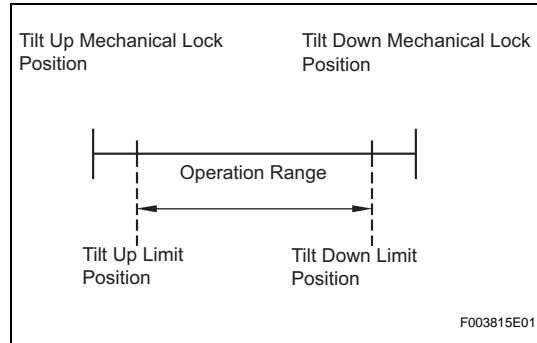


DTC	B2610	Tilt Position Sensor or Tilt Motor Circuit Malfunction
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DESCRIPTION

The tilt motor is operated by the power source voltage supplied from the multiplex tilt and telescopic ECU and makes the steering column tilt up and down. The tilt position sensor (Hall IC) in the tilt motor detects the tilt angle of the steering column and outputs a signal to the CPU based on that tilt.

SR

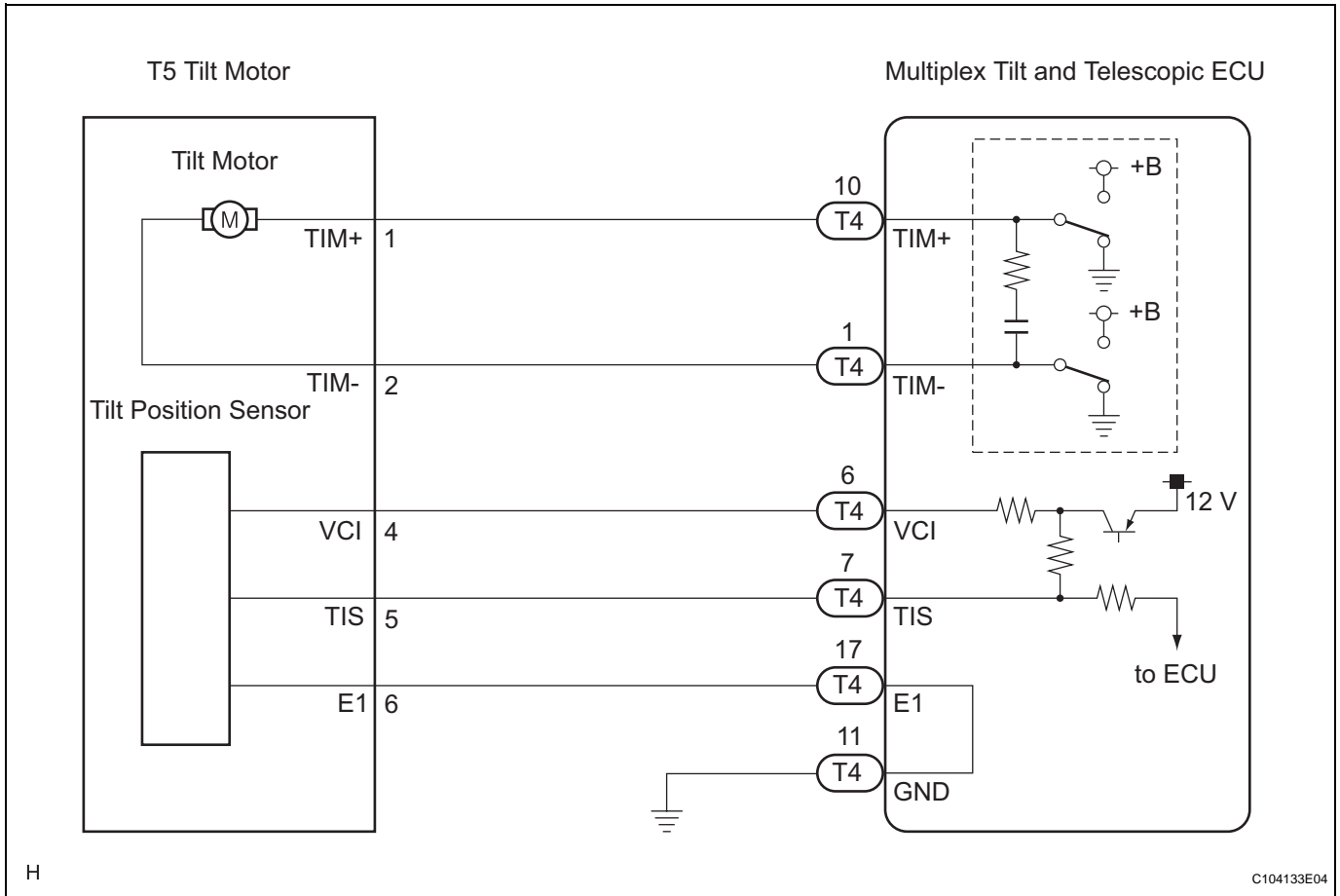


HINT:

Limit positions can be confirmed on the screen of the intelligent tester.

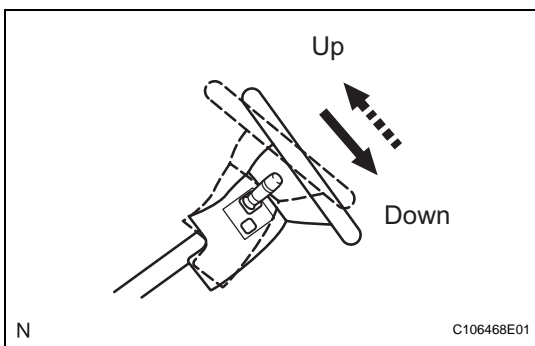
DTC No.	Detection Item	Trouble Area
B2610	Tilt operation stops within the operation range while operating.	<ul style="list-style-type: none"> • Tilt steering gear assembly w/ motor • Actuator power source circuit • Tilt position sensor or tilt motor • Multiplex tilt and telescopic ECU

WIRING DIAGRAM



SR

1 PERFORM ACTIVE TEST BY INTELLIGENT TESTER



- (a) Connect the intelligent tester to the DLC3.
- (b) Turn the ignition switch to the ON position and turn the intelligent tester on.
- (c) Select "TILT & TELESCOPIC".
- (d) Select "TILT", and perform the test using the intelligent tester.
- (e) Check that the steering wheel tilts up (down) when the Active Test is carried out.

OK:

Steering wheel tilts up (down).

OK

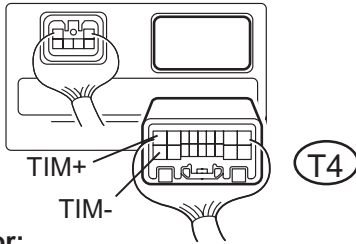
Go to step 4

NG

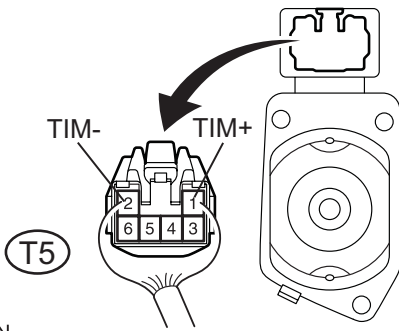
2 CHECK HARNESS AND CONNECTOR (BETWEEN TILT AND TELESCOPIC ECU AND TILT MOTOR)

SR

Multiplex Tilt and Telescopic ECU:



Tilt Motor:



- (a) Disconnect the T4 connector from the multiplex tilt and telescopic ECU.
- (b) Disconnect the T5 connector from the tilt motor.
- (c) Measure the resistance according to the value(s) in the table below.

Resistance

Tester connection (Terminal No.)	Condition	Specified value
TIM+ (T4-10) - TIM+ (T5-1)	Always	Below 1 Ω
TIM- (T4-1) - TIM- (T5-2)	Always	Below 1 Ω
TIM+ (T4-10) - Body ground	Always	10 kΩ or higher
TIM- (T4-1) - Body ground	Always	10 kΩ or higher

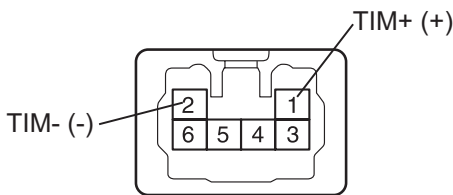
NG

REPAIR OR REPLACE HARNESS OR CONNECTOR

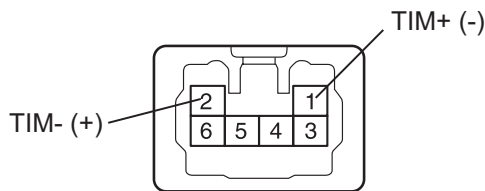
OK

3 INSPECT TILT MOTOR

Tilt Motor Connector:



Tilt Motor Connector:



- (a) Connect the positive battery terminal to terminal TIM+ and the negative battery terminal to terminal TIM- of the tilt motor connector. Then confirm that the steering wheel tilts up.

OK:

Steering wheel tilts up.

- (b) Connect the negative battery terminal to terminal TIM+ and the positive battery terminal to terminal TIM- of the tilt motor connector. Then confirm that the steering wheel tilts down.

OK:

Steering wheel tilts down.

NG

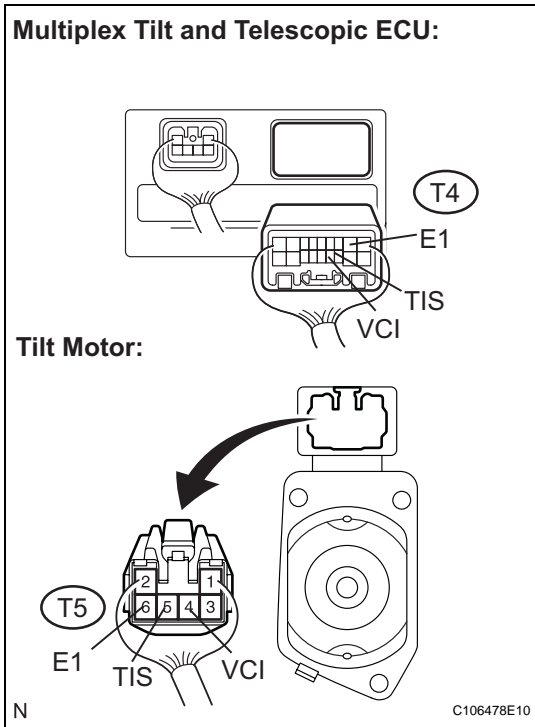
REPLACE STEERING COLUMN ASSEMBLY

OK

REPLACE MULTIPLEX TILT AND TELESCOPIC ECU

4 CHECK HARNESS AND CONNECTOR (BETWEEN TILT AND TELESCOPIC ECU AND TILT POSITION SENSOR)

SR



- (a) Disconnect the T4 connector from the multiplex tilt and telescopic ECU.
- (b) Disconnect the T5 connector from the tilt motor.
- (c) Measure the resistance according to the value(s) in the table below.

Resistance

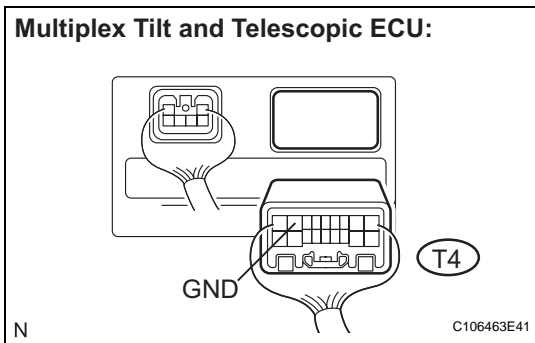
Tester connection (Terminal No.)	Condition	Specified value
VCI (T4-6) - VCI (T5-4)	Always	Below 1 Ω
TIS (T4-7) - TIS (T5-5)	Always	Below 1 Ω
E1 (T4-17) - E1 (T5-6)	Always	Below 1 Ω
VCI (T4-6) - Body ground	Always	10 kΩ or higher
TIS (T4-7) - Body ground	Always	10 kΩ or higher
E1 (T4-17) - Body ground	Always	10 kΩ or higher

NG

REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

5 CHECK HARNESS AND CONNECTOR (BETWEEN TILT AND TELESCOPIC ECU AND BODY GROUND)



- (a) Measure the resistance according to the value(s) in the table below.

Resistance

Tester connection (Terminal No.)	Condition	Specified value
GND (T4-11) - Body ground	Always	Below 1 Ω

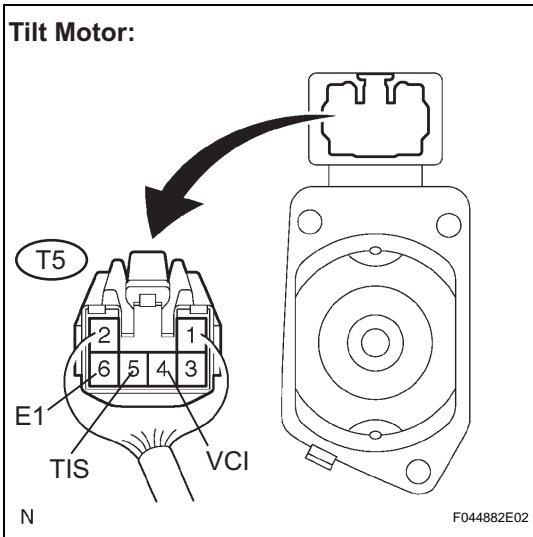
NG

REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

6 INSPECT MULTIPLEX TILT AND TELESCOPIC ECU (VCI, TIS TERMINAL VOLTAGE)

SR



- (a) Reconnect the T4 connector to the multiplex tilt and telescopic ECU.
- (b) Measure the voltage according to the value(s) in the table below.

Voltage

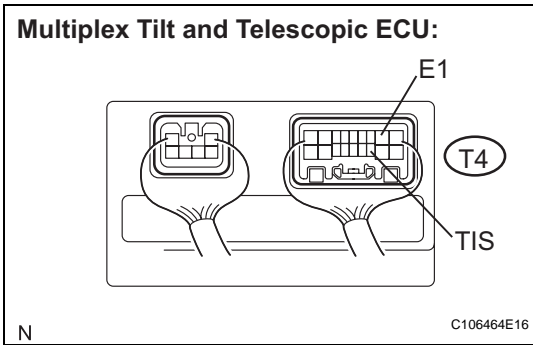
Tester connection (Terminal No.)	Condition	Specified value
VCI (T5-4) - E1 (T5-6)	Ignition switch on	8 to 16 V
TIS (T5-5) - E1 (T5-6)	Ignition switch on	8 to 16 V

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REPLACE MULTIPLEX TILT AND TELESCOPIC ECU

OK

7 INSPECT TILT POSITION SENSOR



- (a) Reconnect the T5 connector to the tilt motor.
- (b) Measure the voltage according to the value(s) in the table below.

Voltage

Tester connection (Terminal No.)	Condition	Specified value
TIS (T4-7) - E1 (T4-17)	Steering tilts up or tilts down	8 to 16 V (Pulse HI)
		0 V (Pulse LOW)

NG

REPLACE STEERING COLUMN ASSEMBLY

OK

REPLACE MULTIPLEX TILT AND TELESCOPIC ECU