

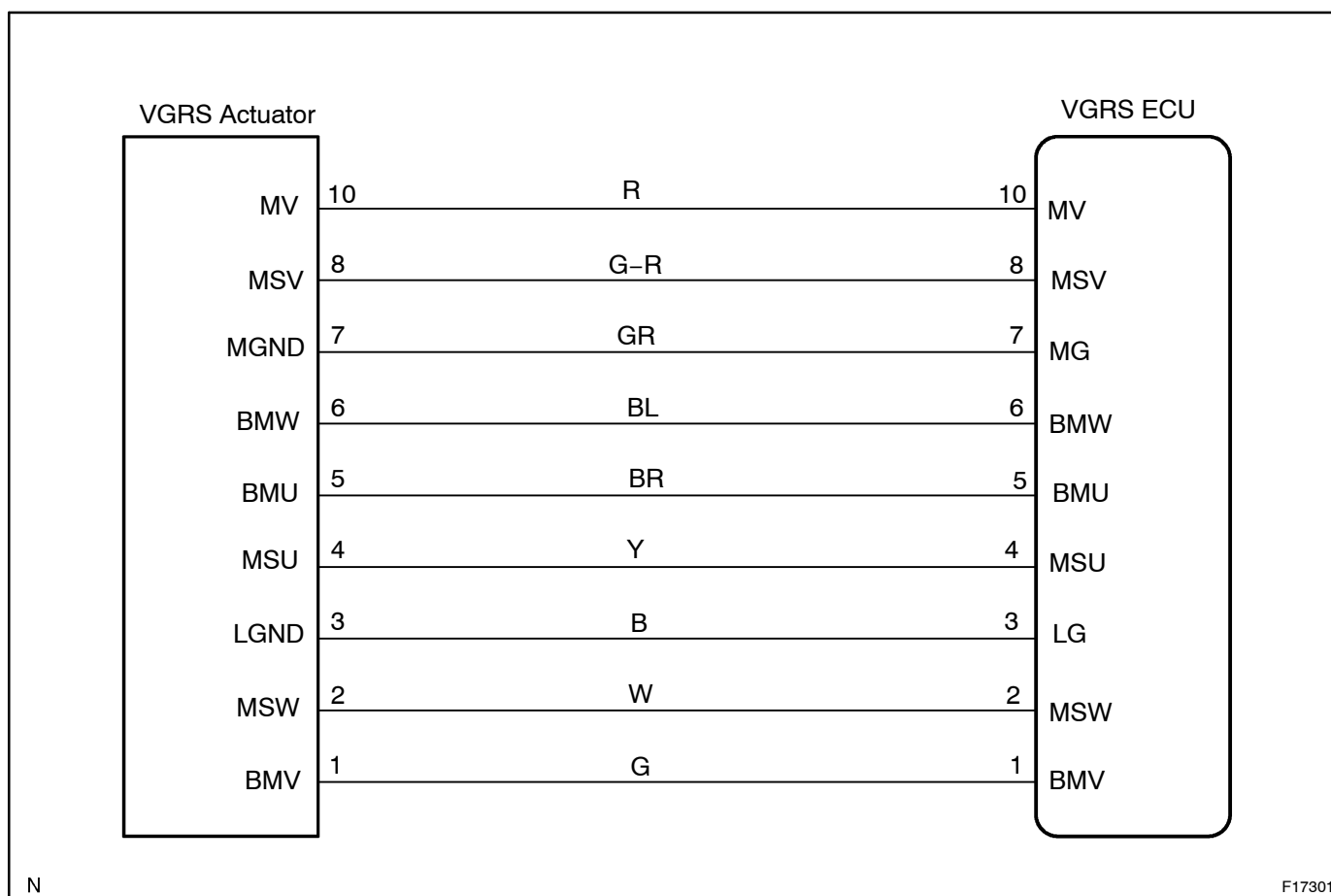
DTC	C1527 / 27, C1528 / 28	VGRS Actuator Malfunction
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CIRCUIT DESCRIPTION

The VGRS ECU detects the actuator operation with the turning angle sensor. If a malfunction in the turning angle sensor is found, the VGRS ECU turns on the warning light and records the DTC.

DTC No.	DTC Detecting Condition	Trouble Area
C1527/27	The system detects that the difference between the actuator target angle and the actuator position is approx. 30° or more for 1 sec.	• VGRS actuator • VGRS ECU
C1528/28	The system detects a momentary interruption of the motor rotating angle sensor signal (MSU, MSV and MSW) 10 times or an open circuit for 0.12 sec. minimum.	

WIRING DIAGRAM



INSPECTION PROCEDURE

1 Check MV wire for open circuit.

PREPARATION:

Turn the ignition switch ON.

CHECK:

Check DTC (See page DI-348).

OK:

DTC C1561/61 is output

OK

Go to DTC C1561/61.

NG

2 Observe the data for MTR REV ANG U, V, W on the hand-held tester.

HINT:

Determine the trouble area by checking the motor revolution angle sensor signal with hand-held tester.
When not using hand-held tester, go to step 3.

PREPARATION:

- (a) Connect the hand-held tester to DLC3.
- (b) Start the engine.
- (c) Using the hand-held tester, display the data list.

CHECK:

Check the motor revolution angle sensor signal when slowly turning the steering wheel referring to the data list.

OK:

MTR REV ANG U: High or Low

MTR REV ANG V: High or Low

MTR REV ANG W: High or Low

All OK	A
All NG	B
Others	C

A

Replace VGRS ECU.

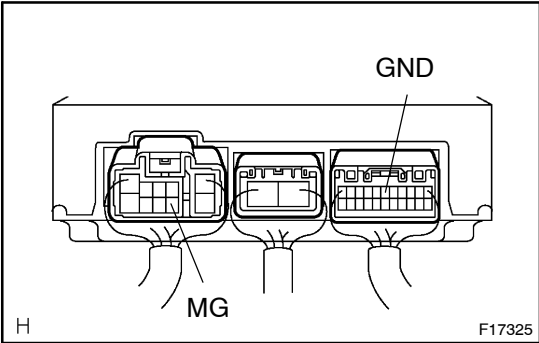
C

Go to step 4.

B

Proceed to step 3.

3 Check GND circuit of motor revolution angle sensor.



PREPARATION:

Turn the ignition switch OFF.

CHECK:

Check continuity between terminal MG and GND of the VGRS ECU.

OK:

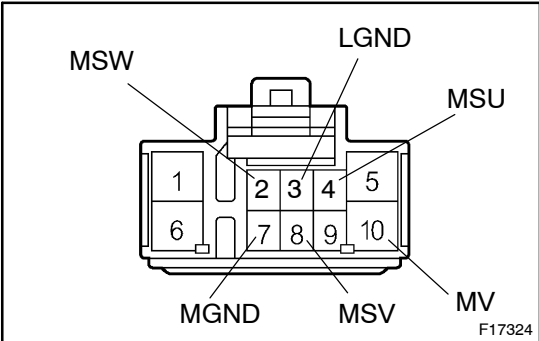
Continuity

NG

Replace VGRS ECU.

OK

4 Check motor revolution angle sensor signal.



PREPARATION:

Disconnect the VGRS actuator connector.

NOTICE:

Do not apply 12 V to MV for more than 3 minutes.

CHECK:

- Connect a jumper wire from Batt (+) to MV, and another jumper wire from body ground to LGND.
- Measure the resistance between terminals while slowly turning the steering wheel. The steering wheel must be turned a maximum of $\pm 10^\circ$ from center.

OK:

Symbols (Terminals)	Resistance
MSW (2) - MGND (7)	Below 1 kΩ to above 100 kΩ
MSU (4) - MGND (7)	
MSV (8) - MGND (7)	

NG

Replace VGRS actuator.

OK

Replace the VGRS ECU.

LAND CRUISER (W/G) SUP (RM970E)