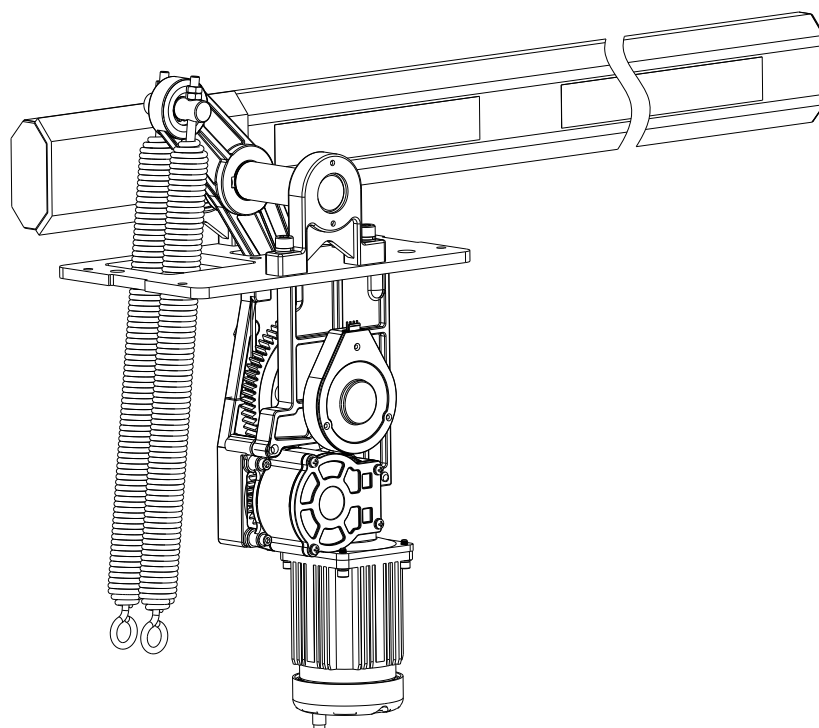
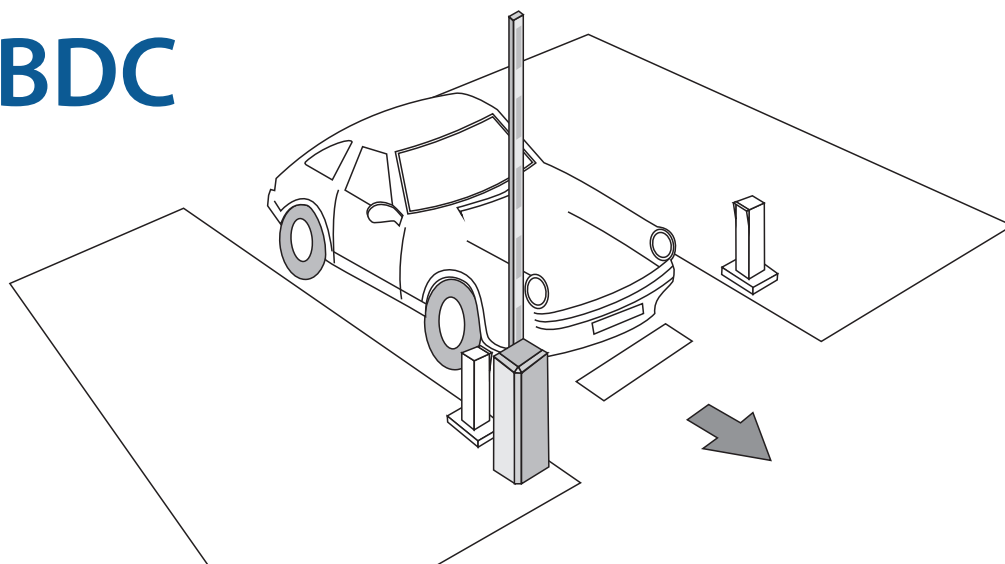


# INSTALLATION MANUAL & USER GUIDE

Please read carefully before installing and use

## BG100-BDC



# WARNING



## AUTOMATIC BARRIERS ARE NOT FOR PEDESTRIAN!

To reduce the risk of INJURY or DEATH, read and follow all instructions.

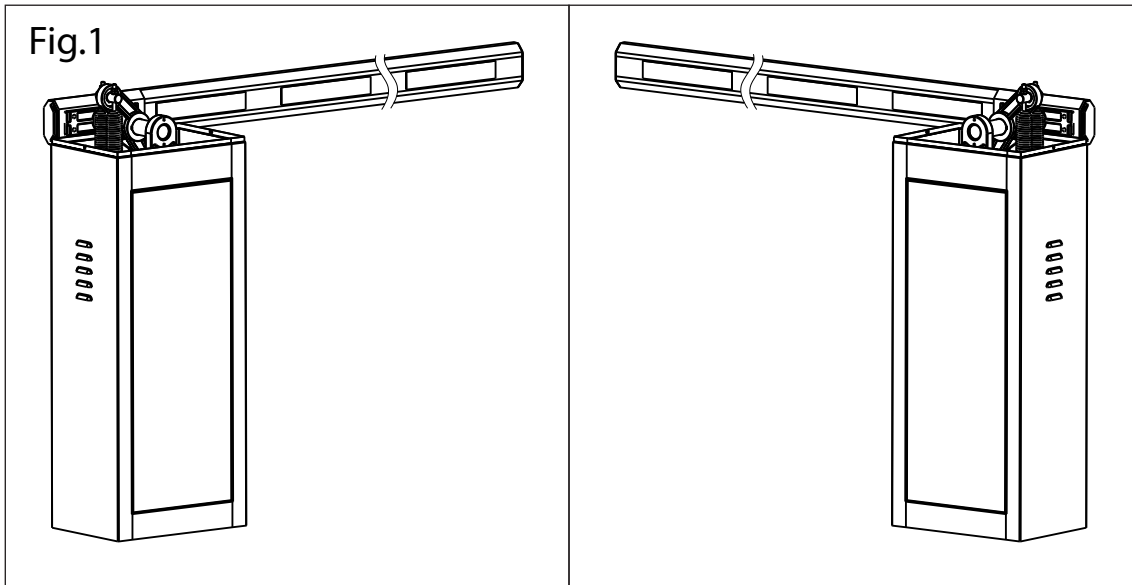
- NEVER let children operate or play with barrier control. Controller MUST be installed at least 1.5m above the ground.
- PEDESTRIANS SHOULD NOT CROSS THE PATH OF THE MOVING BARRIER.
- Automatic boom barrier is designed for vehicles ONLY. Pedestrians MUST use separate entrance.
- Installation and maintenance MUST be executed by qualified service person. Keep boom barriers properly maintained.
- Ground wire and current breaker MUST be connected.
- Power MUST be cut off when performing installation or maintenance.
- When power outage, power MUST be cut off before using the manual release under the motor to open the barrier.
- ONLY operate when the boom barrier is in sight.
- NEVER perform operating or setting without the boom installed. This WILL result in severe injury.
- NEVER dismount the boom when barrier is at close status with spring attached. This WILL result in severe injury, even death.
- DO NOT replace the original wire.

● **SAVE THESE INSTRUCTIONS.**

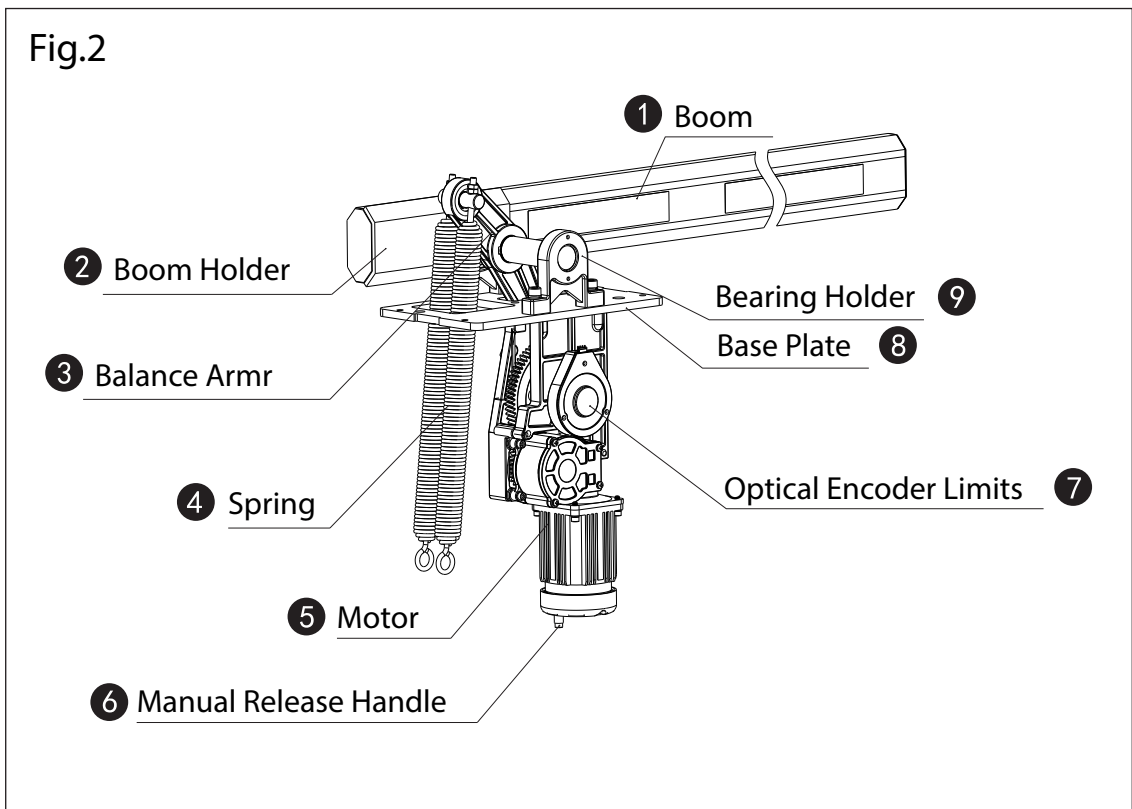
# 1. Direction Definition and Main Components of the Machine

A.Close to Right

B.Close to Left



C.Main Components of the Motor



## 2. Features

- A. Remote control is allowed.
- B. During power outage, product can be manual operated.
- C. Control board contains various ports for parking lot management system, infrared sensor, radar, etc.
- D. Product contains multiple limit protection functions to keep a long life time.

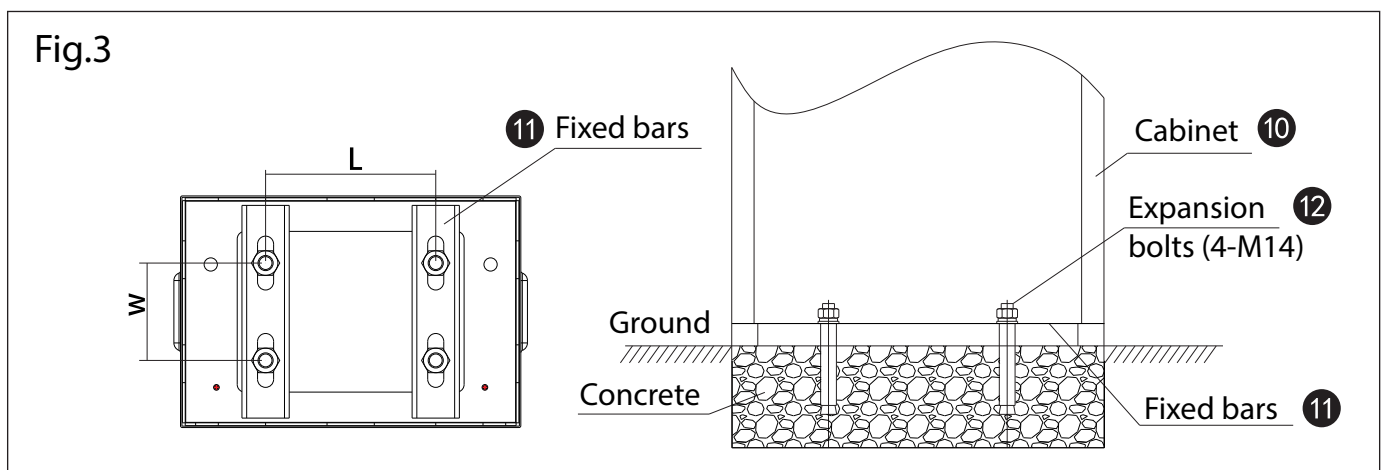
## 3. Specification

Rated Power	240W
Power Supply	220V±10% 50/60Hz
	110V±10% 50/60Hz
Working Temperature	-35℃ ~ +50℃
Max. Boom Length with Operating Speed	6m (6s)
	4m (3s)
	3m (1.5s)

## 4. Installation

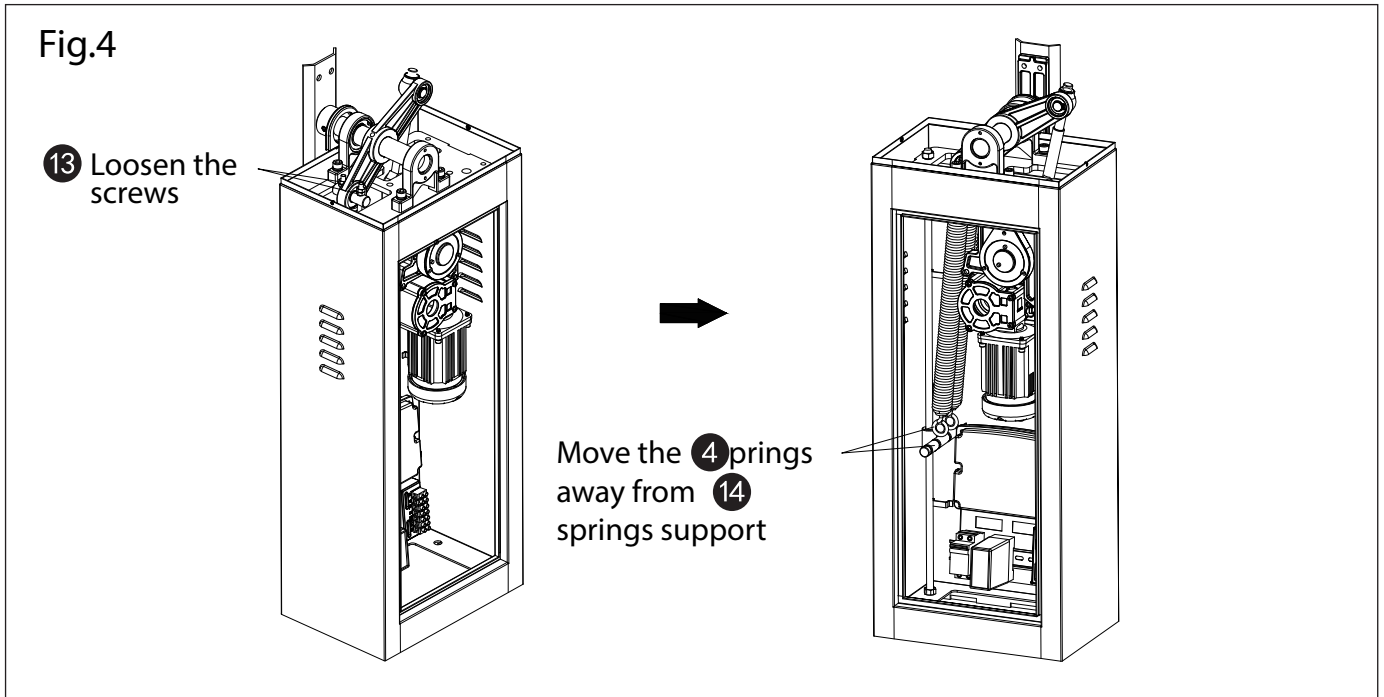
### 4.1 Cabinet Installation

- Open the Cabinet door and take out the attachment pack.
- Place the ⑩ Cabinet at desired position.
- Place ⑪ Fixed Bars on the bottom of the Cabinet inside.
- Mark out the boreholes for ⑫ Expansion Bolts (Fig. 3: L and W) according to the Fixed Bars.
- Move away the cabinet.
- Use an electric drill with 21mm to drill the boreholes. The depth of the boreholes should be 110 ~ 120mm. Place the Expansion Bolts.
- Move the cabinet back to the desired position and place the Fixed Bars on the bottom of the cabinet inside.
- Tighten the Expansion Bolts.

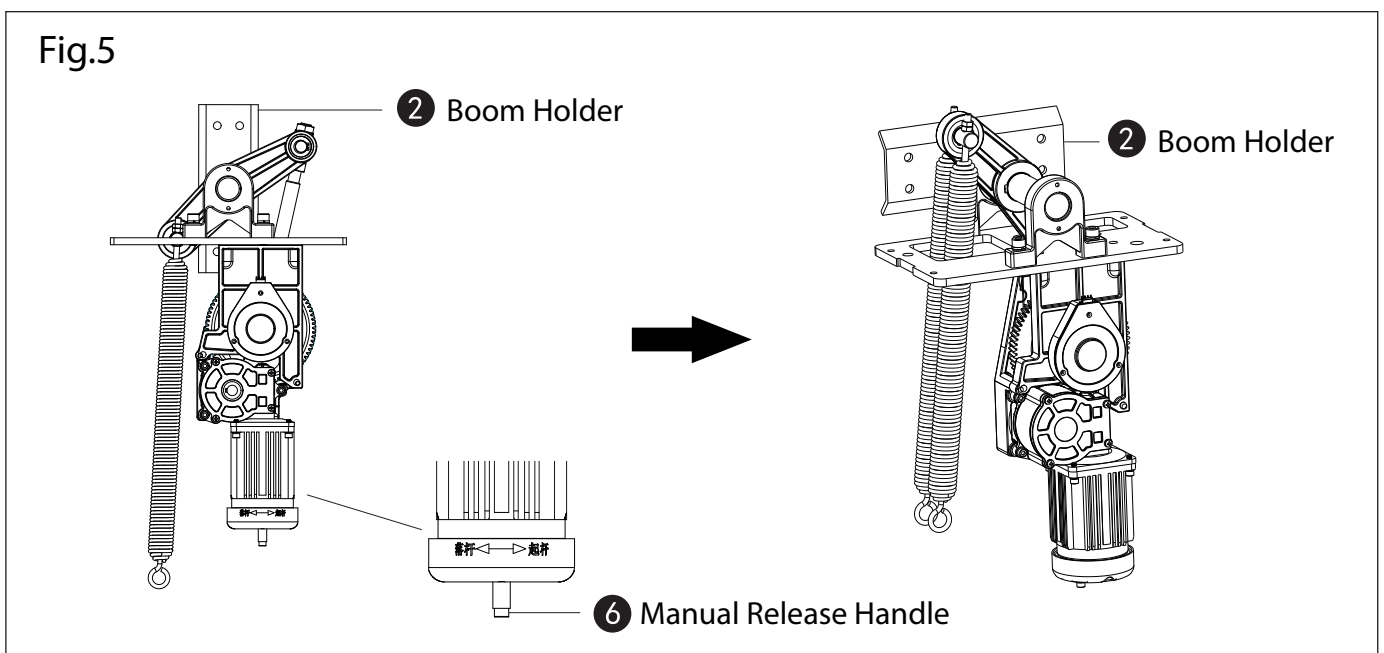


## 4.2 Boom Installation

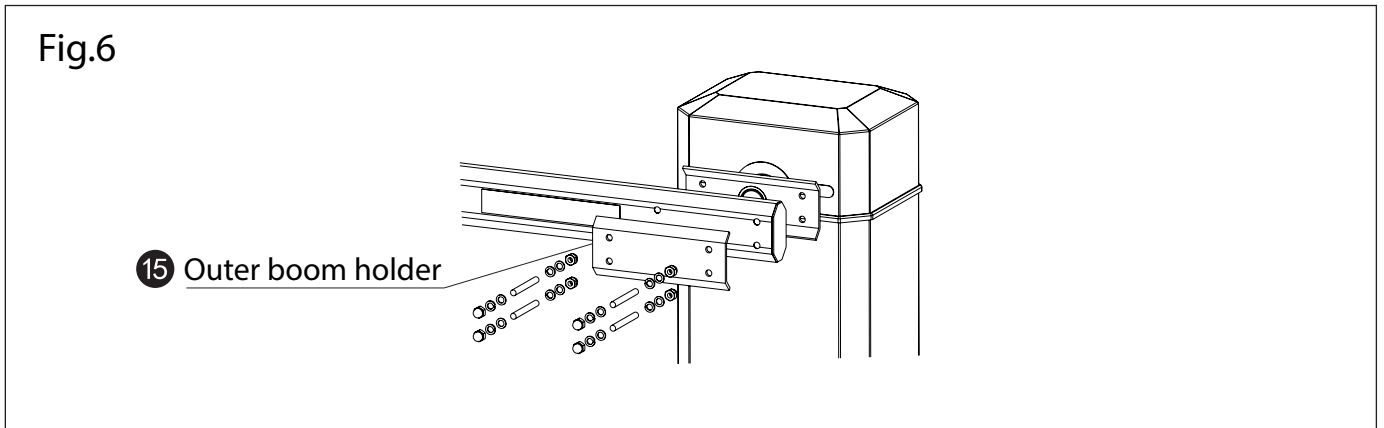
4.2.1 Loosen the 13 Screws and move the 4 spring(s) away from the 14 Spring Support. (Fig. 4)



4.2.2 Using the 6 Manual Release Handle to steer the 2 Boom holder to horizontal position.

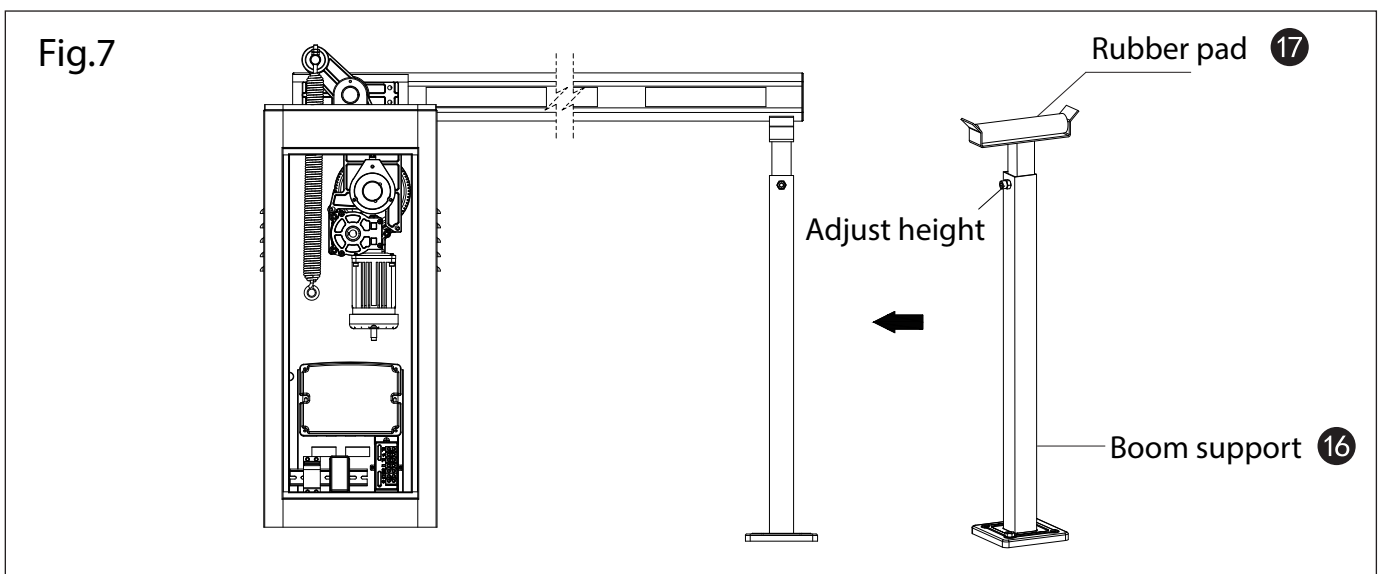


4.2.3 Install the boom and 15 Outer boom holder according to Fig. 6.



4.2.4 Fix the 16 Boom Support on the ground. Adjust the height as the 17 Rubber pad touches the boom when the boom is at horizontal position.

(Fig. 7)



## 5. Setting Springs' Balance with Boom Weight

Attention: The springs are set to be balanced in factory. DO NOT change the boom length or weight if it is not necessary. If the boom length or weight must be changed (e.g.: adding a Stop Sign on the boom), the balance must be adjusted by a qualified service person.

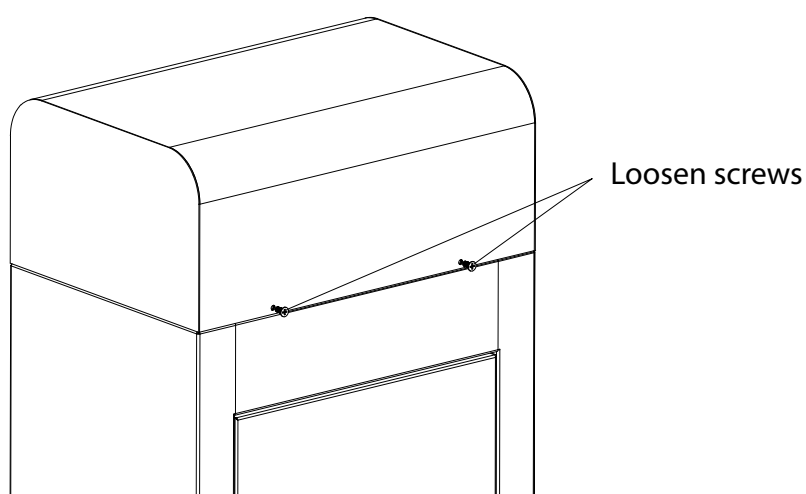
### 5.1 Spring Quantity and Size

Boom Length	Quantity of spring	Spring Size
$x \leq 3\text{m}$	1	$\Phi 4$
$3\text{m} < x \leq 4\text{m}$	1	$\Phi 5$
$4\text{m} < x \leq 5\text{m}$	2	$\Phi 5$
$5\text{m} < x \leq 6\text{m}$	2	$\Phi 5 + \Phi 6$

### 5.2 Spring Adjustment

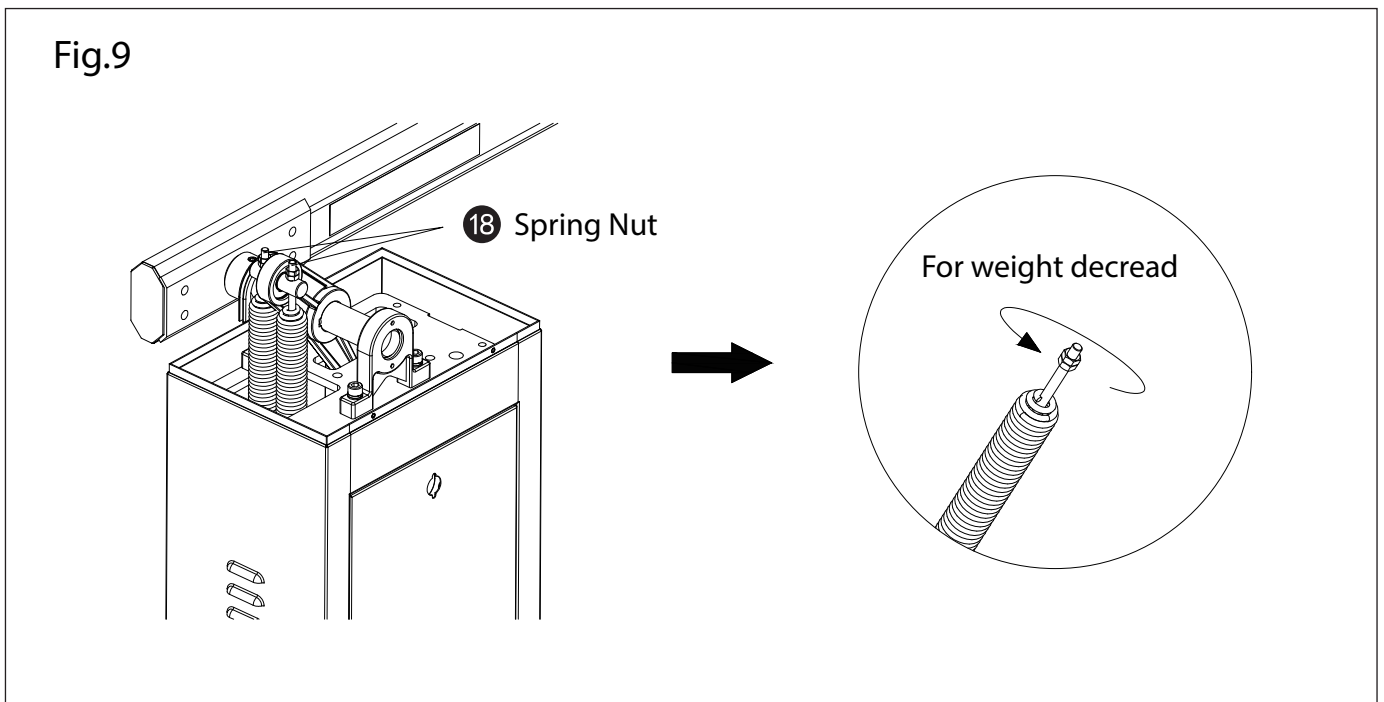
5.2.1 Remove the screws on the Cabinet hat, and remove the hat. (Fig. 8)

Fig.8



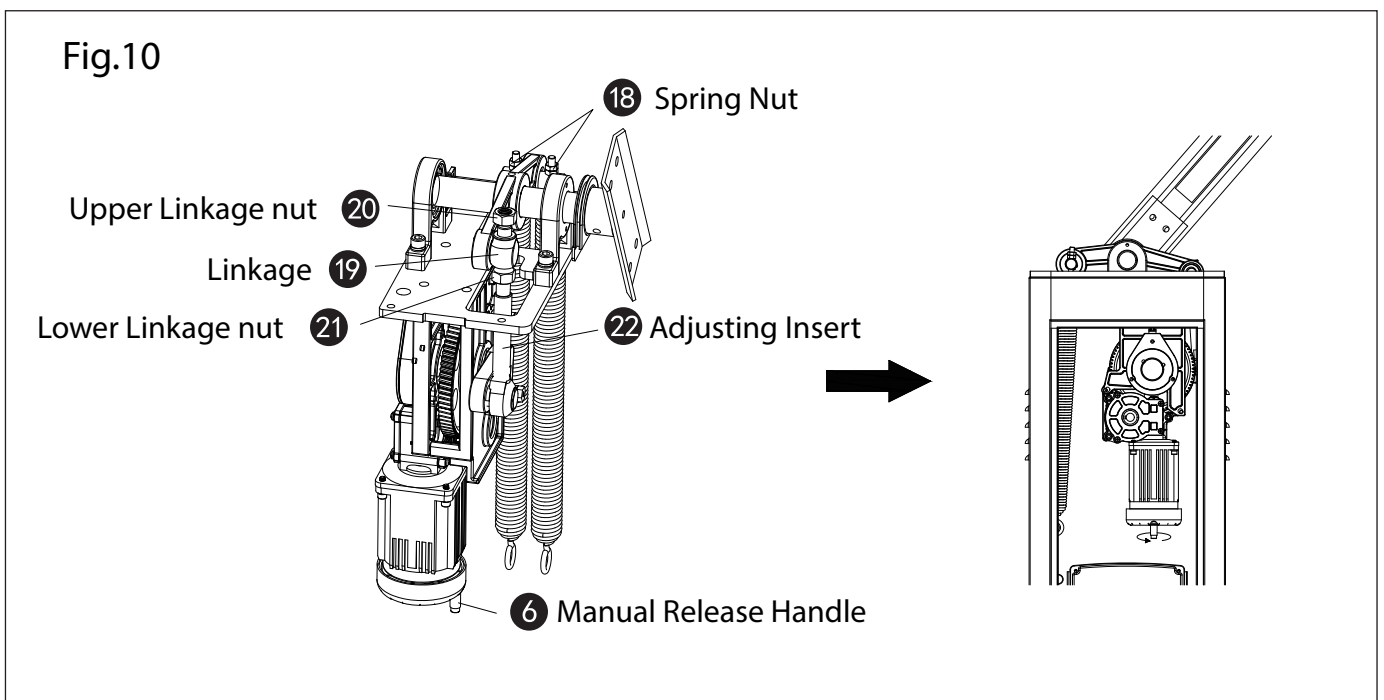


5.2.2 Based on the weight added or subtracted on the boom, adjust the 18 Spring Nut. Tighten the nut clockwise if the weight increased. Loosen the nut counter-clockwise if the weight decreased. When adjusting, all nuts should be turned at the same cycles, in order to avoid the unevenly distributed loads. (Fig. 9)



5.2.3 Loosen the 21 Lower Linkage nut and take off the 20 Upper Linkage nut. Turn the 6 Manual Release towards Open Status to pull out the 22 Adjusting Insert. Turn the Manual Release towards Close Status, and stop when the boom is between 30° to 60°. If the boom moves towards Open Status, the 18 Spring Nut should be loosened or reduce the number of springs. If the boom moves toward Close Status, the Spring Nut should be tightened or increase the number of springs. (Fig. 10)

Tighten the Upper and Lower Linkage nuts after the adjustment.



## 6. Operating Instructions

- A. Use remote controller to operate Automatic Boom Barrier.
- B. During power outage, turn the Manual Release towards Open Status to open the Automatic Boom Barrier. (Fig. 11)

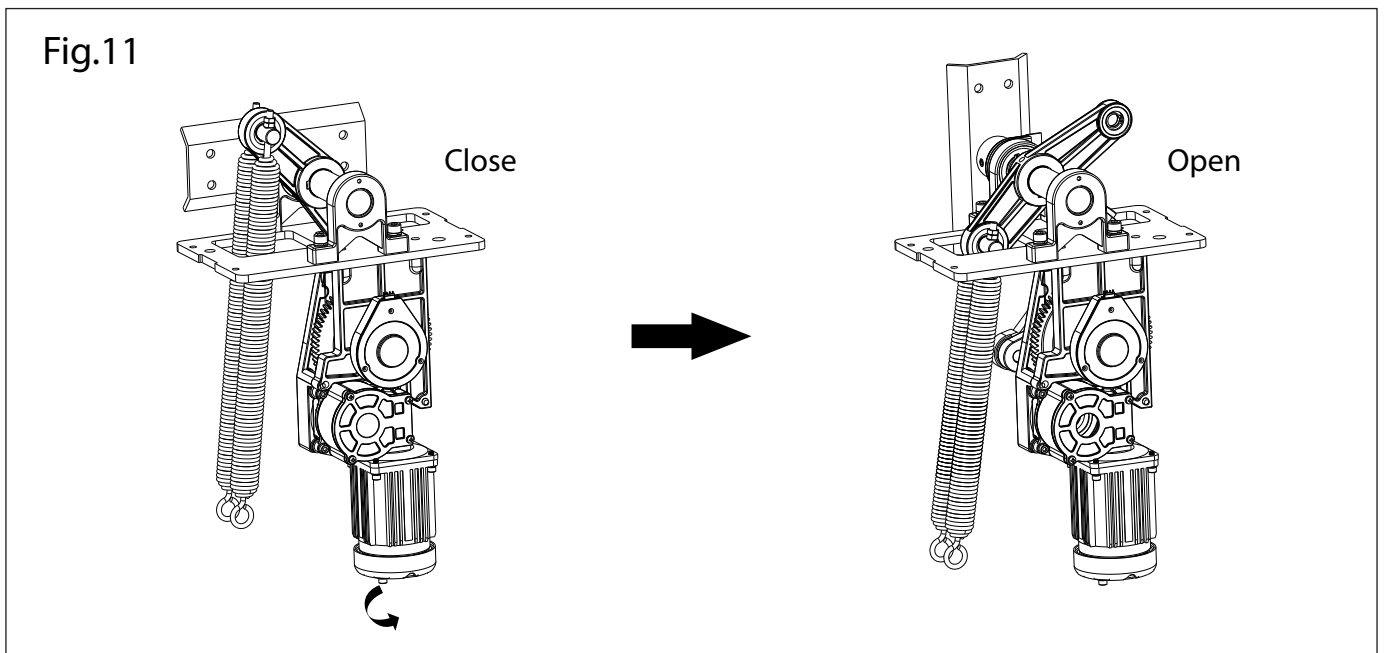
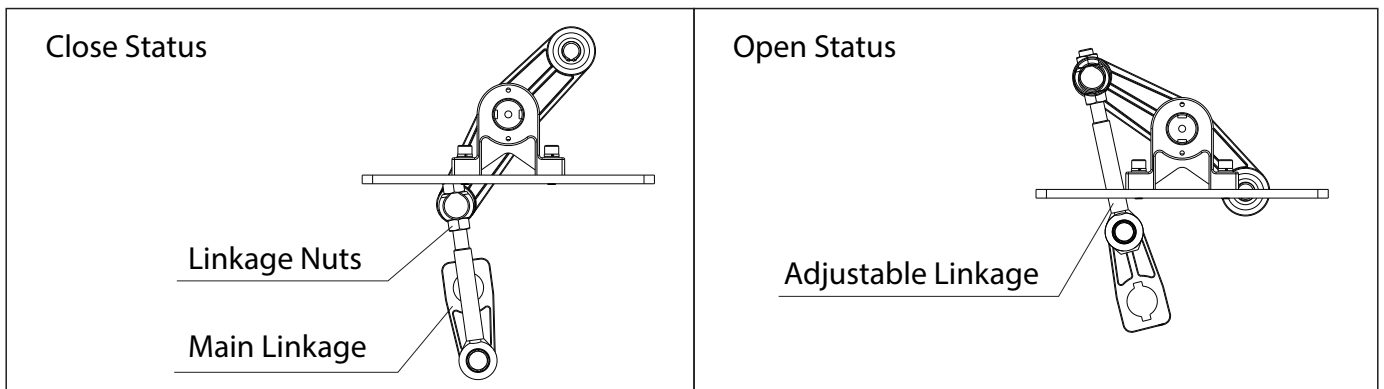
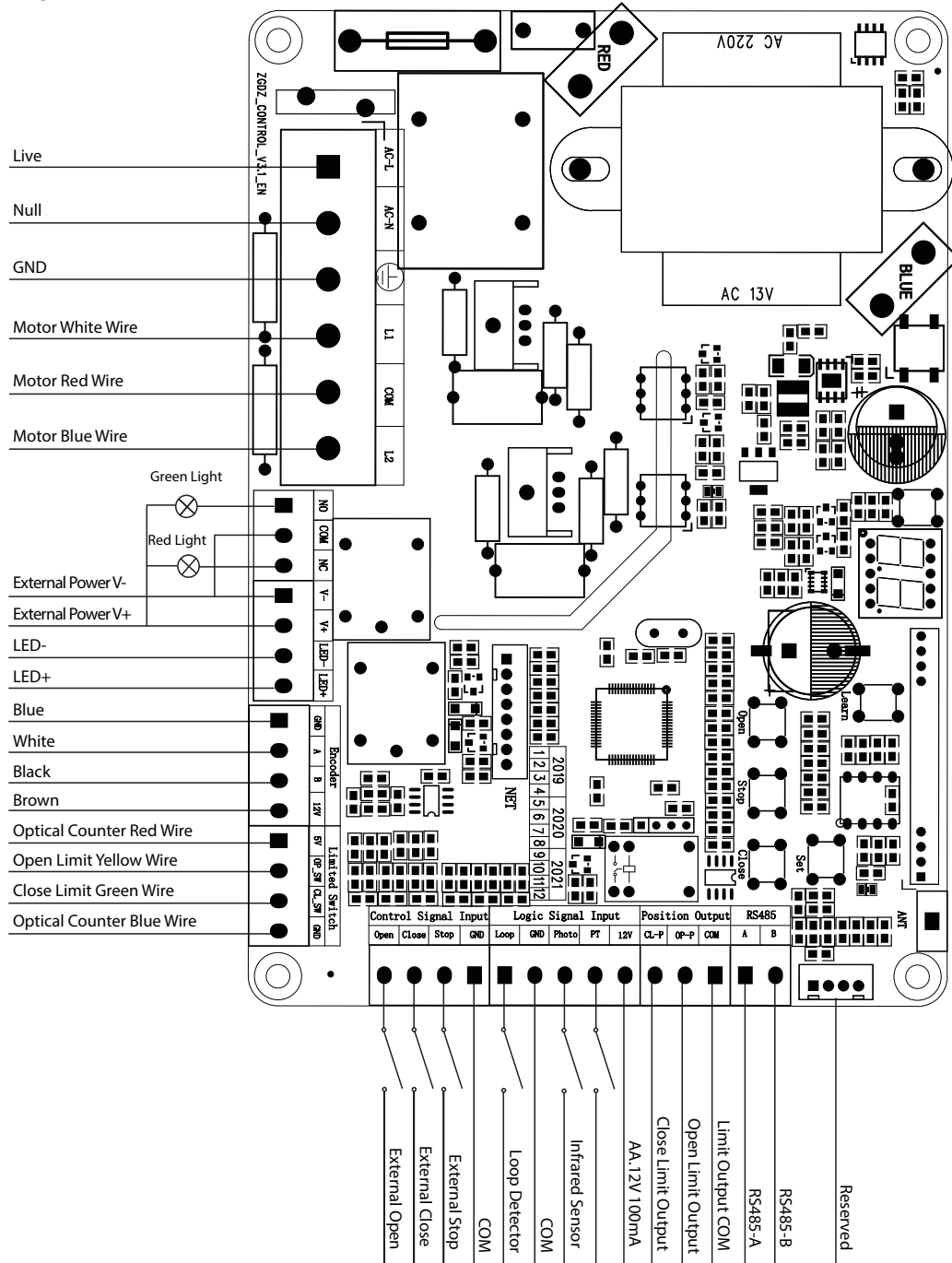


Fig.15



# 7. Control Board Diagram

Fig.12

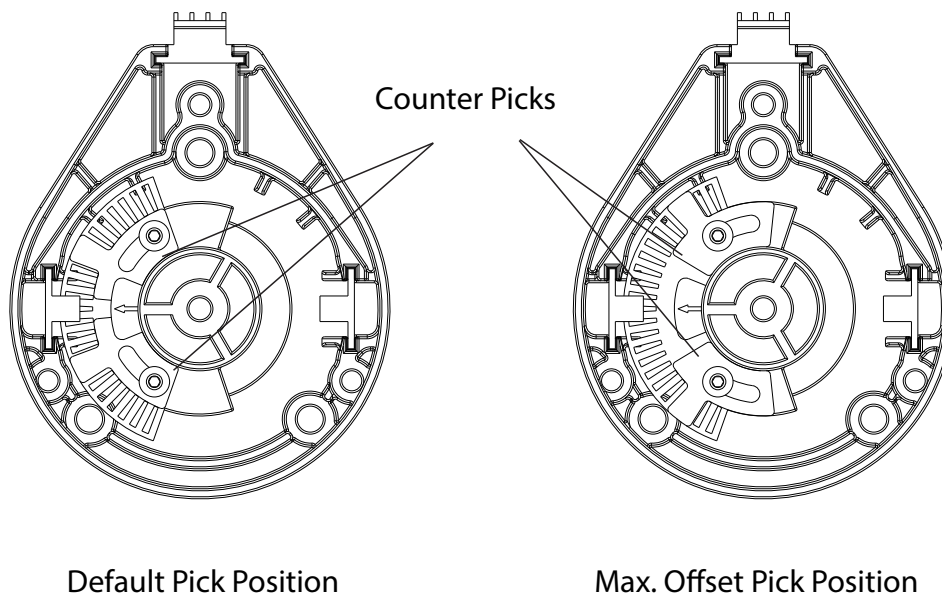


## 8. Limit Adjusting

Attention: Limits are set well in factory. Any change made on boom length, weight, spring force, etc. may cause deviation on the limits. To adjust the limits, please follow steps below.

### 8.1 Optical Counter Disk

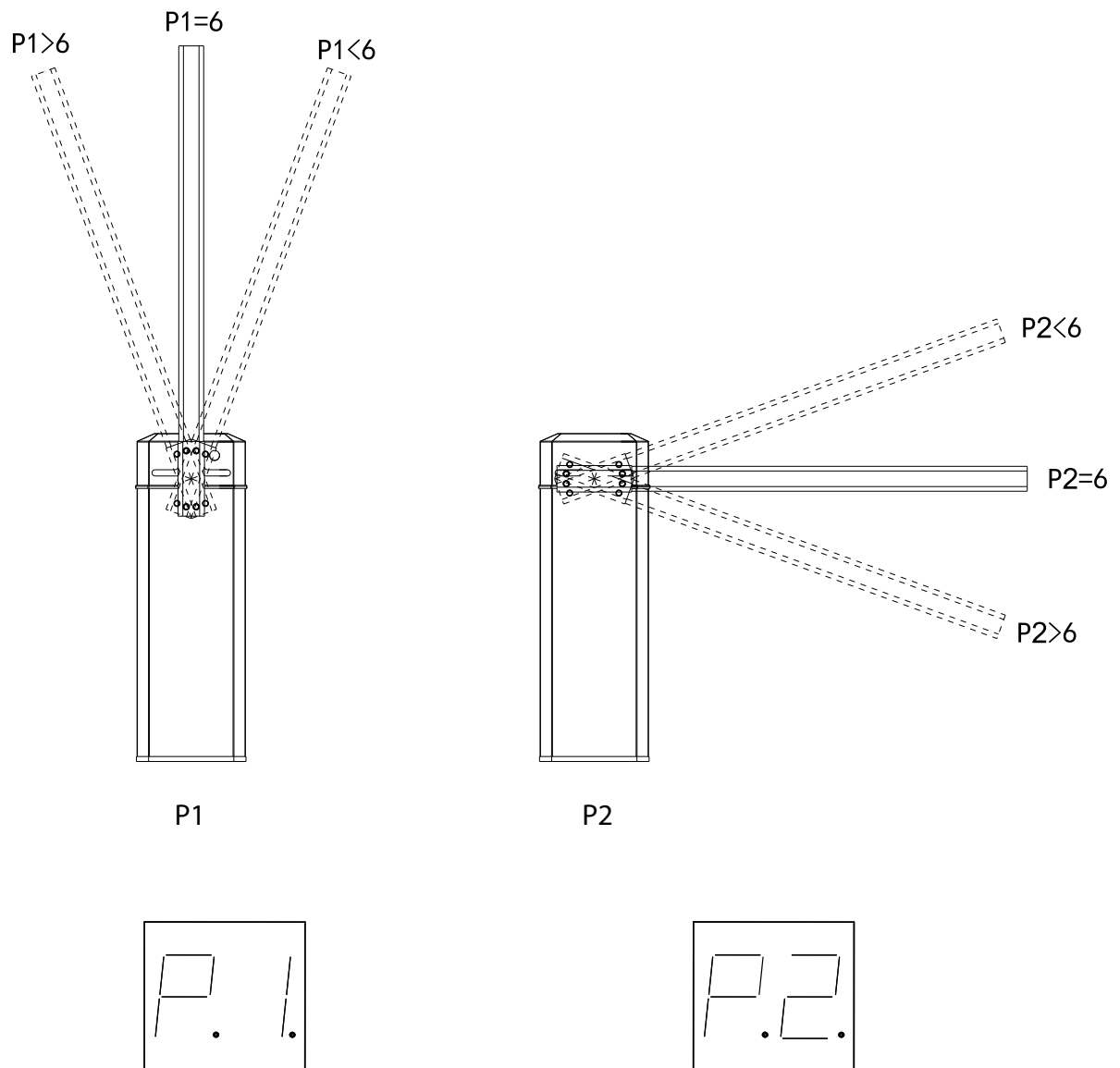
Fig.13



### 8.2 Open, Close Limits

For easy understanding, we assume the value of "P1" and "P2" with "6" on the Control Board means the boom at vertical and horizontal position. Fig.14 shows the boom status with the displaying value on the Control Board.

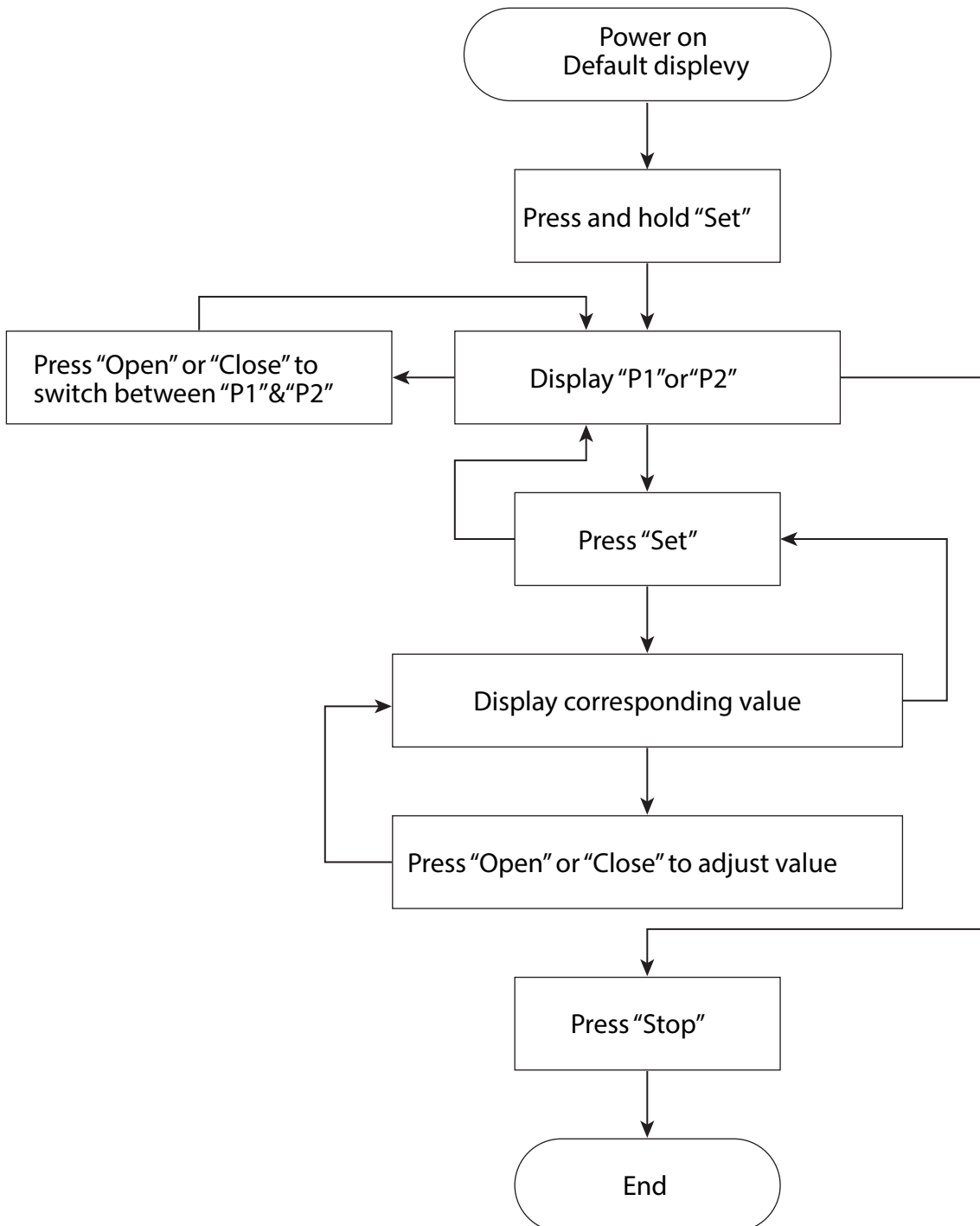
Fig.14



### 8.3 Limits resetting

Before adjusting, open and close the boom once to see whether the boom is vertical and horizontal to the ground. If so, no adjustment is needed. Otherwise, follow the steps below to set the value of P1 and P2.

**Warning! Resetting should be operated by a qualified person.**



## 9. Function Parameters

### 9.1 Function Definition

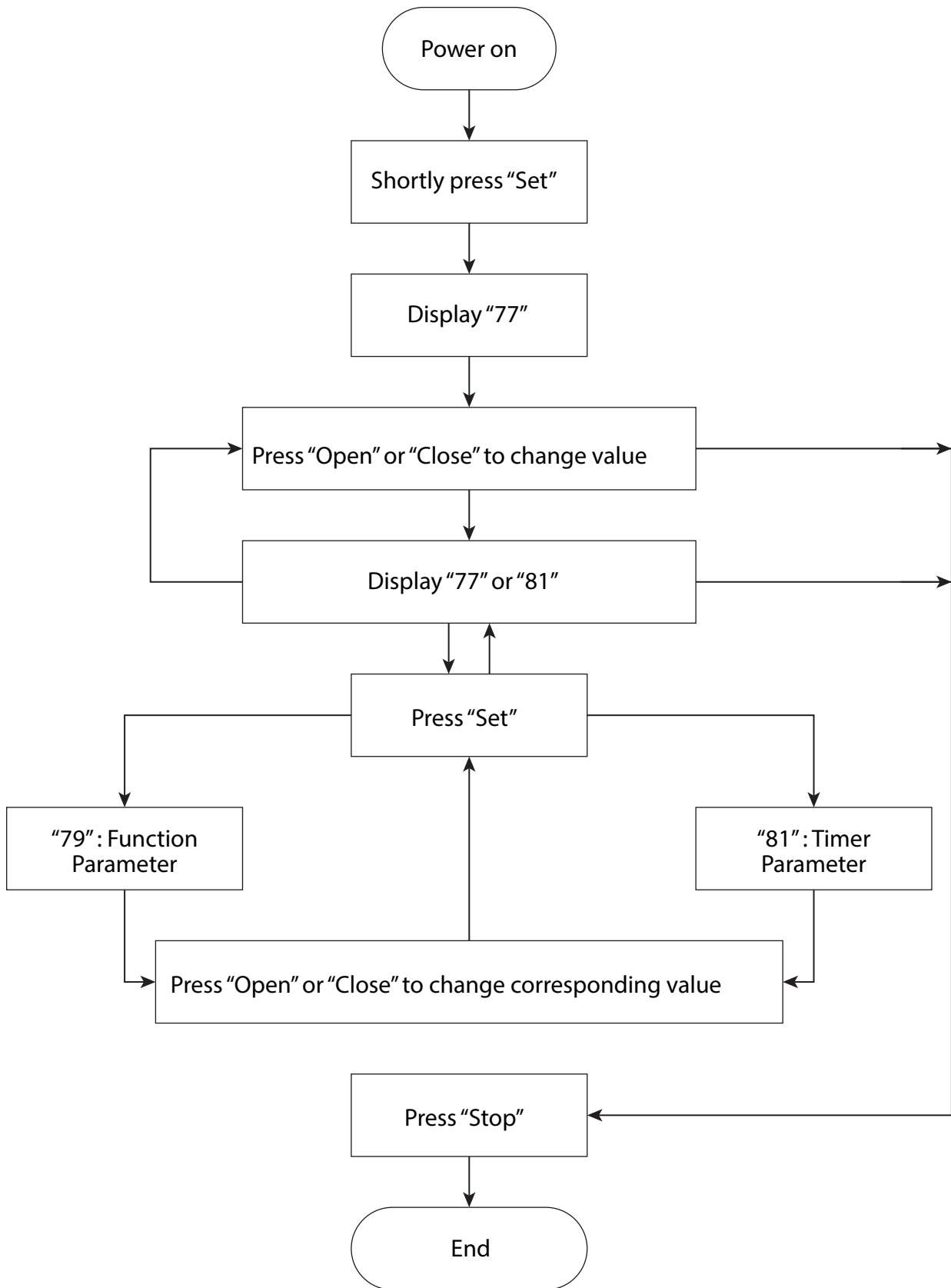
F0	Factory Setting (Caution!)
F1	Open Limit Micro-adjustment(for digital encoder)
F2	Close Limit Micro-adjustment(for digital encoder)
F3	Auto-Close Timer (s). Max.: 99s. Default: 00 (Means auto-close function disabled)
F4	00: Normal Mode (Default). 01: Counting Mode.
F5	00: Normal Mode (Default). 01: Stay OPEN.
F6	01: Stay Light-on when open to limit(Default). 00: Light out when open to limit
F7	01: Encoder Value (Default) 00: Operation Status.
F8	Signal Input Mode. 00: N.O. (Default). 01: N.C.
F9	Alarm or Light. 01: Light (Default) 00: Alarm.

### 9.2 Timer Definition

F0	Year
F1	Month
F2	Day
F3	Hour
F4	Minute
F5	Second
F6	Light-on Hour. Default: 18
F7	Light-on Minute. Default: 00
F8	Light-out Hour. Default: 06
F9	Light-out Minute. Default: 00



### 9.3 Parameters of Function and Time Resetting



## 10. Transmitter (Remote control) setting

### 10.1 Transmitter's code setting

Press "LEARN butTON", the "LEARN LED" light on, then, press and hold the button which you choose on the transmitter till the "LEARN LED" flashes and goes out, now, the transmitter is coded. Other transmitters can be coded as this way.

### 10.2 Erasing the transmitter's code

Press" LEARN BUTTON" and hold on to make the "LEARN LED" light on and till go out. Now, all codes of transmitters which had been learnt are cleared.

## 11. Error Codes

Code	Meaning	Solution
Err1	Optical Counter Limits	Check the Optical Counter Limits wires
Err2	Motor Nonstop Running Over Limits	1.Check the Optical Counter Limits Connecting 2.Check the Mechanical System
Err3	Motor Locked Rotor	1.Check the Mechanical System 2.Check Motor Wires Connectors
Err7	Photocell is Triggered	Remove the Object that Blocks the Photo Beam
Err8	Air Wave Sensor Triggered	Remove the Object that Block the Air Wave

## 12. Trouble Shooting

Trouble	Possible Reason	Solution
Power On, operate remote controller(transmitter), but no reaction.	Fuse blowout.	Check fuse inside control box and power supply.
	No battery or dead battery in remote controller(transmitter).	Change the batteries in transmitter.
	Frequency interference.	Press "Open" or "Close" on the Main Board to test if needed, connect a wired controller.
	External protectors' circuit malfunctioned or at working status.	Check the External Protectors or change them if need.
	Optical counter malfunction.	Change Optical counter.
	Control board malfunction.	Change control board.
Motor is functional but the boom doesn't work.	Boom starts at middle position.	Use manual release to set the boom at Open status or Close status, then use controller to start again.
	Spring force is not balance.	Readjust the balance.
	Low power voltage.	Check if the input power is at proper range.
Boom does not reach correct position when opening and closing.	Incorrect Linkage adjustment.	Refer to Fig.15 (See page 10).
	Incorrect Limits setting.	Reset.
Boom shakes at Open Limit and Close Limit.	The Lock Flat Key between Boom Main Shaft and Boom Holder is loose.	Change the Lock Flat Key.

