

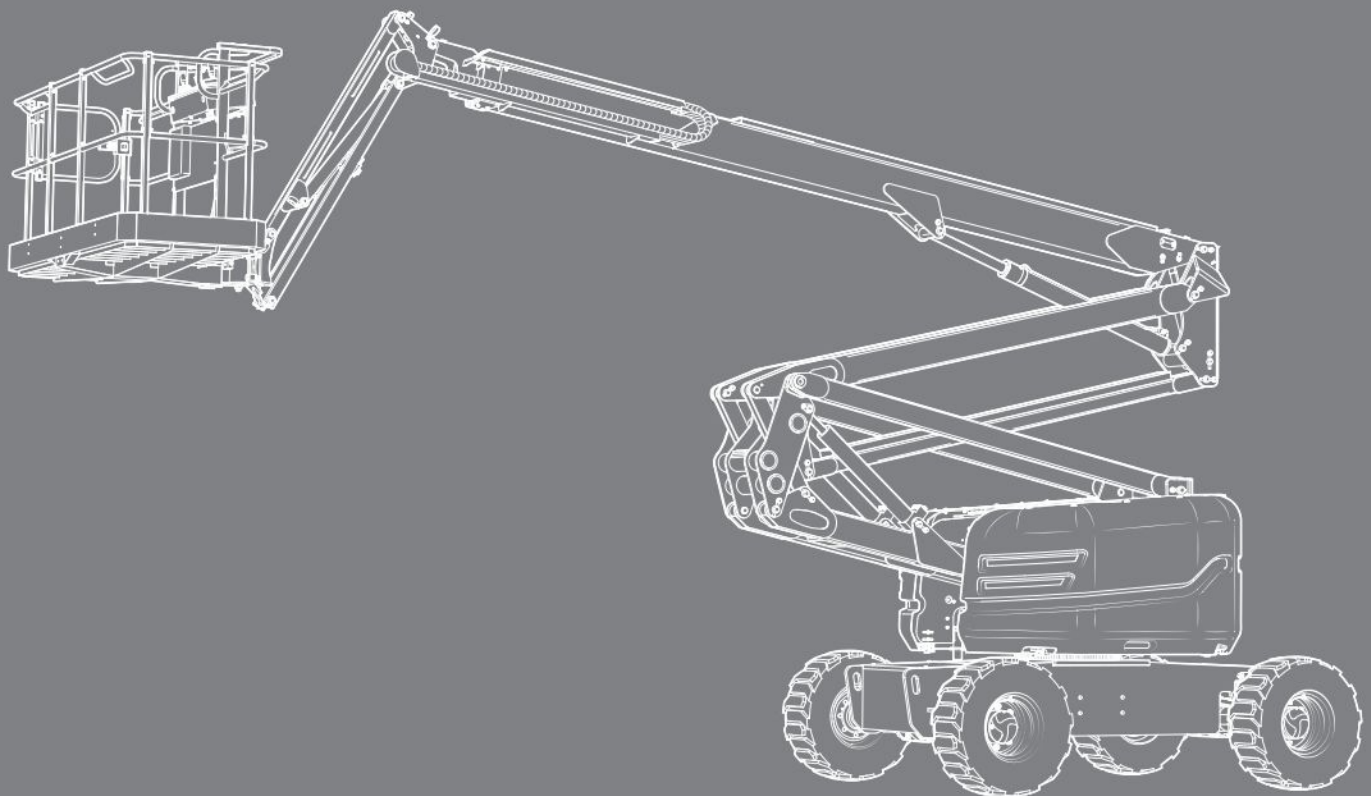


# OPERATION MANUAL

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**SJ63 AJ+**

ARTICULATING BOOMS



**213211AAA**  
December 2019  
ANSI/CSA

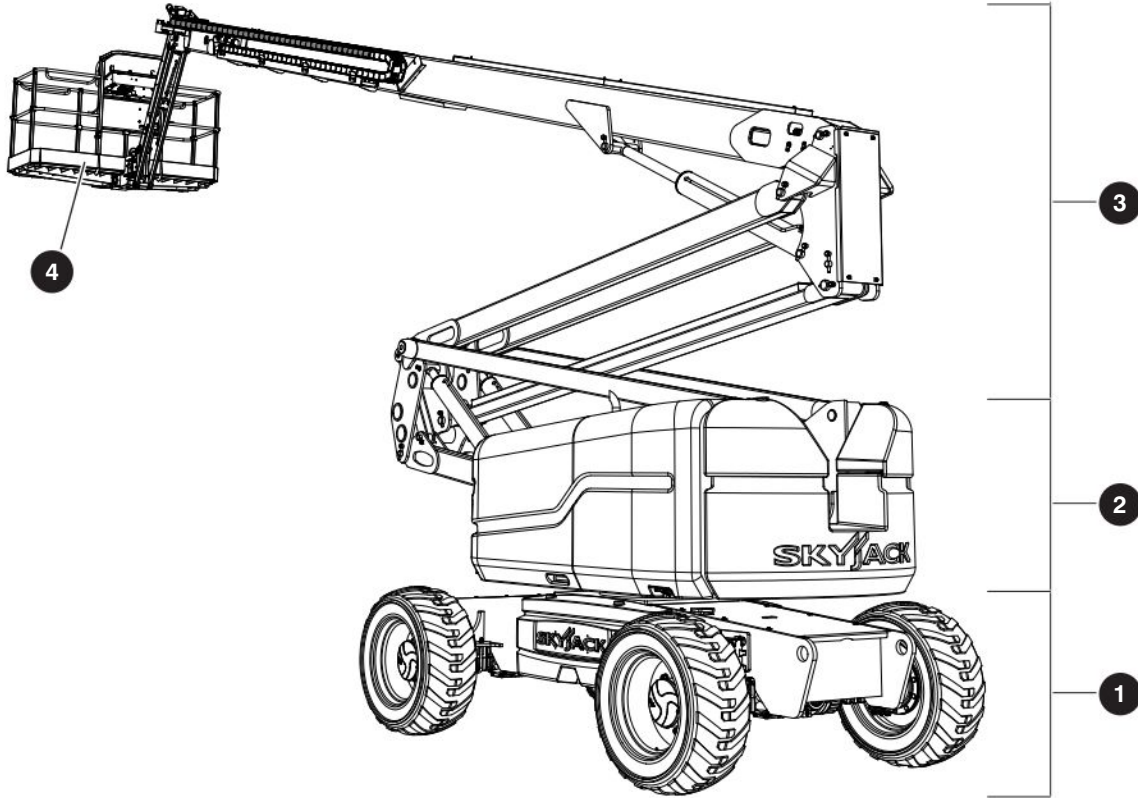
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## 1.2 Primary assemblies

The MEWP has these primary assemblies:

1. Base
2. Turret
3. Boom
4. Platform.

### 1 Base: The base has these parts:

- A chassis
  - A steerable front axle
  - A rigid rear axle.
- ### 2 Turret: The turret turns 360 degrees continuously. It has these parts:
- A compartment on the right side of the turret which has these parts:
    - Engine
    - Hydraulic pump and motor
    - Battery
    - Swing drive.

- A compartment on the left side of the turret which has these parts:

- Base control console
- Emergency-lowering system at the base control console.
- Hydraulic manifolds
- Function valves
- Hydraulic tank
- Fuel tank.

### 3 Boom: The boom assembly has these parts:

- A riser attached to the turret
- A main boom attached to the riser
- A jib.

### 4 Platform: The platform has these parts:

- Slip-resistant deck surface
- Hinged tubular guardrails, with mid-rails, and toe-boards
- Tri-entry drop bars or an optional swing gate
- AC power socket
- Platform control console.

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## Section 3 – Familiarization

### **WARNING**

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Do not operate this MEWP without correct training and authorization. If you do not obey, there is a risk of death or serious injury.

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### **WARNING**

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MEWP Familiarization must be given to a qualified operator. If you do not obey, there is a risk of death or serious injury.

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### **WARNING**

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It is the responsibility of the operator to fully understand, and follow all instructions and warnings contained in this operation manual and on the MEWP. If you do not obey, there is a risk of death or serious injury.

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Read and fully understand the operation manual, all the warnings, and the instruction labels (refer to [Section 8](#)) on the MEWP.

Do these tasks before the operation:

1. Worksite inspection. Refer to [Section 2.4](#).
2. Daily visual and maintenance inspections. Refer to [Section 4.2](#).
3. Function tests. Refer to [Section 4.3](#).

### 3.4-6 Platform load sensing system

The platform load-sensing system prevents normal MEWP movement when the platform is overloaded and in a stationary position.

The boom position (extension and angle) has an effect on the platform capacity. Each boom position zone (high-capacity zone or low-capacity zone) has a different capacity. Refer to the platform capacity label(s) for the maximum platform capacity of each zone.

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#### **WARNING**

If the platform is overloaded because of contact with an overhead obstruction, do one of the steps that follow:

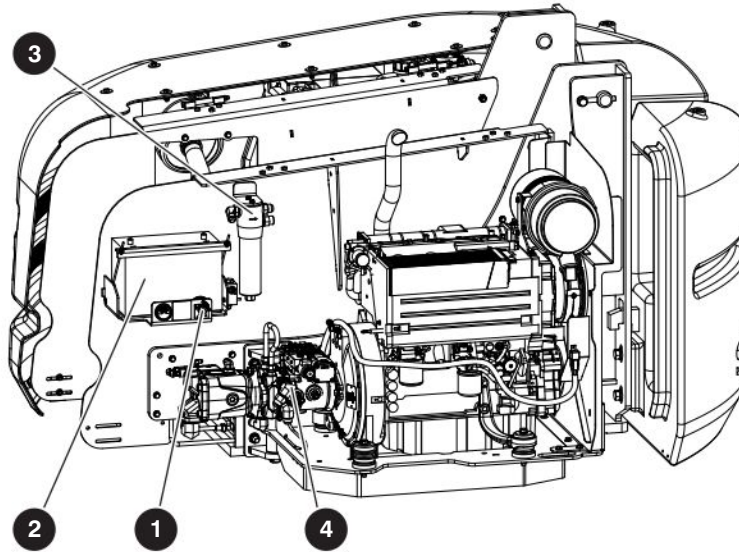
- Remove the obstruction from the platform. Then after four seconds, you can operate the normal functions.
  - Use the emergency-power unit to release the platform from the obstruction (refer to [Section 3.4-7](#)).
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#### **WARNING**

Fall hazard. Do not try to free a snagged platform with the base controls until you remove all personnel from the platform. If you do not obey, there is a risk of death or serious injury.

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### 4.2-5 Engine compartment

Do the inspection that follows:

Make sure all compartment latches are latched tightly and in good condition.

#### 1 Main power disconnect switch

- Turn the **main power disconnect** switch to the off position.
- Make sure the switch rotates and stays in the on and off position.
- Make sure the cables are not loose.

#### 2 Batteries

### **⚠ WARNING**

**Explosion hazard. Keep flames and sparks away. Do not smoke near the batteries. Batteries release explosive gas while you charge them. Charge the batteries in a well-ventilated area. If you do not obey, there is a risk of death or serious injury.**

### **⚠ WARNING**

**Corrosion hazard. Do not touch battery acid. Wear the correct PPE. If the battery acid touches you, immediately flush the area with cold water and get medical aid.**

1. Do an inspection of the battery case for damage.
2. Make sure all the battery connections are tight.

3. If applicable, check the battery fluid levels. If the plates do not have a minimum 13 mm (1/2 inch) of solution above them, add distilled or demineralized water.

### **⚠ WARNING**

**Only use original or manufacturer-approved parts and components for the MEWP. If you do not obey, there is a risk of death, serious injury, or machine damage.**

#### 3 High-pressure filter

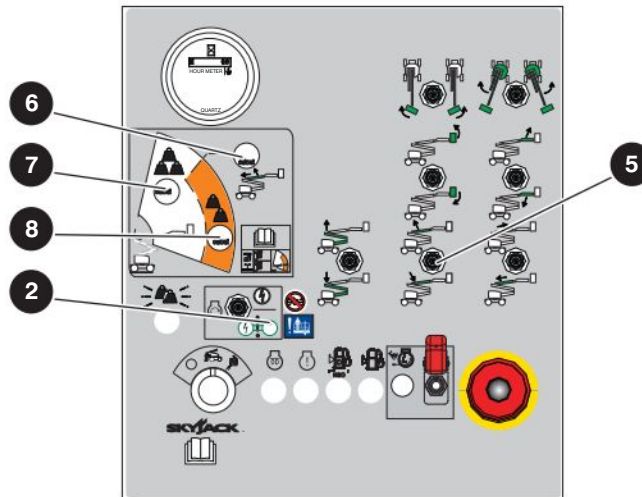
- Make sure the housing is are correctly attached, and there are no hydraulic leaks.
- Make sure there is no visible damage.

#### 4 Hydraulic pumps

- Make sure there are no loose or missing parts.
- Make sure there is no visible damage.
- Make sure all bolts are correctly tightened.
- Make sure all fittings and hoses are correctly tightened and there are no hydraulic leaks.

#### 5 Swing drive

- Make sure there are no loose or missing parts.
- Make sure there is no visible damage.
- Make sure all bolts are correctly tightened.
- Make sure all fittings and hoses are correctly tightened and there are no hydraulic leaks.



#### 4.3-3 Do a test of the start/function enable/emergency power switch and all the boom and platform functions

##### **WARNING**

Look for overhead obstructions or other possible hazards around the MEWP when you raise the platform. Do not lower the platform unless the area below is clear of personnel and obstructions. If you do not obey, there is a risk of death or serious injury.

1. Do not hold the **start/function enable/emergency power** switch **2** in the function enable position. Try to operate each boom and platform switch.
  - **Result:** All the boom and platform functions do not operate.
2. Hold the **start/function enable/emergency power** switch in the function enable position and operate each boom and platform function.
  - **Result:** The engine speed increases from idle to intermediate. All the boom and platform functions operate as selected.

#### 4.3-4 Do a test of the platform self-leveling

1. Lower the boom to the stowed position.
2. Adjust the platform to a level position with the **platform-leveling** switch **5**, which controls the tilt up or tilt down function of the platform.
3. Fully raise the main boom.
  - **Result:** The platform stays level at all times and the lift speed decreases before the boom is at full height.
4. Fully lower the main boom.
  - **Result:** The platform stays level at all times.

#### 4.3-5 Do a test of the platform capacity zone indicator lights

1. Push the **emergency-stop** button.
2. Pull the **emergency-stop** button.
  - **Result:** The **capacity zone border light** **6** illuminates for 1 second and then goes off. The **high-capacity zone indicator light** **7** illuminates.
3. Extend the boom until the high-capacity zone indicator light goes off.
  - **Result:** The **low-capacity zone indicator light** **8** illuminates.
4. While the boom is extended, make sure there are no visible cracks in the welds or structure, and there are no signs of deformation.
5. Fully retract and lower the boom.

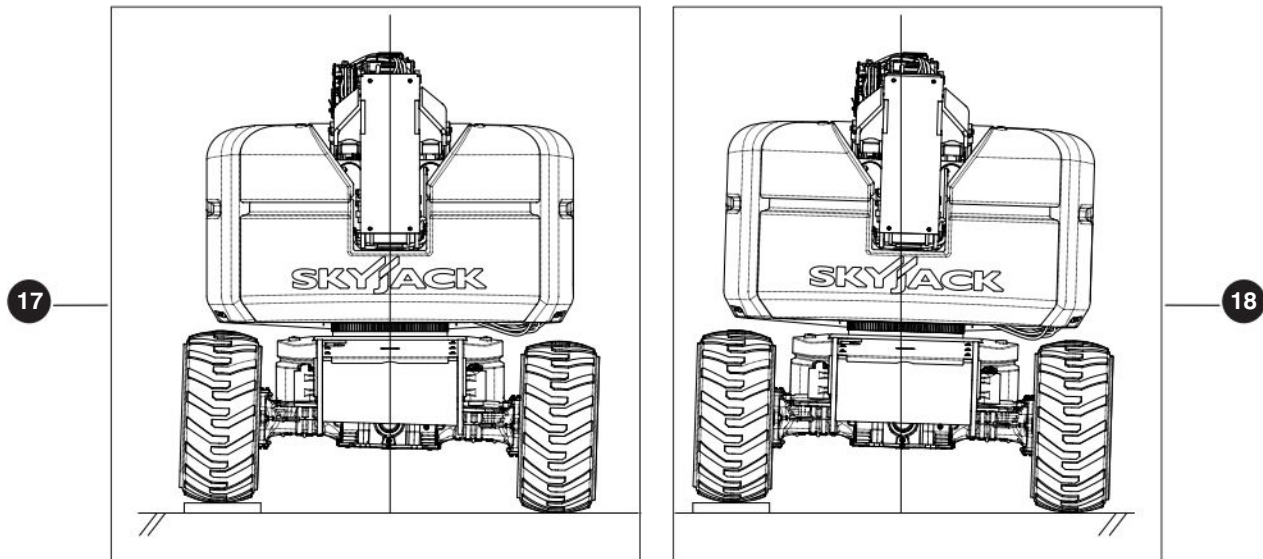
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### 4.3-23 Do a test of the oscillating cylinders

#### **⚠ WARNING**

**Fall hazard. Do not operate the controls on the platform control console without the correct fall-protection attached to the designated location in the platform. If you do not obey, there is a risk of death or serious injury.**

1. Make sure the MEWP is on a firm, level surface.
2. Extend the boom 30 cm (12 in).
  - **Result:** The steer axle oscillation locks 18.
3. Drive one of the steer tires onto a 15 cm (6 in) block or curb.
  - **Result:** The MEWP chassis tilts.
4. Retract the boom.
  - **Result:** The steer axle oscillation unlocks 17. The MEWP chassis is now level.

## 5.27 Cold or arctic weather package (optional equipment)

### **WARNING**

- Do not use heaters if the temperature is above 0°C (32°F).
- Use the correct hydraulic and engine oils (refer to *Figure 05*).
- If the temperature is below -7°C (20°F), run the engine at idle for a minimum of 5 minutes before you operate the MEWP.

1. Make sure the MEWP is on level ground, the boom is in the stowed position, and the hydraulic oil level is between the minimum and maximum marks on the sight gauge.
2. Find the **heater plug** ❶ in the engine compartment.
3. Connect the **heater** to a 110V / 15 A protected circuit for a minimum of 4 hours.
4. Start the engine from the base control console (refer to *Section 5.1*).

### **WARNING**

Do not over crank the starter. If the engine does not start after you try to start it multiple times, lock and tag the MEWP. Remove the MEWP for servicing. If you do not obey, there is a risk of death or serious injury.

### **IMPORTANT**

Make sure the heater is disconnected before you operate the MEWP.

### **NOTE**

If the MEWP is to be parked for an extended period of time, remove the battery and keep it in a warm location.

### **NOTE**

Refer to the cold weather operation chart (*Figure 05*) to help when you operate the MEWP in cold weather conditions.

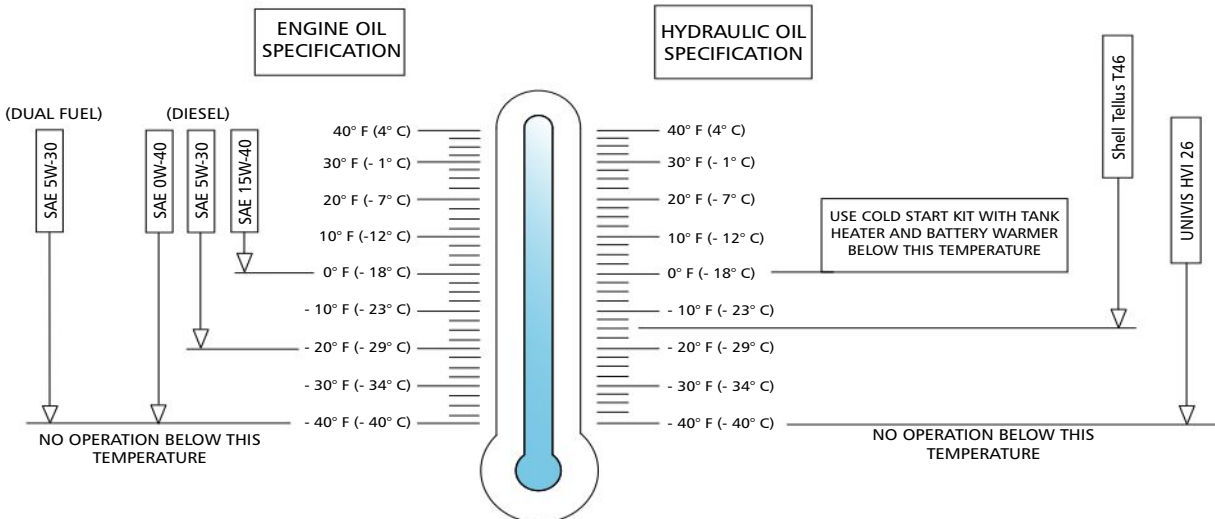
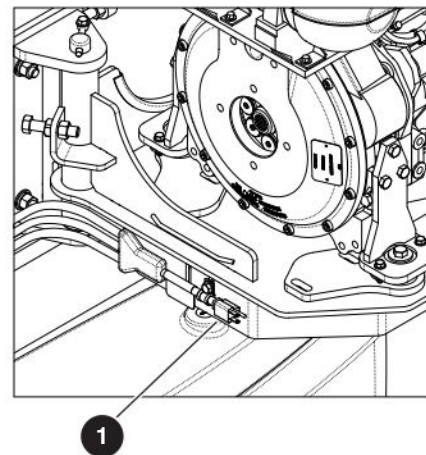


Figure 05 Cold weather operation chart

### 6.6-3 Tie down the MEWP

1. Lock the turret with the turret transportation lock. Refer to [Section 6.6-1](#).
2. Turn the off/base/platform key switch to the off position and remove the key before you transport the MEWP.
3. Turn the main power disconnect switch to the off position.
4. Use wheel chocks or blocks at the front and rear side of the wheels if necessary.
5. Remove all loose or unsecured items.

#### **WARNING**

When you transport the MEWP, it must be attached to a truck or trailer deck. Use the available tie-down points to attach the MEWP. If you do not obey, there is a risk of death or serious injury.

6. Tie-down the MEWP to the transport surface with the tie-down points.

7. Put the lower platform mount between the boom end and the platform to prevent side-to-side movement of the boom. Do not use excessive downward force when you secure the boom section.
8. Put a block below the platform rotator. Carefully lower the rotator onto the block and secure it in position. Secure the strap below the hoses and cables to prevent damage to the MEWP. Do not use excessive downward force when you secure the platform.

#### **WARNING**

Do an inspection of the MEWP for loose or unsecured items.

#### **NOTE**

When you move the MEWP for transport with a winch line, refer to [Section 6.4](#).

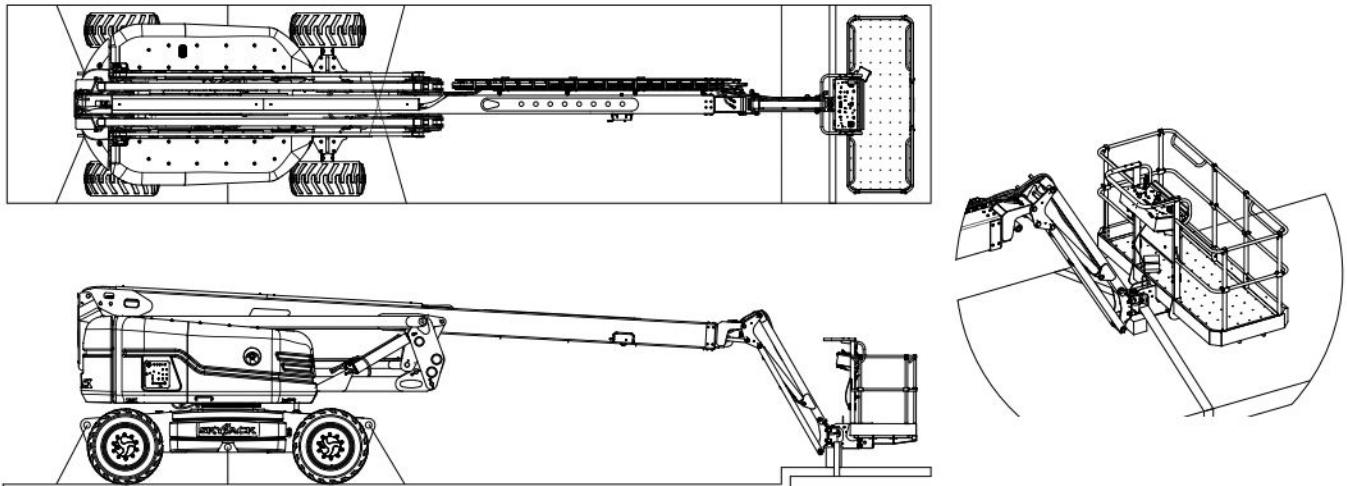


Figure 09 Tie-down points

## 7.7 Maximum platform capacities (evenly distributed)

SJ63 AJ+		
	Regular Platform Capacity	Derated Platform Capacity*
High-capacity zone	454 kg (1000 lb)	454 kg (1000 lb)
	3 persons (maximum number of personnel)	1 person (maximum number of personnel)
	400 N (manual side force)	200 N (manual side force)
Low-capacity zone	300 kg (660 lb)	272 kg (600 lb)
	2 persons (maximum number of personnel)	1 person (maximum number of personnel)
	400 N (manual side force)	200 N (manual side force)
Wind rating	12.5 m/s (28 mph)	
Tilt cutout setting (side-to-side x front-to-back)	5 degrees x 5 degrees	

\*NOTE: Refer to [Section 3](#) for the capacity derate switch operation.

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## 7.8 Floor loading pressure

Model		Weights				Pressures			
		MEWP Weight		Max Weight per Wheel**		LCP***		OFL***	
		kg	lb	kg	lb	kPa	psi	kPa	psf
SJ63 AJ+	Min*	10680	23550	3000	6600	792	115	14	292
	Max*	11136	24550	5445	12000	1064	154	14.6	304

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\* **Min:** Minimum MEWP weight (Unloaded platform, no options/attachments)  
**Max:** Maximum MEWP weight (Platform loaded to capacity with options/attachments)

\*\* **Wheel Load** is the weight that can be experienced on one wheel.  
**Note:** This is more than 25% of the machine weight due to possible weight distribution over the machine and platform.

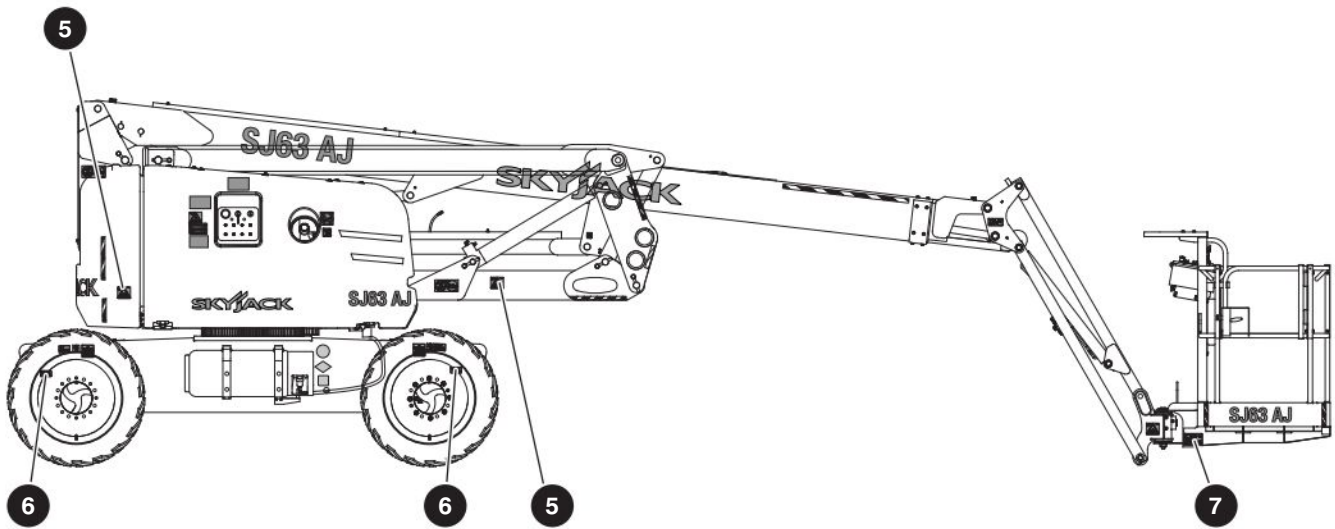
\*\*\* **LCP:** Local Concentrated Pressure is a measure of how hard the MEWP presses on the area in direct contact with the floor/tire.  
**OFL:** Overall Floor Load (Pressure) is a measure of the average load the MEWP imparts on the whole surface directly underneath the chassis. This has been calculated by dividing the MEWP weight by the overall floor area occupied by the MEWP (on wheels).

**Note:** The floor covering (e.g., tile, carpet, etc.) or the structure (e.g., beams) of the operating surface must be able to withstand more than the values indicated above.

### NOTE

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

Control side (continued)



Description

Label Pictorial

5 Warning - body crush hazard



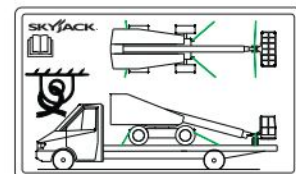
6 Lift and tie-down points

Only use these points to lift or tie-down the MEWP.

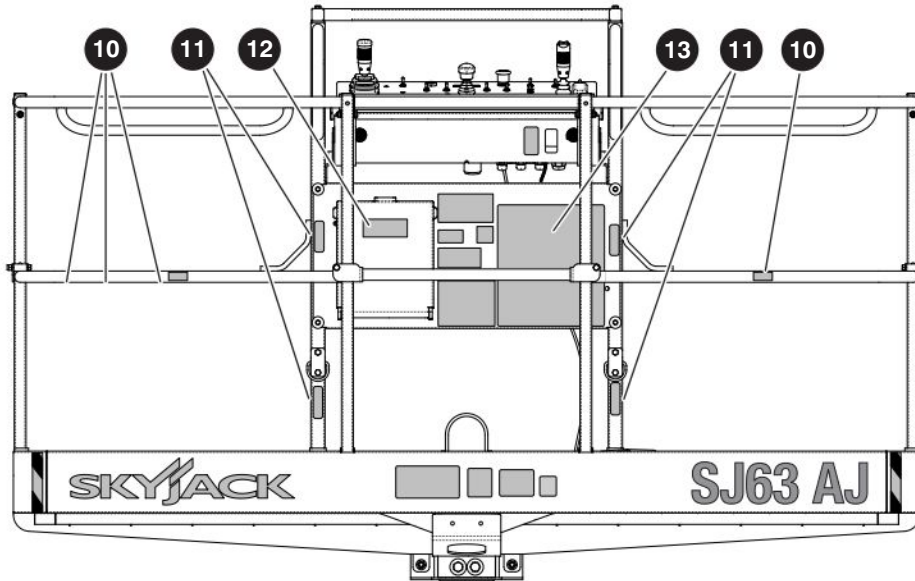


7 Tie-down points

Only use these points to tie-down the MEWP.



Platform (continued)



Description

Label Pictorial

**10 Warning - no step**

Do not step on this location.



**11 Fall-protection anchorages**

Attach the body-harness lanyards of each occupant to the fall-protection anchorage points.

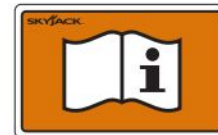
Rated for one (1) person for each anchorage point.

Used for fall-restraint or fall-arrest.



**12 Manual storage box**

Shows the location of the operation manual.



**13 Hazard identification**

Read and understand the specified hazards with this MEWP before operation. Refer to [Section 2](#).



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