

FAIL-SAFE CHART

1. FAIL-SAFE FUNCTION

- If following malfunctions occur, the 4WD control ECU will stop the function of 4WD control system or partly change the function to control the system.
- If a malfunction occurs in the sensor signal or actuator, the flow of electricity to the linear solenoid of the electrical coupling is prohibited. As a result, the system enters front wheel drive condition.
- When a component of the system malfunctions and the fail-safe function activates, the component operation is prohibited. However, if the system is controlling the component and the fail-safe function activates, the system operation is gradually stopped to prevent sudden changes in the vehicle condition.
- When system control is not possible, the warning light is illuminated to stop operation of the system operation.

DATA LIST / ACTIVE TEST

1. READ DATA LIST

HINT:

Using the intelligent tester's (with CAN VIM) DATA LIST allows switch, sensor and other item values to be read without removing any parts. Reading the DATA LIST early in troubleshooting is one way to save time.

- (a) Connect the intelligent tester (with CAN VIM) to the DLC3.
- (b) Turn the ignition switch ON.
- (c) Read the DATA LIST according to the display on the tester.

4WD control ECU

Item	Measurement Item/Range (Display)	Normal Condition	Diagnostic Note
4WD WARN LAMP	4WD indicator light /OFF or ON	OFF: 4WD indicator light OFF ON: 4WD indicator light ON	-
SLIP INDI LAMP	Slip indicator light /OFF or ON	OFF: SLIP indicator light OFF ON: SLIP indicator light ON	-
STOP LAMP SW	Stop light switch /OFF or ON	OFF: Brake pedal released ON: Brake pedal depressed	-
STEERING ANGLE	Steering angle value / Min.: -3276.8 deg Max.: 3276.7 deg	Min.: -3276.8 deg Max.: 3276.7 deg	-
FR WHEEL SPD	FR wheel speed / Min.: 0 km/h (0 mph) Reading : Max.: 326.4 km/h (202.8 mph)	Actual wheel speed	Almost no difference from the speedometer
FL WHEEL SPD	FL wheel speed / Min.: 0 km/h (0 mph) Reading : Max.: 326.4 km/h (202.8 mph)	Actual wheel speed	Almost no difference from the speedometer
RR WHEEL SPD	RR wheel speed / Min.: 0 km/h (0 mph) Reading : Max.: 326.4 km/h (202.8 mph)	Actual wheel speed	Almost no difference from the speedometer
RLWHEEL SPD	RL wheel speed / Min.: 0 km/h (0 mph) Reading : Max.: 326.4 km/h (202.8 mph)	Actual wheel speed	Almost no difference from the speedometer
AMBI TEMP	Ambient temperature / Min.: -128 °C (198.4 °F) Max.: 127 °C (260.6 °F)	Min.: -128 (198.4 °F) Max.: 127 (260.6 °F)	-
COOLANT TEMP	Engine coolant temperature / Min.: 0 °C (32 °F) Max.: 127.5 °C (261.5 °F)	Min.: 0 °C (32 °F) Max.: 127.5 °C (261.5 °F)	-
LOCK SW	4WD lock switch / OFF or ON	OFF: 4WD lock switch off ON: 4WD lock switch on	-
SLC CUR	SLC solenoid (4WD linear solenoid) current / Min.: 0 A Max.: 3 A	Min.: 0 A Max.: 3 A	-

2. PERFORM ACTIVE TEST**HINT:**

Performing the intelligent tester's (with CAN VIM) ACTIVE TEST allows switch and other items to be operated without removing any parts. Performing the ACTIVE TEST early in troubleshooting is one way to save time. The DATA LIST can be displayed during the ACTIVE TEST.

- (a) Connect the intelligent tester (with CAN VIN) to the DLC3.
- (b) Turn the ignition switch ON.
- (c) Perform the ACTIVE TEST according to the display on the tester.

4WD control ECU

Item	Test Details	Diagnostic Note
4WD WARN LAMP	4WD indicator light ON / OFF ON: 4WD indicator light ON OFF: 4WD indicator light OFF	Observe combination meter
LOCK LAMP	4WD lock light / ON / OFF OFF: 4WD lock switch OFF ON: 4WD lock switch ON	Observe combination meter

Skid control ECU

Item	Test Details	Diagnostic Note
SLIP INDI LAMP	SLIP indicator Light / ON / OFF ON: SLIP indicator light ON OFF: SLIP indicator light OFF	Observe combination meter