PR9 SERIES

Canti-Lift™

CANTILEVER INCLINED PLATFORM LIFT

ASSEMBLY INSTRUCTIONS

Revision D

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INTRODUCTION

This instruction manual gives a complete step-by-step guide to installing and putting into service your Lifted Services Platform Lift.

It is important to carry out every assembly in accordance with the correct assembly instructions and at all times always use the correct safety equipment.

The installation staff must abide by the rules of the contractor and follow the procedures providing at all site inductions.

The Lifted Services Platform Lift is sent to the assembly site in a number of main components. Some components come pre-assembled and others may need assembling and checking on site.

During the assembly it is necessary to lift loads up to around 50kg. It is required that the necessary and appropriate arrangements are taken for aiding the lifting of components into position, for example, trolleys and pallet trucks. All installation staff must have undergone training for safe manual lifting.

For the safe disassembling of the lifting platform and the safe disposal of packaging materials refer to section 5.

The assembly requires at least two persons and one will adopt a lead role, responsible for the overall safety on site. The staff must coordinate their work and must have the skill required for carrying out all of the necessary assembly operations in a correct and safe manner. In particular, they must have read and understood the instructions contained herein.

The Installer confirms that only parts supplied by Lifted Services must be used in this installation.

1.0 PRE-ASSEMBLY PREPARATIONS

1.1 Tools required

- Full set of metric spanners and ratchet spanners
- Full socket set
- Spirit level
- A tape measure
- A small flat tip screwdriver
- A medium flat tip screwdriver
- Lamp
- SDS Drill
- Insulating tape
- A medium weight hammer
- A medium weight rubber mallet
- Medium size pliers
- Allen key set
- Cable ties
- 110V transformer and relevant power tools, as applicable

1.2 Test Equipment

- Stopwatch

1.3 Personal Protective Equipment

The following PPE must be checked for good condition, issued, and worn prior to access to the work area of the site. PPE should not be removed at any time whilst in or near the work area. See Form F12 for issue checklist.

- Hi-viz waist coat
- Hard hat
- Appropriate gloves for handling Aluminium/Steel products
- Steel toe capped boots

1.4 Health and Safety requirements

Installation engineers should be qualified to perform the installation and must pay particular attention to the risk assessment appended to this document. They should have received and read their employer's Health and Safety instructions and been inducted onto the particular site.

Always, when working on the platform, ensure that it is stationary and that the power has been isolated unless otherwise instructed in this manual. Appropriate signs must be positioned at each control box advising other people that the equipment is undergoing installation and testing. The isolator must be locked in the off position such that another person cannot inadvertently turn it on during installation.

If the lift is left in an operational state prior to completion of all of the installation tests, then the power must isolated and locked off and all doors locked. A warning sign explaining that the lift is not to be used must be displayed.

1.5 Essential Rules

All installation work detailed in this manual must be undertaken only by trained, competent and experienced persons.

Before using the lifting platform, it is absolutely necessary to read and understand these instructions.

It is also absolutely essential to comply in all circumstances with the safety provisions contained in these instructions.

The provisions relating to safety are highlighted by the symbol 

Failure to comply with these instructions can result in danger or unsatisfactory operation.

The manufacturer declines all responsibility for any event deriving from the failure to comply with these instructions.

1.6 Pre-Assembly Instructions

Unpacking

During the unpacking of the components check the quantity of the parts against the parts list to ensure all parts are present. Also check for the condition, in case of any damage during transportation. Any parts that appear damaged should not be installed and should be reported back to the supplier.

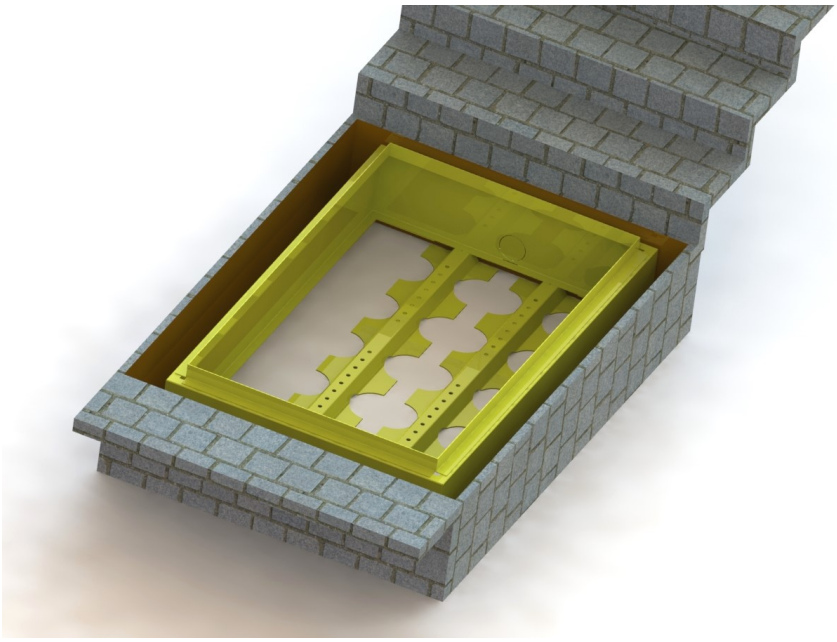
Dimensional Checks
Check the dimensions of the pit, in particular width, length and depth, and check the dimensions of the steps, in particular the going, rise and number of steps. The dimensions must reasonably correspond to those shown in the design drawing.

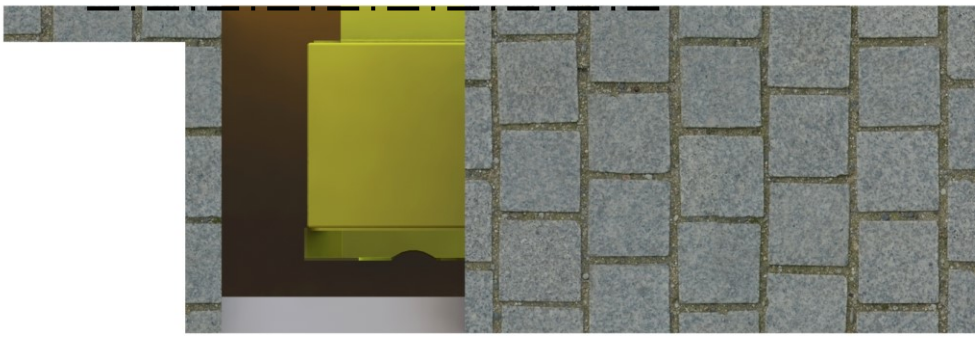
Pit Conditions
Make sure that the pit has ducting and drainage (where applicable) as specified in the site design drawings. The edges of the pit walls must be smooth and unbroken and within tolerances. The pit shaft must comply with the construction specification as a whole and therefore must be able to withstand the forces induced by the operation of the platform. Its temperature must always fall within the range of 5°C - 40°C.

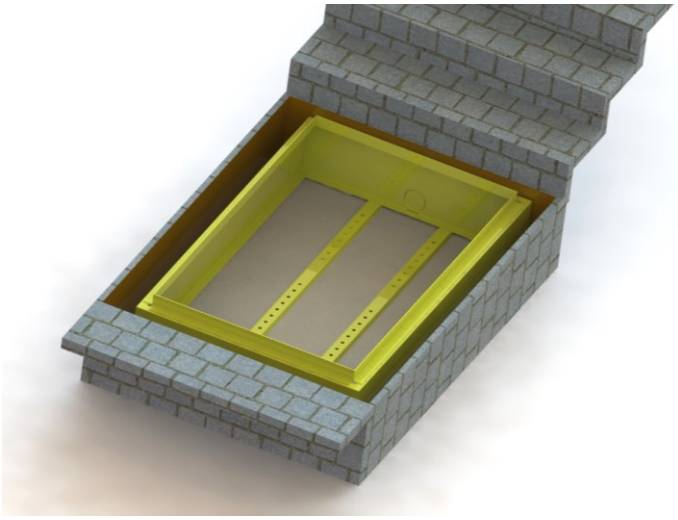
Variation of components

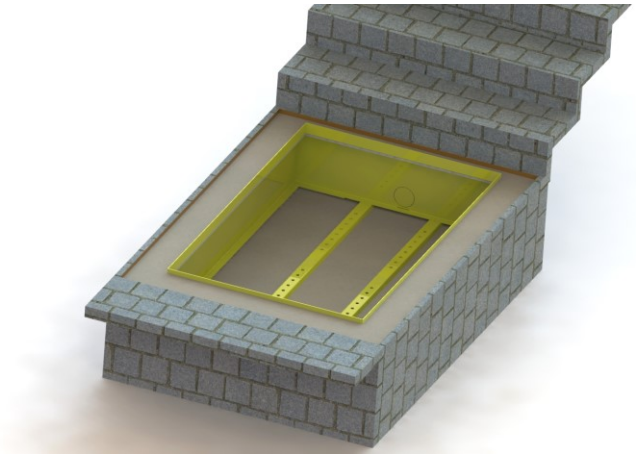
Due to the customised nature of the product, each installation will have a slightly different finished lift. These differences will be in the overall rise and reach of the platform, to suit the steps. As such, the figures in this manual depict a typical installation and this may vary from time to time. However, the principles, safety rules and test scheme outlined in this installation manual apply in all cases.

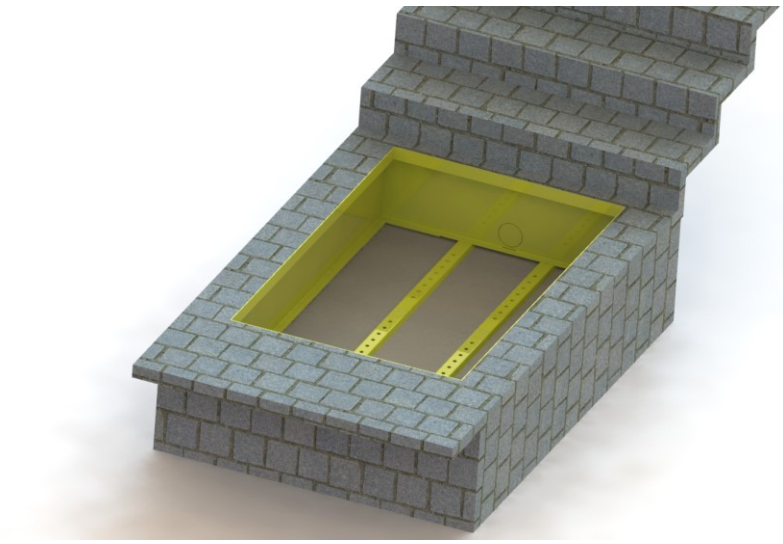
2.0 INSTALLING THE LINER









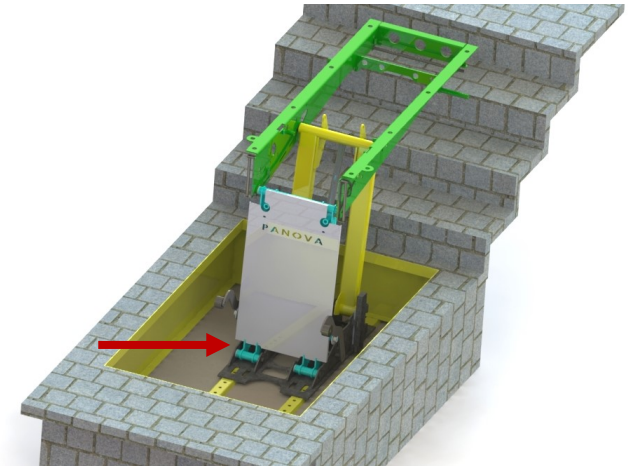


2.0 ASSEMBLY OF THE PLATFORM COMPONENTS

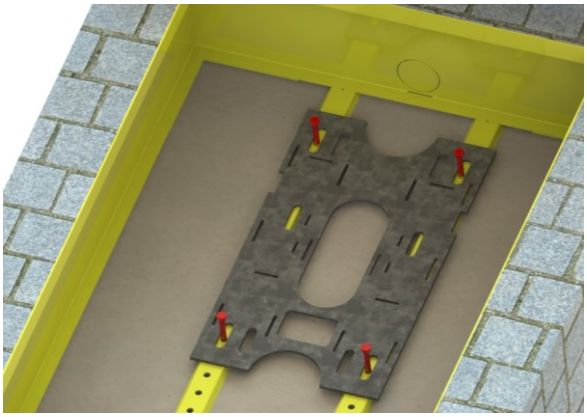
2.1 Assembly of the mechanics

Before the base frame can be put into place it is important that the floor is level, clean and there are no imperfections in the pit where the base frame sits. Once the base frame has been positioned correctly it is important to check that the frame is level by using a spirit level. If the base is un-even use the enclosed shims to level it. After inserting the shims use the spirit level to check if its level and add more shims if necessary.

Figure 2.1 Base Frame Assembly



For some installations, depending on the size and weight, the base assembly may require mechanical assistance to lift it into position. This is either in the form of a fork lift truck, or the combined use of a pallet truck/ trolley and a tripod hoist.

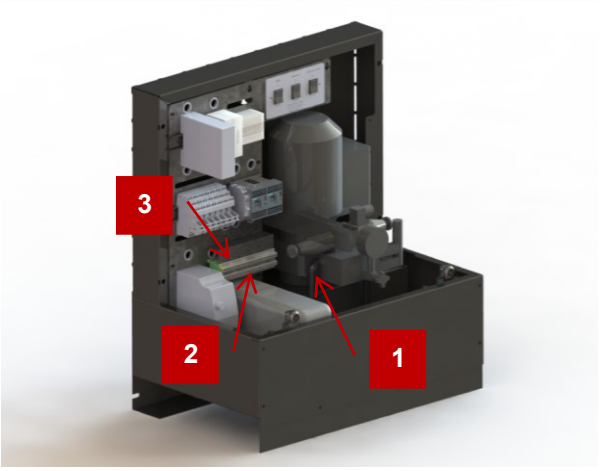


Fix the base assembly to the pit floor using the M12 floor bolts by drilling holes into the pit floor beneath the base assembly fixing points, then inserting the floor bolts with a mallet, and then tightening the bolts with a spanner. Route your service pipes through the hole in the pit to your panel.

Install push-station at the desired location using screws. Route cables to panel.

Fix panel at the desired location. Connect trailers, hydraulic hoses and power lead to the panel as follows:

1) Connect trailers to the din rail connector according to the colour scheme provided.
2) Attach hydraulic hoses to the pump at the highlighted locations. The hydraulic pipe work should be fixed using the clips provided at intervals of at least 300mm and at each bend.
3) Connect the power lead from the electrical mains isolator to the din rail.



Cable connections are highlighted on the wiring diagram accompanying the lift.
Connect all the plugs to the trailing leads from the

- the landing call buttons,
- control cabinet and
- the platform.

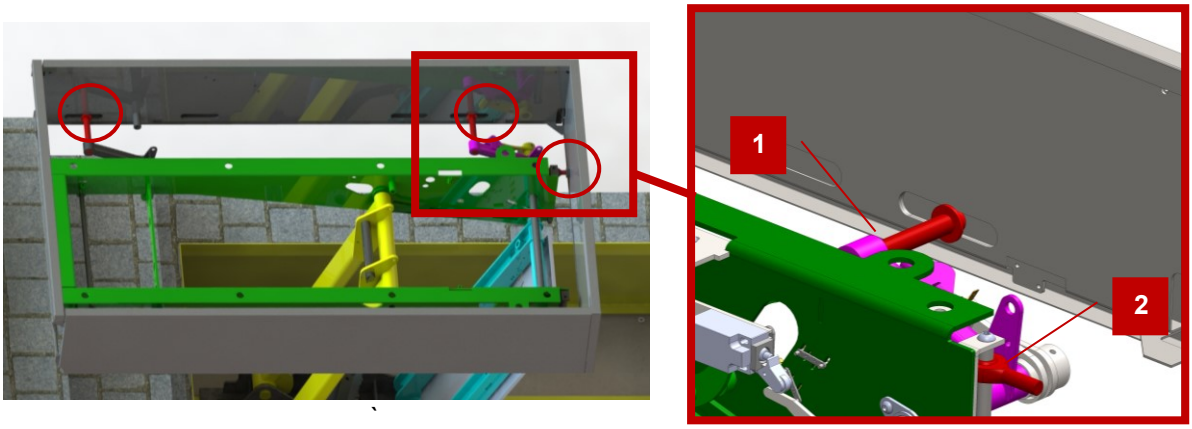
The control cabinet requires a minimum of two persons to lift it into position. Once located in the designated place, secure the cabinet to floor or wall as appropriate.

The main supply will be terminated in an adjacent rotary isolator.

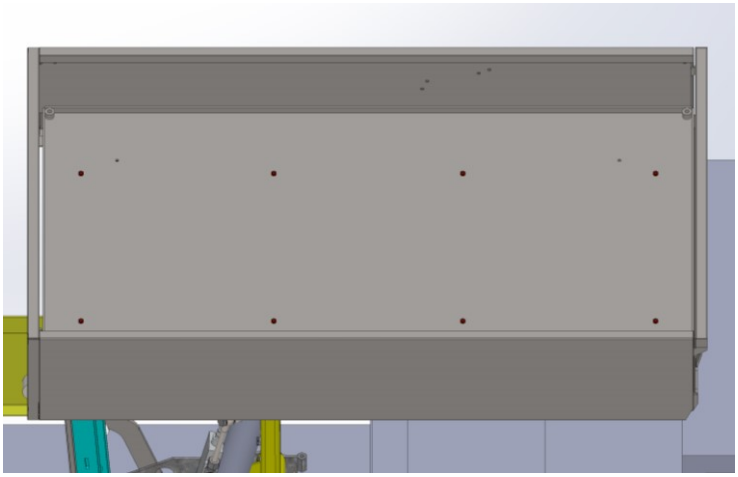
Ensure that the mains supply is off before wiring the isolator to the cabinet.

Do not turn on the power now. Check that the isolation switch is protected by at a least a 30A RCD.

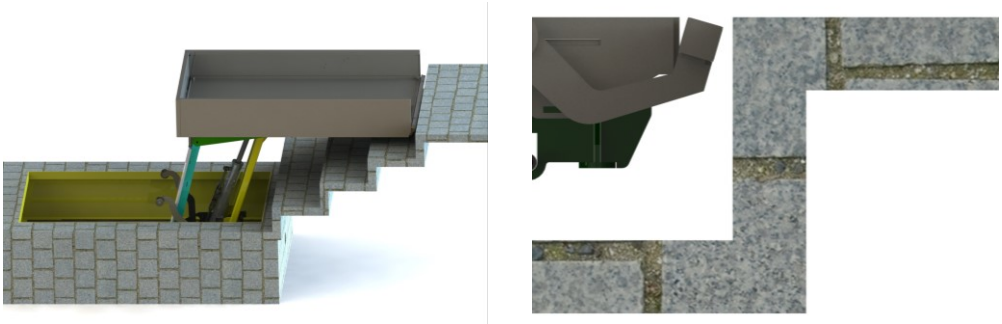
Test the lift using the up and down buttons to ensure it is functioning properly.



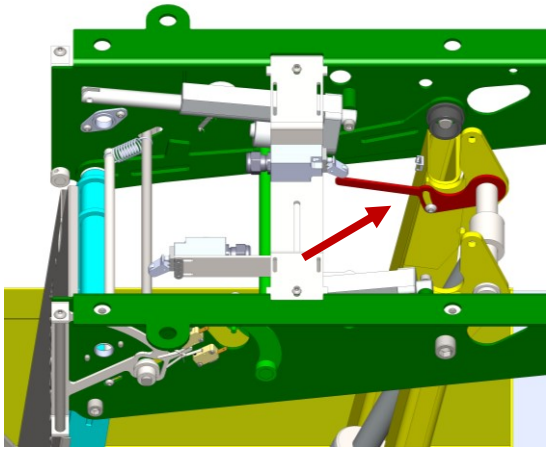
Fit the barriers on to the floor chassis by (1) fitting the collars into the slots on the barrier's sides and (2) fitting the ball joint through the vertical pin guide.



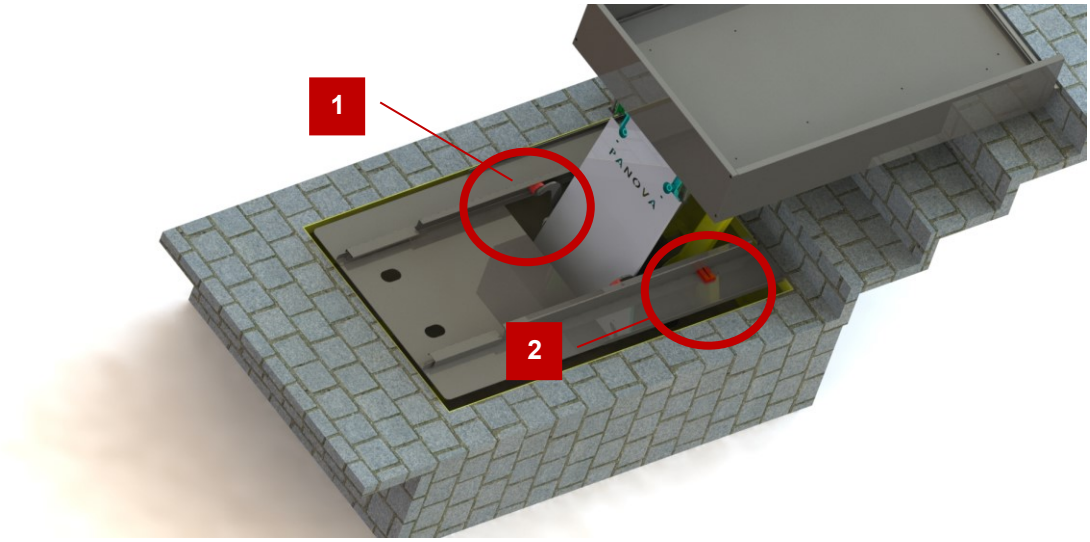
Fix the floor to the floor chassis using nuts and bolts at the locations highlighted in red.

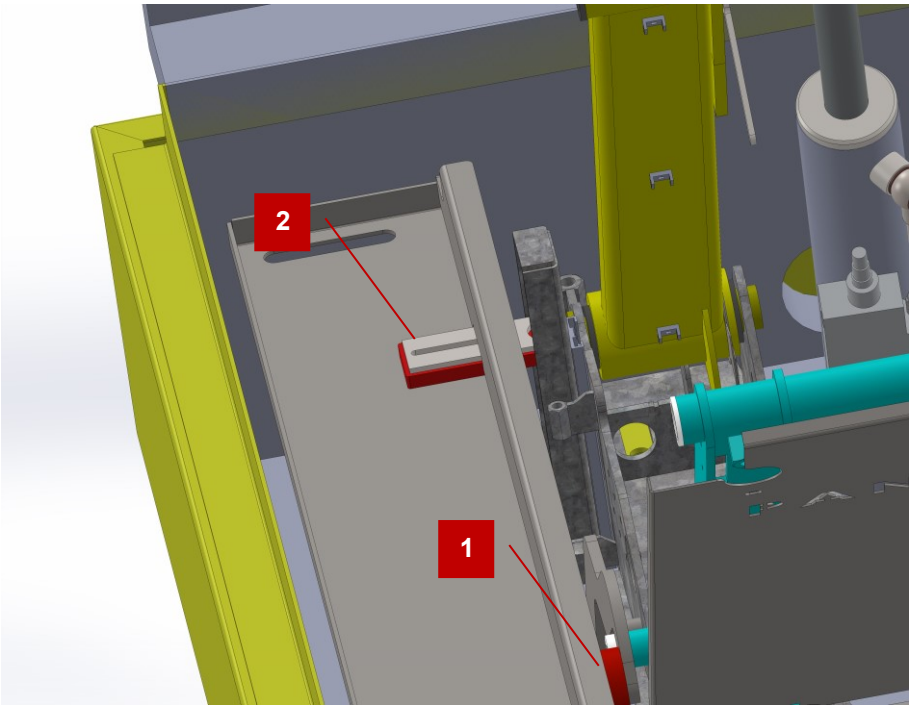


Bring the lift up until the floor is level with the top step as shown.

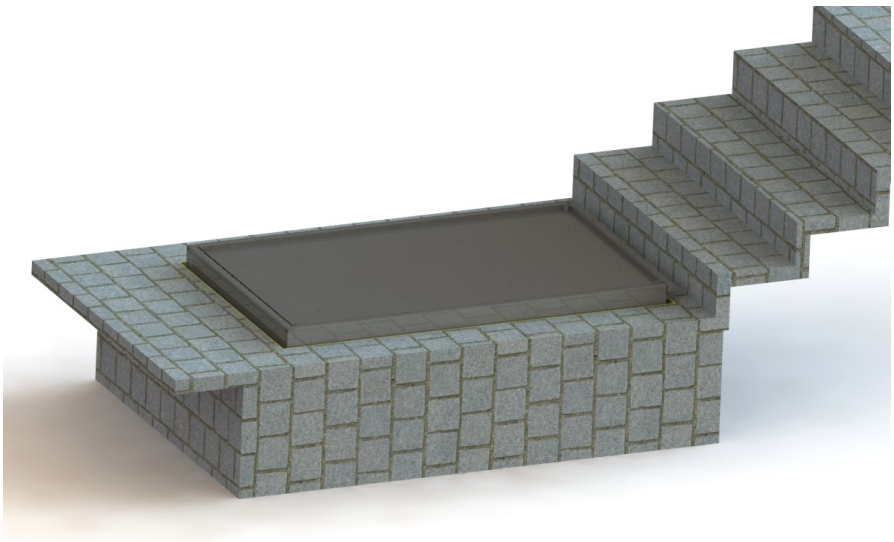


Adjust the switch lever so that it triggers the top limit switch when the lift it is at the top position.

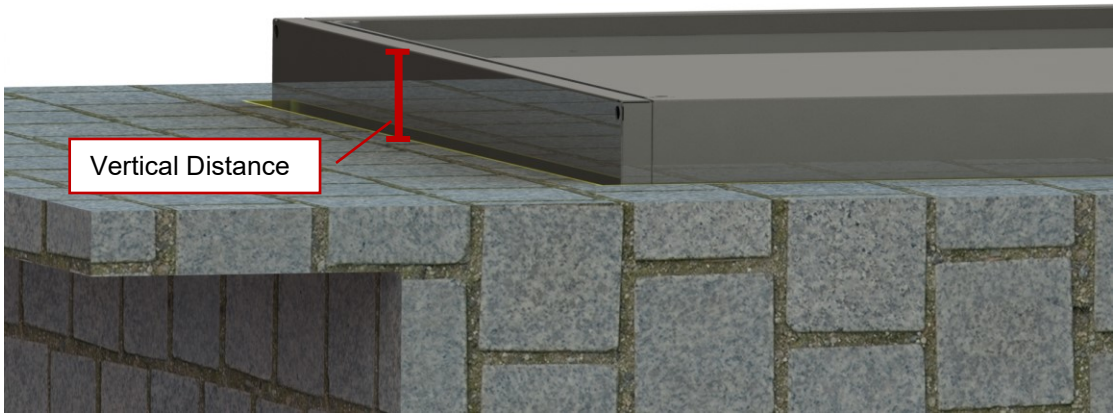




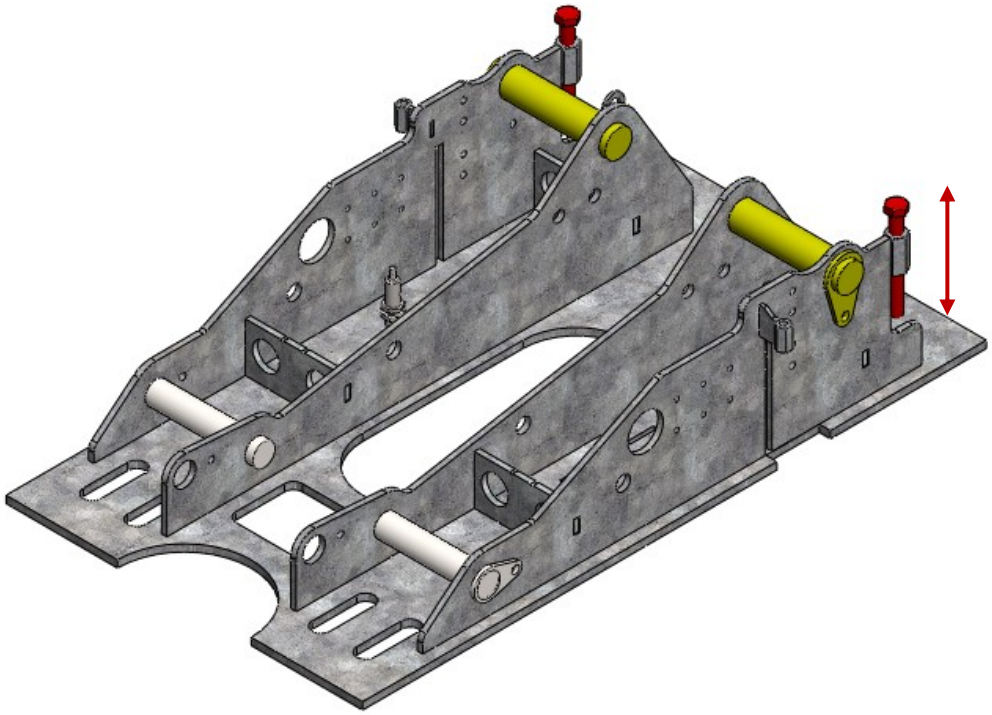
Fit the pit protect to the assembly by (1) fitting the collars into the pit protect rail and (2) fitting the nylon guide into the guide track.



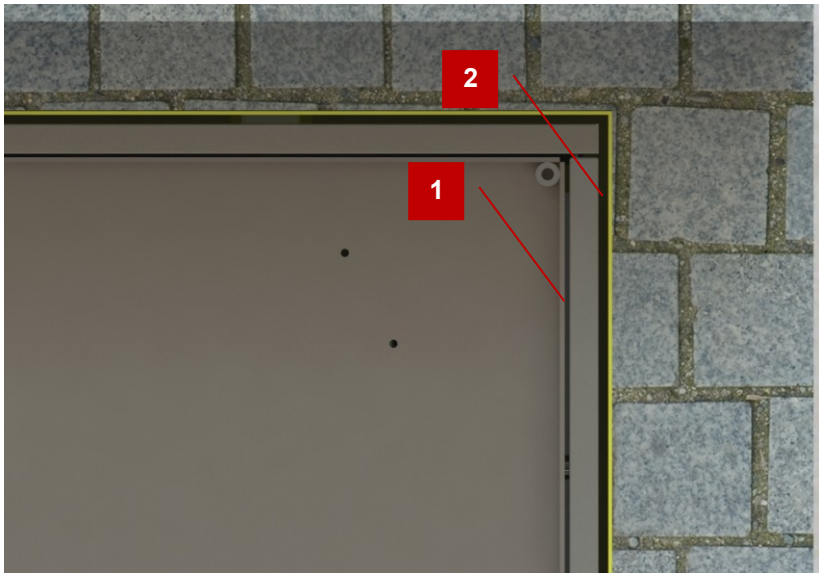
Lower the lift into the pit until the stop switch is triggered and the lift stops completely.



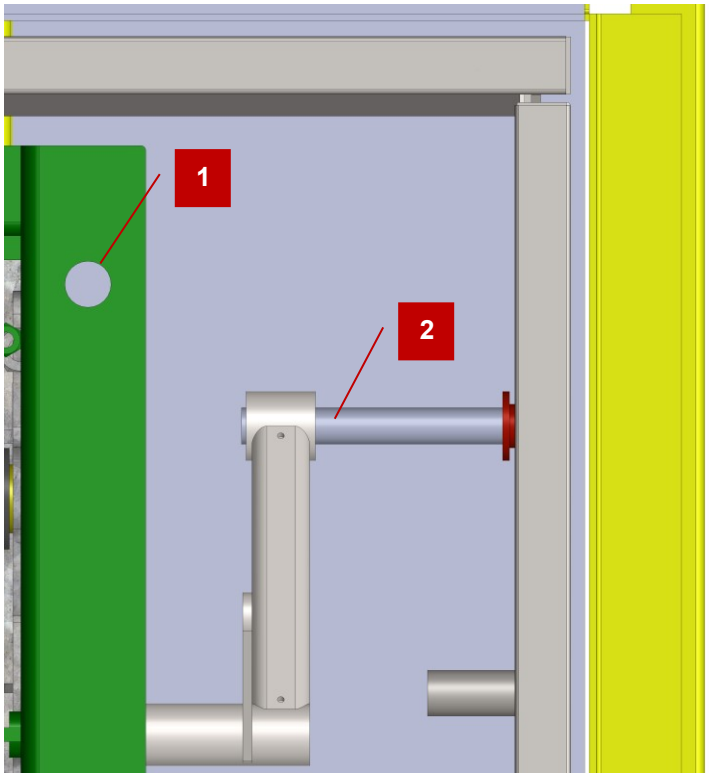
If any, measure the vertical distance between the top surface of the barriers and the floor.



Adjust the stop pins highlighted in red accordingly so the top surface of the barriers is level with the floor at the bottom position.



Check the distance between (1) the floor and the side barriers and (2) the barriers and the pit liner bezels. The gaps must be as even as possible and equal on both ends.

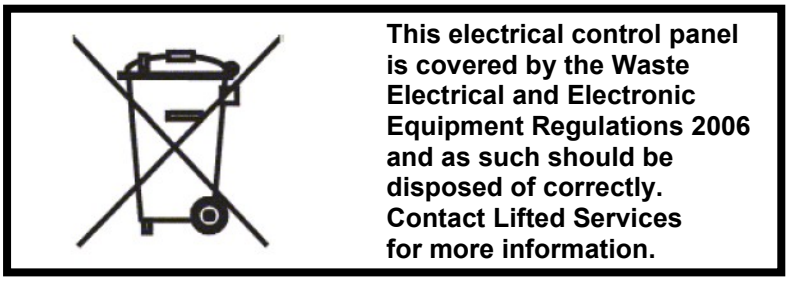


If necessary, adjust the lateral position of the floor and the barriers by (1) loosening the bolts holding the floor try and moving it as necessary within the holes in the floor chassis and (2) adjusting the shaft attached to the barrier.

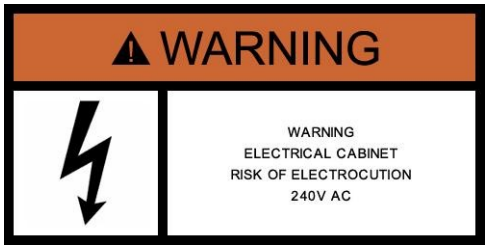
2.4 Affixing notices and signs

Ensure that all of the following notices and signs are securely fixed in the relevant locations around the lifting platform.

1. WEEE Regulatory notice attached to the electrical control panel



2. A sign/label indicating mains power connections in the motor room.



3. On the Control Cabinet, a sign indicating the rated load and the name of the manufacturer.

4. Where appropriate, a sign identifying the mains electrical isolation switch.

5. A sign on the pit protection cover indicating danger and risk of trapped limb

6. A PLC I/O List on the cabinet:

PLC I/O List

Inputs:		Outputs:	
X0	Up Button	Y0	Run Relay
X1	Down Button	Y1	Barrier Up
X2	Contactor Monitoring	Y2	Up Relay
X3	Emergency Stop Monitoring	Y3	Leading Edge Down Relay
X4	Barrier Up Button	Y4	Leading Edge Up Relay
X5	Top Limit	Y5	Down Relay
X6	Leading Edge Up Switch	Y20	Barrier Down
X7	Bottom Limit	Y21	Up Button LED
X20	Down Valve Switch	Y22	Down Button LED
X21	Up Valve Switch	Y23	Emergency Stop LED
X22	Barrier Up Cabinet Button	Y24	MI1 Inverter Run Slow
X23	Barrier Down Cabinet Button	Y25	MI4 Inverter Run Fast
X24	LE Up Cabinet Button	Y26	MI6 Inverter Reset Command
X25	LE Down Cabinet Button		

3.0 Setting up the Lift

3.1 Adjusting the Safety edge bump strips

The bump strips should be set such that the edges that are folded over the edge of the platform kerbs and underneath the platform. To set these, loosen the bolts and slide the bump strip in or out. Ensure that the distance is even along the length of the edge.

4.0 FINAL CHECKS AND PUTTING INTO SERVICE

The following checks determine whether the assembly operations have been carried out correctly. For each check, the related requirement is stated and the method to obtain the result is given. If any test is unsuccessful, the installation must be corrected by repeating the steps in this manual. When carrying out the tests these safety guidelines need to be followed: Some checks require the engineer to leave the control cabinet open. Take care as a live current is flowing and there is a risk of electrocution.

4.1 Completing the Installation Control form

The control form, which is attached to the appendix of this manual, must be filed with the lifting platform manufacturer before it declares the conformity of the installation to the standards.

Test 1: The car must not exceed rated speed

The upward and downward speed must not exceed the maximum value of 0.15m/s. To check this requirement:

- Measure the distance between two landings, in metres.
- Standing at the landing call the platform upwards from a landing to the other and measure the travel time, in seconds.
- Repeat the same step for the downward travel
  Calculate the speed by dividing the distance by the time
- The speed must be less than or equal to 0.15m/s

Test 2: Car must correctly respond to controls

The lifting platform must regularly travel in response to the commands given. The call buttons must only operate as hold to run commands. This applies to the fixed wall controls, the railing mounted controls or the remote controls units as applicable. To check this:

- From the each set of platform controls, hold down the button for each landing and observe the platform movement to that floor.
- Repeat for travel in the opposite direction.
- Check that when the buttons are released, the platform stops.

Test 3: Distance between the platform sill and the landing sill

The difference in level between the platform sill and the landing sill must not exceed 10mm, either above or below the landing sill, in any condition. To check this requirement (with both the empty platform and the fully loaded platform):

- Use a call button to drive the platform to the landing until it reaches and stops at the floor position.
- Measure the difference in level and the distance between the platform sill and the landing floor
- Repeat the same steps in both the upward and the downward directions with the empty platform
- The maximum allowable difference in level is 10mm (either above or below or horizontally from the landing sill) for all cases

Test 4: The Emergency Stop pushbutton must stop the platform and keep it stationary

The E-stop pushbutton must stop the platform. To check these requirements:

- Stop the platform between two landings and press the STOP pushbutton
- Give upward and downward travel commands from the landing pushbutton. The platform must remain stationary
- Resume normal operation by deactivating the STOP pushbutton

Test 5: The electrical system must be earthed and insulated

The electrical system and the mechanical parts must be protected through an earth connection. Using the calibrated earth continuity meter, connect the cable to the earth terminal in the electrical panel, and test the resistance does not exceed 0.5 Ohms at contact points on the lift.

WARNING: Access to the Electrical Panel when live is required in order to perform this inspection. Do not touch any live components or wires.

Test 6: Control Cabinet Access

Make sure that the electrical cables connected to the control cabinet are protected against damage and are accessible for inspection.

Test 7: Correct signage and notices

The platform system must be provided with signals and notices informing the maintenance engineer and the users of the residual risks and use limitations. Check therefore the correct installation of the following signs:

- On the pit cover, indicating danger when the platform is in use.
- On the control cabinet, indicating danger and prohibiting access thereto
- Where appropriate, a sign identifying the mains electrical switch.
- A sign/label indicating mains power connections in the motor room.
- A WEEE regulation notice marked on the electrical control panel

Test 8: The limit switches must operate correctly

The upper and lower limit switches must stop the motor when contact is made in an upward or downward direction respectively. To test:

- The limit switches are located on the side of the platform.
- This switch can be manually depressed to simulate the lower limit being reach by the car.
- Drive the platform upwards such that the limit switches are visible to the engineer
- Depress the lower limit switch on the side of the platform.
- Drive the platform down and observe that it will not move.
- Repeat this method for upper limit switch

Test 9: Check the emergency lowering function operates correctly

- From the control cabinet, press the lift up or down button to engage the relevant relay and then either manually pump the system using the provided handle, or the lift will automatically move via the battery backup power supply.

Test 11: (optional) Only authorised persons may operate the lift

In certain circumstances, the platform must not be allowed to be used by unauthorised persons. To this end the landing buttons can be provided with an enabling key. (Emergency Stop pushbuttons excluded) To check the operation of the enabling key:

- Attempt to call the platform by pressing the landing call button. It should not move.
- Repeat this for all controls
- Use the key to enable the landing call button.
- Press the landing call button. The platform should arrive as normal.

Installation Completion Checklist

If all tests are successful, the lifting platform complies with the European Machine Directive 2006/42/EC. The installer certifies the above by drawing up the related declaration of conformity and affixing the CE marking in the car. The lifting platform can be put into service only upon fulfilment of all procedures and regulations provided for by the applicable local procedures and regulations.

Platform Lift Test Checklist
Form F30

Date of completed installation: ……

Serial Number: ……

Test	✓	x
Test 1: The car must not exceed rated speed		
Test 2: Car must correctly respond to controls		
Test 3: Distance between the car sill and the landing sill		
Test 4: The Emergency Stop pushbutton must stop the platform and keep it stationary		
Test 5: The electrical system must be earthed		
Test 6: Control Cabinet Access		
Test 7: Correct signage and notices		
Test 8: The limit switches must operate correctly		
Test 9: Check the emergency lowering function operates correctly		
Test 10: (optional) Only authorised persons may operate the lift		

Installation Company: ……

Installer Team Leader name: ……

Client Name: ……

Client Address: ……

……

I certify that this installation was carried out as per the manufacturer's instructions and that the lift passed all of the tests in this manual.

Signed on behalf of the installation company: ……

Print name ……

CLIENT ACCEPTANCE FORM

Form F31

This form is used to confirm the Client representative is satisfied with the installation and confirms that all necessary training and instruction manuals have been handed over.

Installation Company: ……

Installer Team Leader name: ……

Date of completed installation: ……

Serial Number: ……

Client Name: ……

Client Address: ……

……

I certify that this installation meets the specification, the installation tests have been witnessed and completed successfully, and that the following training, keys and paperwork have been provided:

Training/ Paperwork/ Keys	**Received**
Demonstration of the lift controls and safety features	
Demonstration of the emergency lowering functions	
Demonstration of how to isolate the electrical supply	
Declaration of conformity certificate	
Copy of installation check list test report	
User / Maintenance Manual	
Handover of key for locking controls (if applicable)	
Handover of Control Cabinet lock key	

I agree that the components of the Control Cabinet can only be modified or serviced by a competent and authorised Maintenance Engineer.

Client signature: ……

Date: ……

Print name: ……

5.0 DISPOSAL AND DISASSEMBLY

5.1 Disposal of packaging

At the end of the assembly operations, the packaging left over should be disposed of as appropriate.

These include:

- paper and cardboard;
- cellophane and plastic;
- polystyrene;
- wood.

Dispose of these materials according to the local laws and regulations. Please use recycling facilities wherever possible.

5.2 End of life disassembly

In the case of demolition of the lifting platform, disassemble it by it by reversing the sequence of steps already described for the assembly.

The majority of the materials resulting from the demolition of the lifting platform include:

- steel;
- aluminum;
- plastic foam, wood and various matters in panel form;
- plastic matters;
- oil for hydraulic circuits.

Dispose of these materials according to the local laws and regulations and use recycling facilities wherever possible.

The electrical control panel is controlled under the Waste Electrical and Electronic Equipment Regulations 2006 for disposal. This panel is identified by a symbol of a crossed out wheeled bin.

This directive stipulates that it is the financial responsibility of the producer to dispose of this electronic equipment, unless previously agreed with the buyer. Please contact us for more details. Lifted Services can arrange collection of this panel for its correct disposal.