

PRE-CHECK

1. DETECTION RANGE MEASUREMENT AND DISPLAY CHECK

- (a) Turn the IG switch ON.
- (b) Set the shift lever in D range. (when the front sonar and the clearance sonar are checked)
- (c) Set the shift lever in R range. (when the back sonar and the clearance sonar are checked)

NOTICE:

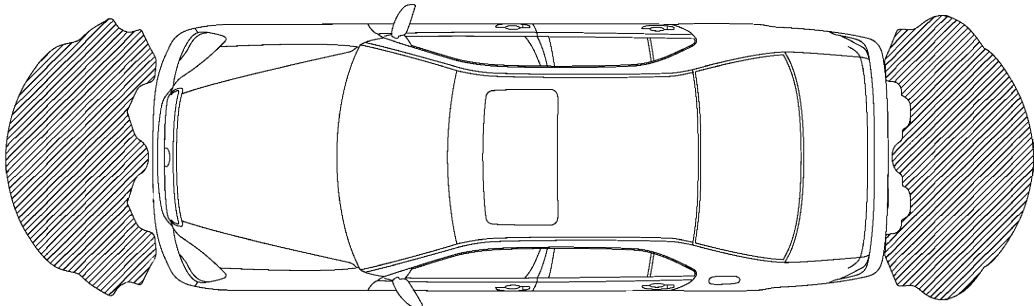
Apply the parking brake securely so that the vehicle does not move.

- (d) Turn the clearance sonar main switch ON.
- (e) Move the ø 60 mm ball around the sensor to measure the sensor's detection range.

NOTICE:

The measured detection range is for the ø 60mm ball. The detection range for wall and other obstacles is different.

Front and Back Sonars Detection Range:



Front Sonar:

Ditection range	Tolerance at 25°C	Tolerance at -30°C → 65°C
70cm (27.6)	± 3.5cm (1.38)	+ 3.5cm (1.38) - 6cm (2.36)
50cm (19.7)	± 3.5cm (1.38)	+ 3.5cm (1.38) - 5.5cm (2.17)
37.5cm (14.8)	± 3cm (1.18)	+ 3cm (1.38) - 4.5cm (1.77)
25cm (9.84)	± 3cm (1.18)	+ 8cm (3.15) - 3.5cm (1.38)

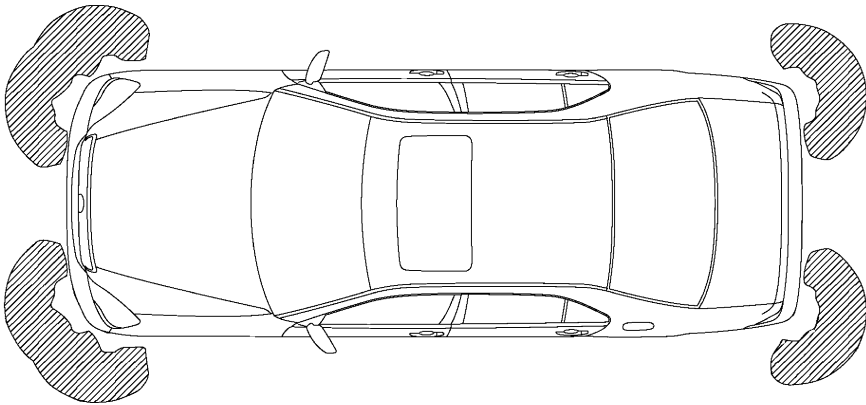
(): in.

Rear Sonar:

Ditection range	Tolerance at 25°C	Tolerance at -30°C → 65°C
70cm (27.6)	± 3.5cm (1.38)	+ 3.5cm (1.38) - 6cm (2.36)
50cm (19.7)	± 3.5cm (1.38)	+ 3.5cm (1.38) - 5.5cm (2.17)
37.5cm (14.8)	± 3cm (1.18)	+ 3cm (1.38) - 4.5cm (1.77)
25cm (9.84)	± 3cm (1.18)	+ 8cm (3.15) - 3.5cm (1.38)

(): in.

Clearance Sonar Detection Range:



Rear Sonar:

Ditection range	Tolerance at 25°C	Tolerance at -30°C → 65°C
50cm (19.7)	± 3.5cm (1.38)	+ 3.5cm (1.38) - 5.5cm (2.17)
37.5cm (14.8)	± 3.5cm (1.38)	+ 3cm (1.38) - 4.5cm (1.77)
25cm (9.84)	± 3cm (1.18)	+ 8cm (3.15) - 4cm (1.57)

(): in.

- (f) Check the multi information display, the multi display and the buzzer sounding condition when the front sensor is detecting and obstacle.

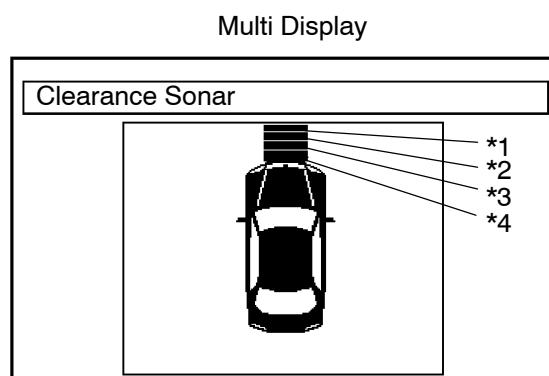
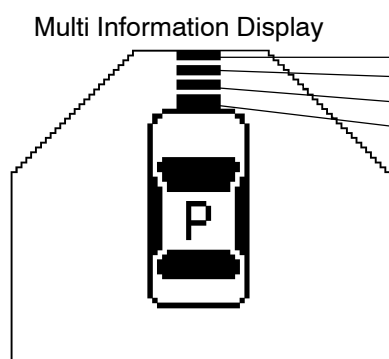
Operation condition (Front sonar display)

- Ignition switch ON.
- Clearance sonar main switch ON.
- Any position except P and R ranges.
- Vehicle speed is 10 km/h or less.
- Engine speed is 2,500rpm (Except N range) / 1,500rpm (N range).

HINT:

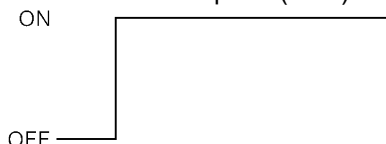
Because sound wave is used for the detection range measurement, the detection range may change a little due to the peripheral temperature.

Front Sonar Display:

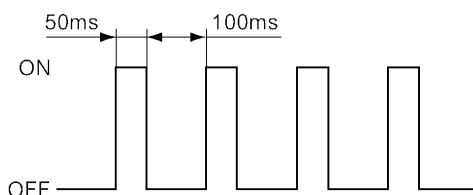


- *1. Detection at the farthest point
- *2. Detection at the far point
- *3. Detection at the middle distance point
- *4. Detection at the near point (blink)

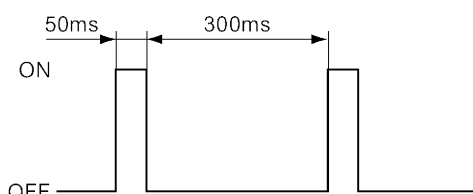
Detection at the near point
Within about 25 cm



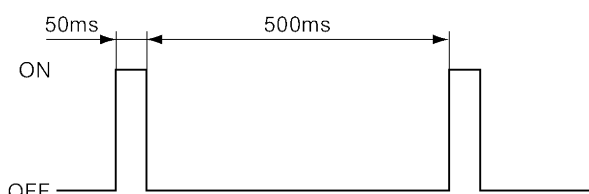
Detection at the middle distance point
From about 25 to 37.5 cm



Detection at the far point
From about 37.5 cm



Detection at the farthest point
From about 50 to 100 cm



- (g) Check the multi information display, the multi display and the buzzer sounding condition when the rear sensor is detecting and obstacle.

Operation condition (Rear sonar display)

- Ignition switch ON.
- Clearance sonar main switch ON.
- Shift position is R range.
- Vehicle speed is 10 km/h or less.
- Engine speed is 2,500rpm or less.

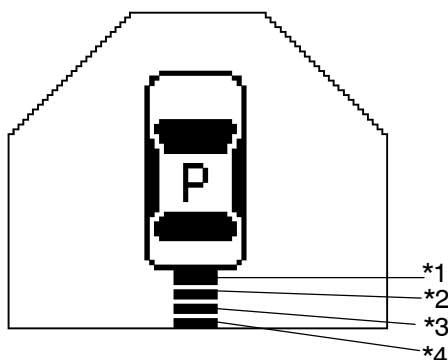
HINT:

Because sound wave is used for the detection range measurement, the detection range may change a little due to the peripheral temperature.

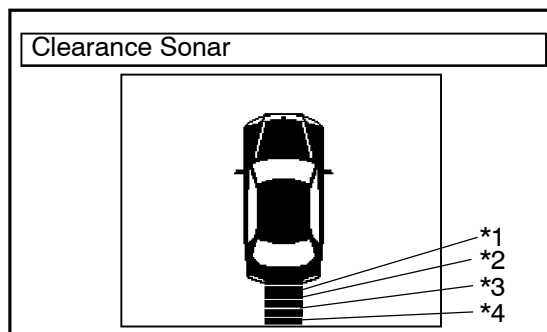
Rear Sonar Display:

- *1. Detection at the near point (blink)
- *2. Detection at the middle distance point
- *3. Detection at the far point
- *4. Detection at the farthest point

Multi Information Display



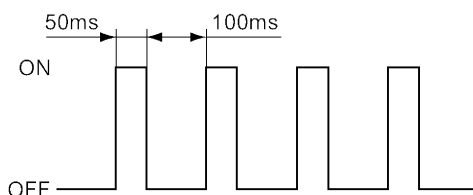
Multi Display



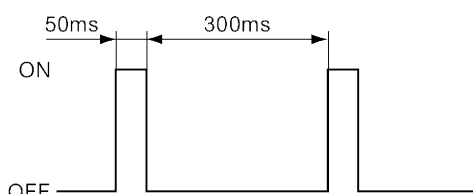
Detection at the near point
Within about 25 cm



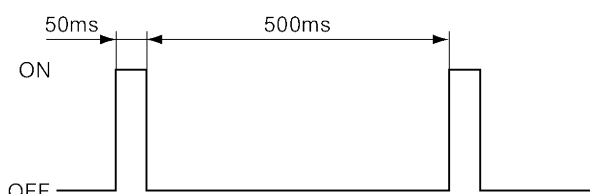
Detection at the middle distance point
From about 25 to 37.5 cm



Detection at the far point
From about 37.5 cm



Detection at the farthest point
From about 50 to 100 cm



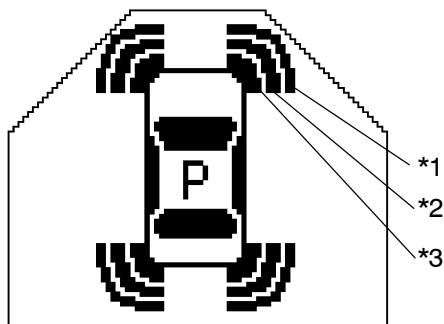
- Operation condition (Rear sonar display)

- HINT:

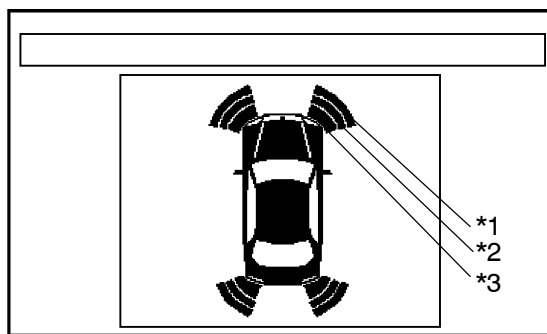
Because sound wave is used for the detection range measurement, the detection range may change a little due to the peripheral temperature.

Clearance Sonar Display:

Multi Information Display



Multi Display

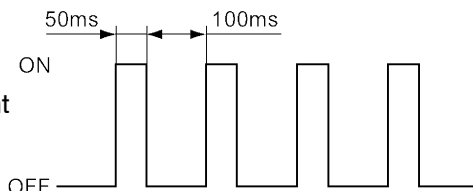


- *1. Detection at the far point
- *2. Detection at the middle distance point
- *3. Detection at the near point (blink)

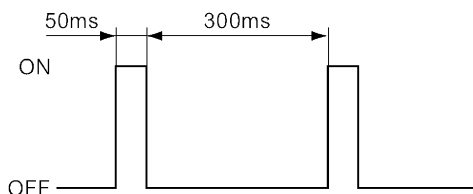
Detection at the near point
Within about 25 cm



Detection at the middle distance point
From about 25 to 37.5 cm



Detection at the far point
From about 37.5 cm

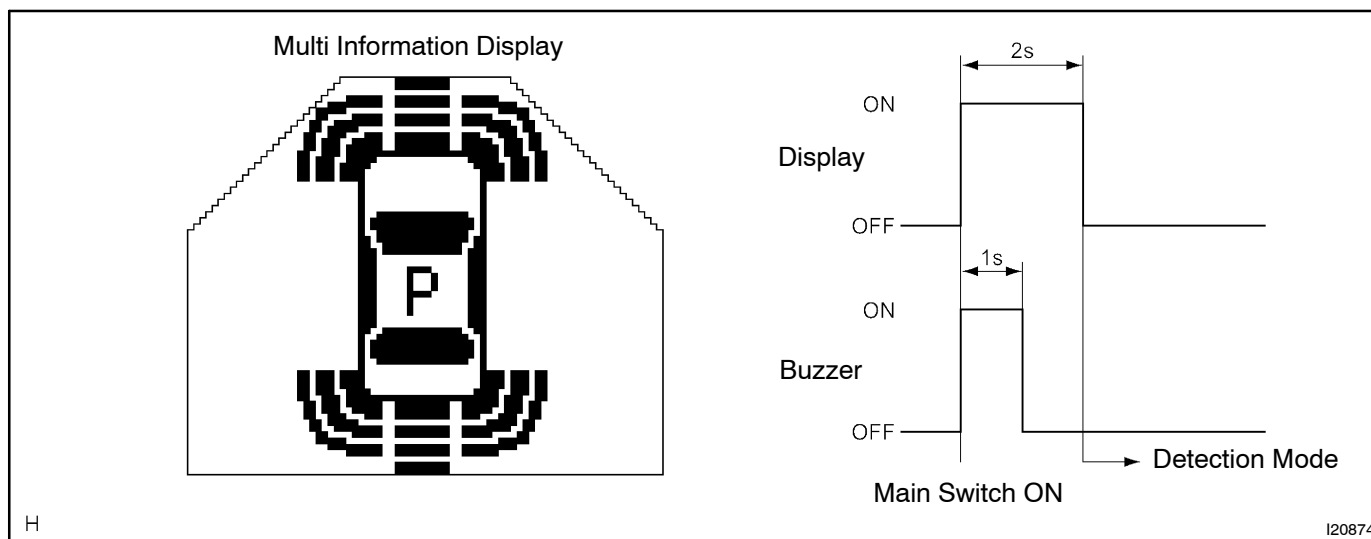


2. INITIAL CHECK FUNCTION CHECK

- Turn the IG switch ON.
- Drive the engine at 2,500 rpm or less with the shift lever at any position except in N range, or at 1,500 rpm or less with the shift lever in N range.

- After turning the IG switch On, wait for 2 secs. or more, then turn the clearance main switch ON. Check the multi information display and the buzzer sounding condition.

Standard: After the main switch is turned ON, the multi information display shows the figure below for about 2 secs. and the buzzer sounds for about 1 sec, then the detection mode begins.



HINT:

The troubled sensor is displayed in blink when the wire harness or the connector (between the rear buzzer and the clearance warning ECU assembly) is faulty and requires repair or replacement, or when trouble is detected in the ultrasonic sensor circuits. After the sensor operation returns to the normal, the detection mode will be finished normally.

