

## 14. Fail-safe Function

A fail-safe function is provided to maintain driveability even if trouble should occur in the vehicle speed sensor, throttle position sensor, inhibitor switch, or any of the solenoids.

- VEHICLE SPEED SENSOR 1 AND 2

A dual speed-sensing system is used. The speed signal is taken from the transmission (output shaft speed sensor). Even if one sensor system fails, the vehicle can be controlled normally with the other sensor system.

If both front and rear vehicle speed sensors become faulty, the transmission is fixed in 3rd speed.

- THROTTLE POSITION SENSOR

If throttle position sensor becomes faulty, the throttle opening is fixed at the preset angle.

- INHIBITOR SWITCH

If the plural number of signals are inputted simultaneously due to inhibitor switch failure, the TCM makes it possible to drive the vehicle in the following conditions.

Order of priority: D > N (P) > R > 3 > 2 > 1 >

Selector position	P	R	N	D	3	2	1
Input signal	P range signal and other signal	R range signal and other signal	N range signal and other signal	D range signal and other signal	3 range signal and other signal	2 range signal and other signal	1 range signal and other signal
Driving condition	P	R	N	D	3	2	1

- SHIFT SOLENOID 1 AND 2

If trouble occurs in either of solenoids 1 and 2, both solenoids are turned OFF, and the vehicle is made driveable in the 3rd hold range.

If both solenoids should fail, the mechanical hydraulic circuit is used.

- LINE PRESSURE DUTY SOLENOID

If line pressure duty solenoid fails, the solenoid is turned OFF and line pressure is raised to maximum to enable vehicle operation.

- LOCK-UP DUTY SOLENOID

If lock-up duty solenoid fails, the solenoid is turned OFF and lock-up is released.

- TRANSFER DUTY SOLENOID

When the transfer duty solenoid becomes inoperative, it turns OFF. This causes maximum oil pressure to be applied to the transfer clutch so that the power is always transmitted to rear axles. (Direct-coupling AWD)

- 2-4 BRAKE DUTY SOLENOID

If any trouble occurs in the 2-4 brake duty solenoid, the solenoid is turned off and the vehicle is made drivable in the 1st and 3rd speeds.

- LOW-CLUTCH TIMING SOLENOID

If any trouble occurs in the low clutch timing solenoid, the solenoid is turned off and the vehicle is made drivable in the 1st and 3rd speeds.

- 2-4 BRAKE TIMING SOLENOID

If any trouble occurs in the 2-4 brake timing solenoid, the solenoid is turned off and the vehicle is made drivable in the 1st and 3rd speeds.