



Maber Materials Hoist Operating Instructions

Conveying and Hoisting Solutions Pty
Ltd

Purpose of Equipment

Maber Rack & Pinion Hoists are temporarily erected hoist systems that are intended exclusively for transporting goods. Building hoists are NOT intended for the carriage of humans or animals.

Safety

2.1 Warnings

The Hoist is constructed using state-of-the-art technology and is safe to operate. However, the nature of the operating procedures is such that the Hoist has areas and parts that cannot be protected without impairing the function and operating capability. Therefore good personal safety practice is essential to protect the personnel and the hoist.

- The Hoist can present dangers if it is used incorrectly by untrained personnel or if it is not used in accordance with regulations.
- Read and understand these instructions first before setting up or operating this equipment
- Keep these instructions accessible near the Hoist.
- Before beginning work, one should become familiar with the working environment.
- No changes, additions or modifications may be made to the Hoist or associated equipment.
- Do not modify, remove, bypass or override the safety devices.
- Have the area around the Hoist barricaded off and post warning notices.
- Observe National Plant Regulations and Occupational Health and Safety Regulations.
- In situations that are dangerous or potentially dangerous to the operating personnel or to the hoist, pressing the **EMERGENCY-STOP** button can stop the Hoist [see Fig.1]

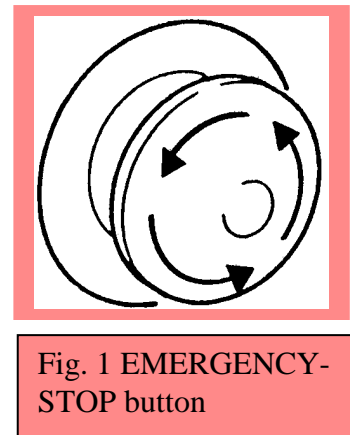


Fig. 1 EMERGENCY-STOP button

2.2 Certification

A Certificate of Competency is required to operate this Hoist. The Operator must be familiar with the Operating Instructions, possess adequate experience and be aware of the dangers involved with the Hoist.

2.3 Logbook

A continuous working record (i.e. logbook) of the significant events concerning the safety and operation of the Hoist shall be kept and retained on the Hoist. Refer to AS 2550.7 Section 9.6 for details.

2.4 Incident Notification

The employer, as defined by the Regulations referred to below, who has management or control of the workplace must be aware that they may have an obligation to notify WorkCover of any incidents involving this equipment. Refer to the Occupational Health and Safety Act and the Occupational Health & Safety (Incident Notification) Regulation(s) applicable to your State.

2.5 Inspections

Inspections as detailed in Chapter 6: Maintenance should be performed before Installation or Use of this equipment.

2.6 Hazard Assessment

Please note that this checklist is indicative only. Users must perform their own Risk Assessment subject to the intended siting and use of the equipment.

Hazard	Risk	Control
Crushing by the Hoist collapsing, tipping or rolling	Moderate	<ul style="list-style-type: none"> Ensure that the Hoist has been assembled on firm level ground only. Check the area under the Hoist has not been cut, bored, eroded or otherwise become unstable. Ensure the securing structure is of adequate strength. Ensure that the Hoist is correctly attached with adequate bracing and fixtures. Regularly check mast bolts, bracing and fixings for soundness. Do not remove bracings or fixings Check the Hoist mast is vertical in both elevations. Do not overload the Hoist. . Assemble as per instructions and good rigging practices.
Crushing or shearing by trapping between the Hoist and fixed structures, or Hoist parts.	Moderate	<ul style="list-style-type: none"> Barricade a work-space around the base of the Hoist to prevent personnel standing underneath the Hoist Ensure the base area is unobstructed before lowering the Hoist in the 2m Safety Zone. Keep body parts clear of the Hoist and it's components.
Falling when unloading a raised platform	Moderate	<ul style="list-style-type: none"> Barricade area at height to prevent falls. Ensure Landing gates or barriers remain closed except during loading/unloading. Do not step onto a raised platform.
Striking or crushing by materials falling from the equipment	Low	<ul style="list-style-type: none"> Do not overload the Hoist. Loose or suspect materials should be adequately secured before hoisting. Do not carry protruding loads.
Electrocution	Low	<ul style="list-style-type: none"> Operate from a protected supply only. Do not operate in a liquid environment.
Explosion	Low	<ul style="list-style-type: none"> Do not operate near naked flames. Do not operate in an explosive environment.
Cutting, stabbing or puncturing	Low	<ul style="list-style-type: none"> Ensure mesh on platform and Landing Gates is in good condition. Do not carry protruding loads.
Crushing or entanglement when inspecting or maintaining the Hoist	Low	<ul style="list-style-type: none"> Do not place body parts against the Hoist when in operation. Wear close fitting clothing Do not wear jewellery such as chains or rings.

Specifications

3.1 Masses

- Base: 850kg
- Mast sections each: 43kg
- Ground bearing area: 1.26m²

3.2 Performance

- Maximum load capacity: 800kg evenly distributed.
- Maximum lifting height: 150m.
- Lifting Speed: 25m/min.
- Deck width: 1500mm.
- Deck length: 1750mm.
- Loading ramps: 1100mm high x 1520 wide.
- Height to platform from ground when completely lowered: 450mm.
- Power draw: 22A @ 415v 50Hz.

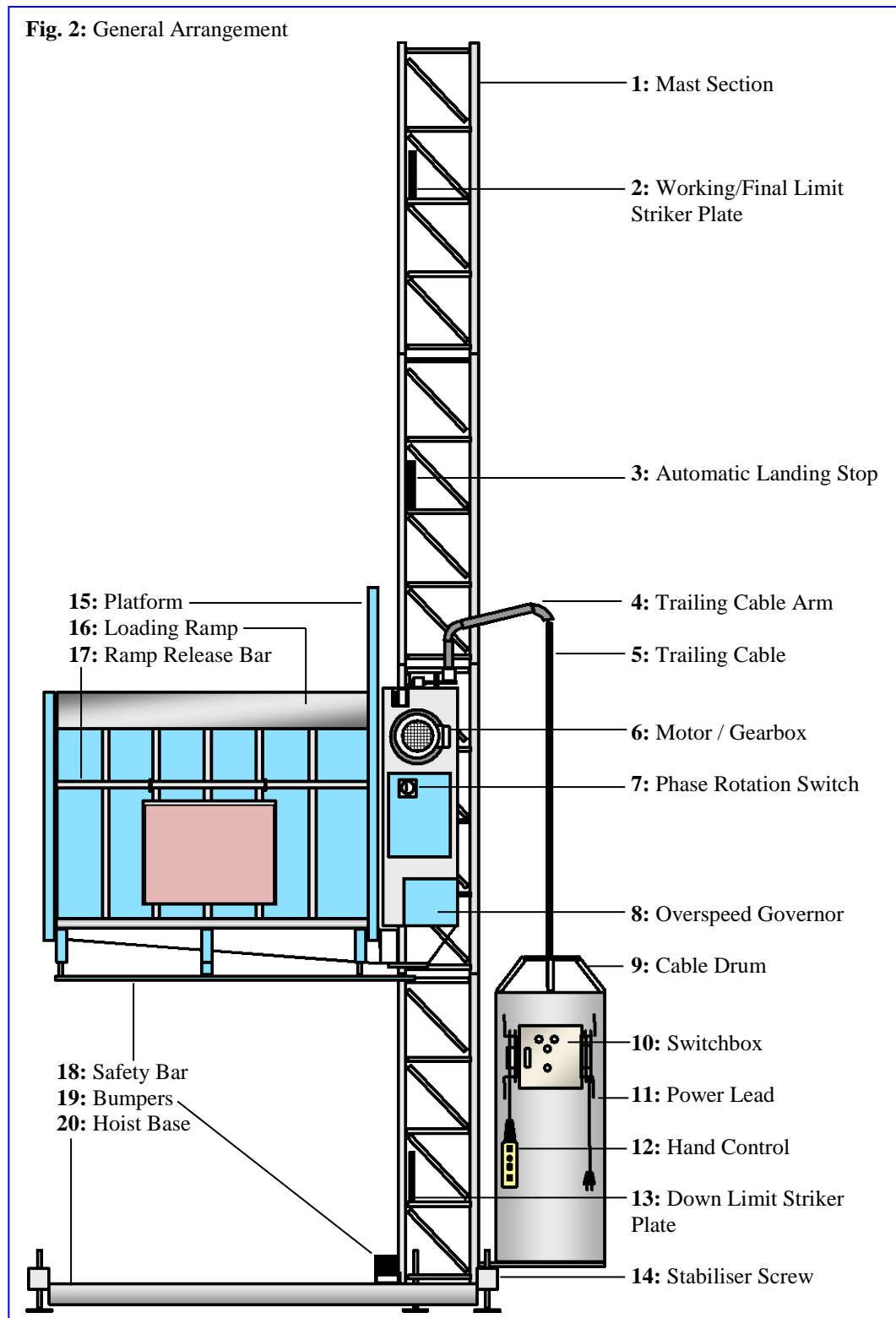
- Hand Control voltage: 24V

Description

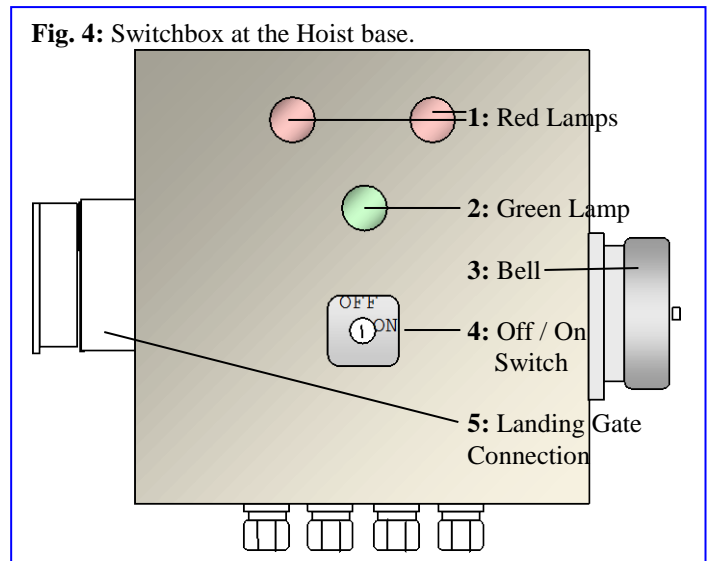
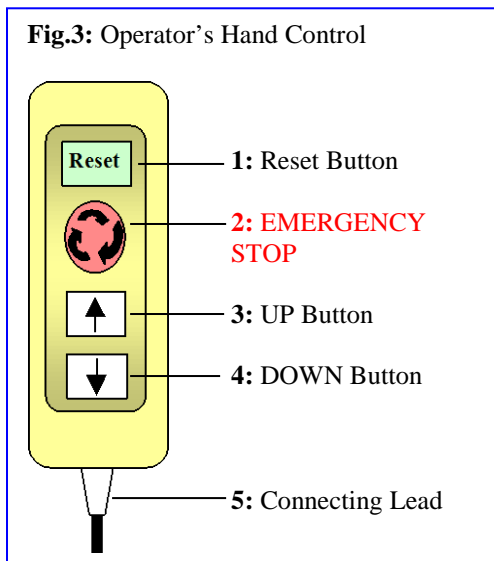
4.1 Outline

- During operation the Hoist is controlled by means of the mobile Hand Control at the Switchbox on the cable bin.
- AUTOMATIC mode allows the Hoist to move automatically between set Landing Stops, or to or from the first Landing Stop to the ground.
- An Overspeed Governor prevents a free-fall from a drive or brake failure.
- A Safety Bar under the Hoist will stop motion if any solid object comes into contact with the Safety Bar.

4.2 General Arrangement

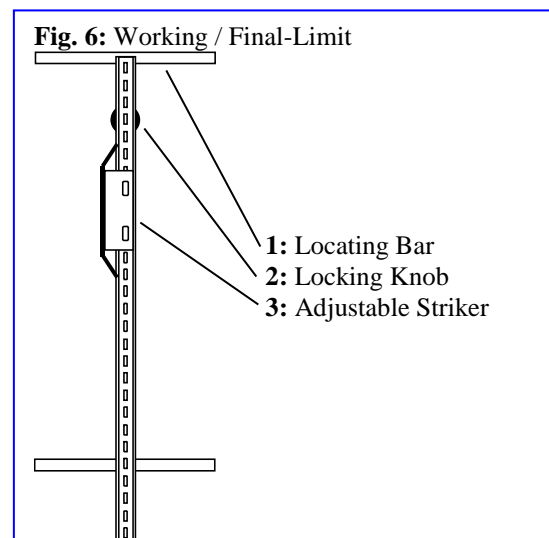
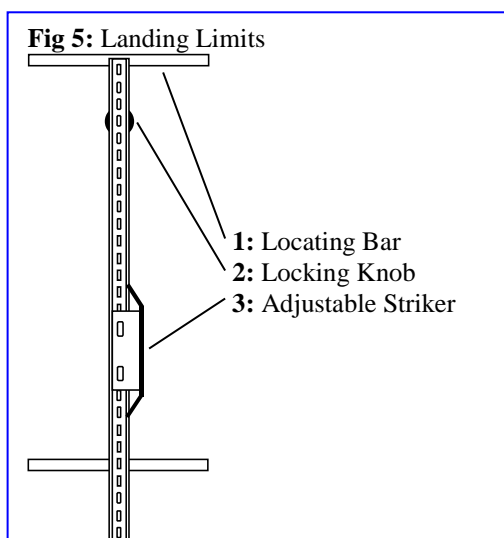


4.3 Controls



4.4 Travel Limit Switches

- Normal operational up travel is limited by a Working-Limit switch activated by a Striker plate fitted to the mast above the topmost landing point [see Fig. 6, #2 in Fig. 2]. This limit switch will be reached if the UP button is continuously pressed in MANUAL mode, or the UP button is pressed in AUTOMATIC mode while the platform is at the uppermost landing. Pressing the DOWN button in either mode will allow the platform to descend off this limit switch.
- Down travel is limited by a Working-Limit switch activated by a plate fitted to the mast so the platform stops at ground level [#12 in Fig. 2]. Pressing the UP button in either mode will allow the platform to move off this limit switch.
- An upper Final-Limit switch is tripped by the Striker plate [see Fig. 6, #2 in Fig. 2] fitted to the mast above the topmost landing point. The Final-Limit switch will only be tripped by failure of the Working-Limit switch. It is not possible for the Operator to move the platform off this limit switch and the Supplier must be contacted for corrective action.
- A Proximity switch is also fitted to limit upper travel if the Striker plate is removed or tampered with.
- If the Striker plate and Proximity switch are tampered with or removed, the Hoist design will ensure the drive sprocket will over-run the mast but the platform will be retained on the mast by all keepers and guides.
- A lower Final-Limit switch is tripped if the Hoist over-runs the lower Working-Limit switch [#13 in Fig. 2]. The Operator cannot move the hoist platform if this switch has been activated and the Supplier must be contacted for corrective action.
- Automatic stop at a landing may be set by fixing a Landing Stop Striker Plate to the mast at an appropriate point [#3 in Fig.2, Fig.5]



Operation

5.1 Pre-Operation

- Read the Warning notices in Chapter 2 and implement a Risk Assessment before starting work
- Perform maintenance as described in Chapter 6
- Do not work beneath; step over or into the Hoist.
- Always wear personal protective equipment.

5.2 Prohibitions

- Do not hoist people or animals.
- Do not exceed the loading specifications stated in Chapter 3.3
- Do not operate with the load on one side of the platform only.
- Do not operate in wind speeds of more the 70km/hr
- Do not operate if the Hoist or any of it's components are damaged
- Do not operate if required Maintenance has not been performed.
- Do not use this Hoist if there is any damage or unusual performance. Isolate the Hoist as described in Chapter 7.1 Emergency Shutdown.
- Do not operate the Hoist if there is a risk of people being endangered by the load or platform.
- Do not operate in poor conditions (below 15°C or above 45°C, fog, ice, naked flames etc)
- Do not operate if upper and/or lower Travel Limit switches have not been set.
- Do not operate if any bracing or fixings have been loosened or removed.

5.3 Beginning of Work Period Start-up

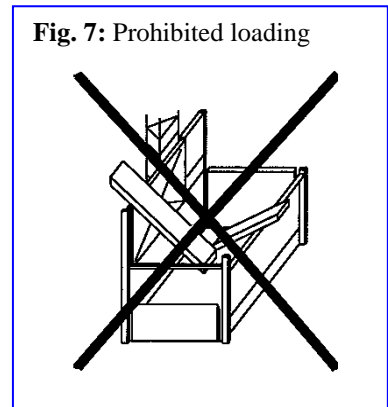
Refer to Fig. 3 and Fig. 4.

- Turn the Keyed Isolator Switch [#1 in Fig. 4] on the Switchbox to “ON”
- Check that the platform is unloaded.
- Check that personnel and/or animals are not near or on the platform.
- Check all ramps and covers are closed firmly.
- Turn the **EMERGENCY STOP** Button [#2 in Fig. 3] clockwise to release.
- Verify that the green lamp is lit. Refer to Chapter 5.5 if not lit
- Press the green RESET button [#1 in Fig.3] on the Hand Control.
- Press and hold the black UP button [#3 in Fig. 3] to raise the platform 2 metres.
- Release the button and check the Hoist stops instantly and the platform does not descend under it's own weight.
- Press and hold the black DOWN button [#4 in Fig. 3] and lower the platform 1 metre.
- Release the button and check the Hoist stops instantly and the platform does not descend under it's own weight.
- Lower the platform to the ground and place a suitable load on the platform.
- Repeat the above lift test
- Check that the Trailing Cable [#5 in Fig. 2] winds and unwinds regularly from the Drum [#8 in Fig. 2].

5.4 Loading or Unloading the Platform

- Refer to Fig. 7
- The load platform must always be loaded in such a way that there is free access for loading and unloading.
- The load must be evenly distributed on the platform.
- Bulky goods must not protrude laterally over the platform.
- The load must be positioned securely. Materials that tend to slip, or is higher than the platform or could fall over, must be adequately secured.
- Consideration should be given to the effects of sudden wind gusts on the security of the load.
- The green RESET button must be pressed after closing the Ramps

Fig. 7: Prohibited loading



5.5 Indicator Lamps

- A green lamp [#3 in Fig. 4] is lit when all Hoist Interlocks (such as Loading Ramps) and any Landing Gates fitted are closed. This indicates that the Hoist is ready to run.
- Two red lamps lit [#2 in Fig.4] lit indicate that Landing Gates are open. The Hoist will not run.

- No lamps lit indicate one or more Hoist Interlocks are open, the Hoist is not turned on, power is not connected or the phasing is incorrect (turn switch #7 in Fig. 2). The Hoist will not run.

5.6 Regular Operation

Refer to Fig. 3 and Fig. 4:

1. Turn on the power to the Hoist [#1 in Fig. 4]
2. Turn the **EMERGENCY STOP** button clockwise to release [#2 in Fig. 3].
3. Check the green lamp is lit [#2 in Fig. 4]. Refer to Chapter 5.5 if not lit.
4. Press the green RESET button to enable the Hand Control [#1 in Fig. 3].
5. Firmly press and hold the UP button to cause the Platform to rise [#3 in Fig. 3].
6. Release the button to stop.
7. Firmly press and hold the DOWN button to cause the Platform to lower [#4 in Fig. 3].
8. Release the button to stop.
9. Up and down motions may be ceased at any time by releasing the motion button or by pressing the **EMERGENCY STOP** button.
10. Up and down motions will be limited by a Limit Switch – see Chapter 4.4

5.7 Automatic Operation

Automatic stop at the next landing will occur if:

- A Landing Stop has been fitted to the mast [#3 In Fig.2, see Fig 5]
- The UP or DOWN button are pressed only to the first ‘click’ to enable the automatic function.
- The Hoist will stop at the next set Landing Stop or a Travel Limit.
- Note that due to the physical thickness of the Landing Stop, automatic position for Up stop will differ slightly from Down stop.

Operator Maintenance

6.1 Daily

- Perform an empty test run and check that:
- Working-Limit switches top and bottom are functioning.
- Loading Ramps lock correctly and the Hoist does not function if a Ramp is opened.
- The **EMERGENCY OFF** button is functioning and the Hoist does not move when set.
- The Safety Bar interlock switch is functioning and the Hoist stops if the Safety Bar is moved.
- When fitted, an open Landing Gate will not allow Hoist operation

6.2 Fortnightly or after Adverse Weather Conditions

- Brake test. Load the platform with a load equal to the rated capacity and check that the platform does not move downward when the Hoist is not operated.
- Lubricate the toothed rack and driving pinions with general grease.
- Check the trailing cable, mains supply and control leads for damage.

Shutdown

7.1 Emergency Shutdown

- Stop operation of the Hoist by either:
 1. Releasing the UP or DOWN buttons [see Fig. 3]
 2. Pressing the **EMERGENCY-OFF** button [#2 in Fig. 3]
 3. Turning off the power supply [#1 in Fig. 3].
- Remove the hand control and power supply from the Hoist.
- Erect a sign stating “DO NOT USE – HOIST UNDER REPAIR” and fix to the Hoist.
- Inform management or management’s agent of the situation.

7.2 End of Work Period / End of Hire Shutdown

- Unload the Hoist and lower the platform to the ground.
- Turn the keyed Main Isolator to “OFF” and withdraw the key [#1 in Fig. 3].
- Remove the power supply.
- Secure the key in a safe place.
- Clean any dirt or grease from the Hoist.

Installation and Removal

Refer to Form 0512 for Installation and Removal Instructions