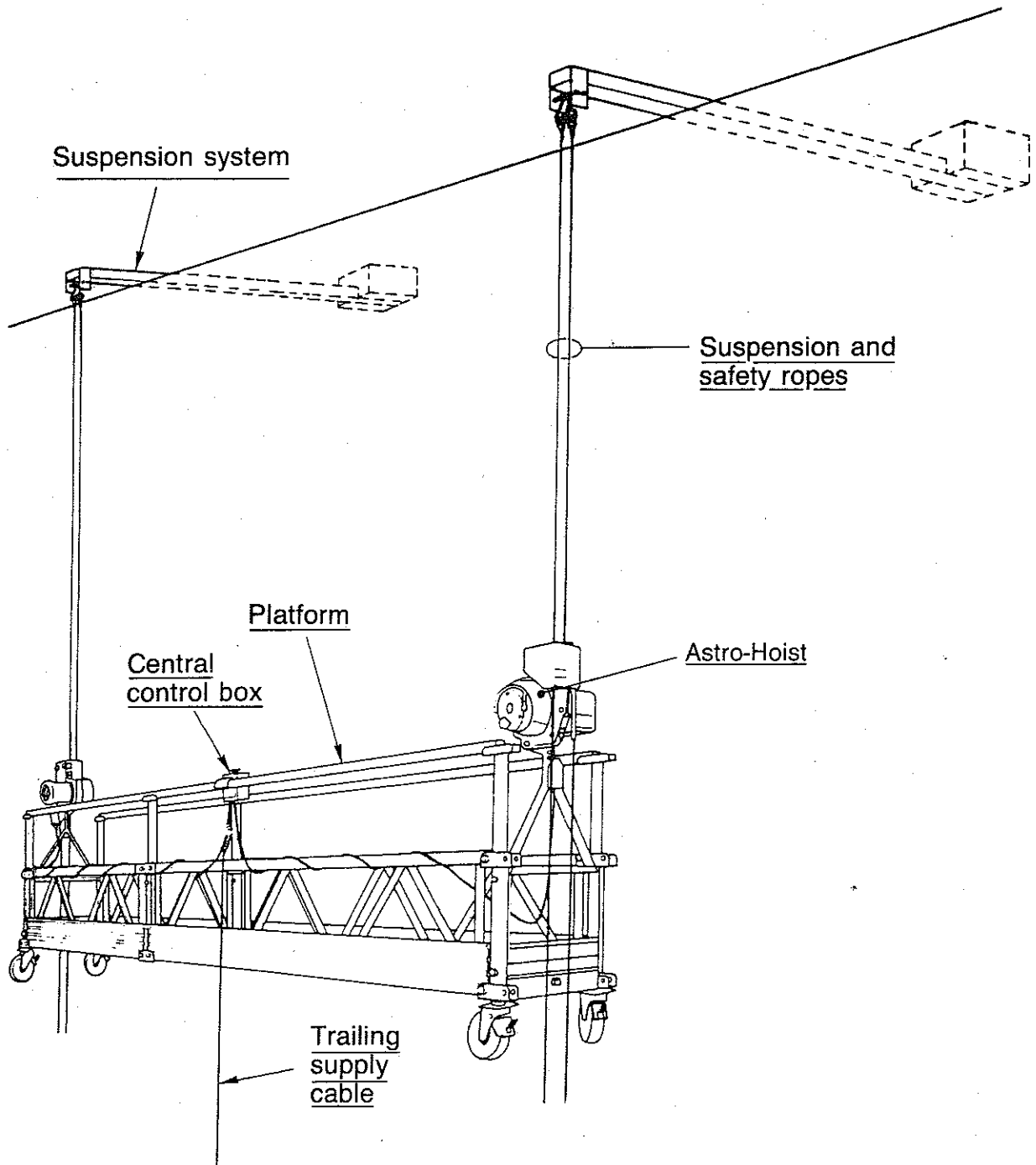


## OPERATING INSTRUCTIONS

### SUSPENDED PLATFORM SYSTEMS

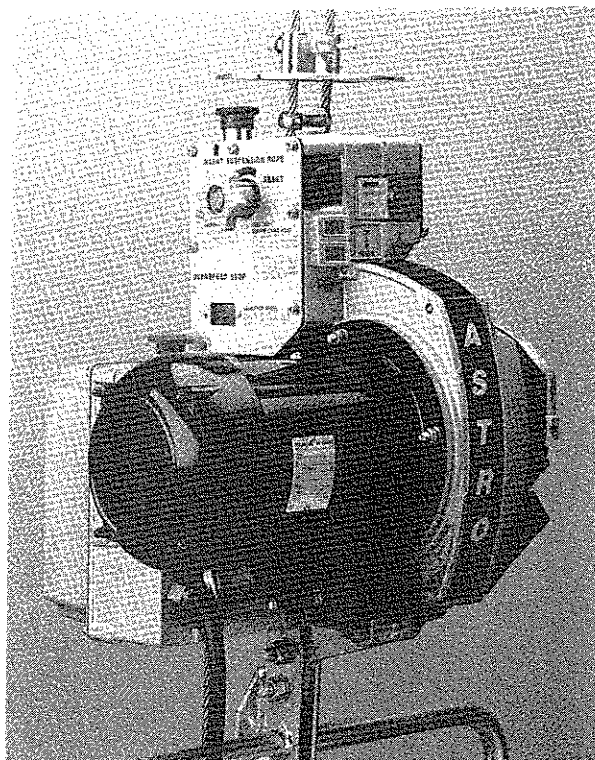
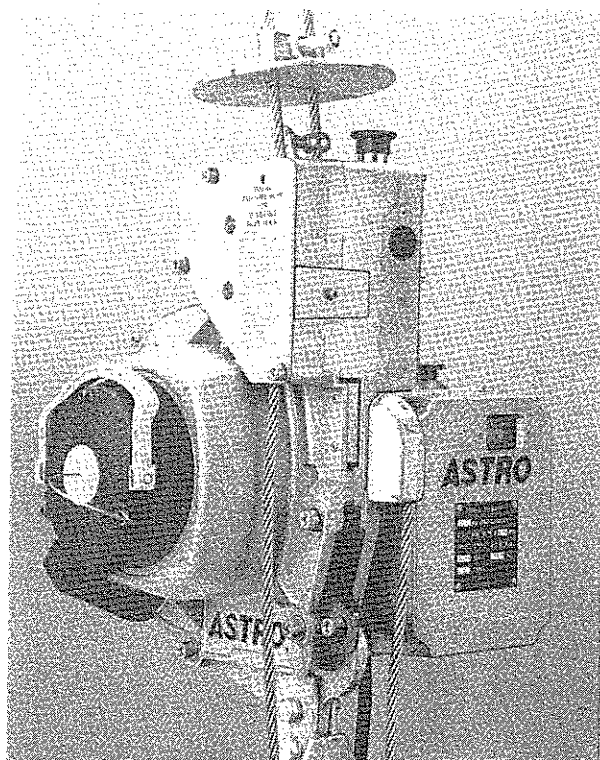


All persons operating this equipment must read and completely understand this manual.  
Any operation in violation of these instructions is at the operator's own risk  
Keep this manual with the Hoist at all times.

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Antwerpen - Belgium

## THE ELECTRIC ASTRO HOIST



ASTRO MODEL No.	MOTOR DETAILS	CLIMBING SPEED m/min.	GROSS CAPACITY kg.	SELF WEIGHT kg	RUNNING CURRENT Amps	STARTING CURRENT Amps	
E86-50	220/240 Volt/50 Hz, single phase 1,35 HP.	8,5	600	52	6,5	30	
E86-60	208/230 Volt/60 Hz, single phase 1,5 HP.	10	680	52	6,4	29	
E89-50	380/415 Volt/50 Hz, three phase 1,5 HP.	8,5	800	52	4,3	22	
E89-60	208/230 Volt/60 Hz, three phase 1,5 HP.	10	680	52	3,7	19	
E91-50	Dual 110/220 Volt/50 Hz single phase 1,2 HP.	110 V	8,5	450	56	14	57
		220 V				7	32

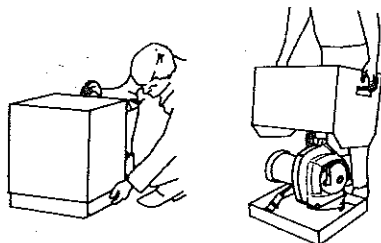
The ASTRO is self reeving and can be used with rope diameters from 8 mm upto 10 mm.

Standard built in features include:

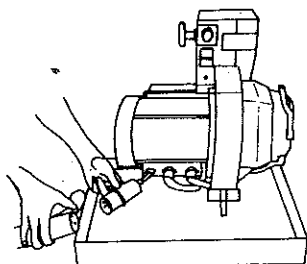
- \* overspeed safety device on suspension rope incorporating electric interlock,
- \* slack rope safety device on secondary safety rope,
- \* 'no power' emergency descent control,
- \* 'top limit' switch,
- \* 'all power off' emergency stop button,
- \* 'up' & 'down' hold to run push buttons on hoist,
- \* 'power on' indicator light,
- \* hour meter.

Each hoist supplied complete with steel shipping/carrying case, striker plate, two stirrup bolts & nuts and operating instructions.

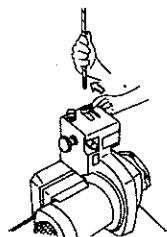
## REEVE ASTRO HOISTS AND BOLT TO STIRRUP



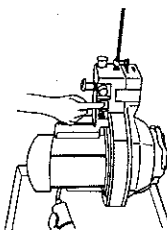
(1) Place one Astro on the ground at each end of the platform next to the stirrup and remove boxcover.



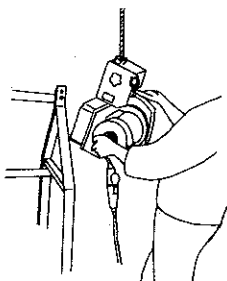
(2) Check that the motor voltage matches the supply voltage. If using dual 110/220 Volt Astros check setting of voltage change-over switch located on underside of electro-box. Connect trailing supply cable to hoist.



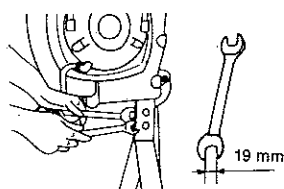
(3) Turn overspeed safety device reset knob anti-clockwise to make sure safety device is reset. Feed bullet end of suspension rope through eye on slack rope safety device operating lever and feed into the top of the hoist until resistance is felt.



Push the 'UP' button and the rope will feed automatically through the Astro. Stop when the rope appears at the departure roller.



(4) Unbolt the Astro from the box base and power in the 'UP' direction until the stirrup bar holes line up with the holes in the stirrup.



(5) Using the bolts provided bolt the Astro to the stirrup in the correct vertical position with the rope departure roller outside the platform.

(6) After mounting the Astro hoists unplug the trailing supply cable.

## **FIT YOKE OR CENTRAL CONTROL BOX**

To fit yoke start from centre of platform with short lead hanging and wind leads to hoists around upper rear guard rail.

To fit central control box, hang box on upper rear guard rail at centre of platform and wind leads to hoists around guard rail.

## **CONNECT TRAILING SUPPLY CABLE**

The trailing supply cable must be connected to a suitable electric supply. If the supply cable has to be wired into a distribution board, box or transformer, this must be done by a qualified electrician.

Always check that the supply voltage matches the Astro motor voltage.

It is important to check that the electrical supply is of sufficient capacity for the hoists being used and that the trailing cable is suitably sized for the voltage and length of supply cable.

Low voltage at source, or a large voltage drop at the supply or through the trailing supply cable when the Astro is started under load, will cause operation problems.

## **CONNECT POWER SUPPLY TO ASTRO'S**

Plug trailing cable to yoke or central control box and fasten sock type cable restraint around guard rail so that the weight of the trailing supply cable is not taken on the plug and socket.

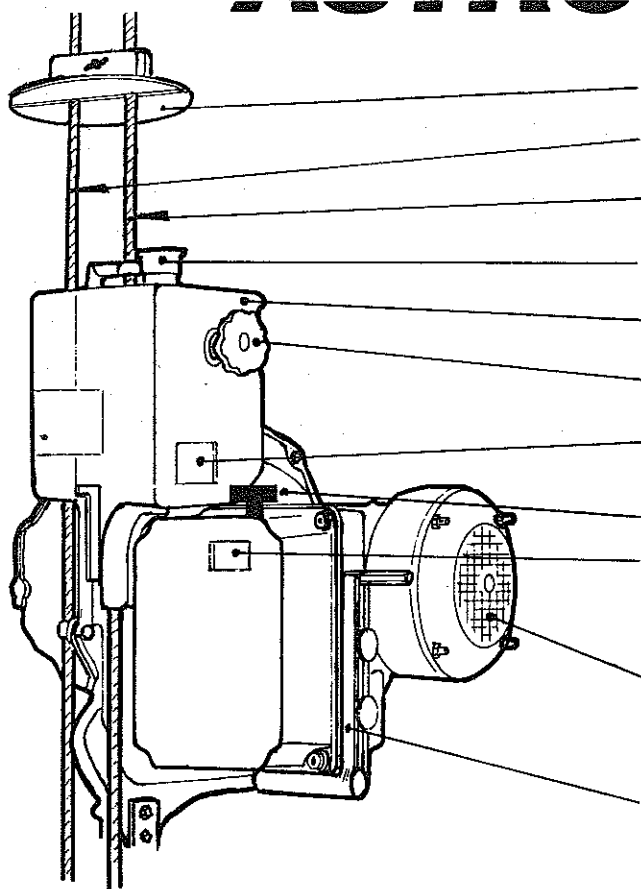
Connect yoke or central control box plugs to Astro's.

## ASTRO

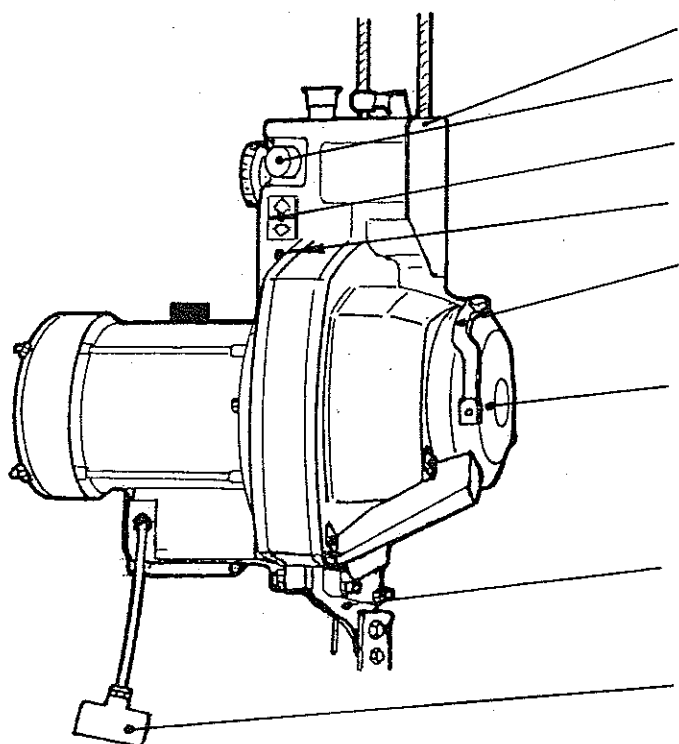
SINGLE PHASE 220 VOLT - SERIE E 86

THREE PHASE 380 VOLT - SERIE E 89

DUAL VOLTAGE 110/220 VOLT - SERIE E 90



- Top limit switch striker plate
- Safety rope
- Suspension rope
- Top limit switch
- Overspeed safety device
- Reset knob for overspeed device
- Overspeed governor inspection window
- Emergency stop button
- Hour meter
- Electric motor
- Manual handle (optional)



- Slack rope safety device
- Overspeed safety device manual trip button
- Up/down push buttons
- Power on light
- 'No power' emergency descent lever
- Electro-magnetic brake
- Stirrup bar
- Power supply plug or power and remote control plug

## ASTRO POWERED PLATFORMS

### RIGGING PROCEDURE AND CHECK LIST

- Install top suspension system
- Rig suspension ropes
- Assemble platform
- Fit yoke or central control box
- Connect trailing supply cable to power supply
- Reeve and mount Astro hoists
- Connect power supply to hoists
- Rig safety ropes
- Reeve safety ropes
- Load test platform
- Carry out routine tests
- If rope clamps are used - retighten
- Platform hand over

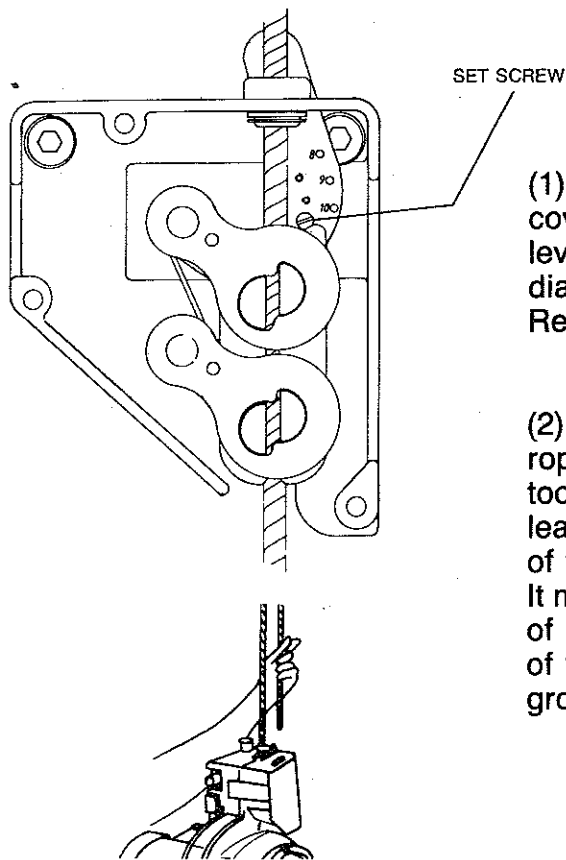
#### Notes

These instructions are intended as a guide only and platform installation must always be supervised by a trained person.  
Local safety regulations and codes must be understood and followed.

## RIG THE SAFETY ROPES

Follow the same procedure used for rigging the suspension ropes.

## REEVE SAFETY ROPES



(1) Remove slack rope safety device cover and check that set screw in lever arm is in correct position for diameter of safety rope being used. Replace cover.

(2) Feed safety rope through slack rope safety device jaws. If ropes are too long coil and tie with string leaving coil suspended just clear of the ground.

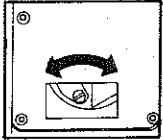
It may be necessary to attach a weight of not more than 10 kg to the bottom of the safety ropes, just clear of the ground, to keep them taut.

## LOAD TEST PLATFORM

Load the platform with weights equal to the total suspended load + 25% and lift about 30 cm off the ground.

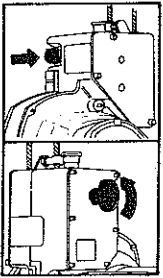
Run the platform in the up direction a couple of metres to make sure that the Astro's will start under load, lower the platform to the ground and remove the test load.

## ROUTINE TESTS



### (1) OVERSPEED GOVERNOR

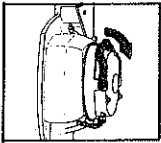
Check flywheel rotation through window when Astro is being powered up and down.



### (2) OVERSPEED SAFETY DEVICE MANUAL TRIP BUTTON

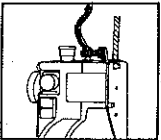
Power the Astro in the down direction and push the trip button. This cuts the electrical supply in the down direction and trips the overspeed brake. The Astro will stop. To check that the overspeed brake has operated open the electro-magnetic brake manually - there should be no further downward movement of the platform.

**TO RESET** - power the Astro up about 10 cm and turn the reset knob in the anti-clockwise direction, this will reset the safety device and restore power.



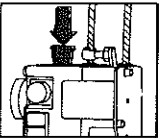
### (3) "NO POWER" EMERGENCY DESCENT

With the power supply disconnected open the electro-magnetic brake manually. The platform will descend at a controlled speed.



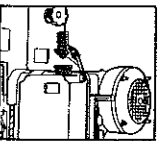
### (4) SLACK ROPE SAFETY DEVICE

Lower the platform to the ground and allow some slack in the suspension-rope - try to pull the safety rope out of the top of the hoist to check that the safety device has locked.



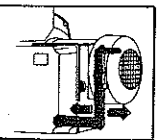
### (5) TOP LIMIT SWITCH

With the platform travelling up push the top limit switch knob down. The Astro will stop.



### (6) EMERGENCY STOP BUTTON

When the emergency switch is pushed down, the power supply to the motor is cut-off. The hoist will not go up or down.



### (7) CRANK HANDLE (OPTION)

Remove the crank handle. The Astro will not operate up or down until the handle is correctly refitted.

Now that the platform has been load tested and all safety features checked drive the platform to the top and fit top limit switch striker plates.

**IF ROPE CLAMPS ARE USED — RETIGHTEN NOW.**

## PLATFORM HAND OVER

INSTRUCT THE USERS IN THE OPERATION OF THE PLATFORM, THE USE OF THE OVERSPEED SAFETY DEVICE MANUAL TRIP BUTTON AND OVERSPEED BRAKE RESET KNOB, THE TOP LIMIT SWITCH AND 'NO POWER' DESCENT SYSTEM AND ALSO THE USE OF THE CRANK HANDLE (IF FITTED) AND ONLY WHEN YOU ARE SATISFIED THAT THEY FULLY UNDERSTAND ALL THE OPERATING AND SAFETY FEATURES, HAND THE PLATFORM OVER.



## SUSPENSION ROPES — GENERAL INFORMATION

The standard Astro hoist can be used with steel wire ropes from 8 mm to 10 mm in diameter. The rope size and minimum breaking load must be selected to meet or exceed the factor of safety required by the local safety regulations.

If there are no specific regulations a factor of safety of not less than 10 to 1 should be used.

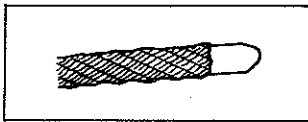
**The recommended construction of rope for use with the Astro is :**  
5 x 26 Compacted Warrington Seale construction with High Density Polypropylene Core, right hand cross lay, lightly pre-formed, galvanised. Diameters 8.4 mm and 9.5 mm. Tensile strength from 1960N to 2160N depending on the required minimum breaking load.

### DO NOT LUBRICATE GALVANISED STEEL WIRE ROPES.

Factory supplied ropes are fitted with a 1.600 kg s.w.l. safety hook, thimble and talurit clamp at the top end.

Alternatives such as thimble, rope clamps and shackle can be used **BUT THE TIGHTNESS OF ROPE CLAMPS MUST BE CHECKED ON A REGULAR BASIS WHEN USED.**

For reeving purposes, the lower end of the rope should be brazed to form a 'bullet' end with a maximum length of 10 mm. If the rope has an independent wire rope core it must be cut back and not brazed into the bullet end.



Round braided "BULLET" end without loose or broken wires.

### RIGGING THE SUSPENSION ROPES

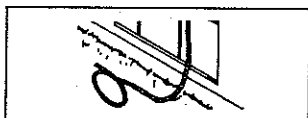
Uncoil the rope from the top anchorage position and lower it hand over hand, using gloves.

Do not put twists in the rope by paying out the rope from the end of the coil.

Do not allow the rope to rub on a sharp edge such as a parapet.

While lowering the rope visually inspect for kinks, birdcages and broken wires.

Allow at least one metre of rope on the ground for reeving purposes. Attach ropes to top anchorage with safety hook or shackle.



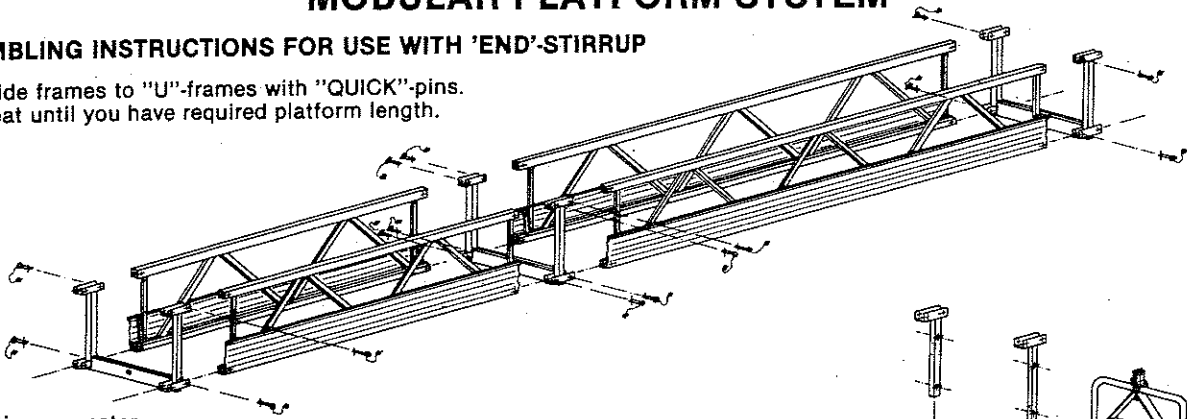
Ensure there is sufficient wire.  
Loop and clamp surplus wire after reeving.

**DO NOT USE KINKED, BIRDCAGED OR DAMAGED STEEL WIRE ROPES**

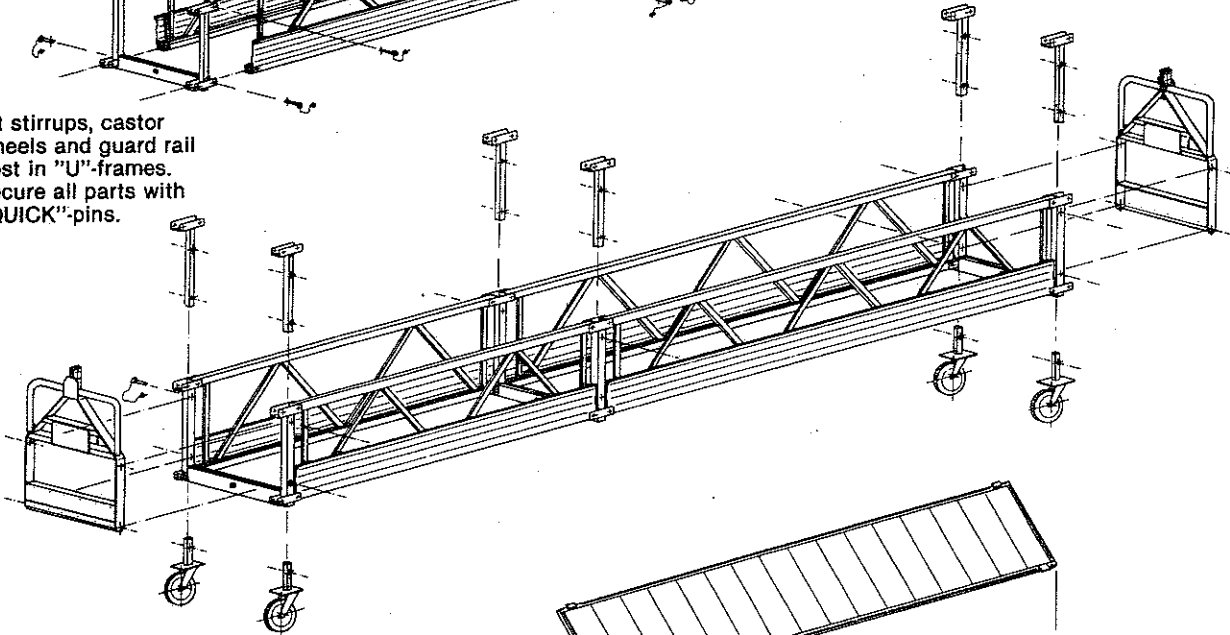
## MODULAR PLATFORM SYSTEM

### ASSEMBLING INSTRUCTIONS FOR USE WITH 'END'-STIRRUP

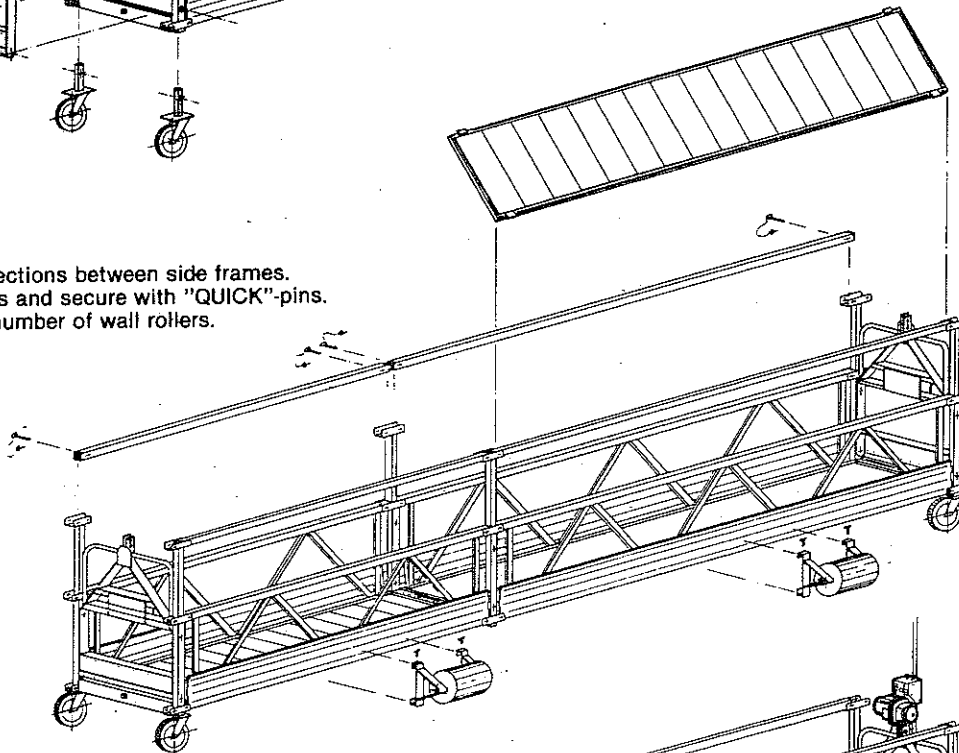
1. Fit side frames to "U"-frames with "QUICK"-pins.  
Repeat until you have required platform length.



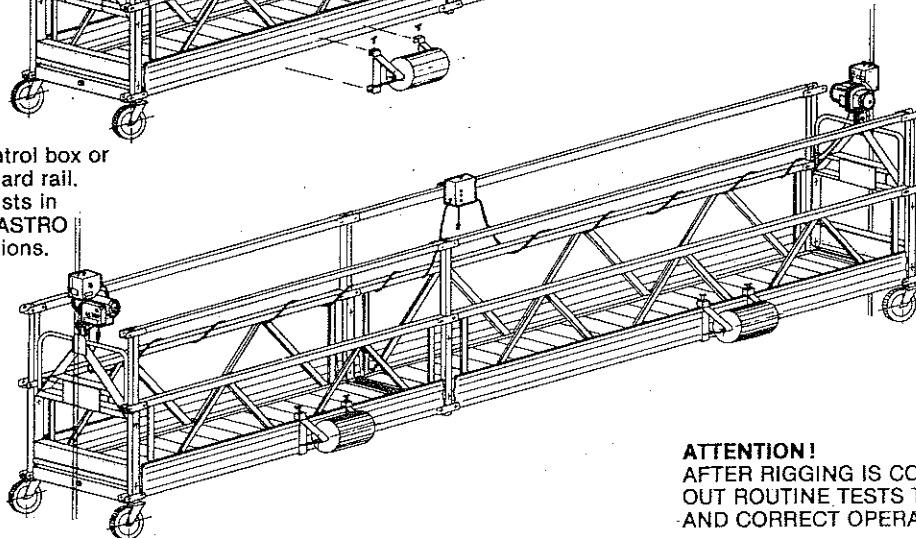
2. Fit stirrups, castor wheels and guard rail post in "U"-frames.  
Secure all parts with "QUICK"-pins.



3. Place deck sections between side frames.  
Fit guard rails and secure with "QUICK"-pins.  
Fit required number of wall rollers.



4. Install central control box or power yoke on guard rail.  
Install ASTRO hoists in accordance with ASTRO operating instructions.



**ATTENTION!**  
AFTER RIGGING IS COMPLETED CARRY  
OUT ROUTINE TESTS TO ENSURE SAFE  
AND CORRECT OPERATION!

## ASTRO HOIST SAFETY APPROVALS



GERMANY

Nr. 85032  
12-04-85



AB Statens Anläggningsprovning

SWEDEN

Nr. 714139  
22-04-85



Arbejdstilsynet

DENMARK

Nr. D 583  
07.05.85



LIFTINSTITUUT

THE NETHERLANDS

Nr. 815421  
14-01-86



Schweizerische Unfallversicherungsanstalt  
Caisse nationale suisse d'assurance en cas d'accidents  
istituto nazionale svizzero di assicurazione contro gli infortuni

SUVA

SWITZERLAND

Nr. 2358  
18-06-85



FRANCE

Nr. RA A05701  
13-02-85



BELGIUM



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Nr. SA 5062  
23-07-85



CANADA

Nr. LR 34682-5  
27-09-85



Direktoratet for arbeidstilsynet

NORWAY

Nr. 6507/85 GF  
461.361  
29-11-85



TECHNISCHER ÜBERWACHUNGS-VEREIN WIEN

AUSTRIA

Nr. 18584  
09-12-86



DEPARTMENT OF LABOUR

AUSTRALIA

# PowerClimber

## DAILY CHECKLIST

To be carried out by persons familiar with the equipment.

1. INSPECT THE ASTRO FOR VISIBLE DAMAGE AND LOOSE PARTS !
2. CHECK THAT THE ASTRO IS SECURELY ATTACHED TO THE STIRRUP !
3. INSPECT SUPPLY CABLE AND YOKE !
4. RUN THE PLATFORM UP AND DOWN NEAR THE GROUND !
5. WATCH ROTATION OF OVERSPEED GOVERNOR !
6. TRY OVERSPEED SAFETY DEVICE MANUAL TRIP BUTTON !
7. TRY 'NO POWER' EMERGENCY DESCENT !
8. TRY SLACK ROPE DEVICE !
9. TRY TOP LIMIT SWITCH !
10. TRY CRANK HANDLE INTERLOCK ! (option)

## REMEMBER TO CHECK:

- TOP ANCHORAGE SYSTEM AND TIE BACK !
- STEEL WIRE ROPE AND FITTINGS !
- PLATFORM, WORKCAGE OR BOSUN CHAIR !
- PERSONAL SAFETY EQUIPMENT, and use it !

**ALWAYS** OBSERVE NATIONAL AND LOCAL SAFETY REGULATIONS !

**ALWAYS** OPERATE THE PLATFORM IN A LEVEL POSITION !

**ALWAYS** EXERCISE CAUTION REGARDING GROUNDING, ARCING AND INSULATION  
WHENEVER WELDING OR USING ELECTRICAL EQUIPMENT !

**NEVER** ATTEMPT REPAIRS ON THE HOIST UNLESS QUALIFIED AND  
AUTHORIZED TO DO SO AND DO NOT ALTER, REMOVE OR SUBSTITUTE  
HOIST PARTS !

**NEVER** ASSUME THAT A PREVIOUSLY RIGGED JOB IS STILL SAFELY RIGGED !

**NEVER** USE KINKED, BIRDCAGED, UNDERSIZE OR DAMAGED WIRE ROPE !

# PowerClimber

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