



Operation Manual: High Mast with Raising & Lowering System

Notice: It is not permitted to copy, index, or transmit this leaflet by any ways without our agreement, including electronic-spread, photo-copy, or others. Before operating or maintaining our products, please read this leaflet carefully first. This leaflet contains most possible issues but not all of them. When you meet any problem, you can call to our after-service department to get sufficient support.

Introduction and Safety Guidelines

Important!

Read through the manual in its entirety prior to operation of the tower with raising and lowering system

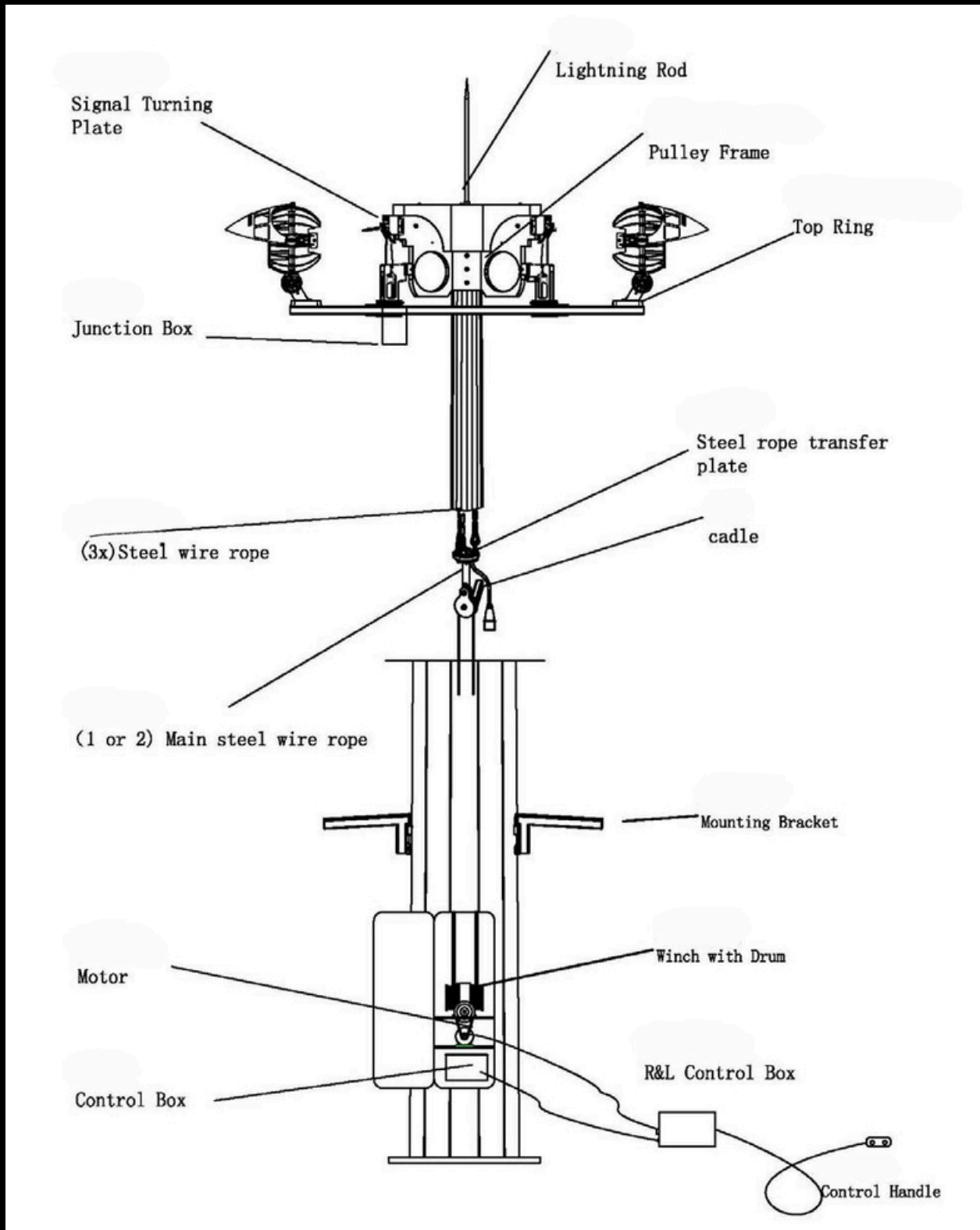
- **WARNING:** Improper use may cause property damage, serious injury or death; therefore, operation must be conducted only by a professional.
- Disconnect the power supply of the lighting fixtures and unplug the cable for the lighting fixtures.
- Check the steel wire rope and make sure there is no damage or rust before operation. Do not operate the system if there is any damage or rust.
- Make sure the steel wire rope is arranged orderly and tightly on the drum. Otherwise, you must re-arrange the steel wire rope on the drum orderly before raising or lowering the top ring.
- Check the up and down buttons of the Control Handel and make sure they are consistent with the mark on the winch.
- The work area should be kept clean and free from trip hazards, people are not allowed to stand within about 5m from the tower. The operator should operate the system 5m away from the tower.
- After the operation is completed, the steel wire rope must be arranged orderly and tightly on the drum.
- Keep the RSL control box at an appropriate place after operation.
- The top ring needs to be raised and lowered at least once a year. Inspect the steel wire ropes and cable every time.
- Inspect the bolts and clips on top ring and make sure they are not loose or rusty when it's lowered to tower bottom.
- All operators must wear head protection, foot protection, and take adequate

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safety precaution during raising or lowering the top ring.

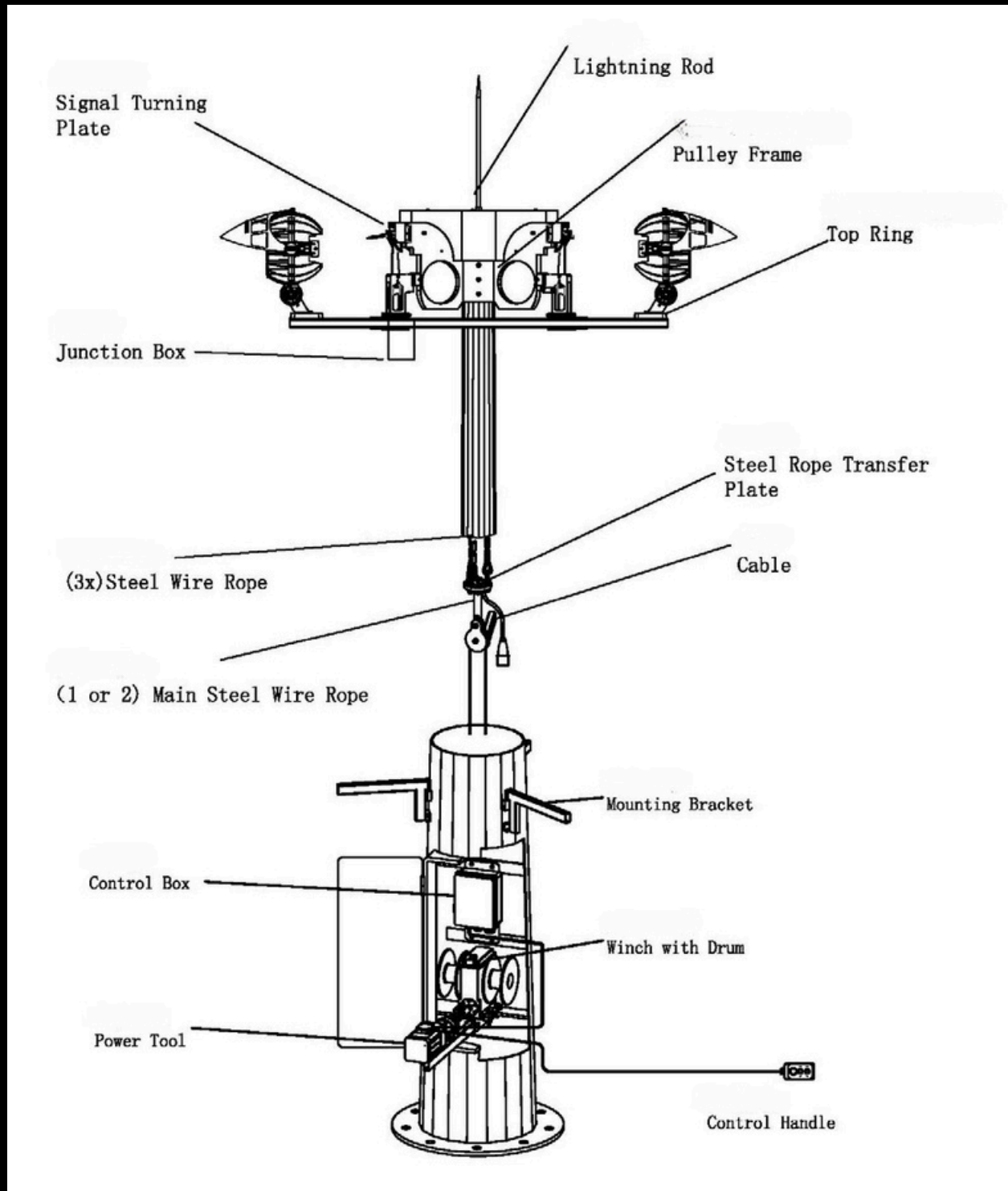
- Operation during severe weather conditions must be avoided, especially electrical storm activity (lightning).
- **SAFETY FIRST!** Caution and common sense must be used when installing/using this product.

High Mast with Raising and Lowering System



Internal Motor System

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External Motor System

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Preparation before Raising and Lowering

1. Open the door cover of the maintenance door, and check the parts inside the tower, such as the steel wire rope connection, winch system and the electrical parts.
2. Unplug the cable for the lighting fixtures to disconnect the power supply of the lighting fixture.
3. Install the mounting brackets on the tower. Below steps 4~6 will be used for external motor system with Power Tool.
4. Assemble the power tool bracket, torque limit and power tool together, and tighten the bolts.



[Mounting brackets]

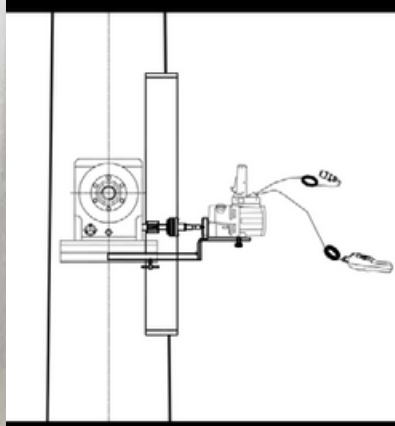


[Power tool]



[Internal motor system]

5. Place the power tool set on the bracket under the winch and tightens the bolts.

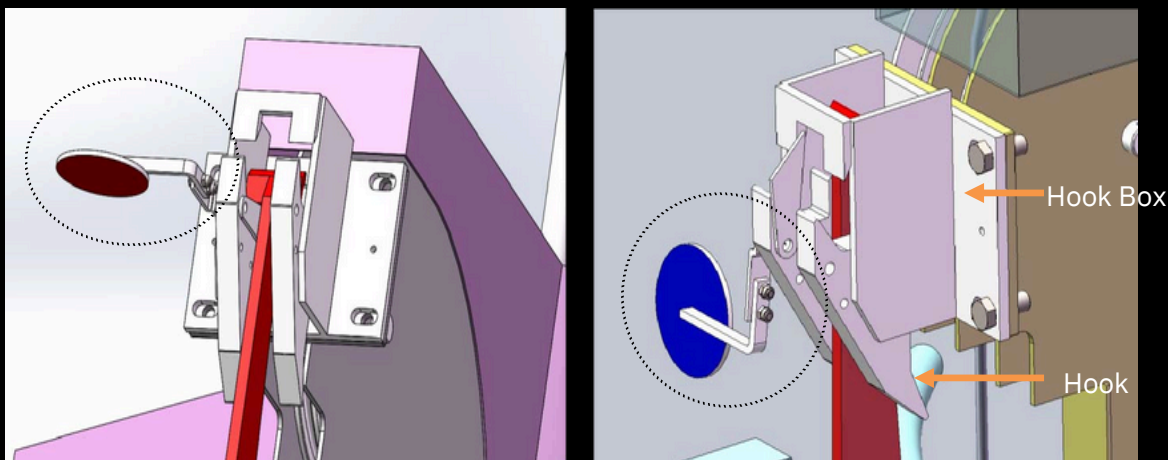


6. Plug the power tool into the socket of the power control box, and turn the power tool on.
7. Click the button of the control handle and make sure they are consistent with the mark on the winch and adjust the power phase sequence if necessary.

Lowering the top ring and lighting fixtures

1. Click the up button of the control handle for a short time (The steel wire rope on the drums become tighter) to raise the top ring for about 3cm-5cm. We will hear clear sound during this operation (the sound between the hook and the hook box), observe the turning action of the three-signal turning plate at the same time, and change from horizontal (left figure) to vertical (right figure).

[Note: the three signal turning plates all must be in the vertical state, otherwise, it means that the hook is not uncoupled, and the top ring cannot be lowered].



2. Click the down button of control handle to lower the top ring for about 10 cm. Please stand at a distance and watch whether the top ring is tilted or not or use a telescope to observe whether all three hooks pop out of the hook box or not, and that the three wire ropes holding the top ring are tight.

3. Click the down button for a little bit longer time and confirm that the top ring can be lowered freely. Press and hold the down button to lower the top ring.

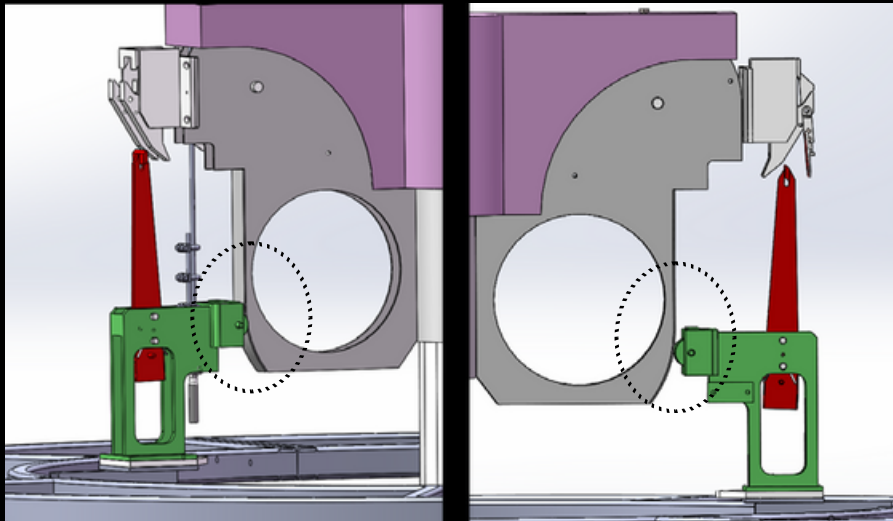
4. When the top ring is lowered close to the mounting brackets, start to click the down button to place the top ring on the mounting brackets.

Note: when the top ring is placed on the mounting brackets, the three wire ropes should be slightly tightened to withstand part of the weight of the top ring and lighting fixtures. The top ring cannot be lowered below the mounting brackets.

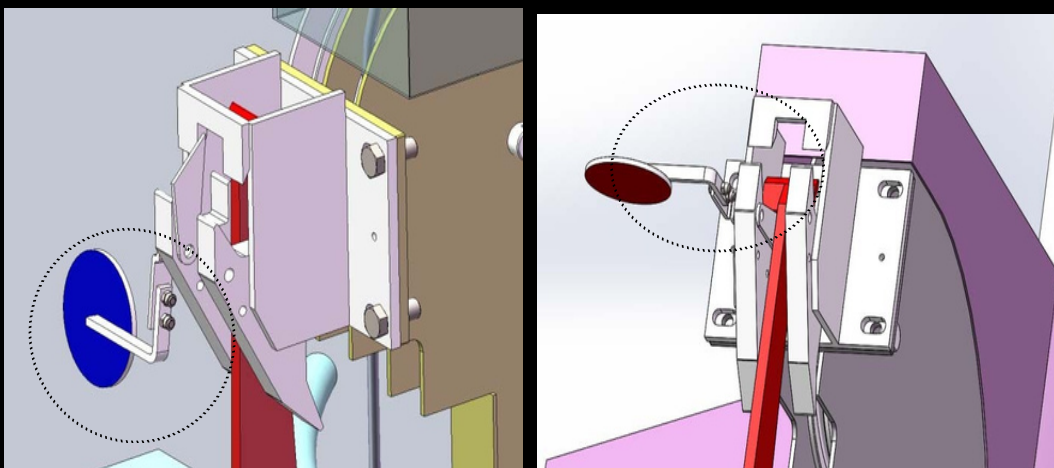
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Raising the top ring and lighting fixtures

1. Check the hooks and make sure they are not wrapped by steel wire rope, cable, etc.
2. Press the up button and make sure the steel wire ropes on the drum are arranged in order. Lower the top ring and rearrange the steel wire ropes if they are not,
3. When the top ring is raised close to the tower top, stop the operation for a little bit to stabilize it so the guide wheel can enter the track smoothly.



5. Click the up button of the R&L panel until you hear the sound of the hook bounce into the hook box. Then the three signal turning plates will turn, and it can reach the position of hook by appropriately rising about 5cm.
6. Click the down button until the three signal turning plates turn from the vertical to horizontal position.



Note:

1. If one hook fails to hook successfully (signal turning plate is vertical), click the up and down keys again and repeat the raising operation until all three signal flaps are horizontal.
2. After the raising operation, the steel wire rope in the tower should not be too loose, and should be kept in proper tension to prevent the steel wire rope on the drum from loosening resulting in a disorderly arrangement.

Finish Operation

1. Unplug the motor from the power control box and remove the external motor from the pole (if it's one external motor system).
2. Plug the main cable for lighting fixtures to connect the power supply of the lighting fixtures. Close the maintenance door and lock it.
3. Remove the mounting bracket and store it in a warehouse.



Maintenance

1. The winch needs to use about 1-liter machine oil. It should be replaced regularly according to the use frequency. The recommended period is 2-3 years.
2. Regularly check the fasteners and vulnerable parts of each component and replace or reinforce them if necessary.