

■ 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 | × | ON ↓ OFF | OFF | 3rd | × | ON | OFF | 2nd | ON ↓ OFF | × | OFF | 3rd | ON | ON | × | 1st |
| OFF | ON | OFF | 2nd | × | ON ↓ OFF | OFF | 3rd | × | ON | OFF | 2nd | OFF | × | OFF | 3rd | OFF | ON | × | 2nd |
| OFF | OFF | OFF | 3rd | × | OFF | OFF | 3rd | × | OFF ↓ ON | OFF ↓ ON | 3rd | OFF | × | OFF | 3rd | OFF | OFF | × | 3rd |
| OFF | OFF | ON | 4th | × | OFF | ON | 4th | × | OFF ↓ ON | ON | 3rd | OFF | × | ON | 4th | OFF | OFF | × | 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 | |
| × | × | OFF | 3rd | × | ON ↓ OFF | × | 3rd | × | ON | × | 2nd | ON ↓ OFF | × | × | 3rd | × | × | × | 3rd |
| × | × | OFF | 3rd | × | ON ↓ OFF | × | 3rd | × | ON | × | 2nd | OFF | × | × | 3rd | × | × | × | 3rd |
| × | × | OFF | 3rd | × | OFF | × | 3rd | × | OFF ↓ ON | × | 2nd | OFF | × | × | 3rd | × | × | × | 3rd |
| × | × | ON | 4th | × | OFF | × | 3rd | × | OFF ↓ ON | × | 2nd | OFF | × | × | 3rd | × | × | × | 3rd |

*: B₁ is constantly operating.