

DTC	21, 22, 23	ABS Actuator Solenoid Circuit
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CIRCUIT DESCRIPTION

This solenoid goes on when signals are received from the ECU and controls the pressure acting on the wheel cylinders thus controlling the braking force.

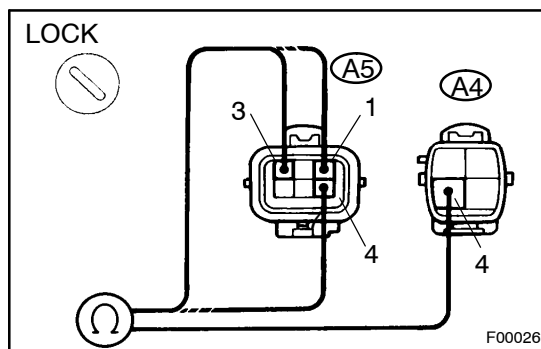
DTC No.	DTC Detecting Condition	Trouble Area
21	Conditions 1 through 3 continue for 0.05 sec. or more: 1. ABS control (solenoid) relay terminal (SR) voltage: Battery positive voltage 2. Voltage of ABS ECU terminal AST: Battery positive voltage 3. When power transistor of ECU is ON, voltage of terminal SFR is 0 V or battery positive voltage	•ABS actuator •Open or short in SFR circuit
22	Conditions 1 through 3 continue for 0.05 sec. or more: 1. ABS control (solenoid) relay terminal (SR) voltage: Battery positive voltage 2. Voltage of ABS ECU terminal AST: Battery positive voltage 3. When power transistor of ECU is ON, voltage of terminal SFL is 0 V or battery positive voltage	•ABS actuator •Open or short in SFL circuit
23	Conditions 1 through 3 continue for 0.05 sec. or more: 1. ABS control (solenoid) relay terminal (SR) voltage: Battery positive voltage 2. Voltage of ABS ECU terminal AST: Battery positive voltage 3. When power transistor of ECU is ON, voltage of terminal SRR is 0 V or battery positive voltage	•ABS actuator •Open or short in SRR circuit

Fail safe function:

If trouble occurs in the actuator solenoid circuit, the ECU cuts off current to the ABS control (solenoid) relay and prohibits ABS control.

The diagram illustrates the electrical system for the ABS. It shows the power supply from the battery, passing through a fuse (F6) and a relay (AM1) to the ABS Control Relay. The ABS Control Relay is connected to the Motor Relay and the Solenoid Relay. The Motor Relay is connected to the ABS Actuator. The Solenoid Relay is connected to the ABS ECU. The ABS ECU is also connected to the ABS Actuator. The diagram shows the connection to the ABS ECU for the SFR, SFL, and SRR signals.

1	Check ABS actuator solenoid.
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Resistance of each solenoid coil is $0.8 - 1.6 \, \Omega$

Replace ABS actuator.

1996 LAND CRUISER (RM451U)

2	Check for open and short in harness and connector between ABS ECU and actuator (See page IN-28).
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Repair or replace harness or connector.

OK

If same code is still output after DTC is deleted, check contact condition of each connection. If connector are normal, ECU may be defective.