

SECONDARY GUARDING

ULTRASONIC ANTI-COLLISION SYSTEM

Operation Manual

Anti-collision protection Safety function introduction:

When the anti-collision protection function is activated, there are **three levels** of prompts (**Danger Warnings**).

1. When the Ultrasonic sensor (platform control panel) is 4 meters away from the obstacle zone, the machine will **alarm** (50 beeps per minute).
2. When the Ultrasonic sensor (platform control panel) is 2 meters away from the obstacle zone, the machine will **alarm** (110 beeps per minute).

Note: The above two levels do not limit the lift function.

3. When the Ultrasonic sensor (platform control panel) is 1.5 meters away from the obstacle zone, the lift function is disabled, and the **alarm** will be constant.

After the lift function is disabled, release the joystick back to neutral position (center) and operate the joystick to lift again within 5 seconds (within the time of the alarm sounding), with in this period the machine will be enabled to lift again; at this point if not operated to lift again after 5 seconds (the alarm is relieved), the machine cannot be lifted and alarm sounds again.

Once the anti-collision protection function is activated during lift function, the operator should be observant and cautious of overhead structures and obstructions. Or consider moving the machine to a different area to work.

Note: Every movement whilst at the point of Alarm is recorded in “real time” and logged in the machine’s ECU memory.

Note: After the anti-collision protection function is triggered, the machine can only be operated by lowering the height of the platform or driving to an open position. Do not remove the ultrasonic sensor and the wiring harness connected to the platform control to relieve the limit.

Testing the ultrasonic anti-collision Safety System function: (Service technician test procedure only)

Note: The ultrasonic sensor system includes an ultrasonic sensor and its installation accessories, which are fixed on the platform controller bracket to detect obstacles directly above to prevent the machine or the operator from being injured.

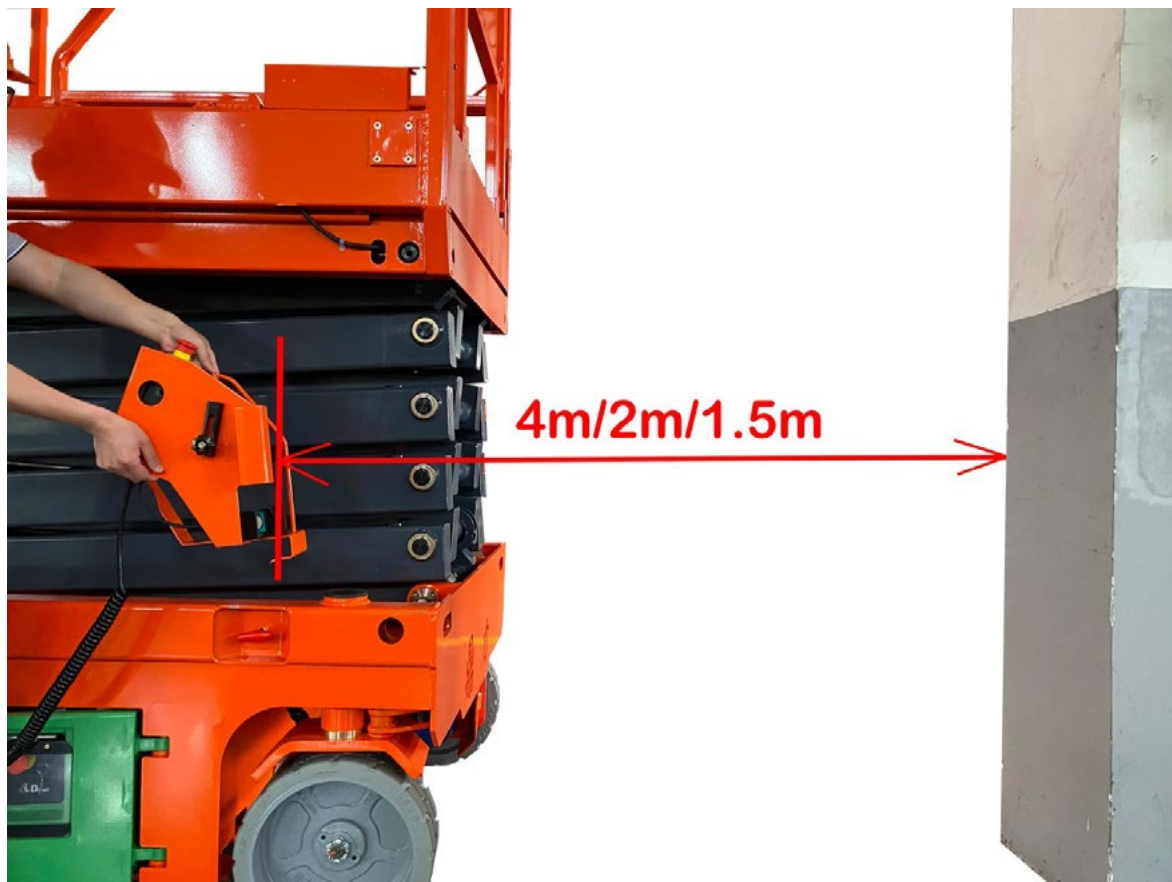
This test needs to get the platform control to be ground connected (base plug) for testing, and the operator should not stand on the platform.

SECONDARY GUARDING SYSTEM



ULTRASONIC SAFETY

SENSOR



- 1 Drive the machine to a stop at 4 meters away from the obstacle.
 - 2 Rotate the platform controller, directly above of the ultrasonic sensor in line with the obstacle.
 - 3 Press the lifting function selection button, press and hold the function enable button on the joystick, and slowly approach the obstacle.
- ⊙ Result: When the platform control panel is 4m away from the obstacle, the alarm should beep 50 times per minute, and the platform LED display shows "Ob". (obstacle)

- ⌘ Result: When the platform control is 4m away from the obstacle, the anti-collision warning alarm does not sound. Mark the machine immediately. And stop running.
- 4 Try to raise the platform.
- ⊙ Result: The platform can be raised, the alarm should beep 50 times per minute and continue, the platform LED display shows "Ob". (Obstacle)
- 5 Press the drive function enable button to drive the machine to a stop at 2 meters away from the obstacle. Rotate the platform controller until the directly above of the ultrasonic sensor in line with the obstacle.
- 6 Press the lift function enable button, press and hold the function enable button on the joystick, and slowly approach the obstacle.
- ⊙ Result: When the platform control is 2m away from the obstacle, the alarm will beep 110 times per minute, and the platform LED display shows "Ob".(Obstacle)
- ⌘ Result: When the platform control is 2m away from the obstacle, the anti-collision warning alarm will not sound (beep). Mark the machine immediately. And stop function.

Raise the platform while ensuring that the ultrasonic sensor moves in line with the obstacle.

- 7 Result: When the platform control is 1.5m away from the obstacle, the platform will stop the lift function, the alarm should continue to beep 110 times per minute, and the platform LED display shows "Ob". (Obstacle)
- ✕ Result: When the platform control is 1.5m away from the obstacle, the anti-collision warning alarm (beep) does not sound, and the platform will continue to rise. Please mark the machine immediately. And stop function.
- 8 Release the joystick and raise the machine again within 5 seconds (within the time the alarm sounds).
- ⊙ Result: The platform will continue to raise, the alarm should continue to beep w 110 times per minute, and the platform LED display shows "Ob".(Obstacle)
- 9 Release the joystick and raise the machine again after 5 seconds (after the alarm stops).
- ⊙ Result: The lift function will be disabled and not allowed to raise, the alarm should sound continuously 110 beeps per minute, and the platform LED display shows "Ob".(Obstacle)

Note: The ultrasonic safety sensor will only protect the operator and platform directly above the platform control.

Ultrasonic Anti-collision Safety System Overview:

- Will save lives or prevent serious injury.
- Operator Friendly.
- Reliable.
- Functional.
- Durable (meaning will not get damaged and create breakdowns).