



OPERATING MANUAL (AS)

VERTICAL MAST

MODELS SJ12 SJ16

171730AD-A June 2016

SKYJACK

This manual is based on Serial Number(s):

SJ12 & SJ16 14 005 746 & Above

Please refer to the website (www.skyjack.com) for older Serial Numbers.

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The Safety Alert Symbol identifies important safety messages on MEWP, safety signs in manuals or elsewhere. When you see this symbol, be alert to the possibility of personal injury or death. Follow the instructions in the safety message.



This Safety Alert Symbol means attention!

Become alert! Your safety is involved.



DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

IMPORTANT

IMPORTANT indicates a procedure essential for safe operation and which, if not followed, may result in a malfunction or damage to the MEWP.

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SKYJACK is continuously improving and expanding product features on its equipment, therefore, specifications and dimensions are subject to change without notice.

Mobile Elevating Work Platform (MEWP) Definition

A mobile device that has a positionable platform supported from ground level by a structure.

Purpose of Equipment

The SKYJACK Vertical Mast series MEWPs are designed to transport and raise personnel, tools and materials to overhead work areas.

Use of Equipment

The MEWP is a highly maneuverable, mobile work station. Work platform elevation and elevated driving must only be done on a firm, level surface.

Manual

The operating manual is considered a fundamental part of the MEWP. It is a very important way to communicate necessary safety information to users and operators. A complete and legible copy of this manual must be kept in the provided weather-resistant storage compartment on the MEWP at all times.

Operator

The operator must read and completely understand both this operating manual and the safety panel label located on the platform and all other warnings in this manual and on the MEWP. Compare the labels on the MEWP with the labels found within this manual. If any labels are damaged or missing, replace them immediately.

Service Policy and Warranty

SKYJACK warrants each new Vertical Mast series MEWP to be free of defective parts and workmanship for the first 24 months. Any defective part will be replaced or repaired by your local SKYJACK dealer at no charge for parts or labor. Contact the SKYJACK Service Department for warranty statement extensions or exclusions.

Optional Accessories

The SKYJACK MEWP is designed to accept a variety of optional accessories. These are listed under "Standard and Optional Features" in Table 4.1. Operating instructions for these options (if equipped) are located in Section 3 of this manual.

For non-standard components or systems, contact the SKYJACK Service Department at

☎ : 44-1691-676-235

☎ : 44-1691-676-238

Include the model and serial number for each applicable MEWP.

Scope of this Manual

- a. This MEWP meets requirements of the AS1418.10 - 2011 Standard.
- b. Operators are required to conform to national, state or territorial/provincial and local health and safety regulations applicable to the operation of this MEWP.

Ownership Registration

Skyjack requires prompt notification of the new owner's contact information if any machine has been sold or transferred. Please register ownership of this machine with Skyjack.

**WARNING**

Failure to comply with your required responsibilities in the use and operation of the MEWP could result in death or serious injury!

Operator Safety Reminders

A study conducted by St. Paul Travelers showed that most accidents are caused by the failure of the operator to follow simple and fundamental safety rules and precautions.

You, as a careful operator, are the best insurance against an accident. Therefore, proper usage of this MEWP is mandatory. The following pages of this manual should be read and understood completely before operating the MEWP.

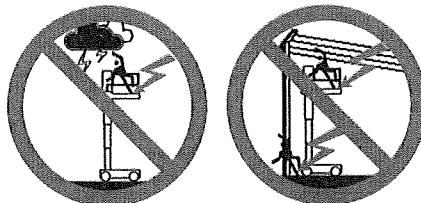
Common sense dictates the use of protective clothing when working on or near machinery. Use appropriate safety devices to protect your eyes, ears, hands, feet and body.

Any modifications from the original design are strictly forbidden without written permission from SKYJACK.

Electrocution Hazard

This MEWP is not electrically insulated. Maintain a Minimum Safe Approach Distance (MSAD) from energized power lines and parts as listed below. The operator **must allow** for the platform to sway, rock or sag. **This MEWP does not provide protection from contact with or proximity to an electrically charged conductor.**

DO NOT USE THE MEWP AS A GROUND FOR WELDING.
DO NOT OPERATE THE MEWP DURING LIGHTNING OR STORMS.
DO NOT OPERATE THE MEWP NEAR POWER LINES. MAINTAIN A MINIMUM SAFE APPROACH DISTANCE (MSAD) FROM ENERGIZED POWER LINES.



 DANGER Avoid Power Lines		
Minimum Safe Approach Distance		
AS 2550.10-2006 Requirements		
Voltage Range (Phase to Phase)	Minimum Safe Approach Distance (Meters)	
	Without Spotter	With Spotter
Up to and including 133KV	6.4	3
Greater than 133KV	10	8
FAILURE TO AVOID THIS HAZARD WILL RESULT IN DEATH OR SERIOUS INJURY!		

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Safety Precautions

Know and understand the safety precautions before going on to next section.

**WARNING**

Failure to heed the following safety precautions could result in tip over, falling, crushing, or other hazards leading to death or serious injury.

- **KNOW** all national, state or territorial/provincial and local rules which apply to your MEWP and job site.
- **TURN** main power disconnect switch "○" off when leaving the MEWP unattended. Remove the key to prevent unauthorized use of the MEWP.

- **WEAR** all the protective clothing and personal safety devices issued to you or called for by job conditions.

- **DO NOT** wear loose clothing, dangling neckties, scarves, rings, wristwatches or other jewelry while operating this lift.



- **AVOID** entanglement with ropes, cords or hoses.



- **AVOID** falling. Stay within the boundaries of the guardrails.



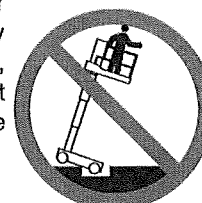
- **DO NOT** raise the MEWP or operate elevated in windy or gusty conditions that exceed the limits specified in Section 4, Table 4.4.



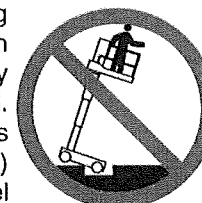
- **DO NOT** increase the lateral surface area of the platform. Increasing the area exposed to the wind will decrease the MEWP stability. Avoid tenting.



- **DO NOT** drive elevated near depressions or holes of any type, loading docks, debris, drop-offs or surfaces that may affect the stability of the MEWP.



- **IF OPERATION IN AREAS WITH HOLES OR DROP-OFFS IS ABSOLUTELY NECESSARY**, elevated driving shall not be allowed. Position the MEWP horizontally only with the platform fully-lowered. After ensuring that all 4 wheels or outriggers (if equipped) have contact with a firm, level surface, the MEWP can be elevated. After elevation, the drive function must not be activated.



- **DO NOT** elevate or drive elevated on a slope. Elevated driving must be done on a firm, level surface.



- **DO NOT** ascend or descend a grade when elevated. When fully lowered, ascending or descending grades up to maximum rated inclines listed in Table 4.3.



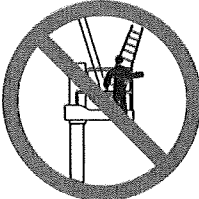
Safety Precautions (Continued)

Know and understand the safety precautions before going on to next section.

- **DO NOT** operate on surfaces not capable of holding the weight of the MEWP including the rated load, e.g., covers, drains, and trenches.



- **DO NOT** drive elevated on a soft or uneven surface.



- **DO NOT** operate an MEWP that has ladders, scaffolding or other devices mounted on it to increase its size or work height. It is prohibited.



- **DO NOT** exert horizontal (manual) force on MEWP that exceeds the limits specified in Table 4.4.



- **DO NOT** use the MEWP as a crane. It is prohibited.



- **DO NOT** sit, stand or climb on the guardrails. It is prohibited.



- **DO NOT** climb on base and mast. It is prohibited.

- **AVOID** overhead obstructions. Be aware of overhead obstructions or other possible hazards around MEWP when lifting or driving.



- **DO NOT** raise the MEWP while the MEWP is on a truck, fork lift or other device or vehicle.



- **AVOID** crushing hazards. Be aware of crushing hazards when lifting or driving. Keep all body parts inside the MEWP.



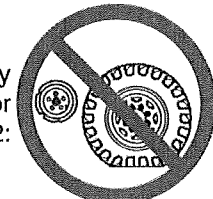
- **DO NOT** lower the platform unless the area below is clear of personnel and obstructions.



- **ENSURE** that there are no personnel or obstructions in the path of travel, including blind spots.



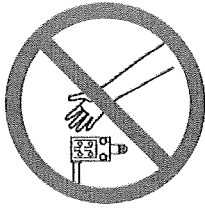
- **DO NOT** use with improperly inflated/damaged tires or wheels. Refer to Section 2: Wheel/Tire Assembly.



Safety Precautions (Continued)

Know and understand the safety precautions before going on to next section.

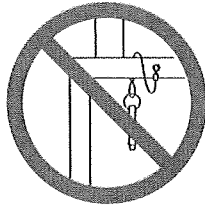
- **DO NOT** alter or disable limit switches or other safety devices.



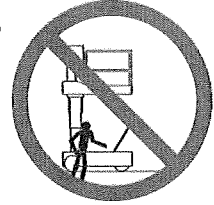
- **DO NOT** use under influence of alcohol or drugs.



- **DO NOT** use the MEWP without guardrails, locking pins and the entry gate (if equipped) in place.



- **DO NOT** access the hydraulic/electrical compartment while the platform is raised.



- **DO NOT** exceed the rated capacity of the MEWP.



- **BE AWARE** of blind spots when operating the MEWP.

- **STUNT** driving and horseplay are prohibited.

- **DO NOT** attempt to free a snagged platform with lower controls until personnel are removed from the platform.

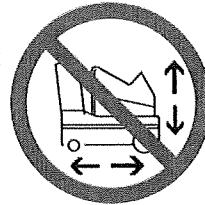
- **DO NOT** distribute load unevenly.



- **DO NOT** position the MEWP against another object to steady the platform.

- **DO NOT** place materials on the guardrails or materials that exceed the confines of the guardrails unless approved by Skyjack.

- **DO NOT** operate if MEWP is not working properly or if any parts are damaged or worn.



- **DO NOT** leave MEWP unattended with key in key switch.



Safety Precautions (Continued)

Know and understand the safety precautions before going on to next section.

Fall Protection

The guardrail system provides fall protection for the occupants. If additional fall protection is required, by an employer or the authority having jurisdiction, Skyjack recommends the use of a fall restraint system to keep an occupant within the confines of the platform, and thus not expose the occupant to any fall hazard requiring a fall arrest. When used, lanyards should only be attached to dedicated attachment points on the platform.

All personal fall protection equipment must comply with applicable governmental regulations and must be inspected and used in accordance with the manufacturer's recommendations.

All personal fall protection equipment must be attached only to approved anchorage points within the platform.

**WARNING**

Entering and exiting the MEWP should only be done using the three points of contact.

- **Use only equipped access openings.**
- **Enter and exit only when the MEWP is in the fully retracted position.**
- Do use three points of contact to enter and exit the platform. Enter and exit the platform from the ground only. Face the MEWP when entering or exiting the platform.
- Three points of contact means that two hands and one foot or one hand and two feet are in contact with the MEWP or the ground at all times during entering and exiting.

**WARNING**

An operator should not use any MEWP that:

- **does not appear to be working properly.**
- **has been damaged or appears to have worn or missing parts.**
- **has alterations or modifications not approved by the manufacturer.**
- **has safety devices which have been altered or disabled.**
- **has been tagged or locked out for non-use or repair.**

Failure to avoid these hazards could result in death or serious injury.

Job site Inspection

- Do not use in hazardous locations.
- Perform a thorough job site inspection prior to operating the MEWP, to identify potential hazards in your work area.
- Be aware of moving equipment in the area. Take appropriate actions to avoid collision.

Notes

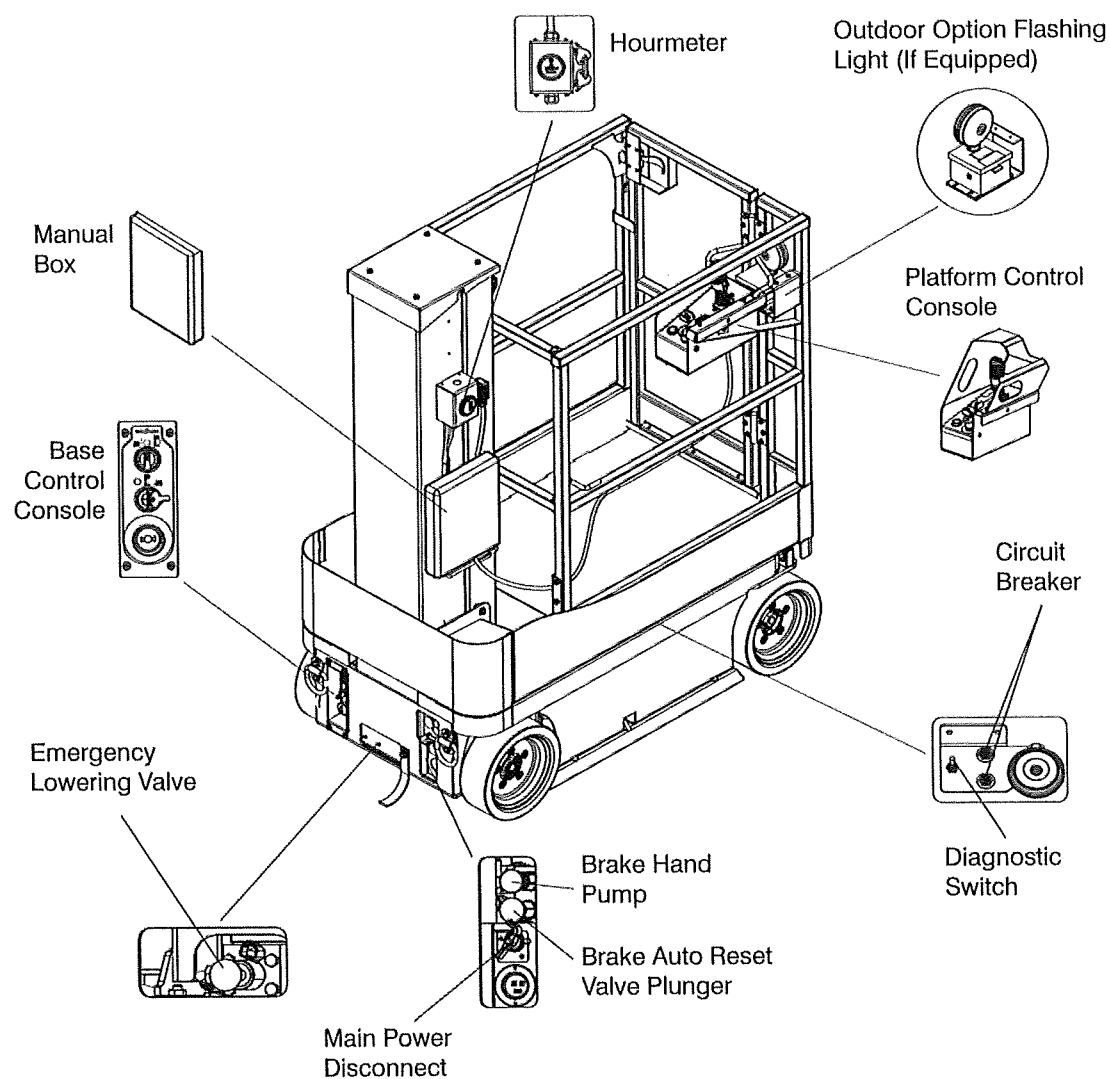
2.1 Familiarization of SJ12/16 Series

**WARNING**

MEWP Familiarization should be given only to individuals who are **QUALIFIED** And **TRAINED** to operate a MEWP.

Do not operate this MEWP without proper authorization and training. Failure to avoid this hazard could result in death or serious injury.

It is the responsibility of the operator to read, completely understand and follow all instructions and warnings contained in this operating manual and on the MEWP.

**2****FAMILIARIZATION**

2.2 Component Identification

The following descriptions are for identification, explanation and locating purposes only.

2.2-1 Main Power Disconnect Switch

This switch is located at the rear of the base.

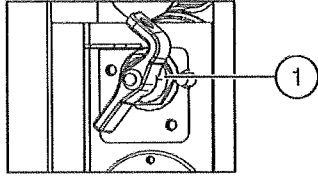


Figure 2-1. Main Power Disconnect Switch

1. **Main Power Disconnect Switch** - This switch, when in "O" off position, disconnects power to all circuits. Switch must be in "I" on position to operate any circuit. Turn switch "O" off when transporting MEWP.

2.2-2 Brake System

The brake system is located at the rear of the base. The brakes must be manually disengaged before pushing, winching or towing. Refer to Section 2.5-1 for procedure on how to release brakes manually. The system contains the following controls:

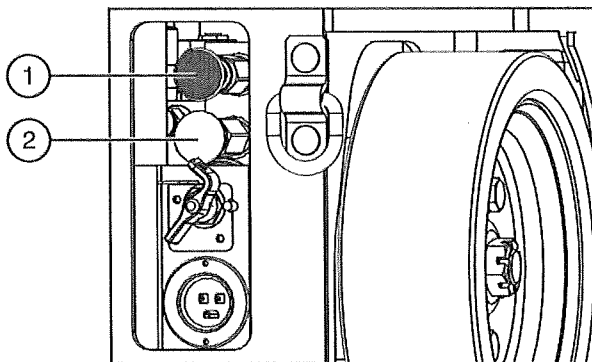


Figure 2-2. Disc Brake System

1. Brake hand pump
2. Brake auto reset valve plunger

2.2-3 Base Control Console

This control console is located at the rear of the base. It contains the following controls:

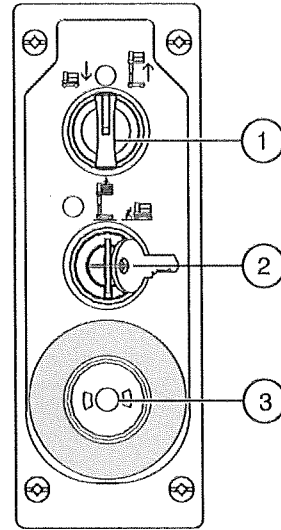


Figure 2-3. Base Control Console

1. **Lower/Neutral/Raise Switch** - This switch controls "↑" raising or "↓" lowering of platform.
2. **Off/Platform/Base Key Switch** - This three-way switch allows the operator to turn "O" off power to MEWP or to activate either "↑" platform or "↓" base controls.
3. **Emergency Stop Button** - This button "●", when depressed, disconnects power to the control circuit.

2.2-4 Emergency Lowering System

This emergency lowering system allows platform lowering in the event of an emergency or an electrical system failure.

1. Remove any obstructions from a lowering platform.
2. Extension platform may need to be retracted or MEWP may need to be moved to clear obstruction. Refer to Section 2.5 for winching and towing procedures.

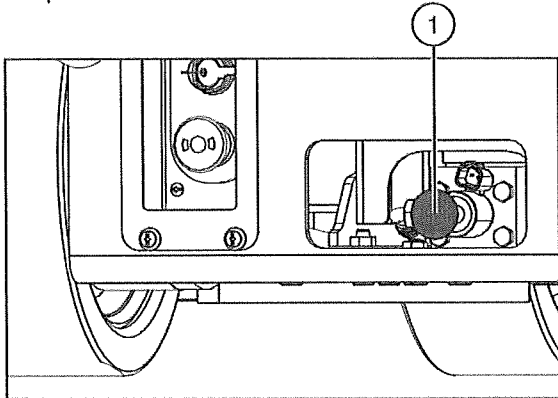


Figure 2-4. Emergency Lowering System

3. Locate emergency lowering valve (item 1) at the base of the lift cylinder, pull out and hold emergency lowering valve (item 1) to lower platform.

2.2-5 Tilt Alarm

The MEWP is equipped with a device which senses when the MEWP is out of level in any direction. When activated, it disables drive and lift functions of the MEWP and an alarm produces an audible sound.



WARNING

If the tilt alarm sounds and the platform does not, or only partially raises, immediately lower the platform completely and ensure that the MEWP is on a firm level surface.

2.2-6 Platform Control Console

This removable control console is mounted at the right front of the platform. It contains the following controls:

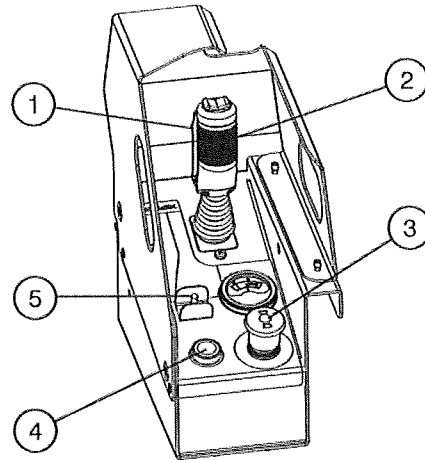
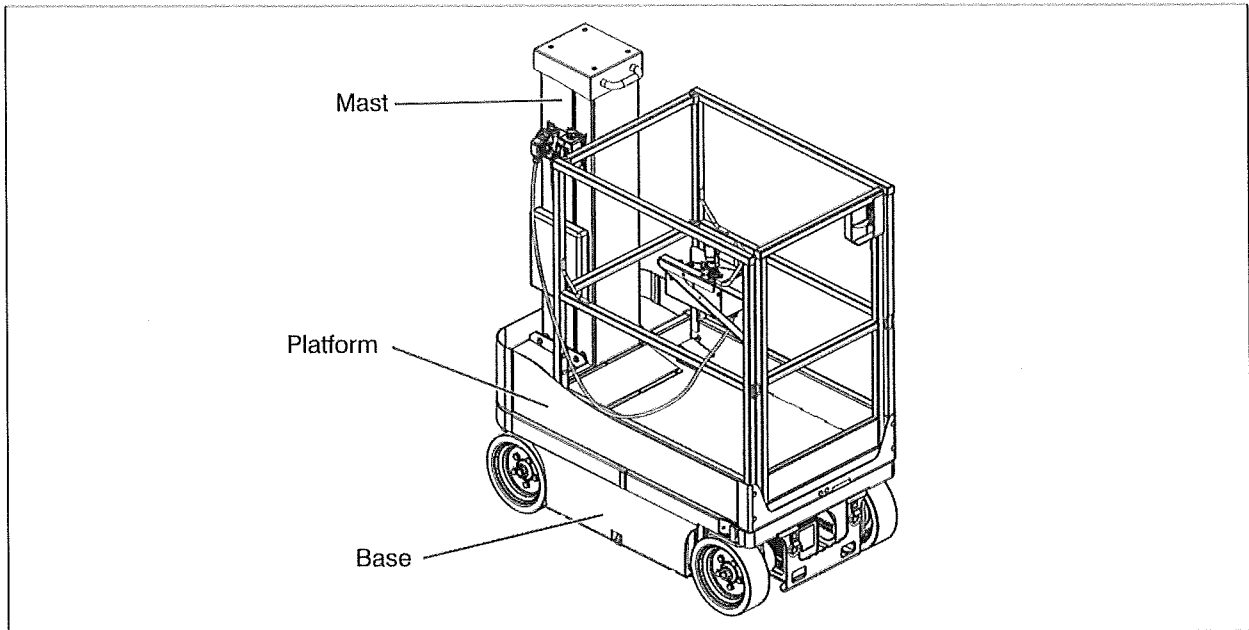


Figure 2-5. Platform Control Console

1. **Lift/Drive/Steer Enable Trigger Switch** - This momentary "ON" switch energizes the controller. It must be held depressed continuously while engaging either the lift/drive or steer functions.
2. **Lift/Drive/Steer Controller** - This one-hand lever controls lift/drive and steer motions. Internal springs return it to neutral when controller is released.
3. **Emergency Stop Button/Operation Light** - This button "●", when depressed, disconnects power to the control circuit. The operation light indicates upper control availability. It glows when both emergency stop buttons on the platform control console and the base control console are pulled out.
4. **Horn Pushbutton** - This "H" pushbutton sounds an automotive-type horn.
5. **Lift/Off/Drive Switch** - Selecting "O" off position disconnects power from both lift and drive circuits. Selecting "L" lift position energizes the lift circuit. Selecting "D" drive position energizes the drive circuit.



2.3 Visual & Daily Maintenance Inspections

Begin the visual and daily maintenance inspections by checking each item in sequence for the conditions listed in this section.



WARNING

To avoid injury, do not operate an MEWP until all malfunctions have been corrected.



WARNING

To avoid possible injury, ensure MEWP power is off during your visual and daily maintenance inspections.



CAUTION

Ensure MEWP is on a firm, level surface.

NOTE

While performing visual and daily inspections in different areas, be aware to also inspect limit switches, electrical and hydraulic components.

2.3-1 Labels

Refer to Section 5 - Labels in this manual and determine that all labels are in place and are legible.

2.3-2 Electrical

Maintaining the electrical components is essential to good performance and service life of the MEWP. Inspect the following areas for chafed, corroded and loose wires:

- all wiring harnesses
- hydraulic/electrical wiring harnesses

2.3-3 Limit Switches

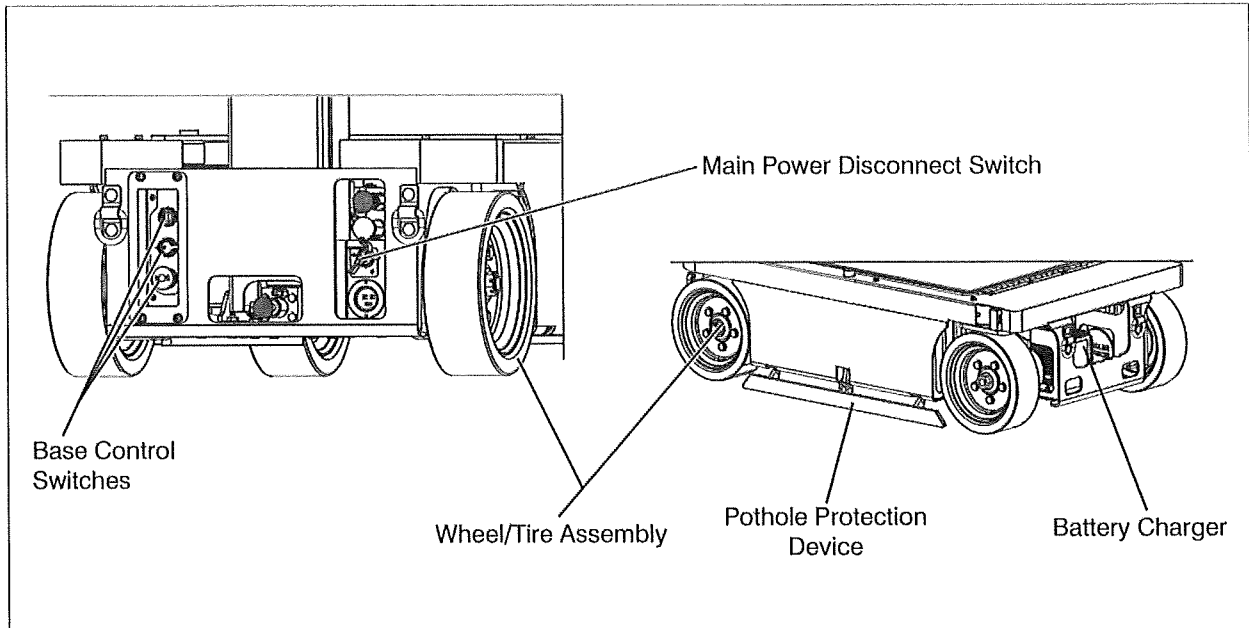
Ensure limit switches are properly secured with no signs of visible damage and movement is not obstructed.

2.3-4 Hydraulic

Maintaining the hydraulic components is essential to good performance and service life of the MEWP.

Perform a visual inspection around the following areas:

- hoses and fittings
- hydraulic cylinder
- all hydraulic manifolds
- the underside of the base
- ground area under the MEWP



2.3-5 Base

- **Main Power Disconnect Switch**
 - Turn main power disconnect switch to "O" off position.
 - Ensure all cables are secure and switch is in proper working condition.
- **Base Control Switches**
 - Ensure there are no signs of visible damage and all switches are in their neutral positions.
- **Battery Charger**
 - Ensure charger is secure and shows no visible damage.
- **Pothole Protection Device**
 - Ensure mechanisms have no sign of visible damage and are free from dirt and obstructions.

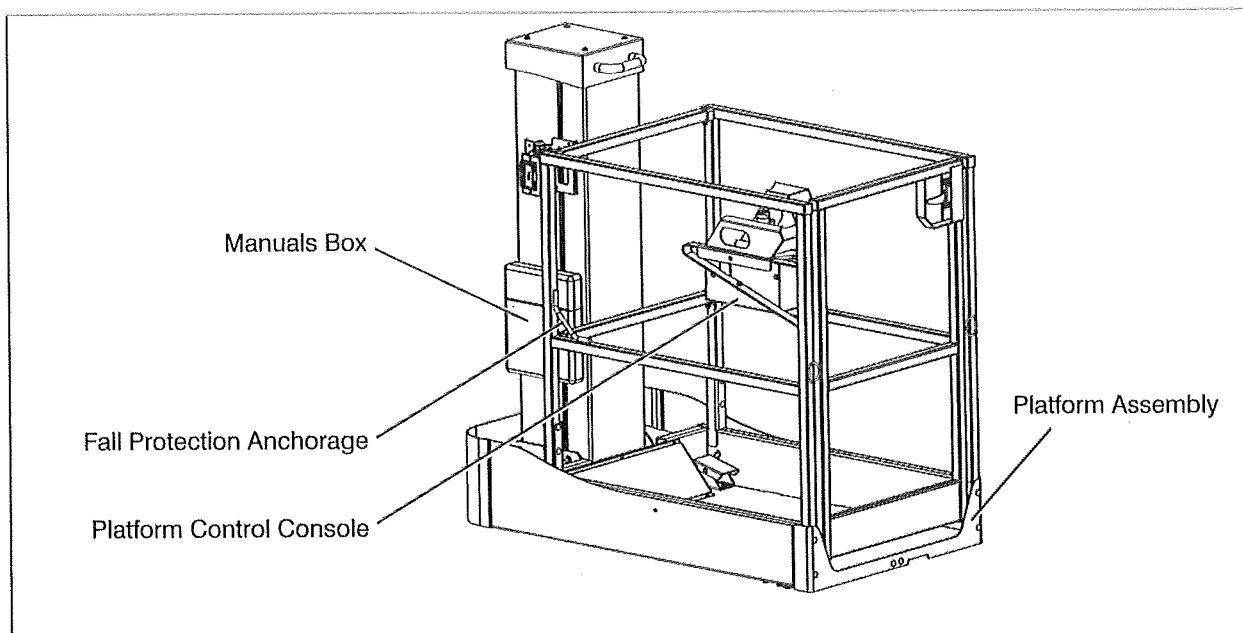
- **Wheel/Tire Assembly**

The MEWP is equipped with solid rubber tires. Tire and/or wheel failure could result in an MEWP tip-over. Component damage may also result if problems are not discovered and repaired in a timely fashion.

- Check all tire treads and sidewalls for cuts, cracks, punctures and unusual wear.
- Check each wheel for damage and cracked welds.
- Check each lug nut for proper torque to ensure none are loose.
- Check wheel motor assembly for loose or missing parts and signs of visible damage.
- Ensure wheels are aligned and true vertically and horizontally.

WARNING

Intermixing tires of different types or using tires of types other than those originally supplied with this equipment can adversely affect stability. Therefore, replace tires only with the exact Skyjack-approved type. Failure to operate with matched approved tires in good condition may result in death or serious injury.



2.3-6 Platform Assembly

**WARNING**

Ensure that you maintain three points of contact to mount/dismount platform.

1. Open the gate (if equipped) and access the platform.
2. Close the gate (if equipped).
 - Ensure all railings are properly positioned and secured.
 - Ensure all fasteners are securely in place.
 - Ensure gate (if equipped) is in good working order.
 - Ensure there are no loose or missing parts and there is no visible damage.
 - Ensure platform foot pedal is in good working order and no loose or missing parts and there is no visible damage.
- **Fall Protection Anchorage(s)**
 - Ensure anchorage(s) are secure and there is no visible damage.

• **Platform Control Console**

- Ensure all switches and controller are returned to neutral and are properly secured.
- Ensure there are no loose or missing parts and there is no visible damage.

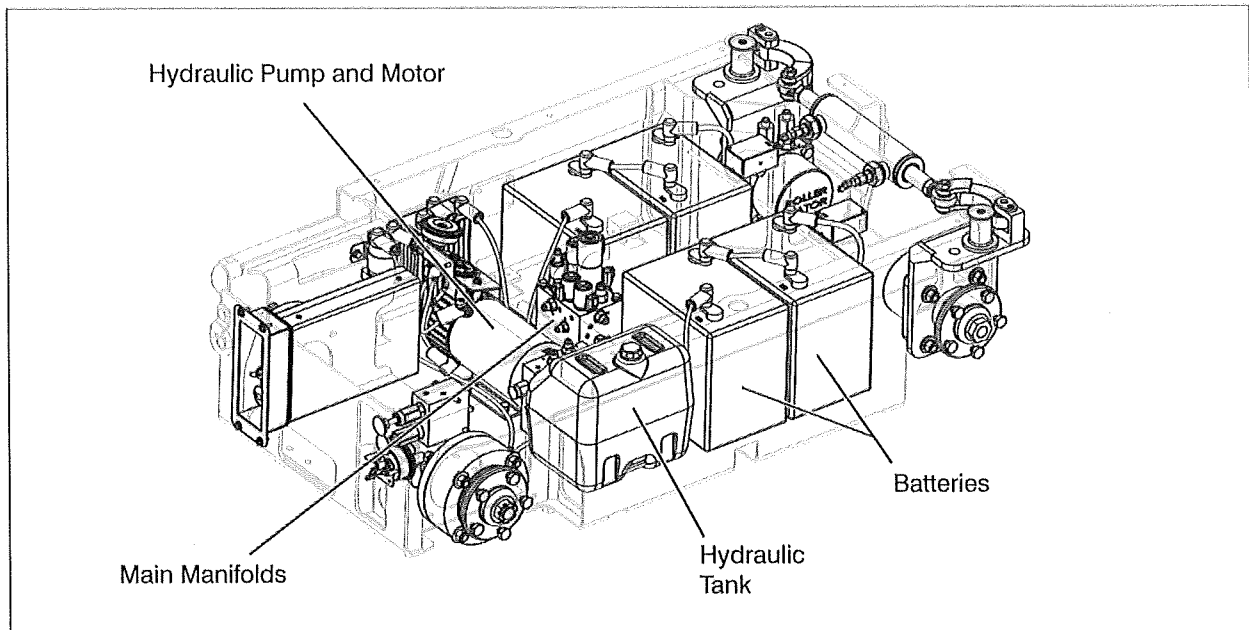
**WARNING**

Ensure that you maintain three points of contact to mount/dismount platform.

3. Dismount from platform.
4. Close the gate (if equipped).

• **Manuals**

- Ensure a copy of operating manual and certificate are enclosed in manual storage box.
- Check to be sure manual storage box is present and in good condition.
 - Ensure manuals are legible and in good condition.
 - Always return manuals to the manual storage box after use.



2.3-7 Hydraulic/Electrical Compartment

1. To access the hydraulic/electrical compartment, refer to Section 3.11.

- **Battery**

Proper battery condition is essential to good performance and operational safety. Improper fluid levels or damaged cables and connections can result in component damage and hazardous conditions.



WARNING

Explosion hazard. Keep flames and sparks away. Do not smoke near batteries.



WARNING

Battery acid is extremely corrosive - Wear proper eye and facial protection as well as appropriate protective clothing. If contact occurs, immediately flush with cold water and seek medical attention.

- a. Check battery case for damage.
- b. Clean battery terminals and cable ends thoroughly with a terminal cleaning tool or wire brush.
- c. Ensure all battery connections are tight.
- d. If applicable, check battery fluid level. If plates are not covered by at least 1/2" (13 mm) of solution, add distilled or demineralized water.

- e. Replace battery if damaged or incapable of holding a lasting charge.



WARNING

Use original or manufacturer-approved parts and components for the MEWP.

- **Main Manifolds**

- Ensure all fittings and hoses are properly tightened and there is no evidence of hydraulic leakage.
- Ensure there are no loose wires or missing fasteners.

- **Hydraulic Tank**

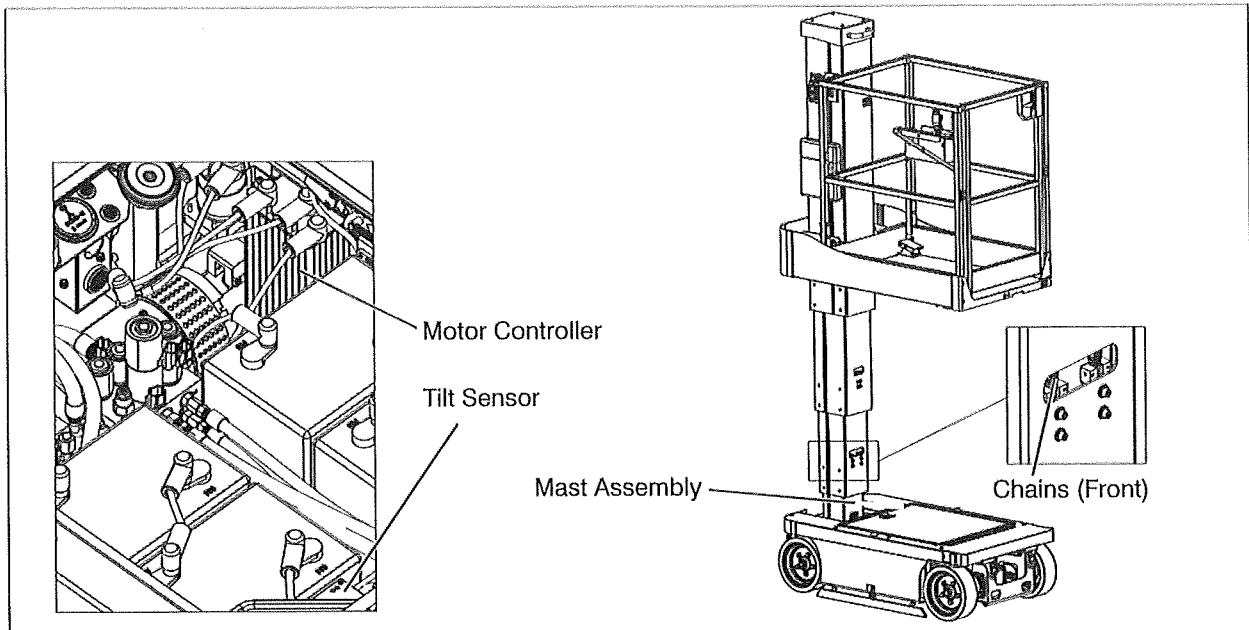
- Ensure hydraulic filler cap is secure.
- Ensure tank shows no visible damage and no evidence of hydraulic leakage.

- **Hydraulic Pump and Motor**

- Ensure there are no loose or missing parts and there is no visible damage.

- **Hydraulic Oil**

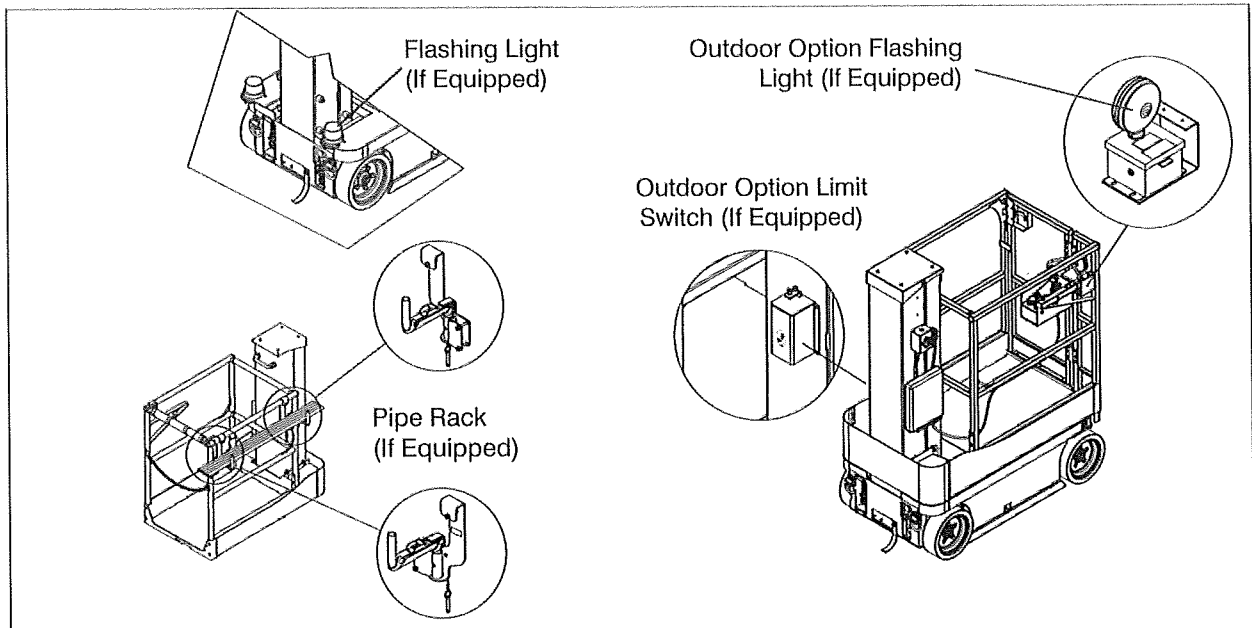
- Ensure hydraulic oil level is within the minimum (red line) and maximum (blue line) range found on the hydraulic oil level indicator label.



- **Steer Cylinder Assembly**
 - Ensure steer cylinder assembly is properly secured and there are no loose or missing parts.
 - **Motor Controller**
 - Ensure the controller is properly secured and there is no visible damage.
 - Ensure there are no loose wires or missing fasteners.
 - **Tilt Sensors**
 - Ensure tilt sensors are properly secured and there is no visible damage.
 - **Limit Switches**
 - Ensure limit switches are properly secured with no signs of visible damage and movement is not obstructed.
2. Close the compartment access door and latch in place.
 3. Push the platform back to its operating position and latch in place.

2.3-8 Lifting Mechanism

- **Mast Assembly**
 - Ensure mast assembly shows no visible damage and no signs of deformation in weldments.
- 1. Complete Section 2.4 - Function Tests.
- 2. Raise the platform.
- **Wear Pads**
 - Ensure all bolts are tight, there is no visible damage to the wear pads and that no parts are missing.
- **Chains**
 - Ensure there are no missing parts, and all bolts are tight with no signs of visible damage.
 - Ensure chains are securely anchored.



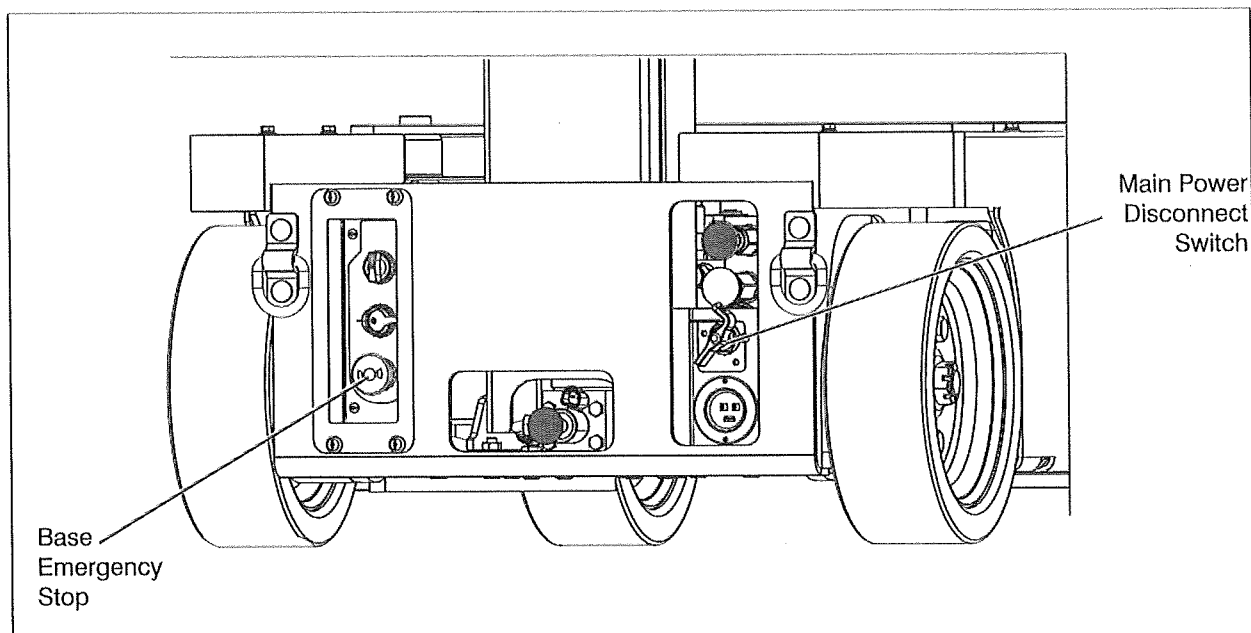
2.3-9 Optional Equipment/Attachments

- **Flashing Light(s) (If Equipped)**
 - Ensure there are no loose or missing parts and there is no visible damage.
- **Pipe Rack (If Equipped)**
 - Ensure pipe rack assemblies are properly secured with no signs of visible damage.
- **Outdoor Option Flashing Light & Limit Switch (If Equipped)**
 - Ensure light is secure and in good condition.
 - Ensure limit switch is properly secured with no signs of visible damage and movement is not obstructed.

Vertical Mast

It is the responsibility of the operator to read, completely understand and follow all instructions and warnings contained in this operating manual and on the MEWP.

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2.4 Function Tests

Function tests are designed to discover any malfunctions before MEWP is put into service. The operator must understand and follow step-by-step instructions to test all MEWP functions.



WARNING

Never use a malfunctioning MEWP. If malfunctions are discovered, MEWP must be tagged and placed out of service. Repairs to MEWP may only be made by a qualified service technician.

After repairs are completed, operator must perform a pre-operation inspection and a series of function tests again before putting MEWP into service.

Prior to performing function tests, be sure to read and understand Section 3.8 - Start Operation.

2.4-1 Test Main Power Disconnect Switch

1. On platform control console, pull out "●" emergency stop button.
2. Pull out base "●" emergency stop button.

3. At rear of the base, turn main power disconnect switch to "○" off position and attempt to activate all MEWP functions.

Result: MEWP functions should not operate.

2.4-2 Base Control Console

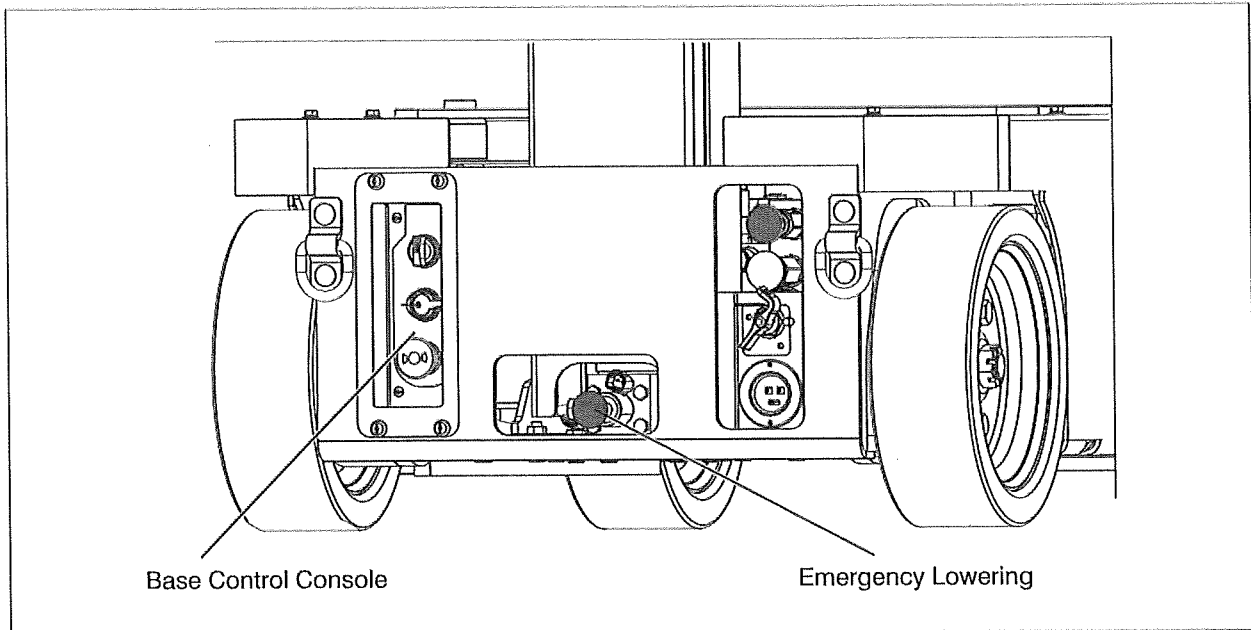
1. Push in base "●" emergency stop button.
2. Turn main power disconnect switch to "I" on position.

• Test Base Emergency Stop Light

1. Pull out base "●" emergency stop button.
Result: Emergency stop light should continuously illuminate.

• Test Base Emergency Stop

1. Push in "●" emergency stop button and attempt to raise or lower the platform.
Result: Platform raising and lowering functions should not operate.



- Test Off/Platform/Base Switch



Be aware of overhead obstructions or other possible hazards around the MEWP when lifting.

1. Pull out base "●" emergency stop button.
2. Select off/platform/base key switch to "○" off position. Attempt to raise or lower the platform.
Result: Platform raising and lowering functions should not operate.
3. Select off/platform/base key switch to "⏏" platform position. Attempt to raise or lower the platform.
Result: Platform raising and lowering functions should not operate.

- Test Lower/Neutral/Raise Switch

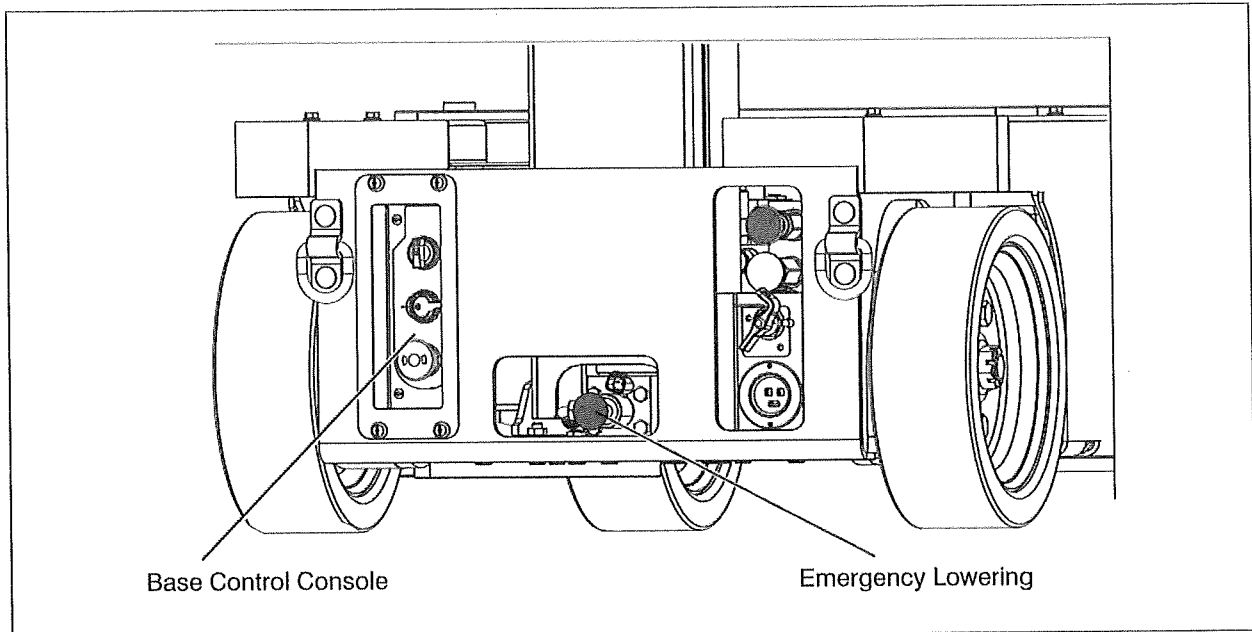
1. Select and hold off/platform/base key switch to "⏏" base position and "⬆" raise the platform with lower/neutral/raise switch.
Result: Platform should rise.
2. Select and hold off/platform/base key switch to "⏏" base position and "⬇" lower the platform with lower/neutral/raise switch.
Result: Platform should lower.

- Test Emergency Lowering



Be aware of overhead obstructions or other possible hazards around the MEWP when lifting.

1. Raise the platform.
2. On rear of the base, pull out and hold emergency lowering valve to fully lower the platform.
Result: The platform should lower.



2.4-3 Test Platform Maintenance Limit Switch

1. Traverse the platform to maintenance position, refer to Section 3.11.



WARNING
Ensure that you maintain three points of contact to mount/dismount platform.

2. Open the gate (if equipped) and access the platform.
3. Close the gate (if equipped).
4. At the platform control console, attempt to activate any function.
Result: All functions should not operate.
5. Push the platform back to its operating position and latch in place.



WARNING
Ensure that you maintain three points of contact to mount/dismount platform.

4. Open the gate (if equipped) and access the platform.
5. Close the gate (if equipped).
6. On platform control console, pull out "●" emergency stop button.

• Test Platform Emergency Stop

1. Push in "●" emergency stop button and attempt to activate any platform function.
Result: All selected platform functions should not operate.

2. Pull out "●" emergency stop button.

3. While activating any platform functions, push in emergency stop button.
Result: Current activated MEWP function should immediately stop operating.

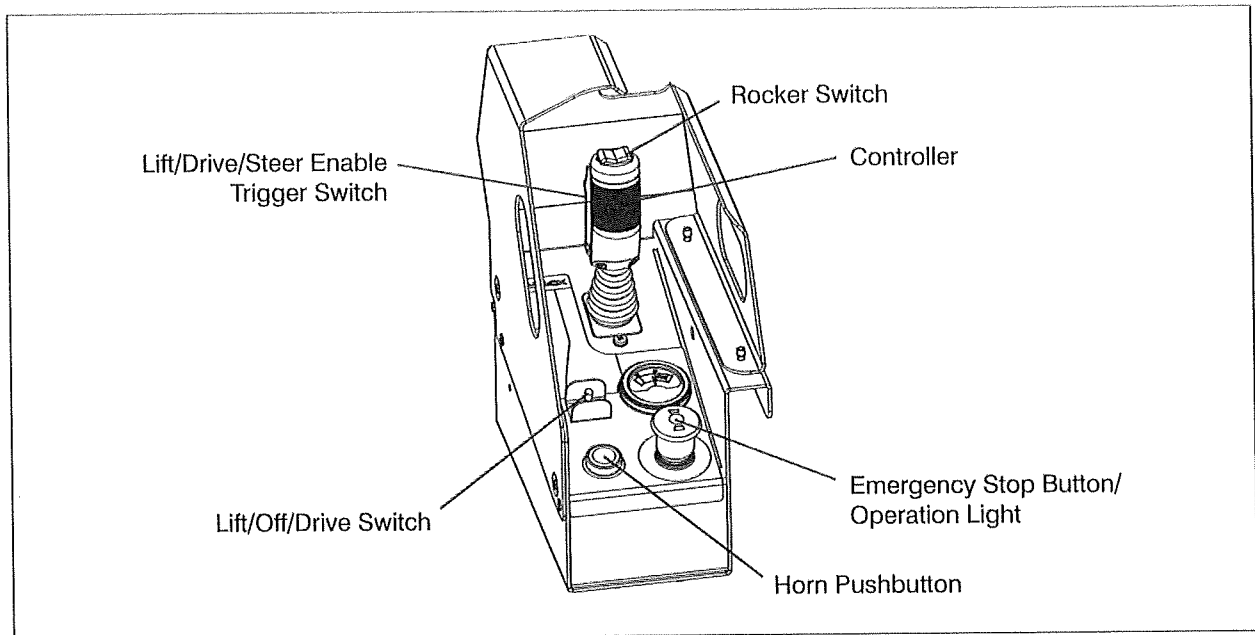
2.4-4 Platform Control Console

1. Ensure main power disconnect switch is in "I" on position.
2. Ensure base "●" emergency stop button is pulled out.
3. Select off/platform/base key switch to "I" platform position.



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- **Test Enable Trigger Switch**

1. Pull out "●" emergency stop button.

2. Without activating "👤" enable trigger switch, attempt to activate any platform function.

Result: All platform functions should not operate.

4. Activate and hold "👤" enable trigger switch.

5. Press rocker switch on top of controller handle to "◀" left and "▶" right.
Result: Steer wheels should turn left and right.

- **Test Lift/Off/Drive Switch Off Position**

1. Select lift/off/drive switch to "○" off position, attempt to activate any platform function.
Result: All platform functions should not operate.

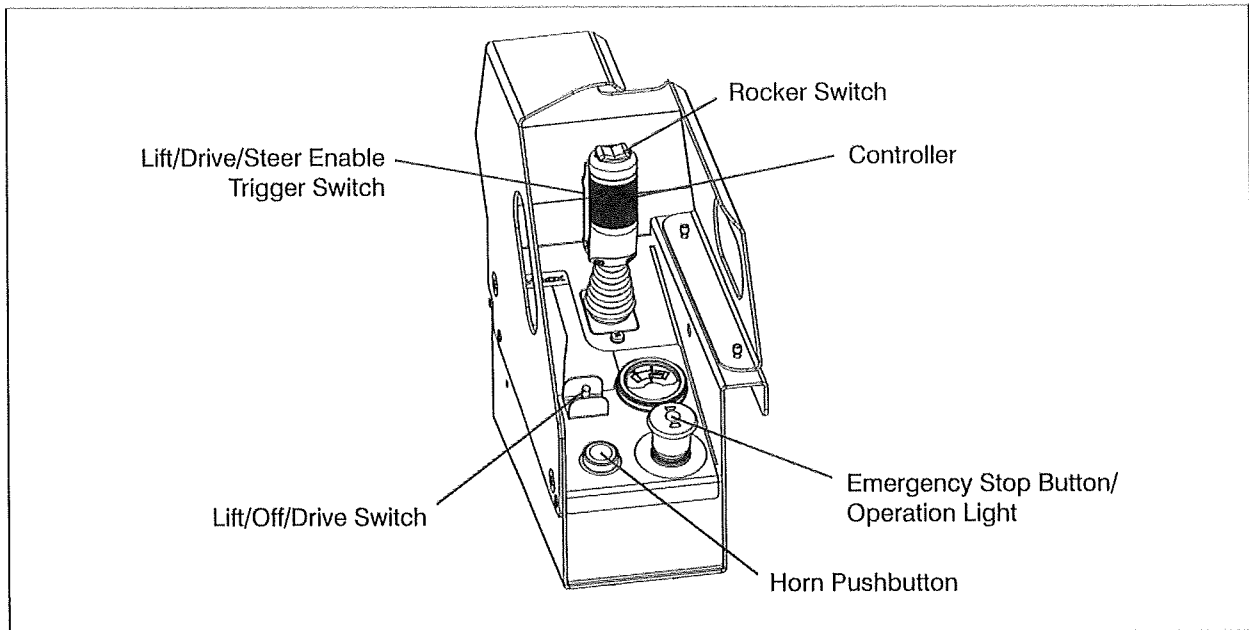
- **Test Steering**

1. Select lift/off/drive switch to "◀▶" drive position.
2. Without activating "👤" enable trigger switch.
3. Press rocker switch on top of controller handle to "◀" left and "▶" right.
Result: Steer wheels should not operate.

- **Test Drive Cutout Limit Switch**

1. Traverse platform to any position, then attempt to drive "↑" forward and "↓" reverse.
Result: Forward and reverse drive functions should not operate.

2. Fully retract platform, then attempt to drive "↑" forward and "↓" reverse.
Result: Forward and reverse drive functions should operate.



- Test Driving

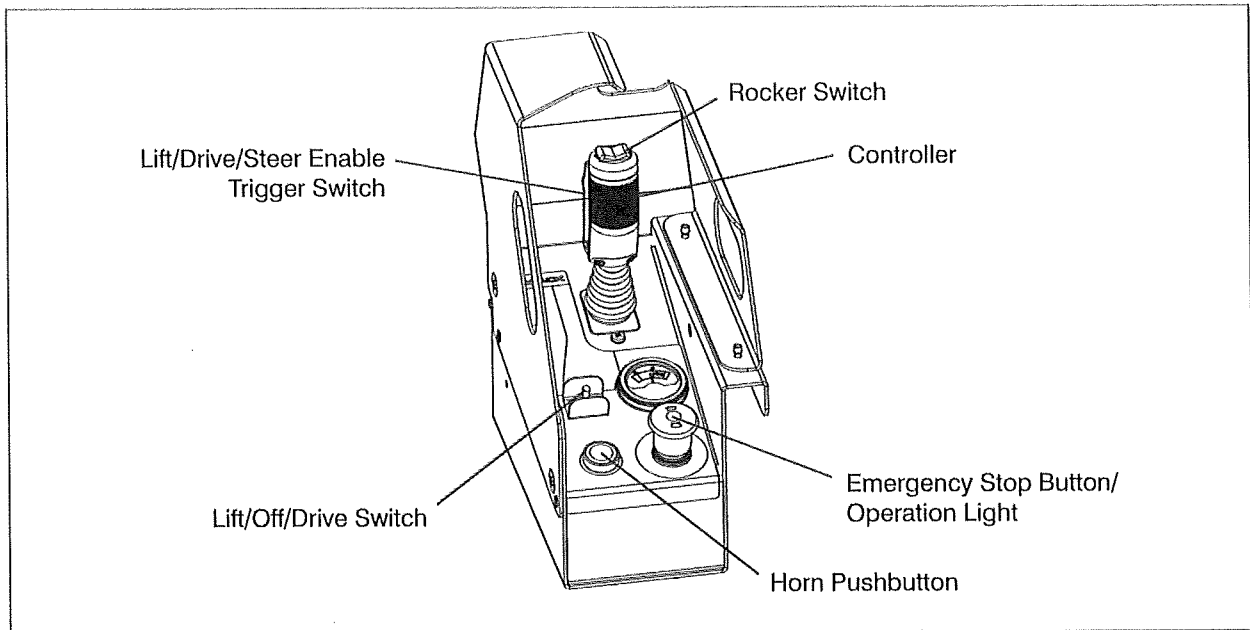
1. Ensure path of intended motion is clear.
2. Without activating "⬆️" enable trigger switch attempt to drive "⬆️" forward and "⬆️" reverse.
Result: MEWP drive functions should not operate.
3. Activate and hold "⬆️" enable trigger switch.
4. Slowly move controller handle in "⬆️" forward direction until MEWP begins to move, and then return handle to center position.
Result: MEWP should move in forward direction, and then come to a stop.
5. Slowly move controller handle in "⬆️" reverse direction until MEWP begins to move, and then return handle to center position.
Result: MEWP should move in reverse direction, and then come to a stop.

- Test Brakes

**WARNING**

Brakes will engage instantly when you release the controller handle, causing MEWP to stop immediately.

1. Ensure path of intended motion is clear.
2. Activate and hold "⬆️" enable trigger switch.
3. Drive MEWP "⬆️" forward and then "⬆️" backward. Test brake by releasing controller handle.
Result: MEWP should come to a stop. If MEWP pulls to one side while stopping, do not operate MEWP until brake adjustments have been checked.
4. Drive MEWP "⬆️" forward and then "⬆️" backward. Test brake again by releasing "⬆️" enable trigger switch only.
Result: MEWP should come to an instant and abrupt stop. If MEWP does not stop immediately, or if MEWP pulls to one side while stopping, do not operate MEWP until brake adjustments have been checked.



- Test Horn

1. Push "Horn" horn pushbutton.
Result: Horn should sound.

- Test Platform Raising/Lowering

**WARNING**

Be aware of overhead obstructions or other possible hazards around the MEWP when lifting.

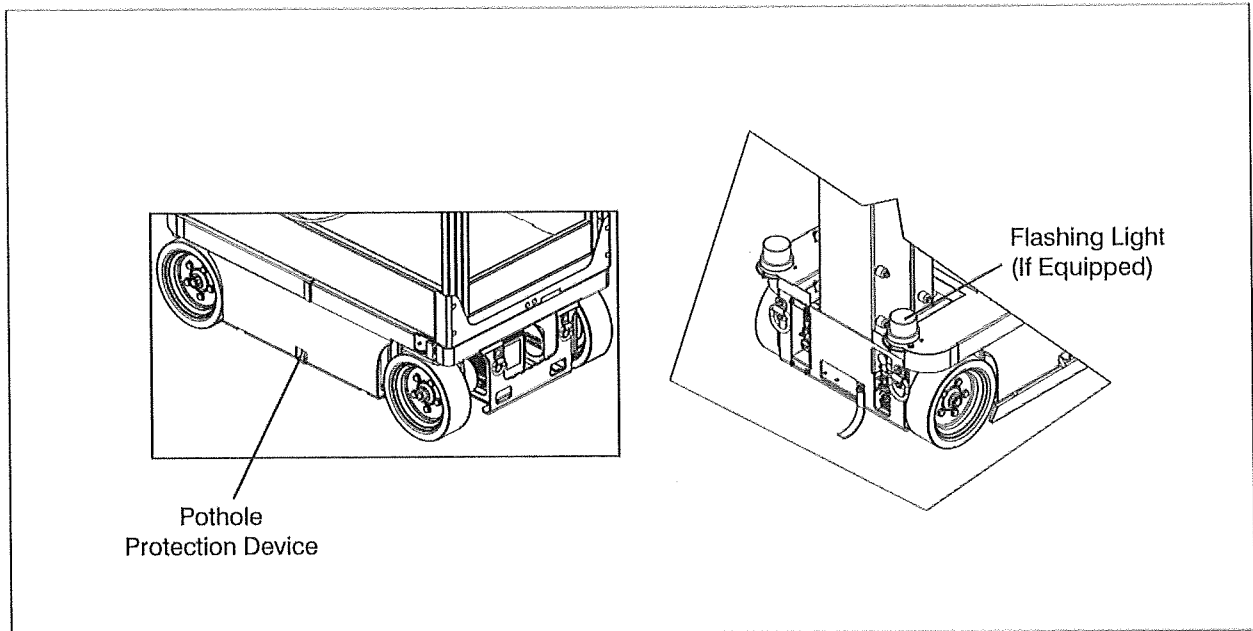
1. Select lift/off/drive switch to "L" lift position.
2. Without activating "Enable" enable trigger switch attempt to lift/lower the platform.
Result: MEWP lift/lower functions should not operate.
3. Activate and hold "Enable" enable trigger switch.
4. Push controller handle and raise the platform to an approximate height of 1 ft. (30.5 cm).
Result: Platform should rise.
5. Pull controller handle and lower the platform fully.
Result: Platform should lower.

- Test Elevated Drive Speed

**WARNING**

Be aware of overhead obstructions or other possible hazards around the MEWP when lifting.

1. Ensure path of intended motion is clear.
2. Raise the platform until approximately a height of 1 ft. (30 cm) is reached and attempt to drive forward or reverse.
Result: MEWP should move slower than when it was in stowed position.



- Test Pothole Sensor



WARNING
Ensure that you maintain three points of contact to mount/dismount platform.

1. Dismount from platform and place a block, approximately 1.5" (3.75 cm), under one side of the pothole protection device.
2. Open the gate (if equipped) and access the platform.
3. Close the gate (if equipped).
4. Raise the platform until approximately a height of 2 feet is reached and attempt to drive forward or reverse.
Result: MEWP should not move forward or backward.
5. Repeat the steps above with block placed under the other-side of the pothole protection device.
Result: MEWP should not move forward or backward.

- Test All Motion Alarm



WARNING
Be aware of overhead obstructions or other possible hazards around the MEWP when lifting.

1. Ensure path of intended motion is clear.
2. Activate any drive or lift functions.
Result: Alarm should sound.
3. Stop all platform motion.
Result: Alarm should stop.

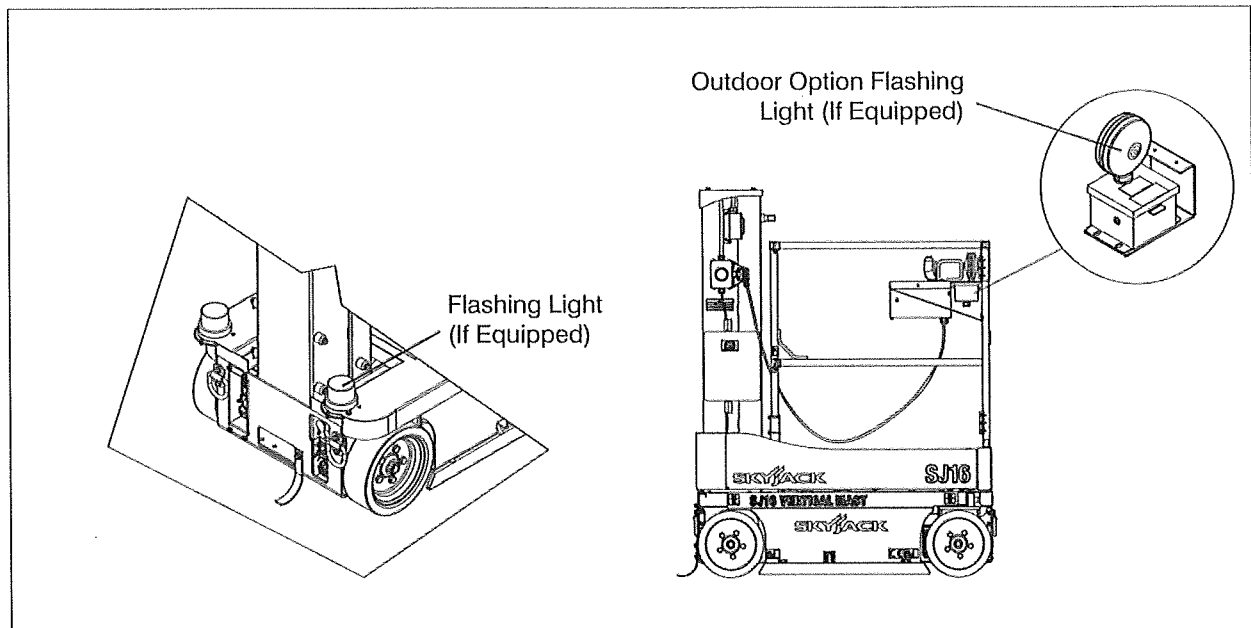
NOTE

On MEWP with certain options, a flashing amber light will accompany this alarm.

2.4-5 Optional Equipment/Attachments

- Test Flashing Light (If Equipped)

1. Ensure path of intended motion is clear.
2. Activate any drive or lift functions.
Result: Light should flash.
3. Stop all platform motion.
Result: Light should stop flashing.



- Test Lowering Only Alarm (If Equipped)

**WARNING**

Be aware of overhead obstructions or other possible hazards around the MEWP when lifting.

1. Ensure path of intended motion is clear.
2. Lift and lower the platform.
Result: Alarm should sound while platform is lowering.

NOTE

On MEWP with certain options, a flashing amber light will accompany this alarm.

- Test Outdoor Option Flashing Light (If Equipped)

In no wind conditions (0 m/s), attempt the following:

1. Raise the MEWP to 3.6 m (12 feet).
Result: Indicator light should flash.
2. Lower the MEWP below 3.6 m (12 feet).
Result: Indicator light should stop flashing.

**WARNING**

Do not operate the MEWP at a height exceeding 3.6 m (12 feet) if wind conditions exceed 0 m/s.

Vertical Mast

It is the responsibility of the operator to read, completely understand and follow all instructions and warnings contained in this operating manual and on the MEWP.

2.5 Winching and Towing Procedures

This section provides the operator with the Winching and Towing procedure, which includes instructions on how to manually release the brakes.



WARNING

Ensure platform is fully lowered before winching or towing. Sudden motion could cause the MEWP to become unstable. Death or serious injury could result.



WARNING

In emergency situations where MEWP functions are not available and lowering is impeded by an obstacle, utmost care must be taken to move MEWP far enough to clear the obstacle. In such cases, operation must be extremely smooth with no sudden movements and must not exceed a speed of 2"/sec (50 mm/sec).



WARNING

When pushing, winching or towing, do not exceed 2 mph (3.2 km/h).



WARNING

Do not push, winch or tow MEWP onto a slope, or brake the towing vehicle rapidly. Do not pull MEWP down an incline towards a winch.

2.5-1 To Release Brakes Manually



WARNING

Do not manually disengage brakes if the MEWP is on a slope.



WARNING

Brakes must be manually disengaged for pushing, winching or towing.

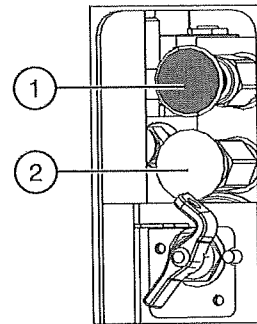


Figure 2-6. Brakes



WARNING

Brakes must be manually disengaged for pushing, winching or towing.

1. Ensure MEWP is on level ground. Chock or block wheels to keep MEWP from rolling.
2. Turn main power disconnect switch to "O" off position.
3. Locate the brake manifold at the rear of the base.
4. Push in brake auto reset valve plunger (item 2).
5. Grasp brake hand pump (item 1) and rapidly depress until firm resistance is felt. The brakes are now released.
6. Remove wheel chocks or blocks, then push, winch or tow MEWP to desired location.
7. Position MEWP on a firm and level surface.



WARNING

Brakes must be reengaged immediately after reaching the desired location.

8. Chock or block wheels to prevent MEWP from rolling.
9. Reengage the brake by pulling out the brake auto reset valve plunger.

2.6 Emergency Lowering Procedure

This section guides the operator on how to use the emergency lowering system. This system allows platform lowering in the event of an emergency or an electrical system failure.



WARNING

Keep clear of lifting mechanism when using emergency lowering valve.

1. Remove any obstructions from a lowering platform.
2. Platform may need to be retracted or MEWP may need to be moved to clear obstruction. Refer to Section 2.5 for winching and towing procedures.

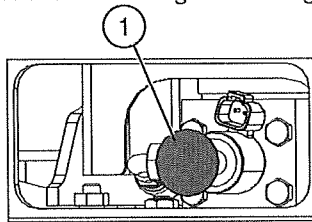


Figure 2-7. Emergency Lowering System

3. Locate the emergency lowering valve (item 1) at the base of the lift cylinder (rear of the base). Pull out and hold emergency lowering valve (item 1) to lower platform.

Notes

3.0 Operation

This section provides the necessary information needed to operate the MEWP. It is important that the user reads and understands this section before operating the MEWP.

3.1 General

In order for this MEWP to be in good working condition, it is important that the operator meets the necessary qualifications and follow the maintenance and inspection schedule referred to in this section.

3.1-1 Operator Qualifications

- Only trained and authorized personnel shall be permitted to operate an MEWP.
- Safe use of this MEWP requires the operator to understand the limitations and warnings, operating procedures and operator's responsibility for maintenance. Accordingly, the operator must understand and be familiar with this operating manual, its warnings and instructions, and all warnings and instructions on the MEWP.
- The operator must be familiar with employer's work rules and related government regulations and be able to demonstrate the ability to understand and operate this make and model of MEWP in the presence of a qualified person.

3.1-2 Operator's Responsibility for Maintenance



WARNING

Maintenance must be performed by trained and competent personnel who are familiar with mechanical procedures.

Death or serious injury could result from the use of an MEWP that is not properly maintained or kept in good working condition.

- The operator must be sure that the MEWP has been properly maintained and inspected before using it.
- The operator must perform all the daily inspections and function tests found in Table 4.6, even if the operator is not directly responsible for the maintenance of this MEWP.

3.1-3 Maintenance and Inspection Schedule

- The inspection points covered in Table 4.6 indicate the areas of the MEWP to be maintained or inspected and at what intervals the maintenance and inspections are to be performed.
- The actual operating environment of the MEWP may affect the maintenance schedule.



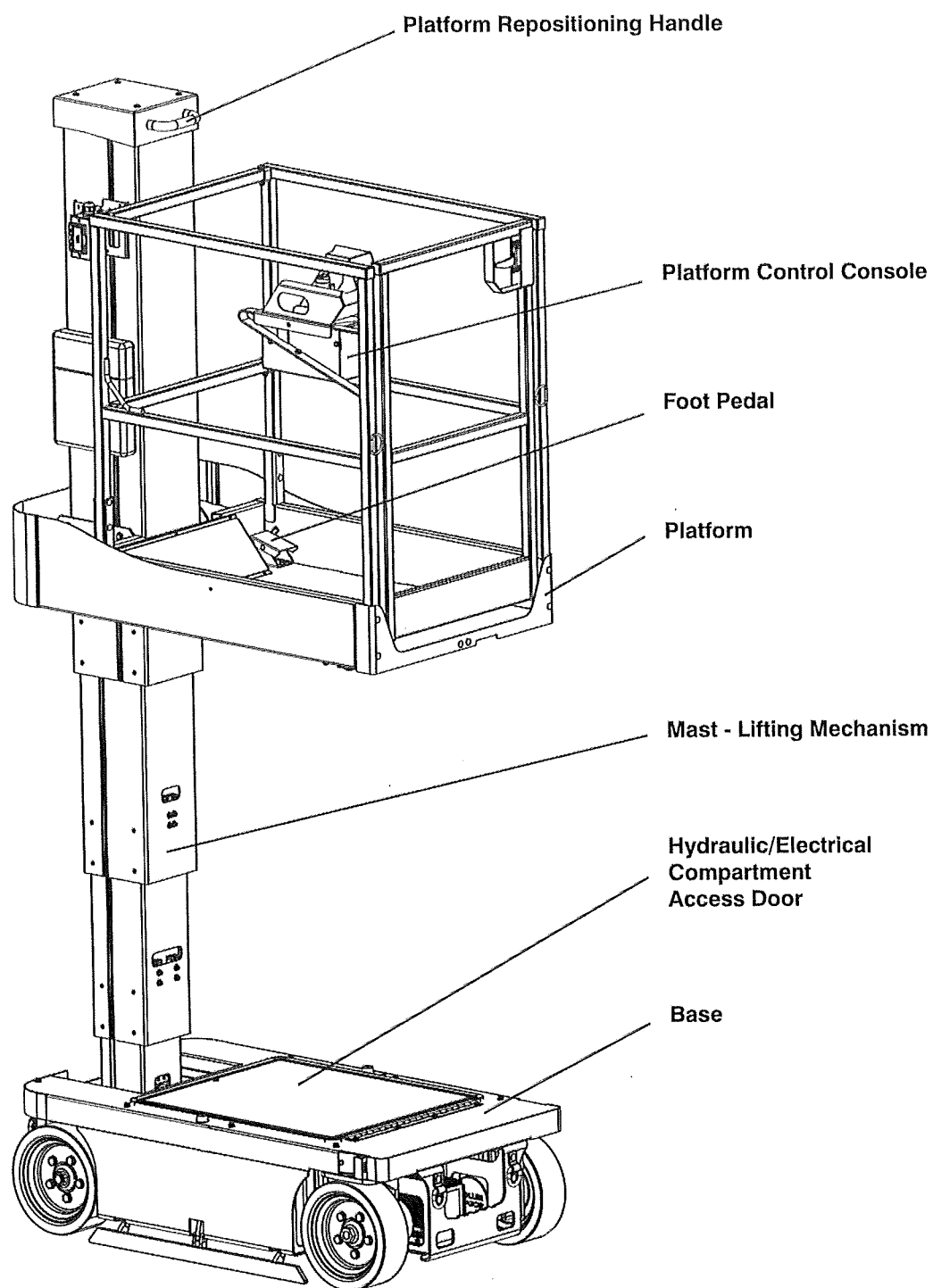
WARNING

Use original or manufacturer-approved parts and components for the MEWP.

3.1-4 Owner's Inspections

It is the responsibility of the owner to arrange daily, quarterly (or 150 hours) and annual inspections of the MEWP. Refer to Table 4.6 for recommended maintenance and inspection areas and intervals. A record of annual inspection is kept on a label located on the Mast. Refer to Table 4.2 in this manual.

3.2 Major Components



SKYJACK Vertical Mast Series MEWP

3.3 Major Assemblies

The MEWP consists of three major assemblies: base, lifting mechanism and platform.

3.3-1 Base

The base is a rigid, one-piece weldment which contains hydraulic, electrical components and four (4) 6 volt batteries. The front wheels are driven by hydraulic motors, steerable by a hydraulic cylinder. The rear wheels are non-driven, with spring-applied hydraulically released brakes.

3.3-2 Lifting Mechanism

The lifting mechanism is constructed of formed steel. The Mast assembly is raised and lowered by a series of chains and a single-acting hydraulic lift cylinder with holding valves. A pump, driven by an electric motor, provides hydraulic power to the lift cylinders.

3.3-3 Platform

The platform is constructed of a tubular support frame, a skid-resistant "diamond plate" deck surface and 43.25" fixed guardrails with 6" toe boards and mid-rails. The platform can be entered from the front through a spring-returned gate with latch (if equipped).

3.4 Serial Number Nameplate

The serial number nameplate, located at the rear of the MEWP, lists the following:

- Model number
- Serial number
- MEWP weight
- Maximum drivable height
- Maximum capacities
- Maximum number of persons permissible on the platform
- Voltage
- System pressure
- Lift pressure
- Maximum platform height
- Maximum wheel load
- Date manufactured

3.5 Component Identification

The following descriptions are for identification, explanation and locating purposes only.

3.5-1 Manual Storage Box

This weather-resistant box is mounted on the Mast. It contains operating manual and certificate.

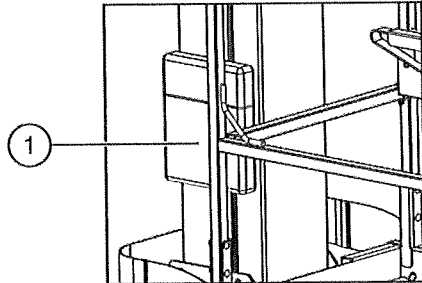


Figure 3-1. Manual Storage Box

1. The operating manual for this make and model of MEWP must remain with the MEWP and should be stored in this box.

3.5-2 Battery Charger

The charger is located at the front of the base. Refer to Section 3.12-2 for battery charging operation.

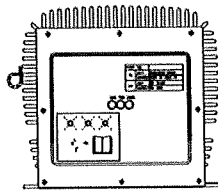


Figure 3-2. Battery Charger

3.5-3 Pothole Protection Device

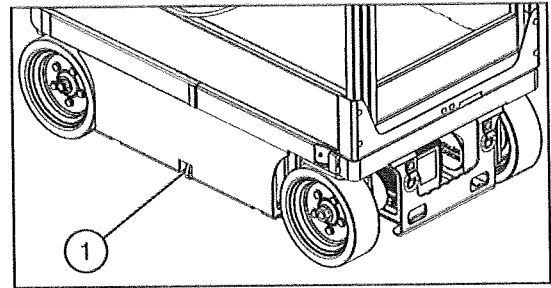


Figure 3-3. Pothole Protection Device

1. **Pothole Protection Device** - This device consists of a set of mechanically actuated steel weldments located under the base. These weldments will automatically rotate for reduced ground clearance when elevating the MEWP. If the pothole protection device has not fully lowered, the drive function will be disabled.



WARNING

Crushing Hazard - Personnel on ground must stay clear of pothole protection device.



WARNING

Do not drive elevated in areas where electrical cords or debris are in the path of travel.

Maintenance of the Pothole Protection Device

As with all safety devices, periodic inspection and maintenance is required to ensure the proper operation of the pothole protection device. This mechanism is designed to reduce ground clearance and assist in the stability of an elevated MEWP in the event the MEWP encounters a "drop-off" or "pothole." The nature of this safety feature relies on maintaining a consistent ground clearance, therefore, if the MEWP ever does come to rest on the pothole device, the platform should be immediately lowered and "locked out" to prevent further use until a complete inspection of the mechanism is performed by a qualified technician.

3.5-4 Platform Maintenance Lock Mechanism

This locking mechanism is located underneath the platform.

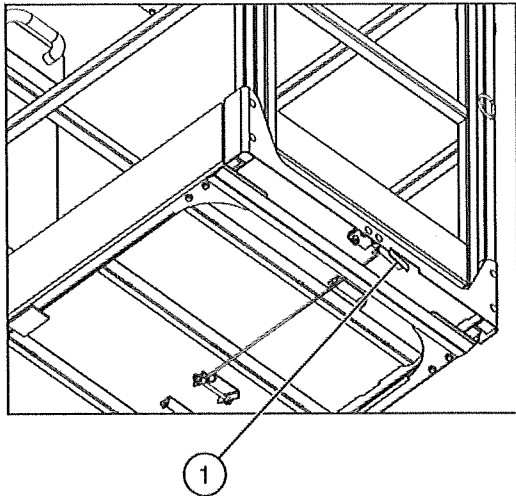


Figure 3-4. Platform Maintenance Lock

1. The MEWP is equipped with a maintenance lock mechanism. When engaged, it allows access to the hydraulic/electrical compartment. During this access, it disables all functions.

**CAUTION**

MEWP motion can occur when engaging diagnostic switch.

2. Hydraulic functions can be enabled by engaging the diagnostic switch.

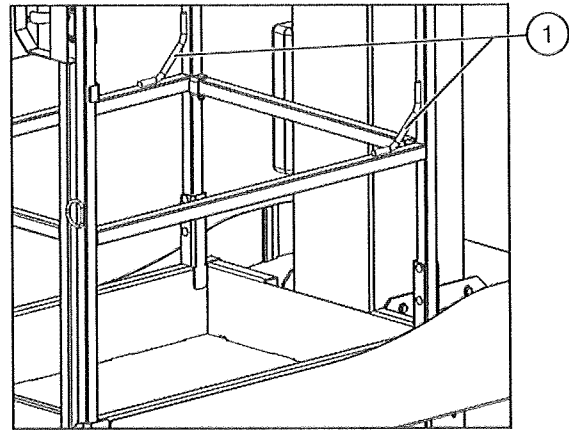
3.5-5 Fall Protection Anchorage

Figure 3-5. Fall Protection Anchorage

1. **Fall Protection Anchorage** - Use this as an attachment point for a fall restraint system. Do not attach anchorage connectors to any other point on the platform. Do not use this to lift, anchor, secure or support the platform or any other apparatus or material.

**WARNING**

The fall protection anchorage is to be used for restraint, within the limits of the platform, only.

3.6 Component Identification (Optional Equipment/Attachments)

The following descriptions are for identification, explanation and locating purposes only.

3.6-1 Flashing Light (If Equipped)

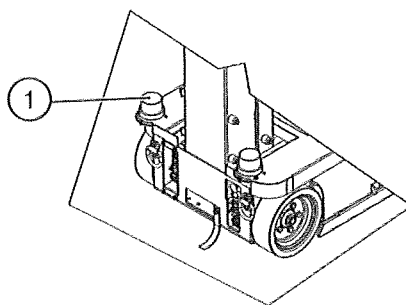


Figure 3-6. Flashing Light

1. **Flashing Light Option** - This light is attached to the base of the platform and flashes when any movement control is activated.

3.6-2a Outdoor Option Flashing Light (If Equipped)

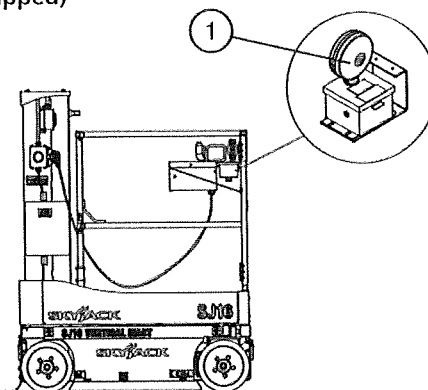


Figure 3-7. Outdoor Option Flashing Light

1. **Outdoor Option Flashing Light** - This light is attached to the flashing light box. If the emergency stop button/operation light is illuminated, the outdoor option flashing light flashes when the platform is raised above 3.6 m (12 feet). Refer to Section 3.6-2b for usage limitations.

3.6-2b Outdoor Option - Maximum Platform Capacities (Evenly Distributed)

MODEL	Capacity		Platform Height	Maximum Wind Speed	Max. Manual Force	Tilt Cutout Setting
*SJ16	227 kg	1 Person(s)	3.6 m	12.5 m/s	200 N	1.5 degrees x 3 degrees
			4.75 m	No wind		

263AA_AS_SJ16_OutdoorOpt

*If used in wind condition above 0 m/s, elevation must not exceed 3.6 m (12 feet).



WARNING

Do not operate the MEWP at a height exceeding 3.6 m (12 feet) if wind conditions exceed 0 m/s.



WARNING

MEWP must be equipped with working flashing light and limit switch to be able to elevate the MEWP in wind conditions above 0 m/s.

3.7 Operator's Responsibility

It is the responsibility of the operator, prior to each work shift, to perform the following:

1. Visual and Daily Maintenance Inspections

- are designed to discover any damage of components before the MEWP is put into service.
- are done before the operator performs the function tests.

**WARNING**

Failure to locate and repair damage, and discover loose or missing parts may result in an unsafe operating condition.

2. Function Tests

- are designed to discover any malfunctions before the MEWP is put into service.

IMPORTANT

The operator must understand and follow the step-by-step instructions to test all MEWP functions.

The operator should make a copy of the Operator's Checklist (see Table 4.7) and fill out the visual and daily maintenance inspections and the function tests sections while performing the items outlined in Section 2.3 and Section 2.4.

IMPORTANT

If MEWP is damaged or any unauthorized variation from factory-delivered condition is discovered, MEWP must be tagged and removed from service.

Repairs to the MEWP may only be made by a qualified service technician. After repairs are completed, the operator must perform visual and daily maintenance inspections & function tests again.

Scheduled maintenance inspections shall only be performed by qualified service technician (see Table 4.6).

3.8 Start Operation

Carefully read and completely understand the operating manual and all warnings and instruction labels (refer to Section 5 - Labels) on the MEWP.



WARNING

Do not operate this MEWP without proper authorization and training. Failure to avoid this hazard could result in death or serious injury.

Before operating this MEWP, perform the following steps:

1. Visual and daily maintenance inspections (see Section 2.3)
2. Function tests (see Section 2.4)
3. Job site inspection
It is the responsibility of the operator to perform a job site inspection and avoid the following hazardous situations:
 - holes or drop-offs
 - ditches or soft fills
 - floor obstructions, bumps or debris
 - overhead obstructions
 - electrical cords, hoses and high voltage conductors
 - hazardous locations
 - inadequate surface support to withstand all load forces imposed by the MEWP
 - wind and weather conditions
 - the presence of unauthorized personnel
 - other possible unsafe conditions



WARNING

An operator should not use any MEWP that:

- does not appear to be working properly.
- has been damaged or appears to have worn or missing parts.
- has alterations or modifications not approved by the manufacturer.
- has safety devices which have been altered or disabled.

Failure to avoid these hazards could result in death or serious injury.

3.8-1 To Activate Base Control Console



WARNING

Ensure that you maintain three points of contact to mount/dismount platform.

1. Open the gate (if equipped) and access the platform.
2. Close the gate (if equipped).
3. On platform control console, pull out "●" emergency stop button.
4. Dismount from platform.
5. Turn main power disconnect switch to "I" on position.
6. On base control console, pull out "●" emergency stop button.

3.8-2 To Raise or Lower Platform Using Base Control Console



WARNING

Be aware of overhead obstructions or other possible hazards around the MEWP when lifting.



WARNING

Do not lower the platform unless the area is clear of personnel and obstructions.

1. Select and hold off/platform/base key switch to "⏏" base position.
2. Select and hold lower/neutral/raise switch to either "↑" raise or "↓" lower position. Release switch to stop.

3.8-3 To Activate Platform Control Console

1. Turn main power disconnect switch to "I" on position.
2. On base control console, pull out "⊙" emergency stop button.
3. Select base/off/platform key switch to "⏮" platform position.

**WARNING**

Ensure that you maintain three points of contact to mount/dismount platform.

4. Open the gate (if equipped) and access the platform.
5. Close the gate (if equipped).
6. On platform control console, pull out "⊙" emergency stop button.

3.8-4 To Raise or Lower Platform Using Platform Control Console

**WARNING**

Be aware of overhead obstructions or other possible hazards around the MEWP when lifting.

**WARNING**

Do not lower the platform unless the area below is clear of personnel and obstructions.

1. On platform control console, select lift/off/drive switch to "⏮" lift position.
2. Activate and hold "⏮" enable trigger switch.
3. Move controller handle forward or backward until desired height is reached.
4. Return controller to neutral center position to stop. Release "⏮" enable trigger switch.

**WARNING**

To protect against unintended movement of the MEWP, push in the emergency stop button after you have arrived at your desired location or elevation.

NOTE

If the tilt alarm sounds and the platform does not, or only partially raises, immediately lower the platform completely and ensure that the MEWP is on a firm level surface.

3.8-5 To Drive Forward or Backward

**WARNING**

Be aware of blind spots when operating the MEWP.

**WARNING**

Ensure that there are no personnel or obstructions in the path of travel, including blind spots.

NOTE

An interlock limit switch will cutout drive functions when the platform is not fully retracted.

1. On platform control console, select lift/off/drive switch to "⏮" position.
2. Activate and hold "⏮" enable trigger switch.
3. Move controller handle "⏮" forward/up or "⏮" backward/down to desired speed and direction of MEWP travel.
4. Return controller to neutral center position to stop. Release "⏮" enable trigger switch.

**WARNING**

To protect against unintended movement of the MEWP, push in the emergency stop button after you have arrived at your desired location or elevation.

3.8-6 To Steer

1. On platform control console, select lift/off/drive switch to drive  position.
2. Activate and hold  enable trigger switch.
3. Press  rocker switch on top of controller handle in either direction to steer.

NOTE

Steering is not proportional. Driving and steering may be active at the same time.

3.8-7 Shutdown Procedure

1. Completely lower the platform.
2. On platform control console, push in  emergency stop button.

**WARNING**

Ensure that you maintain three points of contact to mount/dismount platform.

3. Dismount from platform.
4. On base control console, push in  emergency stop button.
5. On base control console, select off/platform/base key switch to  off position and remove the key.
6. Turn main power disconnect switch to  off position.

3.9 Loading/Unloading

Know and heed all national, state or territorial/provincial and local rules which apply to your loading/unloading of MEWPs.

Only qualified personnel shall operate the MEWP during loading/unloading.

Be sure vehicle capacity and loading equipment hoists, chains, straps, etc., are sufficient to withstand maximum MEWP weight.

The transport vehicle must be parked on a level surface and must be secured to prevent rolling while MEWP is being loaded/unloaded.

3.9-1 Driving

Before driving the MEWP:

- Ramp or dock capacity should be sufficient to withstand maximum MEWP weight.
- Ramp should be equipped with side guards to prevent inadvertent fall from the ramp.
- Incline should not exceed MEWP gradeability, as illustrated in Figure 3-9.
- MEWP brakes should be checked for proper operation.



WARNING

When transporting, the MEWP must be secured to the truck or trailer deck. Tie downs are available as illustrated in Figure 3-8.

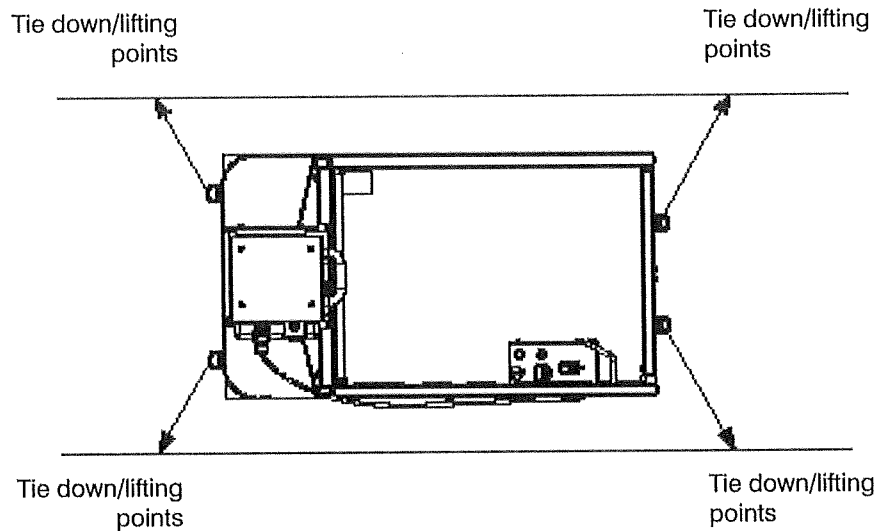
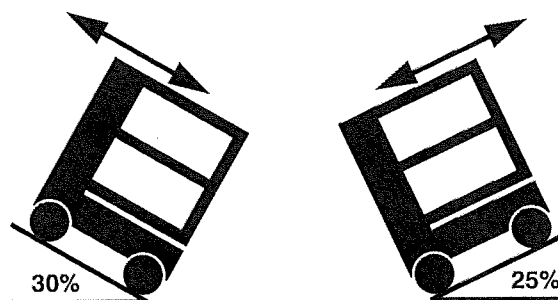


Figure 3-8. Tie Downs/Lifting Points



Gradeability 30%: Climbing reverse - Descending forward
Gradeability 25%: Climbing forward - Descending reverse

Figure 3-9. Maximum Gradeability of Inclined Driving

3.9-2 Lifting

**WARNING**

Only qualified rigger shall operate machinery during lifting.

When it is necessary to lift the MEWP, the following conditions must be met:

- The platform must be fully lowered.
- The main power disconnect switch must be in "O" off position.
- The traversing platform must be retracted and secured.
- The platform control console must be secured to the railing or removed.
- The platform must be cleared of all personnel, tools and materials.
- The lifting/rigging must be attached to all four lifting points as illustrated in Figure 3-8.

- An appropriate spreader bar and straps/chains or other suitable lifting devices may be used during lifting. Refer to Figure 3-10 for an example of an appropriate lifting method.

IMPORTANT

Using an inappropriate lifting method, as shown in Figure 3-11, may result in damage to the aerial platform.

- The MEWP can be lifted with a forklift from the sides. Lift with forks in designated forklift lifting locations as illustrated in Figure 3-12.

NOTE

The mass of the MEWP is as per Table 4.3. The center of gravity is approximately located in the middle of the MEWP, front to back and side to side, as illustrated in Figure 3-12. Vertically, the center of gravity is approximately just above the base chassis.

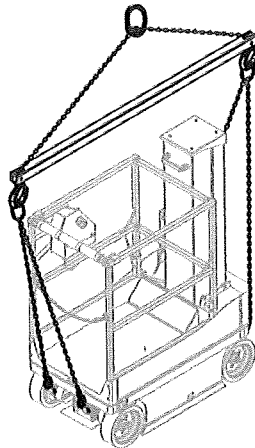


Figure 3-10. Appropriate Lifting Method

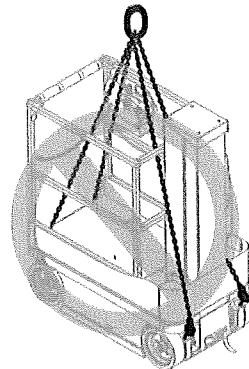


Figure 3-11. Inappropriate Lifting Method

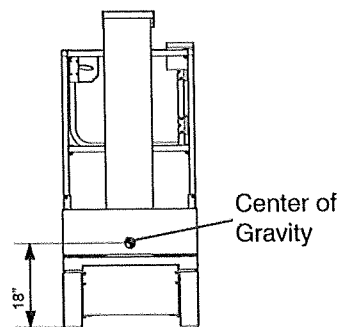
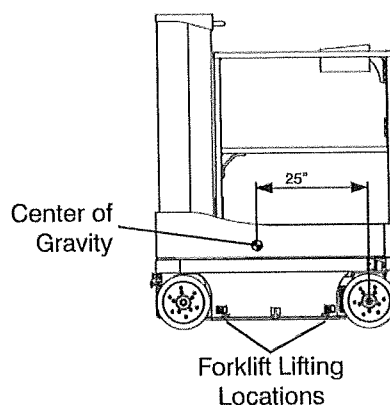


Figure 3-12. Center of Gravity/Forklift Lifting Locations

3.10 Platform Traversing

NOTE

An interlock limit switch will cutout drive functions when the platform is not fully retracted.

1. To traverse platform, step on the foot pedal on the platform (item 1) and grasp the platform repositioning handle (item 2) then carefully push/pull the platform until desired location is reached.

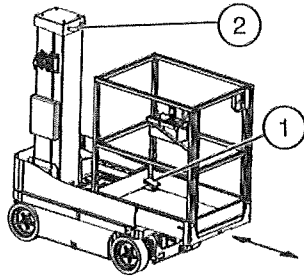


Figure 3-13. Traversing Platform

2. Ensure foot pedal (item 1) rests in one of the locking slots.

3.11 Accessing the Hydraulic/Electrical Compartment

1. Ensure MEWP is on firm and level ground.
2. Fully lower the platform into stowed position.



CAUTION

The following procedure must be done from outside of the platform.

3. Depress foot pedal on the platform (item 1), then pull platform as far as possible towards maintenance position.

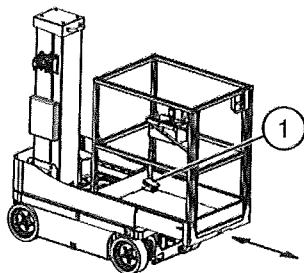


Figure 3-14. Traversing Platform

4. Locate platform maintenance locking mechanism underneath the platform.
5. Unlatch maintenance locking mechanism by pulling and holding the handle (item 2), then pull the platform fully to the maintenance position.

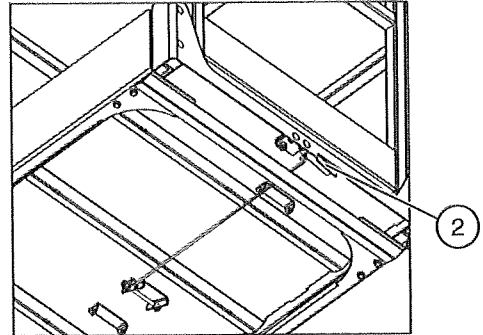


Figure 3-15. Maintenance Lock

NOTE

An interlock limit switch will cutout all functions when the platform is in maintenance position.

6. Open hydraulic/electrical compartment cover and properly install the prop bar (item 3).

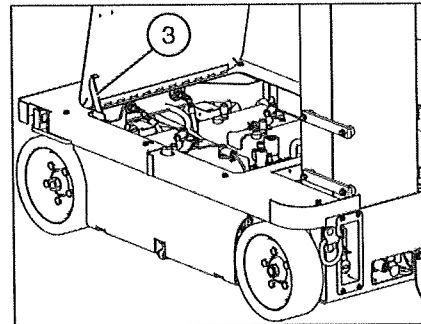


Figure 3-16. Prop Bar

3.12 Battery Maintenance

This section provides the operator with procedures on how to service and charge the battery. This also provides charger operation instructions.

3.12-1 Battery Service Procedure



WARNING

Explosion Hazard - Keep flames and sparks away. Do not smoke near batteries.



WARNING

Battery acid is extremely corrosive - Wear proper eye and facial protection as well as appropriate protective clothing. If contact occurs, immediately flush with cold water and seek medical attention.

1. Turn main power disconnect switch to "○" off position.
2. Check battery case for damage.
3. Check battery fluid level in each battery. If plates are not covered by at least 1/2" (13 mm) of solution, add distilled or demineralized water.
4. Clean battery terminals and cable ends thoroughly with a terminal cleaning tool or wire brush.
5. Make sure all battery connections are tight.
6. Replace any battery that is damaged or incapable of holding a lasting charge.
7. Do not use any batteries other than flooded lead-acid batteries of the proper Ah rating.



WARNING

Use original or equivalent to the original parts and components for the MEWP.

3.12-2 Battery Charging Operation

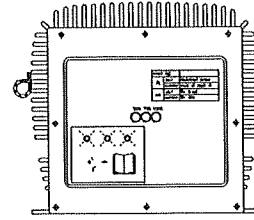


Figure 3-17. Battery Charger



DANGER

Risk of electric shock - Do not immerse the charger in water. Though the charger is highly resistant to water, it is not designed for immersion and an electric shock can occur.

1. Provide adequate ventilation for the batteries and charger. The convection cooled design requires access to cooling air for proper operation. Do not allow blankets or other materials to cover the charger. Although the charger protects itself against overheating, the charger cooling fins should be cleaned if clogged with debris for best performance.



WARNING

There could be a spark during charging. Be careful when using fuels, solvents or other flammables near the charger or batteries.

2. Connect the power supply cord to a properly grounded 100V/50 or 60Hz, 115V/50 or 60Hz, or 230V/50 or 60Hz socket. This charger automatically senses and adjusts to the AC input voltage range.



CAUTION

When changing the input voltage wait until all the LEDs are OFF or wait a minimum of 20 seconds before switching on the new voltage.

3. The charging time is affected by numerous factors including battery Amp-Hour capacity, depth of discharge, battery temperature, and battery condition (new, old or defective). Batteries larger than 240 AH can be recharged but will take longer.

**WARNING**

Do not disconnect the DC output wires near the batteries when the charger is ON. The resulting arcing could cause the batteries to explode. If the charger must be disconnected, first disconnect the AC power supply cord from its outlet, then disconnect the charger DC connections.

**WARNING**

Risk of an electric shock - Do not touch un-insulated parts of the charger output wires, battery connector, or battery terminals.

**WARNING**

Visually and manually inspect to verify the DC output wires and terminals are in good working condition before each use.

4. The charger will start automatically within four to six seconds. The charger will start even with severely discharged batteries (down to 1V terminal voltage). Once charging starts, the LEDs indicate the charging progress.

Charging State LED

State of charge	1 ST LED	2 ND LED	3 RD LED
0 to 50%	Blinking	Off	Off
50% to 75%	On	Blinking	Off
75% to 100%	On	On	Blinking
100%	On	On	On

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The charger goes into an equalizing charge mode after the batteries are charged and all 3 LEDs are "ON". The charger will continue to charge at a low current then shut off automatically when complete. If all 3 LEDs blink together, there is a problem.

Take proper action according to the following instructions:

3 LEDs blink once simultaneously:

Output connection error. Check the battery and charger connection. The output may not be connected to the batteries or the connections to the batteries may have corroded or loosened. The output may be shorted due to improper connection to the batteries or pinched wires. The output may be connected in reverse polarity to the batteries. The charger is not damaged by any of these problems.

3 LEDs blink twice simultaneously:

The charger is indicating that the AC voltage is too low or too high. Check the AC input voltage.

3 LEDs blink three times simultaneously:

Charger is overheated. No action required. When the charger cools, charging will restart automatically. Check and correct for dirt or other debris on charger that may be reducing cooling.

3 LEDs blink four times simultaneously:

Input or output over current. No action required, charger will correct and restart automatically.

100% LED lamp blinks:

Charger 18-hour timer has timed out due to battery problem.

Batteries do not fully charge.

If the batteries are charged overnight, make sure the AC supply is not being switched off at night with other building items. Check battery condition and for dead cells or reduced capacity. Replace charger only if other problems are not found.

The AC line circuit breaker or fuse is blown.

A defective circuit breaker or fuse, an overloaded circuit, or a charger problem can cause this condition. Try connecting the charger to a different AC outlet (on a different circuit) in the building. If the AC supply checks good, the charger should be replaced.

Notes

Table 4.1 Standard and Optional Features

Models	SJ12	SJ16
STANDARD EQUIPMENT		
Maximum drive height	Full Height	Full Height
Variable speed, front two wheel hydraulic drive	*	*
Zero inside turn radius	*	*
Dual holding brakes	*	*
Proportional controls	*	*
24V DC power source	*	*
Low voltage battery protection	*	*
Solid rubber, non-marking tires	*	*
Pothole protection system	*	*
Tilt alarm with drive & lift cut-out	*	*
Fall protection anchorage(s)	*	*
Operator horn	*	*
Lift lugs/tie downs	*	*
Relay based control system	*	*
Color coded and numbered wiring system	*	*
Platform traversing	*	*
Full height spring hinged gate	*	*
Grey nonmarking tires	*	*
All motion audible alarm	*	*
OPTIONAL EQUIPMENT		
Flashing light	*	*
AC inverter	*	*
Saloon spring hinged gate	*	*
Bio oil	*	*
Lowering only alarm	*	*
White nonmarking tires	*	*
Outdoor Option Flashing Light		*
ATTACHMENTS		
Light duty pipe rack/steel stud rack	*	*
Tool tray	*	*

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4

Table 4.2 Owner's Annual Inspection Record

										
 Model Number: _____ Serial Number: _____										
*		20__	20__	20__	20__	20__	20__	20__	20__	20__
**		SKYJACK								

1000AB

This decal is located on the mast below the hourmeter. It must be completed after an annual inspection has been completed. Do not use the aerial platform if an inspection has not been recorded in the last 13 months.

	Pictorial	Description
*		Inspection Date
**		Inspector Signature

Table 4.3 Specifications and Features

MODEL	SJ12	SJ16
Weight *	780 kg	966 kg
Overall Width	77.5 cm	77.5 cm
Overall Length	140 cm	140 cm
Platform Size (inside)	68.6 x 93.5 cm	68.5 x 93.5 cm
Platform Traversing	38.3 cm	38.3 cm
Height		
Working Height	5.66 m	6.75 m
Platform Elevated Height	3.66 m	4.75 m
Stowed Height	178.6 cm	178.6 cm
Drive Height	Full	Full
Lowered Platform Height	45.7 cm	45.72 cm
Standard Operating Times		
Lift Time (Rated Load)	13 - 16 s	16 - 25 s
Lower Time (Rated Load)	13 - 17 s	17 - 19 s
Chassis		
Normal Drive Speed	3.1 - 4.0 km/h	3.1 - 4.0 km/h
Elevated Drive Speed	0.6 - 0.8 km/h	0.6 - 0.8 km/h
Gradeability (Ramp Angle (Rev/Fwd))**	30% / 25%	30% / 25%
Tires (Solid Rubber)	309 x 100 mm	309 x 100 mm
Hydraulic Oil		
Type	ATF Dexron III	ATF Dexron III
Tank Capacity	4.92 L	4.92 L

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* Weights are approximate; refer to serial nameplate for specific weight.

** Refer to Section 3.9 Loading/Unloading for more details.

Table 4.4 Maximum Platform Capacities (Evenly Distributed)

MODEL	Capacity		Maximum Wind Speed	Max. Manual Force	Tilt Cutout Setting
SJ12	227 kg	2 Person(s)	No wind	400 N	1.5 degrees x 3 degrees
		1 Person(s)	12.5 m/s	200 N	
SJ16	227 kg	2 Person(s)	No wind	400 N	1.5 degrees x 3 degrees

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NOTE

Refer to Section 3.6-2b for SJ16 MEWPs equipped with the Outdoor Option.

Table 4.5 Floor Loading Pressure

MODEL		Total Aerial Platform Weight	Total Aerial Platform Load	
		kg	Wheel	OUP**
			kg	kPa (kN/m ²)
SJ12	min*	780	220	7.0
	max*	1007	350	9.4
SJ16	min*	966	290	9.0
	max*	1193	477	11.2

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* min - Aerial platform weight with no options

max - Aerial platform weight + all options + full capacity

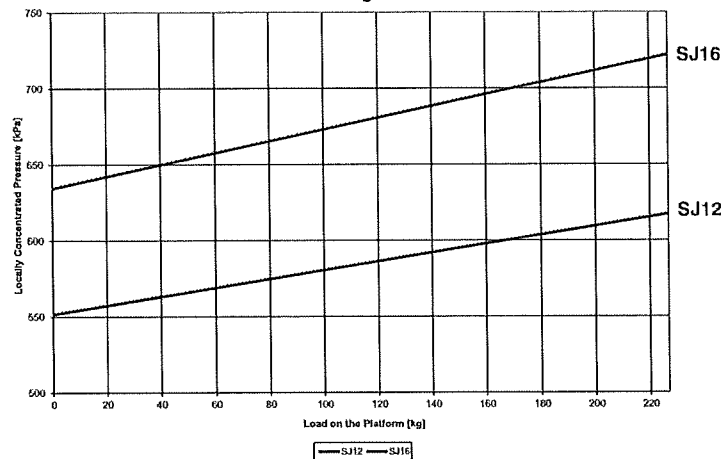
** LCP - **Locally Concentrated Pressure** is a measure of how hard the aerial platform presses on the areas in direct contact with the floor. The floor covering (tile, carpet, etc.) must be able to withstand more than the indicated values above.

OUP - **Overall Uniform Pressure** is a measure of the average load the aerial platform imparts on the whole surface directly underneath it. The structure of the operating surface (beams, etc.) must be able to withstand more than the indicated values above.

NOTE:

The LCP or OUP that an individual surface can withstand varies from structure to structure and is generally determined by the engineer or architect for that particular structure.

Floor Loading Pressure



Floor Loading Pressure

Locally Concentrated Pressure (LCP):

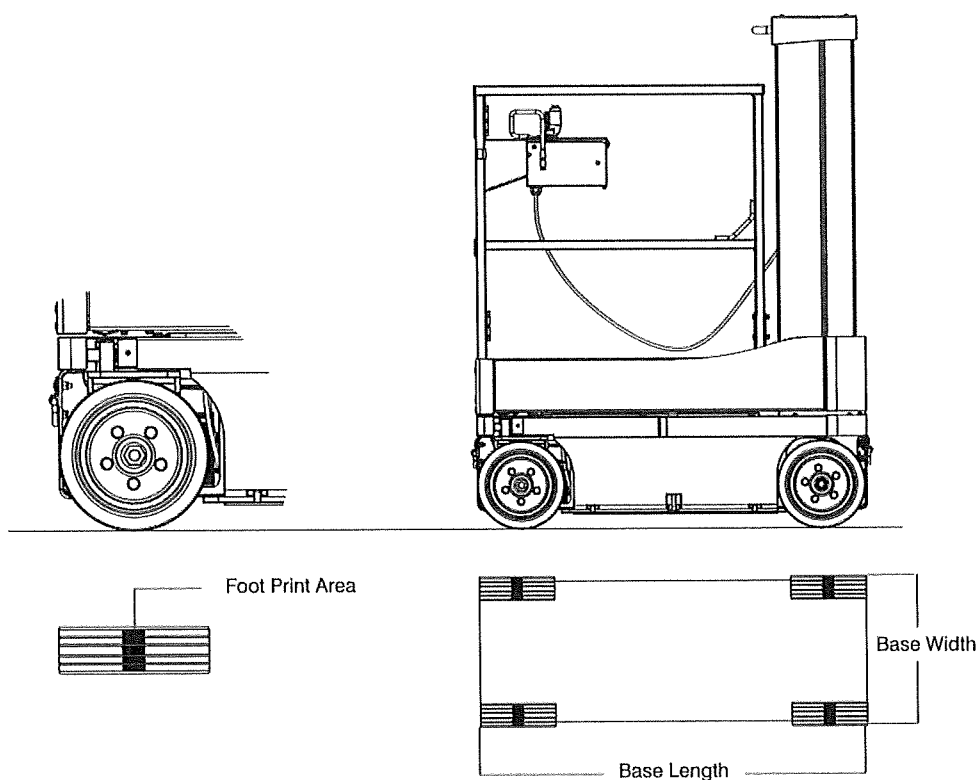
Foot Print Area identified by test.

$$\text{LCP} = \frac{\text{Wheel Load}}{\text{Foot Print Area}}$$

Overall Uniform Pressure (OUP):

Base Area = Length x Width

$$\text{OUP} = \frac{\text{Weight of MEWP} + \text{Capacity}}{\text{Base Area}}$$

**WARNING**

Intermixing tires of different types or using tires of types other than those originally supplied with this equipment can adversely affect stability. Therefore, replace tires only with the exact Skyjack-approved type. Failure to operate with matched approved tires in good condition may result in death or serious injury.

General Maintenance

Before attempting any repair work, disconnect the battery by turning the main power disconnect switch to "○" off position. Preventive maintenance is the easiest and least expensive type of maintenance.

Table 4.6 Maintenance and Inspection Schedule

Frequency	Daily	3 months or 150 hours	Yearly	Frequency	Daily	3 months or 150 hours	Yearly
Visual and Daily Maintenance Inspections				Function Tests			
Labels	A	B*†		Test Main Power Disconnect Switch	A	B*†	
Electrical	A			Base Control Console	A		
Limit Switches	A			Test Base Emergency Stop Light	A		
Hydraulic	A			Test Base Emergency Stop	A		
Base	A			Test Off/Platform/Base Switch	A		
Main Power Disconnect Switch	A			Test Lower/Neutral/Raise Switch	A		
Base Control Switches	A			Test Emergency Lowering	A		
Battery Charger	A			Test Platform Maintenance Limit Switch	A		
Pothole Protection Device	A			Platform Control Console	A		
Wheel/Tire Assembly	A			Test Platform Emergency Stop	A		
Platform Assembly	A			Test Enable Trigger Switch	A		
Fall Protection Anchorage(s)	A			Test Lift/Off/Drive Switch Off Position	A		
Platform Control Console	A			Test Steering	A		
Manuals	A			Test Drive Cutout Limit Switch	A		
Hydraulic/Electrical Compartment	A			Test Driving	A		
Battery	A			Test Brakes	A		
Main Manifolds	A			Test Horn	A		
Hydraulic Tank	A			Test Platform Raising/Lowering	A		
Hydraulic Pump and Motor	A			Test Elevated Drive Speed	A		
Hydraulic Oil	A			Test Pothole Sensor	A		
Steer Cylinder Assembly	A			Optional Equipment/Attachments	A		
Motor Controller	A			Test Flashing Lights (If equipped)	A		
Tilt Sensors	A			Test All Motion Alarm (If equipped)	A		
Limit Switches	A			Test Lowering Only Alarm (If equipped)	A		
Lifting Mechanism	A			Test Outdoor Option Flashing Light (If equipped)	A		
Mast Assembly	A						
Wear Pads	A						
Chains	A						
Optional Equipment/Attachments	A						
Flashing Lights (If equipped)	A						
Pipe Rack (If equipped)	A						
Outdoor Option Flashing Light & Limit Switch (If equipped)	A						

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A - Perform Visual and Daily Maintenance Inspections & Functions Test. Refer to Section 2.3 and Section 2.4 of this manual.

B - Perform Scheduled Maintenance Inspection. Refer to Service & Maintenance manual.

* - Maintenance must be performed only by trained and competent personnel who are familiar with mechanical procedures.

† - Refer to Skyjack's website @ www.skyjack.com for latest service bulletins prior to performing quarterly or yearly inspection.



WARNING

Use original or equivalent to the original parts and components for the MEWP.

NOTE

The owner's annual inspection decal must be completed after an annual inspection has been completed.

Table 4.7 Operator's Checklist

OPERATOR'S CHECKLIST

Serial Number: _____

Model: _____

Hourmeter Reading: _____

Date: _____

Time: _____

Operator's Name (Printed): _____

Operator's Signature: _____

Each item shall be inspected using the appropriate section of the Skyjack operating manual.
As each item is inspected, check the appropriate box.

P - PASS
F - FAIL
R - REPAIRED
NA - NOT APPLICABLE

INSPECTION FREQUENCY

☐ FREQUENTLY
☐ DAILY
☐ ANNUALLY
☐ BI-ANNUALLY

	N/A	P	F	R
Visual and Daily Maintenance Inspections				
Labels				
Electrical				
Limit Switches				
Hydraulic				
Base				
Main Power Disconnect Switch				
Base Control Switches				
Battery Charger				
Pothole Protection Device				
Wheel/Tire Assembly				
Platform Assembly				
Fall Protection Anchorage(s)				
Platform Control Console				
Manuals				
Hydraulic/Electrical Compartment				
Battery				
Main Manifolds				
Hydraulic Tank				
Hydraulic Pump and Motor				
Hydraulic Oil				
Steer Cylinder Assembly				
Motor Controller				
Tilt Sensors				
Limit Switches				
Lifting Mechanism				
Mast Assembly				
Wear Pads				
Chains				
Optional Equipment/Attachments				
Flashing Lights (If equipped)				
Pipe Rack (If equipped)				
Outdoor Option Flashing Light & Limit Switch (If equipped)				

	N/A	P	F	R
Function Tests				
Test Main Power Disconnect Switch				
Base Control Console				
Test Base Emergency Stop Light				
Test Base Emergency Stop				
Test Off/Platform/Base Switch				
Test Lower/Neutral/Raise Switch				
Test Emergency Lowering				
Test Platform Maintenance Limit Switch				
Platform Control Console				
Test Platform Emergency Stop				
Test Enable Trigger Switch				
Test Lift/Off/Drive Switch Off Position				
Test Steering				
Test Drive Cutout Limit Switch				
Test Driving				
Test Brakes				
Test Horn				
Test Platform Raising/Lowering				
Test Elevated Drive Speed				
Test Pothole Sensor				
Optional Equipment/Attachments				
Test Flashing Lights (If equipped)				
Test All Motion Alarm (If equipped)				
Test Lowering Only Alarm (If equipped)				
Test Outdoor Option Flashing Light (If equipped)				

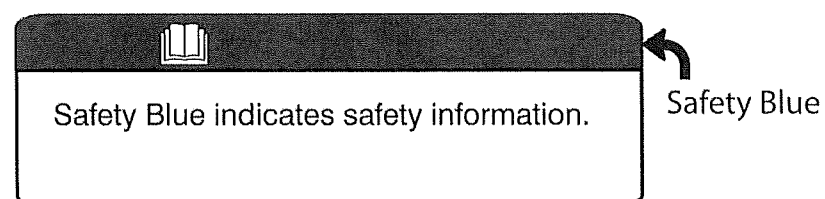
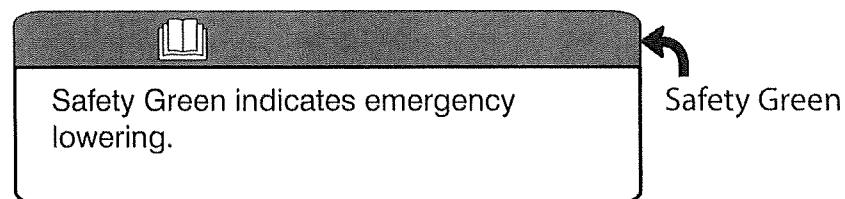
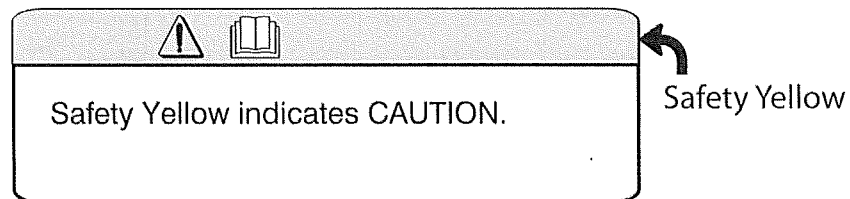
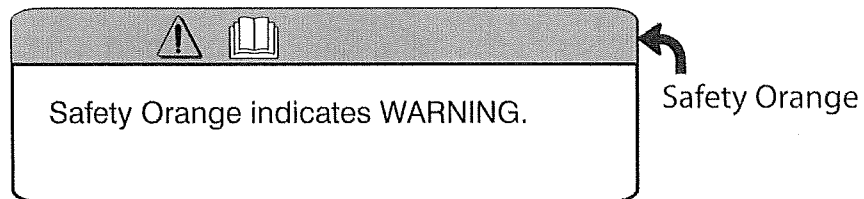
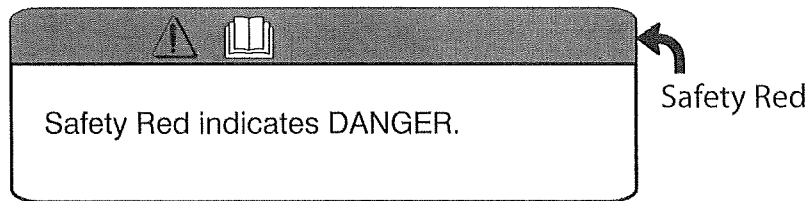
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Note:

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www.skyjack.com for a printable copy.

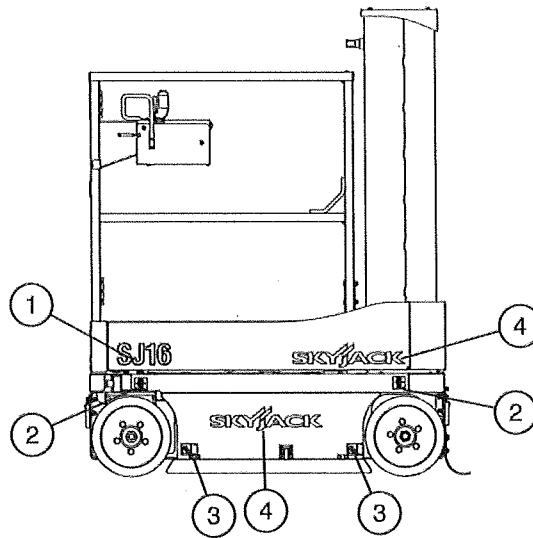
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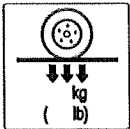
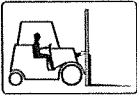
Label Legend



Labels - Model SJ12/16

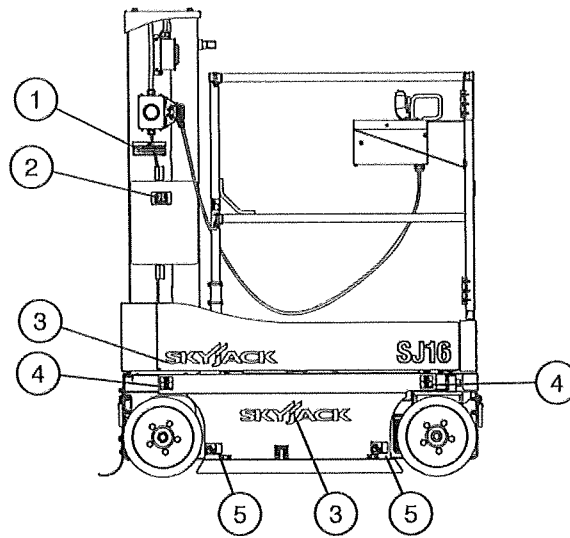
Left View



No.	Label Pictorial	Description
1		Model Number* Product Identifier *Model number will vary, may not be as shown.
2		Wheel Load Indicates rated wheel load.
3		Forklift Lifting Location Insert fork fully into forklift lifting location to lift MEWP.
4		Skyjack Logo Skyjack

Labels - Model SJ12/16

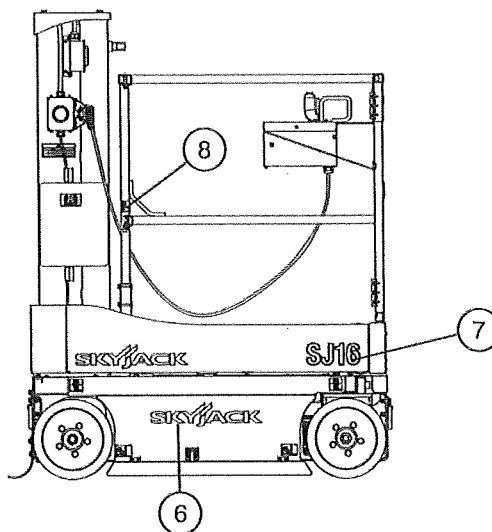
Right View

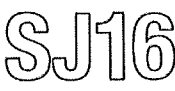


No.	Label Pictorial	Description
1		Annual Inspection Ensure that work platform has received annual inspection prior to operation.
2		Manual Storage Box Indicates location of operating manual.
3		Skyjack Logo Skyjack
4		Wheel Load Indicates rated wheel load.
5		Forklift Lifting Location Insert fork fully into forklift lifting location to lift MEWP.

Labels - Models SJ12 & SJ16

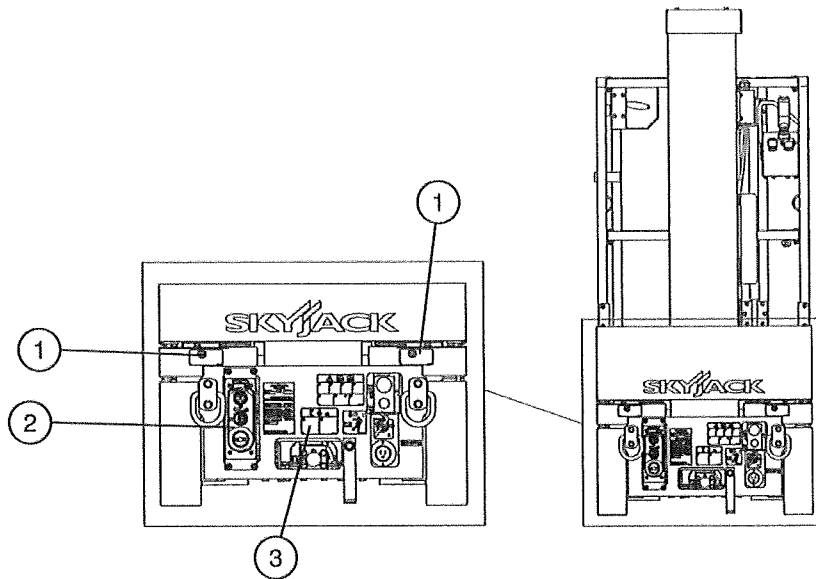
Right View (Continued)

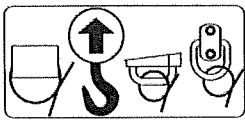
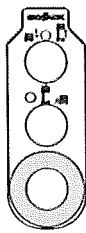
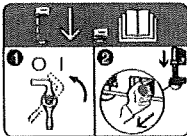


No.	Label Pictorial	Description
6		Skyjack Logo Skyjack
7		Model Number* Product Identifier *Model number will vary, may not be as shown.
8		Fall Protection Anchorage Rated for one (1) person per anchorage.

Labels - Models SJ12 & SJ16

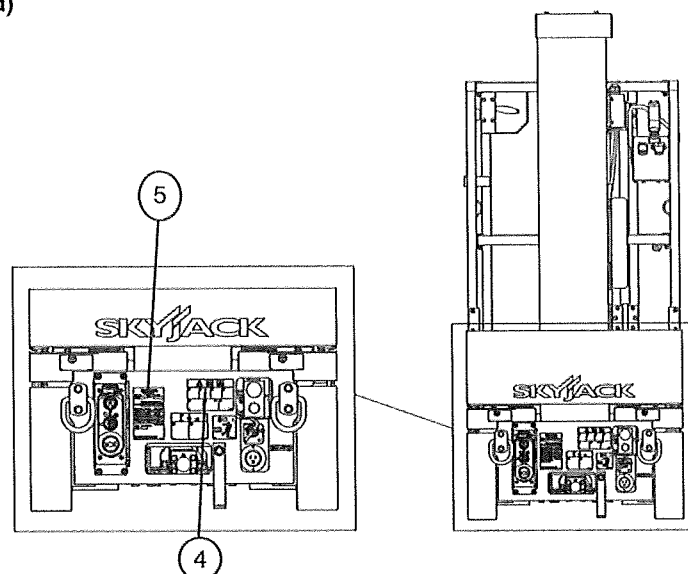
Rear View



No.	Label Pictorial	Description
1		Lift and Tie Down Points Only use these points for lifting or tying down.
2		Base Controls Select "↓" to lower or "↑" raise platform. Select "platform" to enable platform controls, "O" off to disable controls or "base" to enable base control console. Push "●" to disable controls.
3		Emergency Lowering Procedure Refer to Operating manual. 1. Turn main power disconnect switch to off position. 2. Pull emergency lowering valve to lower the platform.

Labels - Models SJ12 & SJ16

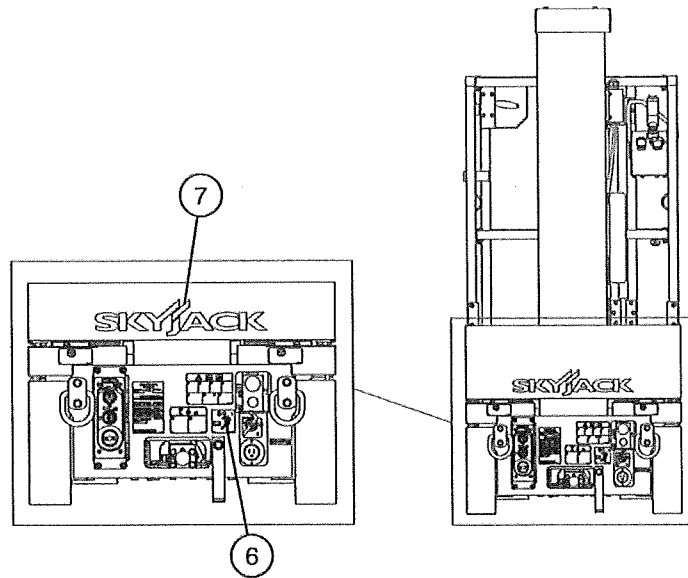
Rear View (Continued)

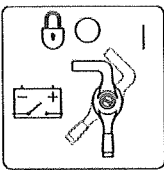


No.	Label Pictorial	Description
4		Winching/Towing/Pushing Procedure Refer to Operating manual. 1. Block or chock wheels to prevent MEWP from rolling. 2. Turn main power disconnect switch to off position. 3. Locate brake valve and pump. 4. Push in black knob. Pump by pushing red knob in and out until firm resistance is felt. Brake is now released. 5. Push/tow/winches to desired location. 6. Block or chock wheels to prevent MEWP from rolling. 7. Reset brake by pulling out black knob.
5		Serial Plate* Product identification and specifications *Serial plates will vary, may not be as shown.

Labels - Models SJ12 & SJ16

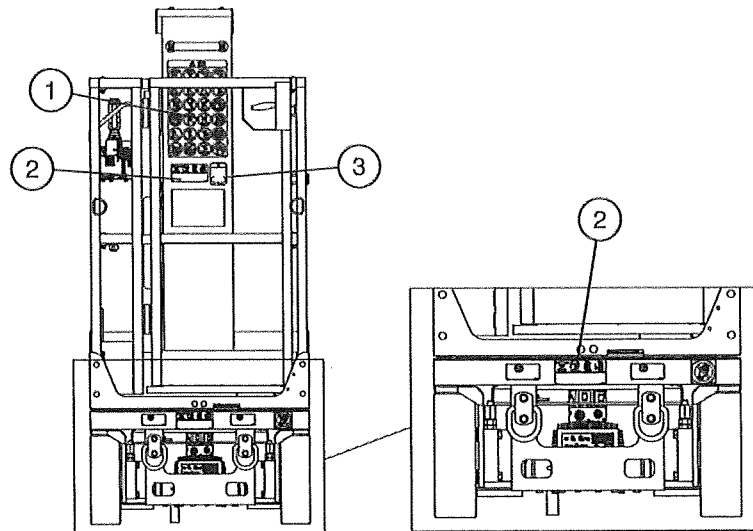
Rear View (Continued)

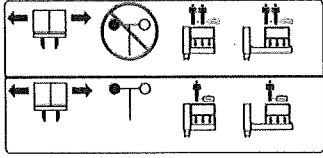
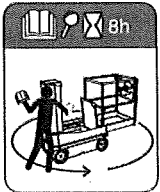


No.	Label Pictorial	Description
6		Main Power Disconnect Rotate clockwise to turn on main power; rotate counterclockwise to turn off main power; insert padlock to lock in position.
7		Skyjack Logo Skyjack

Labels - Models SJ12 & SJ16

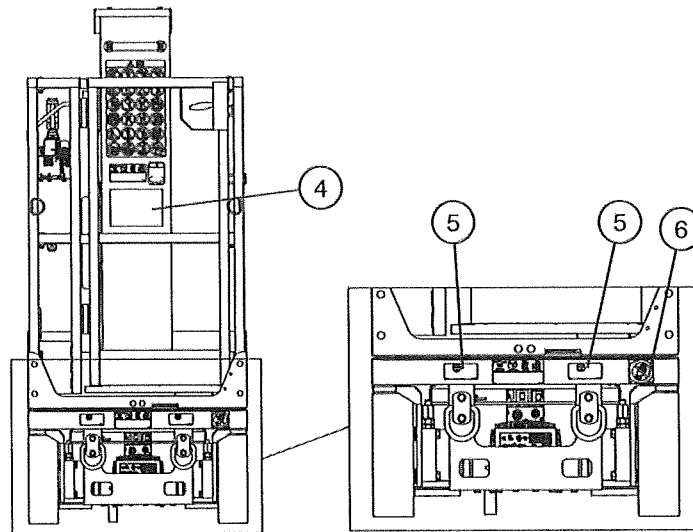
Front View

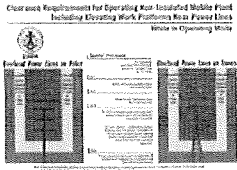
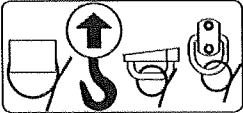


No.	Label Pictorial	Description
1		Hazard Identification Refer to Section 1: Safety Rules. Read and understand the outlined risks associated with this work platform prior to operation.
2		Horizontal Load Rating & Platform Capacity* Operating with rated work load in each configuration below indicated wind speed only. *Label will vary, may not be as shown.
3		Operator's Daily Inspection. Refer to the Operating manual. Perform visual inspection and function tests at the beginning of each shift. Refer to Section 4: Maintenance and Inspection Schedule.

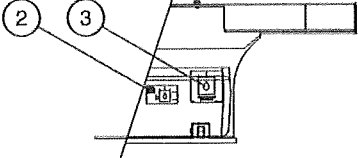
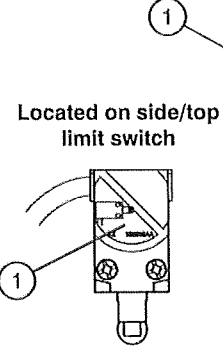
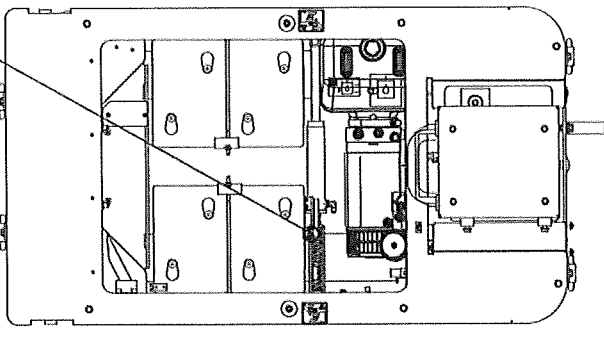
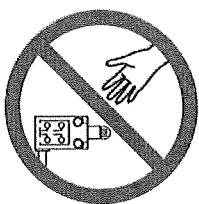
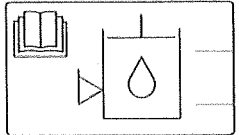
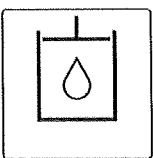
Labels - Models SJ12 & SJ16

Front View (Continued)

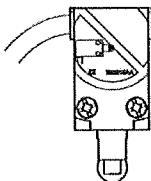
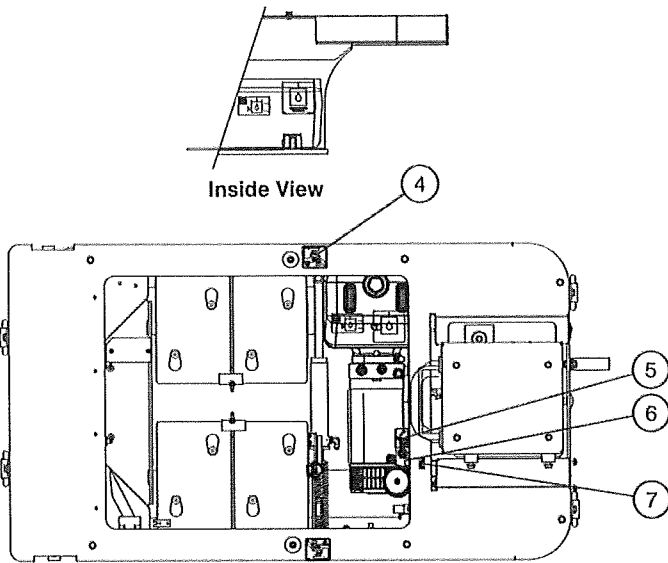
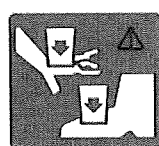
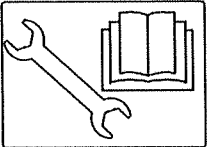
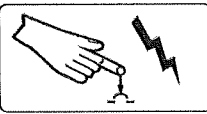
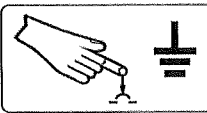


No.	Label Pictorial	Description
4		EWPA Clearance Requirements Clearance requirements for operating non-insulated mobile plant, including elevating work platforms near power lines.
5		Lift and Tie Down Points Only use these points for lifting or tying down.
6		No Jewelry Caution - Do not wear jewelry.

Labels - Models SJ12 & SJ16

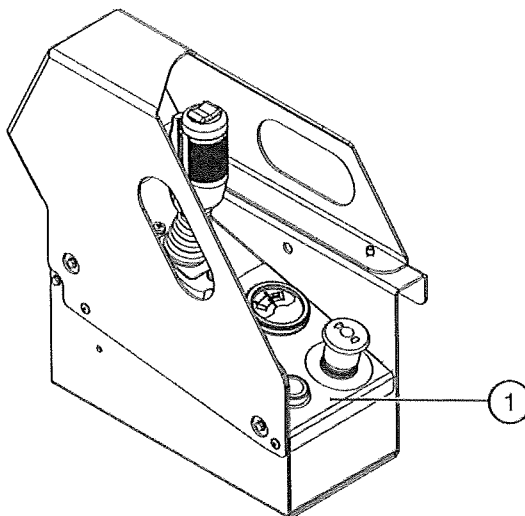
Base View		
		
Inside View		
		
		
Top View		
No.	Label Pictorial	Description
1		Warning - Do Not Alter Do not alter or disable limit switches or other safety devices.
2		Hydraulic Oil Level Indicator Read "ⓘ" operating manual. Ensure hydraulic oil level is within the minimum (red line) and maximum (blue line) range.
3		Hydraulic Oil ATF Dexron III Replace hydraulic fluid with ATF Dexron III only.

Labels - Models SJ12 & SJ16

Base View (Continued)		
Located on side/top limit switch  Inside View  Top View		
No.	Label Pictorial	Description
4		Crushing Hazard Danger - Crushing hazard
5		Diagnostic Switch Enables hydraulic functions for maintenance service.
6		Power Circuit Breaker Push to reset power circuit breaker.
7		Ground Circuit Breaker Push to reset power circuit breaker.

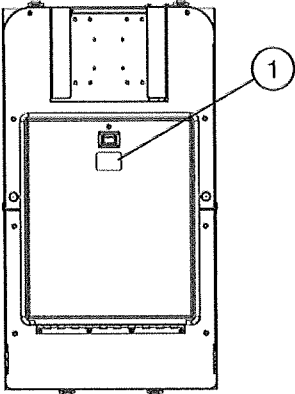
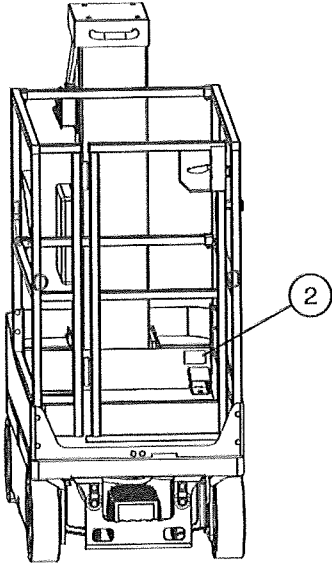
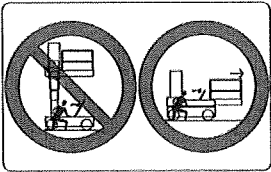
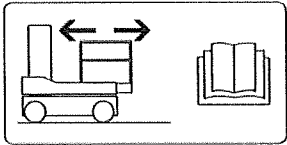
Labels - Models SJ12 & SJ16

Platform Control Console



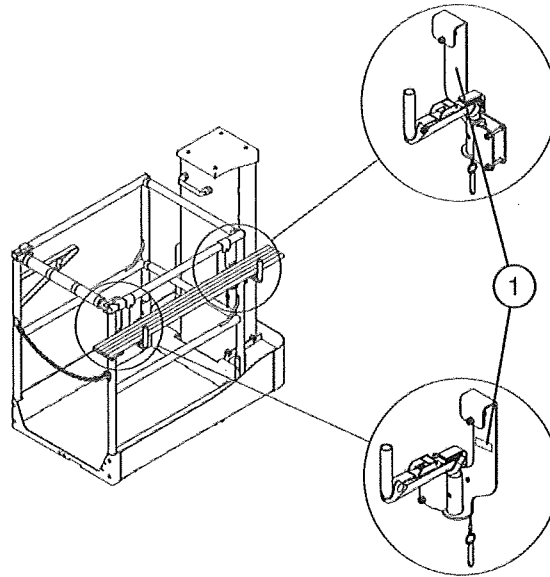
No.	Label Pictorial	Description
1		Platform Control Console Read “” operating manual. Squeeze “” trigger to enable controller. Operate “” rocker switch to steer. Move controller handle forward to “” raise or backward to “” lower platform. Move controller handle “” forward to drive forward or “” backward to drive reverse. Select “” lift, “” off or “” drive mode. Select “” to sound horn. Push “” to disable controls. The operation light illuminates to indicate upper control availability.

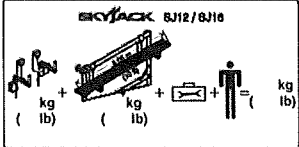
Labels - Models SJ12 & SJ16

Base - Top View  		
No.	Label Pictorial	Description
1		Warning - Do Not Open Do not access hydraulic/electrical compartment while platform is elevated.
2		Platform Traversing Procedure Follow this procedure to reposition platform. Read “” operating manual.

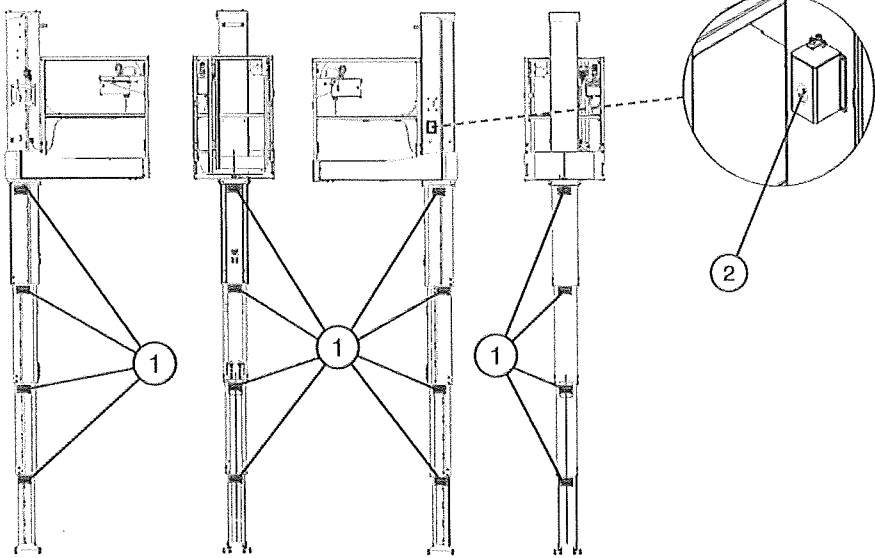
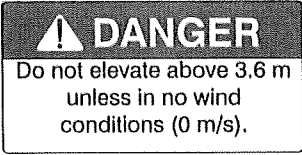
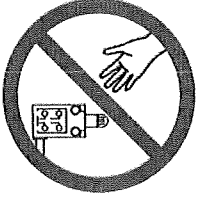
Labels - Models SJ12 & SJ16 - Options and Attachments

Pipe Rack Attachment



Nº	Label Pictorial	Description
1		Pipe Rack Capacity Indicates pipe rack capacity.

Labels - Model SJ16 - Options and Attachments

Nº	Label Pictorial	Description
1	Outdoor Option Flashing Light  	Danger Do not elevate above 3.6 m (12 feet) unless in no wind conditions (0 m/s).
2		Warning - Do Not Alter Do not alter or disable limit switches or other safety devices.

Labels - Model SJ16 - Options and Attachments

Nº	Label Pictorial	Description
3		Horizontal Load Rating & Platform Capacity* Operating with rated work load in each configuration below indicated wind speed only. *Label will vary, may not be as shown.
4		Notice Flashing light indicates machine is elevated above 3.6 m (12 feet).
5		Danger Do not elevate above 3.6 m (12 feet) unless in no wind conditions (0 m/s).

