■ FAIL SAFE FUNCTION

This function minimizes the loss of operability when any abnormality occurs in each sensor or solenoid. Control is effected as follows if a malfunction occurs in the sensors and solenoids:

- During a speed sensor malfunction, the vehicle speed is detected through the signals from the counter gear speed sensor to effect normal control.
- During a counter gear speed sensor malfunction, 4th upshift is prohibited.
- During an ATF temperature sensor malfunction, 4th upshift is prohibited.
- During a malfunction in the solenoid valve SL1, SL2, or S4, the current to the faulty solenoid valve is cut off and control is effected by operating the normal solenoid valves. Shift control is effected as described in the table below, depending on the faulty solenoid.

When all solenoids are normal				When shift solenoid SL1 is abnormal								When SL2 is abnormal				When S4 is abnormal			
				Traveling 3rd or 4th				Traveling 1st or 2nd											
Solenoid			Gear	Solenoid			Gear	Solenoid			Gear	Solenoid			Gear	Solenoid			Gear
SL1	SL2	S4		SL1	SL2	S4		SL1	SL2	S4		SL1	SL2	S4		SL1	SL2	S4	
ON	ON	OFF	1st	x	ON ↓ OFF	OFF	3rd	x*2	ON	OFF	2nd	ON ↓ OFF	x	OFF	3rd	ON	ON	x	1st
OFF	ON	OFF	2nd	x	ON ↓ OFF	OFF	3rd	x*2	ON	OFF	2nd	OFF	x	OFF	3rd	OFF	ON	x	2nd
OFF/ ON*1	OFF	OFF	3rd	x	OFF	OFF	3rd	x*2	OFF ↓ ON	OFF ↓ ON	3rd	OFF/ ON*1	x	OFF	3rd	OFF/ ON*1	OFF	x	3rd
OFF/ ON*1	OFF	ON	4th	x	OFF	ON	4th	x*2	OFF ↓ ON	ON	3rd	OFF/ ON*1	x	ON	4th	OFF/ ON*1	OFF	x	3rd

When SL1 and SL2 are abnormal				When SL1 and S4 are abnormal								When SL2 and S4 are abnormal				When SL1, SL2 and S4 are abnormal			
				Traveling 3rd or 4th				Traveling 1st or 2nd											
Solenoid			Gear	Solenoid			Gear	Solenoid			Gear	Solenoid			Gear	Solenoid			Gear
SL1	SL2	S4		SL1	SL2	S4		SL1	SL2	S4		SL1	SL2	S4		SL1	SL2	S4	
x	x	OFF	3rd	x	ON ↓ OFF	x	3rd	x	ON	x	2nd	ON ↓ OFF	x	x	3rd	x	x	x	3rd
x	x	OFF	3rd	x	ON ↓ OFF	x	3rd	x	ON	x	2nd	OFF	x	x	3rd	x	x	x	3rd
x	x	OFF	3rd	x	OFF	x	3rd	x	OFF ↓ ON	x	2nd	OFF/ ON*1	x	x	3rd	x	x	x	3rd
x	x	ON	4th	x	OFF	x	3rd	x	OFF ↓ ON	x	2nd	OFF/ ON*1	x	x	3rd	x	x	x	3rd

*1: Lock-up ON

*2: B_1 is constantly operating.