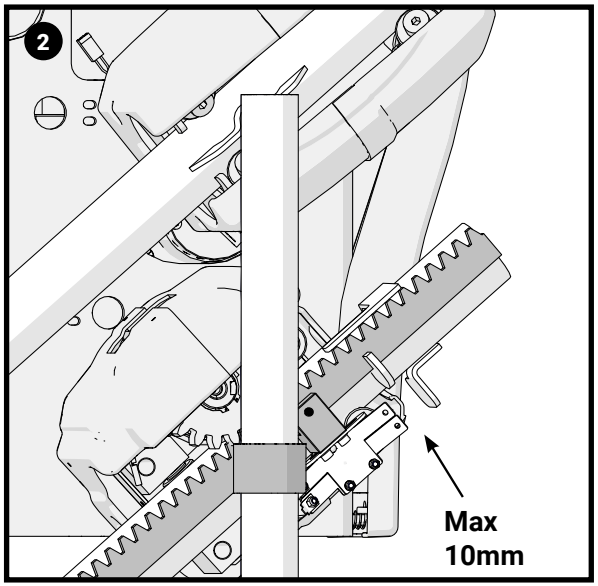


Run the carriage upward, so that the charge pins are engaged with the charge point at the top of the rail.

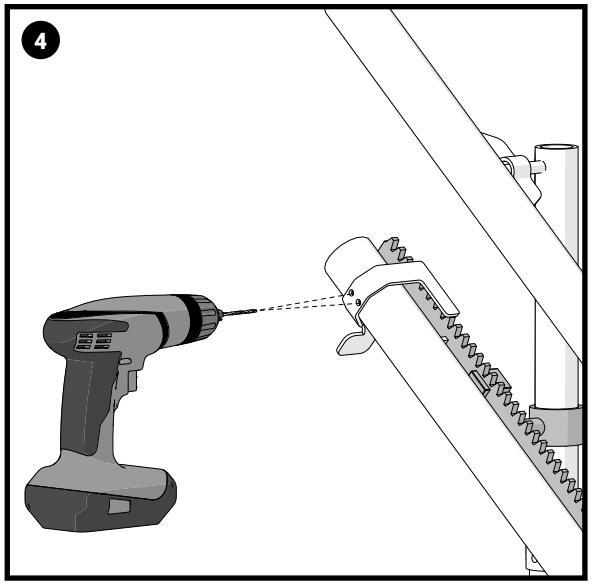
Place the end stop in position.



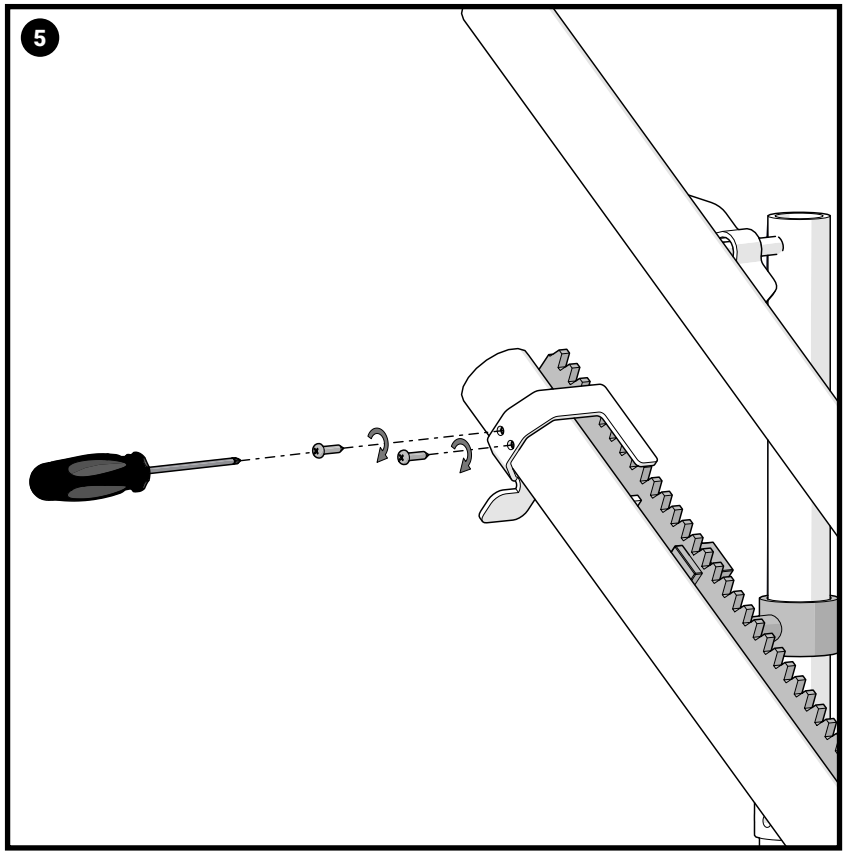
Mark the position of the upper end stop in the correct location.



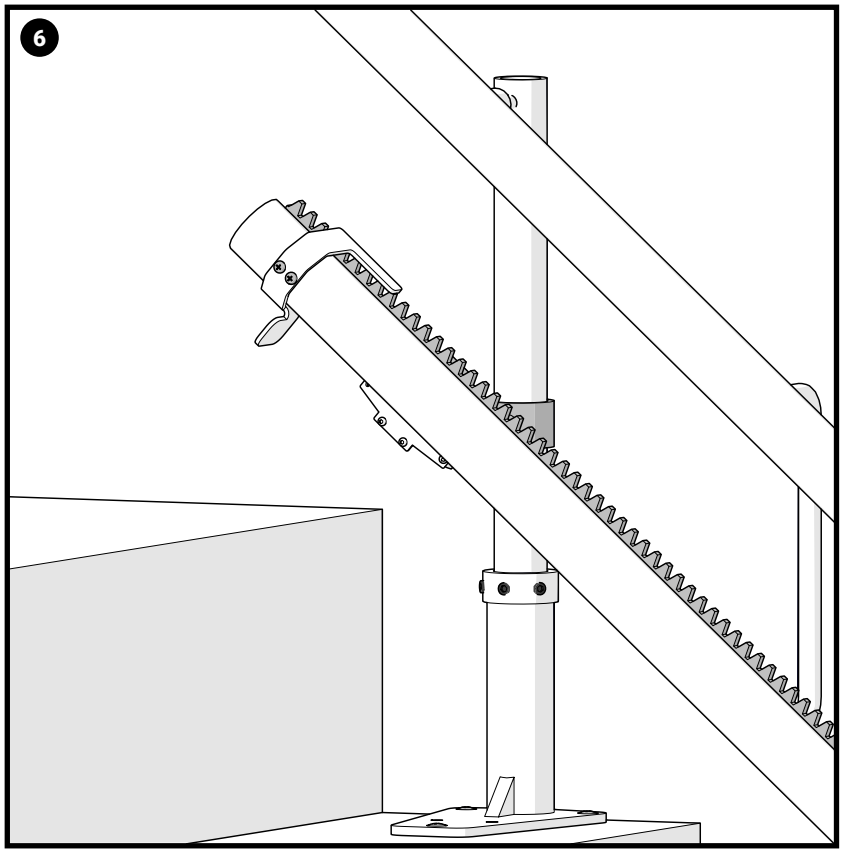
As with the lower end stop, a gap between the end stop and bottom skate covers should be a maximum of 10mm. This is to ensure the carriage will still charge should the carriage slightly overrun.



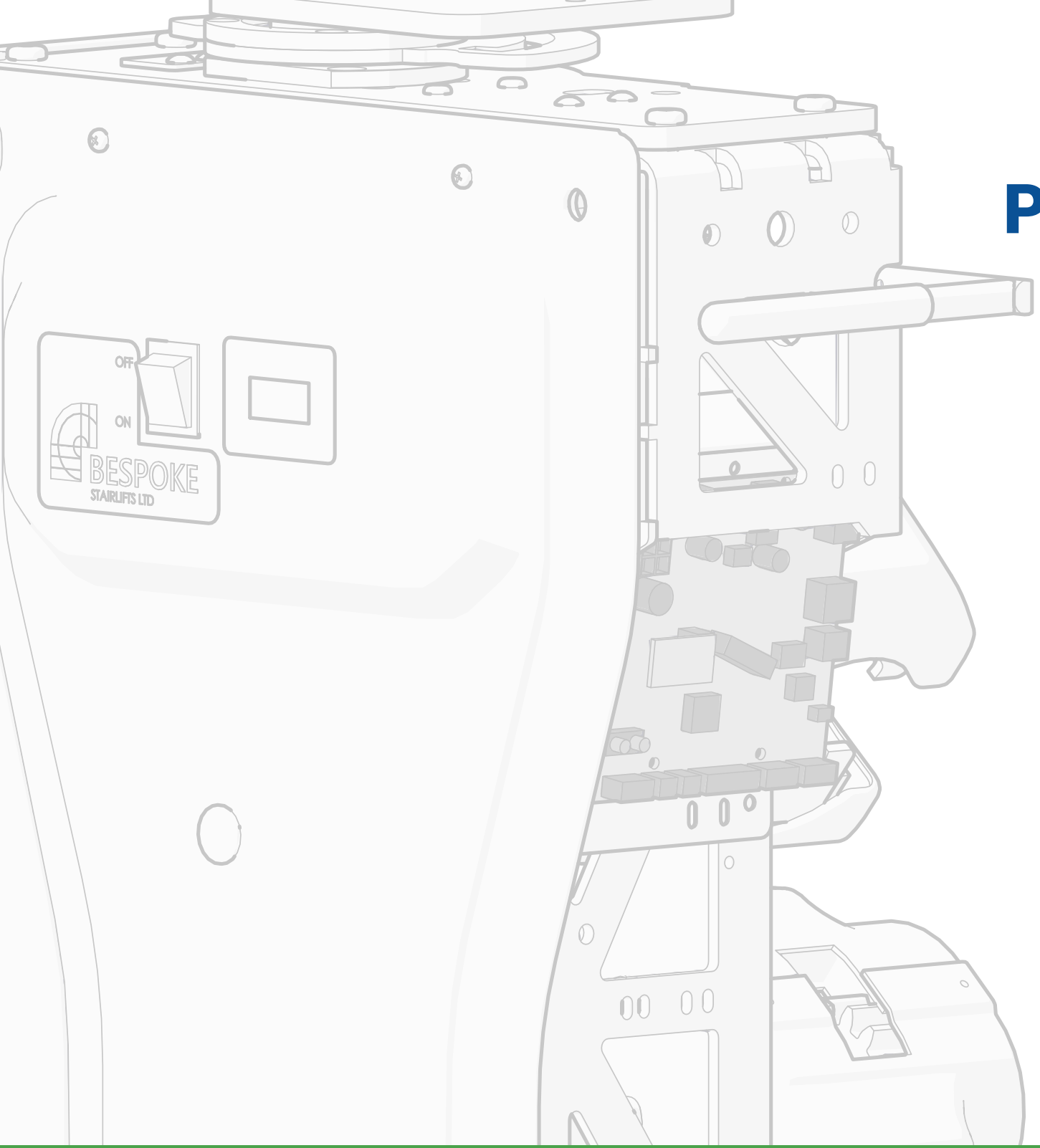
Using a 4mm drill, create a pilot hole for the fixing screws.



Attach the end stop using the self tapping screws provided.



The top end stop fitting is now complete.

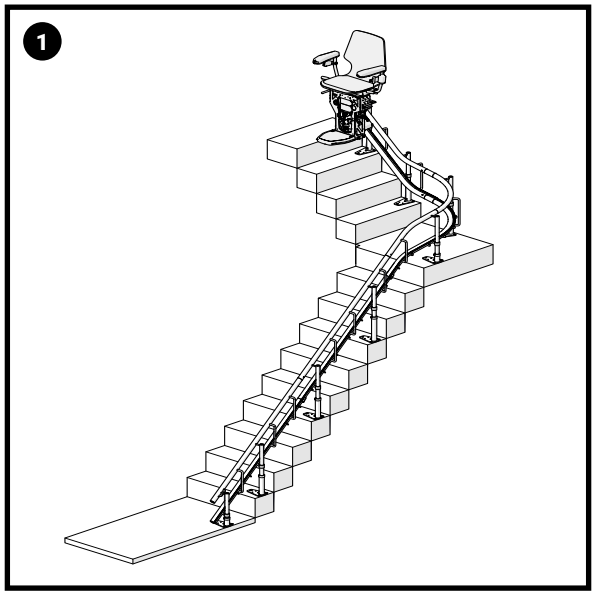


.06 Programming

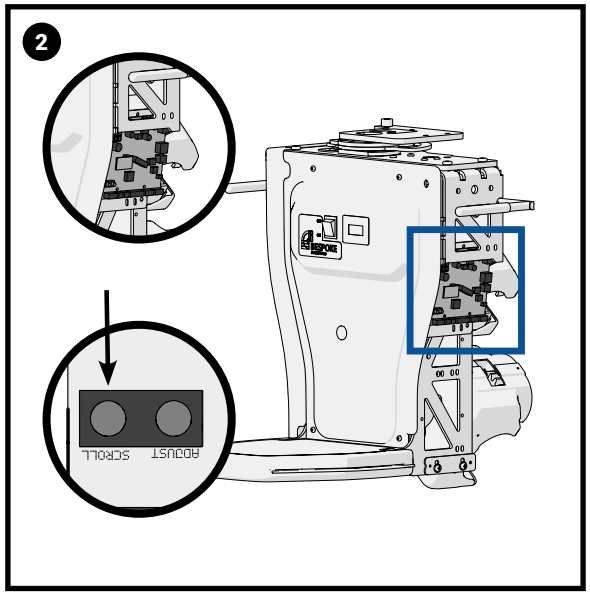
Tools Needed:

- Protective Eye Wear
- Gloves

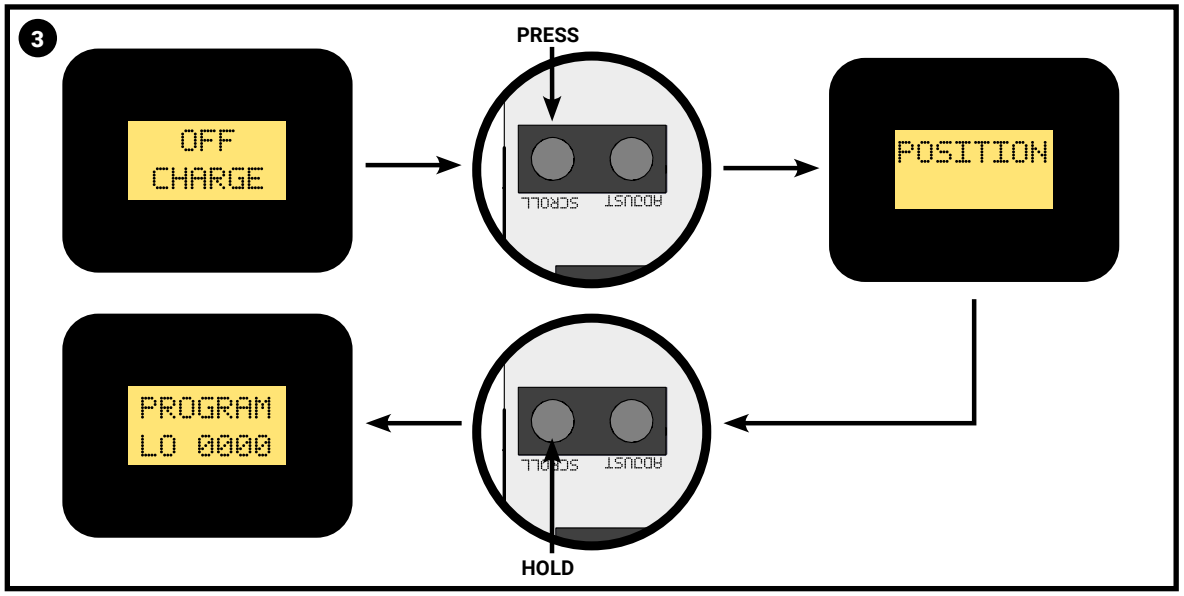
6.1 Programming the Stair Lift



With the stair lift at the top, locate the main board on the right side of the carriage section of the lift.



Press and hold the '**SCROLL**' button.



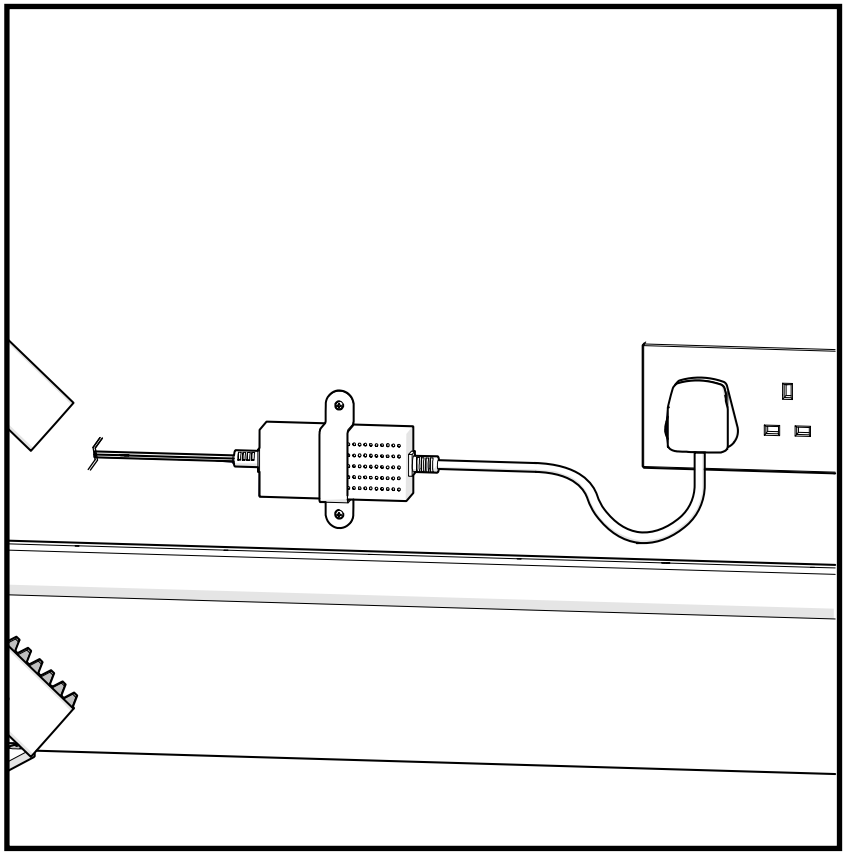
The display will read '**OFF CHARGE**'.

Press **SCROLL** until the display reads '**POSITION**'

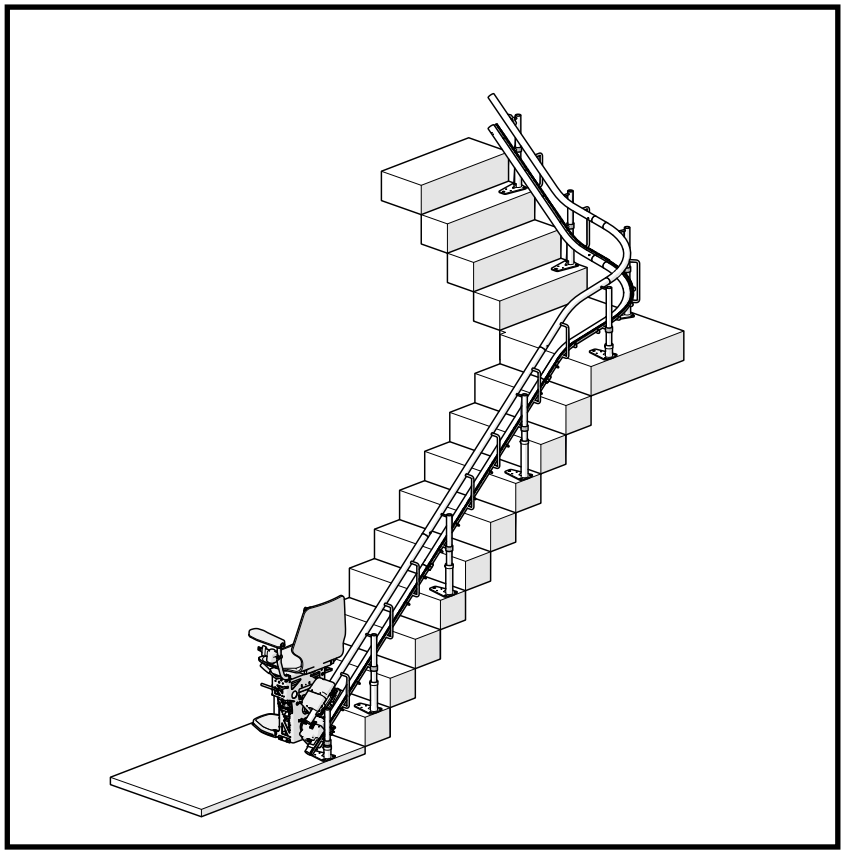
Press and hold the '**SCROLL**' button.

The display should read '**PROGRAM LO 0000**' (The numbers will be different on each carriage).

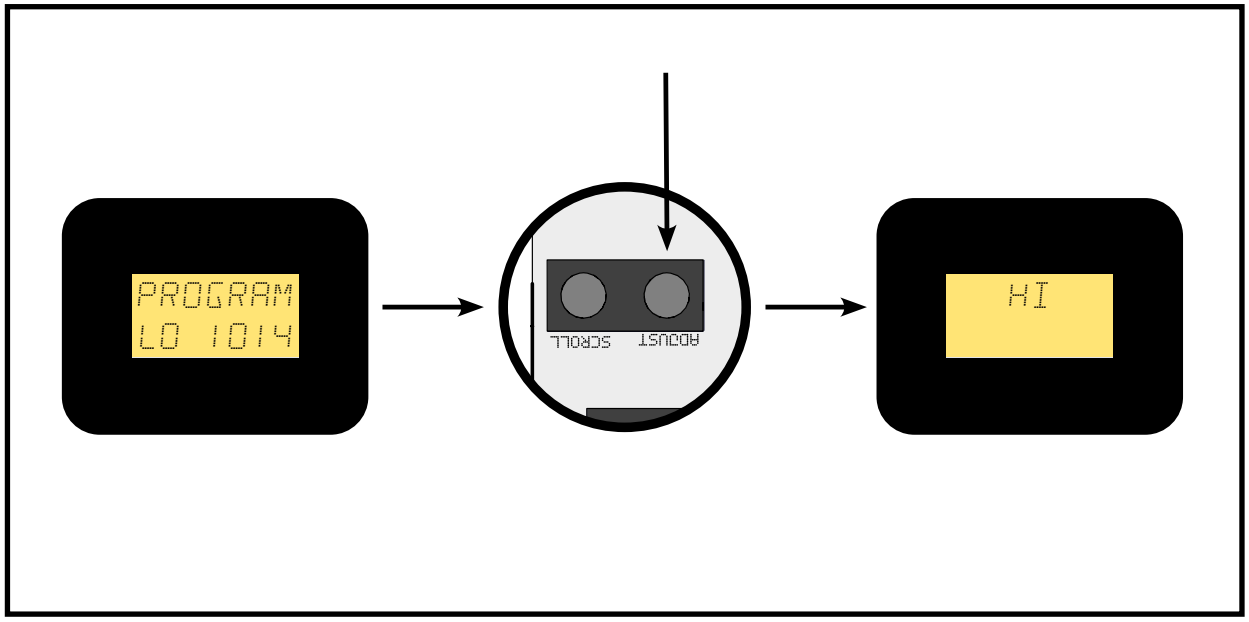
6.2 Standard Programming



Turn '**ON**' the charger at the mains. (If an intermediate charge point has been installed, move the carriage down the rail until it is past this point prior to turning on the charger).

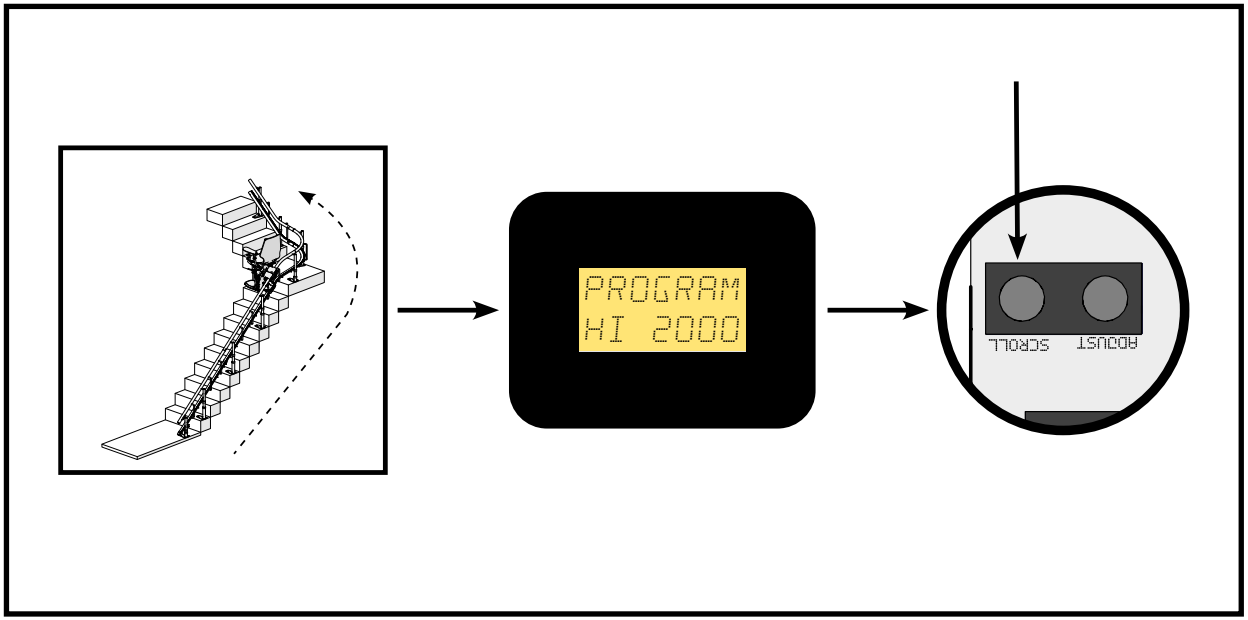


The lift should be positioned on the bottom charge point.



The LCD display will show a number close to 1000.

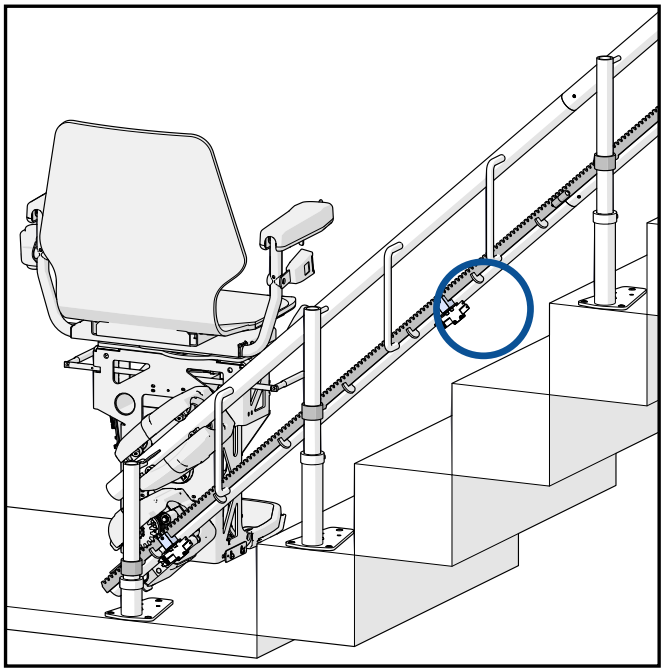
Press the **ADJUST** button once, and the display will read **HI**.

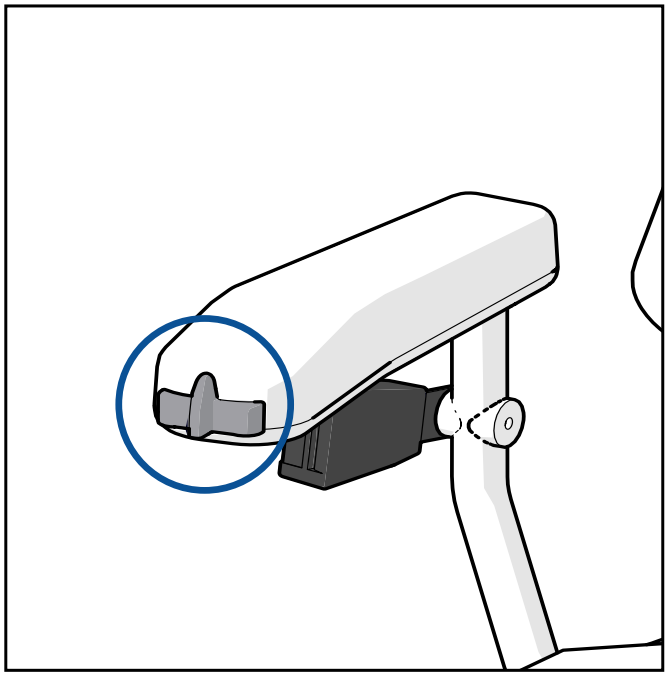


Using the remote control, move the stair lift up the rail until it reaches the top charge point. The display will read a higher number as the stair lift travels.

Press and hold the '**SCROLL**' button.

6.3 Programming an Intermediate Charge Point



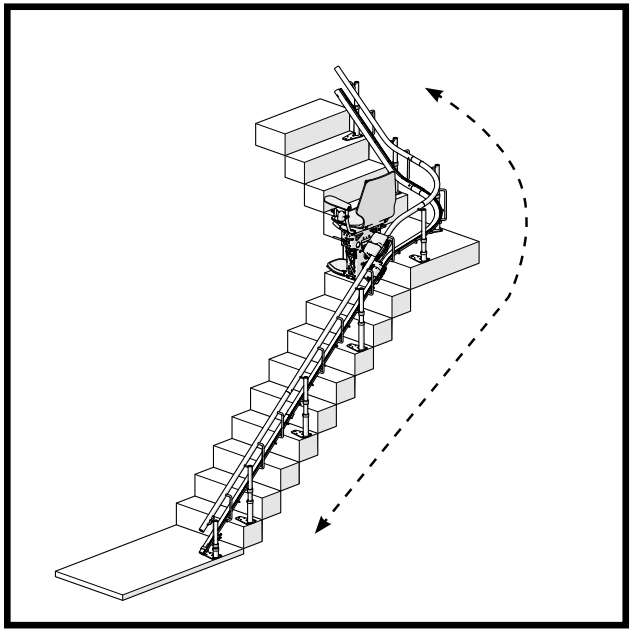


If your stair lift has an intermediate charge point, when running the stairlift upwards the stair lift will stop on this charge point.

Let go of the controller, then press up once again and continue to the top charge point.

Press the scroll button.

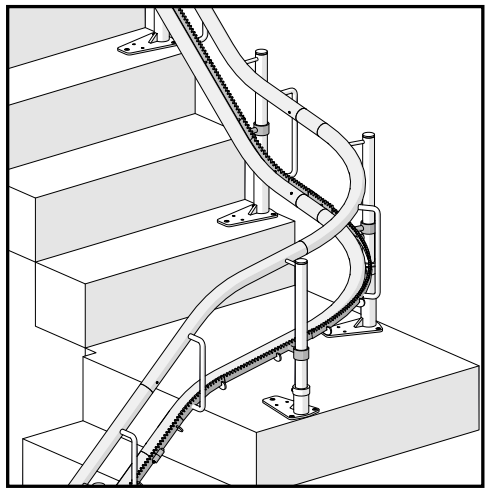
6.4 Programming Complete



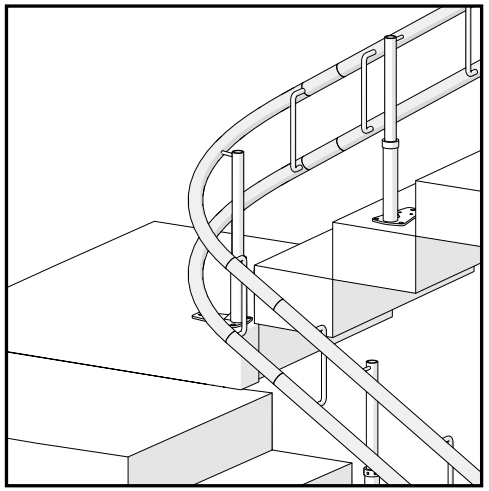
Basic programming is now complete and the display will read **INFINITY READY**.

Test the rail by running the stair lift back down to the bottom charge point and then the top. The lift is now programmed.

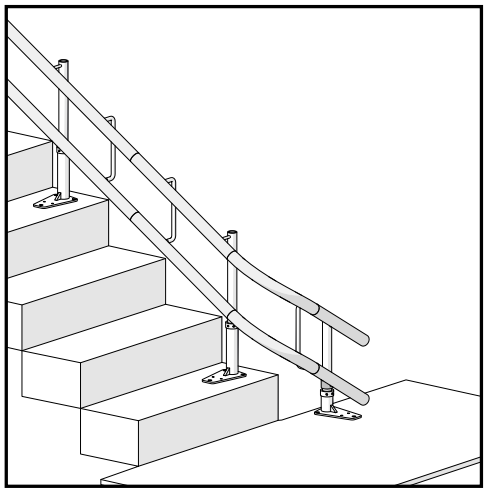
6.5 Setting the Bend Speed



a



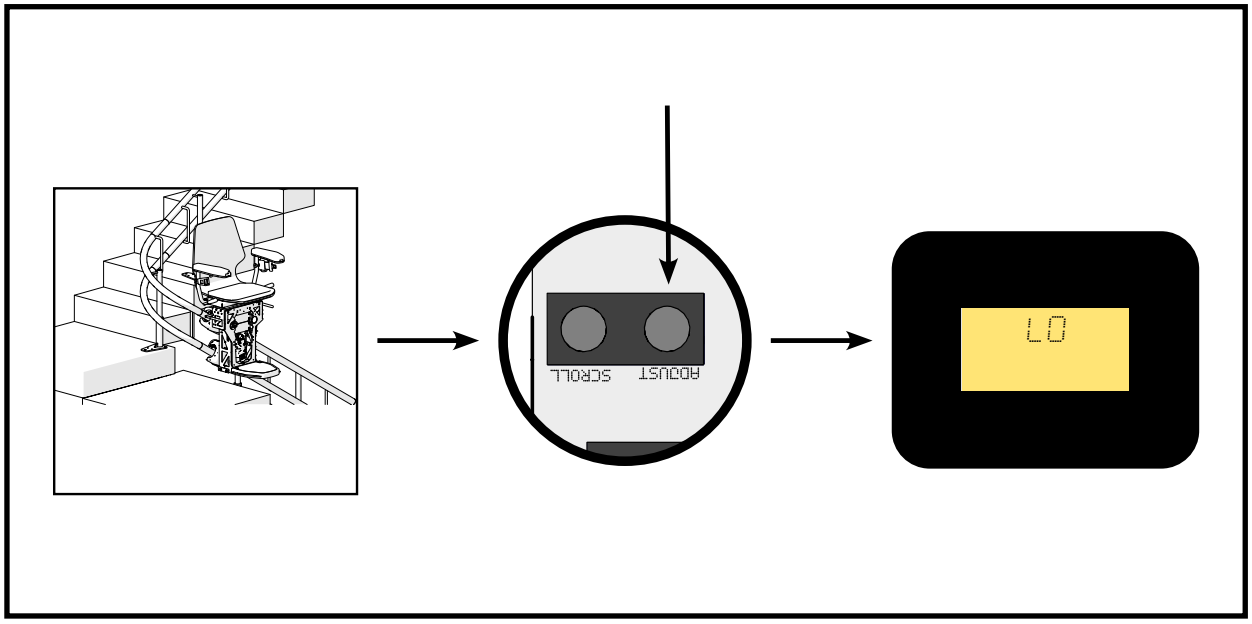
b



c

Certain types of rail require the speed of the stairlift to slow down to ensure safe travel. Internal bends require this whereas external travel bends do not.

a - External Bend
b - Internal Bend
c - Internal Start

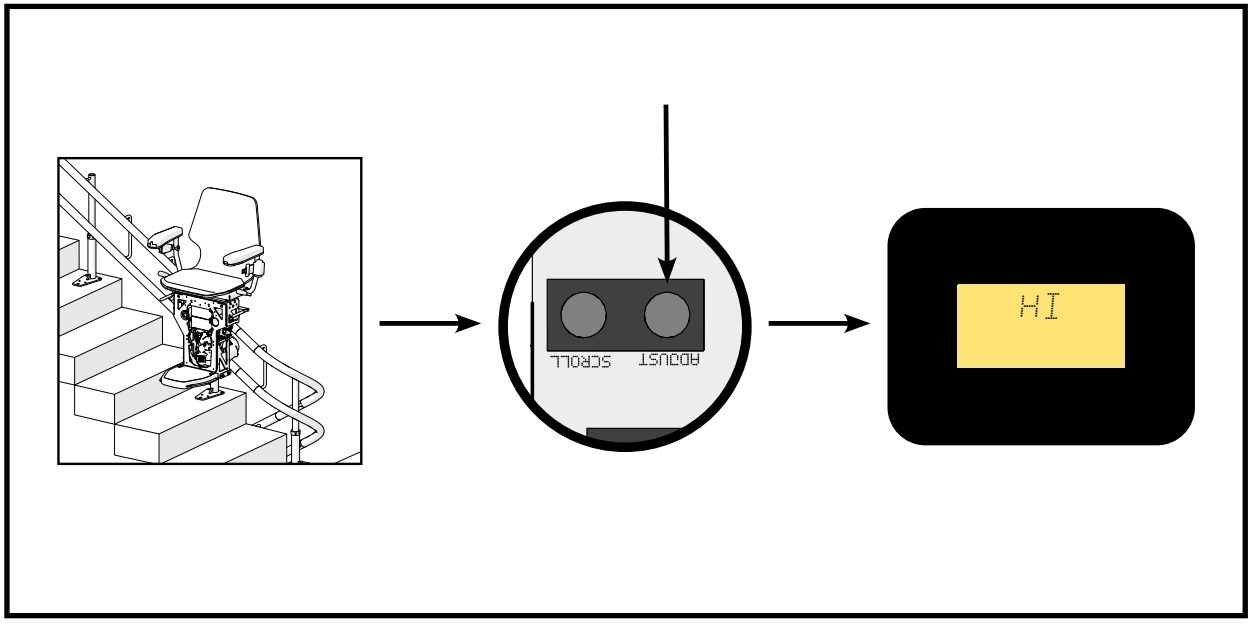


To program the stair lift with internal bends follow steps 6.1.1 to 6.1.6 to start the programming process.

Once the rail is on the bottom charge point, move the stair lift to a position just before the rail begins to bend.

Press the '**ADJUST**' button and the LCD will display '**LO**'.

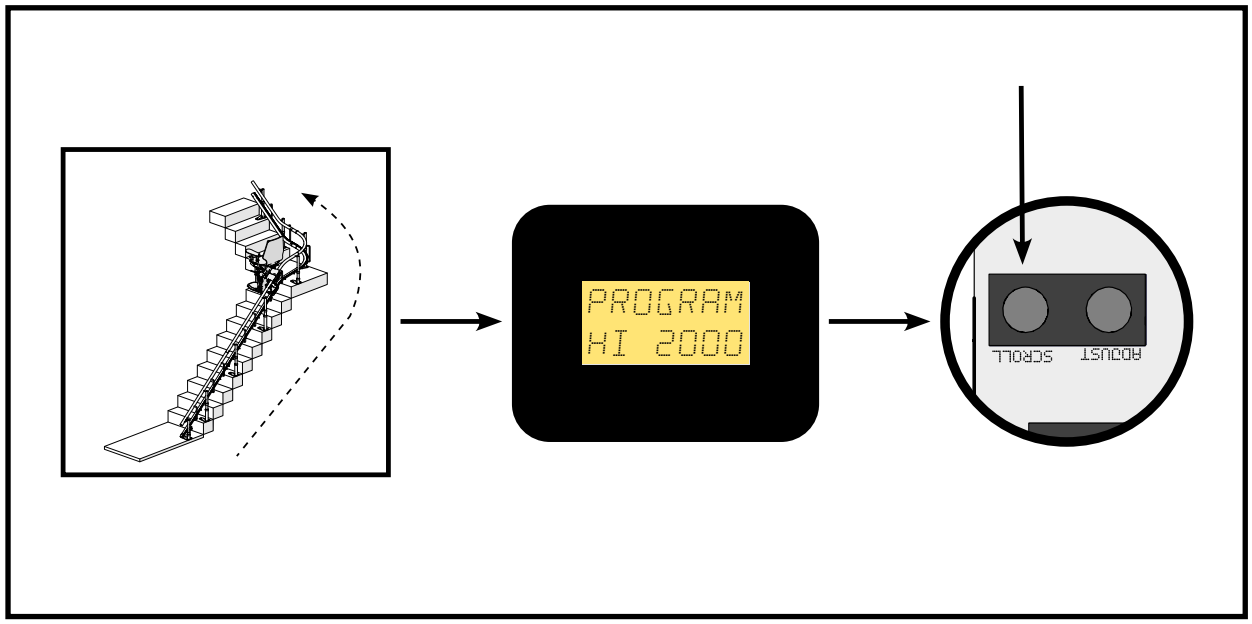
Move carriage in the up direction.



Once the carriage is fully out of the bend, stop the stair lift, press the '**ADJUST**' button and the LCD will display '**HI**'.

The carriage is now in high speed.

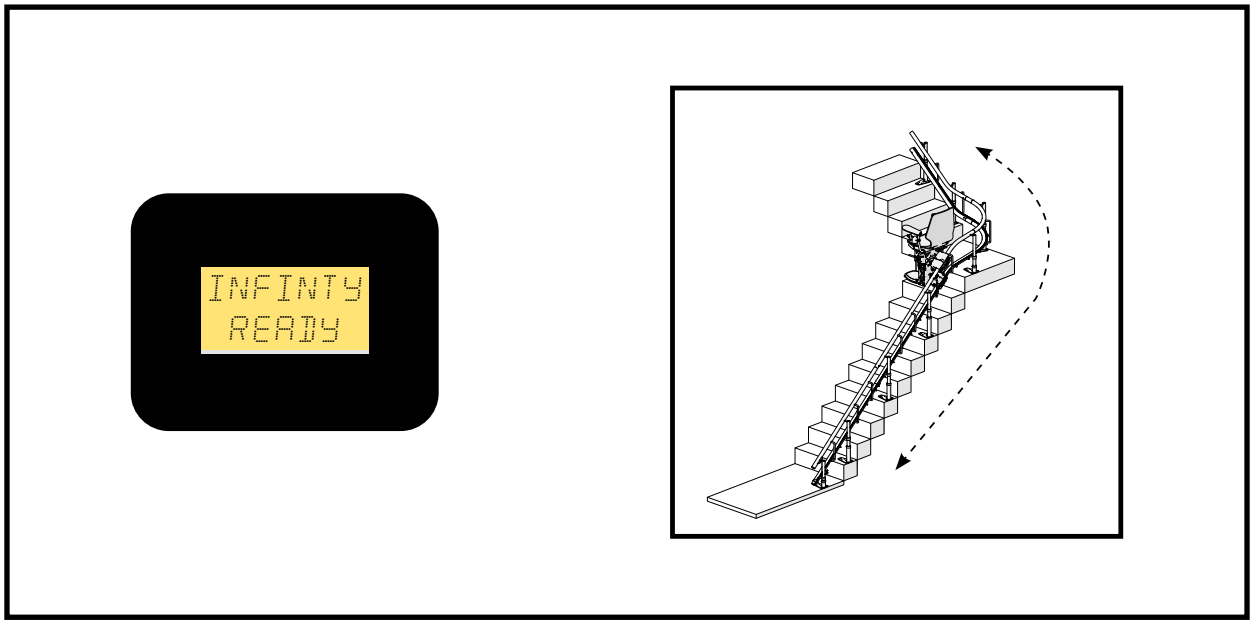
Repeat the process if there is more than one internal bend.



Once the bend(s) speed is programmed, using the remote control, move the stair lift up the rail until it reaches the top charge point.

The display will read a higher number as the stair lift travels.

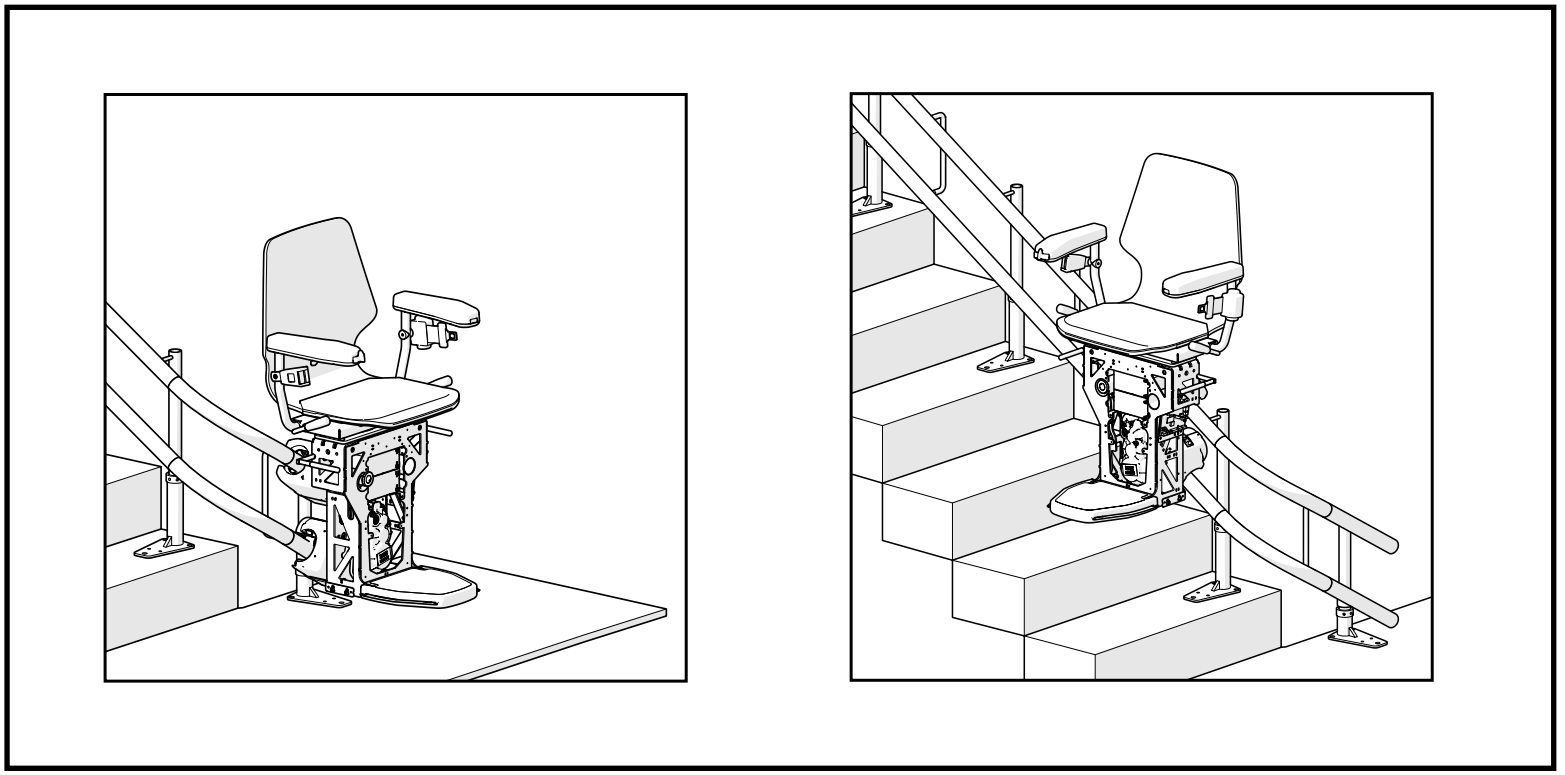
Press and hold the '**SCROLL**' button.



The programming is now complete and the display will read '**INFINITY READY**'.

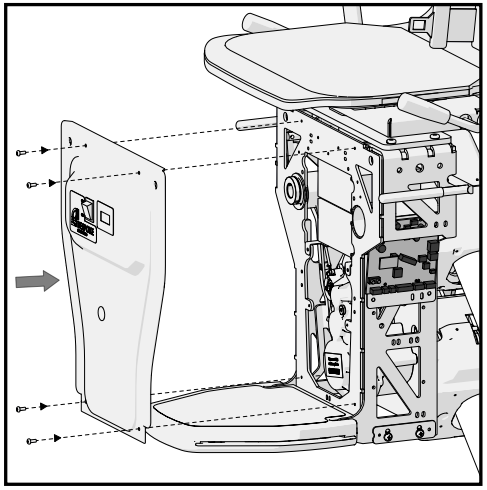
Test the rail by running the stair lift back down to the bottom charge point and then the top.

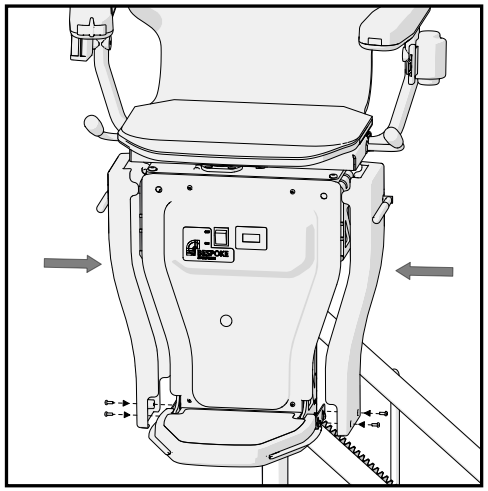
The lift is now programmed.

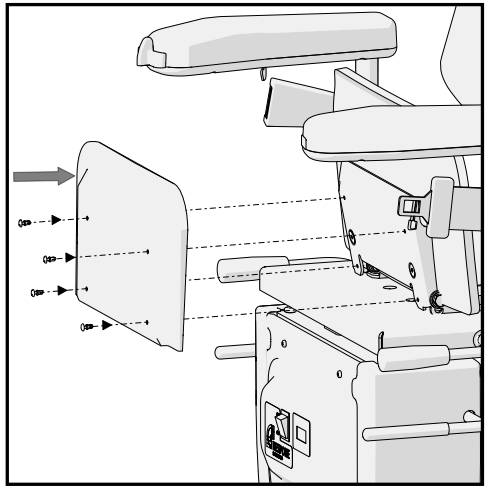


For internal wrap starts follow the same process as sections 6.2.2 to 6.2.5 but begin the process in '**LO**' speed.

6.6 Refitting the Panels







Replace the front and side panels using the screws removed earlier.

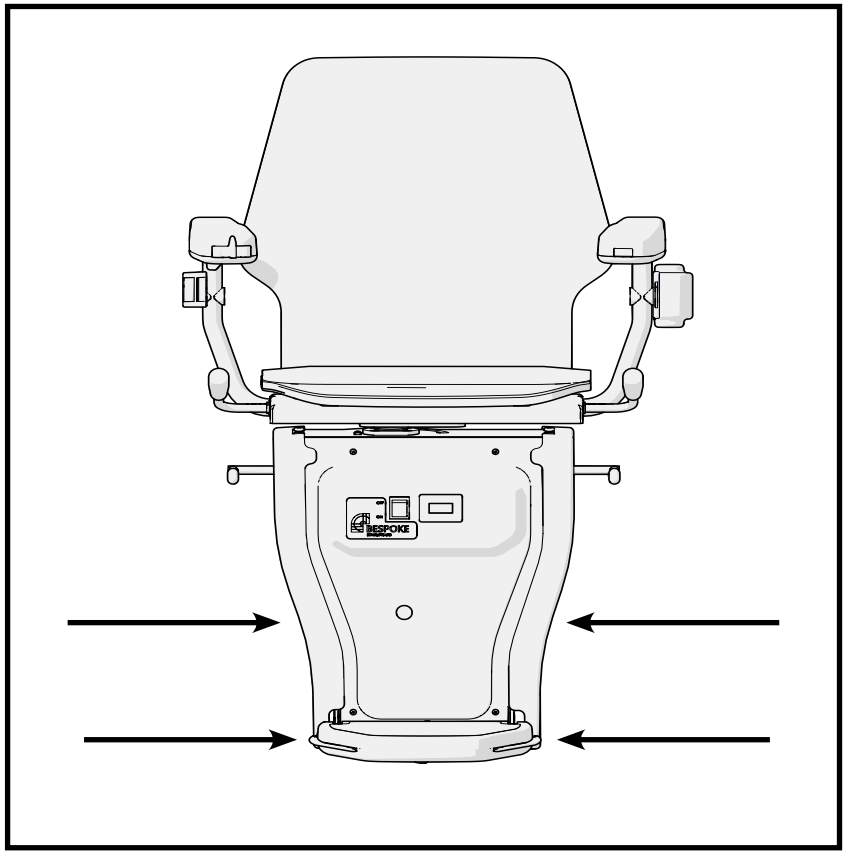
Finally, place the seat base cover using the fixings provided.

.07 Safety Checks

Tools Needed:

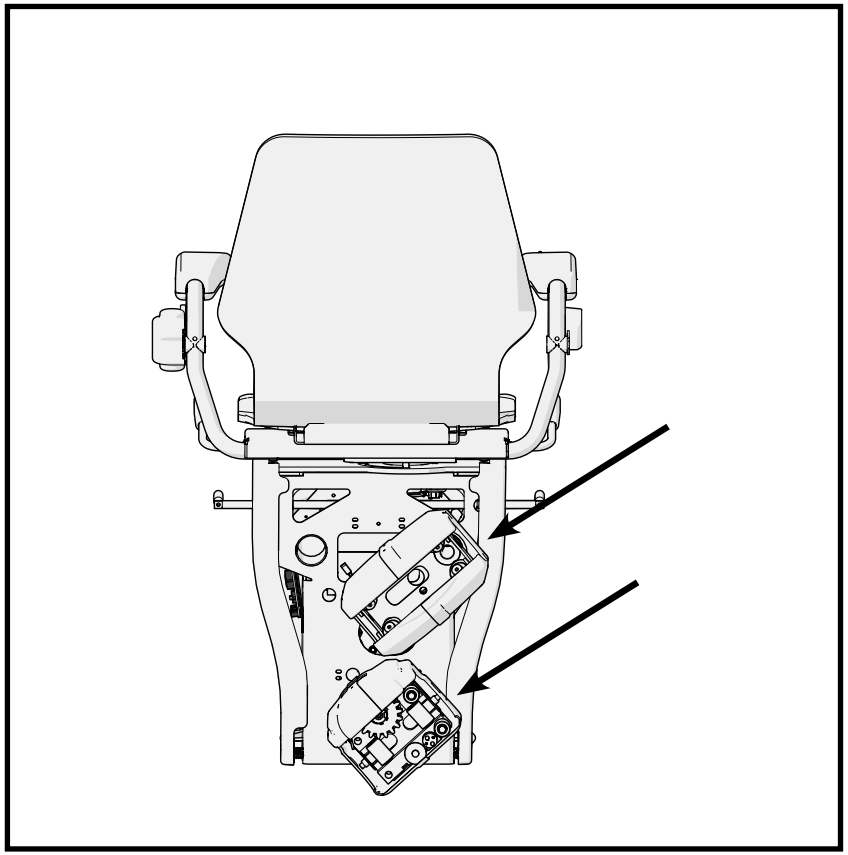
- Protective Eye Wear
- Gloves

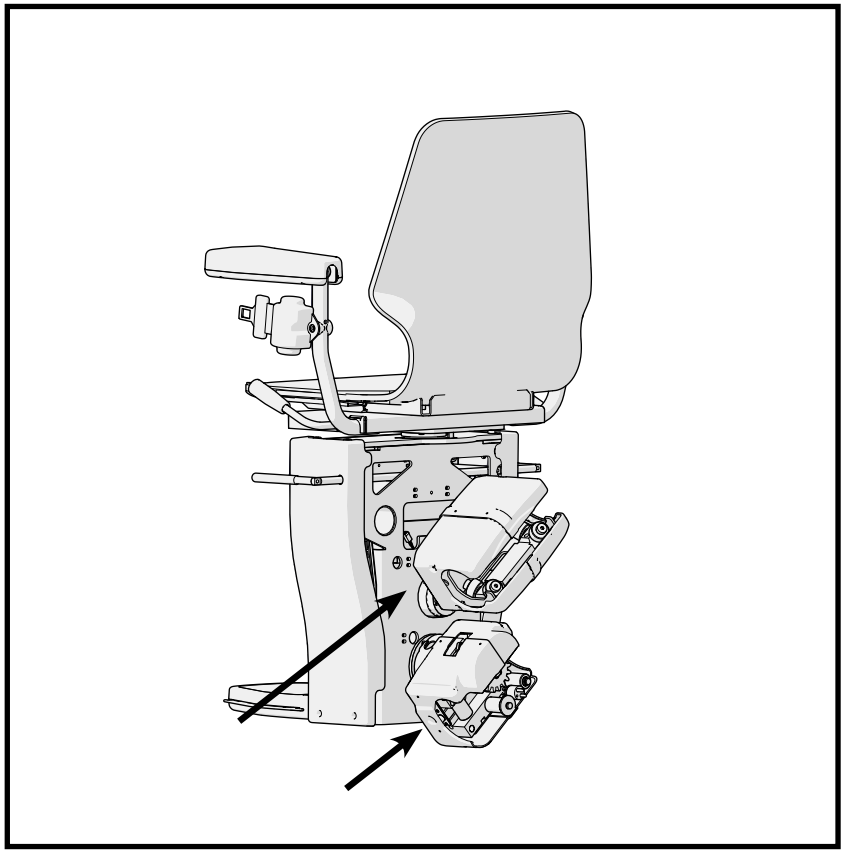
7.1 Front Safety Edges



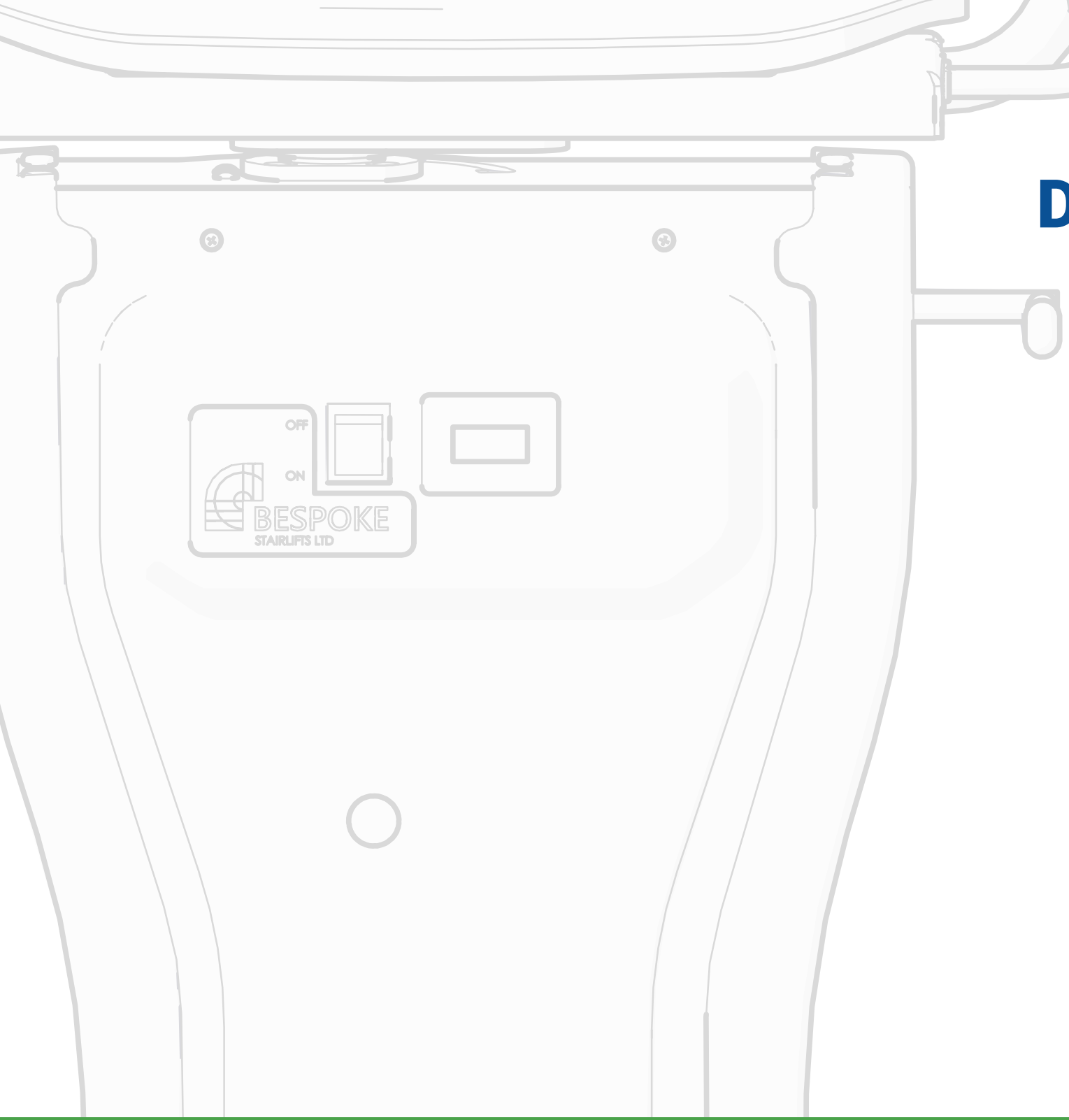
To test the function of the front and side panel safety edges, run the carriage in either direction and press each safety edge shown in the diagrams.

7.2 Rear Safety Edges

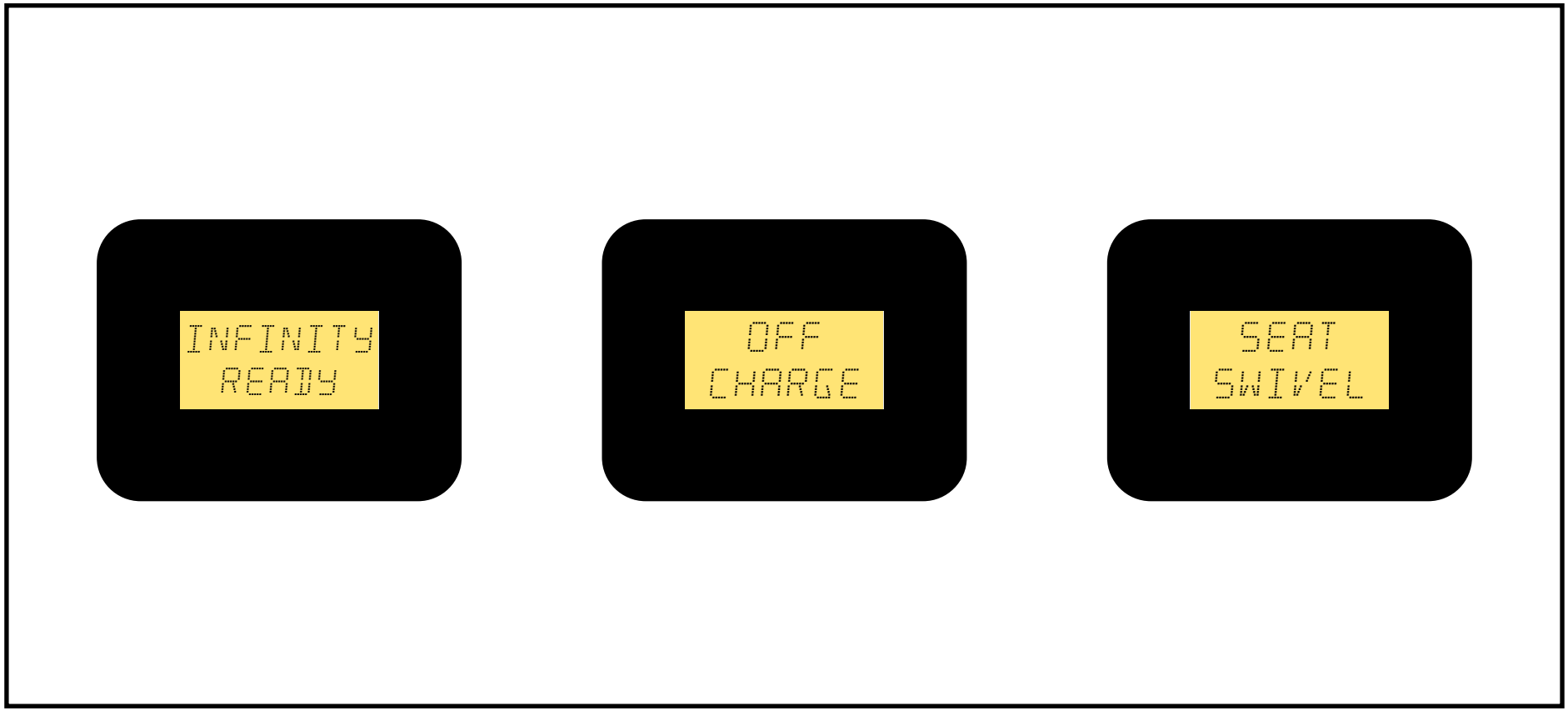




Continue the safety checks on the top and bottom skate safety edges as shown in the diagram.



.08
Diagnostics



Infinity Ready

This will show when the stairlift is on charge and ready to use.

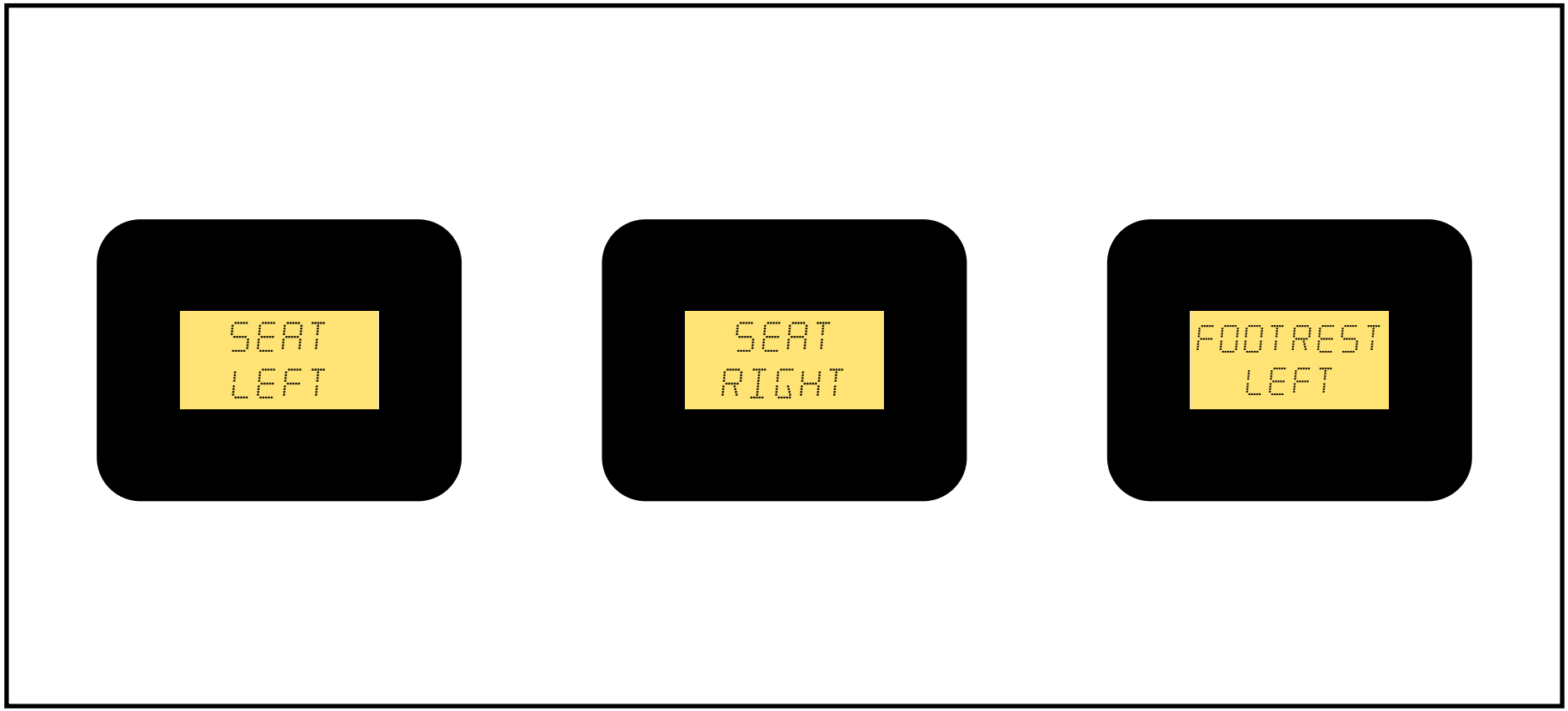
Off Charge

This will show when the stair lift is off charge and will need moving to a charge point.

Seat Swivel

Make sure the seat is swivelled in the correct position.

Also check the switch and the wiring circuit.



Seat Left

Check the chassis side plastic covers are free from obstruction.

Also check the switch/wiring circuit.

Seat Right

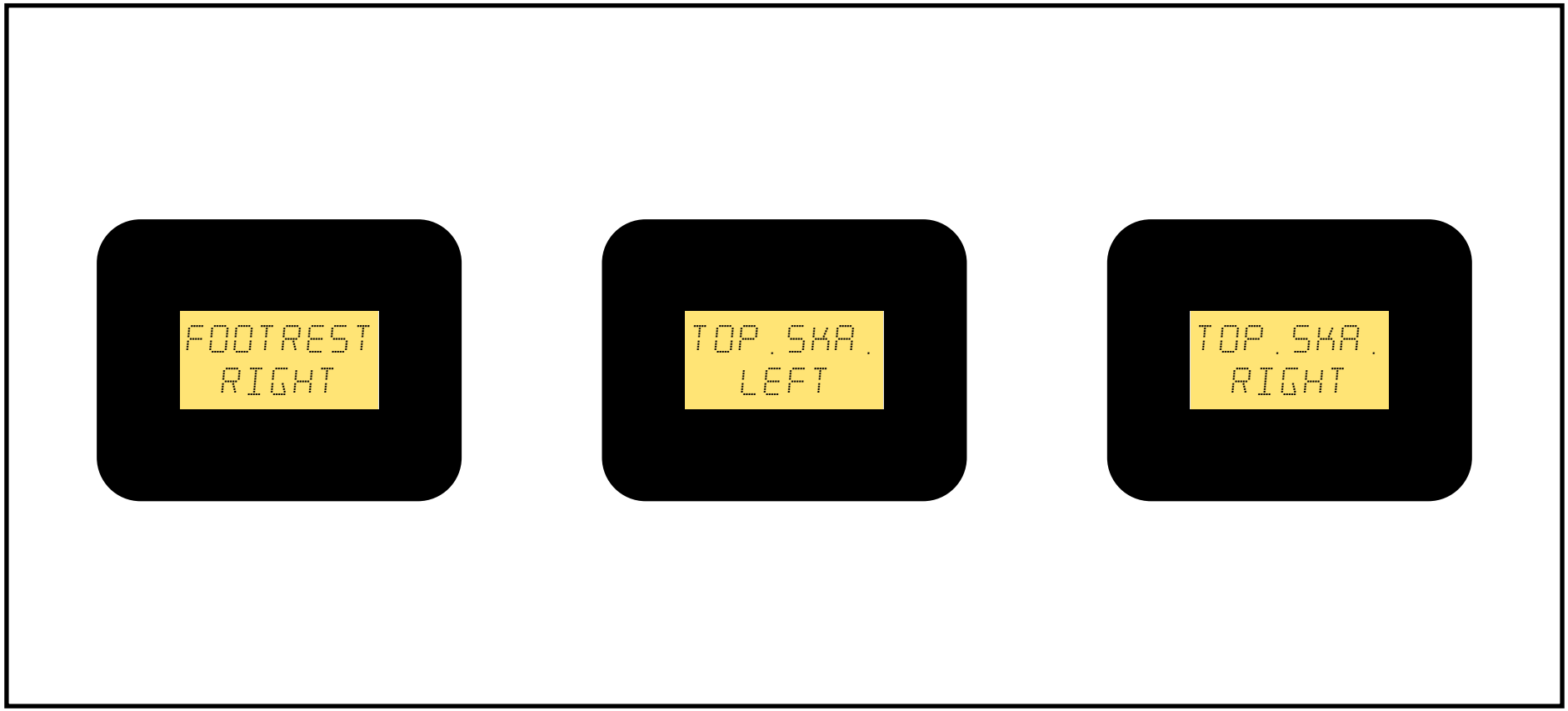
Check the chassis side plastic covers are free from obstruction.

Also check the switch/wiring circuit.

Footrest Left

Check the footrest sides are free from obstruction.

Also check the switch/wiring circuit.



Footrest Left

Check the footrest sides are free from obstruction.

Also check the switch/wiring circuit.

Top Ska Left

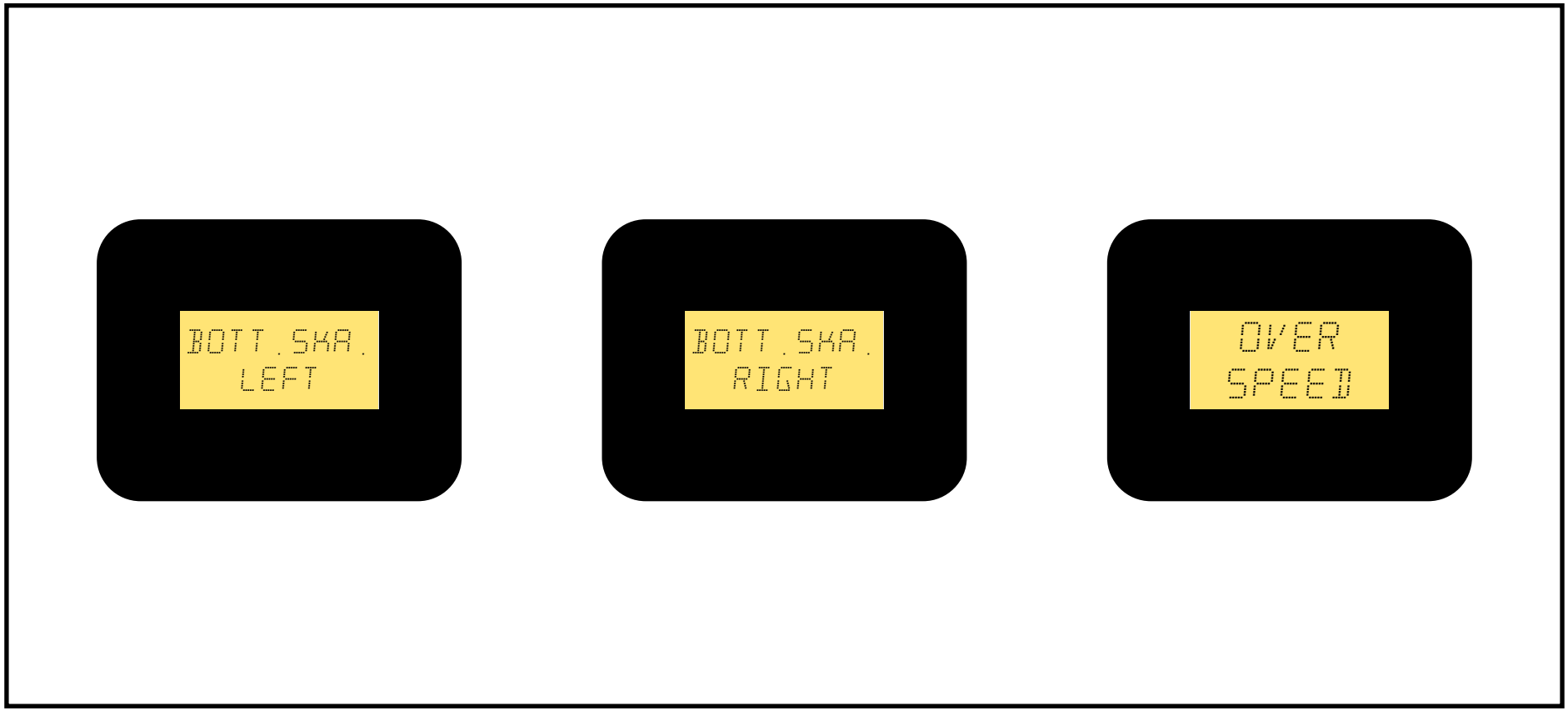
Check the top skate plastic side covers are free from obstruction.

Also check the switch/wiring circuits.

Top Ska Right

Check the top skate plastic side covers are free from obstruction.

Also check the switch/wiring circuits.



Bottom Ska Left

Check the bottom skate plastic side covers are free from obstruction.

Also check the switch/wiring circuit.

Bottom Ska Right

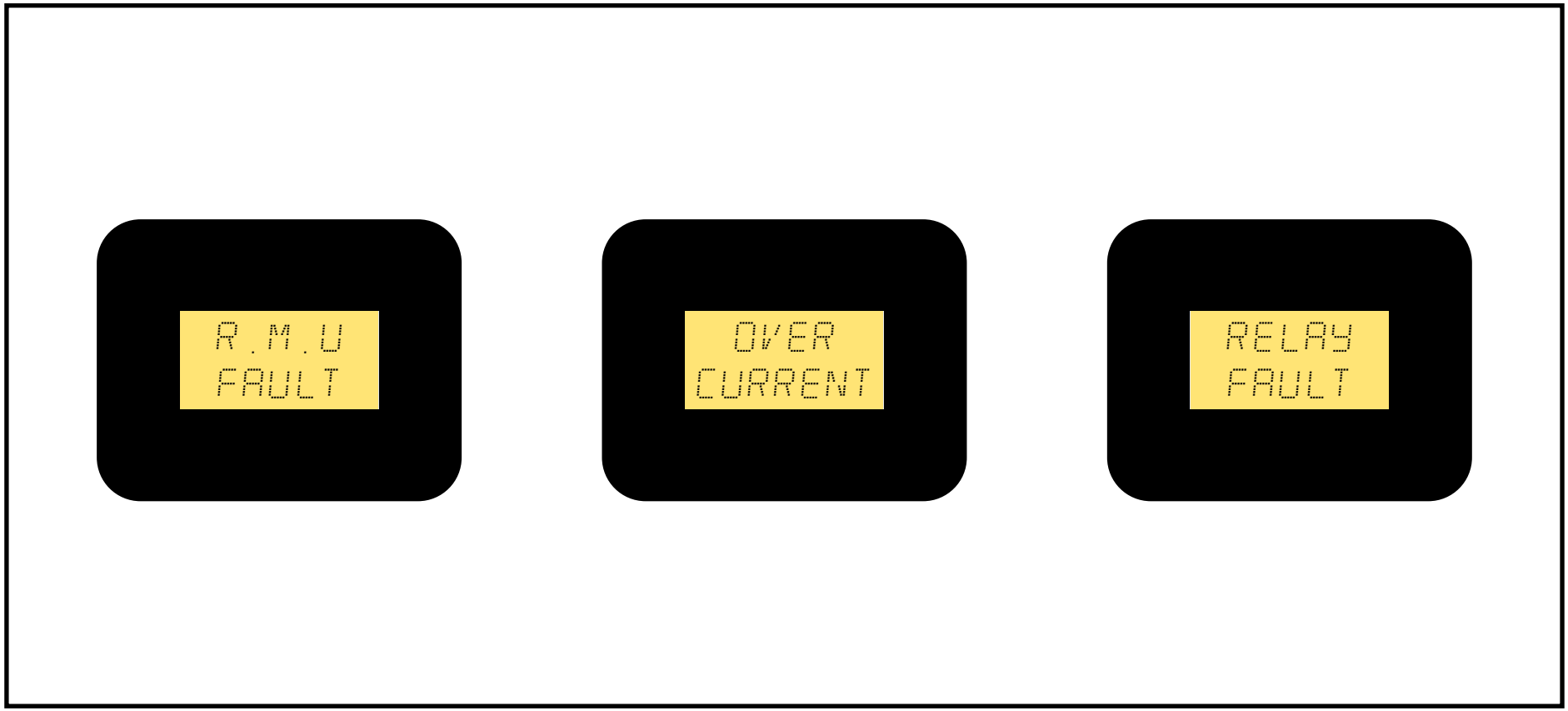
Check the bottom skate plastic side covers are free from obstruction.

Also check the switch/wiring circuits.

Over Speed Fault

Wind the stairlift up the rail for 5cm or until the fault code no longer shows.

Always test in the up direction before testing in the down direction.



RMU Fault

Check the roller on the motor shaft is rotating.

Also check the switch/wiring circuit.

Over Current

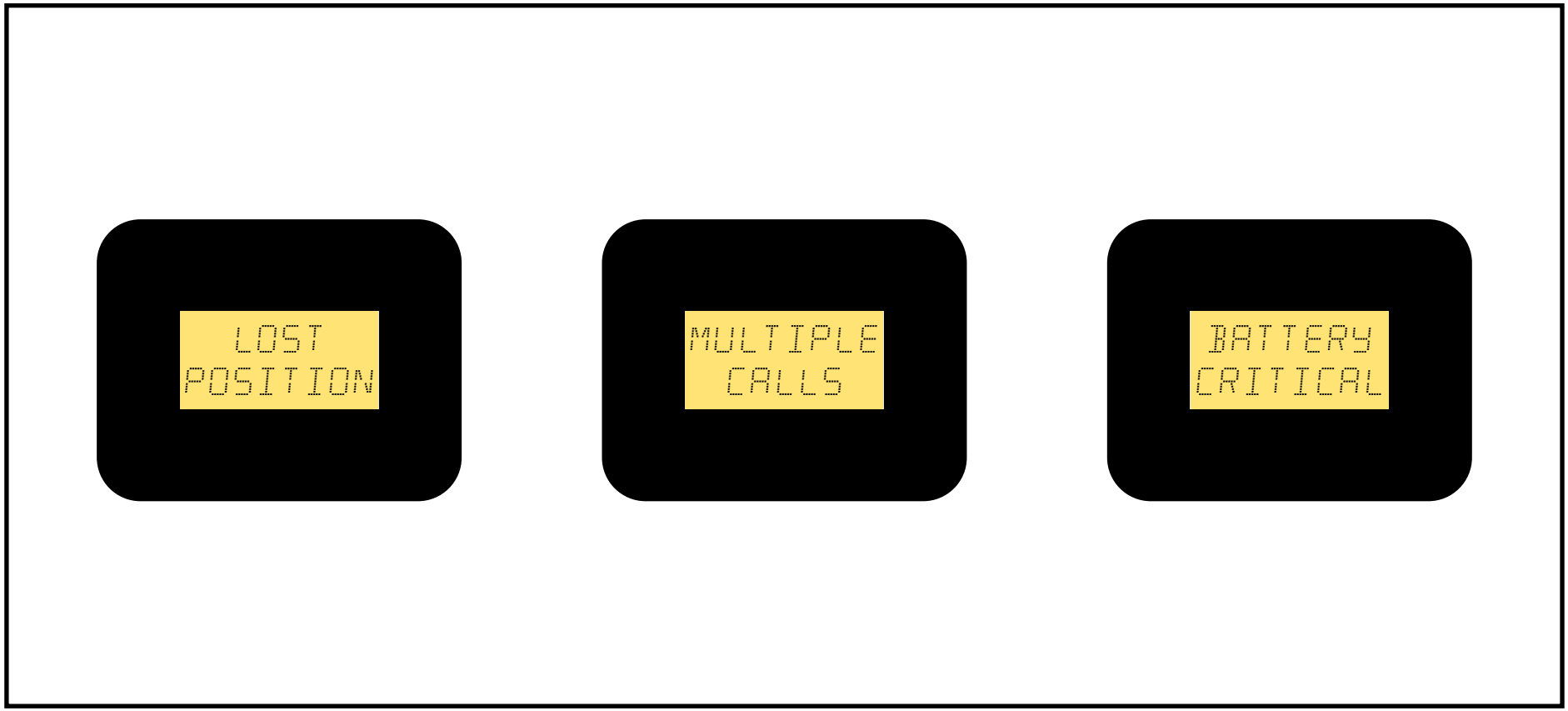
Check the racking/gear is free from obstruction.

Check the customer doesn't exceed the weight limit.

Relay Fault

Check the voltage from the batteries.

Also try gently tapping the relay on the PCB.



Lost Position

Try reprogramming the Stairlift as per rail configuration.

Multiple Calls

Check for a remote pressed in a drawer.

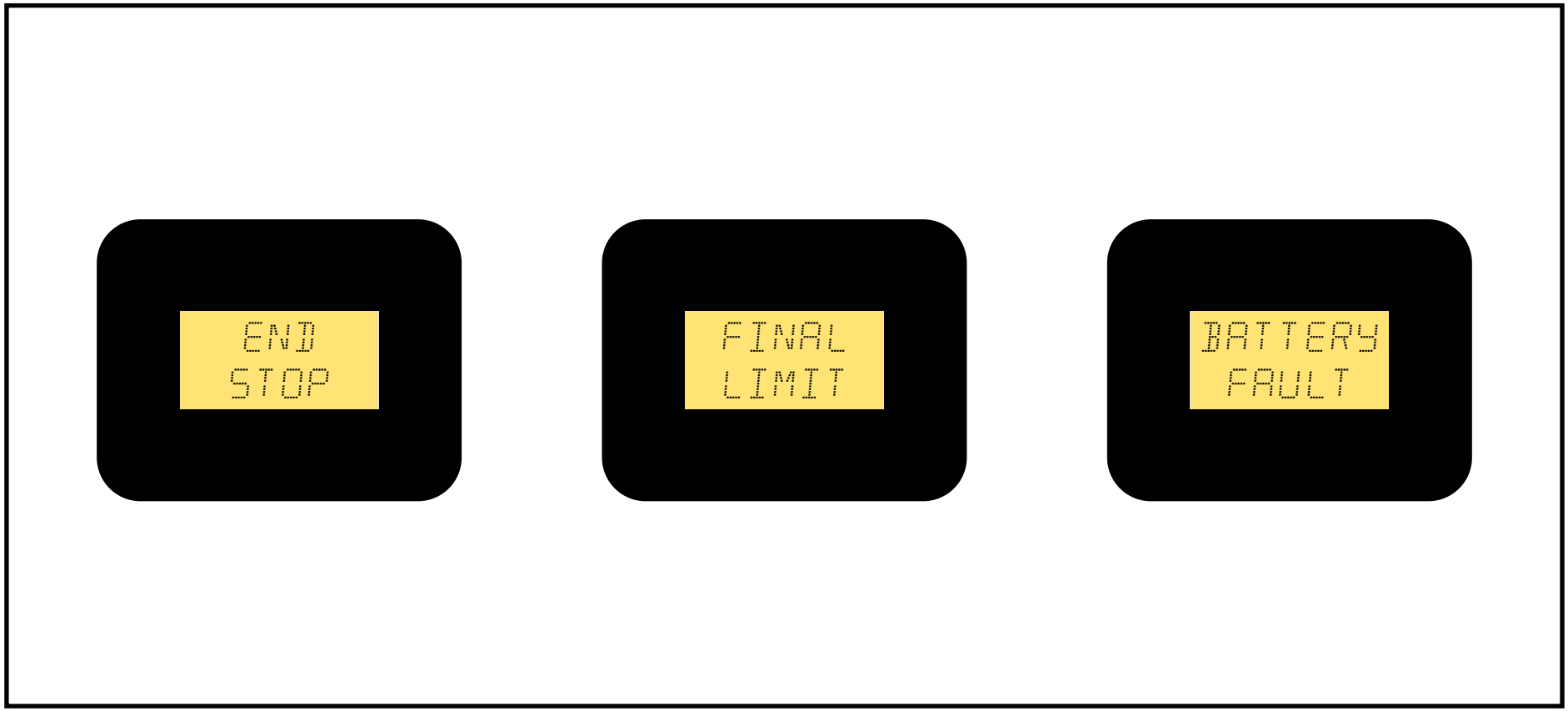
Also check for a short circuit in the arm loom.

Battery Critcal (Short Circuit)

Check for two red LED'S on the PCB.

Unplug each of the connectors from the PCB until the second light goes off.

Then from that connector check each cable to earth until the short circuit is located.



End Stop

Check the bottom skate covers are moving freely.

Check the stairlift isn't running into to the end stops. Try reprogramming.

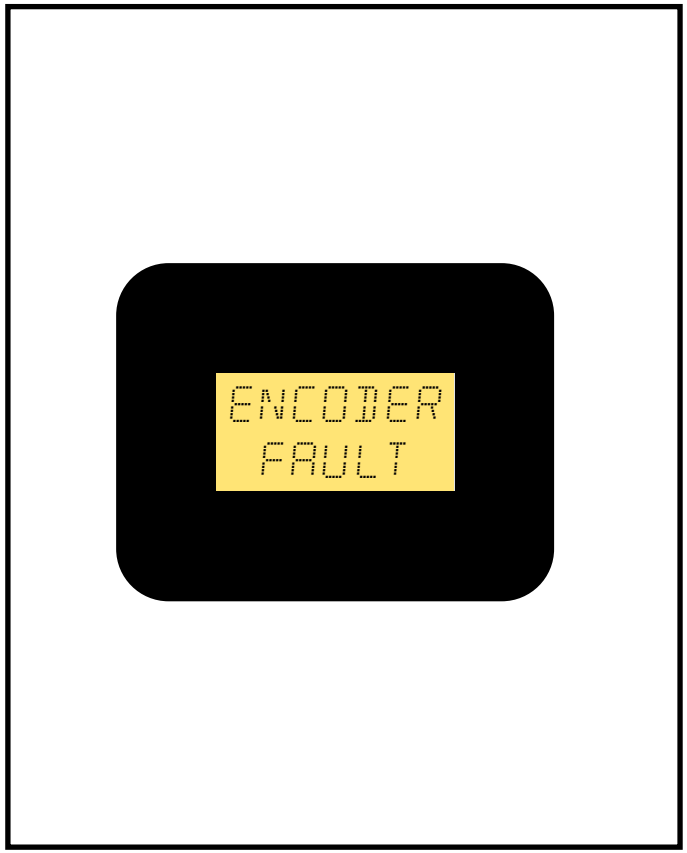
Final Limit

The stairlift is in straight mode in the PCB settings.

Battery Fault

Check the connectors haven't come off the batteries.

Check the in-line fuse hasn't blown.



Encoder Fault

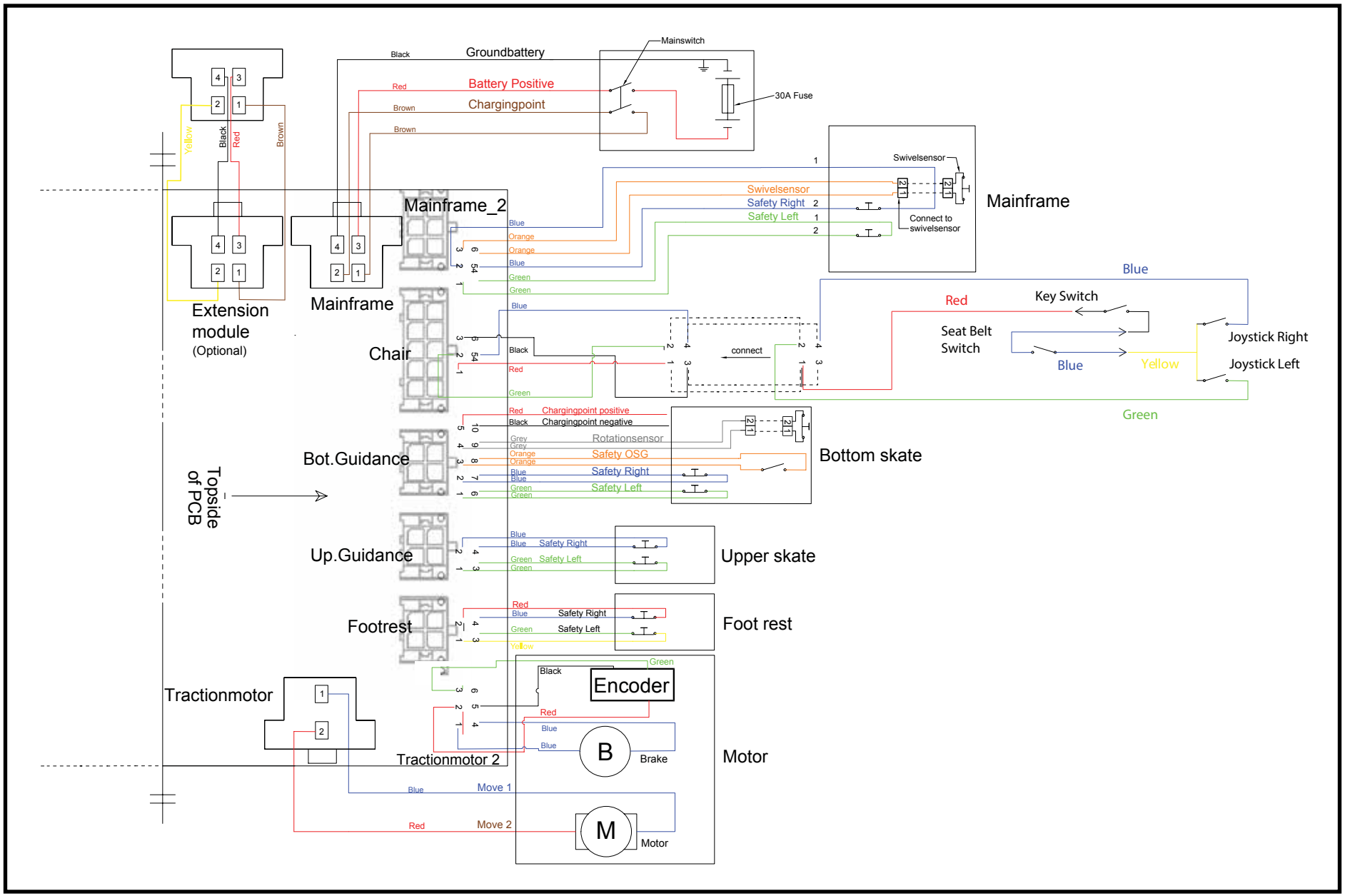
In Tornado motor and not AMT.

Low voltage coming from the batteries or charge points.

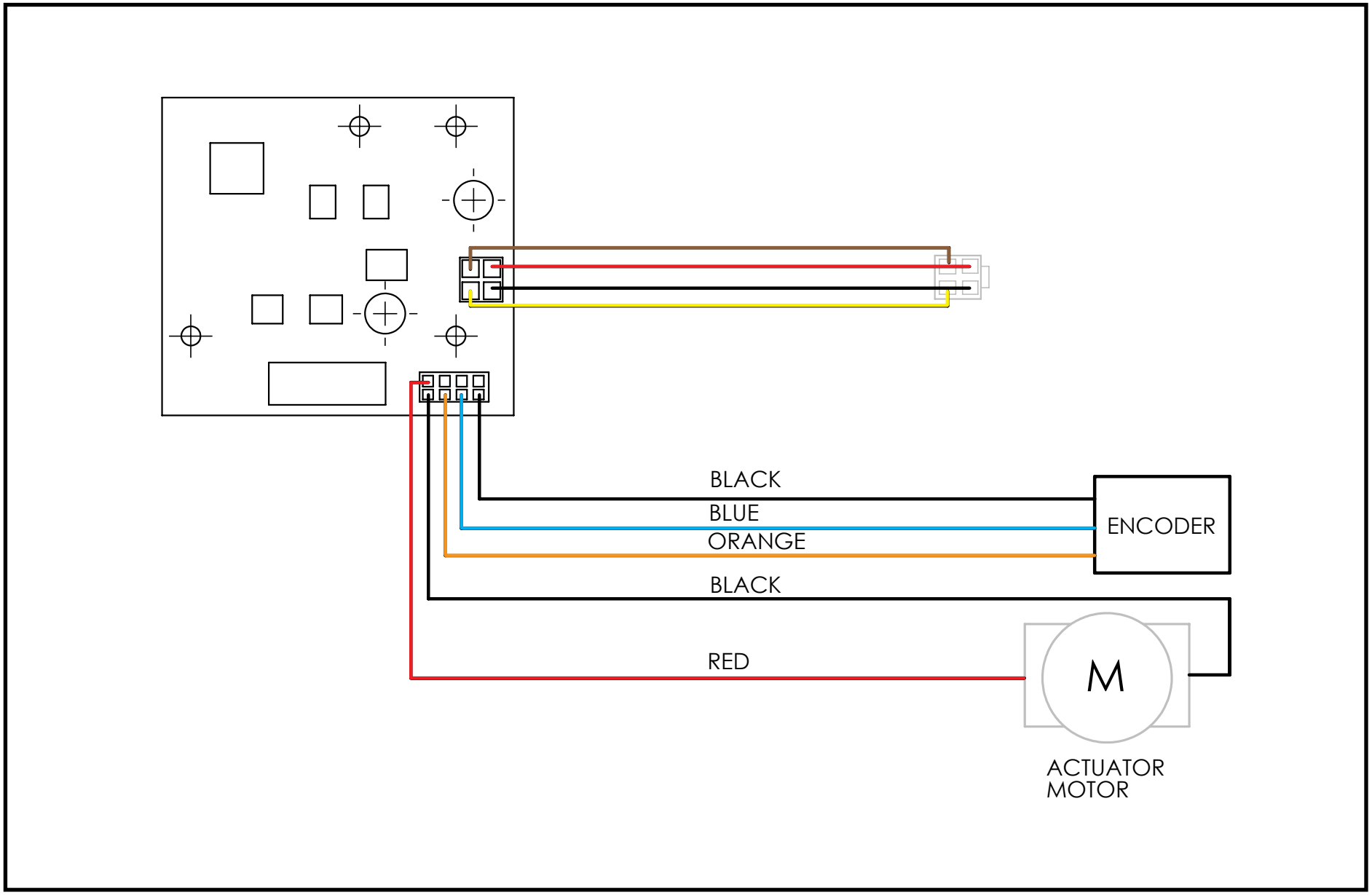
Faulty encoder cable or Motor cable.

.09
Wiring Diagram

9.1 Infinity Main Board



9.2 Infinity Powered Swivel Board



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132_AMG Infinity Curved SL Install Guide_rev041625