

RAIN SENSOR FUNCTION

B3E091901052T13

Rainfall Detection Function

- The LED in the rain sensor emits infrared light which is reflected off the windshield via the lens sensor and then received by the photodiode in the rain sensor. If the rate of reflected infrared light is reduced, it is determined that rain is contacting the windshield and the intensity of the rainfall is calculated from the amount of reflection rate reduction.

Sensitivity Adjustment Function

- By changing the sensitivity adjustment volume, installed on the wiper and washer switch, the sensitivity of the rain sensor can be freely adjusted and the windshield wiper timing can also be freely set.

Nighttime Sensitivity Adjustment Function

- If the auto light sensor in the rain sensor detects that the illumination level at which the headlights are illuminated, rain sensor sensitivity is increased to improve visibility.

Vehicle Speed Signal Function

- If the rain sensor detects rainfall and the vehicle is travelling **5 km/h or less**, the windshield wipers will not be switched to high speed even if high speed is determined to be required.

Initial Setting Function

- When the ignition switch is turned to the ON position after replacing the rain sensor with a new one, the initial setting is stored after it is verified that there is no rainfall on the windshield.

On-board Diagnostic Function

- If the voltage input to the rain sensor is not within the operational voltage (**approx. 9-16 V**), the PJB is informed of the malfunction and a PJB DTC is detected.

- If there is any malfunction of the initial setting, the PJB is informed of the malfunction and a PJB DTC is detected.

Fail-safe function

- If the rain sensor detects rainfall and then detects no change in the detected amount after the wipers have been operated two times, the windshield is determined to be dirty and the windshield wiper operation is stopped.

- When the temperature sensor inside the rain sensor detects **approx. -10 °C and below** when the vehicle speed is **0 km/h**, the windshield wipers are not operated.