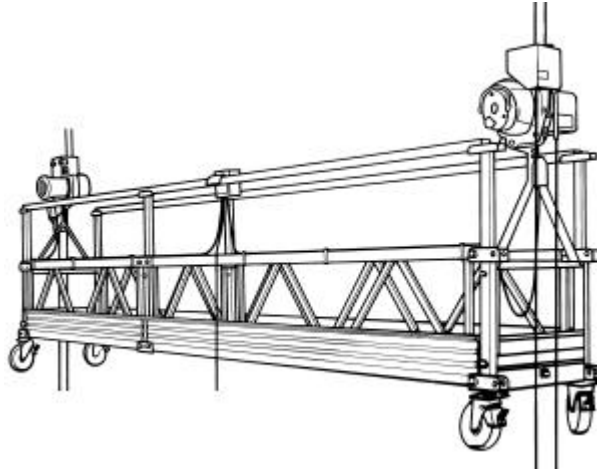


## OPERATING INSTRUCTIONS



### ASTRO HOIST Type E86-CTO and E89-CTO



CONFORM TO THE MACHINE DIRECTIVE  
89/392/EWG – 91/368/EWG AND 93/44/EWG

*All persons operating this equipment must read and completely understand this manual. Any operation in violation of these instructions is at the operator's own risk. Keep this manual with the hoist at all times.*

Only use spare parts and steel wire rope from POWER CLIMBER

#### Manufacturer

**POWER CLIMBER BVBA**  
Satenrozen 7  
B- 2550 Kontich  
BELGIUM

Tel: +32-3-451.05.00  
Fax: +32-3-451.05.01  
e-mail: [Info@PowerClimber.be](mailto:Info@PowerClimber.be)

Reference: 38380-01 / 38700-E	Issue date: 99-08-24	Revision	Page: 1 of 8
----------------------------------	----------------------	----------	--------------

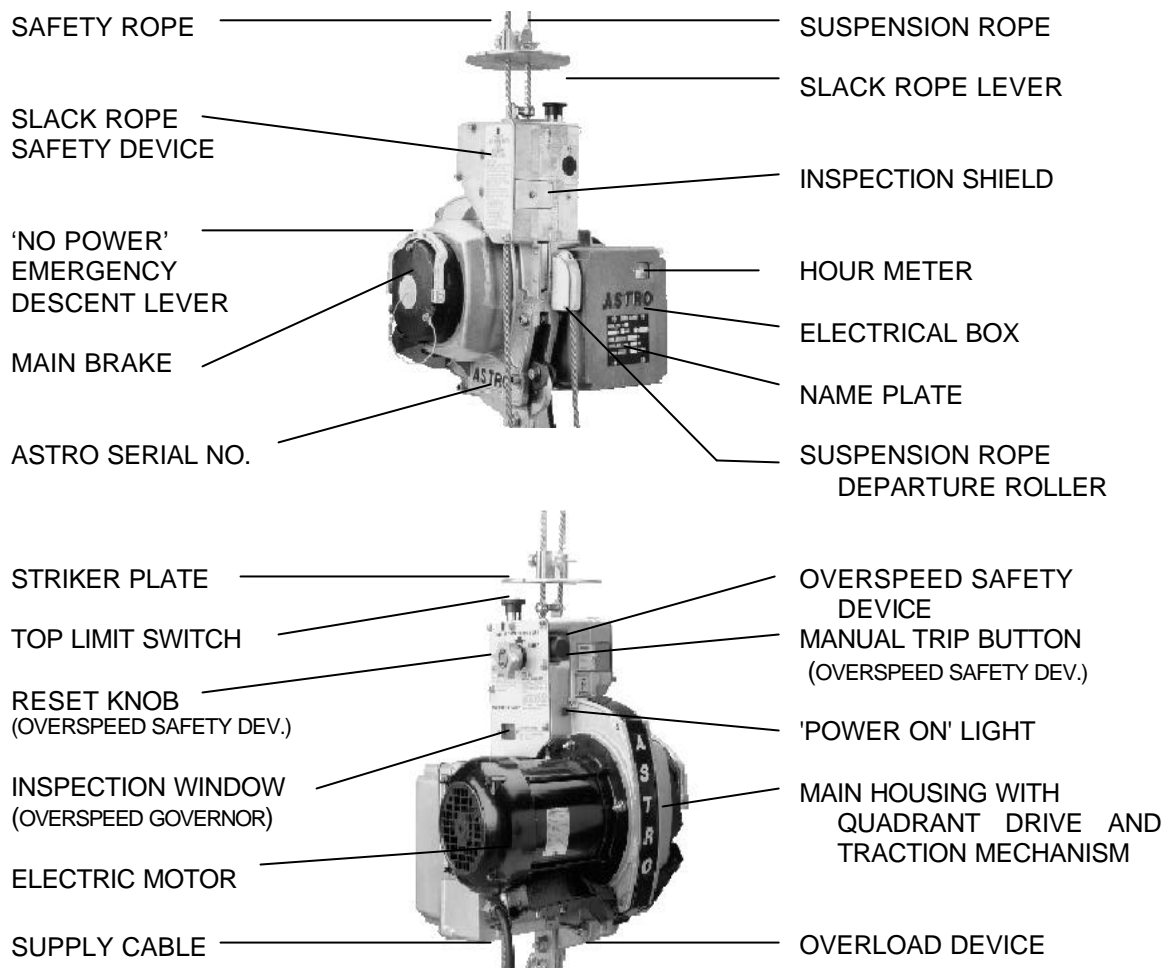


## TECHNICAL DATA

ASTRO Type	Electric motor	Capacity	Suspension- and Safety Rope	
			Nom. Dia	Min. Breaking Load
<b>E86-CTO</b>	1Ph-220V-50Hz-1,35HP	6.000 N (600 Kg)	9 mm	60 KN
<b>E89-CTO</b>	3Ph-380V-50Hz-1,5 HP	8.000 N (800 Kg)	9 mm	80 KN

## DESCRIPTION

The ASTRO is a self reeving scaffold hoist which has a single wrap traction sheave and a proven roller chain traction principle for multiple steel wire rope sizes. Power is supplied by an electric motor via the highly efficient QUADRANT drive. In the event of power loss, slow and controlled descent can be achieved by manual release of the main brake.

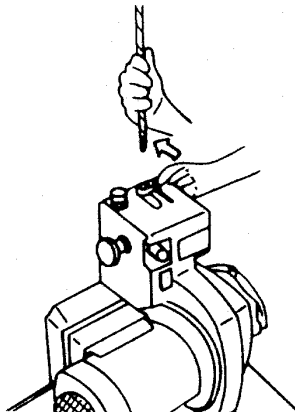
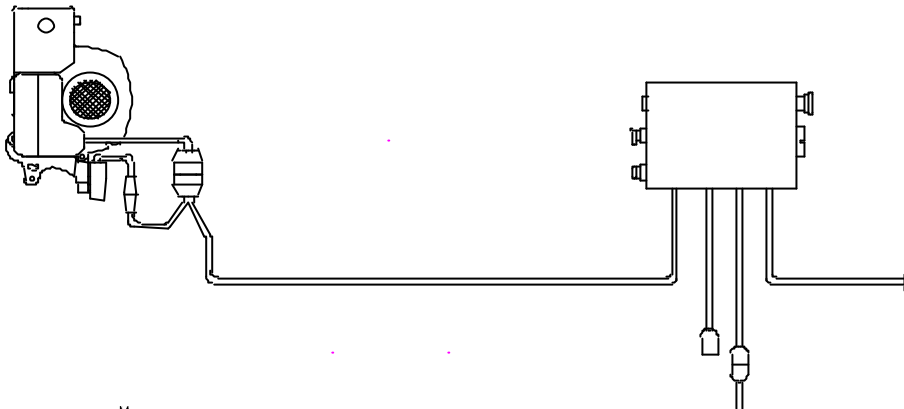


Reference: 38380-01 / 38700-E	Issue date: 99-08-24	Revision	Page: 2 of 8
-------------------------------	----------------------	----------	--------------

## REEVING

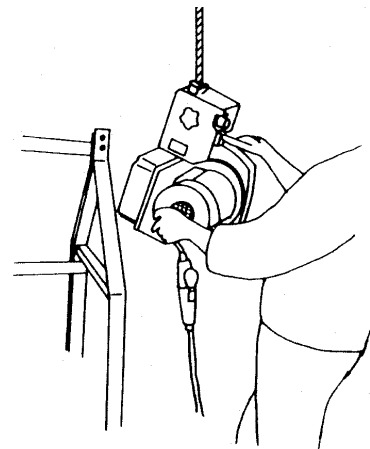
1. Install central control box on upper rear platform guardrail. Connect 6 pole plug from the central control box to 6 pole plug of the ASTRO hoist. Connect 4 pole plug to the overload device. Plug in power supply cable to the pigtail on the central control box, and secure the retainer to the midrail of the platform. Both hoists have to be connected to the central control box.

**Attention:** Use 30 mA earthleakage relay at power source.



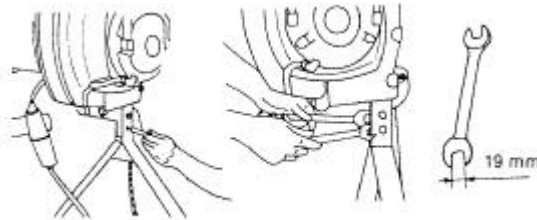
2. Check that the overspeed safety device is reset. Push slack rope lever backwards with one hand and feed the 'bullet' end of the suspension rope into the entry guide, and push firmly into the hoist. Operate the ASTRO in up direction, to selfreeve the suspension rope.

3. To lift the ASTRO operate in the up direction. Line up the holes in the stirrup bar with the holes in the stirrup and push home the bolts.



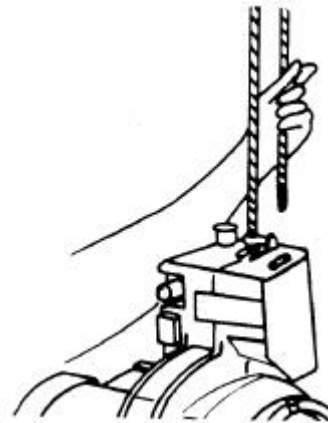
Reference: 38380-01 / 38700-E	Issue date: 99-08-24	Revision	Page: 3 of 8
----------------------------------	----------------------	----------	--------------

## REEVING (Cont.)



4. Bolt the ASTRO to the stirrup with the suspension rope departure roller to the outside of the platform. Mount the ASTRO hoist with bolts M12 (DIN 7990) and self-locking nuts on stirrup.

5. Reeve the safety rope by pushing the bullet end into the entry guide on top of the ASTRO. Push the rope through the slack rope safety device compartment. A weight of about 8 kg should be hung on the bottom of the safety rope to keep it taut.



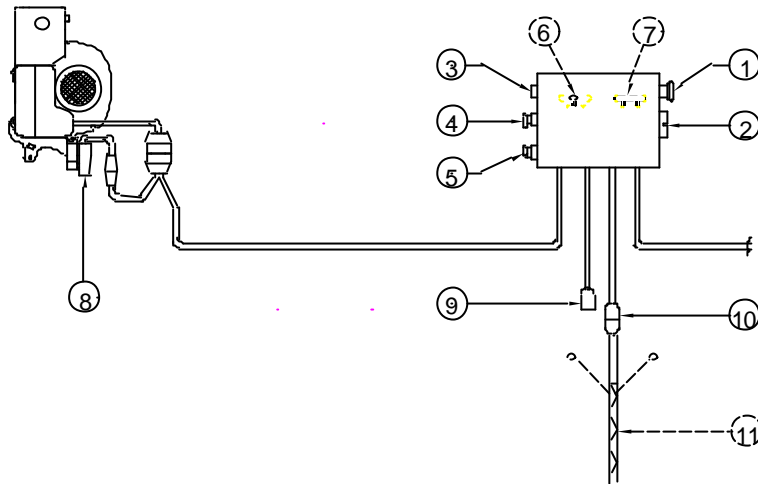
### **NOTE:**

When using platforms with fixed stirrups the ASTRO must be mounted with the departure roller to the outside of the platform to ensure correct operation of the traction system and safety devices.

- IMPORTANT:**
- When rigging is complete carry out the routine tests to ensure safe and correct operation.
  - When dereeving the suspension rope, push the slackrope lever backwards, and keep tension in the rope above the hoist to avoid rope jams.

Reference: 38380-01 / 38700-E	Issue date: 99-08-24	Revision	Page: 4 of 8
----------------------------------	----------------------	----------	--------------

## OPERATING INSTRUCTIONS



### 1. Function description

1. Emergency Stop: Pushing this button disconnects the power to both hoists.
2. Operating buttons: Hold to run operation for up/down direction of the hoists.
3. Pilot Light 'Overload': This red light indicates the presence of an overload condition.
4. Selector switch: Switching to operate left hoist / both hoists / right hoist.
5. Contact switch: Activating the main contactor.
6. Mercury switch: Cuts the down control circuit of both hoists in case the platform tilts, for example: if the platform hits an obstacle.
7. Mercury switch: Opens the main contactor if the platform gets out of level.
8. Overload switch: The overload switch opens the main contactor, if an overload occurs.
9. Outlet tool 220V.
10. Pigtail for power supply cable.
11. Power supply cable with retainer.

Reference: 38380-01 / 38700-E	Issue date: 99-08-24	Revision	Page: 5 of 8
----------------------------------	----------------------	----------	--------------

## OPERATING INSTRUCTIONS (Cont.)

### 2. Operating Instructions

#### 2.1 To start

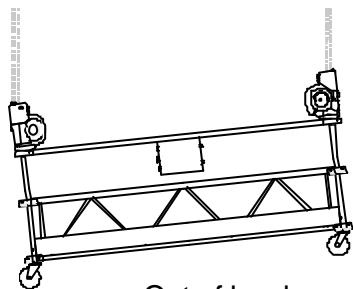
- a. Check if the emergency stop (1) is pushed down.  
Turn the knob in the direction indicated by the arrow on the knob to release the emergency stop.
- b. Turn the contact switch (5) to switch the main contactor on. Release the switch.  
The contact switch returns to initial position.
- c. Turn the selector switch (4) in the required position to operate both hoists.
- d. The platform can now be driven up or down using the operating buttons (2).

#### 2.2 Overload condition

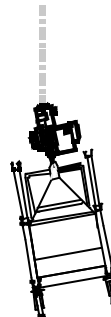
- a. The overload switch (8) opens the main-contactor.  
The red light (3) indicates an overload on the platform.
- b. Remove excessive weight.
- c. Turn contact switch (5) to switch the main-contactor back on.

#### 2.3 Out of level condition

- a. The mercury switch (7) opens the main-contactor.
- b. Level the platform by releasing the brake of the hoist in the highest position.
- c. Turn the contact switch (5) to switch the main-contactor back on.



Out of level condition



Tilt condition

Reference: 38380-01 / 38700-E	Issue date: 99-08-24	Revision	Page: 6 of 8
----------------------------------	----------------------	----------	--------------

## OPERATING INSTRUCTIONS (Cont.)

### 2. Operating Instructions (cont.)

#### 2.4. Tilt condition

- a. When an obstacle is hit while moving in downward direction, the mercury switch (6) stops both hoists from going down.
- b. Operate the platform in the upward direction to clear the obstacle.

#### 2.5 Phase Protection Relay (only for 3 phase hoists)

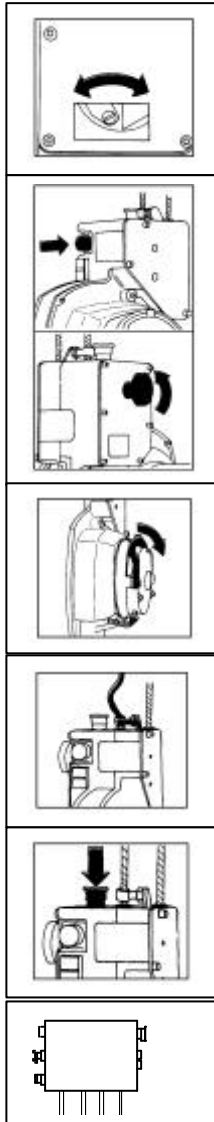
- a. The control box of a 3 phase system has a phase protection relay. The main contactor can only be switched on if the three phases (L1, L2, L3) are connected in the correct sequence. The neutral and earth wires have to be correctly connected.
- b. If the platform will not operate with the power supply connected, change over a pair of phases on the **incoming supply only**.

Reference: 38380-01 / 38700-E	Issue date: 99-08-24	Revision	Page: 7 of 8
----------------------------------	----------------------	----------	--------------



## DAILY CHECKLIST AND ROUTINE TESTS

Check before using the Astro hoist.



### 1. OVERSPEED GOVERNOR

Check flywheel rotation through the inspection window by powering the ASTRO up and down about 1 m.

### 2. OVERSPEED SAFETY DEVICE MANUAL TRIP BUTTON

Raise the platform about 1 m. Power hoist down and press the button. Downward travel is electrically cut-off. Release the main brake to ensure that the safety device is activated and preventing further downward movement.

To reset, power hoist up about 10 cm and turn reset knob anti-clockwise to reset. Normal operation is restored.

### 3. 'NO POWER' EMERGENCY DESCENT

Power the ASTRO up about 1 m. Disconnect the power supply. Operate the 'No Power' emergency descent lever in the direction shown. The ASTRO descends at controlled speed.

### 4. SLACK ROPE SAFETY DEVICE

Lower platform to the ground. Slacken the suspension rope. Pull up on the safety rope to make sure the safety device is gripping the rope.

### 5. TOP LIMIT SWITCH

Run the ASTRO in up direction and operate the top limit switch. The ASTRO stops and can only be powered downwards, while the limit switch knob is depressed.

### 6. EMERGENCY STOP

Move the platform about 1 m. While moving press the emergency stop. The platform will stop immediately and can not be driven up or down.

To reset twist the knob in the direction of the arrow on the top of the knob.

**DO NOT USE EQUIPMENT THAT IS NOT OPERATING PROPERLY!**

## SERVICE AND MAINTENANCE

In addition to the three monthly inspection the ASTRO hoist must be serviced by authorised persons every year, or every 50 working hours, whichever comes first.

Reference: 38380-01 / 38700-E	Issue date: 99-08-24	Revision	Page: 8 of 8
----------------------------------	----------------------	----------	--------------