

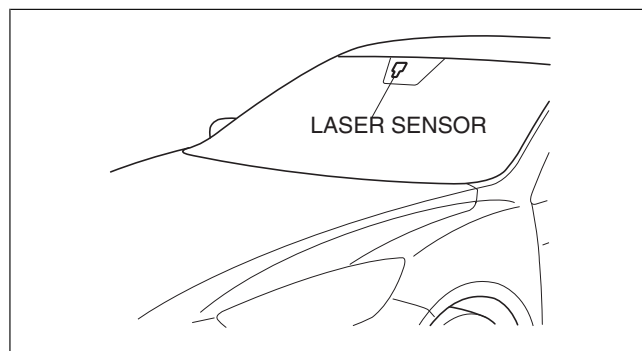
LASER SENSOR

id041500885100

Purpose/Function

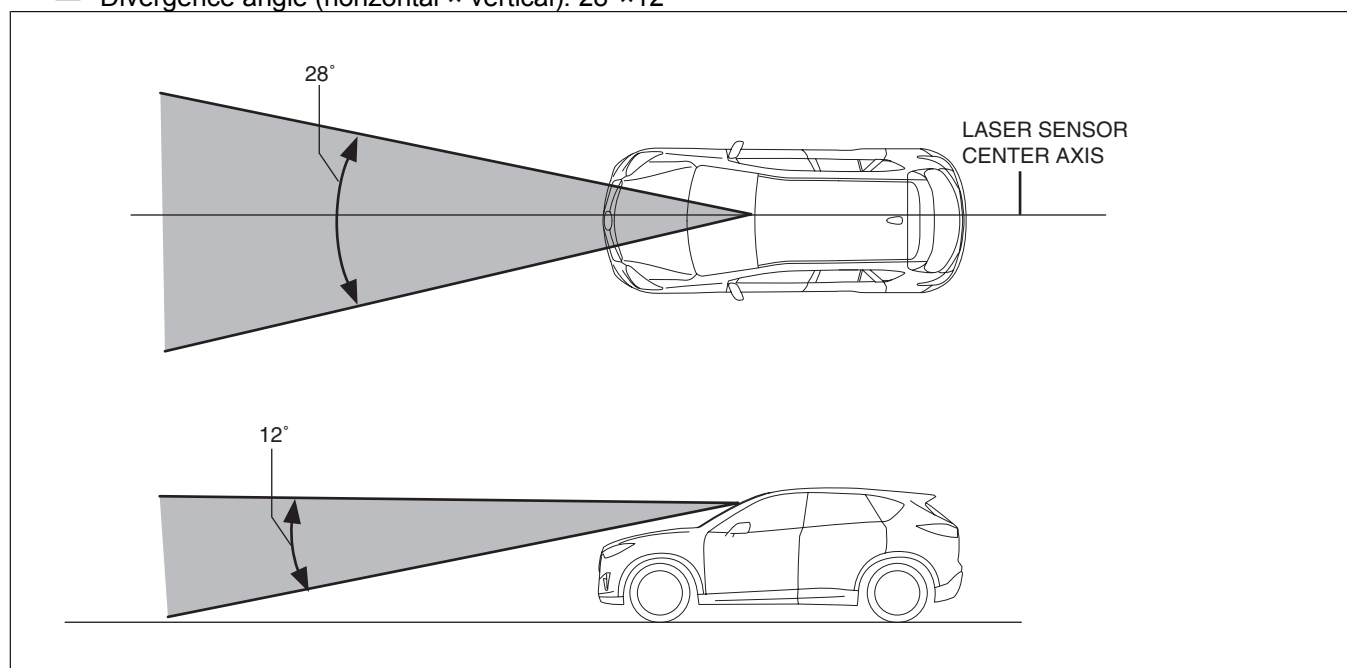
Warning

- As there is the possibility of eye damage occurring from the laser, always heed the following precautions:
 - Do not peer directly into the laser sensor using optical instruments with a magnification such as magnifying glasses, microscopic and objective lens within a distance of 100 mm {3.94 in} from the sensor.
 - Do not disassemble the laser sensor (including the lens). A disassembled sensor will not meet the conditions for a class 1M laser under the IEC 60825-1 specification and therefore eye safety cannot be assured.
- Installed to the upper area of the windshield and detects a vehicle or an obstruction ahead.
- The laser sensor specification is as follows.
 - Maximum average power: 45 mW
 - Pulse duration: 33 ns
 - Wavelength: 905 nm



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- Divergence angle (horizontal × vertical): 28°×12°



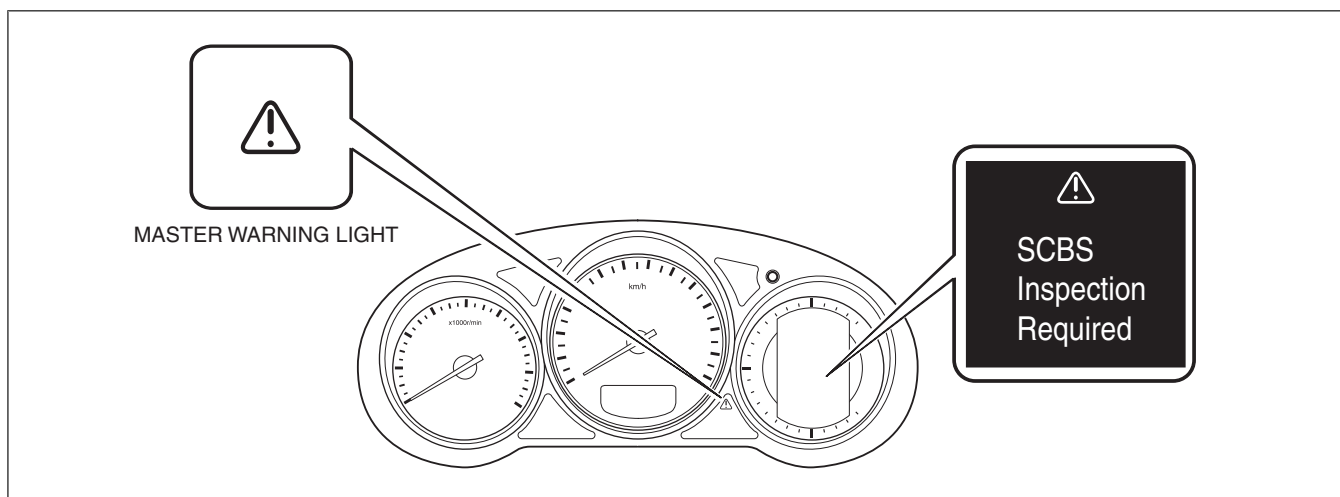
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Automatic configuration function

- When the ignition is switched to ON or the engine is started, the laser sensor reads data from the instrument cluster via CAN communication each time to perform automatic configuration.

On-board diagnostic system

- A function that allows the laser sensor to perform self-diagnosis.
- In case a malfunction occurs, the master warning light is illuminated and the message "SCBS Inspection Required" is indicated in the TFT LCD display to alert the driver, and at the same time a DTC is stored in the laser sensor.



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- When a malfunction is determined as a result of the on-board diagnostic test, the smart city brake support (SCBS) is suspended while driving

Construction/Operation

- Emits near-infrared laser and detects the distance between the vehicle and a vehicle or an obstruction ahead based on the reflection.
- A vehicle or an obstruction within approx. 6 m {20 ft} from the laser sensor can be detected.
- Adjustment such as aiming adjustment is not required even if the laser sensor is removed and reinstalled or replaced.

Fail-safe

DTC No.	Fail-safe function
U0001:00	<ul style="list-style-type: none"> Illuminates the master warning light. Inhibits the smart city brake support (SCBS) control.
U0100:00	
U0121:00	
U0131:00	
U0155:00	
U0401:68	
U0415:68	
U0420:68	
U0423:68	
U1A14:49	
U2300:55	
U2300:56	
U3000:00	
U3000:64	
U3000:66	