

General Description

Transfer Description

S5JB0A3311010

The aluminum transfer case directly connected to the back of the transmission contains input gear, counter gear, rear output shaft, front output shaft, center differential, drive chain and their accompanying gears, hubs, sleeves, fork, etc. The center differential is installed in the transfer. With the torque induction type LSD used in the center differential, the effect of LSD works when a rotation difference between front and rear wheels is occurring.

The transfer has such a selective mechanism as to enable the shift actuator to make selection of high speed (direct connection with transmission output: main shaft), low speed (speed reduction by input gear, counter gear and low gear) or neutral by way of the reduction shift sleeve located between the input gear and low gear, and selection of center differential lock or not by way of the differential lock clutch sleeve located at the center of the rear output shaft. The case has an oil pump to provide proper lubrication.

4WD Control System Description

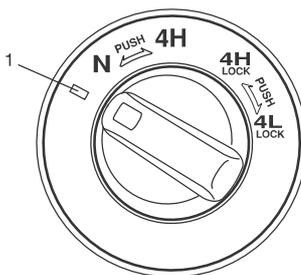
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Transfer Shift Control

The 4WD control module controls the transfer shift actuator based on the signal from the transfer switch so that the transfer is shifted to the selected position (4H, 4H-lock, N or 4L-lock). (Shifting to the N position requires that the switch to “□” position (1) keep it there for about 10 seconds then turn it to “N” position.)

The transfer actuator consists of the actuator motor and the actuator motor position switch. The 4WD control module detects the position of the actuator motor using the position switch and controls the actuator motor running / stopping operation.

Also, the 4L/N switch and center differential lock switch that detect the each position of the High / Low shift fork and the differential lock shift fork are installed the transfer assembly. The 4WD control module detects the transfer actual shift position (4H, 4H-lock, N or 4L-lock) by the signals from the 4L/N switch and center differential lock switch as follows.



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Relationship of transfer shift position and switches

Switch	Transfer shift position			
	4H	4H-lock	N	4L-lock
4L/N switch	OFF	OFF	ON	ON
Center differential lock switch	ON	OFF	ON	OFF

When the transfer shift actuator motor position detected by motor position switch and transfer actual shift position detected by the above-mentioned switches match, the 4WD control module judges that the transfer shifting is complete.

Retry Control

When 4WD control module cannot judge the shifting to the target position, it commands to retry the shifting up to 3 times. If retry shifting is not possible, previous shift position is restored and notify failure of the shifting with the indicator and buzzer.

Indicator And Buzzer Operation

The 4WD control module output operation signal of the differential lock indicator, 4L indicator, N indicator and the buzzer to BCM. Indicators and buzzer as follows in order to inform what state the transfer control system is.