

DTC**C1257/57****IG Power Source****DESCRIPTION**

The motor relay (semiconductor relay) is built into the hydraulic brake booster and drives the pump motor based on a signal from the skid control ECU.

DTC No.	DTC Detecting Condition	Trouble Areas
C1257/57	Open in pump motor input circuit	Hydraulic brake booster pump motor circuit

1**CHECK HYDRAULIC BRAKE BOOSTER PUMP MOTOR OPERATION**

- (a) Turn the ignition switch to OFF.
- (b) Disconnect the actuator connector (S1).
- (c) Depress the brake pedal more than 20 times.
- (d) Check the hydraulic brake booster pump motor operation.

OK:**Hydraulic brake booster pump operates.****NG****REPLACE MASTER CYLINDER SOLENOID****OK****2****RECONFIRM DTC**

- (a) Turn the ignition switch to OFF.
- (b) Reconnect the actuator connector (S1).
- (c) Turn the ignition switch to the ON position.
- (d) Clear the DTCs (See page [BC-118](#)).
- (e) Check if the same DTCs are recorded.

Result	Proceed to
DTC output	A
DTC not output	B

B**END****A****REPLACE MASTER CYLINDER SOLENOID**

DTC	C1258/58	Transfer 4WD Position Switch Circuit
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DESCRIPTION

This circuit monitors whether the transfer is in 2WD or 4WD mode and inputs the signal to the skid control ECU. In 2WD mode, TRAC is activated.
In 4WD mode, A-TRAC is activated.

DTC No.	DTC Detecting Conditions	Trouble Areas
C1258/58	4WD: Open in 4WD detecting circuit 2WD: Terminal NEO ground short, or abnormal signals transmitted to terminal EX1	- Transfer indicator switch (4WD position) - Transfer indicator switch (4WD position) circuit - Master cylinder solenoid (skid control ECU)

4WD Control ECU

Master Cylinder Solenoid (Skid Control ECU)

Instrument Panel J/B No. 2

A3 ADD Actuator Assembly

ECM

4WD

Instrument Panel J/B No. 2

T2 Transfer Indicator Switch (4WD position)

Wiring Details:

- 4WD Control ECU:**
 - ADD (26) → LG-B → F13 (13) → LG-B → PA (13) / PC (10) / PB (17) / PA (2)
 - DL1 (13) → LG → F13 (13) → LG → EC1 (3)
 - DL2 (12) → P-L → F13 (12) → P-L → EC1 (4)
 - DM1 (3) → R → F13 (3) → R → EC1 (1)
 - DM2 (4) → B-W → F13 (4) → B-W → EC1 (2)
 - 4WD (22) → R-L → F13 (22) → R-L → T2 (2) → W-B → PA (6) / PA (8) / PA (18)
- Master Cylinder Solenoid (Skid Control ECU):**
 - EXI (27) → LG-B → S1 (10) → LG-B → IA1 (41) → LG-B → PA (13) / PC (10) / PB (17) / PA (2)
 - NEO (10) → LG-B → S1 (10) → LG-B → IA1 (41) → LG-B → PA (13) / PC (10) / PB (17) / PA (2)
 - W-B → IA3 (15) → W-B → EC1 (5) → LG-B → PA (13) / PC (10) / PB (17) / PA (2)
 - W-B → IA3 (15) → W-B → EC1 (6) → W-B → PA (6) / PA (8) / PA (18)
 - W-B → J5 J/C (13) → W-B → PA (6) / PA (8) / PA (18)
- ECM:**
 - 8 (E6) → W-B → PA (6) / PA (8) / PA (18)
 - 21 (E5) → W-B → PA (6) / PA (8) / PA (18)
- Instrument Panel J/B No. 2:**
 - PA (13) / PC (10) / PB (17) / PA (2) → LG-B → IA1 (41) → LG-B → PA (13) / PC (10) / PB (17) / PA (2)
 - PA (6) / PA (8) / PA (18) → W-B → PA (6) / PA (8) / PA (18)
- T2 Transfer Indicator Switch (4WD position):**
 - 2 → W-B → PA (6) / PA (8) / PA (18)
- Wiring Colors and Terminal Numbers:**
 - LG-B: Light Green-Black
 - W-B: White-Black
 - LG: Light Green
 - P-L: Purple-Black
 - R: Red
 - B-W: Blue-White
 - R-L: Red-Black

Legend:

- *1: 1GR-FE
- *2: 2TR-FE

Grounds:

- EH (Earth)
- EE (Earth)
- IC (Ignition)

ECU Pinouts:

- 4WD Control ECU: 26 (ADD), 13 (DL1), 12 (DL2), 3 (DM1), 4 (DM2), 22 (4WD)
- Master Cylinder Solenoid (Skid Control ECU): 27 (EXI), 10 (NEO)
- ECM: 8 (E6), 21 (E5)
- Instrument Panel J/B No. 2: 13 (PA), 10 (PC), 17 (PB), 2 (PA), 6 (PA), 8 (PA), 18 (PA)
- T2 Transfer Indicator Switch (4WD position): 2

When replacing the master cylinder solenoid, perform zero point calibration (See page [BC-99](#)).

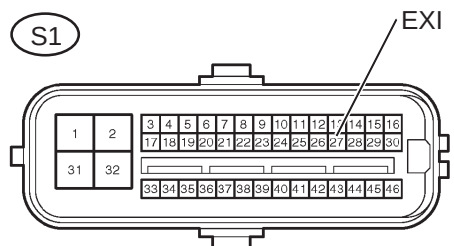
1 CONFIRM VEHICLE TYPE

(a) Confirm the vehicle drive train.

Drive Train	Proceed to
4WD	A
2WD, Pre-Runner	B

B**Go to step 7****A****2 INSPECT SKID CONTROL ECU (EXI TERMINAL VOLTAGE)**

Skid Control ECU
(harness side connector):



- (a) Disconnect the skid control ECU connector.
 (b) Turn the ignition switch to the ON position.
 (c) Measure the voltage.

Standard

Tester Connection	Transfer Condition	Specified Condition
S1-27 (EXI) - Body ground	2WD	8 to 16 V
S1-27 (EXI) - Body ground	4WD	Below 1.5 V

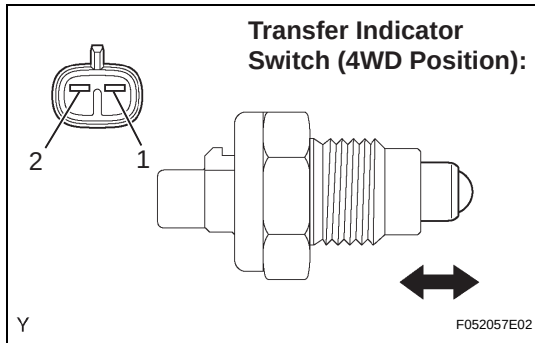
- (d) Turn the ignition switch to OFF.
 (e) Reconnect the skid control ECU connector.

NG**Go to step 4****OK****3 RECONFIRM DTC**

- (a) Clear the DTCs (See page [BC-118](#)).
 (b) Check if the same DTCs are recorded.

Result	Proceed to
DTC output	A
DTC not output	B

NG**END****A****REPLACE MASTER CYLINDER SOLENOID**

4 INSPECT TRANSFER INDICATOR SWITCH (4WD POSITION)

- (a) Disconnect the transfer indicator switch (4WD position) connector.
- (b) Remove the transfer indicator switch (4WD position).
- (c) Measure the voltage.

Standard

Tester Connection	Switch Position	Specified Condition
1 - 2	Pushed	Below 1 Ω
1 - 2	Free	10 k Ω or higher

- (d) Reinstall the transfer indicator switch (4WD position).
- (e) Reconnect the transfer indicator switch (4WD position) connector.

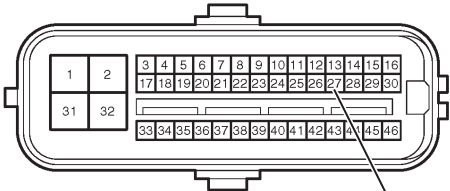
NG**REPLACE TRANSFER INDICATOR SWITCH (4WD POSITION)****OK**

5

CHECK HARNESS AND CONNECTOR (SKID CONTROL ECU - ECM)

Skid Control ECU
(harness side connector)

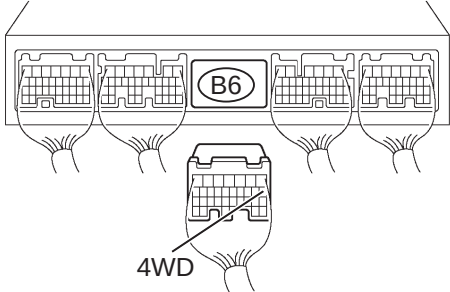
S1



EXI

1GR-FE:

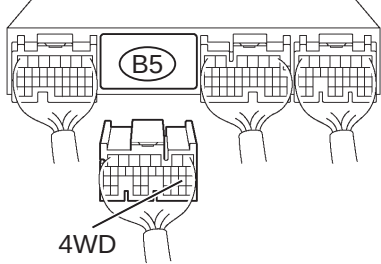
ECM



4WD

2TR-FE:

ECM



4WD

F052062E01

- (a) Disconnect the skid control ECU connector.
- (b) Disconnect the ECM connector.
- (c) Measure the resistance.
- Standard (1GR-FE)

Tester Connection	Specified Condition
S1-27 (EXI) - B6-8 (4WD)	Below 1 Ω

Standard (2TR-FE)

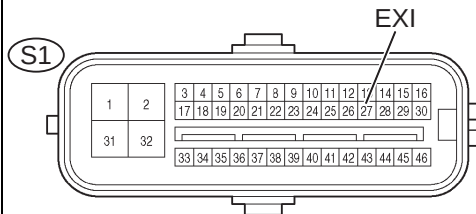
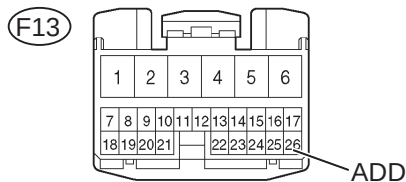
Tester Connection	Specified Condition
S1-27 (EXI) - B5-21 (4WD)	Below 1 Ω

- (d) Reconnect the ECM connector.
- (e) Reconnect the skid control ECU connector.

NG

REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

6**CHECK HARNESS AND CONNECTOR (SKID CONTROL ECU - 4WD CONTROL ECU)****Skid Control ECU
(harness side connector)****4WD Control ECU
(harness side connector)**

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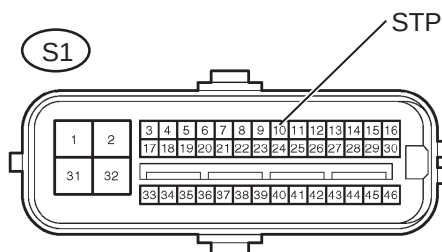
OK

- Disconnect the skid control ECU connector.
- Disconnect the 4WD control ECU connector.
- Measure the resistance.

Standard

Tester Connection	Specified Condition
S1-27 (EXI) - F13-26 (ADD)	Below 1 Ω

- Reconnect the 4WD control ECU connector.
- Reconnect the skid control ECU connector.

NG**REPAIR OR REPLACE HARNESS OR CONNECTOR****END****7****CHECK HARNESS AND CONNECTOR (NEO TERMINAL - BODY GROUND)****Skid Control ECU
(harness side connector):**

C121700E17

- Disconnect the skid control ECU connector.
- Measure the resistance.

Standard

Tester Connection	Vehicle Drive Train	Specified Condition
S1-10 (NEO) - Body ground	2WD, Pre-runner	10 k Ω or higher
S1-10 (NEO) - Body ground	4WD	Below 1 Ω

- Reconnect the skid control ECU connector.

NG**REPAIR OR REPLACE HARNESS OR CONNECTOR****OK**

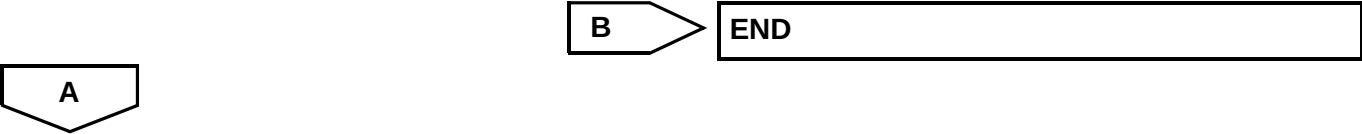
BC

8

RECONFIRM DTC

- (a) Clear the DTCs (See page [BC-118](#)).
- (b) Check if the same DTCs are recorded.

Result	Proceed to
DTC output	A
DTC not output	B



REPLACE MASTER CYLINDER SOLENOID