

OPERATION MANUAL AND MAINTENANCE

1. Safety Design

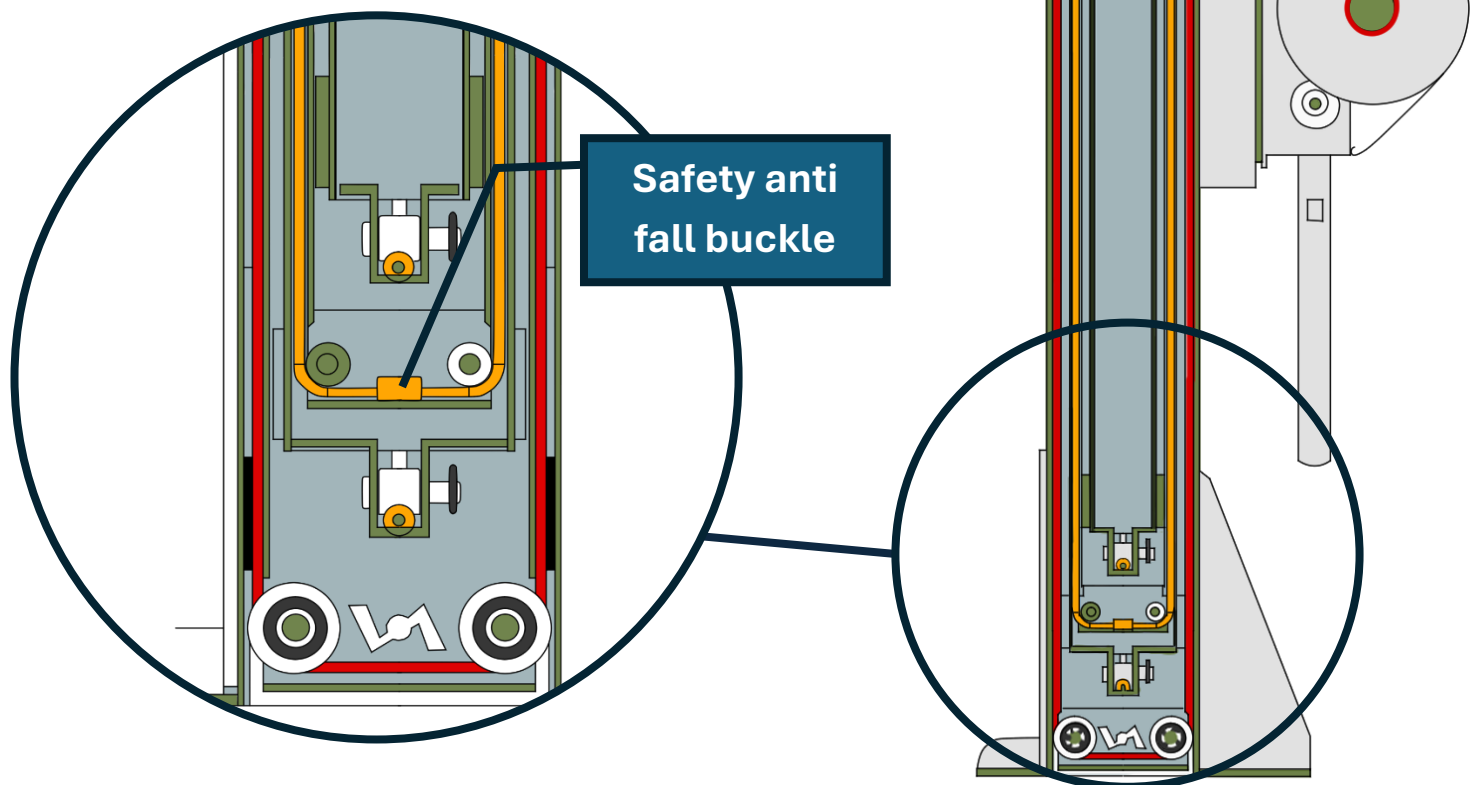
- As a wire rope that travels on a pulley, the winch wire rope cannot be equipped with a safety anti fall buckle on the wire rope, so it does not rule out the risk of sudden breakage, sudden drop of mast and top load; Additional anti fall function equipment can be added (when customers have clear requirements).
- Except for the winch wire rope, the other sections of the wire rope are based on the principle of fixed pulleys, and safety anti fall buckles have been designed to be fixed on the wire rope

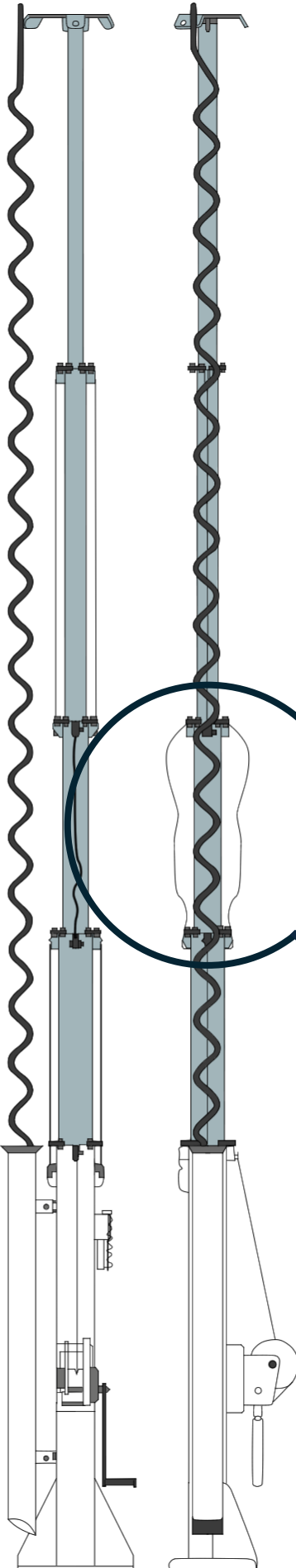
3. Safety Warning

- No one is allowed to stand under the mast, and overloading or using at high wind speeds is prohibited.
- Stay away from power lines/buildings, and dedicated personnel must supervise the lifting process.
- Immediately stop the machine if there is an abnormality, and forced operation is strictly prohibited

2. Pre-operation Check (30s quick check)

- The screws on the base of the mast are securely installed.
- The mast body is not deformed, and the locking pin/pulley is normal.
- The steel wire rope has no broken wires or wear, and the cable/winch is intact.
- Load installation should be centred and tightened.





4. Standard Operating Procedures

- **Adjust verticality:** Adjust the trailer horizontally to ensure the verticality of the mast.
- **Mast:** rise at a constant speed → lock in place → pull the windproof rope securely.
- **Duty:** Check that the steel wire rope is intact, the locking pin is locked, the handle is locked, and the windproof rope is tightened.
- **Lowering lever:** Unlock and release the windproof rope → descend at a constant speed → fully retract.

6. Maintenance

- **Check before each use:** Lock pin/pulley flexibility, steel rope wear, bolt tightening, no corrosion
- **Regular lubrication:** Apply a small amount of grease to the joint sleeve every 2-3 months to maintain smooth expansion and contraction.
- **Storage protection:** Long term storage, retrieve the mast body, and cover it with a dust cover.

5. Common faults → Handling

- **Unable to lift:** The mast is not vertical; Overloading; The steel wire rope is stuck; Immediately stop the operation; Check the level of the trailer/verticality of the mast; Overloading is strictly prohibited; Check the steel wire rope.
- **Wire rope breakage:** During the ascent, the winch wire rope suddenly breaks; → Replace the steel wire rope for processing.

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- **Stuck during descent:** Stuck occurs during descent, causing a certain section of the mast to fail to descend smoothly, and at the same time, that section of the steel wire rope may become loose and hang down; → Stop the lowering operation immediately, and raise the mast to tighten the length of the slack steel wire rope, then check the verticality of the mast, and try to operate the lowering mast after adjusting the trailer level/mast verticality. If the post problem of jamming still cannot be solved after repeated operations, it is necessary to use the crane to lift the upper part of the self-jamming part with the crane, and then loosen the limit block to increase the gap, and then loosen the hand winch to slowly lower the crane, so that the mast can slowly fall down until it is fully retracted, and then check that the steel wire is intact. If everything is normal, adjust the limit block tightly, and then operate the mast again normally.
 - **Severe shaking:** the limit block is loose; Uneven wiring; Loose screws on the base; Excessive wind speed; Tighten the limit block; Tighten the cable; Tighten the base screws; Close the mast during strong winds.

7. Failed Emergency Handling

- In case of jamming, abnormal noise, or loss of control: immediately stop the machine, cut off the power, and strictly prohibit forced operation.
- Risk of tilting or tipping of the mast: Quickly evacuate the danger zone, lower the height, or fully retract.

