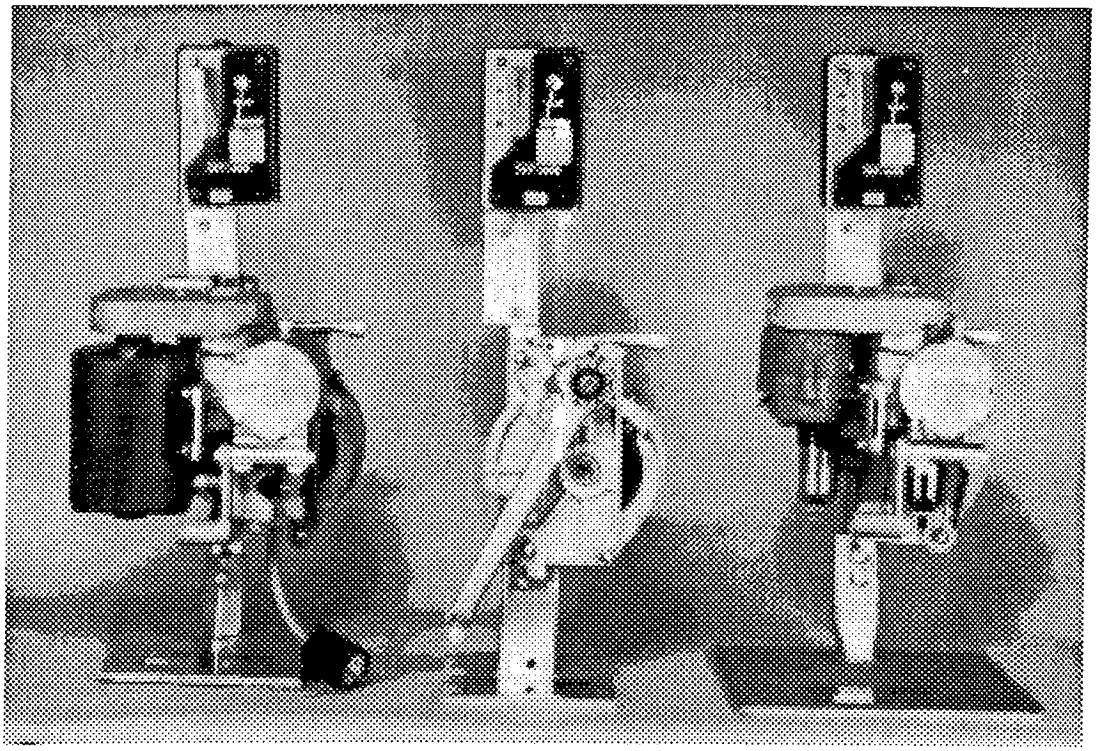
# SKY CLIMBER®

TOTAL ACCESS SOLUTIONS • EXCELLENCE IN RELATIONSHIPS

# OPERATOR'S INSTRUCTION MANUAL
# MODEL 4 HOIST



## TO EMPLOYER AND/OR RENTAL AGENCY

It is imperative that this Manual be given to the Operator of Sky Climber equipment and that they read, fully understand, and follow all instructions contained herein.

**WARNING:**

Any use of this equipment other than in strict accordance with these instructions shall be at the Operator's risk and may result in serious injury to themselves or others.

**REMEMBER SAFETY IS THE RESPONSIBILITY OF BOTH YOU AND THE OPERATOR.**

Welcome to the ever growing group of Sky Climber Hoist Operators. This Manual will guide you through the features and operation of your Sky Climber Hoist and Sky Lock Secondary Overspeed Brake.

Sky Climber Hoists and Sky Lock Brakes are an integral part of a total Suspended Platform System made up of Rigging, Wire Rope, a Power Supply, the Platform, Fall Arrest/Safety Equipment and Accessories. Understanding the complete system, as well as Hoist operation, will help you in the safe use of a Suspended Platform.

This information is a *guide only* and is not a complete list of safety rules, installation or operations instructions.

Sky Climber Hoists, Sky Locks and Accessories are designed and manufactured to the highest standards in the industry. It is impossible, however, for Sky Climber, Inc. to know, evaluate and advise on every conceivable way our products are used or serviced and of all possible hazardous consequences.

Therefore all operators must satisfy themselves that the procedure they use will not jeopardize their safety, the safety of others or cause product or component damage.

Sky Climber, Inc. reserves the right to continually improve its products. Every effort has been made to make this Manual as accurate as possible at time of publication, however, there may be product changes which are not detailed in this Manual.

If you have any questions or would like to know more about training in the use of Sky Climber equipment, contact your Sky Climber Representative.

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# SKY CLIMBER MODEL 4 HOIST
## Electric, Air and Manual

## SPECIFICATIONS

| MODEL | RATED CAPACITY* | ASCENT SPEED | DESCENT SPEED | WEIGHT (with Sky Lock) |
|---|---|---|---|---|
| ME4 Electric 110/220V | 750 lbs. | 20 ft./min. | 20 ft./min. | 95 lbs. |
| | 1000 lbs. | 15 ft./min. | 15 ft./min. | 95 lbs. |
| MA4 Air | 750 lbs. | 30 ft./min. | 30 ft./min. | 80 lbs. |
| | 1000 lbs. | 20 fit./min. | 20 ft./min. | 80 lbs. |
| M4 Manual | 500 lb.s | 12 ft./min. | 12 ft./min. | 45 lbs. |

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| | ELECTRIC | AIR | MANUAL |
|---|---|---|---|
| Wire Rope dia. | 5/16 in. | 5/16 in. | 5/16 in. |
| Dimensions | 15 in. H | 15 in. H | 12 3/4 in. H |
| | 14 1/2 in. W | 14 1/2 in. W | 10 in. W |
| | 14 in. L | 12 3/4 in. L | 7 in. L |
| RPM | 1725 | 2200 | 40 |

Detachable Sky Lock Type III Secondary Brake

Emergency Descent

Meets or Exceeds OSHA requirements. U.L. Classified, CSA and MEA approved.

* Maximum Rated Capacity (MRC) is total load supported by Hoist. It includes the combined weights of the stirrup, platform, work cage, bosun chair, personnel, work tools/materials, operating accessories, power cord and wire rope. It does not include the weight of the hoist.

# CHARACTERISTICS & OPERATIONS

## HOIST (Mechanical Section)

*Do not disable Operate Lever. To do so eliminates cam lock function and allows erratic primary brake operation.*

Wire rope is reeved through the mechanical hoist. Drum rotation causes ascent and descent.

### Operating Lever:

*Raise* operating lever to release cam lock from wire rope and to:

- Manual: Raise parking pawl from main gear to travel downward.
- Electrical: Engage operating lever to supply power to motor and primary brake release solenoid.
- Air: Engage pilot valve to supply power to motor and primary brake release piston.

*Lower* operating lever to engage cam lock on the wire rope and to:

- Manual: Engage parking pawl in main gear.
- Electrical: Remove motor and solenoid power to allow primary brake to engage.
- Air: Remove motor and piston power to allow primary brake to engage.

**Parking Pawl:** Manual operation only. Engages main gear to stop descent.

**Load Brake:** Primary brake for manual operation. Acts as overspeed brake in powered operation.

**Emergency Descent:** If power is lost, crank hoist down as follows:

- Disconnect power to Hoist
- Remove Emergency Crank from clip on gearbox.
- Remove dust cover from belt cover.
- Insert crank through cover opening and into pulley.
- Raise Operating Lever. Push Brake Release Plunger in to disengage primary brake.
- Turn crank *counterclockwise* to descend.

**Change Speed:** To change speed on powered hoist, reverse pulleys under belt cover.

- Low Speed: Small pulley on motor; large pulley on gearbox.
- High Speed: Large pulley on motor; small pulley on gearbox.

## SKY LOCK SECONDARY BRAKE

*A Sky Lock Secondary Overspeed Brake safety device must be used at all times with each Sky Climber Hoist.* ***Failure to do so is in violation of OSHA and may result in serious injury or death.***

The Sky Lock senses the speed of the wire rope traveling through it. If there is sudden acceleration due to a falling condition or if the factory preset trip speed is exceeded, the Sky Lock jaws clamp onto the wire rope, arrest any descent and support the descending load. The wire rope releases only ***AFTER*** the Sky Lock Brake load is relieved.

**Sky Lock Manual Trip Lever:** Turn lever counterclockwise to clamp the Sky Lock jaws onto the wire rope.

**Sky Lock Reset Lever:** First use Hoist Direction Selector "UP" to move Hoist in up direction 1 inch to relieve load from Sky Lock Jaws. Turn Sky Lock Reset Lever ***CLOCKWISE*** to reset. *If you don't go up before resetting, the Sky Lock jaws will not open and the Sky Lock Reset Lever pin will shear. This will render the Sky Lock as useless and require factory authorized repair.*

## ELECTRICAL

*Do Not use an electric hoist in an explosive environment.*

*Secure cord to Platform so cord weight is on Platform and* ***NOT*** *on connection. At end of work shift, disconnect power cord from main outlet. Protect power cords from rain and water at all times. Ground connector of building receptacle must be grounded.*

- For 110 volt source power, use a separate line and cord for each Hoist.
- For source power less that 110 volt, (or for long drops) use a booster transformer for each Hoist.
- For 220 volt applications, use one cord in combination with a yoke to the Hoists.
- Use a yoke off Platform line with two lengths of 10-3 SOW electric cord.
- Normally a 250 ft., 600 volt, 10-3 SOW electric cord must be used.

## AIR

*Secure hose to Platform so weight of hose is not on unit. Install two shut off valves - one at air supply source and one on Platform.*

- Use a yoke off Platform line with two equal length 3/4 in. hoses.
- Hose Inner Diameter (for 100 PSI and 70 CFM / Hoist).

| Hose Inner Diameter | 3/4" | 1" | 1 1/4" |
|---|---|---|---|
| One Unit | 400 ft. | 1000 ft. | 1000+ |
| Two Units - Yoked | 100 ft. | 300 ft. | 1000+ |

### Filtering and Lubrication

*Do not connect to air systems which use synthetic fire-resistant lubricants, especially phosphate ester types, in the air compressor,*

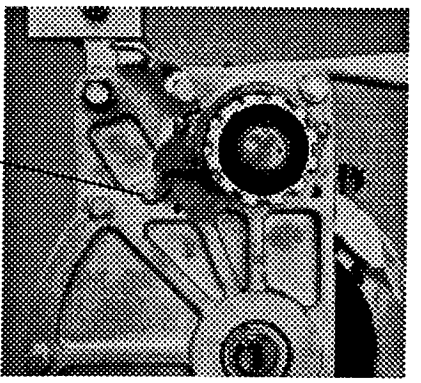
- An air filter and a lubricator are mounted in the input line ahead of the motor. Clean filter elements periodically.
- To service lubricator, remove oil fill plug, fill to visible rim of bowl with SAE No. 10 petroleum based hydraulic or spindle oil. Do not use oils with adhesive or tacky additives. Replace plug.
- Adjust oil flow to about 6 drops per minute. Turn slotted screw in top of lubricator clockwise for leaner mix or counterclockwise for richer.

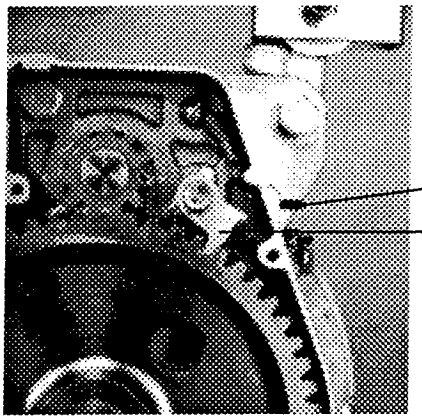
**MODEL 4 MANUAL HOIST**
**with SKY LOCK TYPE III**

## OPERATION

### Manual

1. Move load brake lever to position "M".



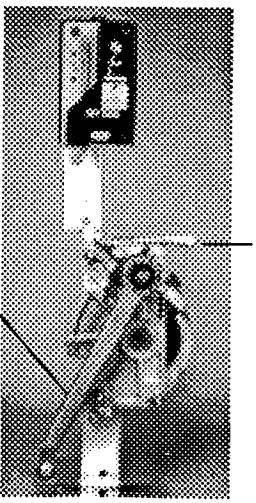


2. Turn set screw in side plate counterclockwise to release parking pawl.

Pawl drops into the main gear.

3. Attach long crank handle onto the load brake spline. Tighten screw.

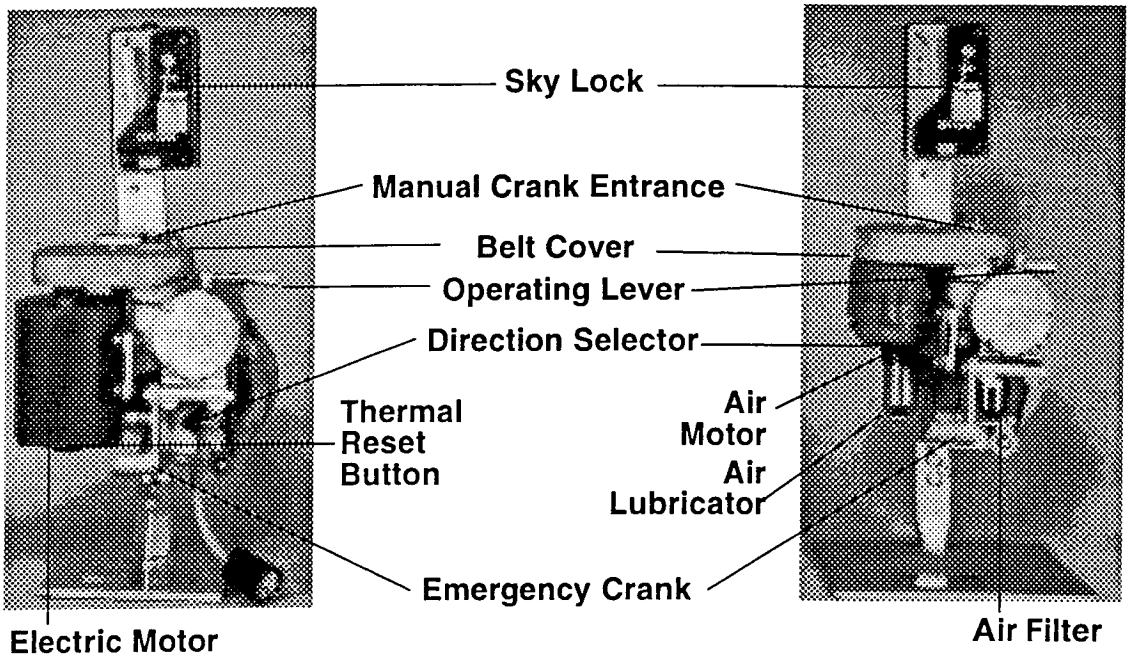
4. To operate: Grasp operating crank handle firmly to take control of load. Raise operating lever. Crank in desired direction. (Clockwise to raise; counterclockwise to lower). Release operating lever to stop.



Operating lever

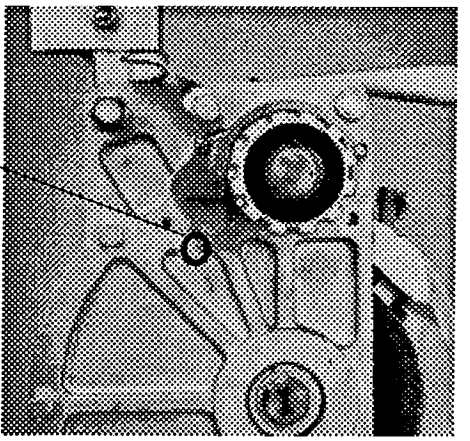
**MODEL 4 ELECTRIC DUAL VOLTAGE HOIST WITH SKY LOCK TYPE III**

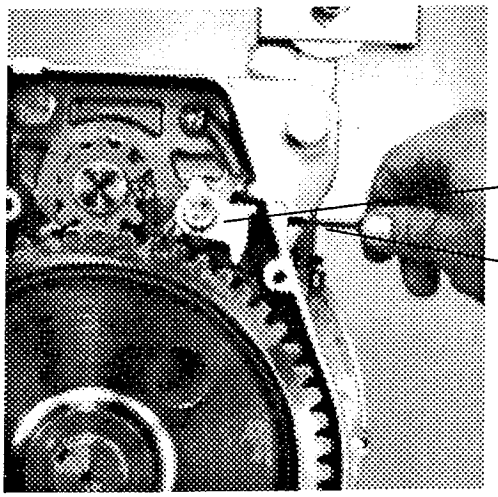
**MODEL 4 AIR HOIST WITH SKY LOCK TYPE III**




## Electric and Air

1. Move load brake lever to position "P".





2. Raise parking pawl.

   Tighten set screw in side plate to lock in upward position.

3. Attach power pack.

4. To operate: Move direction selector to desired travel direction. Raise operating lever. Release operating lever to stop.

***NOTE:*** Electric Only. If motor is set on wrong voltage, change motor voltage as follows:

- Disconnect power source.
- Remove cover on motor end.
- Set to desired voltage
- Replace cover.

⚠ *Improper voltage change may result in personal injury and damage to property.*

# SUSPENDED ACCESS INSTALLATION

## GUIDELINES

*Safety is of utmost importance when installing and using Suspended Platform equipment.*

**This section covers general guidelines. Follow your Manufacturer's Instructions for proper equipment assembly. Follow all applicable Federal, State and Local rules and regulations.**

- Test your System *before* going aloft.
- Continue to check and be sure your system remains safe throughout the entire use on the job.
- Make certain there are no obstructions to the vertical Platform travel.

## TOP SIDE RIGGING

*Rigging is the responsibility of the user. Do not attempt to rig a job unless you are qualified.* ***Failure of rigging will result in serious injury or death.***

- All rigging including cornice hooks, parapet clamps and outrigger beams must be tied back to a structural member with wire rope that is equal, or greater in ultimate strength than suspension line.
- Tie back must be tied tight to a substantial point that supports at least 4 times the rated Hoist load. Tie-back to vent pipes is not acceptable. Tie backs must be straight back and each to a separate anchor point.
- Use parapet clamps and cornice hooks ***only*** on steel reinforced concrete structures. Do not use on nonreinforced brick, concrete block or stone parapets because these may fail.
  - Consult a professional engineer or building owner to verify parapet construction and strength.
- Use 3/4 in. plywood under roof rigging to spread load on roof. If parapet is used for support, use hard wood for load spread.
- Rolling Roof Rig chocks, jacks or similar devices must be securely in place to prevent any lateral movement.

### Counterweighted Rigging

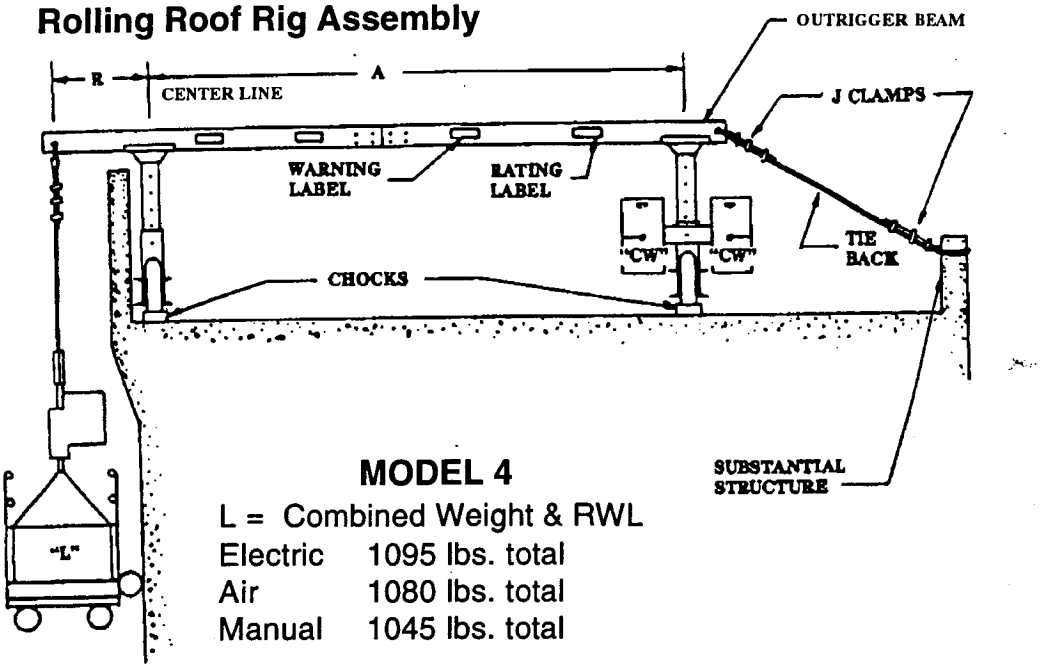
- Outrigger beams require counterweights.
- Counterweights must be secured to the outrigger beam and of a nonflowable material.
- To calculate the needed counterweights, use the following formula:

$$CW = \frac{4 \times R \times L}{A}$$

CW = Counterweight (in lbs.) per outrigger beam.
4 = 4:1 Safety Factor (required by OSHA).
R = Distance from Front Support center line to Hanging Load (in feet).
L = Rated Working Load (RWL) of Hoist plus the Hoist Weight (in lbs.).
A = Overall distance from front support to CW center line (in feet).

# TYPICAL TOP SIDE RIGGING

## Rolling Roof Rig Assembly

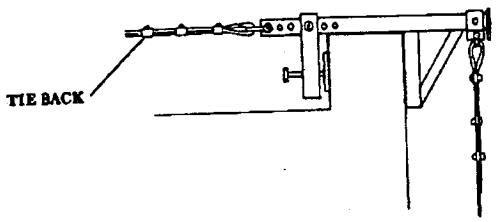


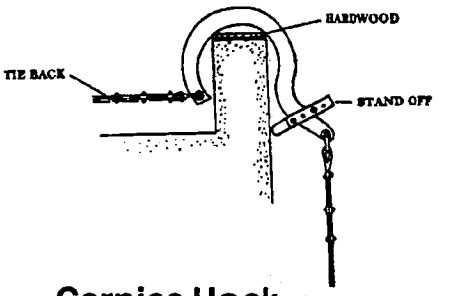

**MODEL 4**

L = Combined Weight & RWL

| | |
|---|---|
| Electric | 1095 lbs. total |
| Air | 1080 lbs. total |
| Manual | 1045 lbs. total |

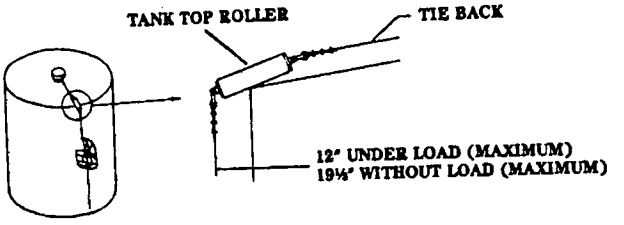
## Non-Counterweighted Rigging

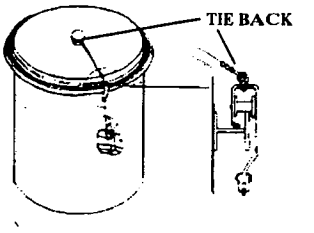



## Parapet Clamp

## Cornice Hook




## Tank Top Roller

## Ring Girder Roller

### Tank Top Roller

- Tank top rollers provide a rigging method for access to petroleum or storage tanks.
- Attach Lifelines to separate tank top roller or equivalent.

### Ring Girder Roller

- Ring Girder Rollers are used where a steel ring girder is located around the storage tank perimeter.
- Attach Lifelines to separate ring girder rollers or equivalent.

## WIRE ROPE

*Wire rope is an expendable item. It begins to wear when it is put into use. Do not use kinked, birdcaged or excessively worn or damaged wire rope. Such use may result in injury or death to yourself or others.*

### Wire Rope Handling and Storage

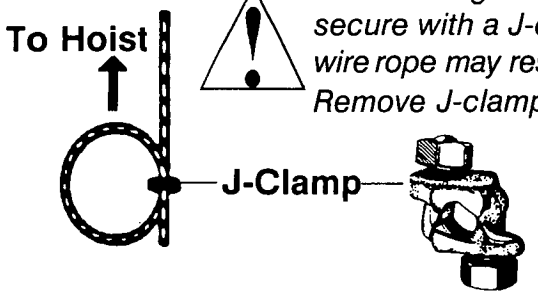
- Always wear gloves to protect hands when working with wire rope.
- Store wire rope in a coil or on a spool. Protect rope from physical abuse, inclement weather and corrosive materials.
- Do not drop wire rope from any heights.
- Uncoil wire rope carefully to avoid kinking or inducing a twist.
  - Do not uncoil by tossing coil over the edge of structure.
- Avoid dragging wire rope in dirt or around objects that could scrape, crush, bend or damage it.
- Galvanized wire rope specified by Sky Climber, Inc. is lubricated at the factory and under normal conditions does not require further lubrication.

### Wire Rope Preparation

- Always use 5/16 in. wire rope of the proper length and construction.
  - 5/16" dia., 6x31, PFC, extra improved plow steel drawn galvanized ***OR***
  - 5/16" dia., 6x19 PFC, improved plow steel, drawn galvanized.
- Braze both ends a maximum 1/2 in. long. Grind the tip to a point.

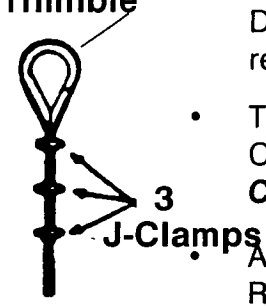
### Wire Rope Rigging

*Always use correct size and type of rope clamps. Wire rope will slip through oversize clamps. Undersize clamps will damage wire rope.*




*After reeving Hoist, loop the wire rope bitter end and secure with a J-clamp. Failure to do so on a too short wire rope may result in personal injury or death. Remove J-clamp before dereeving Hoist.*

- Use only 5/16 in. J-type wire rope clamps with a minimum of three clamps spaced about 4 inches apart.
  DO NOT USE U-type clamps which can crush wires and reduce wire rope strength.




- Torque J-clamps to 30 ft.-lb. at first loading.
  Check for tightness at start of each work shift.
  ***CLAMPS DO LOOSEN WITH USE!***
- After all J clamps are placed, test for 125% Proof Load. Retighten clamps to specifications.
  - Use a 5/16 in. thimble and 5/8 in. screw pin shackle.
  - Use insulated thimbles when welding from Platform.

- Wire rope must support 6:1 safety factor.
  - A properly made 5/16 in. wire rope will have a minimum breaking strength of 8,000 lbs.
- Rig from top of structure. Allow 10 extra feet of wire rope to reeveHoist. Store extra wire rope on roof neatly coiled, tied, and protected from weather ***OR*** coil wire rope under Platform just off ground level to avoid damage andallow wire rope rotation.
- Wire rope must be rigged to remain vertical with suspension points directly above the Hoist entry guide or lead-in device.

**Wire Rope Replacement**

- Replacement rope shall be to Sky Climber's specifications. Use of wire rope obtained from sources other than those specified Sky Climber could result in serious personal injury, property damage and/or equipment breakdown.

### Four Wire System

Four wire systems can be used when it is necessary to protect workers having platforms or canopies overhead and as part of the system. Contact your Sky Climber Representative when Four Wire Systems are needed.

## FALL ARREST EQUIPMENT

*OSHA requires an independent life line for each person going aloft. A safety harness must be worn by each worker and attached by a lanyard and rope grab to an independent life line while worker is on Platform.*

### Life Lines

- Only one person may be attached to a life line.
- The life line must be:
  - Sized for and compatible with the rope grab (eg. 5/8 in. line for a 5/8 in. rope grab).
  - Certified minimum breaking strength of 5,000 lbs.
  - Seized or whipped at the ends.
  - Tied off to a separate attachment point different from the wire rope attachment point capable of supporting 5,000 lbs.
- Life line must not be in contact with rough or sharp edges.
- Life line must extend to the ground or next lower safe surface.

### Rope Grab

*Inspect all parts of the rope grab prior to each use. Perform a documented rope grab inspection at least twice a year.*

- The rope grab should always be mounted on the life line as far above the operator as possible.

### Body Harnesses

*Harnesses must comply with the latest edition of ANSI A10.14*

- Position a body harness D-ring in the center of the back rib cage. Follow the safety equipment manufacturer's instructions.

### Lanyards

*Lanyards must meet or exceed OSHA standards.*

- Lanyards must be 4 feet long or less with double snap locks.
- Minimum tensile strength is 5,000 lbs.

## PLATFORMS

- Follow the Platform load specification.
- Check stirrup bolts daily for soundness and tightness.
- Use toeboards, handrails and midrails on all open sides.
- Acids can destroy aluminum Platforms. Replace Platform immediately if exposed to acids or corrosive materials.
- Operate platform in level position only.
- Work from deck of platform only. Do not stand on guardrails, toeboards, platform/work cage supported objects or lean out from ends of platform. Do not use ladders etc. to get at higher elevations.
- Do not bridge from one platform to another, nor to any structure or other equipment.
- Do not horizontally transfer a work platform while it is suspended in the air. Perform all transfer operations ONLY with the Platform resting on a safe surface.
- Bosun chairs should only carry the operator. Do not hang loads from the seat or attach any device or support to seat or seat back.

# HOIST & SKY LOCK INSTALLATION

## ASSEMBLE SUSPENDED PLATFORM

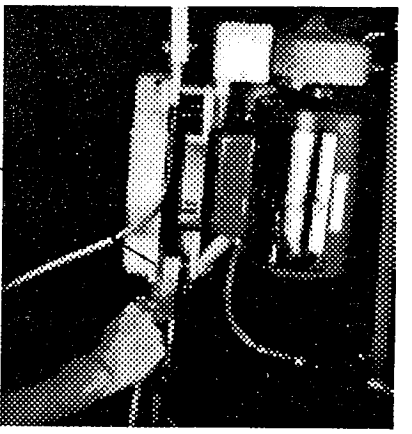
1. If used, install an electric yoke or air yoke on the platform (wrapped around center guardrails) to provide power to each Hoist.
2. Secure source power line(s) to Suspended Platform by strain relief(s) or other load bearing device. Plug the power line into yoke, if used.
3. Allow sufficient power line length to permit free Platform travel without undue strain to the power line and platform.

## INSTALL HOIST

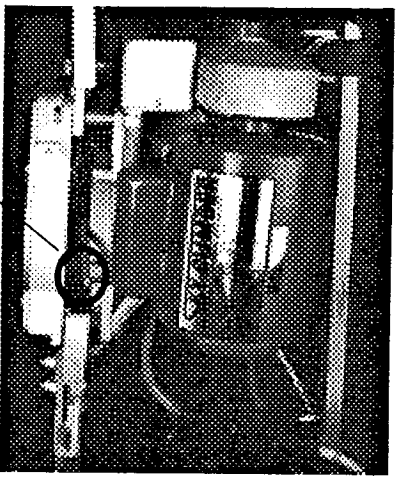
1. **Lift Hoist. Insert Stirrup Strap into Stirrup Recess.**
   - Retain Hoist with retaining bolts and lock nuts provided. Tighten nuts securely.
2. **Assemble Sky Lock brake to Hoist entrance guide.**
   *Coupling Link must provide clearance for straight passage of wire rope.*
   - Set Sky Lock Brake by rotating reset handle.
3. **Thread Wire Rope Through Sky Lock and Hoist.**
   - Maintain hoist and stirrup in vertical position. Front drum shield is open.
   - Hold operating lever against Sky Lock coupling link.
   - Thread prepared rope tip through Sky Lock Brake, coupling link and hoist entrance guide.
   - Pull all excess rope through unit until rope is tight.
     - Release and rotate operate lever to clamp position.

## 4. Reeve Hoist.

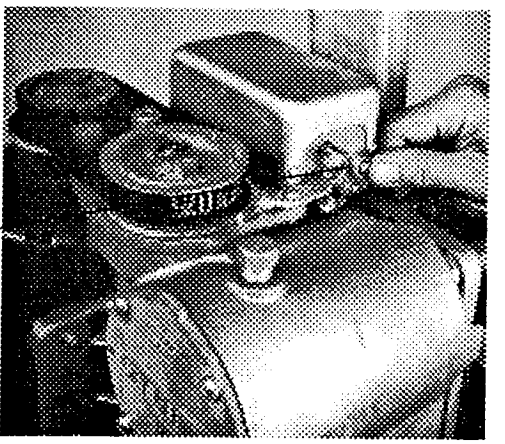
- Open rear drum shield.
- Feed brazed and pointed end of wire rope under drum and through first groove in lower drum shield. Continue around drum and back over top between first and second fairlead guides. Pull rope tight.



- Wrap rope around drum, thru lower guide grooves and between fairlead guides for 3 1/2 turns and wire rope extends at rear.
  - ***NOTE:*** Set motor voltage to source voltage ***BEFORE*** connecting power. Connect power.
  - Face rear of unit. Move direction selector handle to "up" position.
  - Insert wire rope end between No. 4 & No. 5 fairlead guides.

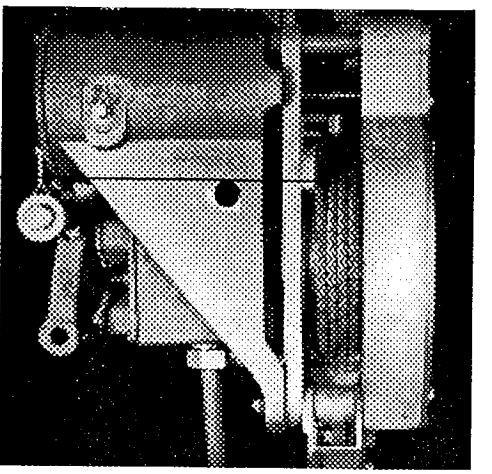


- Maintain pressure on rope end. Manually depress operating switch button to start rope rotating on drum.
- Remove hand. Continue to depress operating switch button until rope protrudes from exit guide and is snug on the drum.



## 5. Examine Reeved Drum.

- Rope must lie cleanly with four complete wraps in the drum grooves Ensure no crossover or missing wraps.
- Close and lock both front and rear shields.



6. **Test Sky Lock.**
   - Remove attaching nut and bolt from lower Sky Lock fitting.
   - Support Sky Lock vertically. Drop Sky Lock down the wire rope. Brake should lock onto rope within 3 inches or less.
   - Slide Sky Lock up wire rope 1 inch.
   - Turn Reset Handle clockwise to reset Sky Lock.
   - Repeat procedure twice. Reattach Sky Lock to the hoist.
   - ***NOTE:*** *Sky Lock must lock onto rope within 3 inches or less. If it does not, Sky Lock MUST be replaced.*

7. **Secure Wire Rope End.**
   - Loop wire rope bitter end and secure with a J-Clamp. Keep wire rope bitter end off ground to keep it clean and allow rotation. Coil excess rope if needed.

8. **Test Hoist Load.**

   *Serious injury or property damage may result from falling objects during Hoist Load Test. Be alert and prepared to quickly move from likely impact zone.*

   - Inspect all rigging/platform connections. Tighten or adjust as needed.
   - Place load equal to weight of workers & tools/materials on one end of Platform. Have co-worker check rigging for slippage/malfunction during test.
   - Select Hoist Direction Selector UP direction to raise Platform ***6 inches*** off surface.
   - Turn Manual Trip Lever *counterclockwise* to set Sky Lock Brake.
   - Select Hoist Direction Selector DOWN direction. ***System should not descend.***
   - Select Hoist Direction Selector UP direction to raise Platform **1 inch** and relieve load from Sky Lock jaws.
   - Turn Sky Lock Reset Handle *clockwise* to reset Sky Lock.
   - Repeat procedure twice.
   - Repeat same Hoist load test procedure at other end of Platform.
   - If Hoist or Sky Lock fails test, return failed unit to Factory Authorized Service Center.

***Do Not Use Any Equipment that has failed testing.***

## WELDING

- Use the following precautions when welding to prevent the possibility of electric shock to personnel and /or the possibly of welding current passing through the wire rope.
- Attach each wire rope to its suspension point with a suitable insulated thimble. Insulate extra rope stored on the roof to prevent grounding, or terminate the suspension rope at the insulated thimble.
- Cover the supporting wire rope with insulating material above and below the Sky Climber® hoist. Use a length of split rubber tube taped in place around the cable as follows:
  a. Extend above the Sky Lock brake for 4 to 5 feet (more if required by local codes).
  b. Extend below the Sky Climber® Hoist, far enough to insulate the tail line from the platform. Guide and/or retain the portion of the tail line below the platform so that it does not become grounded.
- Cover each Sky Climber Hoist, Sky Lock brake and wire winder with protective covers made from insulating material.
- Connect a grounding conductor from the platform to the work piece. The size of this conductor must be equal to or greater than the size of the stinger lead.

**NOTE:** This must be a secondary conductor and must not be in series with the primary conductor between the welder and work piece.

# CHECKLISTS

## DAILY OR BEFORE START OF EACH SHIFT _____

*DO NOT use Sky Climber Hoists, Sky Locks or equipment which is damaged or worn beyond normal tolerances.*

1. Instructions are kept with the unit at all times.
   Additional copies are available. Contact Sky Climber.
2. All Warning / Rating Labels are in place, legible and have been read.
3. Fasteners checked. Oil Level in Lubricator of Air Hoist is adequate.
4. Suspended Platform Hoist is connected to proper power source.
5. Minimum of 3 J-clamps are used and are tight.
6. Cornice hook, parapet clamps or outriggers and similar rigging are secured and tied back. Chocks or similar devices are securely in place.
7. Counterweights are nonflowable type, secure, and right amount.
8. Roof rigging load is spread using 3/4 in. plywood. Hard wood used for Load Spreader with Parapet.
9. Wire rope inspected and is not kinked, bird caged or otherwise damaged.
10. The wire rope bitter end is looped and secured with a J-clamp.
11. Sky Lock and Hoist Load Tests performed and acceptable.

## INSPECTION FREQUENCY AND MAINTENANCE _____

*Failure to comply with Periodic Inspection and Factory Authorized Service Maintenance may result in a malfunction and in serious personal injury, property damage or death.*

### Field Inspection

Inspection must be performed by a designated qualified person or operator.

### Inspection Frequency

Inspect ***ALL*** equipment as follows:

- When system is reeved.
- At start of each work shift.
- At least every four hours in abrasive, caustic or adhesive conditions.
- At least every two hours in freezing conditions.

### Factory Inspection, Maintenance and Testing

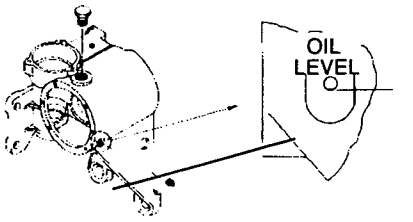
Return Sky Climber Hoists and Sky Lock Brakes to a Factory Authorized Service Center for inspection, maintenance and testing as follows:

- Every 12 months in noncontaminated environments.
- Every 6 months in contaminated or freezing environments.

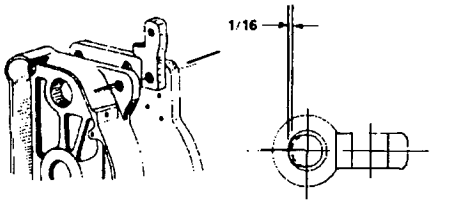
# COMPONENTS INSPECTION

### Visible Hoist Damage
- Inspect all visible hoist parts for damage.

### Oil Level
- With hoist in upright (operating) position, remove lower (small) plug. If oil volume is low (not at plug level), add 80-90 weight, nondetergent oil.

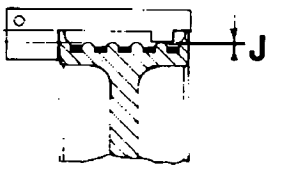



### Entrance Guide
- Inspect Entrance Guide for wear. Replace guide when hole is elongated in any direction by 1/16".



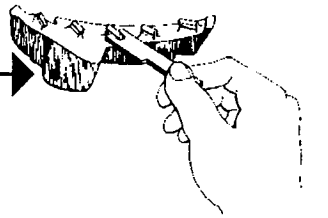

### Drum
- Inspect entire drum surface for land and groove filler (plastic) wear. Replace any filler which shows heavy pitting and/or is missing in any area.

- A drum wear gauge is issued with each unit and is attached to the main gear cover. Check dimension "J" using drum wear gauge. Replace drum if there is any visible space as shown between drum gauge and drum land.

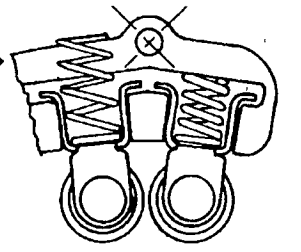



### Drum Shields
- Inspect front and rear drum shields for damage. Shields should be easily opened and closed and be able to be locked securely.

### Fairlead Guides
- Inspect fairlead guides for breakage, wear or chipping on side of fingers. Use fairlead guide gauge to check amount of wear. Replace fairlead guide if gauge slides over any fingers.



### Tension Roller Assembly
- Make sure 5 rollers are in place and not excessively worn, damaged or touching each other.



### Drive Belt
- Remove belt guard and inspect drive belt. Replace when belt shows evidence of serious wear, cracking or partial rupture. Replace belt guard.

### Primary (Wedge) Brake
- Inspect "V" shaped groove in drive pulley for wear. Replace pulley when drift exceeds 4 inches after applying brake.

# FIELD TROUBLESHOOTING

*Mechanical portions of Sky Climber Hoists and Sky Lock must not be repaired in the field. Perform only those repairs for which you are qualified and trained. If a problem condition still exits, contact your Sky Climber Representative.*

| PROBLEM | POSSIBLE CAUSE | CORRECTIVE ACTION |
|---|---|---|
| Hoist goes up, but won't come down | *All Units* Sky Lock Brake tripped | **Overspeed Condition: Get off Platform! Nuisance Tripping: Run System up 1" Reset.** |
| | *Manual* - Load brake misadjusted | Re-adjust brake. CANNOT BE DONE ALOFT. |
| | Pawl spring broken or slipped past dog on pawl. | Replace spring or reposition. |
| | *Electric* - Wedge brake not releasing. | Usually caused by burned out solenoid Replace solenoid. |
| | *Air* - Motor shaft screw loose causing a "Jack Screw" effect. | Open air motor, tighten screw. Use 1 drop of Loctite. CANNOT BE DONE ALOFT. |
| Popping sound comes from Manual Unit | *ALL* - Tension roller loose or misadjusted. | Repair or Replace. CANNOT BE DONE ALOFT. |
| | *Air or Electric*- Load brake ratchet teeth dry. | Put thin film of "Doorease" on teeth. |
| | Pawl spring broken and fallen into main gear section. | Install new spring, replace damaged main and/or pinion gear. CANNOT BE DONE ALOFT. |
| Hoist drifts when stopping in down direction. Unit may drop slightly when restarting. | *Air or Electric* - Primary Brake worn out. | Replace pulley and/or shoe. CANNOT BE DONE ALOFT. |
| | Brake release plunger stuck | Clean and lube plunger rod. |
| | *Electric* - Worker has operate lever tied up, and is using direction selector to operate. | Instruct worker in proper operating procedure. |
| Nylon coupling stripped. | *Air or Electric* - Overspeed brake engaged and worker continued to run down. | Replace coupling and check load brake CANNOT BE DONE ALOFT. |
| | No or low oil in gear box causing excess heat on coupling. | Add oil. Check worm gear set for evidence of overheating or wearing. CANNOT BE DONE IN THE FIELD. |
| Motor growling or making noise like rocks in a cement mixer. | Motor set for 110 V, but plugged into 220 V. | Set motor on proper voltage. |
| Electric unit runs "slow" or "hums: under load. | Low source voltage. | Use booster transformer or separate drop cords. |
| | On very long drops TOO much voltage is lost in electric cord. | Use booster transformer or run a separate electric cord to each unit. |
| | Motor set for 220 V but plugged into 110V | Set motor on proper voltage or plug into proper voltage. |
| "Popping" Circuit Breaker | Breaker undersized | Connect to proper size breaker. |
| | Motor points welded shut | Replace point. CANNOT BE DONE ALOFT. |
| | Short in electric cord. | Replace cords |
| Motor "hums" but won't start. | Badly "Pitted" Points. | Replace points. CANNOT BE DONE ALOFT. |
| | Bad capacitor. | Replace. |
| | Brown wire off stationary switch (points in G.E. Motors only). | Put wire on #2 terminal. |
| | Pinched wire in Direction selector box. | Repair wire. CANNOT BE DONE ALOFT. |
| Electric Unit runs in only one direction. | Bad direction switch or wire off. | Replace switch or reconnect wire. |
| Motor does nothing. | Lost power. | Restore |
| | Operating switch burned out. | Replace |
| | Actuating lever (flapper) not engaging operating switch. | Bend "flapper" to ensure engagement |
| | Thermal overload protector "popped" (Motor is usually hot). | Cool motor 20 minutes. Reset thermal switch. (red button on bottom of motor.) |
| Air motor "icing" up. | Moisture in supply air. | Get water out of air by water traps, dryers, alcohol drip feeder or use an oil based antifreeze in air motor lubricator. |
| | Weather freezing. | Use oil based antifreeze in air motor lubricator. |
| Air unit runs slow in up direction or won't carry load aloft. | Low air volume to unit. | Increase air supply by: Bigger compressor or larger supply lines |
| | Air filter partially plugged. | Clean or replace air filter |
| | Low air pressure. | Increase to 100 PSI at unit |
| Air motor runs intermittently | Rotor blades sticking or worn out. | Repair or replace blades. CANNOT BE DONE IN FIELD |
| | Rotor blade springs broken or weak. | Replace rotor springs. CANNOT BE DONE IN FIELD |

# SAFETY

*Accidents will be prevented if you follow the instructions in this manual. Once the equipment leaves Sky Climber's control, the operator is responsible for its safe use, operation and maintenance.*

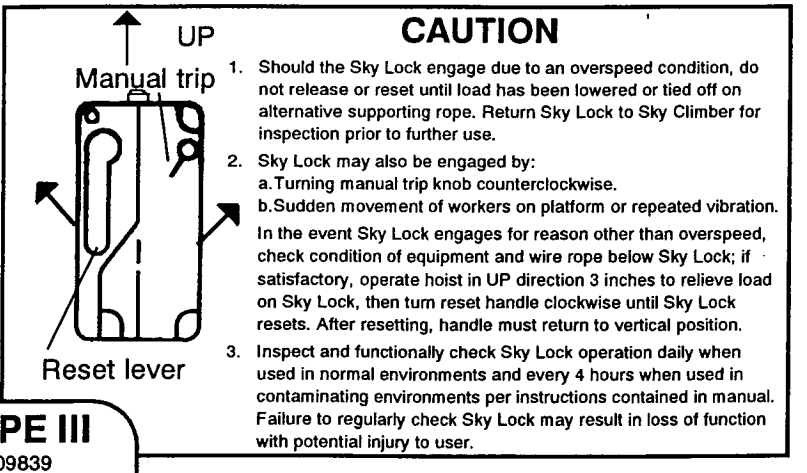
**SAFETY PREVENTS ACCIDENTS**

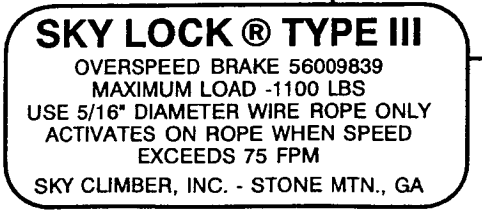
- Know and understand the operation of this equipment.
- All Federal, State, and Local codes and regulations that apply to this equipment and its safe use must be followed.
- Do not alter any Sky Climber Hoists, Sky Locks or Accessories. Use only Sky Climber original parts in your Sky Climber equipment.
- Thoroughly inspect all equipment before use. Do not use any equipment which has any apparent difficulty.
- Wear hard hats at all times when servicing, erecting, disassembling, or using this equipment.
- Secure suspended platform to building face/structure while at work station. Disconnect platform from building face (other than platforms using continuous engagement) before it is moved.
- Provide protection for workers from falling objects both above and below the equipment.
- Keep all persons from beneath suspended equipment.
- Never work alone on a suspended platform and ensure help is available in an emergency.
- Do not overload the equipment or exceed the maximum rated capacity as noted in this Manual.
- Do not wear loose clothing while operating this equipment.

**Safety is Important.**
**Use Common Sense. Don't Take Chances.**

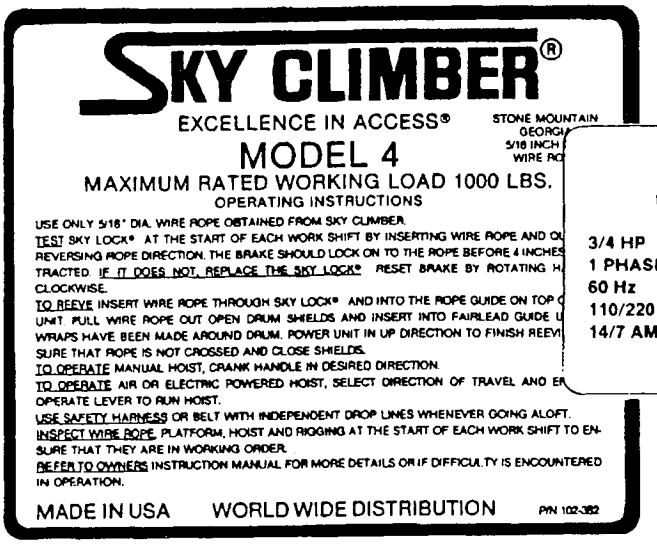
# SAFETY DECALS & INSTRUCTIONS

The following safety/instruction signs shall be on your Sky Climber equipment. All safety related information shipped in the container with the Sky Climber Hoist must be read and complied with at all times.

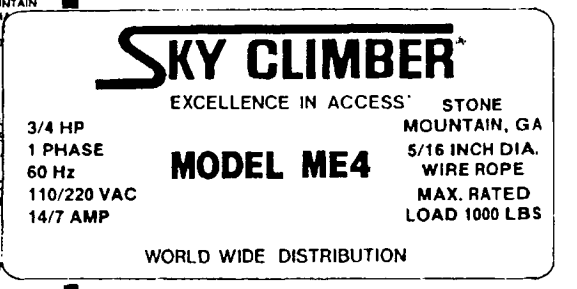



**SKY LOCK ® TYPE III DECALS**



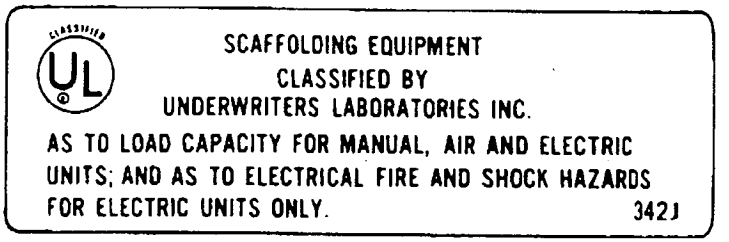

**Legend Plate**
Part No. 102-383
Location: Mounted on gear cover of all units.



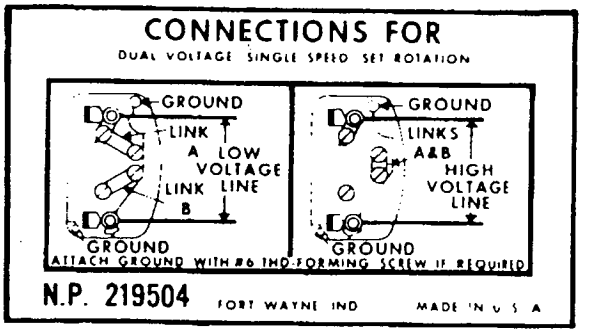

**Sky Climber Identification Decal**
Part No. 102-206
Location: Mounted on electric motor electrical units only.

**Canadian Standards Associate Certification Decal**
Part No.: 102-368
Location: Mounted on gear cover above legend plate electrical units only.

**Underwriters Laboratories Certification Decal**
Part No. 102-242
Location: Mounted on gear cover above legend plate on all units.




**Connection Decal - Dual Voltage**
Part No. 102-230
Location: Mounted on electric motor wiring cover electrical units only.



SKY CLIMBER®
TOTAL ACCESS SOLUTIONS · EXCELLENCE IN RELATIONSHIPS

1501 Rock Mountain Blvd.
Stone Mountain, GA 30083
Tel: 770/939/7705
800/255/4629
Fax: 770/493/7392

## Safety is Important.

# DAILY OR BEFORE START OF EACH SHIFT CHECKLIST

*DO NOT use Sky Climber Hoists, Sky Locks or equipment which is damaged or worn beyond normal tolerances.*

1. Instructions are kept with the unit at all times. (Additional copies are available. Contact Sky Climber.)
2. All Warning / Rating Labels are in place, legible and have been read.
3. Fasteners checked. Oil Level in Lubricator of Air Hoist is adequate.
4. Suspended Platform Hoist is connected to proper power source.
5. Minimum of 3 J-clamps are used and are tight.
6. Cornice hook, parapet clamps or outriggers are secured and tied back. Chocks or similar devices are securely in place. Tie backs are tight and straight back.
7. Counterweights are nonflowable type, secure, and right amount.
8. Roof rigging load is spread using 3/4" plywood. Hard wood is used for Load Spreader with Parapet.
9. Wire rope inspected and is not kinked, bird caged or otherwise damaged.
10. The wire rope bitter end is looped and secured with a J-clamp.
11. Sky Lock and Hoist Load Tests performed and acceptable

**Sky Climber Products are Serviced in Your Area By:**