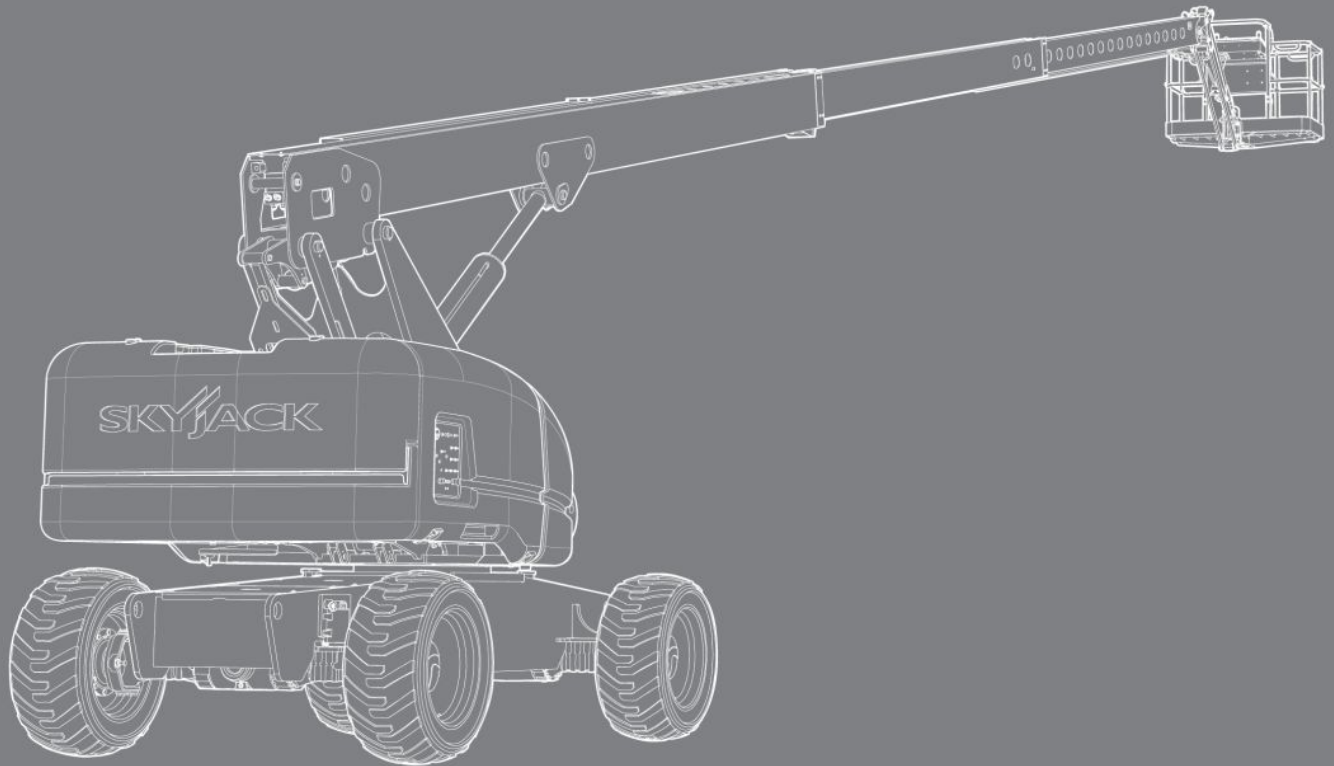




OPERATION MANUAL

SJ82 T, SJ86 T

TELESCOPIC BOOMS



213205AAA
December 2019
ANSI/CSA

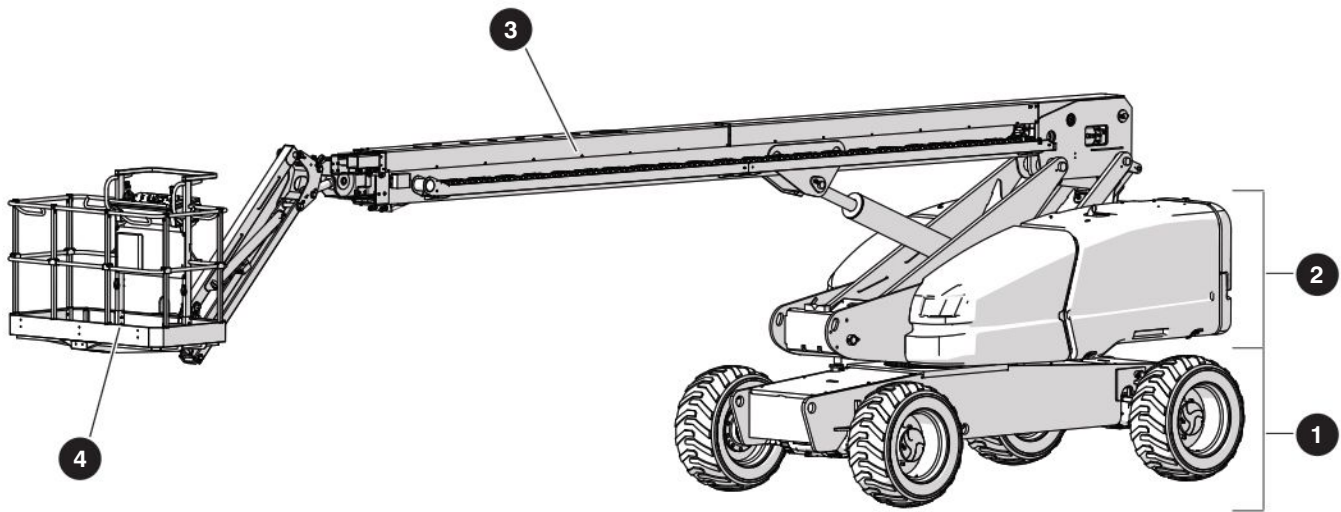
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1.2 Primary assemblies

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 pumps
 - 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 main boom
- A mid boom
- A fly boom
- A jib boom

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.

Section 3 – Familiarization

WARNING

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

WARNING

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

WARNING

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.

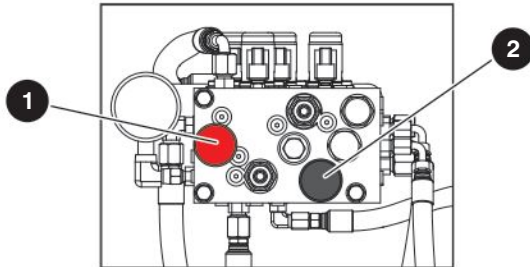
Read and fully understand the operation manual, all the warnings, and the instruction labels (refer to [Section 8](#)) on the MEWP.

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 Brake-release system

This system disengages the brakes manually before you winch or tow the MEWP. Refer to [Section 6.4](#) for the procedure. Refer to [Section 3.1](#) for the location of the brake-release system.



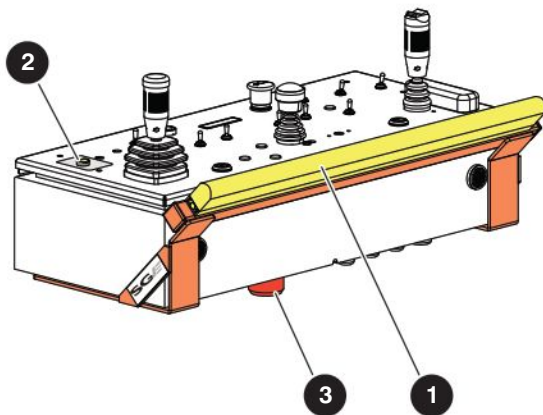
- 1 Brake hand pump
- 2 Brake auto-reset valve plunger

3.4-7 Secondary guarding electrical (SGE)

This device prevents sustained involuntary operation of the MEWP from accidental contact with the platform controls. The audible/visual alarm lets personnel know that pressure has been applied to the sensor bar.

WARNING

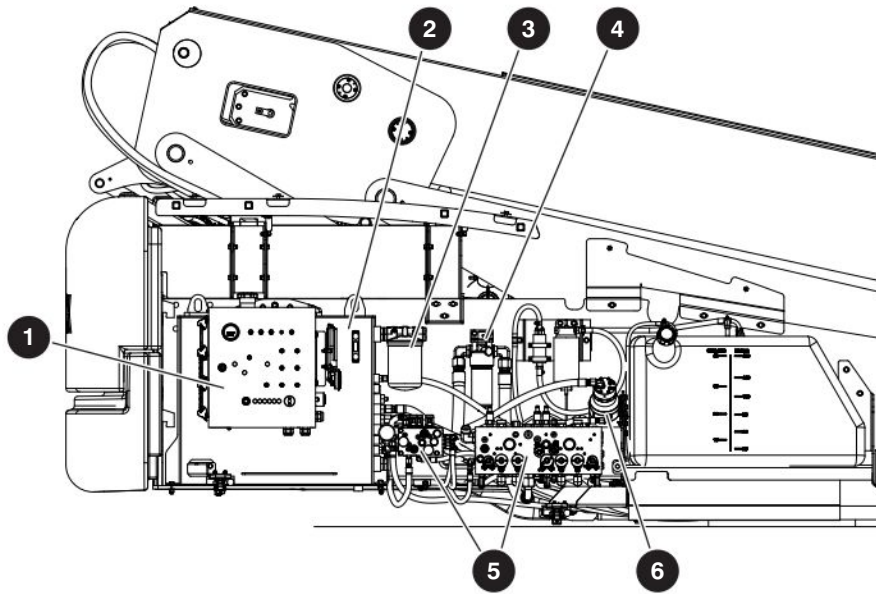
This device will not prevent a collision or injuries that can result from a collision.



- 1 **Sensor bar:** This bar is in front of the platform control console. When you apply pressure to the sensor bar, it stops all functions.
- 2 **Reset:** This button is on the top left corner of the platform control console. It illuminates when you apply pressure to the sensor bar for more than 1 second. When you press this button, it stops the audible/visual alarm.
- 3 **Audible/visual alarm:** This alarm is on the bottom of the platform control console. It goes on when you apply pressure to the sensor bar.

SGE operation

1. When you apply pressure to the sensor bar for less than 1 second, the audible/visual alarm goes on while the bar is pressed. All functions stop. The audible/visual alarm goes off after the sensor bar is released, and the functions are available again.
2. When you apply pressure to the sensor bar for more than 1 second, the audible/visual alarm goes on and the engine stops. All functions stop. The reset button illuminates. The emergency-power functions are available.
3. After you remove pressure from the bar, press the reset button to stop the audible/visual alarm and make all functions available.



4.2-6 Control compartment

Do the inspection that follows:

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

1 Base control console

- Make sure there are no loose or missing parts.
- Make sure there is no visible damage, and all the switches are in their off/neutral positions.

2 Hydraulic tank

- Make sure the hydraulic filler cap closes tightly.
- Make sure there is no visible damage or hydraulic leaks.

Hydraulic oil level:

- Make sure the boom is in the stowed position.
- Do a check on the **gauge** on the side of the hydraulic oil tank. The hydraulic oil level must be at or a small distance above the top mark of the gauge. Add oil if it is necessary. Refer to the service manual for the recommended oil type.

3 Hydraulic return filter

- Make sure the filter element is attached and tight.
- Make sure there is no visible damage or hydraulic leaks.

4 High-pressure filter

- Make sure the housing is attached and tight.
- Make sure there is no visible damage or hydraulic leaks.

5 Manifolds

- Make sure all fittings and hoses are correctly tightened.
- Make sure there is no indication of hydraulic leakage.
- Make sure there are no loose wires or missing fasteners.

6 Emergency-power unit

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

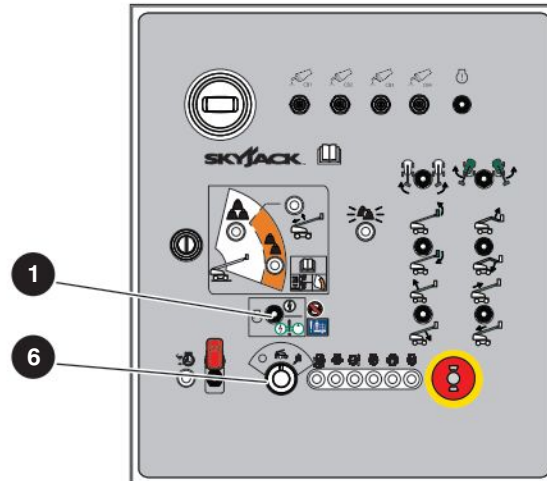
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4.3-6 Do a test of the emergency power unit

1. On the base control console, push the **emergency-stop** button to turn the engine off.
2. On the platform control console, push the **emergency-stop** button.

CAUTION

Do not operate more than one function at a time when you use the emergency power. If you do so, it will overload the 12-Volt emergency pump motor.

NOTE

To conserve the battery power, do a test of each function through part of a cycle.

3. On the base control console, pull the **emergency-stop** button.
4. Turn the **off/base/platform key** switch to the base position.
5. Select the emergency power position from the **start/function enable/emergency power** switch **1** and operate each boom function.
 - **Result:** All selected functions operate.

4.3-7 Do a test of the off/base/platform switch

1. Make sure the emergency-stop buttons at the base and platform are pulled out.
2. Start the engine.

3. On the base control console, turn the **off/base/platform key** switch **6** to the off position.
 - **Result:** The engine stops and the MEWP functions do not operate.
4. On the base control console, turn the **off/base/platform key** switch to the platform position.

WARNING

Fall hazard. Use the three points of contact principle when you enter or exit the platform. If you do not obey, there is a risk of death or serious injury.

5. Enter the platform and close the gate or drop bar.
6. Select the start position from the **engine start/on/off** switch until the engine starts.
7. Exit the platform.
8. On the base control console, try to operate each boom and platform switch while you hold the **start/function enable/emergency power** switch in the function enable position.
 - **Result:** All the boom and platform functions do not operate.
9. Push the **emergency-stop** button to turn the engine off.
10. Pull the **emergency-stop** button.

Operator's checklist (page 2 of 2)

	P	N/A	Comment (if item does not pass inspection)
Visual and Daily Maintenance Inspections			
Platform assembly - Do an inspection for loose, damaged, or missing components			
MEWP floor			
AC power socket			
Platform control console			
Manual storage box			
Boom assembly - Do an inspection for loose, damaged, or missing components			
Load cell			
Rotary actuator			
Jib			
Cable track			
Cylinders			
Wear pads			
Boom			
Hoses			
Wire ropes			
Optional equipment and attachments - Do an inspection for leaks and loose, damaged, or missing components			
Function Tests			
Do a test of the main power disconnect switch			
Base control console			
Do a test of the emergency-stop button and emergency-stop light on the base			
Do a test of the start/function enable/emergency power switch and all the boom and platform functions			
Do a test of the platform self-leveling			
Do a test of the platform capacity zone indicator lights			
Do a test of the emergency power unit			
Do a test of the off/base/platform switch			
Do a test of the positive-air shutoff switch			
Platform control console			
Do a test of the emergency-stop button and emergency-stop light on the platform			
Do a test of the control module and load sensing module self-check			
Do a test of the footswitch and all the boom and platform functions			
Do a test of the boom lowering cutout switch			
Do a test of the platform capacity zone indicator lights			
Do a test of the wire ropes			
Do a test of the secondary guarding electrical (SGE)			
Do a test of the engine start/on/off switch			
Do a test of the emergency power unit			
Do a test of the manual platform-leveling			
Do a test of the steer function			
Do a test of the drive function			
Do a test of the brakes			
Do a test of the horn			
Do a test of the elevated travel speed			
Do a test of the differential lock switch			
Do a test of the EcoStart			
Do a test of the oscillating cylinders			

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6.3 Release the brakes manually

⚠ WARNING

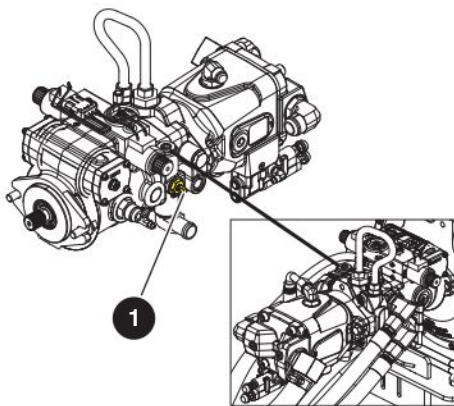
Do not manually disengage the brakes if the MEWP is on a slope. If you do not obey, there is a risk of death or serious injury.

1. Make sure that the MEWP is on firm, level ground. Use wheel chocks or blocks at the front and rear side of the wheels to prevent MEWP movement.
2. Turn the **main power disconnect** switch to the off position.

⚠ CAUTION

Do not use the hydraulic power with the brakes disengaged.

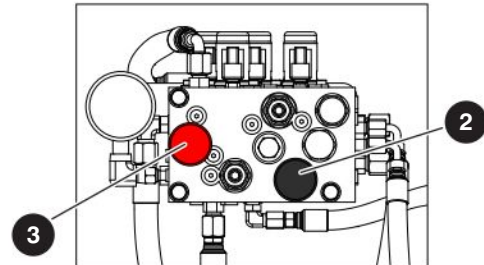
3. Find the drive-bypass valve **1** on the inboard side of the drive pump. Loosen the valve stem (identified with yellow paint) 90 degrees clockwise to bypass the drive pump..



⚠ CAUTION

Do not release the brakes before you disengage the drive motor.

4. Push the plunger **2** of the brake auto-reset valve on the brake manifold.

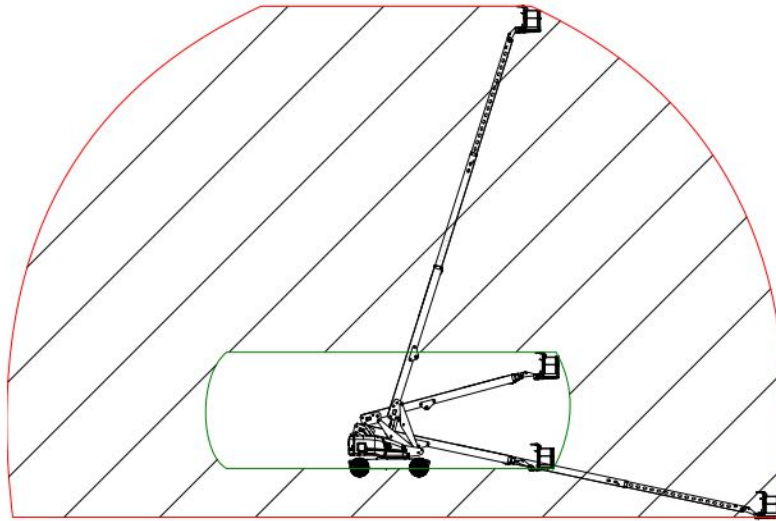


NOTE

If the MEWP does not have a pressure gauge, refer to the service manual for the installation procedure.

5. Continuously push and release the **knob 3** of the hand pump until firm resistance is felt or until the pressure gauge (optional equipment) shows 300 - 430 psi (2068 - 2965 kPa). The brake is now released to permit wheel rolling.

Technical diagrams continued





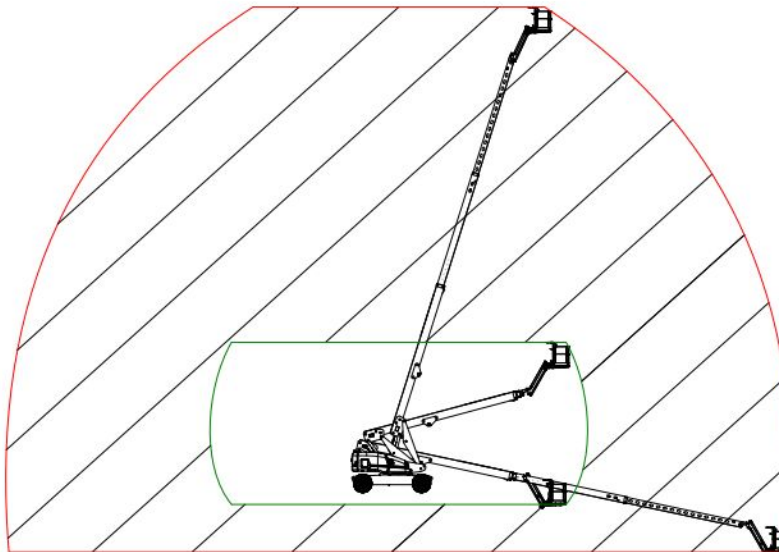
-  Steer axle oscillation - free (lowered travel position): drive speed 4.8 km/h (3.0 mph) max.
-  Steer axle oscillation - locked (elevated travel position): drive speed 0.8 km/h (0.5 mph) max.

Figure 13 Axle oscillation - SJ82 T





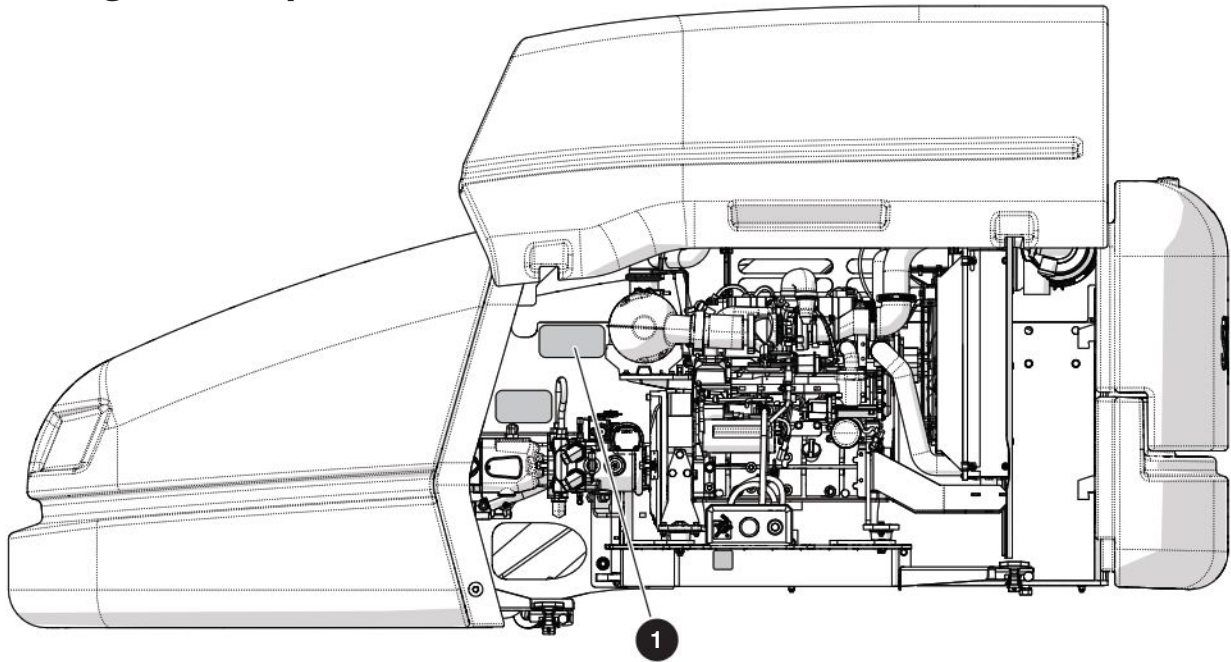
-  Steer axle oscillation - free (lowered travel position): drive speed 4.8 km/h (3.0 mph) max.
-  Steer axle oscillation - locked (elevated travel position): drive speed 0.8 km/h (0.5 mph) max.

Figure 14 Axle oscillation - SJ86 T

8.2 Engine compartment



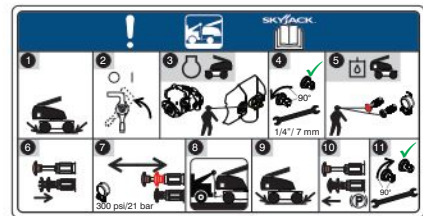
Description

Label Pictorial

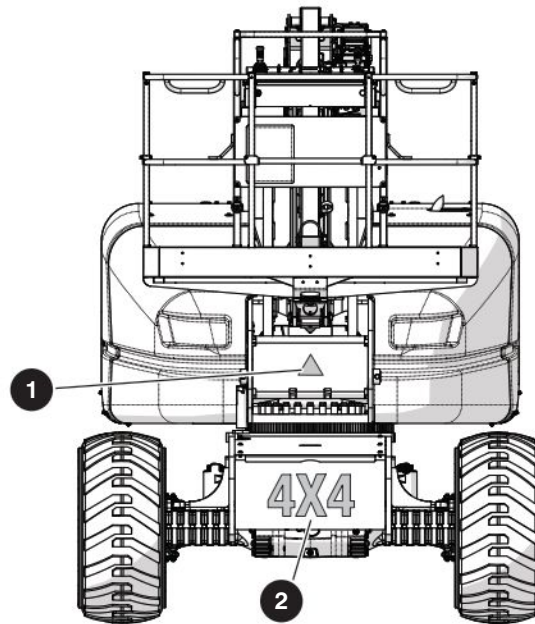
1 Winch and tow procedure

Refer to [Section 6.4](#).

1. Use wheel chocks or blocks at the front of the wheels and behind them to prevent MEWP movement.
2. Turn the **main power disconnect** switch to the off position.
3. At the engine side, find the drive-bypass valve (identified with yellow paint) on the inboard side of the drive pump.
4. Rotate the drive-bypass valve to a flat position with pliers or a 7 mm (1/4") wrench by 90 degrees clockwise.
5. At the hydraulic tank side, find the brake manifold.
6. Push the **plunger** of the brake auto-reset valve.
7. Continuously push and release the knob of the hand pump until firm resistance is felt or until the pressure gauge (optional equipment) shows 300 - 430 psi (2068 - 2965 kPa). The brake is now released to permit wheel rolling.
8. Remove the chocks or blocks from the wheels, and winch or tow the MEWP to the necessary location.
9. Use wheel chocks or blocks at the front of the wheels and behind them to prevent MEWP movement.
10. Pull out the **plunger** of the brake auto-reset valve to re-engage the brakes.
11. At the engine side, close the drive-bypass valve by rotating it 90 degrees counterclockwise to the normal position (flat is parallel to the shaft axis).



8.6 Rear side



Description

Label Pictorial

1 Warning - body crush hazard



2 4x4

Product identifier - 4 wheel drive

4X4

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