

FAIL-SAFE CHART

1. FAIL-SAFE CHART

This function minimizes the loss of the ECT functions when a malfunction occurs in a sensor or solenoid.

- (a) Automatic Transmission Fluid (ATF) temperature sensor:
When the ATF temperature sensor has a malfunction, O/D up-shift is prohibited.
- (b) Counter gear speed sensor NC (Speed sensor NC):
When the counter gear speed sensor has a malfunction, O/D up-shift is prohibited.
- (c) Shift solenoid valve DSL:
When the solenoid valve DSL has a malfunction, the current to the solenoid valve is stopped. This stops lock-up control, then fuel economy decreases.
- (d) Shift solenoid valve SL1, SL2 and S4:
If any of the shift solenoid valve circuits develops an open or short, the ECM turns the other shift solenoid "ON" and "OFF" in order to shift into the gear positions shown in the table below. Manual shifting as shown in the following table must be done. In case of a short circuit, the ECM stops sending the current to the short circuited solenoid. Even if starting the engine in the fail-safe mode, the gear position remains in the same position.

Normal				Shift Solenoid Valve SL1				Shift Solenoid Valve SL2				Shift Solenoid Valve S4			
Gear	Solenoid Valve			Gear	Solenoid Valve			Gear	Solenoid Valve			Gear	Solenoid Valve		
	SL1	SL2	S4		SL1	SL2	S4		SL1	SL2	S4		SL1	SL2	S4
1st	ON	ON	OFF	2nd	X	ON	OFF	3rd	ON ↓ OFF	X	OFF	1st	ON	ON	X
2nd	OFF	ON	OFF	2nd	X	ON	OFF	3rd	OFF	X	OFF	2nd	OFF	ON	X
3rd	OFF	OFF	OFF	3rd	X	OFF ↓ ON	OFF ↓ ON	3rd	OFF	X	OFF	3rd	OFF	OFF	X
O/D	OFF	OFF	ON	3rd	X	OFF ↓ ON	ON	O/D	OFF	X	ON	3rd	OFF	OFF	X

Shift Solenoid Valve SL1 and SL2				Shift Solenoid Valve SL1 and S4				Shift Solenoid Valve SL2 and S4				Shift Solenoid Valve SL1, SL2 and S4			
Gear	Solenoid Valve			Gear	Solenoid Valve			Gear	Solenoid Valve			Gear	Solenoid Valve		
	SL1	SL2	S4		SL1	SL2	S4		SL1	SL2	S4		SL1	SL2	S4
3rd	X	X	OFF	2nd	X	ON	X	3rd	ON ↓ OFF	X	X	3rd	X	X	X
3rd	X	X	OFF	2nd	X	ON	X	3rd	OFF	X	X	3rd	X	X	X
3rd	X	X	OFF	2nd	X	OFF ↓ ON	X	3rd	OFF	X	X	3rd	X	X	X
O/D	X	X	ON	2nd	X	OFF ↓ ON	X	3rd	OFF	X	X	3rd	X	X	X

HINT:

- ↓: Condition in the normal operation is shown above the "↓".
- ↓: Condition in the fail-safe mode is shown beneath the "↓".
- E/B: Engine brake.