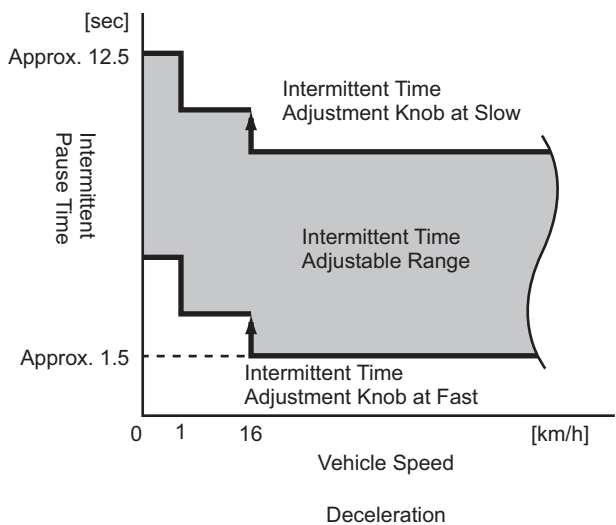
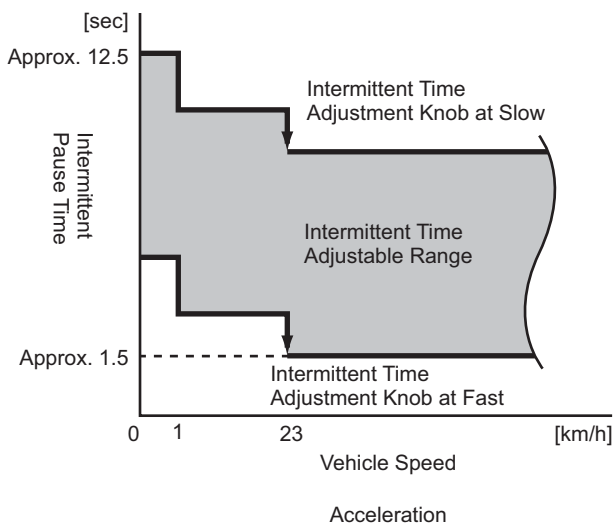


Wiper & Washer System

- Wipers with a washer-linked, vehicle speed-sensing, adjustable duration function are used. These wipers are equipped with a function (vehicle speed switching function) that automatically switches the operating conditions of the wipers in accordance with the driving conditions of the vehicle by receiving BEAN (Body Electronics Area Network) signal inputs.

Function Of Vehicle Speed Sensing, Intermittent Time Adjustment Wipers

- If the driver turns the wiper control switch to the INT position, the wipers will operate intermittently to suit the vehicle speed. The driver can operate the intermittent duration adjustment knob in order to adjust the intermittent pause time between approximately 1.5 to 12.5 seconds. Thus, the system can change the intermittent adjustable time range in three steps, to suit the vehicle speed while the vehicle is being driven.



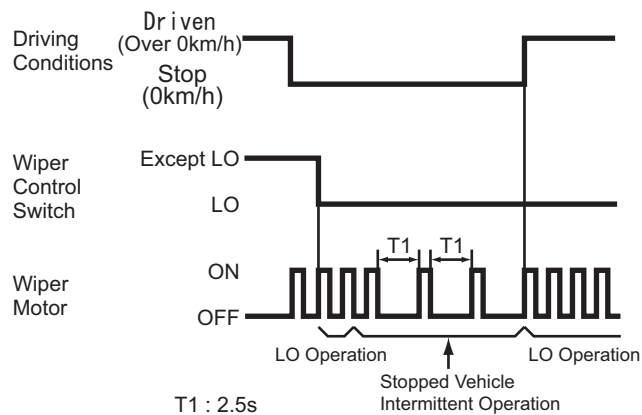
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Vehicle Speed Switching Function

- A stopped vehicle intermittent operation is used as part of the vehicle speed switching function. When the vehicle is stopped, this function automatically switches the LO wiper operation to an intermittent operation. This enables the wipers to operate appropriately whether the vehicle is being driven or stopped, with no need for the driver to operate the switch when the amount of rain is relatively small. This can be set to a "no vehicle speed switching function" through the use of the customizable function.

Stopped Vehicle Intermittent Function

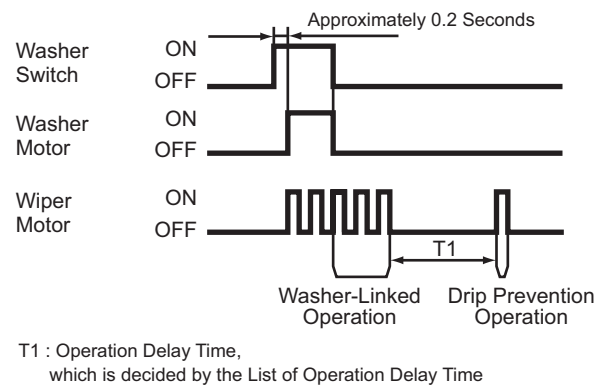
- If the driver turns the wiper control switch from a position other than LO to LO while the vehicle is stopped, the wipers will operate three times in LO. Then, the wipers will switch automatically to an intermittent operation, with an approximate intermittent pause time of 2.5 seconds. If the vehicle that is being driven is stopped with the wiper control switch in the LO position, the wipers will operate two times in LO. Then, the wipers will switch automatically to an intermittent operation, with an approximate intermittent pause time of 2.5 seconds.
- If the driver starts the vehicle during the intermittent operation, the wipers will revert automatically to the LO operation. If the driver sets the intermittent duration adjustment knob to the FAST position, the wipers will operate at LO even when the vehicle is stopped.



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Washer-Linked Function with Drip Prevention Mechanism

- If the driver turns ON the washer switch for approximately 0.2 seconds or more while the wiper control switch is at the OFF or INT position, the washer nozzles spray washer fluid. This operation is linked to a simultaneous operation of the wipers, which start operating at LO. The wipers continue to operate at LO three more times after the driver turns the washer switch OFF (washer-linked function). After the washer-linked operation is completed, the wipers operate once more to wipe away the washer fluid that may have dripped. This operation takes place after an operation delay time that suits the vehicle speed has elapsed, as shown in the table below (List of Operation Delay Time) (drip prevention function). By connecting a hand-held tester to the DLC3 connector, a "no drip prevention function" can also be set (customizable function)



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List of Operation Delay Time

Vehicle Speed	Operation Delay Time
0~59km/h	Approx. 3
60~79km/h	Approx. 5
80~119km/h	Approx. 7
120~159km/h	Approx. 5
160~169km/h	Approx. 3
170km/h or over	Not (Drip Prevention Operation Cancellation)

Fail Safe

- The MPX left side J/B ECU is equipped with a failsafe function. Even if a failure occurs in the wiper control switch, intermittent time adjustment knob, or BEAN (Body Electronics Area Network), the MPX left side J/B ECU will be able to control the wipers as indicated below.

List of Operation Delay Times

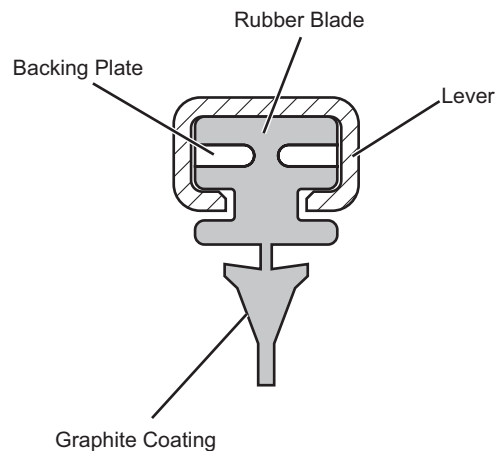
Function Item	Description
Intermittent time adjustment knob failure	• The failsafe function forcibly fixes the intermittent pause time during the intermittent operation to approximately 4 seconds. Furthermore, it does not perform the vehicle speed switching operation (for switching from LO to INT when the vehicle is stopped). It performs other operations as normal.
Vehicle speed signal failure	• The failsafe function does not perform the vehicle speed switching operation (for switching from LO to INT when the vehicle is stopped). It forcibly fixes the intermittent pause time during the intermittent operation to approximately 4 seconds.
Wiper motor operation signal failure	• The failsafe function does not perform the intermittent operation, vehicle speed switching operation, or the washer fluid drip prevention operation. It performs other operations as normal.
Body Electronics Area Network failure	• When a failure associated with the BEAN (Body Electronics Area Network) occurs, the MPX left side J/B ECU will be unable to receive the input of wiper operation request signals via the BEAN (Body Electronics Area Network). However, when a wiper ON signal (wiper control switch set to HI) is input directly by the wiper control switch, the wiper motor can operate at the HI speed. If a failure associated with the BEAN (Body Electronics Area Network) occurs while the wipers are operating, the wipers will maintain the existing operation state until the ignition is turned OFF.

Operation of Washer-Linked, Vehicle Speed Sensing, Intermittent Time Adjustment Wipers

- The MPX left side J/B ECU receives the input of the following signals that are output by the combination switch, via the BEAN (Body Electronics Area Network) wires: switch position signals (OFF, INT, LO, HI, and MIST) of the wiper control switch, and the intermittent time adjustment knob position signals. Consequently, the MPX left side J/B ECU controls the built-in wiper control relay or the wiper HI/LO switching relay based on the vehicle speed signals that are input by the meter ECU via the BEAN (Body Electronics Area Network) wires. The MPX right side J/B ECU inputs the washer switch position signals via the BEAN (Body Electronics Area Network) wires in order to control the built-in washer relay ON and OFF. In case of a failure in the BEAN (Body Electronics Area Network) system, a dedicated wire is used to operate the wiper motor at the HI speed.

Wiper Blade

- As in the previous models, the wiper blade is constructed so that the rubber blade is inserted between the lever and the backing plate, thus eliminating metal-to-metal contact. In addition, the surface of the rubber blade is coated with graphite to minimize the sound of the impact that is created when the blade moves in the opposite direction, and prolong the life of the rubber blade.



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