



助高机械  
Height aid machine

# Alum assembled variable track angle stair lift

## OPERATION MANUAL

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# 1 Safety instructions

Disclaimer: Since this product is not a special operation equipment, it does not require a special equipment operation certificate, and any adult can operate it. After all, you are carrying heavy objects, and there is a risk of injury during operation. Please read the operation manual carefully and operate the equipment carefully. You only have one life, please cherish life. The company does not assume any criminal or civil liability for damages or any criminal or civil liability arising from improper or brutal or blind operation by users.

- Please read the operation manual before use, and pay attention to the warnings and safety instructions.
- Before use, please check that all parts are in good condition and there is no obvious damage.
- The equipment should not exceed the rated weight when in use.
- After the assembly is completed, run the empty up and down to ensure that the slide rail assembly goes up and down smoothly.
- This product can only be used to carry goods, not people, and the goods must be secured with safety straps.
- When running, make sure that the foot ladder is fixed on the supporting surface without slipping, and the upper part is inclined and fixed on the wall or building that can bear the load.
- Determine the number of assembled ladder sections according to the handling height and angle.
- Make sure that the winch controller and related wiring are kept away from oil, thinner and sharp instruments.
- When not in use, please unplug the hoist and store the wire rope.
- Please ensure safe use of electricity during use. The power supply is AC 220V, 50HZ, and a power socket with a ground wire must be used.
- Lifting capacity depends on the length of the lift, the inclination and whether a stand is used, please refer to the incline scale and load table of the foot ladder
- A limiter must be used at the appropriate position on the upper part of the lift to ensure safe operation.
- If the wind is greater than or equal to level 5, and the wind speed is greater than 40km/h, the load platform must be lowered or the equipment must be directly shut down.
- It is strictly forbidden to stand under the lift and in the potentially dangerous area
- The hoist should not run continuously for more than 2 hours, and a 15-minute break is recommended for 40 minutes of continuous work.
- In case of uncontrollable situations during operation, such as the equipment is about to roll over due to the unstable center of gravity, please stay away from the equipment and make sure personal safety.

## 2 Product Description

### 2.1 Application scenarios

This equipment is an assembled adjustable angle on-site

designed incline lift. Mainly used in logistics, express delivery,

Home improvement, moving, rural self-built houses and other industries, as well as labor

Factory equipment handling, not for carrying people.

The operator must first understand the performance and operation of this equipment

operating principle, correctly assemble, operate and maintain according to the instructions,

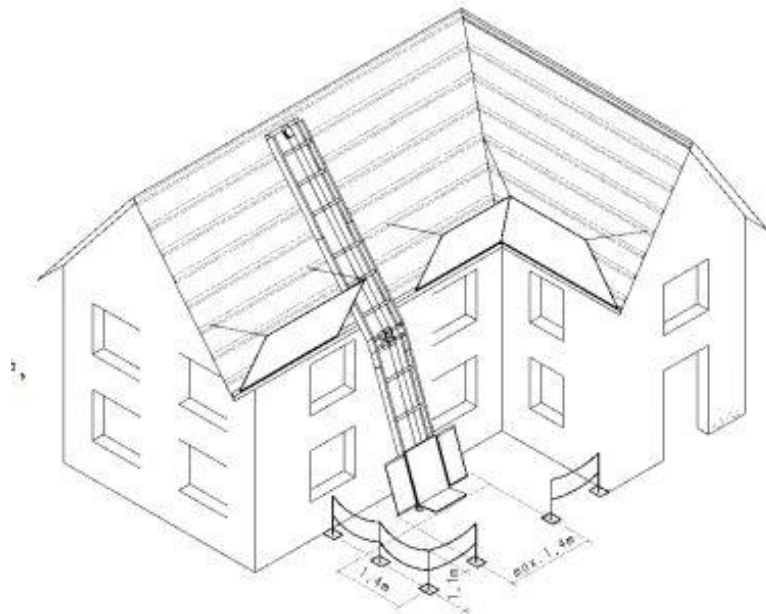
Wear necessary safety protective equipment (such as wearing a hard hat,

safety shoes, etc.).

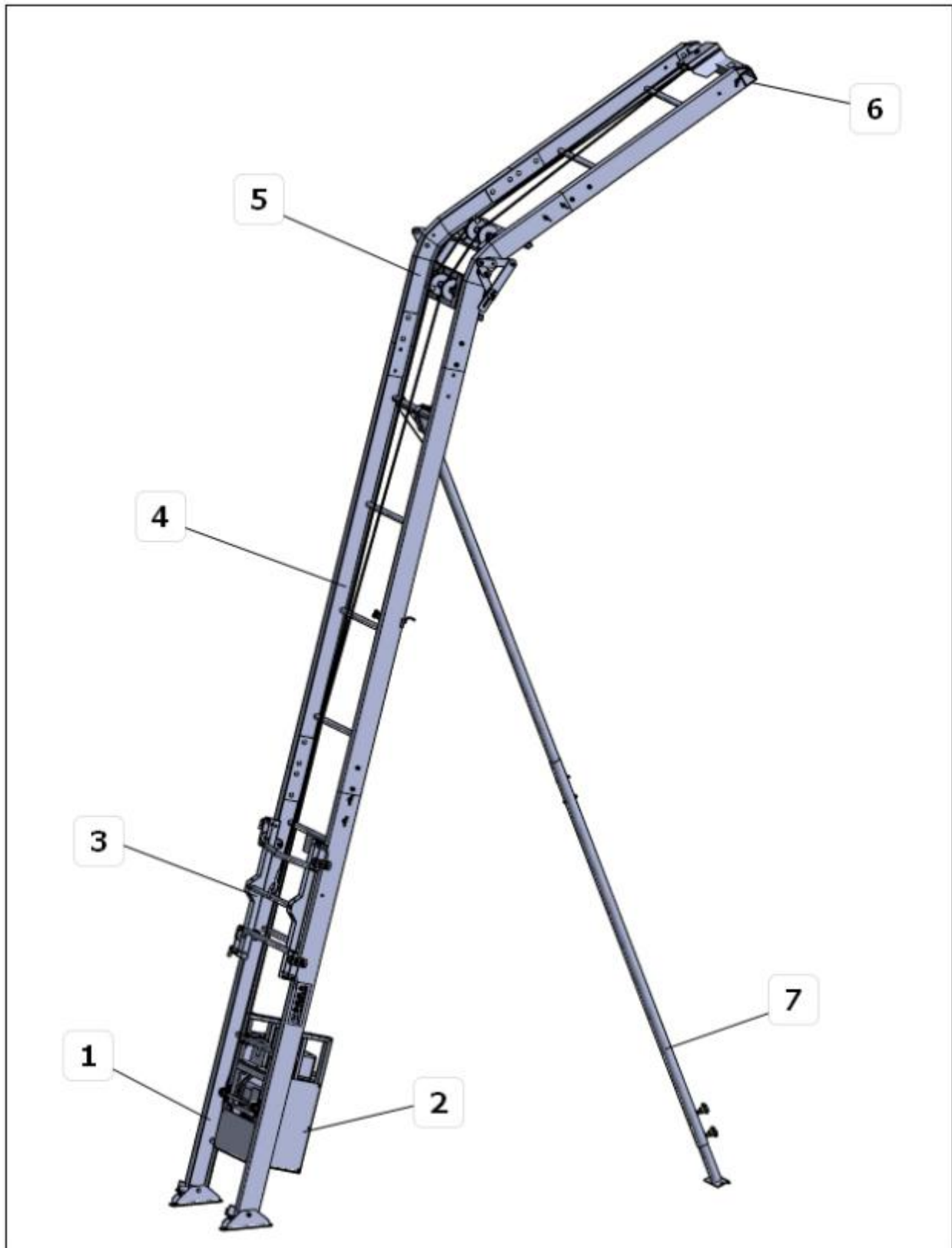
During the running process, alarms should be set around the stairs as shown in the figure

Line, leave immediately after the goods are placed, there may be dangerous

People are strictly prohibited in the area.



## 2.2 product structure





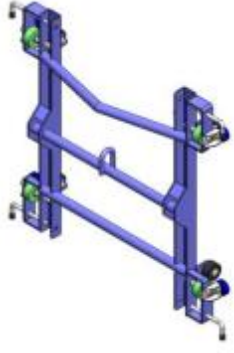

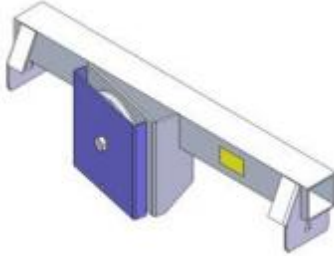

1: Foot ladder section 2: Motor assembly 3: Slide rail assembly 4: Middle ladder section (several) 5: Turning assembly 6: Top cross arm 7: Support assembly

### 2.3 Technical parameter

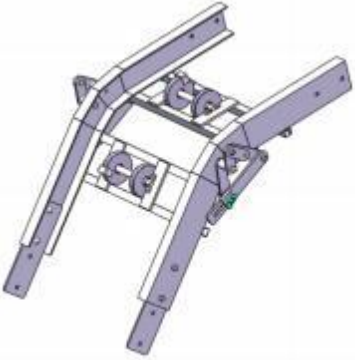
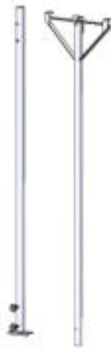


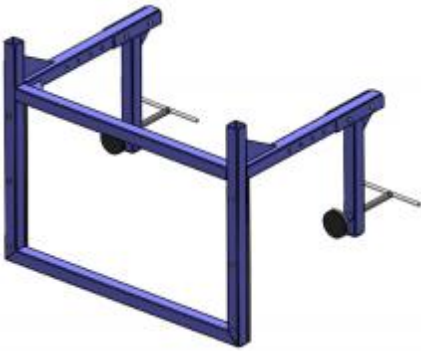
|                       |  |   |                |
|-----------------------|--|---|----------------|
| Motor Power           | 1.7kW                                  | Rated load                                    | 250kg/200kg    |
| Voltage               | 220V AC 50Hz                           | Maximum rail length in upright direction      | 19 m           |
| Motor current         | 8/10A                                  | Motor assembly weight                         | 45kg           |
| Protection class      | IP40                                   | Straight ladder length specification          | 1 m/2 m        |
| operating hours       | 90 minutes of work, 15 minutes of rest | Turning component scheduling adjustment range | 20°-45°        |
| Wire rope size        | 60 m(ø6mm)                             | Inside dimensions of the loading platform     | 840×690×350mm  |
| Winch Assembly Weight | 38kg                                   | Expanded size of cargo platform               | 1480×840×380mm |
| Lifting speed         | 20-25 m/min                            | winch control                                 | wired+wireless |

## 2.4 Constituent parts

### 2.4.1 basic parts

|   |   |  |
|---|---|--|
|    |                          |   |
| <p>1. Motor components</p>  | <p>2. Foot ladders and intermediate steps</p>   | <p>3. Slide rail assembly</p>  |
| <p>Description: It contains winch, wire rope, controller and other components, provides power for the loading platform to rise and fall, and has power-off self-locking protection.</p> | <p>Description: The foot ladder section and several straight ladder sections together form the track.</p> | <p>Description: Used to support the load platform and glide smoothly on the track.</p>   |
|    |                        |   |
| <p>4. cargo platform</p>  | <p>5. Cross arm assembly</p>  | <p>6. upper limit switch</p>   |
| <p>Description: For loading cargo, there are two types of inclined and horizontal.</p>  | <p>Description: For top wire rope turns.</p>  | <p>Description: It is used for automatic stop protection at the top position to prevent damage to the equipment over the stroke.</p> |

## 2.4.2 Auxiliary components

|   |  |  |
|---|--|--|
|    |   |                     |
| <p>7. Turning components</p>  | <p>8. Intermediate support assembly</p>  | <p>9. Pitched roof bracket assembly</p>  |
| <p>Description: Change the cargo transport track for easy delivery to indoors, automatic unloading and delivery to pitched roofs.</p> | <p>Description: Mid-rail support.</p>  | <p>Description: For sloping roof track support, more than one can be used depending on the length.</p> |
|   |  |  |
| <p>10. High support components</p>  | <p>11. wall bracket assembly</p>   |  |
| <p>Description: For rail top end support and mid support with high overhang.</p>  | <p>Description: Used to protect the wall and tie the rails with beams.</p>         |  |

## 2.5 Technical Description

- Do not exceed 19 meters of track length for inclined placement.
- After assembly, the upper and lower parts of the ladder track must be connected firmly.
- The aluminum rails are inserted into each other front and rear and fastened with special horseshoe screws and wing nuts without tools.
- A limit switch must be installed at the appropriate position on the top of the lift, and the motor will automatically stop when the load platform reaches the appropriate position.
- The foot ladder section is marked with an angle and a reference to the load capacity table at different heights and angles, which should not exceed the values in the table.
- The turning component is a non-essential component and is used in places where turning is required (such as sloped eaves) and when entering buildings.
- The



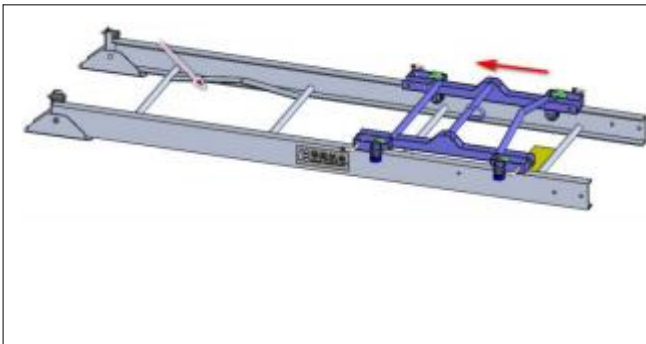
turning assembly can change the direction of the slide rail assembly and the load platform, and the angle adjustment range: 20°-45°.

- The inclined section after turning can be equipped with multiple inclined roof support bracket parts or high support parts, which are not required but recommended.
- The height of the inclined roof bracket is adjustable, and the height is adjusted from 370mm-600mm.
- The high support assembly bracket is adjustable in height, ranging from 0-550mm.
- The intermediate support component is a non-essential unit, equipped with an intermediate support to improve the stability of the lift and adjust the height from 4 m- 5.7 m.

### 3 Instructions

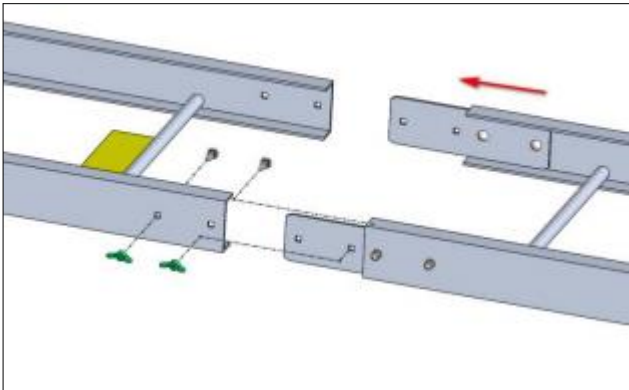
#### 3.1 assemble

##### 3.1.1 Assembly of slide rail parts



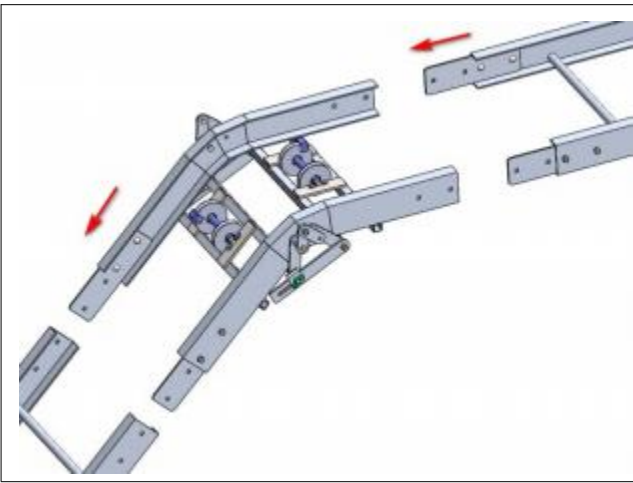
The slide rail assembly is inserted from the back of the back of the lay-flat foot section, and the hook should be on the top when using it. Pay attention to the respective positions of the stair sections where the wheels are located.

##### 3.1.2 Straight ladder assembly



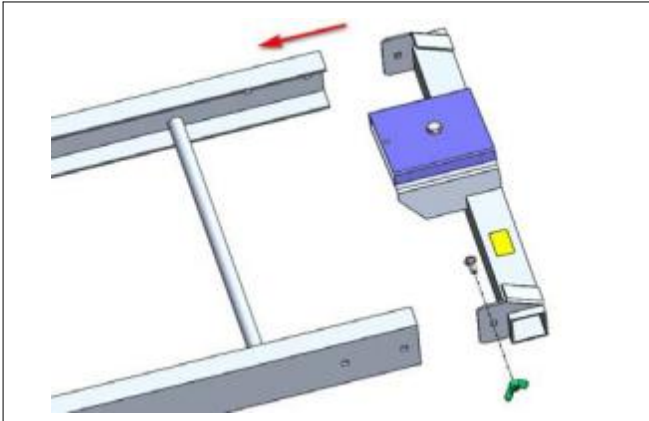
The next straight run is inserted into the slot aluminum to which it is attached and tightened with four sets of wing nuts and horseshoe bolts without tools. Several straight rungs are connected together until the required length is reached.

##### 3.1.3 Turning stairs assembly



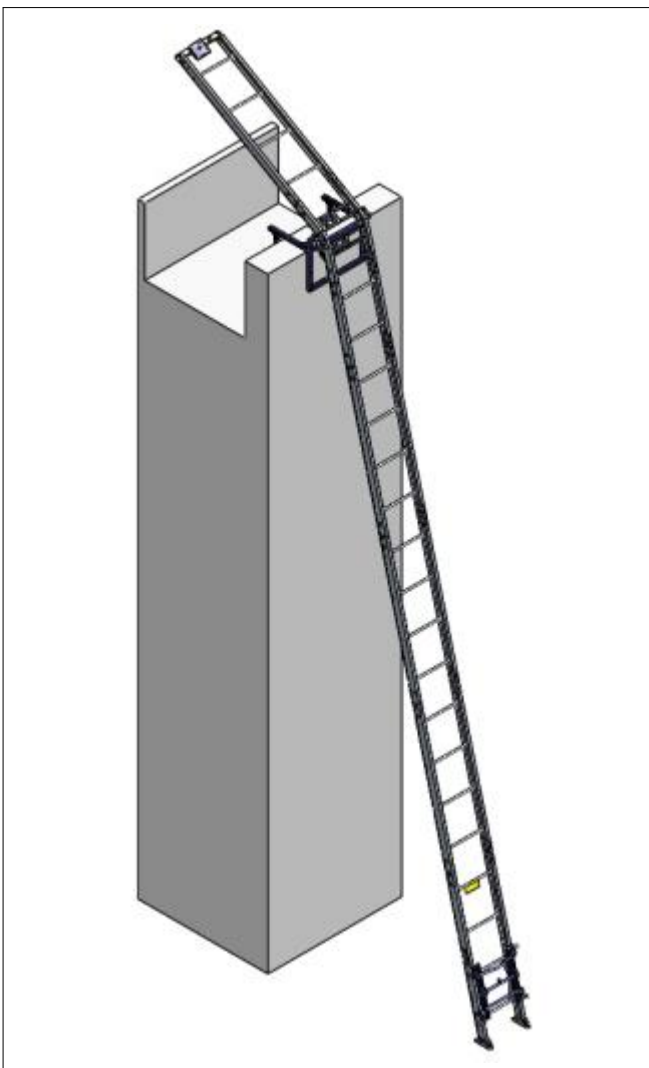
The assembly method of the curved section is similar to that of the straight section. After the upper and lower connections are completed, use wing nuts and horseshoe bolts to tighten them.

### 3.1.4 Cross arm assembly



The assembly method of the cross arm assembly is similar to that of the straight ladder section. After the upper and lower connections are completed, use wing nuts and horseshoe bolts to tighten them. .

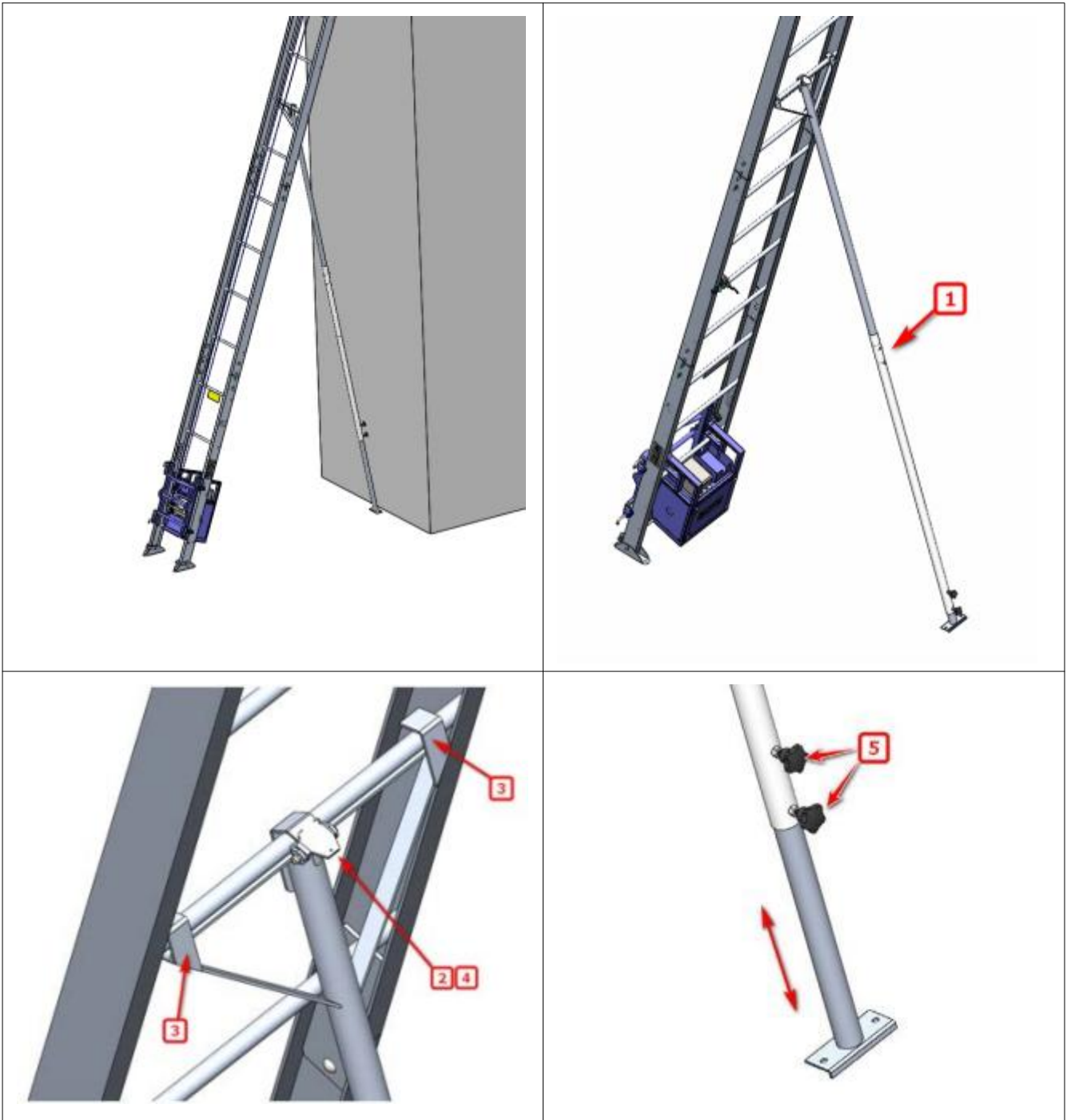
### 3.1.5 set the track



After the assembly is completed, the ladder section is relatively heavy as a whole, the upper part can be pulled by ropes or hoisted by brackets, and the lower part can be stabilized until the track is inclined and placed on the crossbar of the wall bracket assembly. (fixed under the track)

**Note: Expansion bolts or round rods need to be inserted into the base hole of the lower foot ladder section into the supporting surface with strong bearing capacity, and the upper section needs to be fixed with a binding strap to fix the round rod of the ladder section and the cross rod of the wall bracket assembly to ensure that the upper and lower ends of the inclined track are connected Fasten.**

### 3.1.6 Intermediate support assembly



The middle support assembly is used to strengthen the track support in the middle of the straight ladder section, improve the stability of the track structure and increase the load capacity of the goods.

Step 1: Assemble the upper round tube, insert it to the bolt and then insert the pin to fix it;

Step 2: Pass the drawstring through the cover and open the cover;

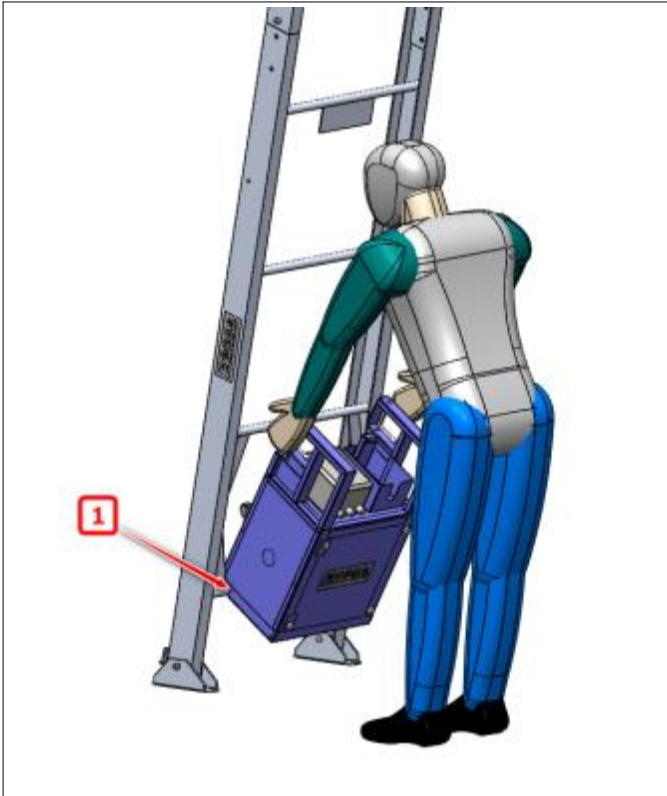
Step 3: Select the appropriate stair-section circular tube and insert it into the lugs at both ends;

Step 4: Release the drawstring and close the cover to lock the intermediate support;

Step 5: Loosen the star bolts, slide the lower round tube to the proper position, and then tighten the bolts.

**Note: It is recommended to use intermediate support when the inclined straight ladder section exceeds 7 meters or the cargo is heavy, and the cargo load cannot exceed the value specified in the table.**

### 3.1.7 the motor assembly

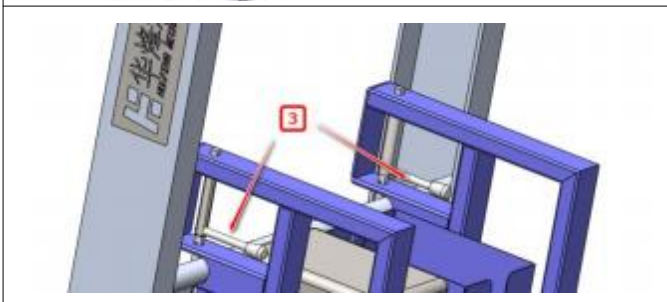


Step 1: Insert the round rod at the bottom of the foot ladder section obliquely;

Step 2: Pull the handle up with both hands and then straighten the motor assembly (wait for the U-shaped groove to wrap the second round rod);

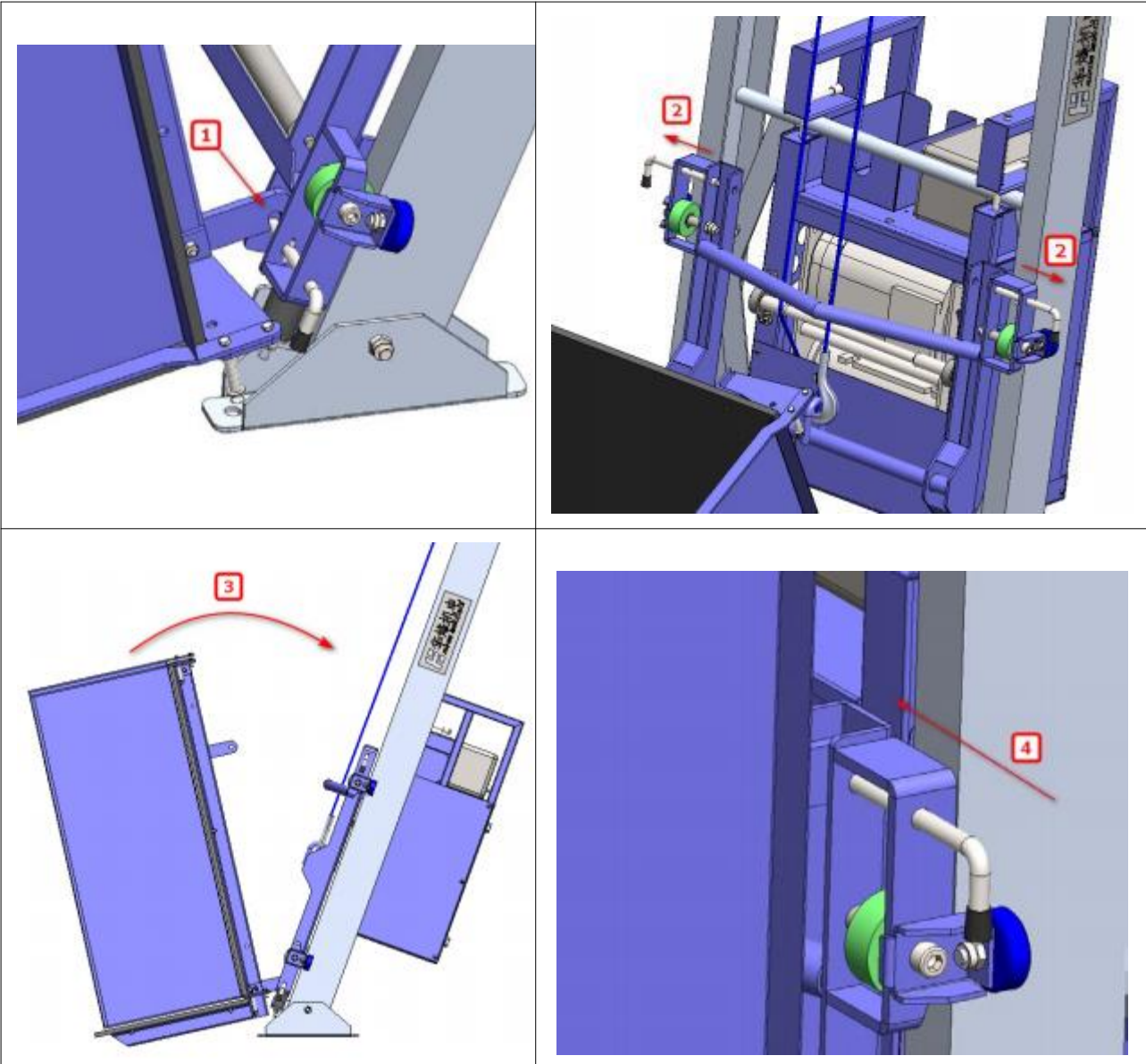
Step 3: Release the handle to lock the motor assembly.

**Note: The installation position of the motor assembly is on the reverse side of the inclination, that is, the side where the round tube and the inner edge of the aluminum slot overlap.**





### 3.1.8 cargo platform



Step 1: Insert the U-shaped groove of the lower lug of the loading platform into the two pins at the lower part of the slide rail;

Step 2: Pull out the upper latch of the slide rail;

Step 3: Rotate the cargo platform;

Step 4: Loosen the upper two latches after the lug holes on the loading platform are aligned with the latches.



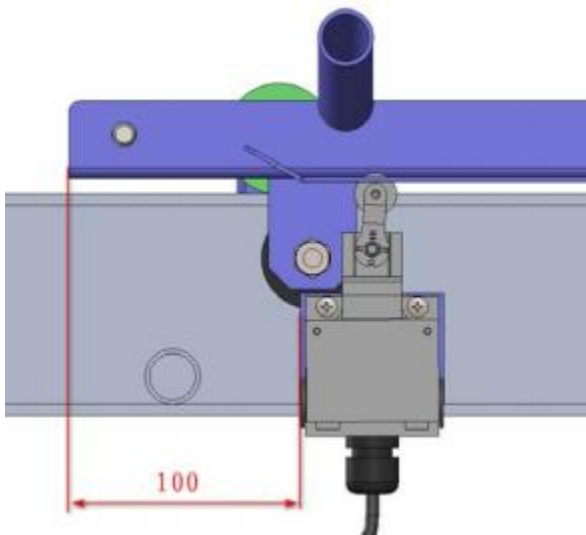
### 3.1.9 Upper limit switch installation



Step 1: The upper limit switch is placed on the right side of the ladder;

Step 2: Select the appropriate position according to the placement position shown in the figure;

Step 3: The limit plate of the slide rail assembly will automatically stop after touching the switch. It should be noted that due to the hysteresis of the motor brake, the slide rail assembly will exceed a little stroke, and a distance of at least 100mm needs to be reserved.



### 3.2 Power up operation



Interface 1: 220V power port  
Port 2: Wired remote control port  
Interface 3: upper limit switch interface



Unscrew the cap of the female head of the upper limit switch interface, align the copper core of the aviation connector and insert it.



Tighten the nut on the male head and turn on the power.

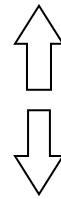
**Note: If the upper limit switch is not turned on, the hoist cannot run upward (tighten the wire rope), but can only run downward (relax the wire rope).**



Wired remote control

Lift up button

Lift down button



It will be paired in advance at the factory. If pairing is required after reloading the battery, please follow the steps below:

1. The wireless remote control is loaded with dry batteries;
2. Plug the controller into the 220V power supply;
3. Press and hold “Off” and “Down” at the same time until the controller display flashes alternately.



After pairing is complete, how to use the wireless remote control:

1. Press "ON" to activate the remote control;
2. Up: The lift goes up Down: The lift goes down
3. After use, press “STOP” to deactivate the remote control and save dry battery power.

## 5 Disassemble

5.1 Remove the cargo platform.

5.2 Unhook the wire rope hook and remove the wire rope from the track.

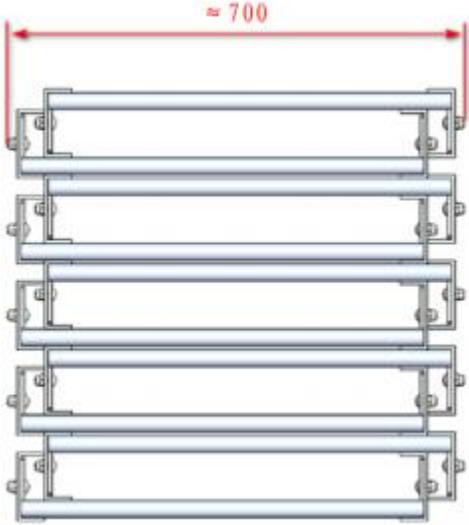
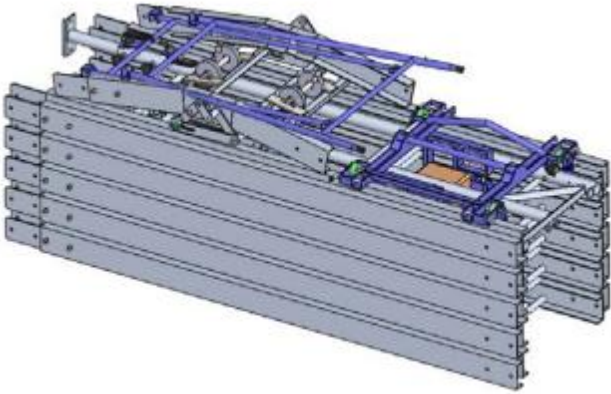
5.3 Press the "up" button of the remote control (the upper limit switch must be connected to the control box) to store the wire rope.

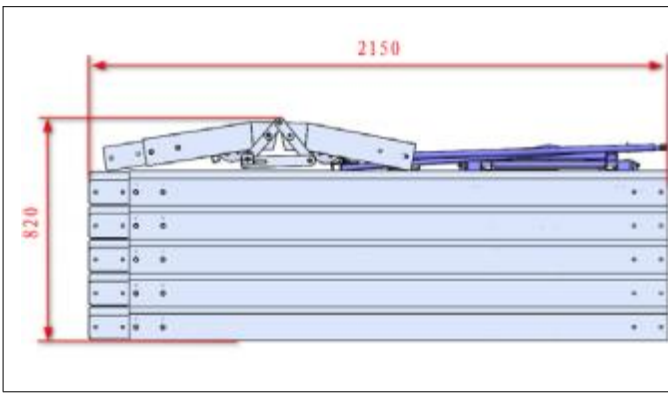
5.4 Remove motor assembly power and remove motor assembly from track.

5.5 Remove the upper limit switch base and store the limit switch cable.

5.5 After leveling the track, remove the track ladder section and collect other accessories such as horseshoe screws and wing nuts in a centralized manner.

## 6 Ladder stacking

|   |   |
|---|---|
|   | <p>It is recommended to use the stacking method of the stairs on the left to save space. The stacking width is about 700mm.</p>   |
|  | <p>The other parts are placed in the middle of the round tube of the steps and fixed with straps.</p> <p>Stacked flat, no brackets or parts are allowed to warp and external forces that may cause deformation.</p> |



Stacked by 10 ladder sections, the height is about 820mm and the length is about 2150mm.

## 7 Transportation

- Please pay attention to the weight and dimensions of the hoist
- The hoist needs to be disassembled for easy transportation.
- After disassembly, keep the accessories such as bolts and screws.
- When carrying, use the load-bearing parts to bear the force.
- When disassembling, please turn off the power to ensure the safety of electricity.

## 8 Maintenance

Maintenance is recommended by professionals who understand this equipment, are familiar with the parts and operations, have sufficient experience and understand the hazards that may arise from a lift.

It is recommended that the cross-section of the wire should be no less than  $3 \times 1.5\text{mm}^2$  when using an extension board.

### 8.1 Motor assembly

8.1.1 The stored wire ropes should be arranged neatly. If they are found to be overlapped or entangled, they should be rearranged, and no knots or twists are allowed.

8.1.2 If the wire rope cross section is broken more than 10%, it should be replaced immediately.

8.1.4 The motor components should not be placed in wet and rainy places. The power supply is AC 220V50Hz, and a power socket with a ground wire must be used.

### 8.2 Stair section

8.2.1 There should be no obvious deformation and damage in the foot ladder section, the middle ladder section, the turning ladder section, and the cross arm part, and there should be no cracking and de-welding in the welding position.

8.2.2 There is no foreign matter on the surface of the stair section that affects the running of the rollers of the slide rail part.

### 8.3 Rolling parts

8.3.1 The bearing seat of the motor assembly, the three sets of rollers of the slide rail part, the two sets of rollers of the turning part and the rollers of the cross arm part are regularly checked for wear and tear.

If it is found to be damaged or severely worn, please contact the manufacturer or supplier for replacement.

## 9 Malfunction and Troubleshoot

| problems                             | Detection and solution   |
|--------------------------------------|--|
| Lift does not start                  | <ol style="list-style-type: none"><li>1. Whether the power supply is connected and normal</li><li>2. Whether the wireless remote control is activated by pressing "On"</li><li>3. Whether the motor runs for too long and needs to be cooled before running</li></ol>  |
| The lift can only go down but not up | <ol style="list-style-type: none"><li>1. Is the upper limit switch not turned on?</li><li>2. Whether the limit switch of the motor junction box is resisted by foreign objects</li></ol>   |
| run slower                           | <ol style="list-style-type: none"><li>1. Check for overload</li><li>2. Check whether there is any deviation in the installation of the stairs</li><li>3. Check whether there is deformation of the stair section track that affects the operation of the slide rail</li><li>4. Check whether the rolling parts are damaged</li></ol> |

## 10 Warranty and Liability

During the warranty period, when the lift is in normal use, the motor, controller, stairs and load-bearing welding parts are guaranteed for one year; rolling parts are guaranteed for three months. (The warranty period is based on the date of the warranty card or the date of purchase)

### 10.1 Warranty

Equipment damage or damage due to the following reasons is not covered by the warranty:

- damage caused by overwork;
- Damage caused by wrong operation;
- violent destruction;
- Unnatural wear of rollers, seat belts, etc. during use;
- inappropriate or insufficient maintenance;
- Unauthorized structural changes and improper use of equipment and accessories;

If there is one of the following situations during the warranty period, relevant fees will be charged as appropriate.

- Damage caused by the operator due to improper use, maintenance and storage;
- Damage caused by unauthorized disassembly during the warranty period;
- It does not belong to the scope of maintenance and exceeds the warranty period.

### 10.2 Responsibility

The manufacturer is not responsible for any damage to the elevator product in the following cases.

- Improper equipment operation;
- Repair, disassemble or otherwise operate the equipment without authorization;
- Blind use and operation not according to the instructions;
- operation under overload conditions;
- Operation in conditions (such as rain) that may damage the device



