Barrier Gate

User Manual

About this Document

- This Document includes instructions for using and managing the Product. Pictures, charts, images and all other information hereinafter are for description and explanation only.
- The information contained in the Document is subject to change, without notice, due to firmware updates or other reasons. Please find the latest version of the Document at the Hikvision website (*https://www.hikvision.com*). Unless otherwise agreed, Hangzhou Hikvision Digital Technology Co., Ltd. or its affiliates (hereinafter referred to as "Hikvision") makes no warranties, express or implied.
- Please use the Document with the guidance and assistance of professionals trained in supporting the Product.

About this Product

- This product can only enjoy the after-sales service support in the country or region where the purchase is made.
- If the product you choose is a video product, please scan the following QR code to obtain the "Initiatives on the Use of Video Products", and read it carefully.

Acknowledgment of Intellectual Property Rights

- Hikvision owns the copyrights and/or patents related to the technology embodied in the Products described in this Document, which may include licenses obtained from third parties.
- Any part of the Document, including text, pictures, graphics, etc., belongs to Hikvision. No part of this Document may be excerpted, copied, translated, or modified in whole or in part by any means without written permission.
- HIKVISION and other Hikvision's trademarks and logos are the properties of Hikvision in various jurisdictions.
- Other trademarks and logos mentioned are the properties of their respective owners.

LEGAL DISCLAIMER

- TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, THIS DOCUMENT AND THE PRODUCT DESCRIBED, WITH ITS HARDWARE, SOFTWARE AND FIRMWARE, ARE PROVIDED "AS IS" AND "WITH ALL FAULTS AND ERRORS". HIKVISION MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY, SATISFACTORY QUALITY, OR FITNESS FOR A PARTICULAR PURPOSE. THE USE OF THE PRODUCT BY YOU IS AT YOUR OWN RISK. IN NO EVENT WILL HIKVISION BE LIABLE TO YOU FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL, OR INDIRECT DAMAGES, INCLUDING, AMONG OTHERS, DAMAGES FOR LOSS OF BUSINESS PROFITS, BUSINESS INTERRUPTION, OR LOSS OF DATA, CORRUPTION OF SYSTEMS, OR LOSS OF DOCUMENTATION, WHETHER BASED ON BREACH OF CONTRACT, TORT (INCLUDING

NEGLIGENCE), PRODUCT LIABILITY, OR OTHERWISE, IN CONNECTION WITH THE USE OF THE PRODUCT, EVEN IF HIKVISION HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES OR LOSS.

- YOU ACKNOWLEDGE THAT THE NATURE OF THE INTERNET PROVIDES FOR INHERENT SECURITY RISKS, AND HIKVISION SHALL NOT TAKE ANY RESPONSIBILITIES FOR ABNORMAL OPERATION, PRIVACY LEAKAGE OR OTHER DAMAGES RESULTING FROM CYBER-ATTACK, HACKER ATTACK, VIRUS INFECTION, OR OTHER INTERNET SECURITY RISKS; HOWEVER, HIKVISION WILL PROVIDE TIMELY TECHNICAL SUPPORT IF REQUIRED.
- YOU AGREE TO USE THIS PRODUCT IN COMPLIANCE WITH ALL APPLICABLE LAWS, AND YOU ARE SOLELY RESPONSIBLE FOR ENSURING THAT YOUR USE CONFORMS TO THE APPLICABLE LAW. ESPECIALLY, YOU ARE RESPONSIBLE, FOR USING THIS PRODUCT IN A MANNER THAT DOES NOT INFRINGE ON THE RIGHTS OF THIRD PARTIES, INCLUDING WITHOUT LIMITATION, RIGHTS OF PUBLICITY, INTELLECTUAL PROPERTY RIGHTS, OR DATA PROTECTION AND OTHER PRIVACY RIGHTS. YOU SHALL NOT USE THIS PRODUCT FOR ANY PROHIBITED END-USES, INCLUDING THE DEVELOPMENT OR PRODUCTION OF WEAPONS OF MASS DESTRUCTION, THE DEVELOPMENT OR PRODUCTION OF CHEMICAL OR BIOLOGICAL WEAPONS, ANY ACTIVITIES IN THE CONTEXT RELATED TO ANY NUCLEAR EXPLOSIVE OR UNSAFE NUCLEAR FUEL-CYCLE, OR IN SUPPORT OF HUMAN RIGHTS ABUSES.
- IN THE EVENT OF ANY CONFLICTS BETWEEN THIS DOCUMENT AND THE APPLICABLE LAW, THE LATTER PREVAILS.

Symbol Conventions

The symbols that may be found in this document are defined as follows.

Symbol	Description
Danger	Indicates a hazardous situation which, if not avoided, will or could result in death or serious injury.
Caution	Indicates a potentially hazardous situation which, if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
Note	Provides additional information to emphasize or supplement important points of the main text.

Contents

Chapter 1 Introduction

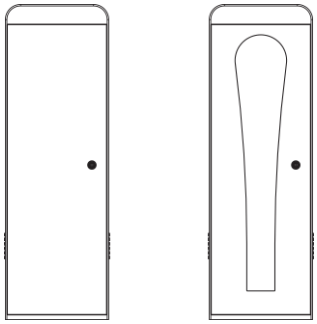
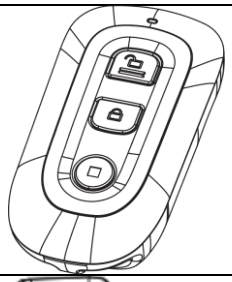
1.1 Product Introduction

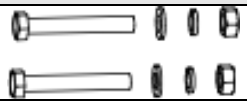
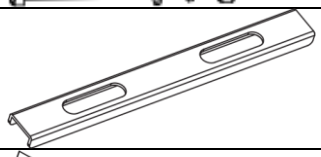
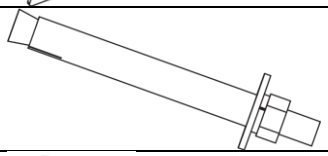
Barrier gate (hereinafter referred to as “device”) is the entrance and exit management device to limit motor vehicle passing. It can control the boom pole automatically via parking lot management system. Or you can control the boom pole via buttons on remote controller. Barrier gate is widely applicable to toll station, parking lot, the entrance and exit of community and unit, etc.

1.2 Packing List

Please check if there is any damage of the package first. Refer to the table below for the packing list of the barrier gate. According to the packing list, make sure no item is lost. After checking all the items are included, you can continue to install the device.

Table 1-1 Packing List

No.	Diagram	Name	Quantity
1		Barrier gate host without indicator (left) Barrier gate host with indicator (right)	1
2		Remote controller	2
3		Chuck	1

No.	Diagram	Name	Quantity
4		Spindle rod screw set	2 sets
5		Layer	2
6		Expansion screw	4
7		Key	2

1.3 Boom Pole Overview

1.3.1 Octagonal Straight Boom Pole

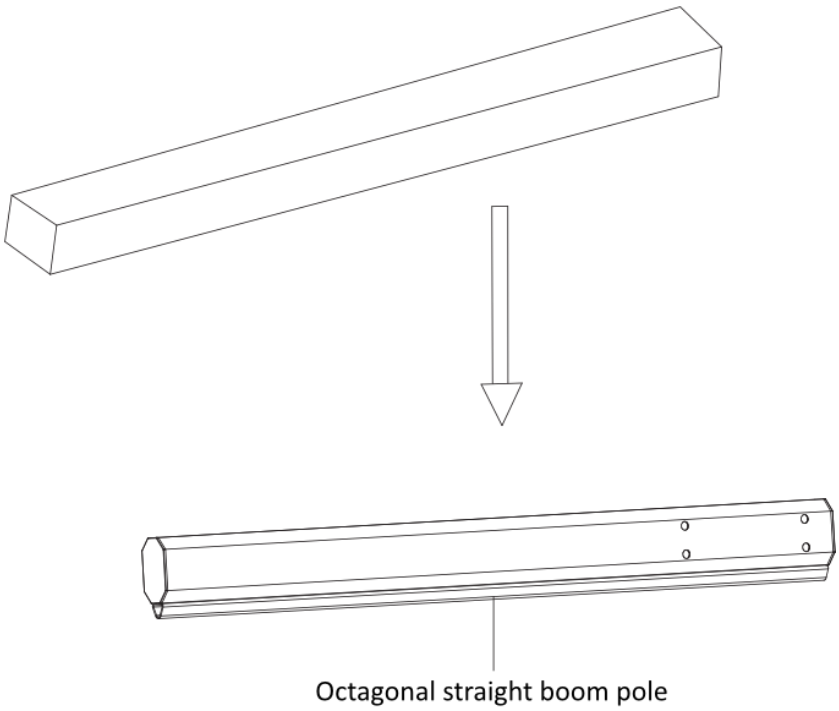


Figure 1-2 Octagonal Straight Boom Pole

Table 1-2 Octagonal Straight Boom Pole Packing List

Item	Quantity
Octagonal Straight boom pole	1

1.3.2 Boom Pole with Strip Light

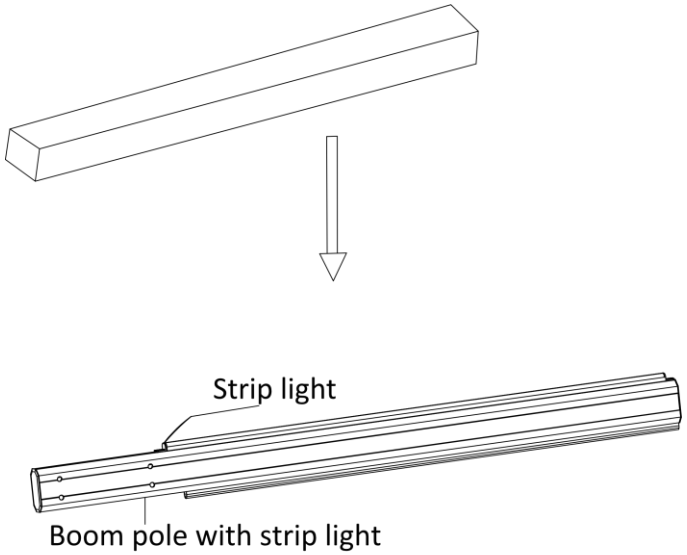


Figure 1-3 Boom Pole with Strip Light

1.3.3 Fence Boom Pole

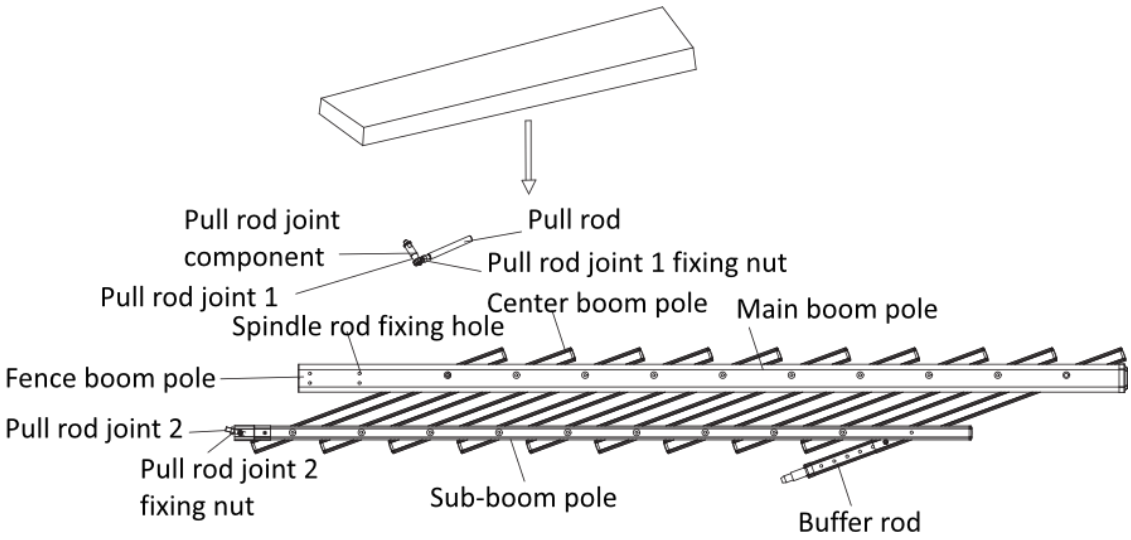


Figure 1-4 Fence Boom Pole

Table 1-3 Fence Boom Pole Packing List

Item	Quantity
Fence boom pole	1
Pull rod joint component	1

1.3.4 Folding Boom Pole

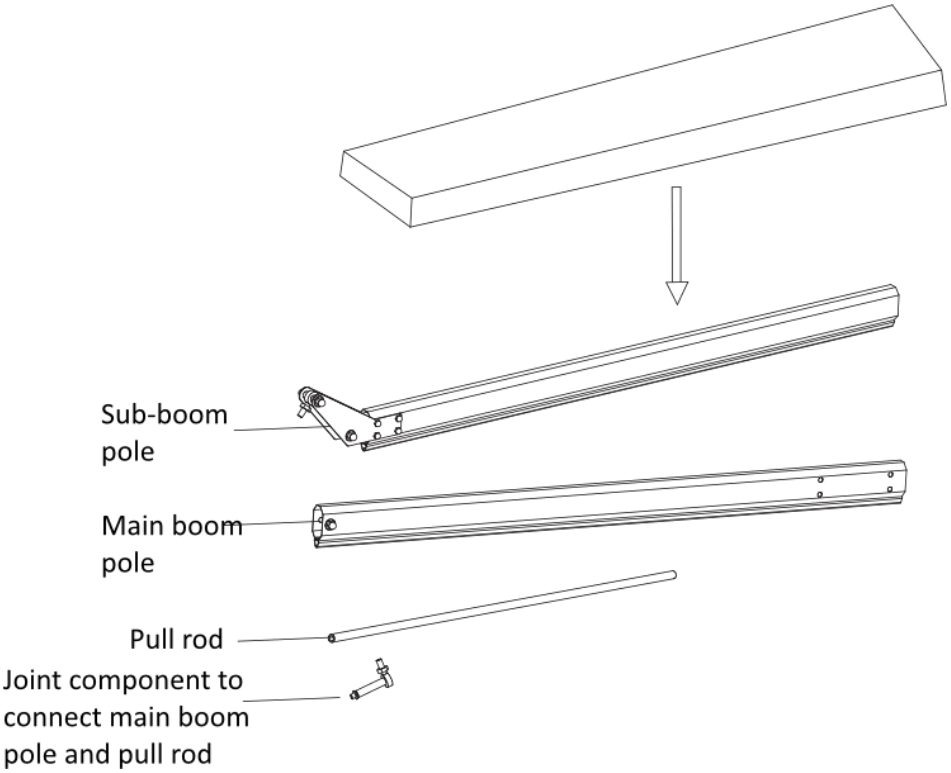


Figure 1-5 Folding Boom Pole

Table 1-4 Folding Boom Pole Packing List

Item	Quantity
Sub-boom pole	1
Main boom pole	1
Pull rod	1
Joint component to connect main boom pole and pull rod	1

Chapter 2 Installation

2.1 Installation Environment

The installation position of the barrier gate should meet the customer's requirements and the following requirements.

- The installation space should be large enough to guarantee the boom pole can rise or fall normally.
- Install the barrier gate on horizontal ground.
- Installation surface requirements:
  - If no base is installed, the installation surface must be firm enough to fix the host to guarantee the barrier gate can run stably.
  - If base is needed, it is recommended to install the base with quick setting cement. The base should be horizontal. The height should be at least 150 mm. The length and width of base should be larger than those of the actual barrier gate installation surface.
- If the barrier gate is anti-collision, the boom pole will flick 90° in reverse direction if it is impacted. Make sure there is no obstacle in the range.
- Bury the cables before installation.
  - Bury LNPE cables (at least one set required), network cables, and other cables as needed.
  - The length of the cables above the ground should be at least 450 mm.
  - Fix the conduit with glue or cement. The conduit should be 50 mm higher than the ground to avoid the gathered water on the ground to enter into the cable and cause short circuit.

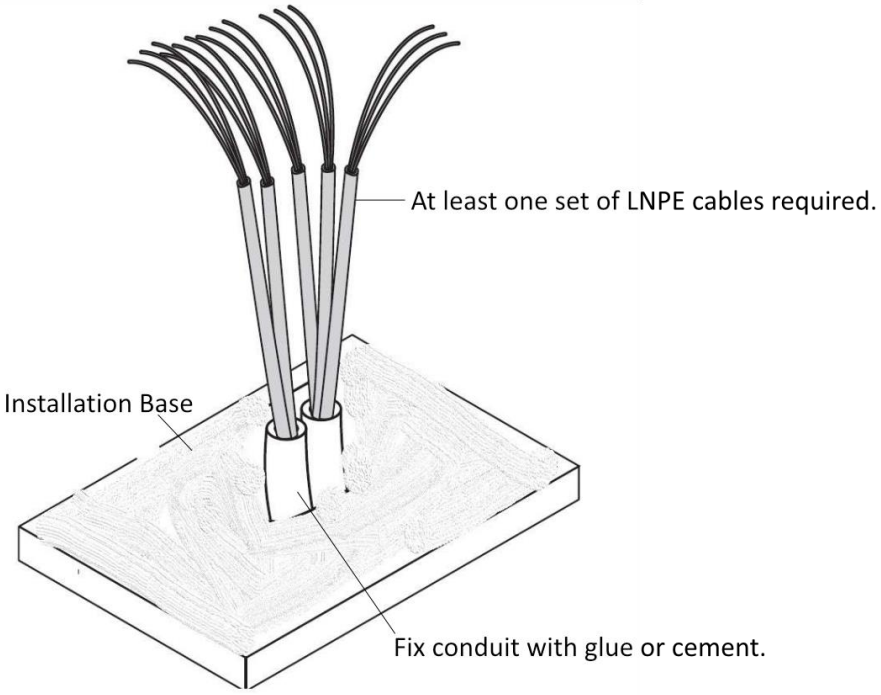


Figure 2-1 Bury Cables

2.2 Install Barrier Gate Host

Follow the steps below to fix the host of barrier gate.

Steps

1. Mark the positions of holes on the refuge island as shown below. The hole depth is approx. 120 mm.

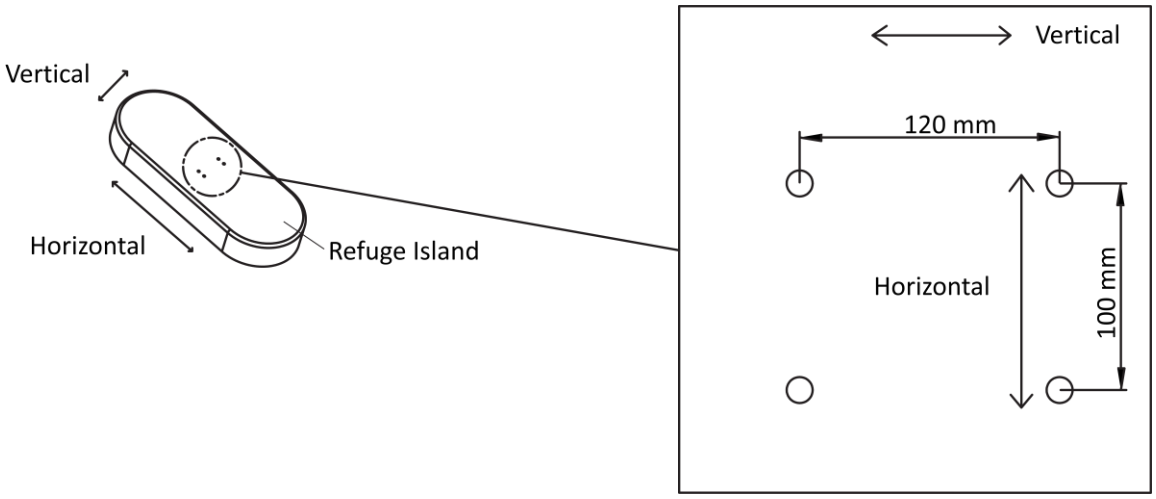


Figure 2-2 Mark Position

Note

The suggestions for positions of holes:

- The holes in vertical direction should be near to the switch.
- If the entrance/exit is unidirectional, the holes should be in the horizontal center of the refuge island. If the entrance/exit is bi-directional, the holes in the horizontal direction should be far away from the entrance/exit.

2. Punch the four M10 × 150 expansion screws in the package into the marked positions on the refuge island, and fasten the nuts to make the screws expand to grip the ground. Then unfasten the nuts.

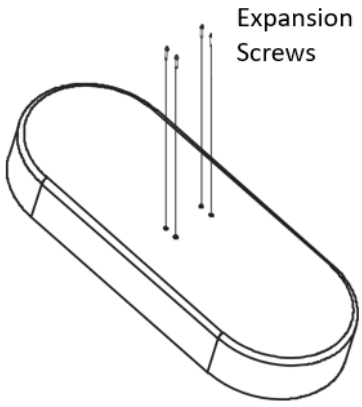


Figure 2-3 Install Expansion Screws

3. Rotate the flat key clockwise to open the front cover.

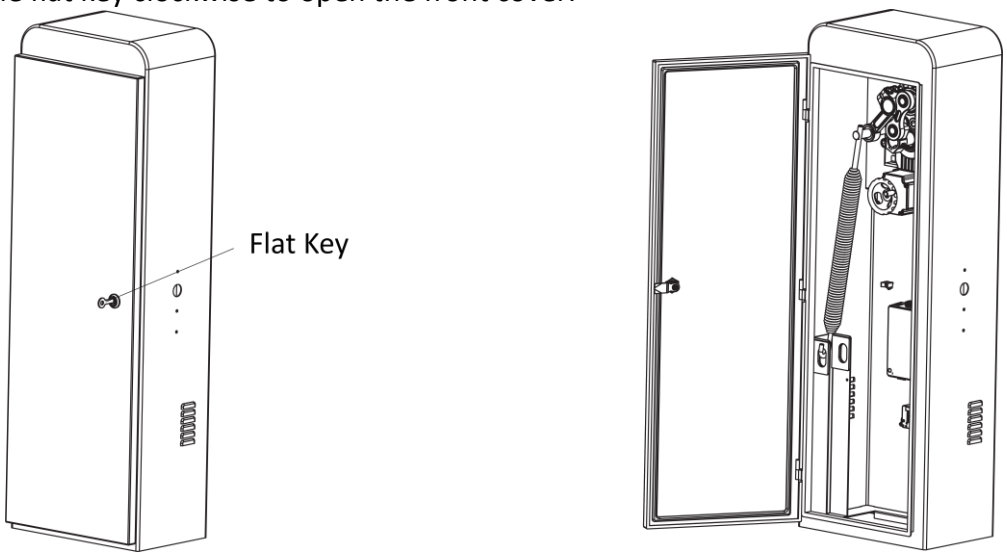


Figure 2-4 Open Front Cover

4. Fix the host.
   1) Put the layers on the host bottom and keep them perpendicular to the barrier gate's switch.
   2) Put the host on the positions of expansion screws on the refuge island to make the screws pass through the layers. Keep the layers perpendicular to the barrier gate's switch.
   3) Fasten the expansion nuts on the screws to fix the host.

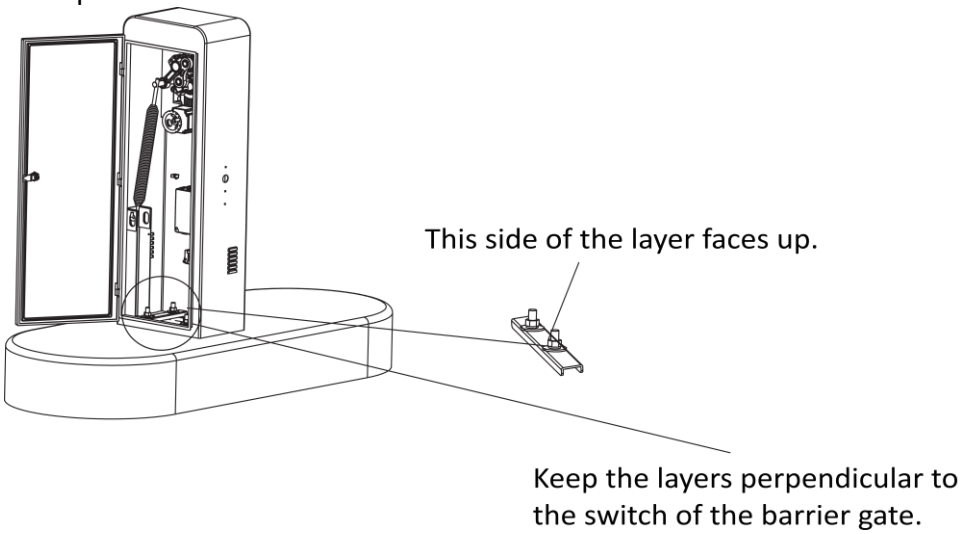


Figure 2-5 Fix Host

Danger

- Keep the supporting bracket of the boom pole vertically upward to avoid accident caused by accidental rotation.
- In humid areas, apply moisture-proof treatment to the bottom of the barrier gate host to prevent device malfunctions caused by humid environment.

2.3 Install Boom Pole

2.3.1 Install Octagonal Straight Boom Pole

Steps

1. Align the holes on the chuck with those on the octagonal straight boom pole, fasten the external hex bolts, and install the boom pole to the spindle rod.
2. Use the spare spring washers, flat washers, and external hex nuts to fasten the other ends of the bolts.

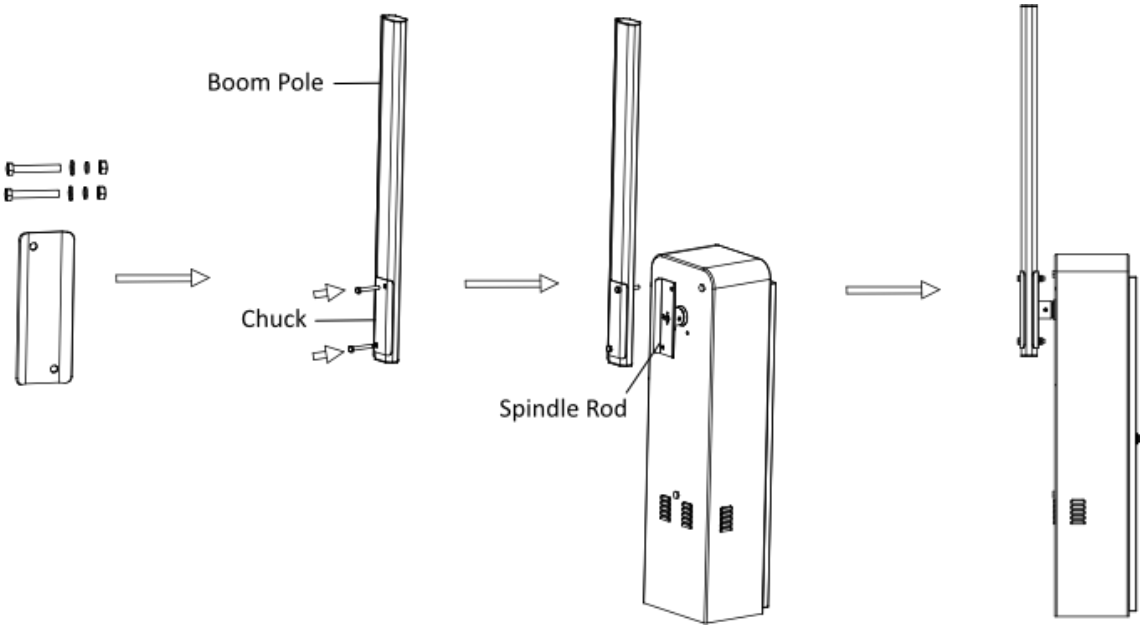


Figure 2-6 Install Octagonal Straight Boom Pole

2.3.2 Install Boom Pole with Strip Light

Steps

1. Align the holes on the chuck with those on the octagonal straight boom pole, fasten the external hex bolts, and install the boom pole to the spindle rod.
2. Use the spare spring washers, flat washers, and external hex nuts to fasten the other ends of the bolts.

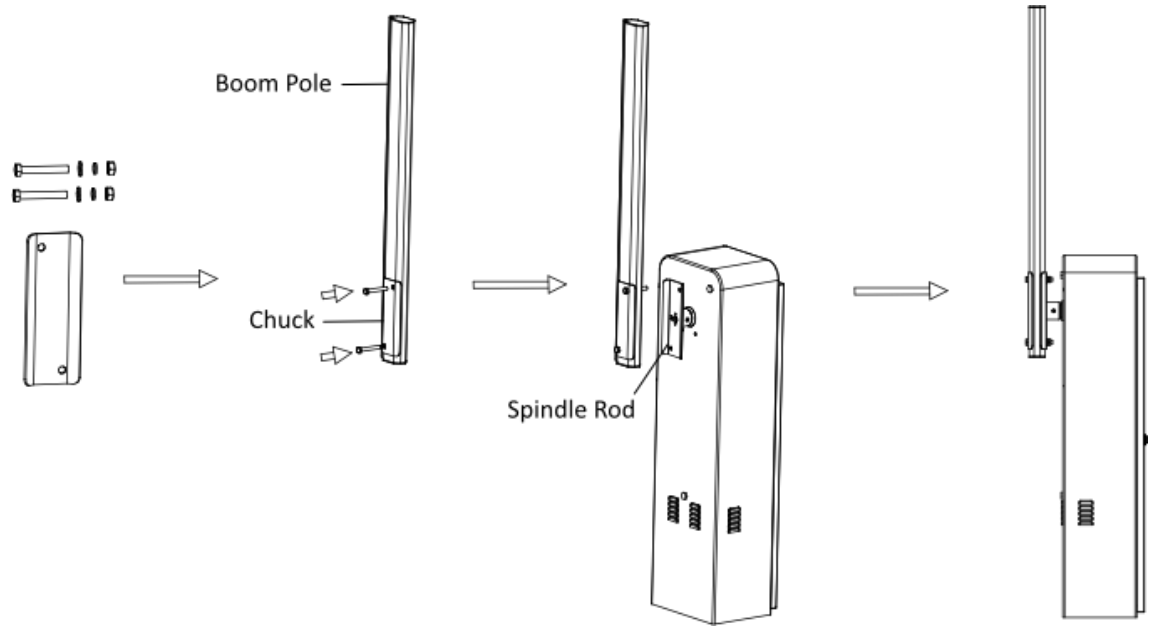


Figure 2-7 Install Chuck and Boom Pole to Spindle Rod

3. Remove the rubber plug of the cable hole on the host.
4. Wire the strip light cable.
    1) Take the M12 white waterproof joint out from the accessory package.
    2) Fix the waterproof joint to the cable hole on the host with the fixing nut.
    3) Remove the waterproof cover from the joint, and thread the strip light cable through the waterproof cover, waterproof joint, and fixing nut.
    4) Pull the strip light cable in the internal host until the white rolling strip limit block on the strip light cable nears to the waterproof cover.
    5) Power off the device. Rotate the boom pole to check if the strip light cable length is appropriate. Fasten the waterproof cover to the joint after the length is appropriate.

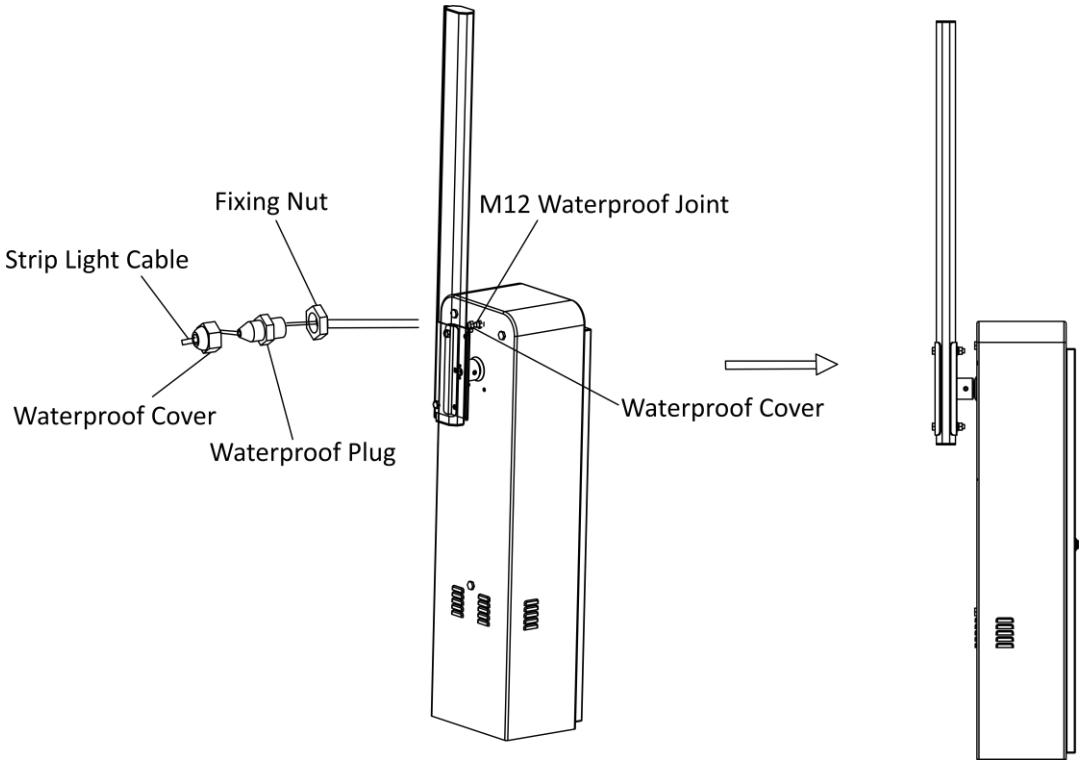


Figure 2-8 Wire Strip Light Cable

5. Connect the wiring terminal of the boom pole with strip light.
   1) Open the front cover of the host.
   2) Lift up the clamp lever on the wiring terminal, insert the stripped copper cable, and press down the clamp lever to fix the cable.
   3) Connect the cables to the terminal in correct sequence, and properly arrange the cables.

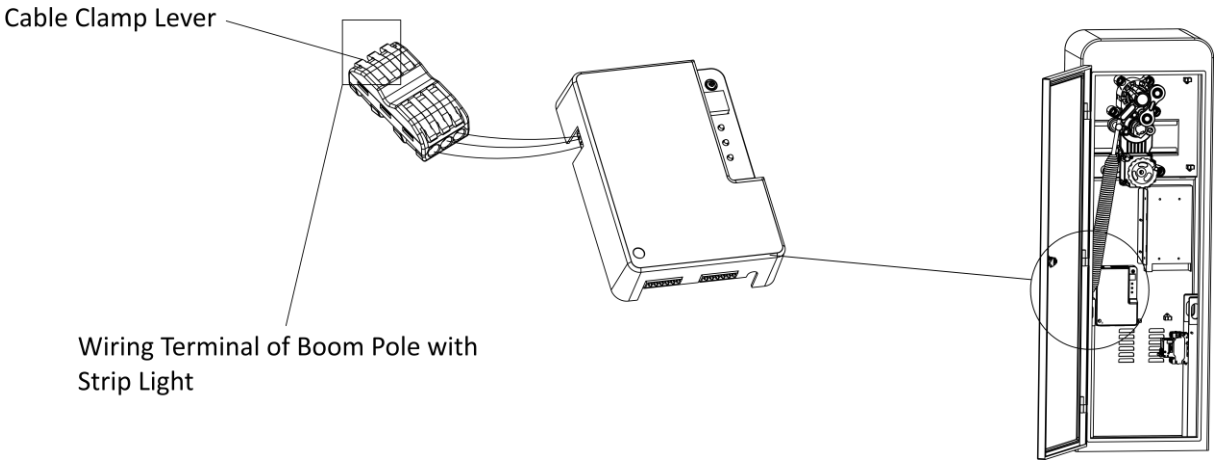


Figure 2-9 Connect Wiring Terminal

2.3.3 Install Fence Boom Pole

Installation Procedure

Steps

1. Install the pull rod joint component to the installation position of the host. Unfasten the joint component pull rod.

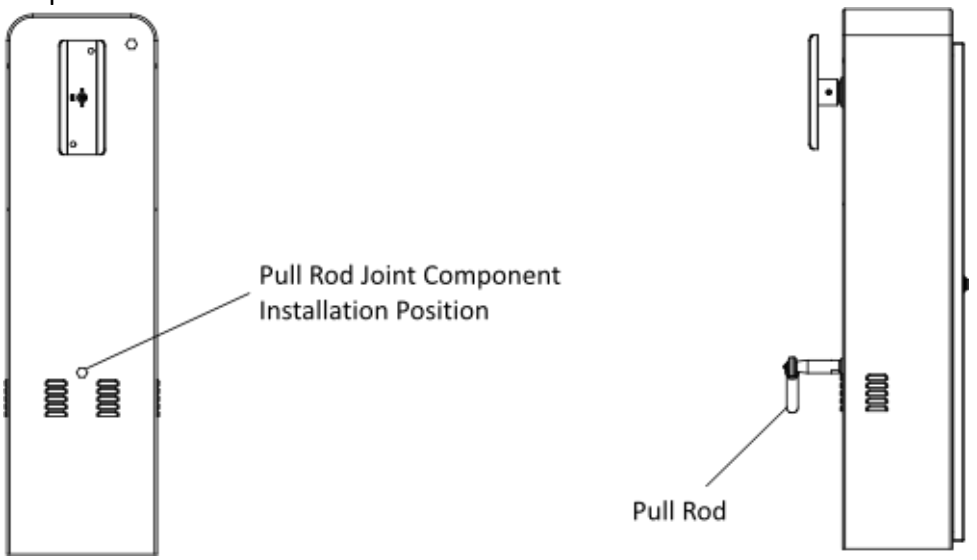


Figure 2-10 Install Pull Rod Joint Component

2. Align the holes on the chuck with those on the fence boom pole, and fasten the external hex bolts. Install the boom pole to the spindle rod, and fasten the other ends of the bolts with the flat washers, spring washers, and cap nuts.

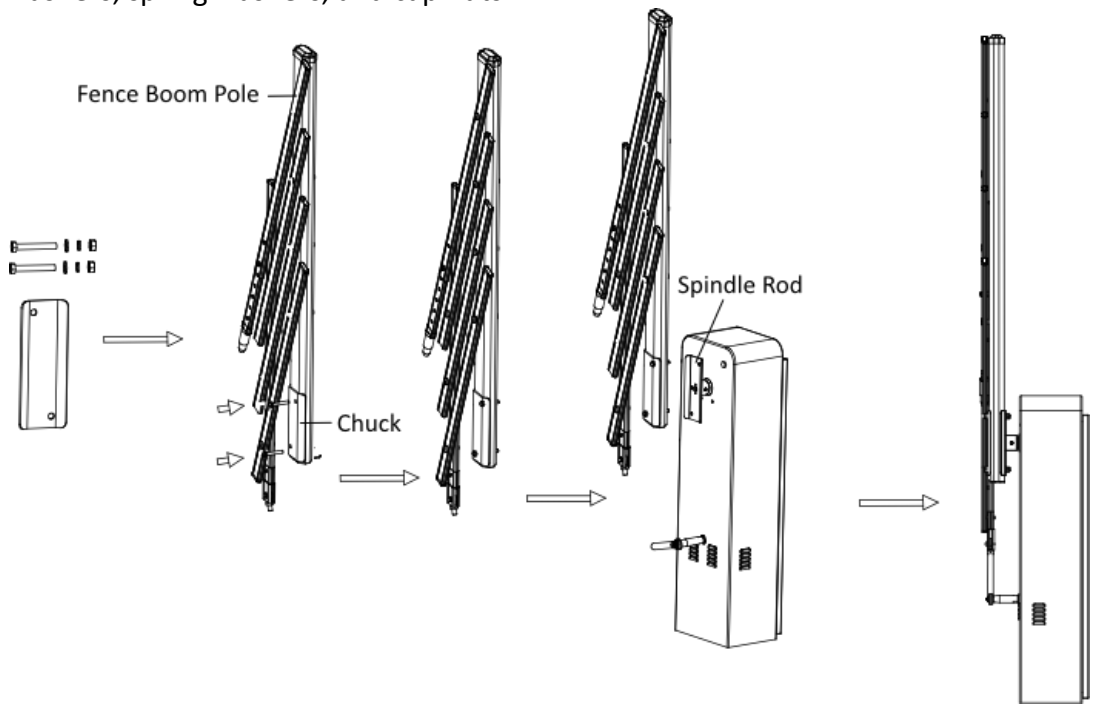


Figure 2-11 Fix Fence Boom Pole

3. Power off the device. Pull the fence boom pole to the horizontal position. Connect the pull rod of the joint component to the joint 2 of the fence boom pole pull rod. Wrest the pull rod of the joint component until the center boom poles are in the vertical position. Fasten the fixing nuts of the joint 1 of the joint component pull rod and joint 2 of the fence boom pole pull rod respectively. Adjust the buffer rod height adjustment holes on the fence boom pole until the end of the buffer rod is on the same horizontal surface with that of the refuge island.

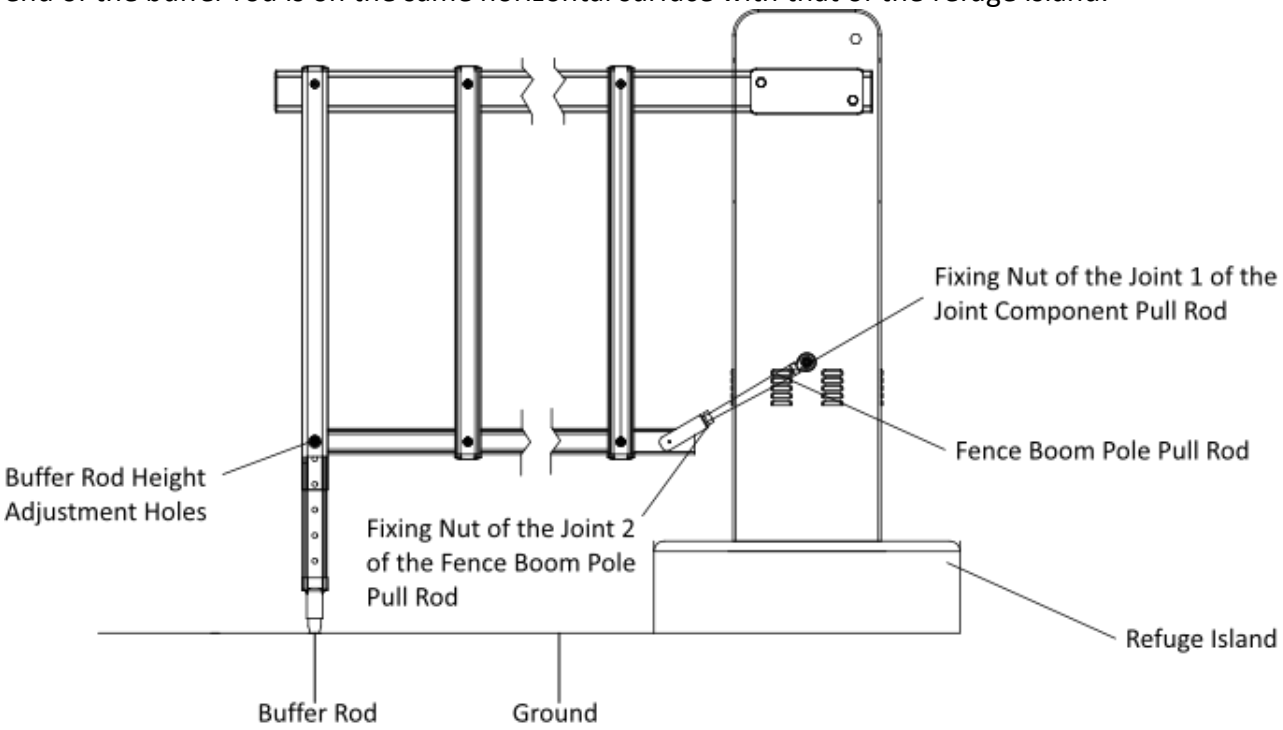


Figure 2-12 Adjust Fence Boom Pole

Note

For the refuge island with a special height, drill holes by yourself to adjust the buffer rod height.

Left and Right Directions of Fence Boom Pole

When you look from the arrow direction as shown below, the right fence boom pole is the one that the center boom poles are on the left of the main boom pole, and the left fence boom pole is the one that the center boom poles are on the right of the main boom pole.

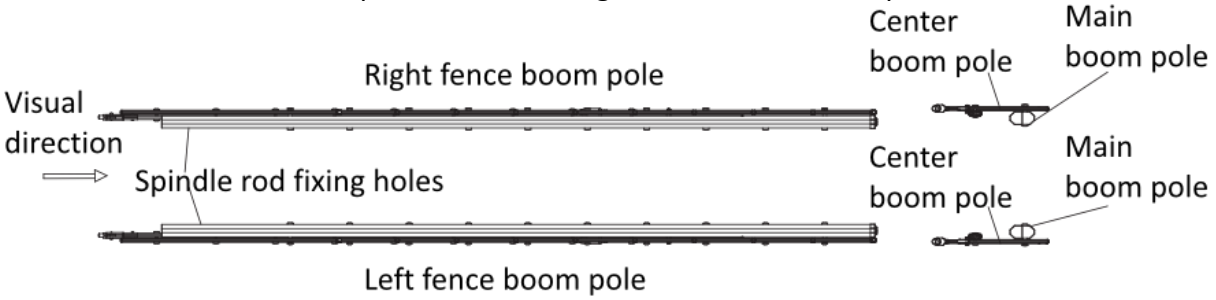


Figure 2-13 Left and Right Directions of Fence Boom Pole

2.3.4 Install Folding Boom Pole

Steps

1. Compose the main boom pole and sub-boom pole.
   1) Unfasten the cap nuts on the main boom pole and remove the screw and gaskets. Save the components and parts for the following installations.

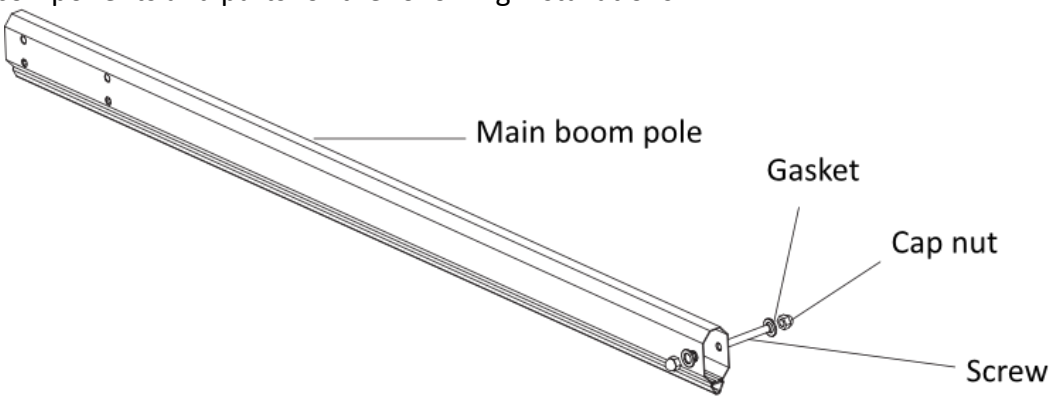


Figure 2-14 Unfasten Accessories of Main Boom Pole

   2) Unfasten the cap nuts on the sub-boom pole and remove the screw, gaskets, and sub-boom pole pull rod joint. Save the components and parts for the following installations.

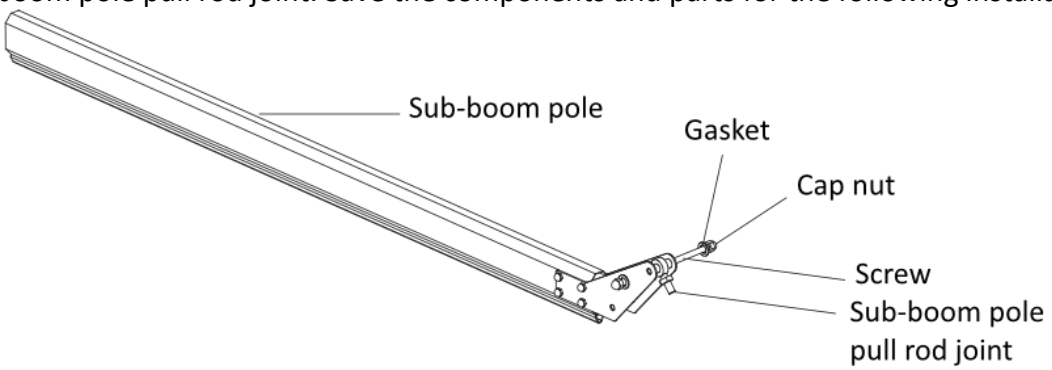


Figure 2-15 Unfasten Accessories of Sub- Boom Pole

   3) Force apart the sub-boom pole joint boards, and install the main boom pole. Make sure that the installation holes on the joint boards of the sub-boom pole can clip into the black

bushing on the main boom pole.

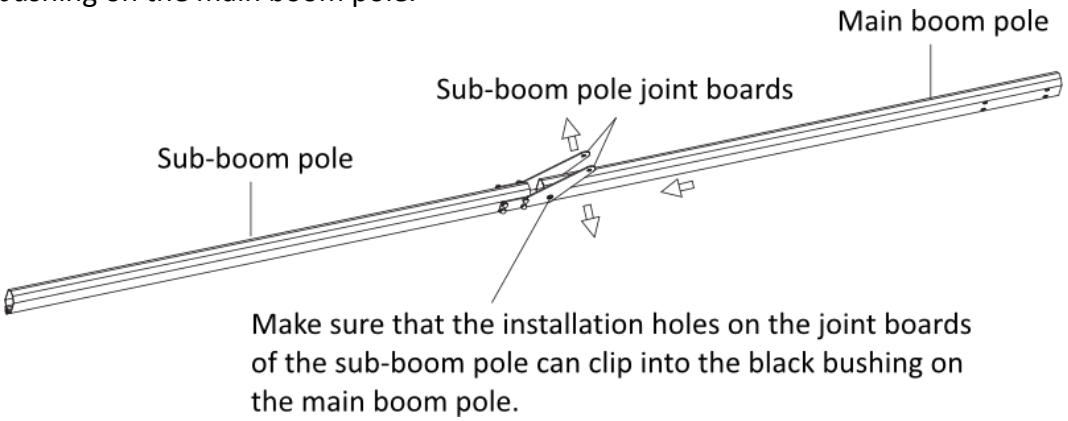


Figure 2-16 Connect Main Boom Pole and Sub-Boom Pole

4) Put the sub-boom pole pull rod joint between the joint boards, and insert the screw through the pull rod joint and gaskets, and fasten the cap nuts. Insert the other screw through the other installation holes on the sub-boom pole joint boards and gaskets, and fasten the cap nuts. Make sure that the black bushing on the sub-boom pole pull rod joint can clip into installation holes on the sub-boom pole joint boards.

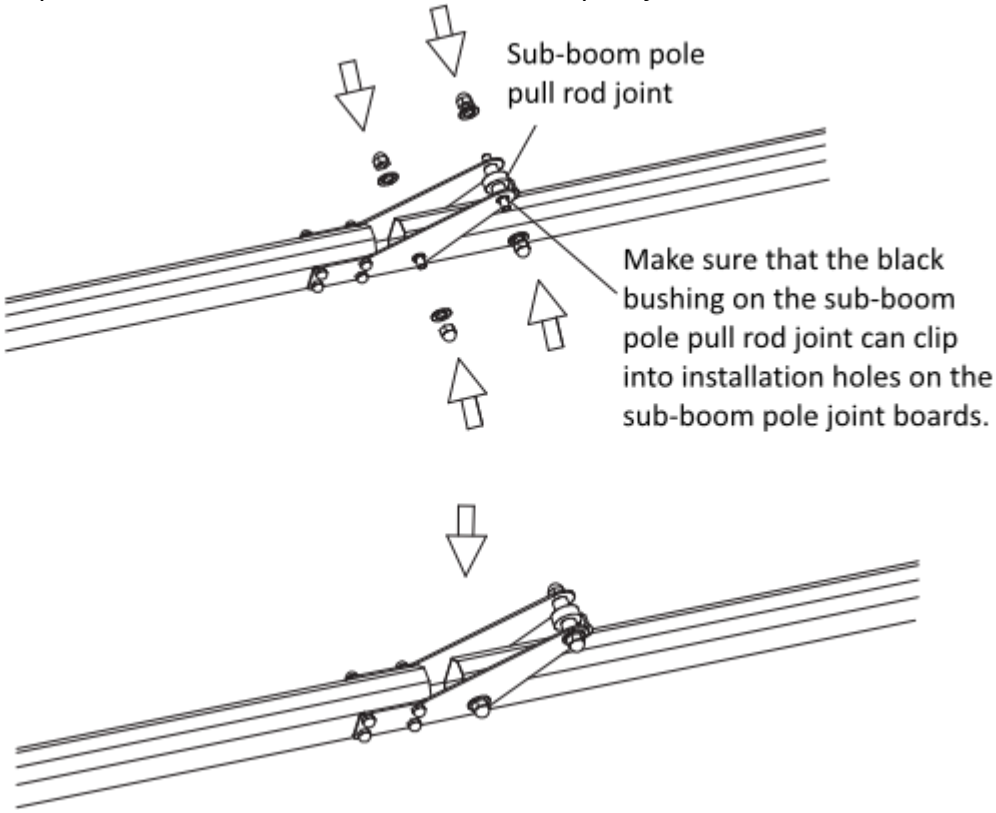


Figure 2-17 Install Sub-Boom Pole Pull Rod Joint

2. Install the folding boom pole to the host.

Note

Here we take example of the right direction barrier gate.

1) Remove the plastic nut on the installation position of the right direction main boom pole pull rod joint, and Install the right direction main boom pole pull rod joint.

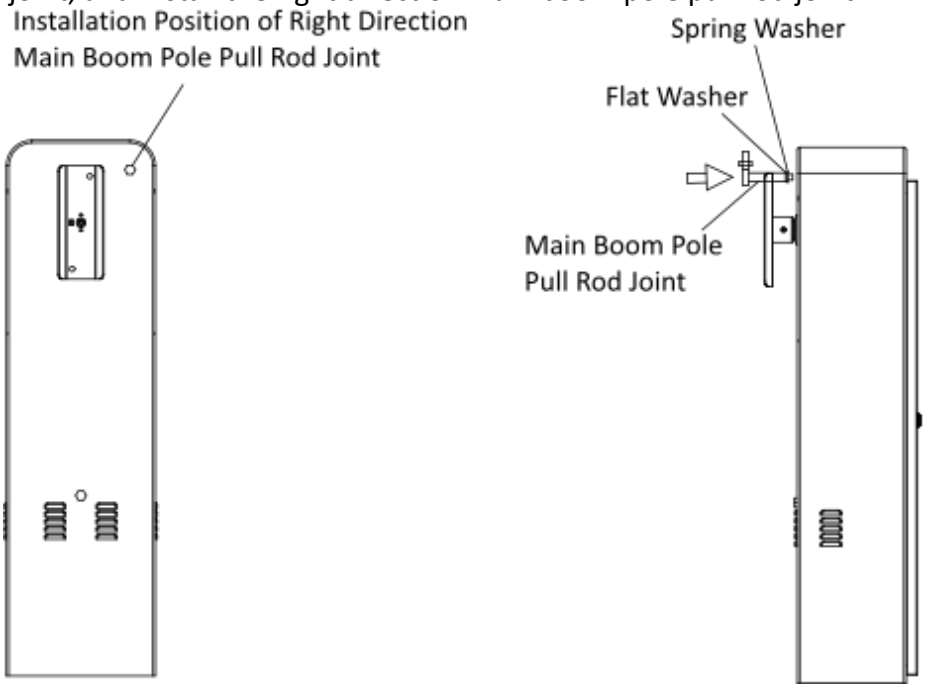


Figure 2-18 Install Main Boom Pole Pull Rod Joint

Note

Pay attention to the order of the spring washer and flat washer during installation.

2) Unscrew the cap nuts, spring washers, and flat washers on the other sides of the two assembling bolts. Align the holes on the chuck with those on the folding boom pole, and fasten the assembling bolts.

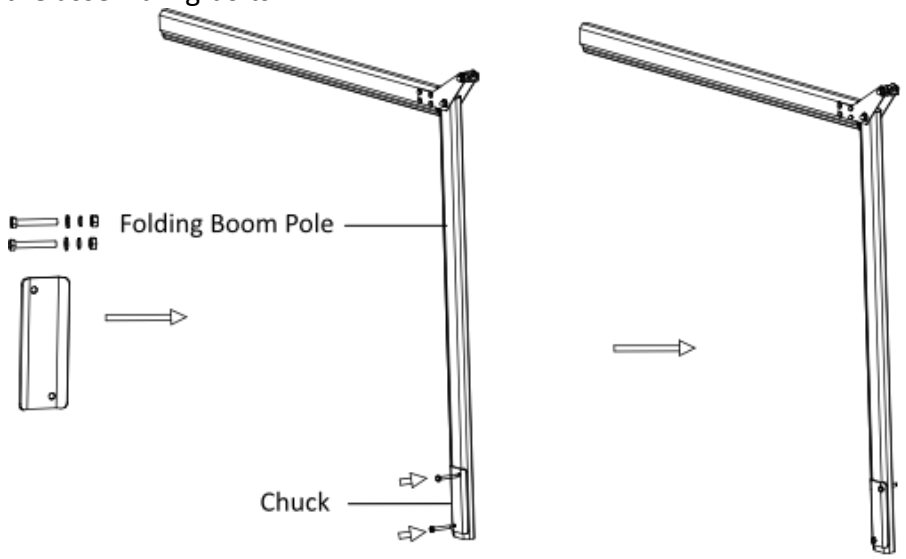


Figure 2-19 Install Chuck

3) Install the boom pole to the spindle rod, and fasten the other ends of the bolts with the flat washers, spring washers, and cap nuts.

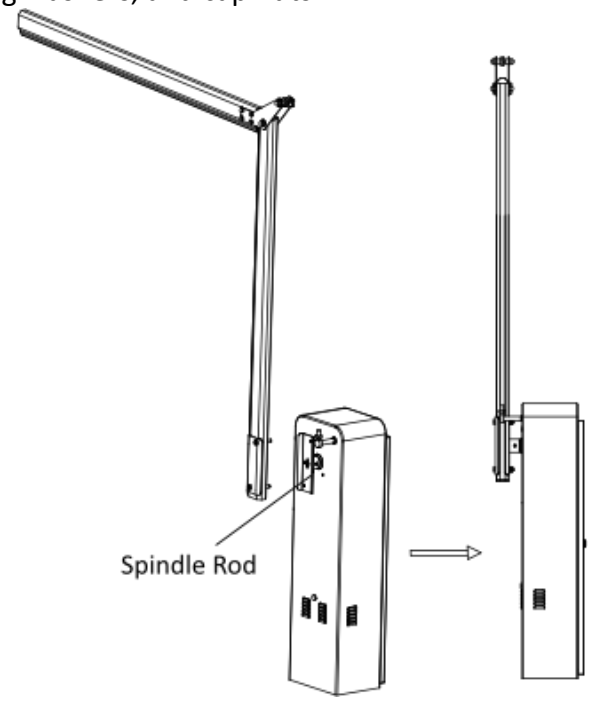


Figure 2-20 Fix Folding Boom Pole

4) Power off the device. Pull the main boom pole to the horizontal position, and place the sub-boom pole nearly to the horizontal position. Wrest the pull rod between the sub-boom pole pull rod joint and the main boom pole pull rod joint. Wrest the pull rod continuously to keep the main boom pole and sub-boom pole in the horizontal position, and fasten the nuts on both ends.

Note

It is recommended to lubricate the joint position of the folding boom pole every 3 months for maintenance.

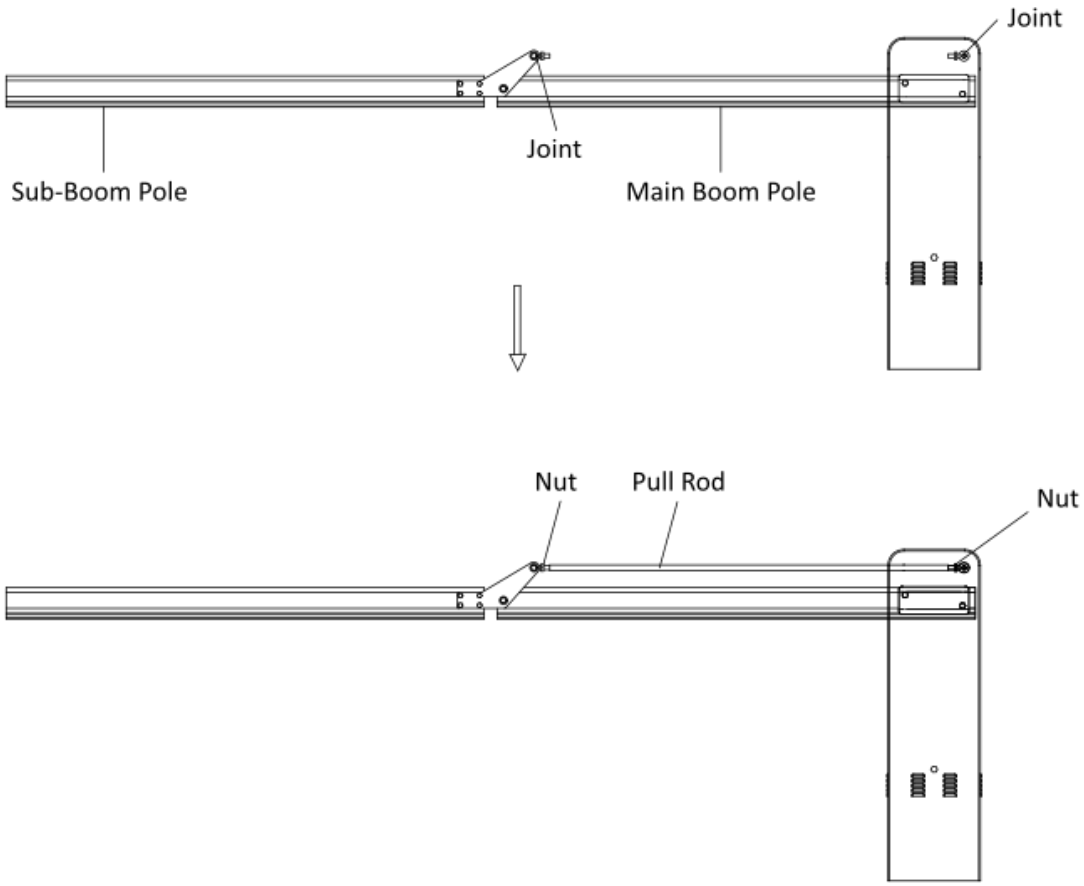


Figure 2-21 Connect Boom Pole to Host via Pull Rod

Note

Contact a professional technician to replace the boom pole. Replace the pole by yourself may damage the barrier gate.

2.4 Wiring

2.4.1 Connect to Access ANPR Camera

As the figure shown below, connect the rising control + and rising control - interfaces of the barrier gate to the rising control interfaces of the access ANPR camera, and connect the falling control + and falling control - interfaces of the barrier gate to the falling control interfaces of the access ANPR camera.

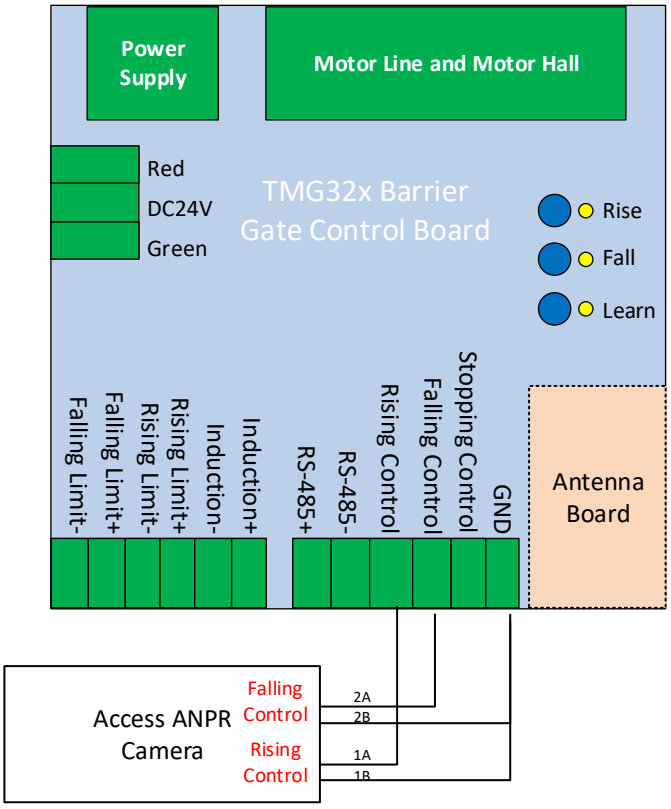


Figure 2-22 Connect to Access ANPR Camera

2.4.2 Connect to Traffic Signal Light

Connect the rising limit - interface of the barrier gate to the black line of the traffic signal light, and connect the rising limit + interface of the barrier gate to the gray line of the traffic signal light.

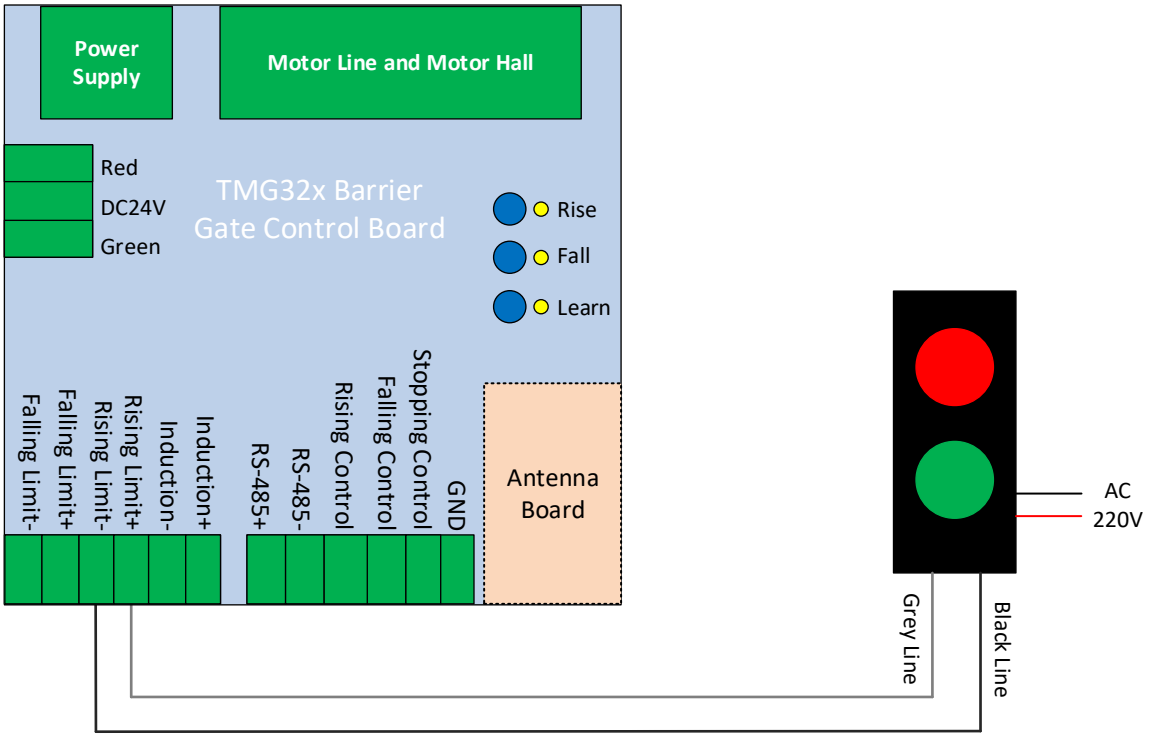


Figure 2-23 Connect to Traffic Signal Light

2.4.3 Connect to Anti-fall Radar

Anti-fall Radar Wiring

The anti-fall radar needs to be powered by 12 or 24 VDC power supply. Connect the induction ± interface of the barrier gate to the radar.

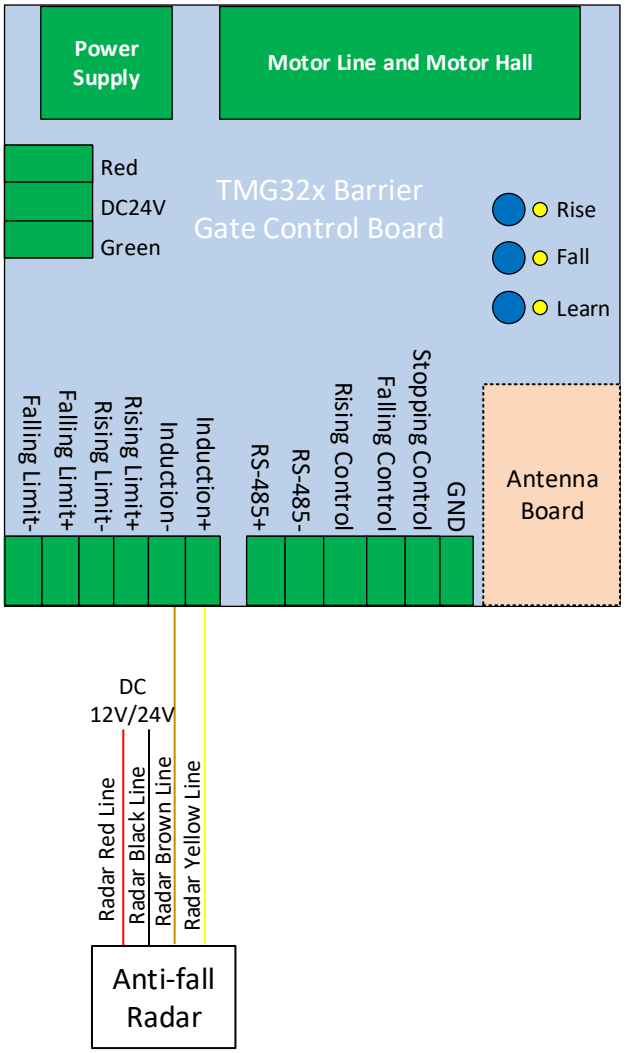


Figure 2-24 Connect to Anti-fall Radar

Radar Installation Instructions

The anti-fall radar should be installed beside the barrier gate. In different scenarios, follow the instructions below to get the best effect.

Scenario 1: Small-Sized Vehicles

For small-sized vehicles, such as the cars and SUVs, install the radar according to the figure shown below.

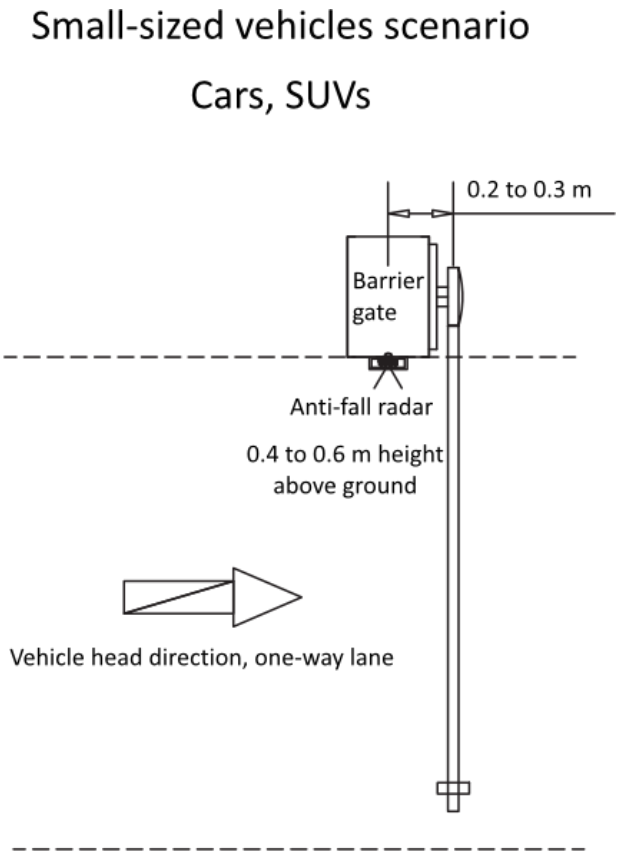


Figure 2-25 Small-Sized Vehicles Scenario

Scenario 2: Large-Sized Vehicles

For large-sized vehicles, such as the oil tank trucks, transport vehicles, trucks, and other vehicles with chassises of higher than 1 m, install the radar according to the figure shown below.

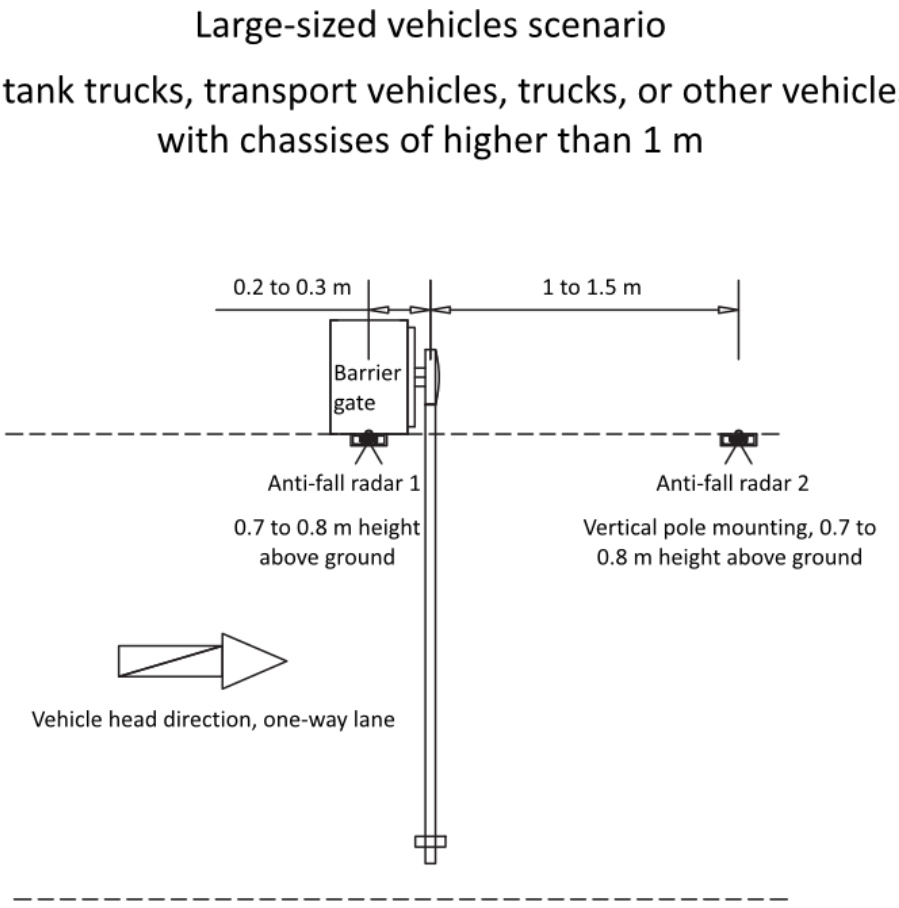


Figure 2-26 Large-Sized Vehicles Scenario

Scenario 3: Mixed Traffic

For mixed traffic scenario, such as the large-sized and small-sized vehicles are mixing, install the radar according to the figure shown below.

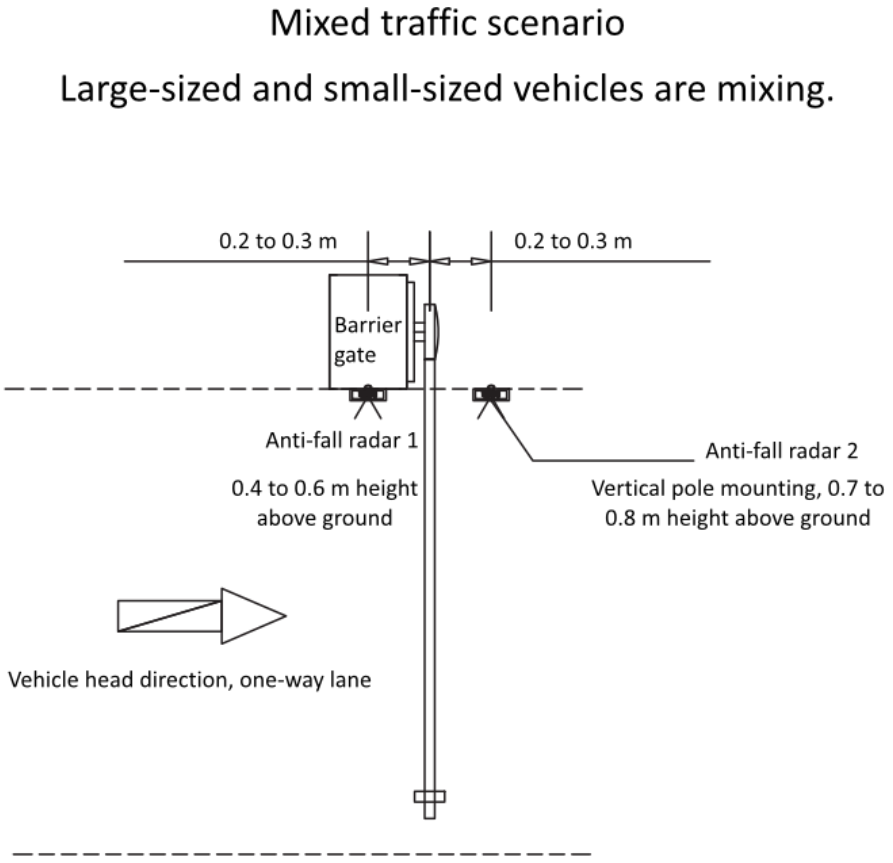


Figure 2-27 Mixed Traffic Scenario

2.4.4 Connect to Vehicle Detector

Vehicle Detector Wiring

Connect the induction+ and induction- interfaces of the barrier gate to the vehicle detector.

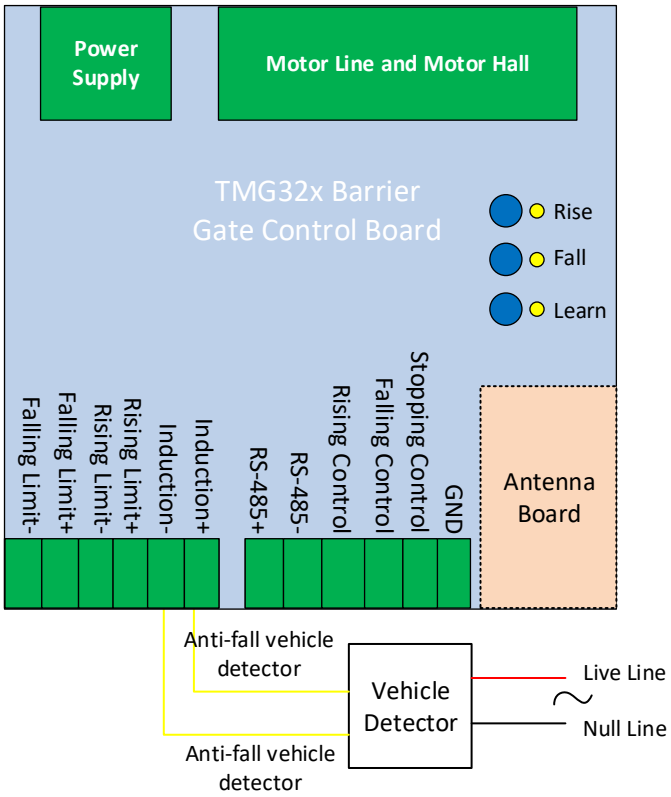


Figure 2-28 Connect to Vehicle Detector

Vehicle Detector Installation Instructions

The general width of the vehicle detector is 1 m. If there are large-sized vehicles passing in the scenario, widen the width to 1.5 m.

The anti-fall vehicle detector should be installed behind the barrier gate to avoid that the boom pole falls down and smashes the vehicle after the vehicle passes the vehicle detector and the signal disappears.

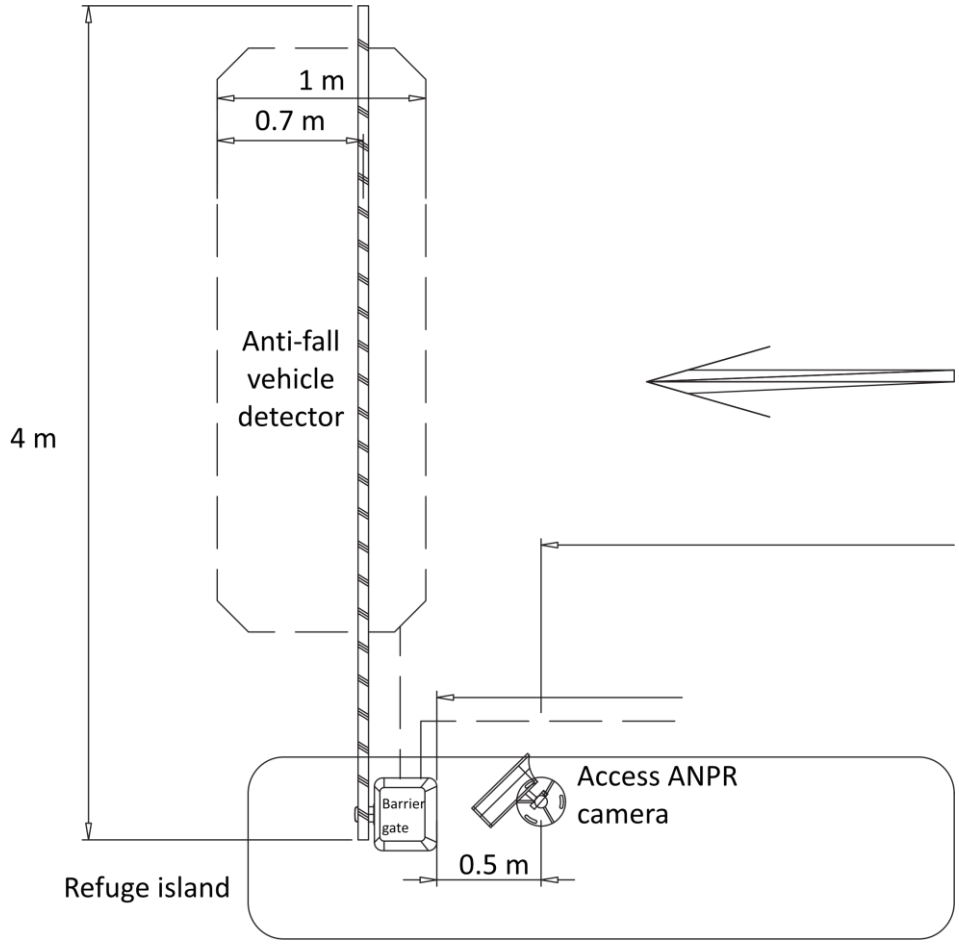


Figure 2-29 Vehicle Detector Installation

2.4.5 Connect to Active Infrared Intrusion Detector

Connect the induction+ interface of the barrier gate to the COM interface of the active infrared intrusion detector, and the induction- interface of the barrier gate to the OUT interface of the active infrared intrusion detector.

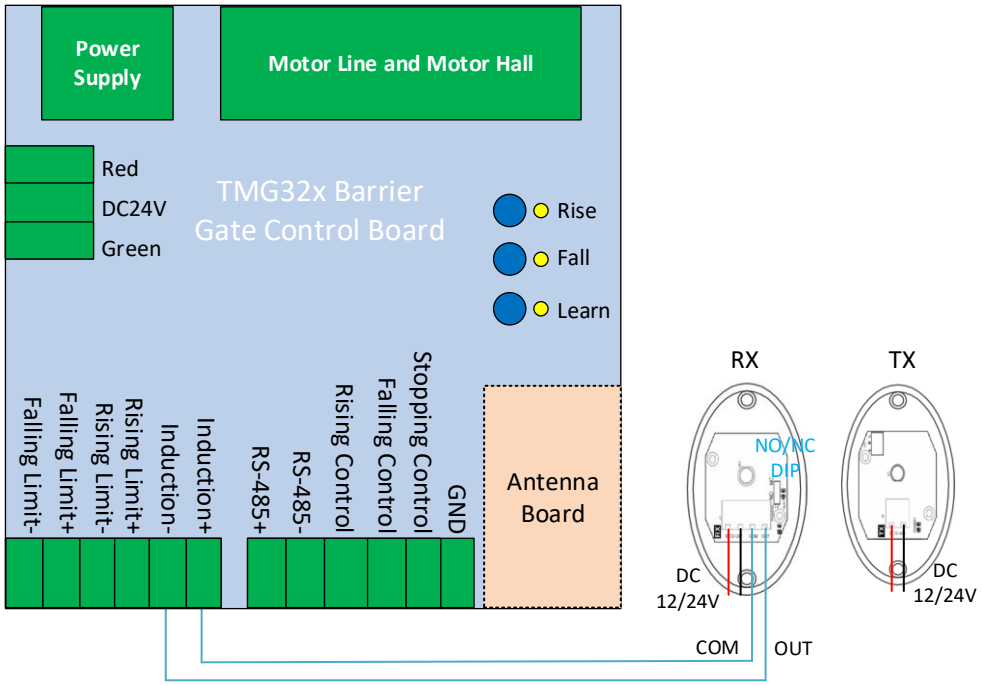


Figure 2-30 Connect to Active Infrared Intrusion Detector

2.4.6 Connect to Strip Light

For the boom pole with strip light, connect the strip light to the barrier gate as shown below.

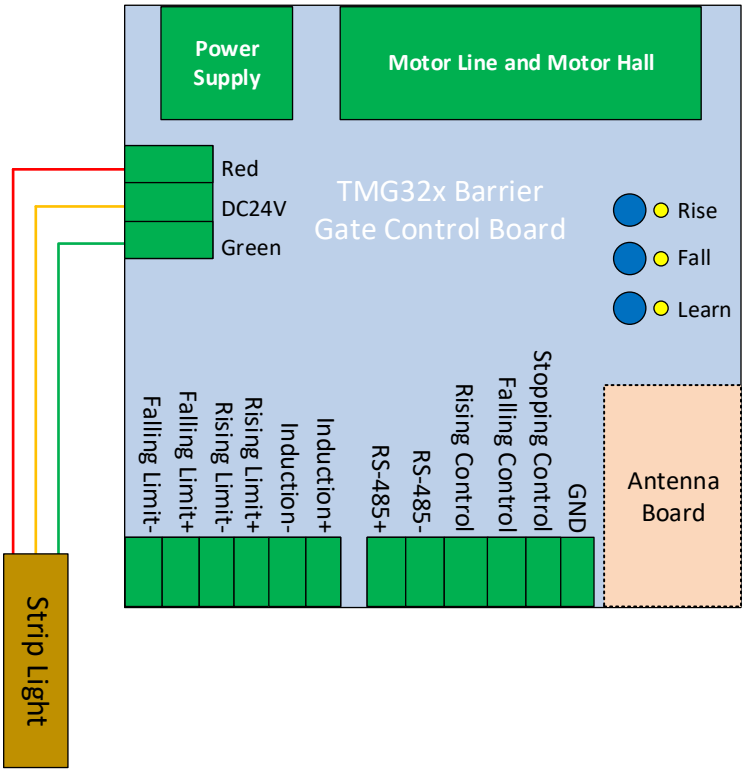


Figure 2-31 Connect to Strip Light

2.4.7 Connect to Warning Light

For the barrier gate with a warning light on the top of host, connect the warning light to the barrier gate as shown below.

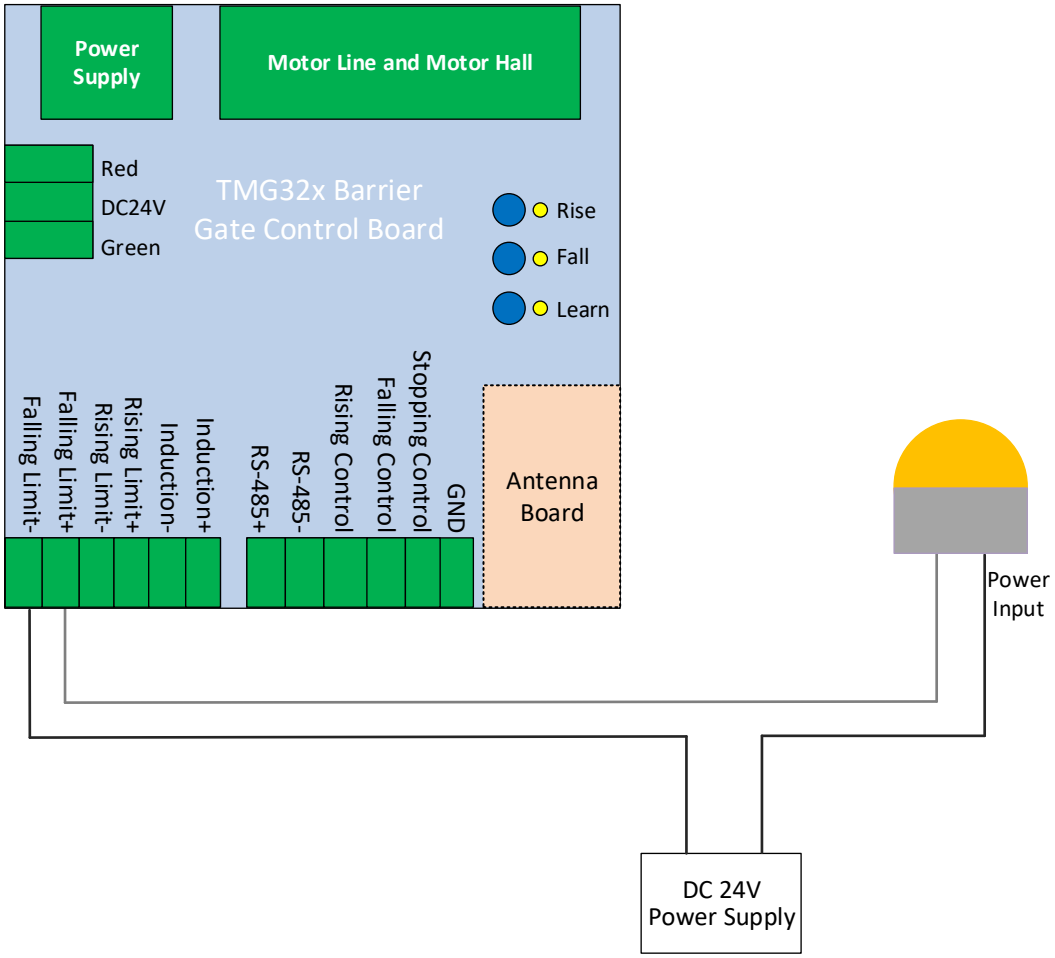


Figure 2-32 Connect to Warning Light

2.4.8 Connect to Manual Button Box

To control the barrier gate from the manual button box, connect the manual button box to the barrier gate as shown below.

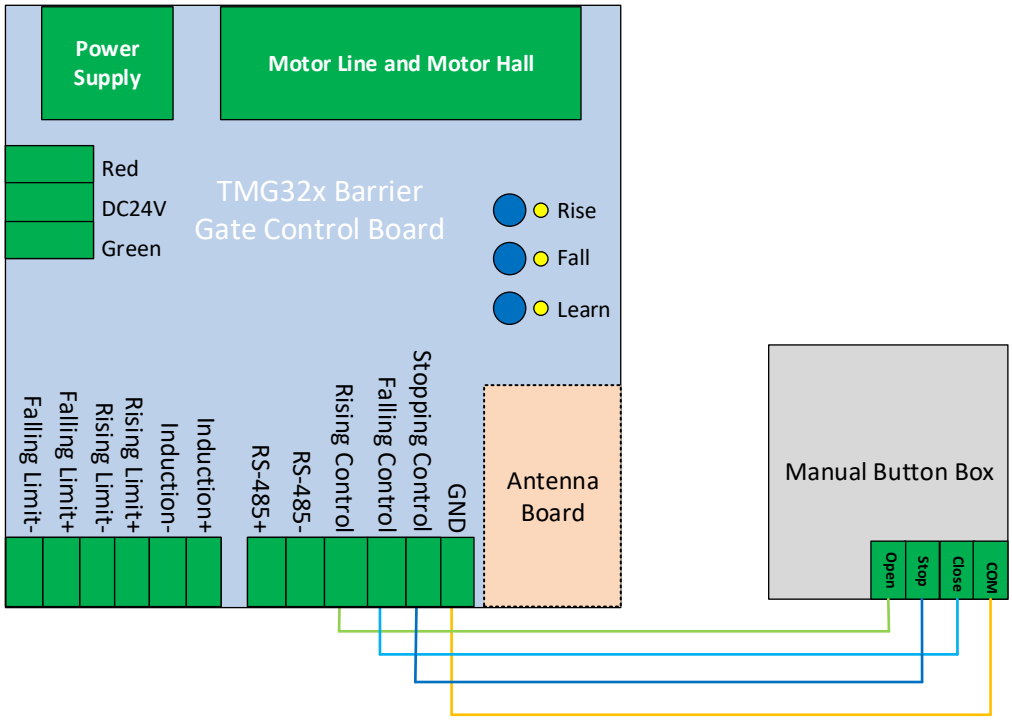


Figure 2-33 Connect to Manual Button Box

Chapter 3 Parameters Configuration

After the installation completes, power on the barrier gate, and it will operate self-check of rising to limit position. After the self-check completes, you can control the barrier gate via remote controller or buttons.

3.1 Remote Control

After the self-check completes, you can control the boom pole to rise, fall, and stop via the remote controller in the packing list.

3.2 Set Parameters via Control Board Buttons

3.2.1 Button Description

Open the front cover of the host, and you can see the control board buttons and nixie tube. You can control the barrier gate via the buttons and judge the status via the nixie tube.
There is respective initial status for the rising limit position, falling limit position, and rising speed of the barrier gate. You can adjust them via buttons if the initial status cannot meet the requirements of the installation site.

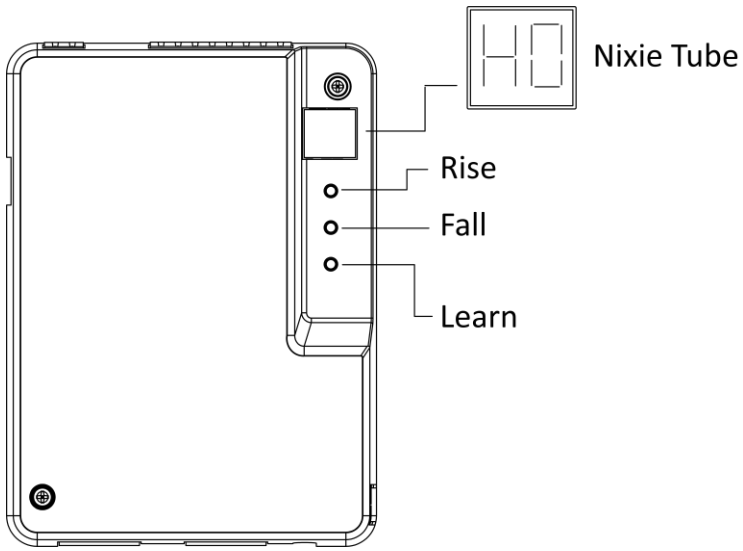


Figure 3-1 Control Buttons

Note

- If you need to hold the buttons to trigger operations, hold for 3 seconds or above.
- The nixie tube shows the status (e.g., H0) and fault codes (hexadecimal characters, e.g., 1A). If

the fault codes appear on the nixie tube, it means there is operation error. Contact the technical personnel of our company to solve the problems.

3.2.2 Operation Procedure

Refer to the table below for the description of the value on the nixie tube.

Table 3-1 Nixie Tube Value Description

Value	Description
00	Normal running.
Lc	Locking status.
Lr	Learning process display.
H0	Manual learning.
H1	To adjust the limit position distance of the boom pole. Refer to *Fine Adjustment of Rising to Limit (H1)* and *Fine Adjustment of Falling to Limit (H1)* for details.
H3	To set the falling speed of boom pole. Refer to *Boom Pole Falling Speed Settings (H3)* for details.
H4	To set the remote controller learning. Refer to *Remote Control Learning Pair (H4)* for details.
H5	To set the vehicle queue mode. Refer to *Vehicle Queue Mode Settings (H5)* for details.
H6	To enable the auto falling function of boom pole. Refer to *Auto Falling Settings (H6)* for details.
H7	To set the auto falling time of boom pole. Refer to *Auto Falling Time Settings (H7)* for details.
H8	To enable the function of locking barrier gate via the remote controller. Refer to *Locking Boom Pole by Remote Controller (H8)* for details.
H9	To set the limit output mode. Refer to *Limit Output Mode (H9)* for details.
HA	To set the strict falling mode. Refer to *Strict Falling Mode (HA)* for details.
Hb	To set the boom pole type. Refer to *Boom Pole Type Settings (Hb)* for details.

Value	Description
HC	To set the left/right direction of boom pole. Refer to *Left/Right Boom Pole Settings (HC)* for details.
Hd	To set the self-learning mode when the device is powered on. Refer to *Auto Learning Rising After Power on Settings (Hd)* for details.
HE	To set the warning light mode. Refer to *Set Warning Light Mode (HE)* for details.
F1	To set the vehicle leaving signal filter angle. Refer to *Vehicle Leaving Signal Filter Angle Settings (F1)* for details.
F2	To set the log display. Refer to *Log Display (F2)* for details.
F4	To set the strip light control mode. Refer to *Strip Light Control Mode (F4)* for details.
F5	To set the Bluetooth pair mode. Refer to *Bluetooth Pair Mode (F5)* for details.
F6	To set the anti-fall radar control mode. Refer to *Anti-Fall Radar Control Mode (F6)* for details.

Fine Adjustment of Rising to Limit (H1)

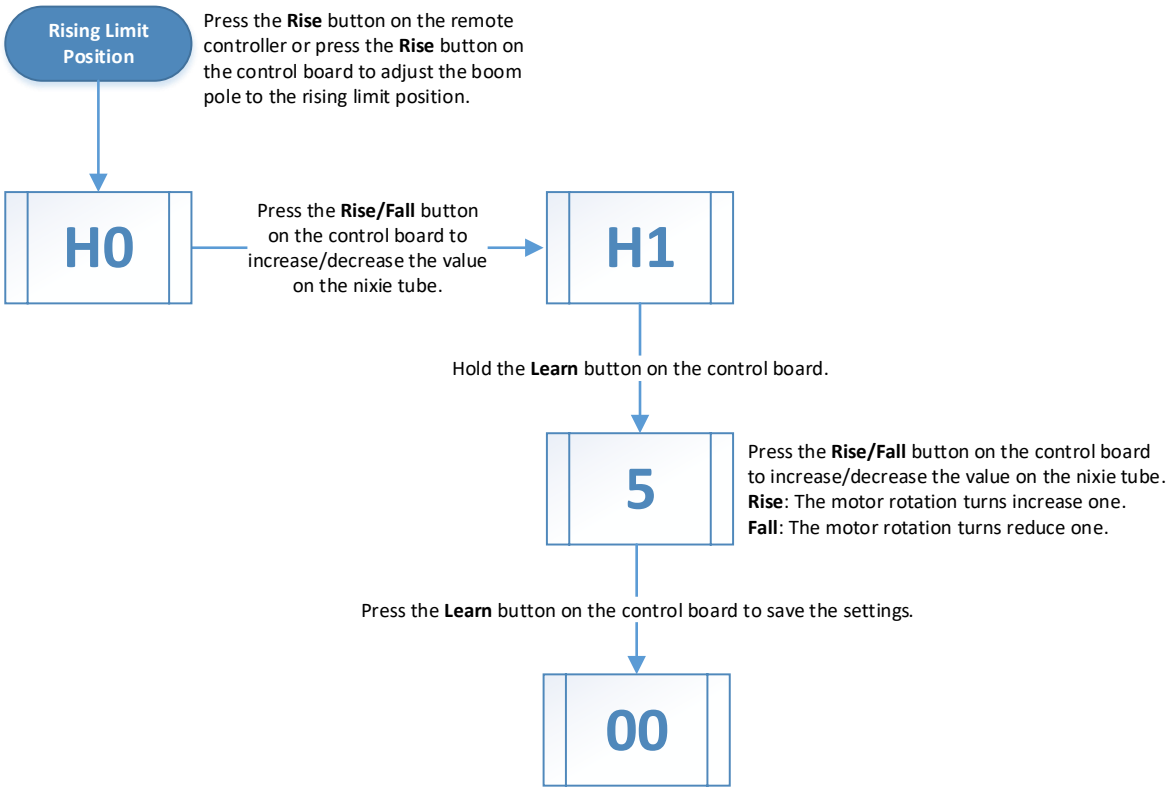


Figure 3-2 Fine Adjustment of Rising to Limit

Steps

1. Press the **Rise** button on the remote controller or press the **Rise** button on the control board to adjust the boom pole to the rising limit position.
2. Hold the **Learn** button on the control board, and "H0" will appear on the nixie tube.
3. Press the **Rise**/**Fall** button on the control board to increase/decrease the value on the nixie tube. Adjust the value to "H1".
4. Hold the **Learn** button on the control board to adjust the nixie tube to display digit. Then press the **Rise**/**Fall** button on the control board to increase/decrease the value on the nixie tube.

Note

- If you press the **Rise** button, it means the motor rotation turns increase one. If you press the **Fall** button, it means the motor rotation turns reduce one.
- The value on the nixie tube means the number of motor rotation turns. E.g., if you press the **Rise** button on the control board to adjust the value to 5, it means the motor rotates 5 turns away from the initial rising limit position.

5. Press the **Learn** button on the control board to save the settings. "00" will appear on the nixie tube.

Fine Adjustment of Falling to Limit (H1)

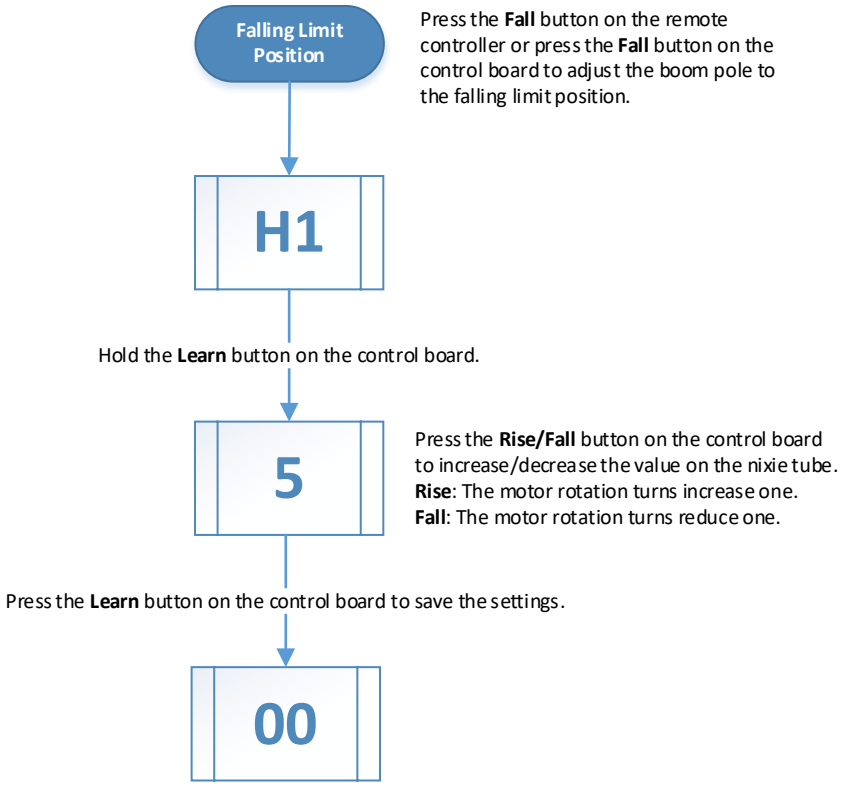


Figure 3-3 Fine Adjustment of Falling to Limit

Steps

1. Press the **Fall** button on the remote controller or press the **Fall** button on the control board to adjust the boom pole to the falling limit position. “H1” will appear on the nixie tube.
2. Hold the **Learn** button on the control board to adjust the nixie tube to display digit. Then press the **Rise**/**Fall** button on the control board to increase/decrease the value on the nixie tube.

Note

- If you press the **Rise** button, it means the motor rotation turns increase one. If you press the **Fall** button, it means the motor rotation turns reduce one.
- The value on the nixie tube means the number of motor rotation turns. E.g., if you press the **Fall** button on the control board to adjust the value to 5, it means the motor rotates 5 turns away from the initial falling limit position.

3. Press the **Learn** button on the control board to save the settings. “00” will appear on the nixie tube.

Boom Pole Falling Speed Settings (H3)

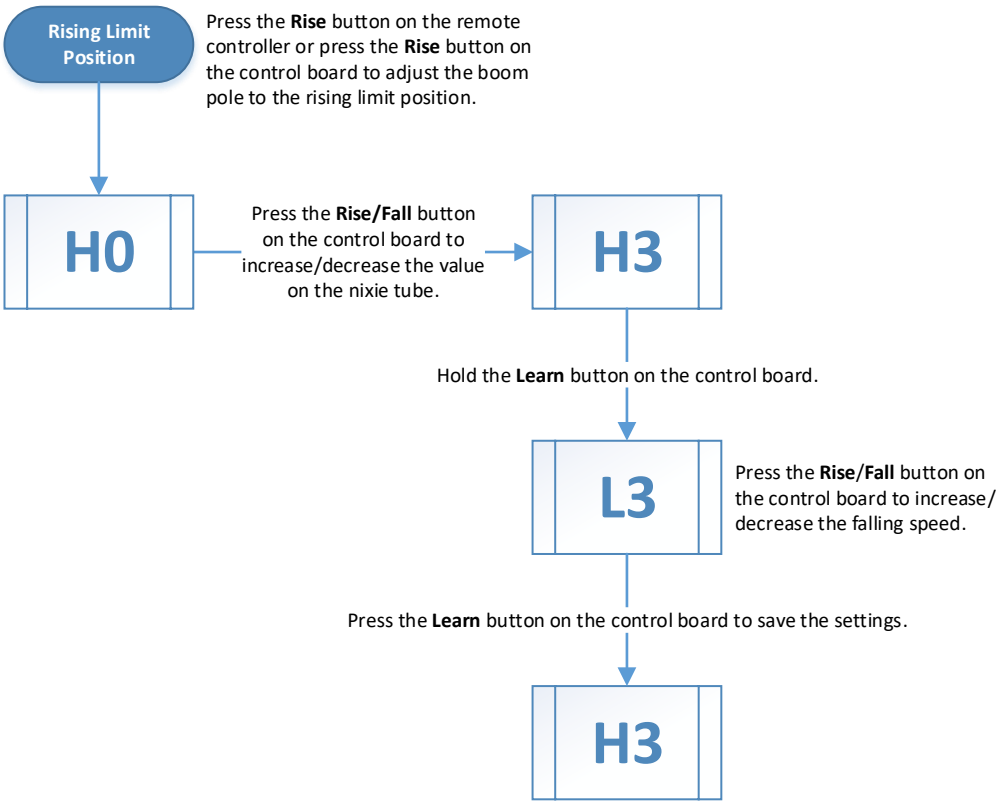


Figure 3-4 Boom Pole Falling Speed Settings

Steps

1. Press the **Rise** button on the remote controller or press the **Rise** button on the control board to adjust the boom pole to the rising limit position.
2. Hold the **Learn** button on the control board until “H0” appears on the nixie tube.
3. Press the **Rise**/**Fall** button on the control board to increase/decrease the value on the nixie tube. Adjust the value to “H3”.
4. Hold the **Learn** button on the control board to adjust the nixie tube to display “L1”, “L2”, or “L3”.
5. Press the **Rise**/**Fall** button on the control board to increase/decrease the falling speed.
6. Press the **Learn** button on the control board to save the settings. “H3” will appear on the nixie tube.

Remote Control Learning Pair (H4)

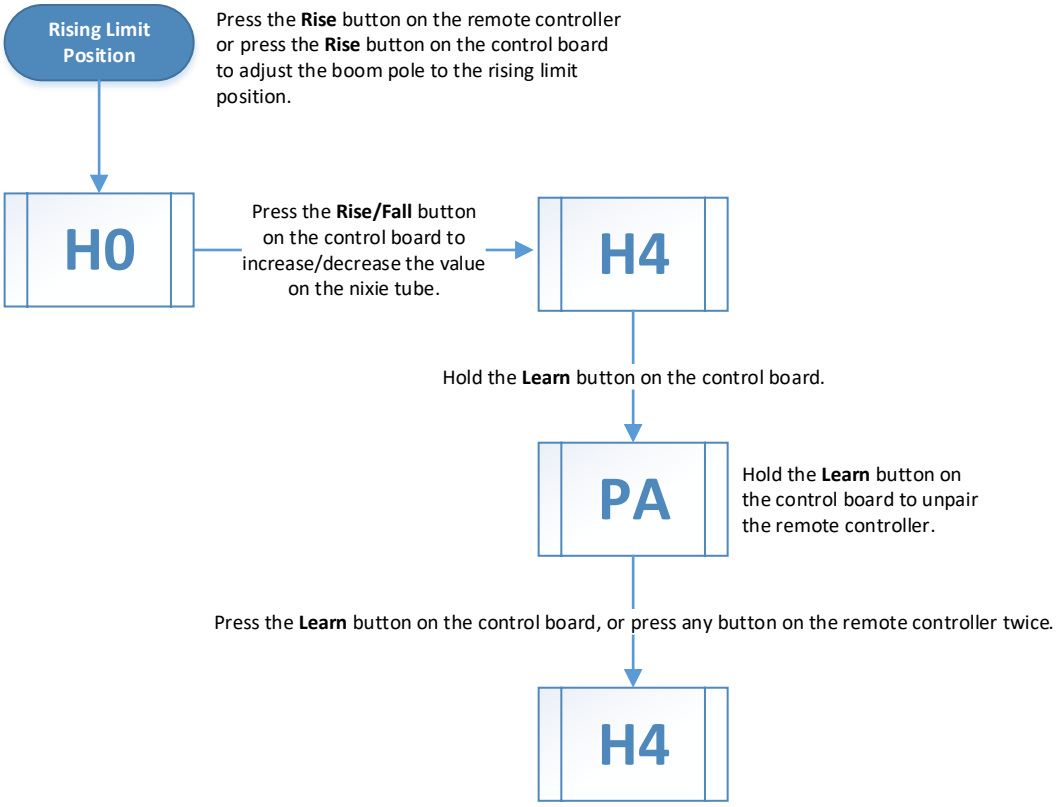


Figure 3-5 Remote Control Learning Pair

Steps

1. Press the **Rise** button on the remote controller or press the **Rise** button on the control board to adjust the boom pole to the rising limit position.
2. Hold the **Learn** button on the control board until “H0” appears on the nixie tube.
3. Press the **Rise**/**Fall** button on the control board to increase/decrease the value on the nixie tube. Adjust the value to “H4”.
4. Hold the **Learn** button on the control board until “PA” appears on the nixie tube.
5. Press the **Learn** button on the control board, or press any button on the remote controller twice until “H4” appears on the nixie tube.
6. (Optional) Hold the **Learn** button on the control board to unpair the remote controller.

Vehicle Queue Mode Settings (H5)

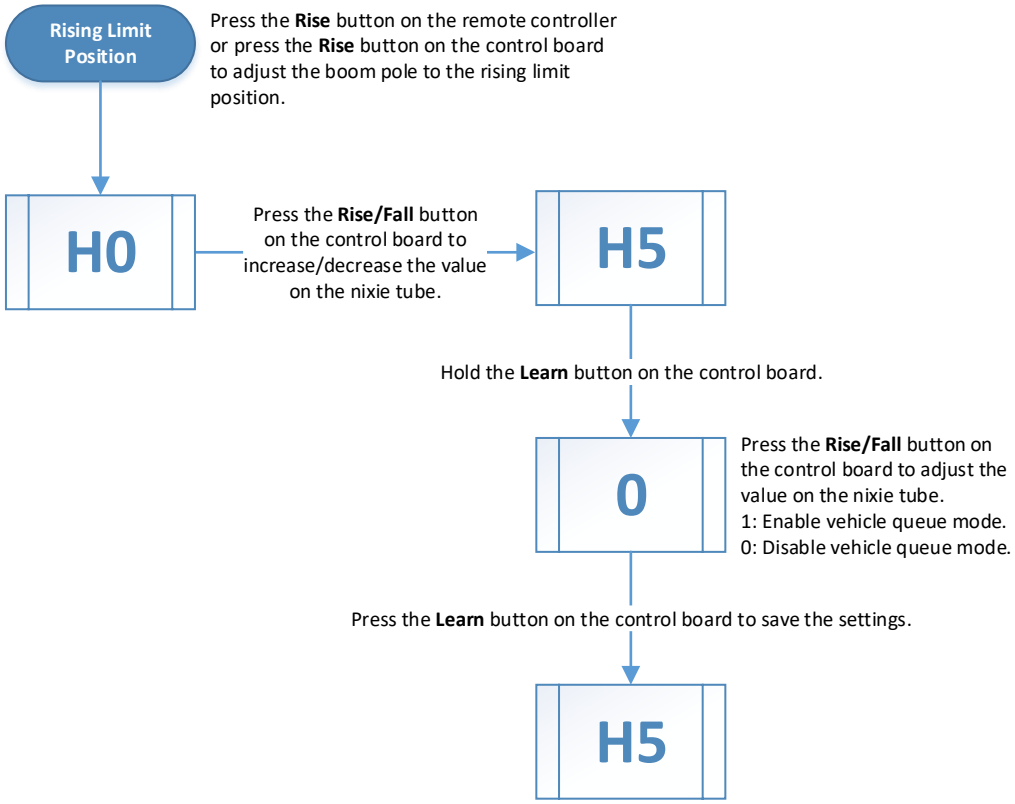


Figure 3-6 Vehicle Queue Mode Settings

Steps

1. Press the **Rise** button on the remote controller or press the **Rise** button on the control board to adjust the boom pole to the rising limit position.
2. Hold the **Learn** button on the control board until “H0” appears on the nixie tube.
3. Press the **Rise**/**Fall** button on the control board to increase/decrease the value on the nixie tube. Adjust the value to “H5”.
4. Hold the **Learn** button on the control board to enter the menu settings.
5. Press the **Rise**/**Fall** button on the control board to adjust the value on the nixie tube.

Note

Adjust the value to 1 to enable the vehicle queue mode, and 0 to disable the mode.

6. Press the **Learn** button on the control board to save the settings. “H5” will appear on the nixie tube.

Auto Falling Settings (H6)

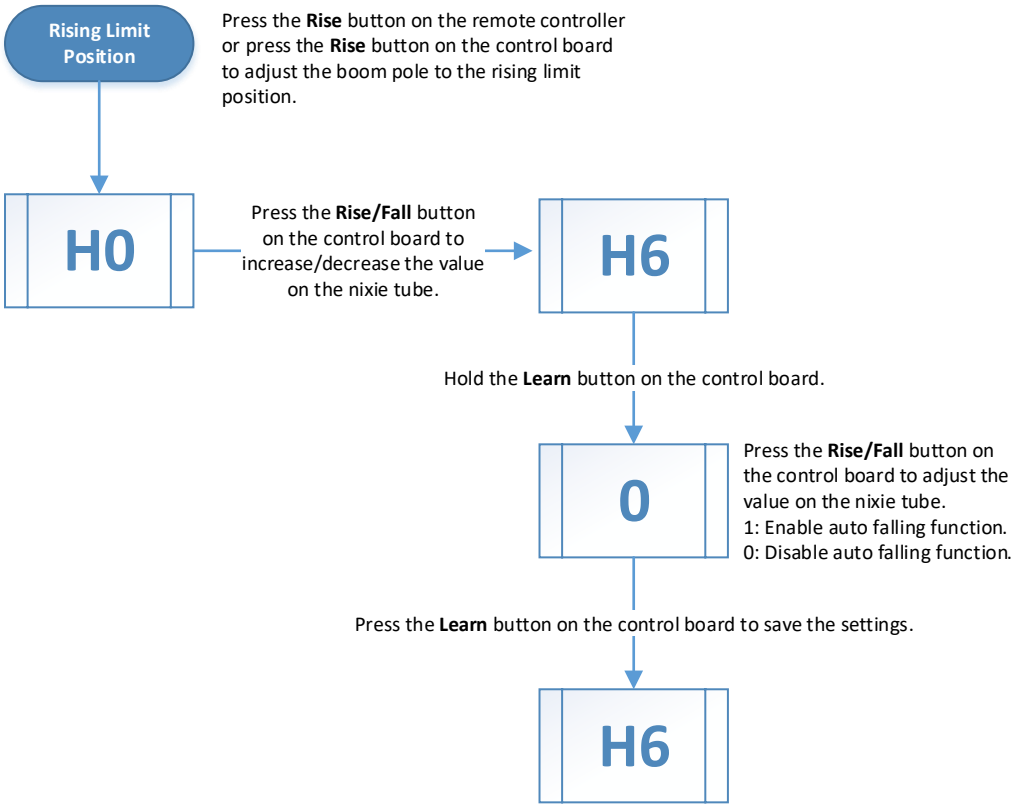


Figure 3-7 Auto Falling Settings

Steps

1. Press the **Rise** button on the remote controller or press the **Rise** button on the control board to adjust the boom pole to the rising limit position.
2. Hold the **Learn** button on the control board until “H0” appears on the nixie tube.
3. Press the **Rise**/**Fall** button on the control board to increase/decrease the value on the nixie tube. Adjust the value to “H6”.
4. Hold the **Learn** button on the control board to enter the menu settings.
5. Press the **Rise**/**Fall** button on the control board to adjust the value on the nixie tube.

Note

Adjust the value to 1 to enable the auto falling function, and 0 to disable the function.

6. Press the **Learn** button on the control board to save the settings. “H6” will appear on the nixie tube.

Auto Falling Time Settings (H7)

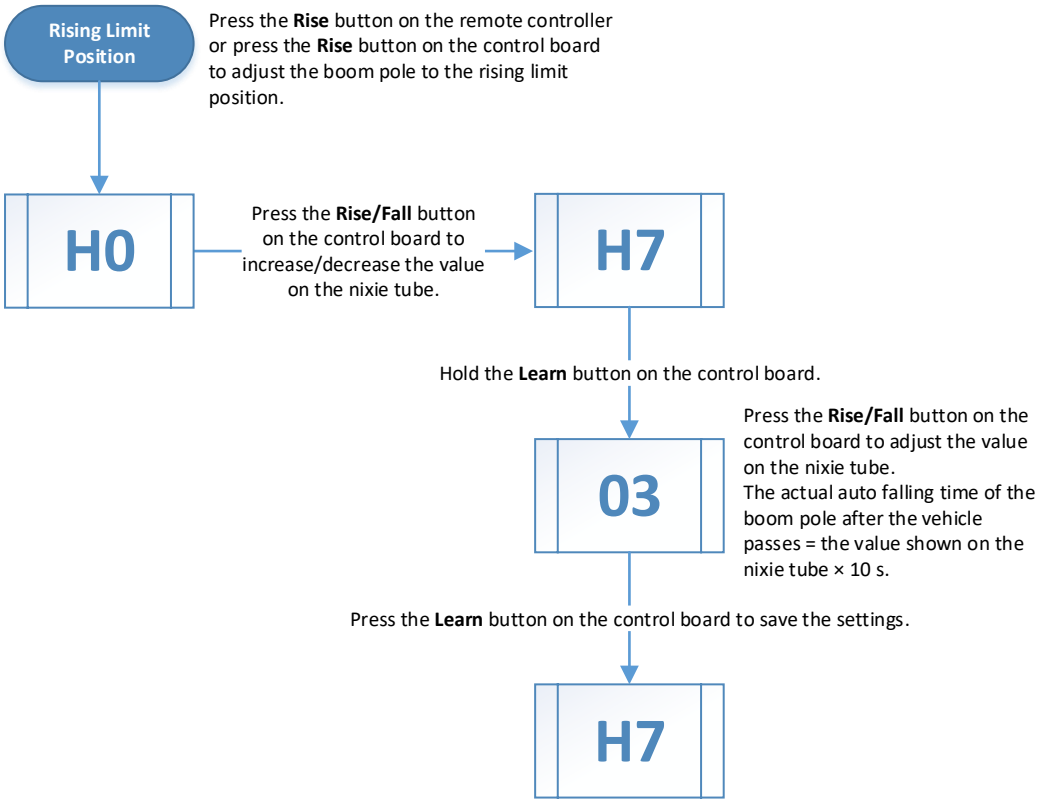


Figure 3-8 Auto Falling Time Settings

Steps

1. Press the **Rise** button on the remote controller or press the **Rise** button on the control board to adjust the boom pole to the rising limit position.
2. Hold the **Learn** button on the control board until “H0” appears on the nixie tube.
3. Press the **Rise**/**Fall** button on the control board to increase/decrease the value on the nixie tube. Adjust the value to “H7”.
4. Hold the **Learn** button on the control board to enter the menu settings.
5. Press the **Rise**/**Fall** button on the control board to adjust the value on the nixie tube.

Note

The actual auto falling time of the boom pole after the vehicle passes = the value shown on the nixie tube × 10 s. E.g., the value shown on the nixie tube is 3. Thus the actual auto falling time is 30 s.

6. Press the **Learn** button on the control board to save the settings. “H7” will appear on the nixie tube.

Locking Boom Pole by Remote Controller (H8)

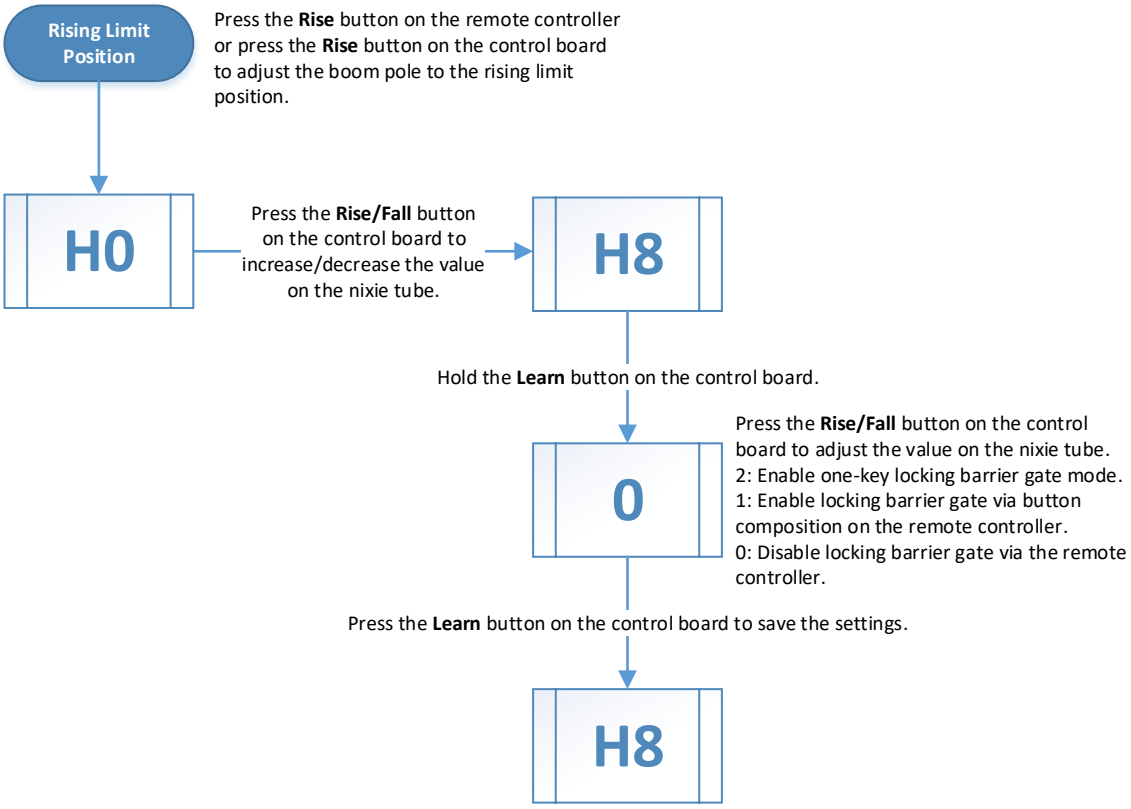


Figure 3-9 Locking Boom Pole by Remote Controller

Steps

1. Press the **Rise** button on the remote controller or press the **Rise** button on the control board to adjust the boom pole to the rising limit position.
2. Hold the **Learn** button on the control board until “H0” appears on the nixie tube.
3. Press the **Rise**/**Fall** button on the control board to increase/decrease the value on the nixie tube. Adjust the value to “H8”.
4. Hold the **Learn** button on the control board to enter the menu settings.
5. Press the **Rise**/**Fall** button on the control board to adjust the value on the nixie tube.

Note

Adjust the value to 2 to enable one-key locking barrier gate, 1 to enable locking barrier gate via button composition on the remote controller, and 0 to disable the function.

6. Press the **Learn** button on the control board to save the settings. “H8” will appear on the nixie tube.

Limit Output Mode (H9)

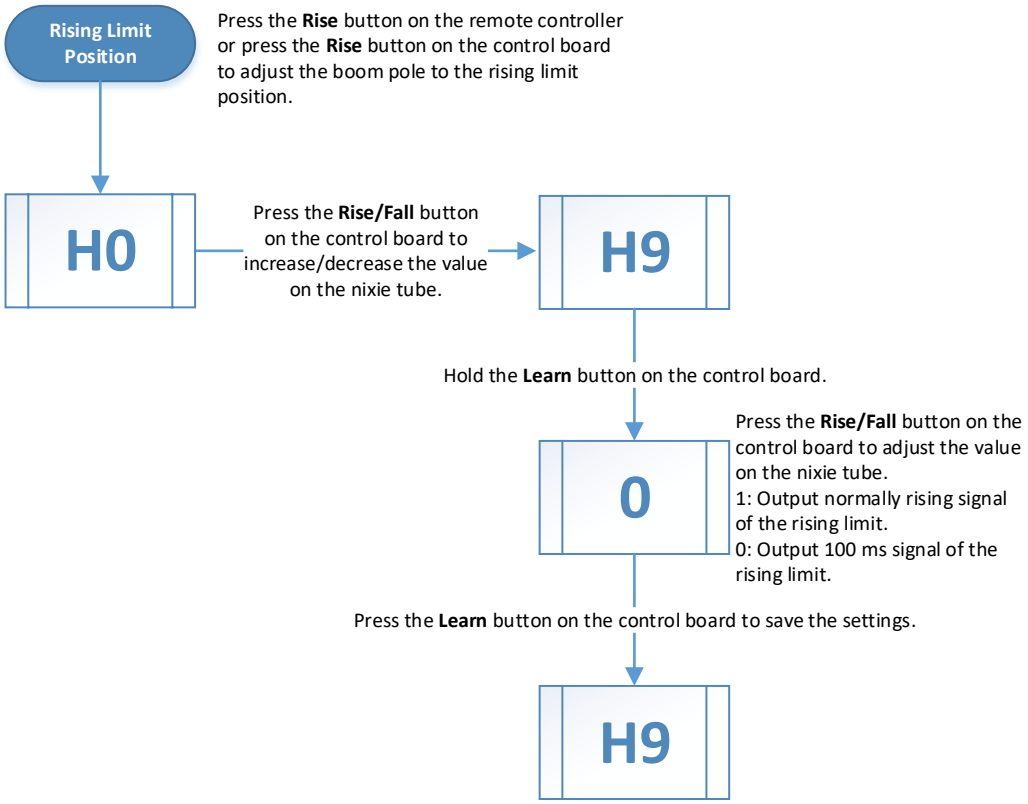


Figure 3-10 Limit Output Mode

Steps

1. Press the **Rise** button on the remote controller or press the **Rise** button on the control board to adjust the boom pole to the rising limit position.
2. Hold the **Learn** button on the control board until “H0” appears on the nixie tube.
3. Press the **Rise**/**Fall** button on the control board to increase/decrease the value on the nixie tube. Adjust the value to “H9”.
4. Hold the **Learn** button on the control board to enter the menu settings.
5. Press the **Rise**/**Fall** button on the control board to adjust the value on the nixie tube.

Note

Adjust the value to 1 to output normally rising signal, and 0 to output 100 ms signal of the rising limit.

6. Press the **Learn** button on the control board to save the settings. “H9” will appear on the nixie tube.

Strict Falling Mode (HA)

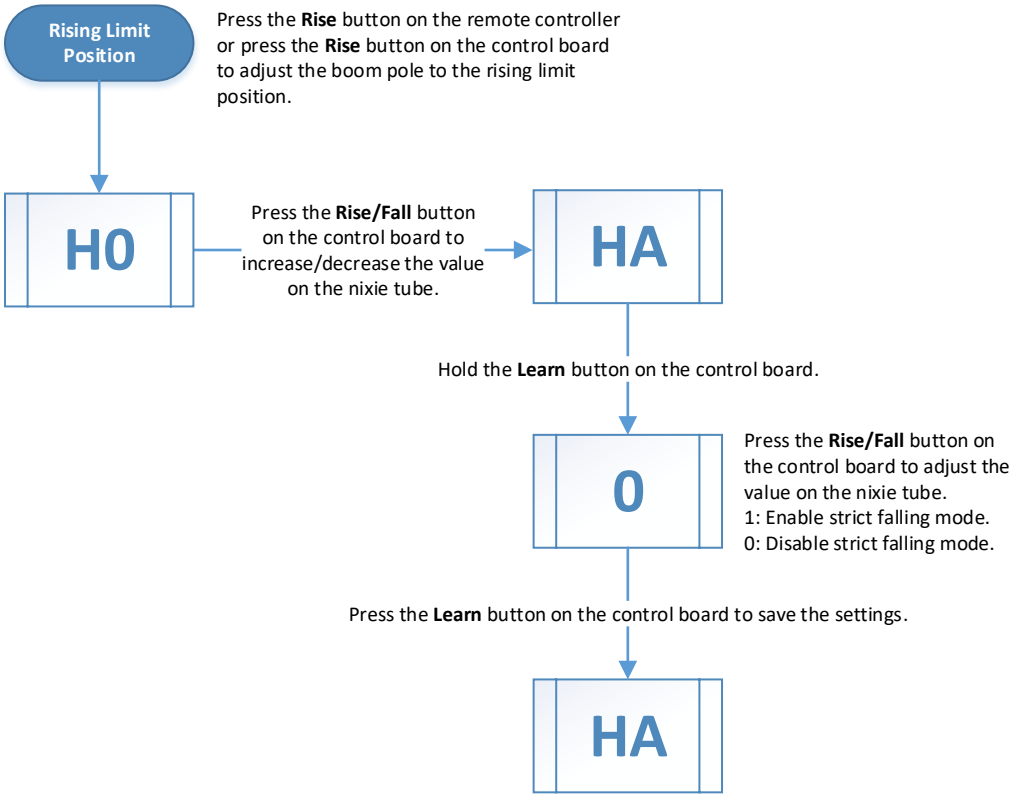


Figure 3-11 Strict Falling Mode

Steps

1. Press the **Rise** button on the remote controller or press the **Rise** button on the control board to adjust the boom pole to the rising limit position.
2. Hold the **Learn** button on the control board until “H0” appears on the nixie tube.
3. Press the **Rise**/**Fall** button on the control board to increase/decrease the value on the nixie tube. Adjust the value to “HA”.
4. Hold the **Learn** button on the control board to enter the menu settings.
5. Press the **Rise**/**Fall** button on the control board to adjust the value on the nixie tube.

Note

- Adjust the value to 1 to enable strict falling mode, and 0 to disable strict falling mode.
- If you enable strict falling mode, the vehicle leaving signal will be cleared only after the falling limit position is reached to prevent the boom pole from always rising.

6. Press the **Learn** button on the control board to save the settings. “HA” will appear on the nixie tube.

Boom Pole Type Settings (Hb)

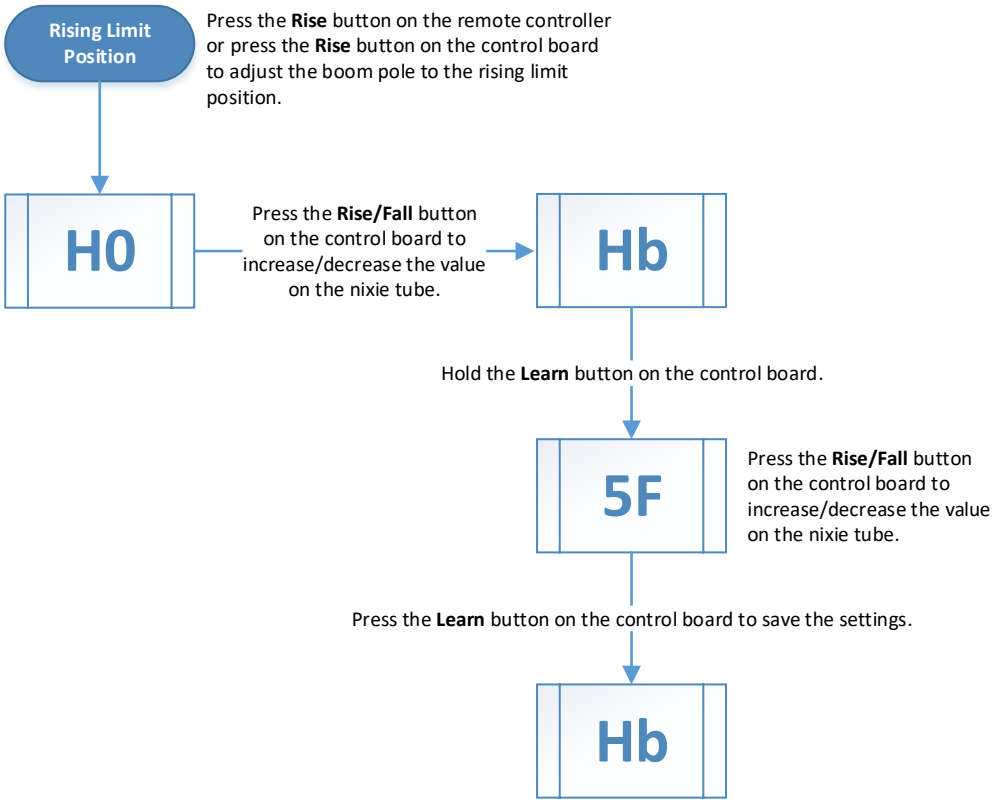


Figure 3-12 Boom Pole Type Settings

Steps

1. Press the **Rise** button on the remote controller or press the **Rise** button on the control board to adjust the boom pole to the rising limit position.
2. Hold the **Learn** button on the control board until “H0” appears on the nixie tube.
3. Press the **Rise**/**Fall** button on the control board to increase/decrease the value on the nixie tube. Adjust the value to “Hb”.
4. Hold the **Learn** button on the control board to enter the menu settings.
5. Press the **Rise**/**Fall** button on the control board to adjust the value on the nixie tube.

Note

Refer to Table 3-2 for the value description.

6. Press the **Learn** button on the control board to save the settings. “Hb” will appear on the nixie tube.

Table 3-2 Boom Pole Type Value Description

Value	Boom Pole Type	Value	Boom Pole Type
2	2 m straight boom pole	5c	5 m folding boom pole
3	3 m straight boom pole	2L	2 m boom pole with strip light

Value	Boom Pole Type	Value	Boom Pole Type
4	4 m straight boom pole	3L	3 m boom pole with strip light
5	5 m straight boom pole	4L	4 m boom pole with strip light
6	6 m straight boom pole	5L	5 m boom pole with strip light
3F	3 m fence boom pole	6L	6 m boom pole with strip light
4F	4 m fence boom pole	3d	3 m folding boom pole with strip light
5F	5 m fence boom pole	4d	4 m folding boom pole with strip light
3c	3 m folding boom pole	5d	5 m folding boom pole with strip light
4c	4 m folding boom pole		

Left/Right Boom Pole Settings (HC)

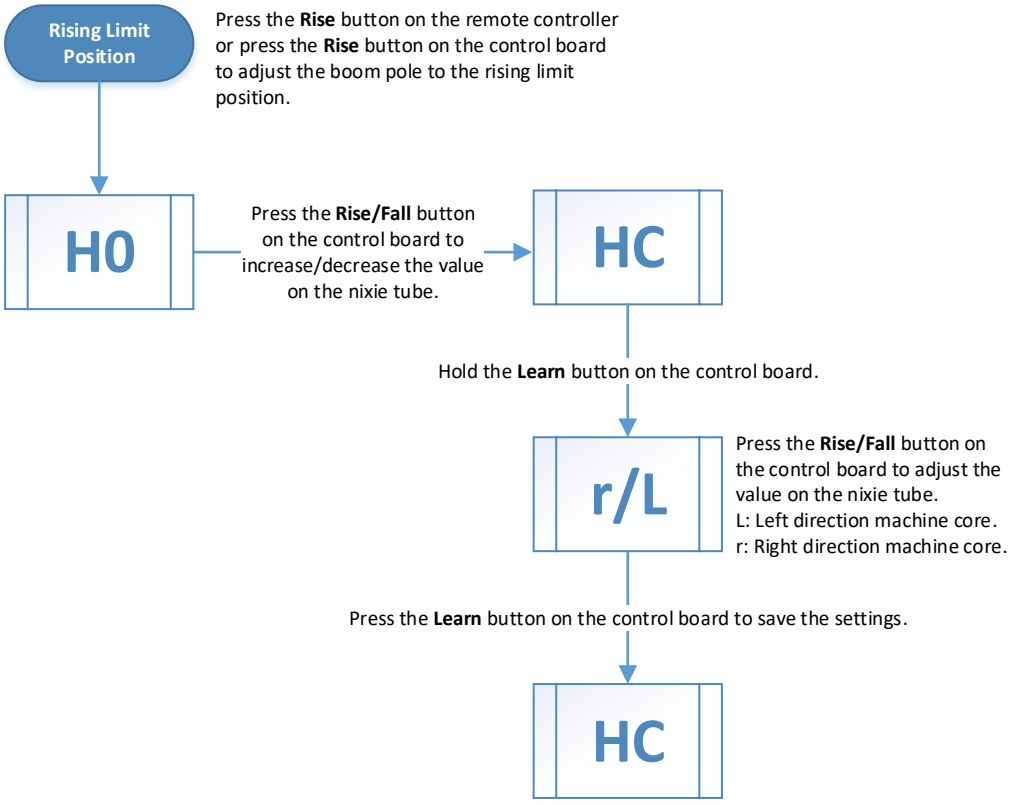


Figure 3-13 Left/Right Boom Pole Settings

Steps

1. Press the **Rise** button on the remote controller or press the **Rise** button on the control board to adjust the boom pole to the rising limit position.
2. Hold the **Learn** button on the control board until “H0” appears on the nixie tube.
3. Press the **Rise**/**Fall** button on the control board to increase/decrease the value on the nixie tube. Adjust the value to “HC”.
4. Hold the **Learn** button on the control board to enter the menu settings.

5. Press the **Rise**/**Fall** button on the control board to adjust the value on the nixie tube.

Note

Adjust the value to “L” to switch the boom pole to the left direction, and “r” to the right direction.

6. Press the **Learn** button on the control board to save the settings. “HC” will appear on the nixie tube.

Auto Learning Rising After Power on Settings (Hd)

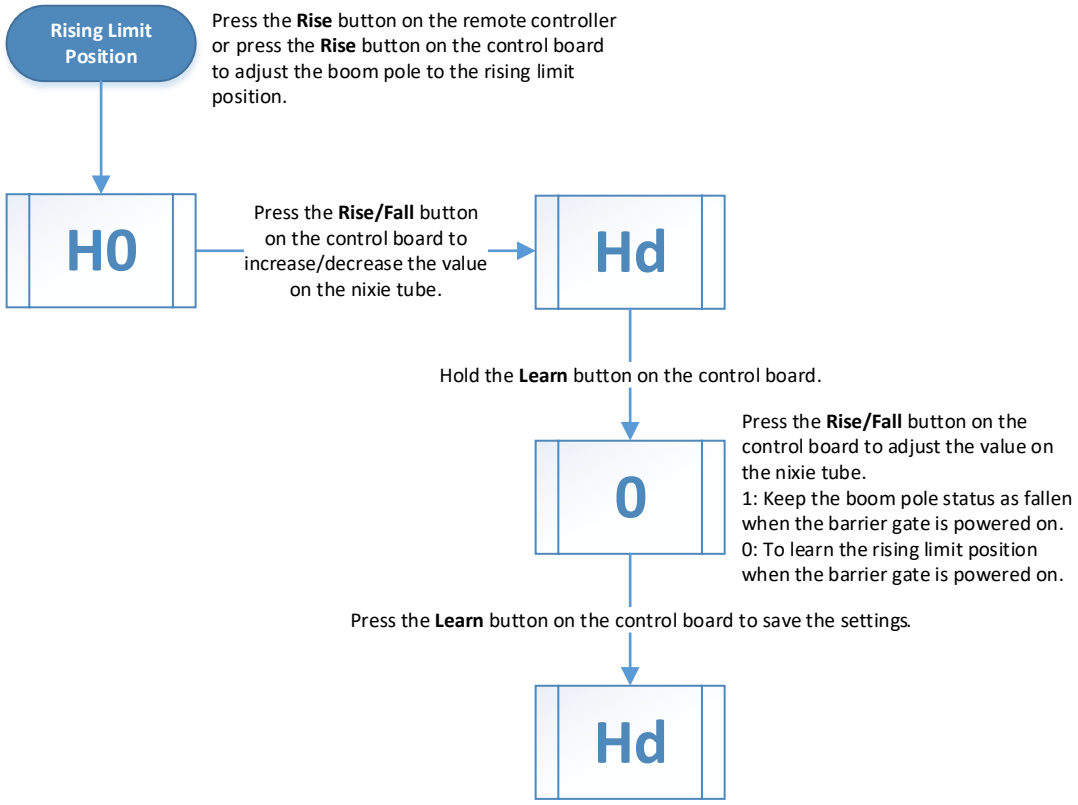


Figure 3-14 Auto Learning Rising After Power on Settings

Steps

1. Press the **Rise** button on the remote controller or press the **Rise** button on the control board to adjust the boom pole to the rising limit position.
2. Hold the **Learn** button on the control board until “H0” appears on the nixie tube.
3. Press the **Rise**/**Fall** button on the control board to increase/decrease the value on the nixie tube. Adjust the value to “Hd”.
4. Hold the **Learn** button on the control board to enter the menu settings.
5. Press the **Rise**/**Fall** button on the control board to adjust the value on the nixie tube.

Note

“1” means to keep the boom pole status as fallen when the barrier gate is powered on. “0” means to learn the rising limit position when the barrier gate is powered on.

6. Press the **Learn** button on the control board to save the settings. “Hd” will appear on the nixie tube.

Set Warning Light Mode (HE)

Steps

1. Press the **Rise** button on the remote controller, press the **Rise** button on the control board, or power on the device to adjust the boom pole to the rising limit position.
2. Hold the Learn button on the control board until “H0” appears on the nixie tube.
3. Press the **Rise**/**Fall** button on the control board to increase/decrease the value on the nixie tube. Adjust the value to “HE”.
4. Hold the **Learn** button on the control board to enter the menu settings.
5. Press the **Rise**/**Fall** button on the control board to adjust the value on the nixie tube.

Note

“1” is the warning light mode. “0” is the falling limit output mode.

6. Press the **Learn** button on the control board to save the settings. “HE” will appear on the nixie tube.

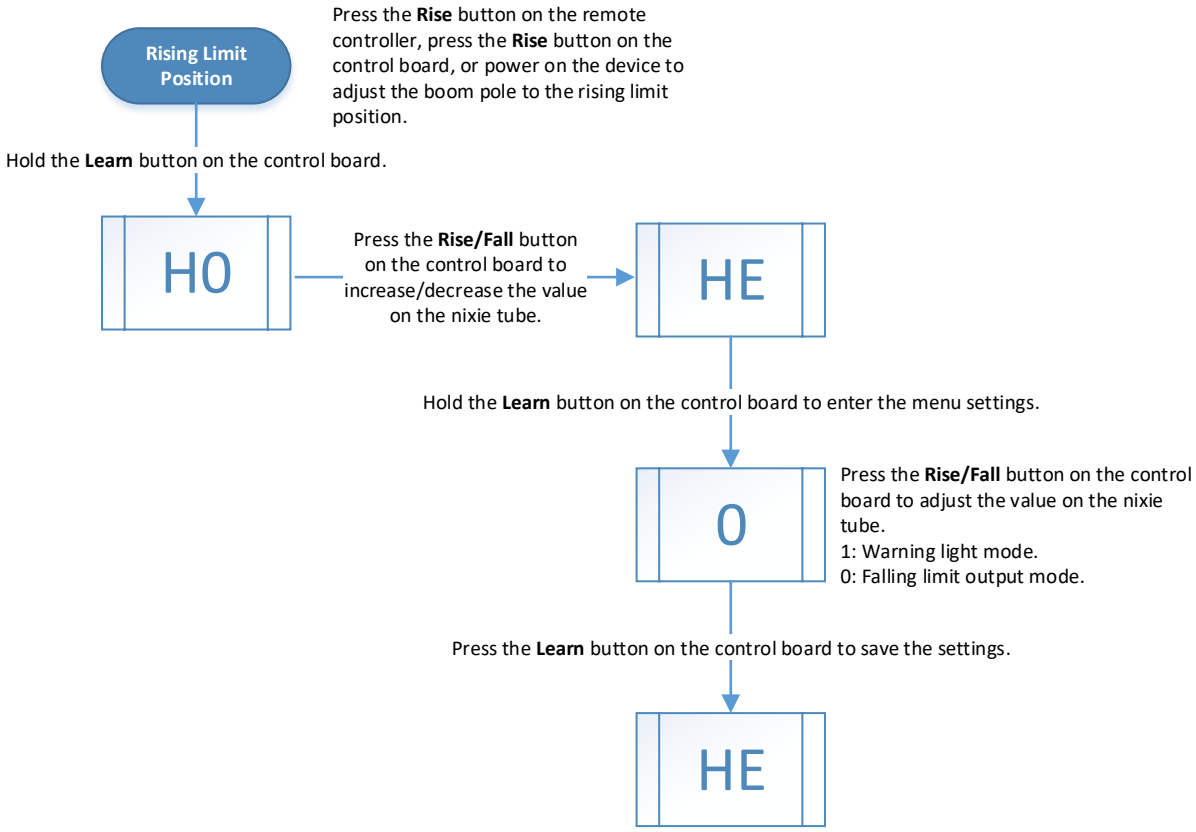


Figure 3-15 Set Warning Light Mode

Vehicle Leaving Signal Filter Angle Settings (F1)

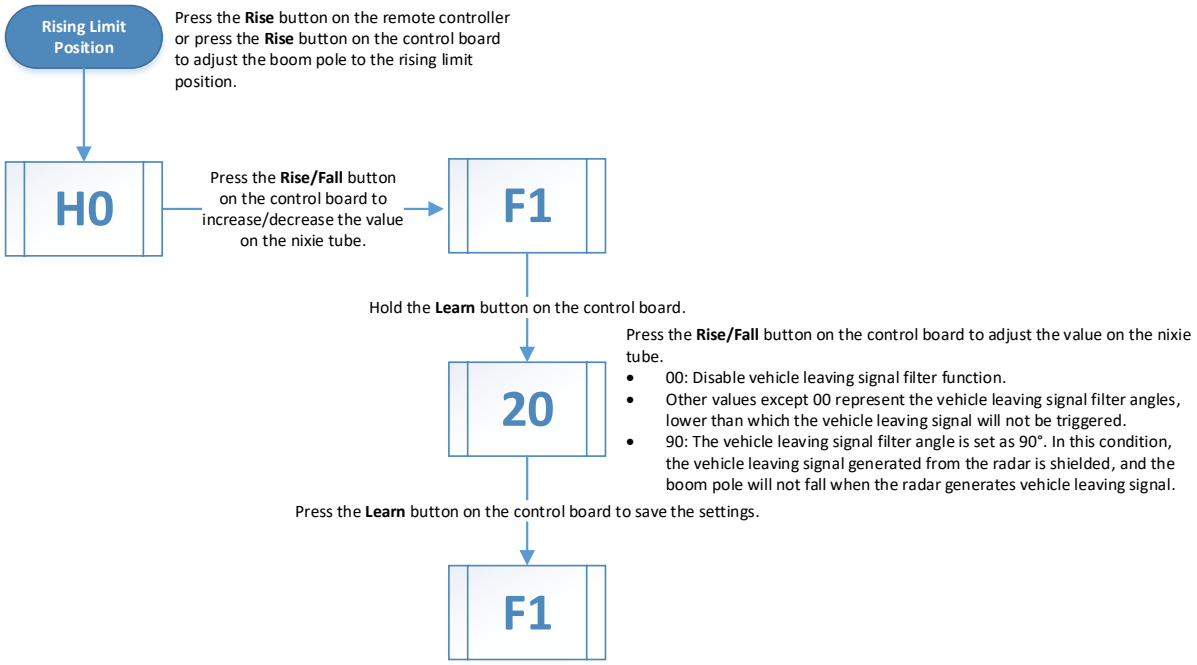


Figure 3-16 Vehicle Leaving Signal Filter Angle Settings

Steps

1. Press the **Rise** button on the remote controller or press the **Rise** button on the control board to adjust the boom pole to the rising limit position.
2. Hold the **Learn** button on the control board until “H0” appears on the nixie tube.
3. Press the **Rise**/**Fall** button on the control board to increase/decrease the value on the nixie tube. Adjust the value to “F1”.
4. Hold the **Learn** button on the control board to enter the menu settings.
5. Press the **Rise**/**Fall** button on the control board to adjust the value on the nixie tube.

Note

- “00” means to disable vehicle leaving signal filter function.
- Other values except 00 represent the vehicle leaving signal filter angles, lower than which the vehicle leaving signal will not be triggered. For example, if you set the value to “20”, when the angle between the boom pole and the horizontal surface is lower than 20°, the vehicle leaving signal will not be triggered.
- “90” means the vehicle leaving signal filter angle is set as 90°. In this condition, the vehicle leaving signal generated from the radar is shielded, and the boom pole will not fall when the radar generates vehicle leaving signal.

6. Press the **Learn** button on the control board to save the settings. “F1” will appear on the nixie tube.

Log Display (F2)

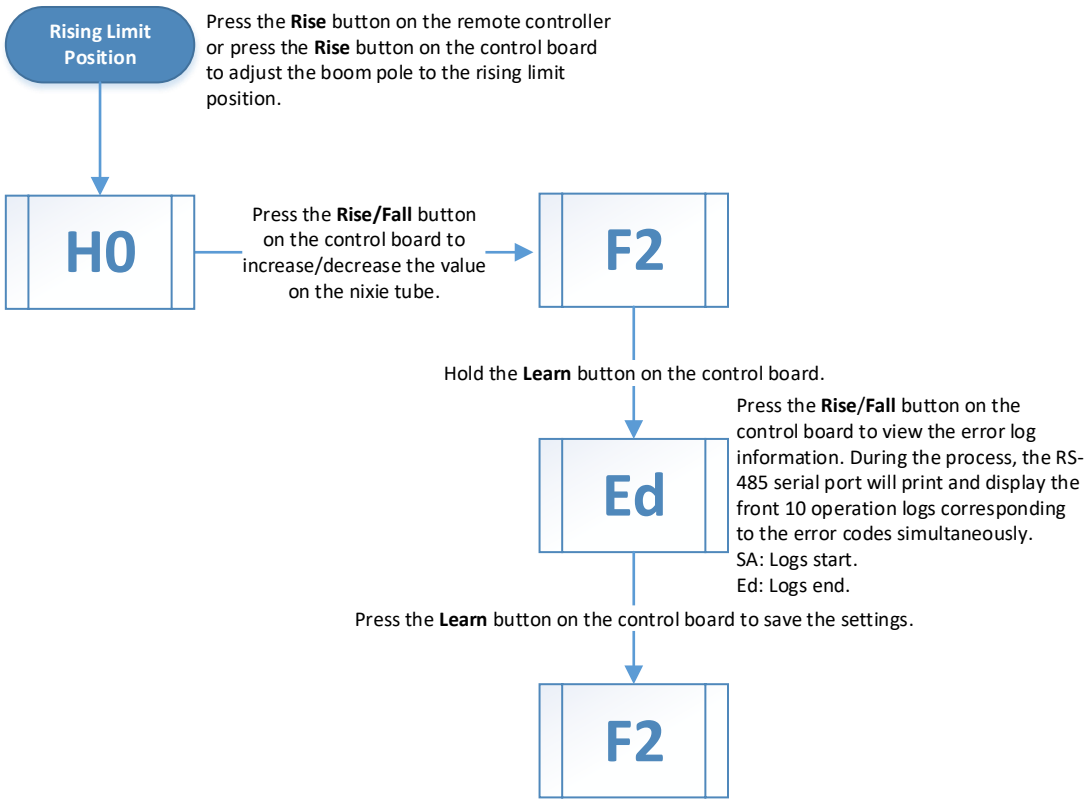


Figure 3-17 Log Display

Steps

1. Press the **Rise** button on the remote controller or press the **Rise** button on the control board to adjust the boom pole to the rising limit position.
2. Hold the **Learn** button on the control board until “H0” appears on the nixie tube.
3. Press the **Rise**/**Fall** button on the control board to increase/decrease the value on the nixie tube. Adjust the value to “F2”.
4. Hold the **Learn** button on the control board to enter the menu settings.
5. Press the **Rise**/**Fall** button on the control board to adjust the value on the nixie tube.

Note

- “SA” means logs start. “Ed” means logs end.
- During the process, the RS-485 serial port will print and display the front 10 operation logs corresponding to the error codes simultaneously.

6. Press the **Learn** button on the control board to save the settings. “F2” will appear on the nixie tube.

Strip Light Control Mode (F4)

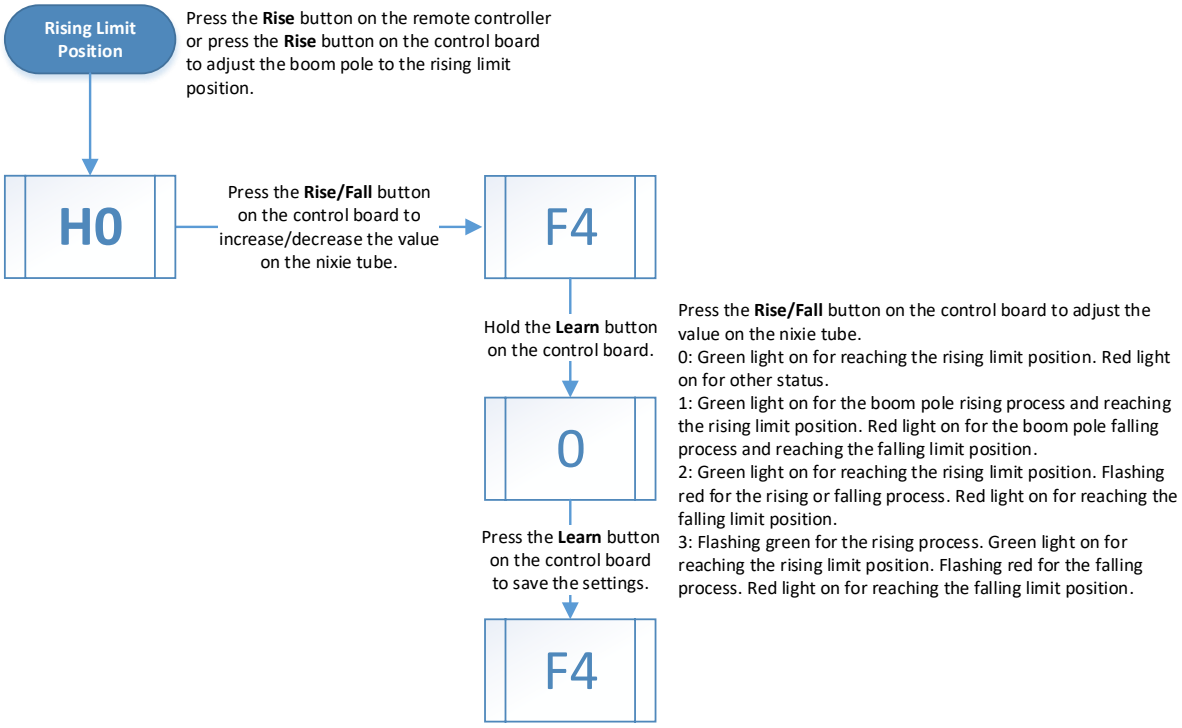


Figure 3-18 Strip Light Control Mode

Steps

1. Press the **Rise** button on the remote controller or press the **Rise** button on the control board to adjust the boom pole to the rising limit position.
2. Hold the **Learn** button on the control board until “H0” appears on the nixie tube.
3. Press the **Rise**/**Fall** button on the control board to increase/decrease the value on the nixie tube. Adjust the value to “F4”.
4. Hold the **Learn** button on the control board to enter the menu settings.
5. Press the **Rise**/**Fall** button on the control board to adjust the value on the nixie tube.

Note

- 0: Green light on for reaching the rising limit position. Red light on for other status.
- 1: Green light on for the boom pole rising process and reaching the rising limit position. Red light on for the boom pole falling process and reaching the falling limit position.
- 2: Green light on for reaching the rising limit position. Flashing red for the rising or falling process. Red light on for reaching the falling limit position.
- 3: Flashing green for the rising process. Green light on for reaching the rising limit position. Flashing red for the falling process. Red light on for reaching the falling limit position.

6. Press the **Learn** button on the control board to save the settings. “F4” will appear on the nixie tube.

Bluetooth Pair Mode (F5)

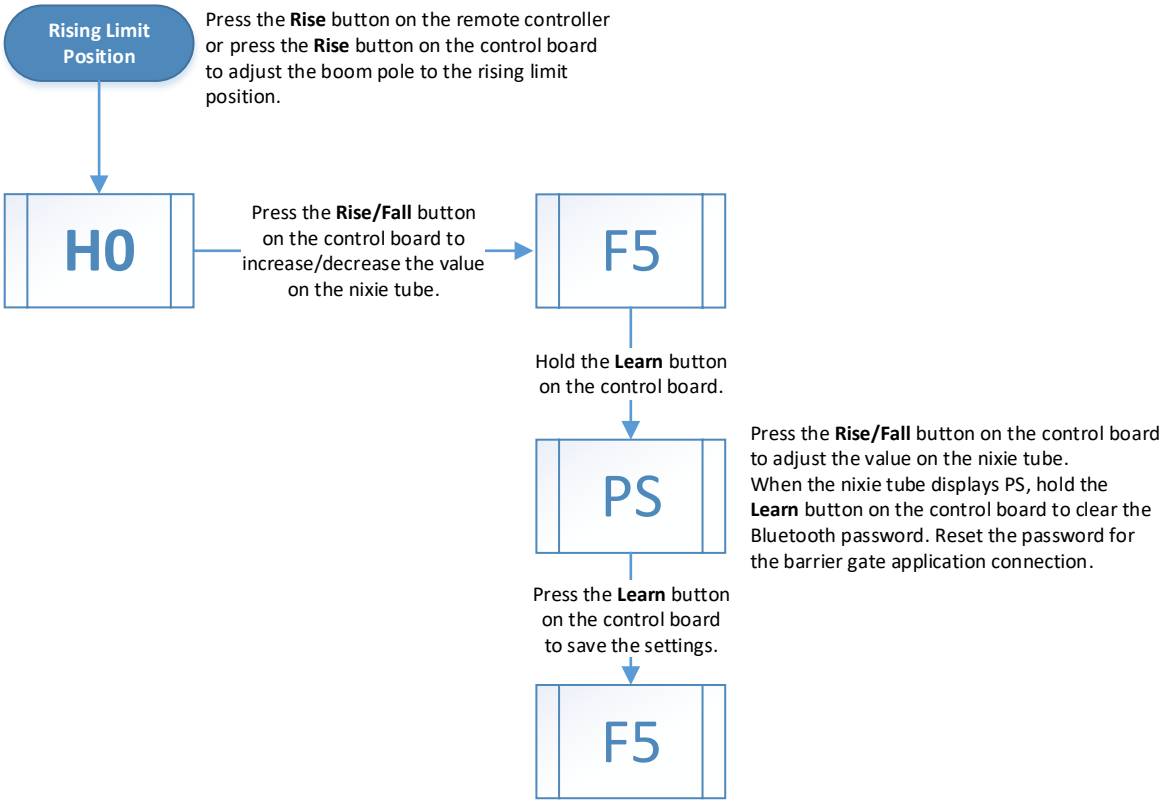


Figure 3-19 Bluetooth Pair Mode

Steps

1. Press the **Rise** button on the remote controller or press the **Rise** button on the control board to adjust the boom pole to the rising limit position.
2. Hold the **Learn** button on the control board until “H0” appears on the nixie tube.
3. Press the **Rise**/**Fall** button on the control board to increase/decrease the value on the nixie tube. Adjust the value to “F5”.
4. Hold the **Learn** button on the control board to enter the menu settings.
5. Press the **Rise**/**Fall** button on the control board to adjust the value to “PS” on the nixie tube.

Note

When the nixie tube displays PS, hold the **Learn** button on the control board to clear the Bluetooth password. Reset the password for the barrier gate application connection.

6. Press the **Learn** button on the control board to save the settings. “F5” will appear on the nixie tube.

Anti-Fall Radar Control Mode (F6)

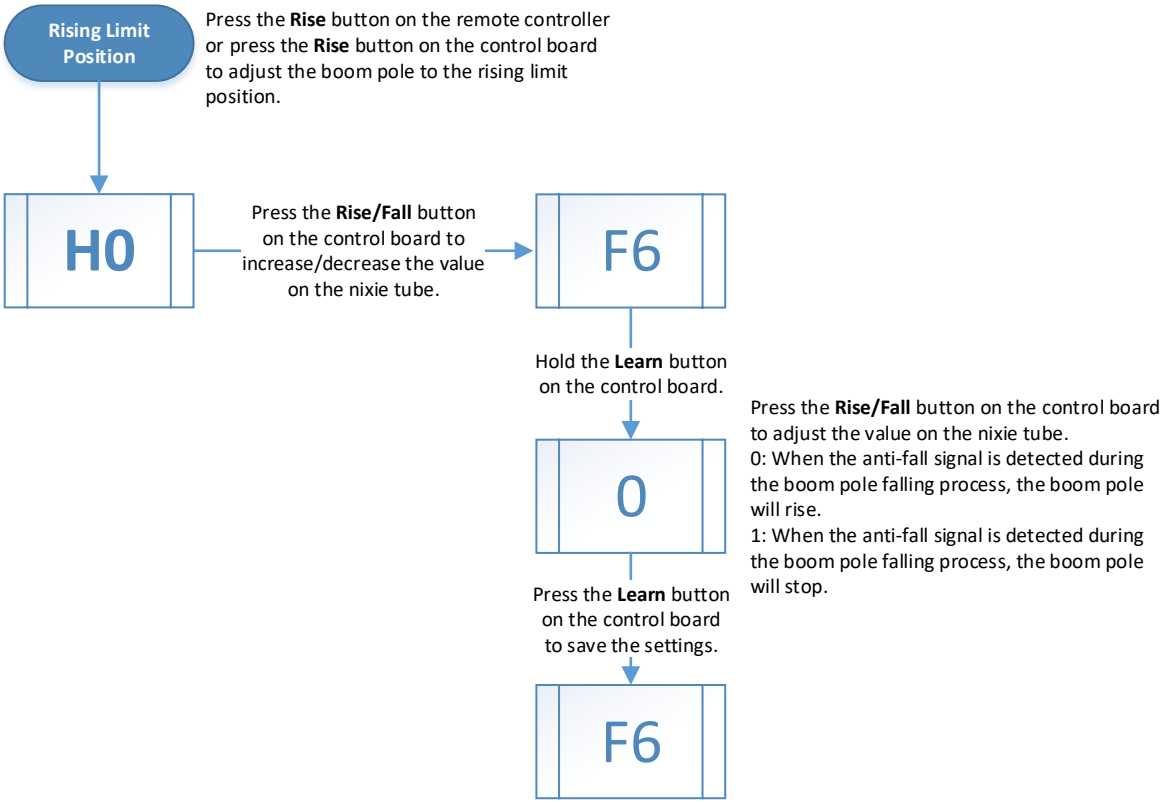


Figure 3-20 Anti-Fall Radar Control Mode

Steps

1. Press the **Rise** button on the remote controller or press the **Rise** button on the control board to adjust the boom pole to the rising limit position.
2. Hold the **Learn** button on the control board until “H0” appears on the nixie tube.
3. Press the **Rise**/**Fall** button on the control board to increase/decrease the value on the nixie tube. Adjust the value to “F6”.
4. Hold the **Learn** button on the control board to enter the menu settings.
5. Press the **Rise**/**Fall** button on the control board to adjust the value on the nixie tube.

Note

- 0: When the anti-fall signal is detected during the boom pole falling process, the boom pole will rise.
- 1: When the anti-fall signal is detected during the boom pole falling process, the boom pole will stop.

6. Press the **Learn** button on the control board to save the settings. “F6” will appear on the nixie tube.

Chapter 4 Maintenance

4.1 Adjust Boom Pole Balance

After the boom pole is installed correctly, check if it meets the balance standard:
Press the boom pole at a 20° angle to the ground surface and release. If it returns to an angle of 60° to 85° from the ground surface, the boom pole meets the balance standard. If the angle is less than 60°, the spring is too loose.

Steps

1. Cut off the power supply, and adjust the boom pole to the rising limit position.
2. Loosen the two spring M10 nuts.
   - If the spring is too tight, rotate the spring tension nuts counterclockwise.
   - If the spring is too loose, rotate the spring tension nuts clockwise.

Note

- Use a 17 mm L-shaped socket wrench (power tool recommended) to loosen the spring nuts.
- It is recommended to adjust spring nuts one full rotation at a time.

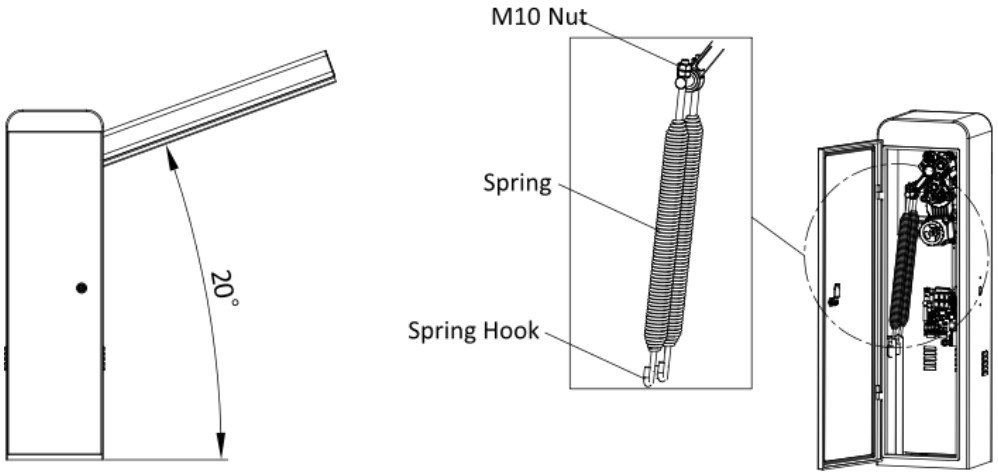


Figure 4-1 Adjust Boom Pole Balance

3. After adjustment, check it according to the boom pole balance standard.

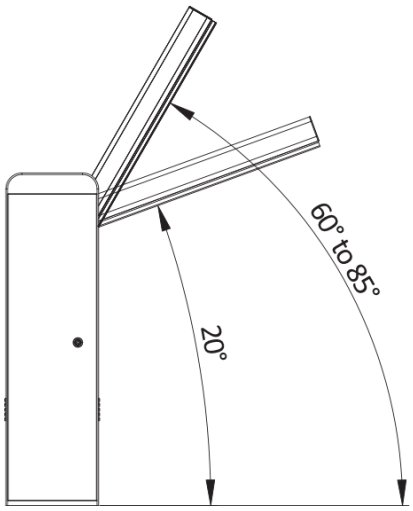


Figure 4-2 Straight Boom Pole Balance Standard

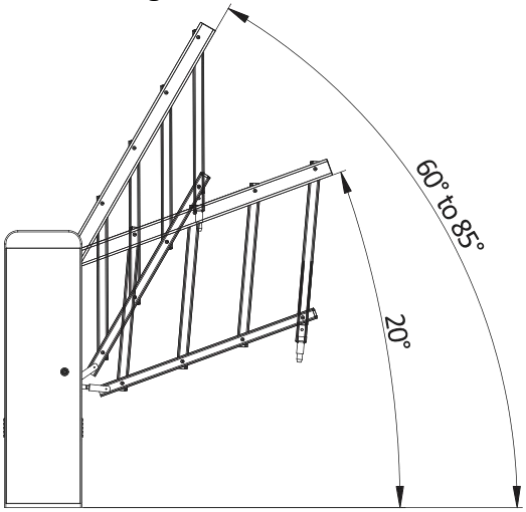


Figure 4-3 Fence Boom Pole Balance Standard

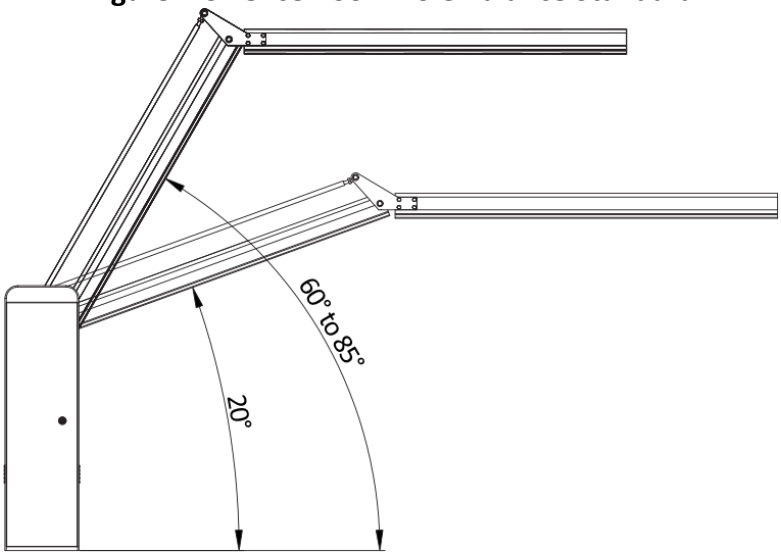


Figure 4-4 Folding Boom Pole Balance Standard

4.2 Change Boom Pole

Caution

Contact the professional technical personnel to change the boom pole. You may damage the barrier gate if you change it by yourself.

Before you start

Cut off the power supply, and adjust the boom pole to the rising limit position.

Steps

1. Unscrew the cap nuts, spring washers, and flat washers on the other side of the assembling bolts. Save the components and parts for the following installations.
2. Disassemble the boom pole and chuck.
3. Repeat the boom pole installation procedure to install a new boom pole.

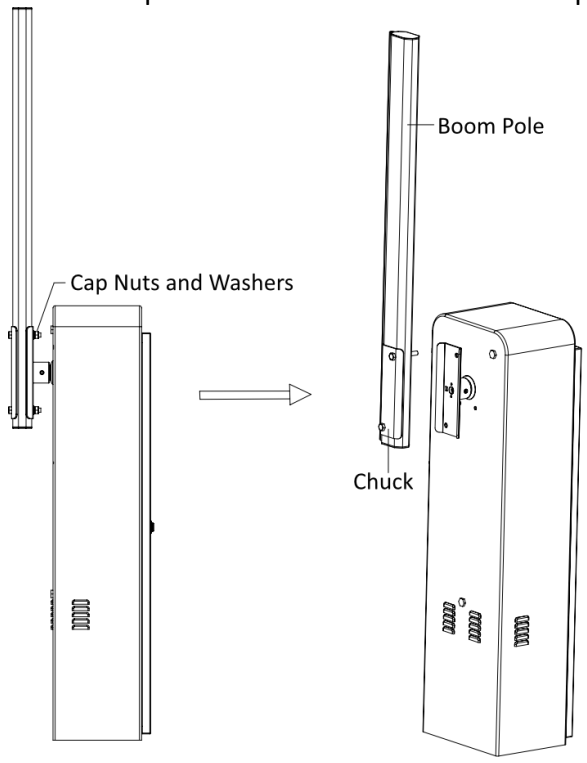


Figure 4-5 Change Boom Pole

4.3 Change Spindle Rod and Spring

4.3.1 Spring Specifications

If you need to change the boom pole, prepare the corresponding springs according to the boom pole types. Refer to the table below for details.

Table 4-1 Spring Specifications

Boom Pole Type	Spring
3 m octagonal straight boom pole	Medium spring with white hook × 1
4 m octagonal straight boom pole	Medium spring with white hook × 1
1.5 m + 1.5 m folding boom pole	Medium spring with white hook × 1
2 m + 2 m folding boom pole	Medium spring with white hook × 2
2.5 m + 2.5 m folding boom pole	Medium spring with white hook × 2
1.5 m + 1.5 m folding light boom pole	Medium spring with white hook x 1
2 m + 2 m folding light boom pole	Medium spring with white hook x 2

4.3.2 Change Spindle Rod

Before you start

Cut off the power supply, and adjust the boom pole to the rising limit position.

Steps

1. Unscrew the cap nuts, spring washers, and flat washers on the other sides of the assembling bolts. Save the components and parts for the following installations.
2. Disassemble the boom pole and chuck.

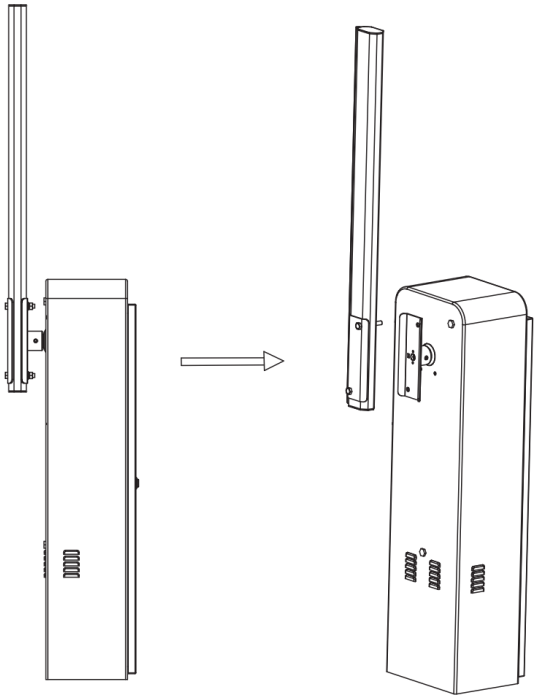


Figure 4-6 Disassemble Boom Pole and Chuck

3. Unscrew the M8 hex cone bolt and M10 set bolt anticlockwise with a 5.5 mm hex wrench, and

disassemble the bolts.

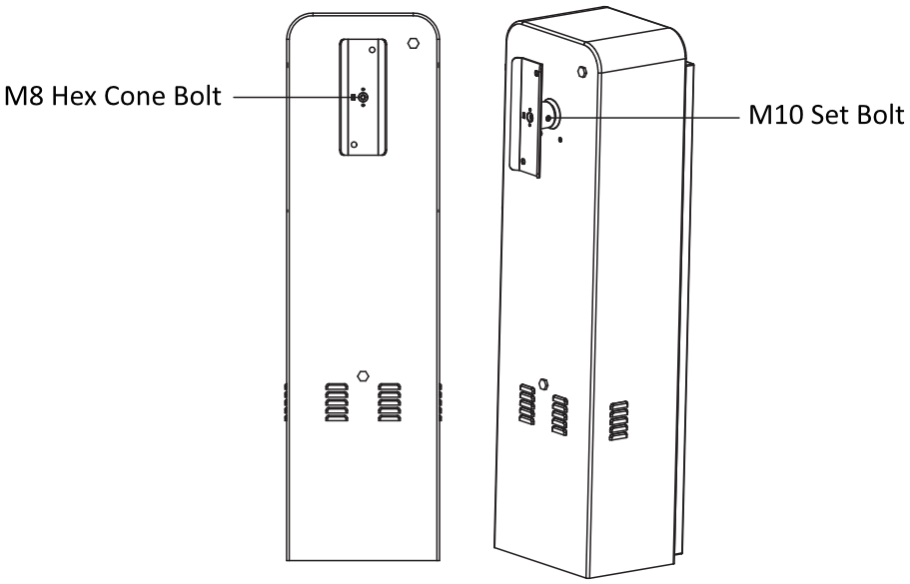


Figure 4-7 Disassemble Bolts

4. Screw the outer hex head bolt used when fixing the boom pole into the M10 hole in the middle of the spindle rod to eject the spindle rod out. Disassemble the spindle rod.

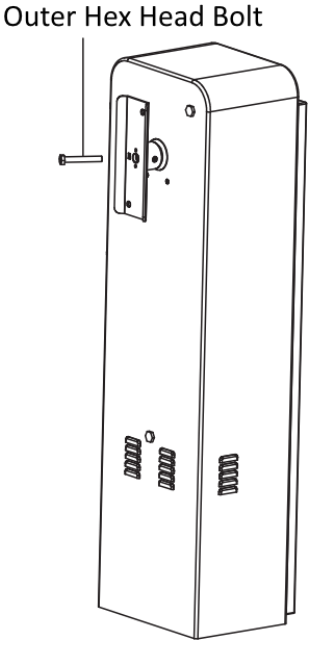


Figure 4-8 Screw Outer Hex Head Bolt

Note

If ejecting the spindle rod out failed, you need to disassemble the spindle rod with a puller.

5. Disassemble the metal key from the spindle rod and the outer hex head bolt. Insert the metal key into a new spindle rod and install them to the main shaft of the machine core. Fasten them with the M8 hex cone bolt. Then fasten the M10 set bolt.

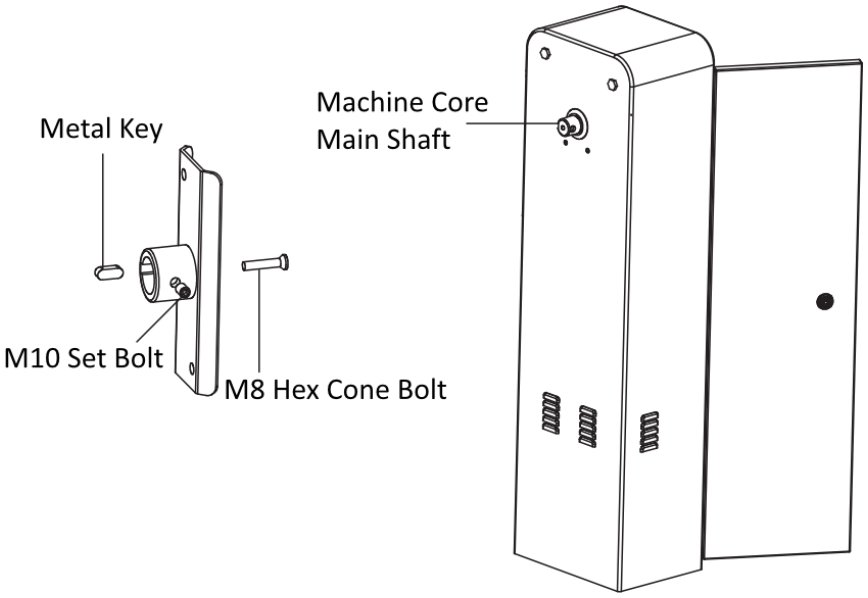


Figure 4-9 Change Spindle Rod

6. Repeat the boom pole installation procedure to install a new boom pole.

4.3.3 Change Spring

Before you start

Cut off the power supply, and adjust the boom pole to the rising limit position.

Steps

1. Measure the height (H) that the spring screw protruding from the spring shaft. Loosen and remove the two spring M10 nuts.

Note

Use a 17 mm L-shaped socket wrench (power tool recommended) to loosen the spring nuts.

2. Remove the spring.
3. Attach the new spring to the hook hole with the hook facing the device. For a leftward boom pole, attach it to the left spring hook hole. For a rightward boom pole, attach it to the right spring hook hole.

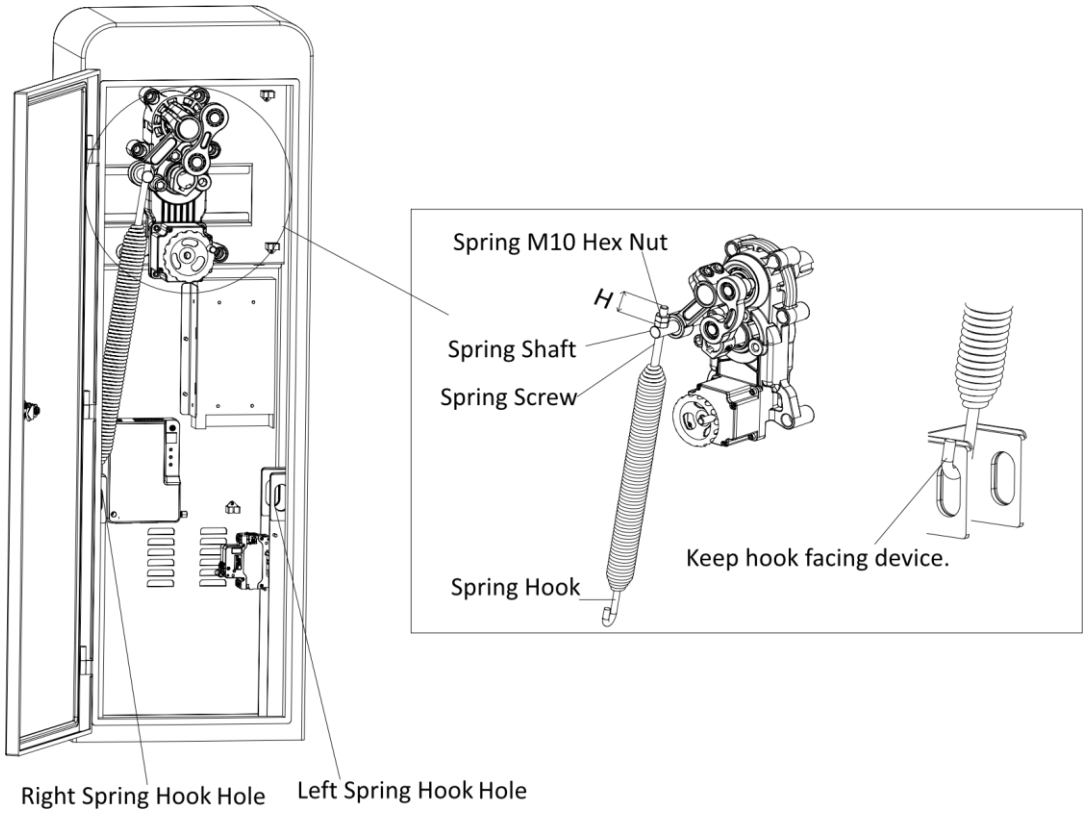


Figure 4-10 Change Spring

4. Insert the spring screw through the corresponding hole on the spring shaft, and then tighten the M10 hex nuts until the spring screw protrudes to the original height (H).
5. For some models, you need to install two springs. Repeat the above steps to change another spring if needed.

4.4 Change Machine Core

Before you start

Cut off the power supply. Disassemble the boom pole, spindle rod, and spring according to the procedure above.

Steps

1. Unplug the machine core power cord and signal line plugs on the barrier gate control board.
2. Operate the hand wheel to expose the machine core fixing bolts. Disassemble the fixing bolts with an 8 mm hex wrench.
3. Install a new machine core, and fasten the fixing bolts to the corresponding installation holes.
4. Install the spring. Refer to *4.3.3 Change Spring* for details.
5. Install the boom pole. Refer to *4.2 Change Boom Pole* for details.

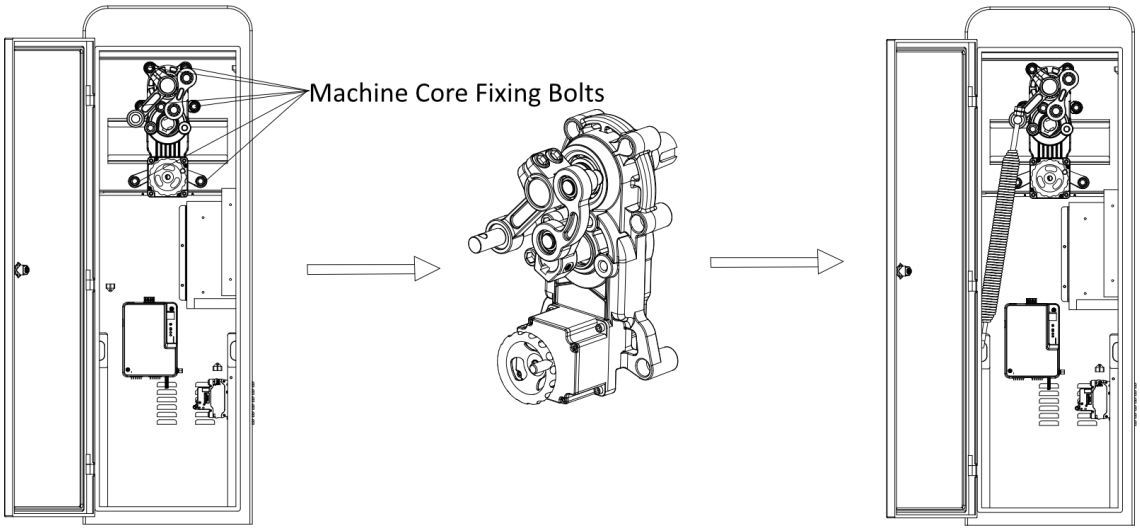


Figure 4-11 Change Machine Core

6. Adjust the boom pole and spring according to the balance standard.

4.5 Left/Right Direction of Boom Pole

The boom pole direction depends on the driving direction of the vehicle. When you look from the driving direction as shown below, the left boom pole is the one that the boom pole is on the left of the barrier gate host, and the right boom pole is the one that the boom pole is on the right of the barrier gate host.

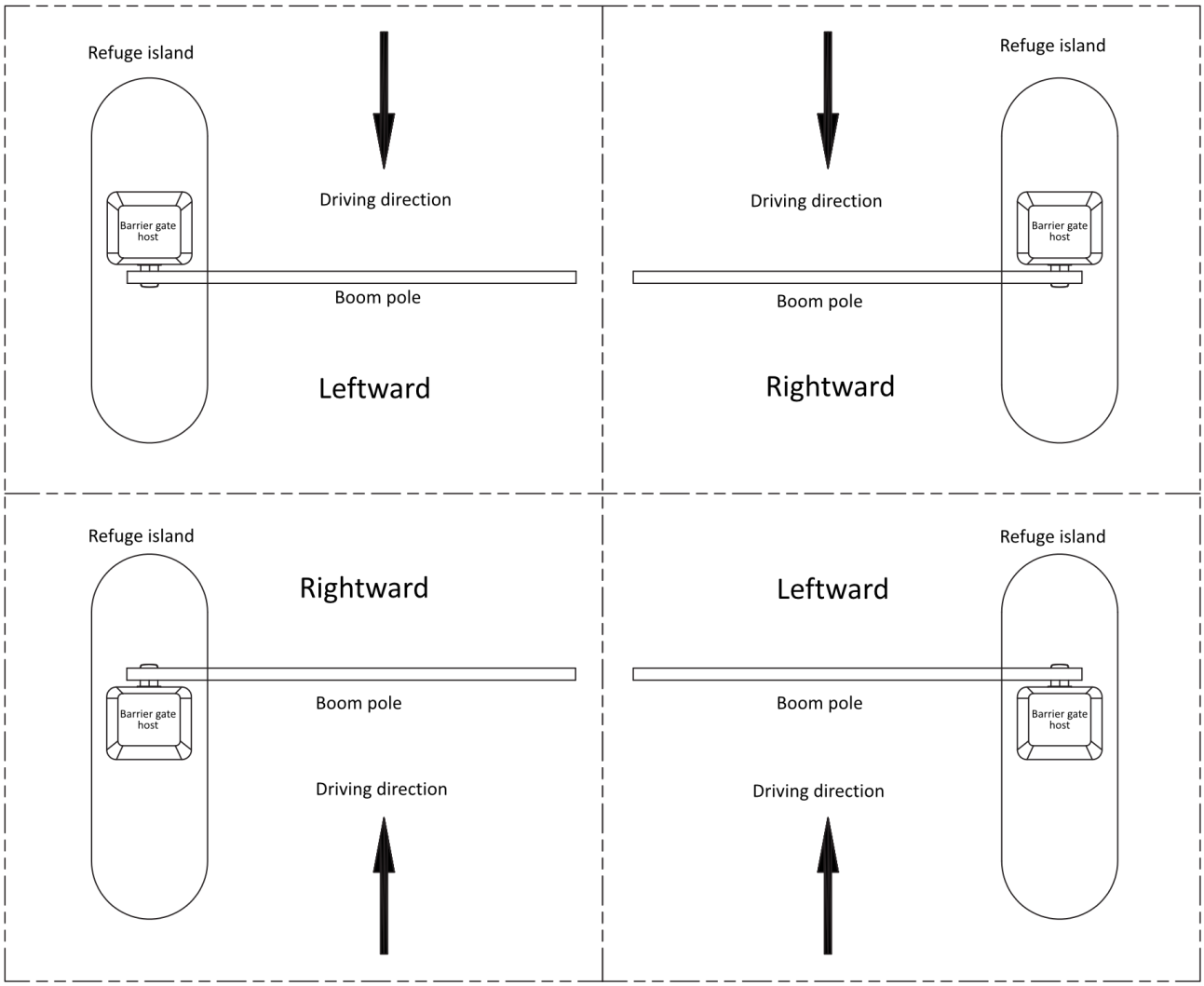


Figure 4-12 Boom Pole Direction Instruction

4.6 Change Left/Right Direction of Machine Core

Before you start

Cut off the power supply. Disassemble the machine core according to the procedure above.

Note

The following is an example of changing the barrier gate direction from right to left.

Steps

1. Disassemble the 2 cap screws to tighten the output shaft, the 2 cap screws to fix right limit position, and the 1 cap screw to tighten the crank arm in sequence.

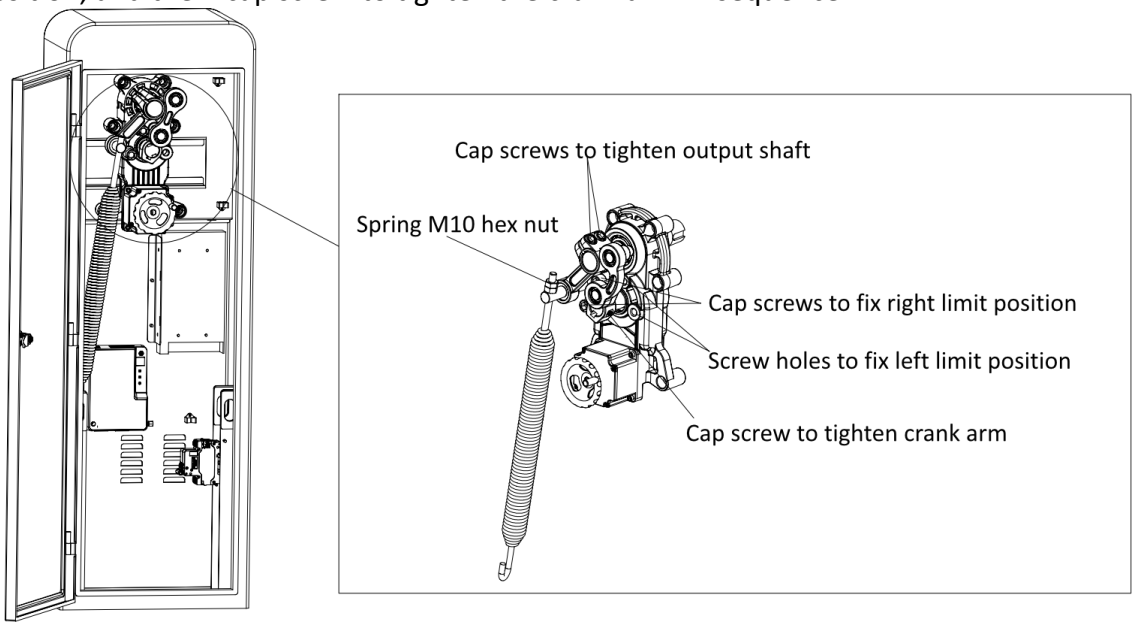


Figure 4-13 Disassemble Cap Screws

2. Distract the rocker with a 7 mm bevel tool, and remove the whole linkage arm component with a rubber hammer.

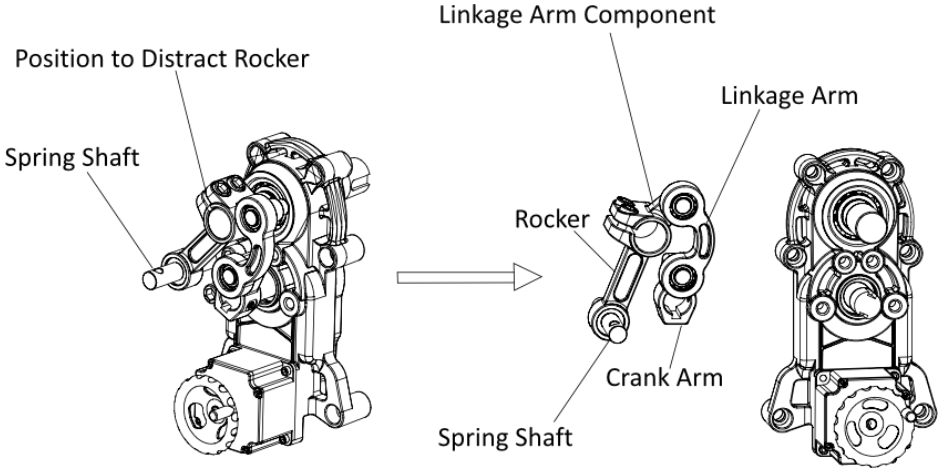


Figure 4-14 Disassemble Linkage Arm Component

3. Remove the 2 circlips used to fix the linkage arm with a circlip plier, and remove the linkage arm with a hammer or other tools. Rotate the crank arm 180°. Install the linkage arm and fix the circlips.

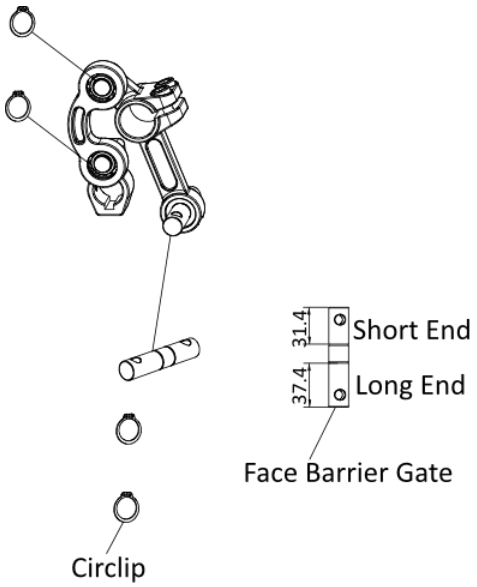


Figure 4-15 Disassemble and Reinstall Crank Arm and Linkage Arm

4. Install the left-direction linkage arm component to the machine core with the rubber hammer. Fix the cap screw to tighten the crank arm and the cap screws to tighten the output shaft in sequence.

Note

During the linkage arm component installation process, operate the hand wheel to adjust the position to guarantee that the spindle rod installation surface of the output shaft is horizontal.

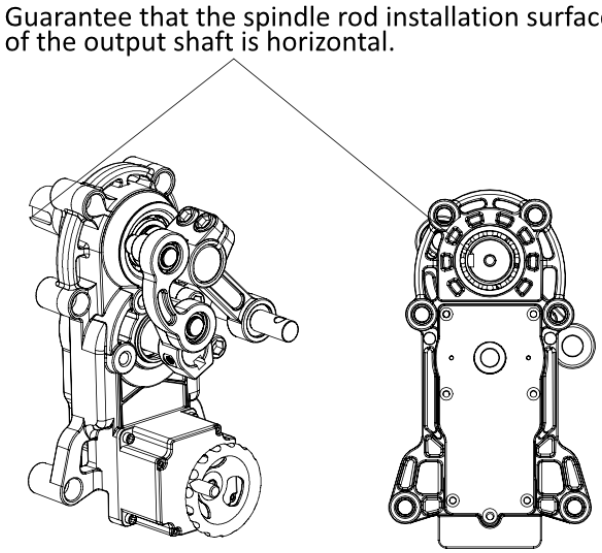


Figure 4-16 Install Linkage Arm Component

5. Use a hex wrench to remove the cap screws to fix the right limit position, and install them to

the screw holes to fix the left limit position.

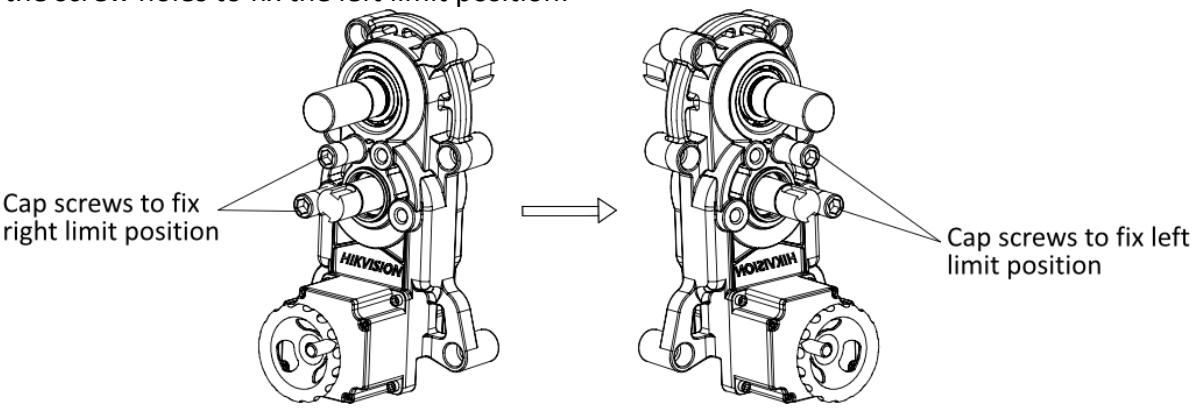


Figure 4-17 Install Left Limit Position Cap Screws

6. Install the spring. Refer to *4.3.3 Change Spring* for details.
7. Install the boom pole. Refer to *4.2 Change Boom Pole* for details.
8. Adjust the boom pole and spring according to the balance standard.

Chapter 5 APP Control

You can download the Barrier APP to connect the device for configuration and control.

Before you start

- Enable Bluetooth on your mobile phone.
- Power on the device, and its Bluetooth is enabled by default after auto-learning.

5.1 Download APP

For iOS system, search **Barrier** on the App Store to download the APP.
For Android system, scan the QR code below to download it.

Figure 5-1 Download Barrier APP (Android Only)

5.2 Detailed Configuration

Scan the QR code below to get the APP user manual for detailed configuration.

Figure 5-2 APP User Manual

A. FAQ

No.	Fault Code	Troubleshooting
1	00	No error.
2	01	● Motor or control board short circuit. ● Overload.
3	03	● Overload. ● Machine core spring not installed properly.
4	06	● Bus bar overvoltage. ● Power supply mismatch. ● Motor reversed manually. ● Braking resistor failure.
5	07	● Bus bar undervoltage. ● Power supply mismatch. ● Motor short circuit. ● Braking resistor failure.
6	0d	● Gear tooth lost. ● Rising/falling limit damaged.
7	11	Short circuit of the falling control/falling via handle port.
8	18	Hall signal line broken or disconnected.
9	64	● Boom pole imbalanced. ● Barrier gate not installed properly.
10	66	● Gear tooth lost. ● Rising/falling limit damaged.


See Far, Go Further