

Indicator and warning buzzer operation

The transfer control module operates the 4WD indicator, the 4WD low indicator and the warning buzzer as follows in order to inform what state the transfer control system is.

NOTE:

- The operations with asterisk (*) in the table below, indicate malfunction flashing. The transfer control module detects the malfunction in the transfer control system. Check and repair transfer control system referring to the applicable trouble shooting as follows.
 - “Table-C: 4WD Indicator Flashes at Intervals of 0.5 Seconds Continuously” in this section
 - “Table-D: 4WD Indicator and 4WD Low Indicator Flashes at Intervals of 0.2 Seconds” in this section
- For the conditions with asterisk (**) in the table below, the transfer control system is in the limited shift operation. For the details of limited shift operation, refer to “Limited Shift Operation” in this section.

Operation			Condition
	Indicator	Warning Buzzer	
4WD indicator	OFF	–	• Ignition switch is OFF. • Transfer is at 2H (air locking hub is unlocked).
	ON	–	• Within 2 seconds after ignition switch is turned ON. (checking indicator operation) • Transfer is at 4H/4L (air locking hub is locked).
	Flashes at intervals of 0.5 seconds for approx. 3 seconds	–	• Transfer is shifting from 2H to 4H. • Transfer is shifting from 4H to 2H. • Transfer could not complete shifting to 2H (or 4H) and shift position is returning to 4H (or 2H)**.
	Flashes at intervals of 0.5 seconds continuously*	–	4WD controller detects malfunction of 4WD control system.
	Flashes at intervals of 0.2 seconds*	–	Transfer control module detects malfunction of transfer shift actuator limit switch during shift operation**.
	Flashes at intervals of 0.5 seconds	Sounds 3 times	• “2WD” switch operates at 100 km/h (62 mile/h) or more when transfer is at 4H**. • “4WD” switch operates at 100 km/h (62 mile/h) or more when transfer is at 2H**.
4WD low indicator	OFF	–	• Ignition switch is OFF. • Transfer is at 2H/4H. (4WD low switch is OFF.)
	ON	–	• Within 2 seconds after ignition switch is turned ON. (checking indicator operation) • Transfer is at 4L. (4WD low switch is ON.)
	Flashes at intervals of 0.5 seconds	Sounds continuously	• Transfer is shifting from 4H to 4L. • Transfer is shifting from 4L to 4H. • Transfer is shifting to shift position detected by 4WD low switch**.
	Flashes at intervals of 0.2 seconds*	–	• Transfer control module detects mismatching between signals from transfer shift actuator limit switch and 4WD/4WD low switches when ignition switch is turned ON**. • Transfer control module detects malfunction of transfer shift actuator limit switch during shift operation**.

Operation			Condition
Indicator		Warning Buzzer	
4WD low indicator	Flashes at intervals of 0.5 seconds	Sounds 3 times	• “4WD” switch operates at 5 km/h (3 mile/h) or more when transfer is at 4L**. • “4WD-L” switch operates at 5 km/h (3 mile/h) or more when transfer is at 4H**. • Vehicle speed rises by 5 km/h (3 mile/h) or more during shifting from 4H to 4L or from 4L to 4H**. • A/T select lever shifts to other than “N” range or clutch pedal is released during shifting from 4H to 4L or from 4L to 4H. • “4WD” switch is pushed when transfer is at 4L and A/T is at other than “N” range or clutch pedal is released. • “4WD-L” switch is pushed when transfer is at 4H and A/T is at other than “N” range or clutch pedal is released.
—	—	Sound 3 times	• “2WD” switch is pushed when transfer is at 4L • “4WD-L” switch is pushed when transfer is at 2H.

Transfer Control System Operation

Shift Operation from 2H to 4H

When “4WD” switch is pushed at 2H, the transfer control module shifts the transfer to 4H as follows.

The transfer control module flashes the 4WD indicator and runs the transfer shift control actuator motor. The transfer shift actuator motor shifts the shift fork shaft No.1 via the pinion gear until the 4WD switch is turned ON. And, the 4WD controller locks the air locking hub and turns ON the 4WD indicator via the transfer control module. If the transfer control module does not detect the ON signal from the 4WD switch for 3 seconds after starting the shift operation, the transfer control module returns the transfer shift actuator motor to the 2H position.

Also, the shift fork shaft No.1 shifts the front drive gear shift fork, and then the front drive clutch hub and the output front shaft are engaged via front drive clutch hub sleeve.

At this time, the driving force from the input shaft is transmitted to the transfer output front shaft and output rear shaft.

However, the shift operation will not be performed under the following condition.

- The transfer shift actuator limit switch detects other than the 2H position before starting the shift operation.
- The vehicle speed is more than 100 km/h (62 mile/h) before starting the shift operation.