

Initial Check

Each time the ignition switch is turned ON, and the vehicle reaches approximately speed of 6 km/h (4 mph) or more, the skid control ECU performs the initial check.

The functions of each solenoid valve and pump & pump motor in the hydraulic brake booster are checked in order.

Self-Diagnosis

- If the skid control ECU detects a malfunction in the brake control system (ABS with EBD, Brake Assist, TRAC/A-TRAC, VSC, DAC, and HAC), the ABS, brake system, and VSC/TRAC warning lights, and TRAC OFF and VSC OFF indicator lights that corresponds to the function in which the malfunction has been detected lights up, as indicated in the table below, to alert the driver of the malfunction.

○ : Light ON — : Light OFF

Item	ABS	EBD	Brake Assist	TRAC/A-TRAC	VSC	DAC*2	HAC	Skid Control ECU
ABS Warning Light	○	○	○	—	—	—	—	○
Brake System Warning Light	—	○	—	—	—	—	—	○
VSC/TRAC Warning Light	○	○	○	○	○	○	○	○
TRAC OFF Indicator Light*1	○	○	○	○	○	—	○	○
VSC OFF Indicator Light*2	○	○	○	○	○	○	○	○

*1: Only for 2WD model

*2: Only for 4WD model

- At the same time, the DTC (Diagnostic Trouble Code) are stored in memory. The DTC can be read by connecting the SST (09843-18040) between the Tc and CG terminals DLC3, and observing the blinking of the ABC warning light and VSC warning light or by connecting a hand-held tester.
- This system has a sensor signal check (test mode) function. This function is activated by connecting the SST (09843-18040) between the Ts and CG terminals of the DLC3 or by connecting a hand-held tester. This check function performs yaw rate sensor zero point calibration, deceleration sensor zero point calibration, yaw rate sensor check, master cylinder pressure sensor check, and speed sensor check.
- If the skid control ECU detects a malfunction during a sensor check, it stores the DTC in its memory. This DTC can be read during a sensor signal check operation by connecting the Tc and CG terminals of the DLC3 and observing the blinking of the ABS warning light and the VSC warning light, or on a hand-held tester.

For details on the DTC that are stored in skid control ECU memory and the DTC that are output through the sensor signal check function, see the 2003 4Runner Repair Manual (Pub. No. RM1001U).

► DTC Chart (blinking ABS warning light) ◀

DTC No.		Detection Item	DTC No.		Detection Item
2-digit	5-digit		2-digit	5-digit	
11	C0278	Open circuit in ABS solenoid relay circuit	38	C1238	Foreign matters attached on the tip of the right rear sensor
12	C0279	B+ short circuit in ABS solenoid relay circuit	39	C1239	Foreign matters attached on the tip of the left rear sensor
21	C0226	Open or short circuit in brake master cylinder solenoid circuit (SFR circuit)	41	C1241	Low battery positive voltage or abnormally high battery positive voltage
22	C0239	Open or short circuit in brake master cylinder solenoid circuit (SFL circuit)	42	C1242	Open circuit in IG2 circuit
23	C0246	Open or short circuit in brake master cylinder solenoid circuit (SRR circuit)	43	C1243	Malfunction in deceleration sensor (constant output)
24	C0256	Open or short circuit in brake master cylinder solenoid circuit (SRL circuit)	44	C1244	Open or short circuit in deceleration sensor circuit
25	C1225	Open or short circuit in brake master cylinder solenoid circuit (SMC (SA1) circuit)	45	C1245	Malfunction in deceleration sensor
26	C1226	Open or short circuit in brake master cylinder solenoid circuit (SPC (SA2) circuit)	46	C1246	Malfunction in master cylinder pressure sensor
27	C1227	Open or short circuit in brake master cylinder solenoid circuit (SRC (SA3) circuit)	49	C1249	Open circuit in stop light switch circuit
28	C1228	Open or short circuit in brake master cylinder solenoid circuit (STR circuit)	51	C1251	Pump motor is locked
31	C0200	Right front wheel speed sensor signals malfunction	52	C1252	Brake booster pump motor malfunction
32	C0205	Left front wheel speed sensor signals malfunction	53	C1253	Brake booster pump motor relay malfunction
33	C0210	Right rear wheel speed sensor signals malfunction	54	C1254	Pressure switch malfunction
34	C0215	Left rear wheel speed sensor signals malfunction	56	C1256	Accumulator low pressure malfunction
35	C1235	Foreign matters attached on the tip of the right front speed sensor	57	C1257	Power supply drive circuit malfunction
36	C1236	Foreign matters attached on the tip of the left front speed sensor	68*	C1268*	Transfer L4 position switch signal transmission failure
37	C1337	Some tire's different size is from the other tire's	96	C1306	Malfunction in speed sensor power supply

*: Only for 4WD model

► DTC Chart of sensor signal check (blinking ABS warning light) ◀

DTC No.		Detection Item	DTC No.		Detection Item
2-digit	5-digit		2-digit	5-digit	
71	C1271	Low output voltage of right front speed sensor	77	C1277	Abnormal change in output voltage of right rear speed sensor
72	C1272	Low output voltage of left front speed sensor	78	C1278	Abnormal change in output voltage of left rear speed sensor
73	C1273	Low output voltage of right rear speed sensor	79	C1279	Deceleration sensor is faulty
74	C1274	Low output voltage of left rear speed sensor	81	C1281	Master cylinder pressure sensor output signal is faulty
75	C1275	Abnormal change in output voltage of right front speed sensor	82*	C1282*	Transfer indicator (center diff. lock) switch malfunction
76	C1276	Abnormal change in output voltage of left front speed sensor	83*	C1283*	Transfer L4 position switch malfunction

*: Only for 4WD model

► DTC Chart (blinking VSC warning light) ◀

DTC No.		Detection Item	DTC No.		Detection Item
2-digit	5-digit		2-digit	5-digit	
31	C1231	Malfunction in steering angle sensor	43	C1223	Malfunction in ABS control system
32	C1232	Malfunction in deceleration sensor	44	C1224	Open or short circuit in NE signal circuit
33	C1233	Open or short circuit in yaw rate sensor circuit	47*	C1340*	Open circuit in center differential lock signal
34	C1234	Malfunction in yaw rate sensor	51	C1201	ECM system malfunction
35	C1335	Open circuit in steering angle sensor	53	C1203	ECM communication circuit malfunction
36	C1210	Zero point calibration of yaw rate sensor undone	58*	C1258*	Transfer 4WD position signal transmission failure
39	C1336	Zero point calibration of deceleration sensor undone	64	C1380	Malfunction in stop light operation relay

*: Only for 4WD model

► DTC Chart of sensor signal check (blinking VSC warning light) ◀

DTC No.		Detection Item
2-digit	5-digit	
71	C0371	Malfunction in zero point voltage of yaw rate sensor
74	C1379	DAC operating switch malfunction

Fail-Safe

- In the event of a malfunction in the TRAC/A-TRAC and/or VSC, the skid control ECU prohibits the brake control (TRAC/A-TRAC and VSC) operation.
- In the event of a malfunction in the ABS and/or Brake Assist, the skid control ECU prohibits the brake control (ABS with EBD, Brake Assist, TRAC/A-TRAC, VSC, DAC, and HAC) operation.
- In the event of the malfunction in the EBD control, skid control ECU prohibits the EBD control. Thus, the brake and throttle control will be opened in the same condition as in condition without the brake control system (ABS with EBD, Brake Assist, TRAC/A-TRAC, VSC, DAC, and HAC).