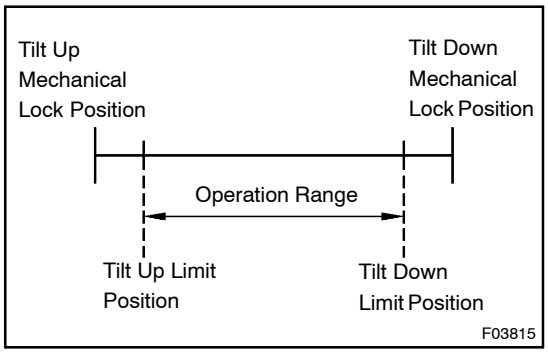
DTC	B2610	TILT POSITION SENSOR OR TILT MOTOR CIRCUIT MALFUNCTION



CIRCUIT DESCRIPTION

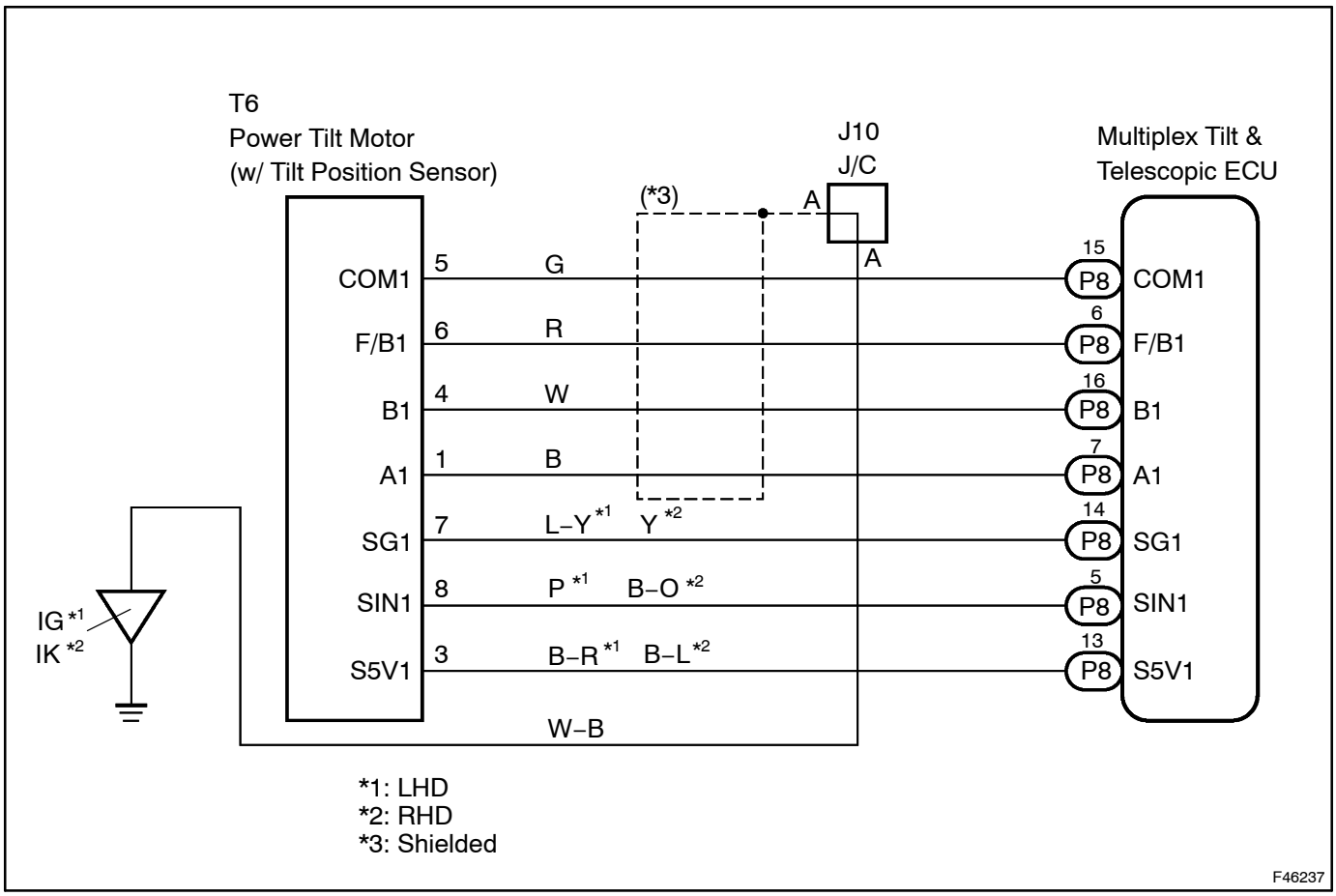
The tilt motor is operated by the power source voltage supplied from the multiplex tilt & telescopic ECU and makes the steering column tilt up and down. The tilt position sensor (hole IC) in the tilt motor detects the tilt angle of the steering column and outputs a signal to the CPU based on that tilt.

HINT:

Limit positions can be confirmed on the screen of the hand–held tester.

DTC No.	Detection Item	Trouble Area
B2610	Tilt operation stops within the operation range while in operation.	• Tilt steering gear assy w/ motor • Actuator power source circuit • Tilt position sensor or tilt motor circuit • Multiplex tilt & telescopic ECU

WIRING DIAGRAM

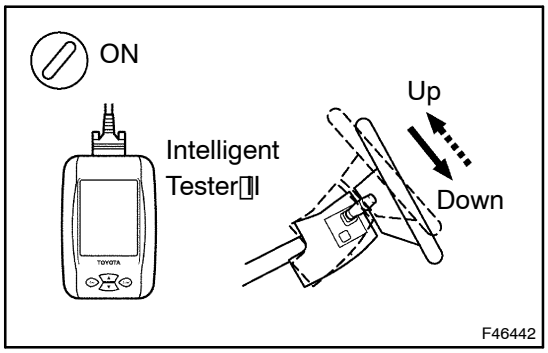


INSPECTION PROCEDURE

HINT:

First, troubleshoot the actuator power source circuit (see page 05–719) when DTCs B2610 and B2611 are output simultaneously.

1	PERFORM ACTIVE TEST BY INTELLIGENT TESTER II



(a) Connect the intelligent tester II to the DLC3.
(b) Turn the ignition switch to the ON position and turn the intelligent tester II on.
(c) Select ”Tilt Operation” from the ACTIVE TEST, and perform the test using the intelligent tester II.
(d) Check that the steering wheel tilts up (down) when the ACTIVE TEST is carried out.

Item	Vehicle Condition/ Test Details	Diagnostic Note
Tilt Operation	Tilt operation/ UP or DOWN	–

OK:

The steering column tilts up and down in accordance with the intelligent tester II operation.

OK	Go to step 4

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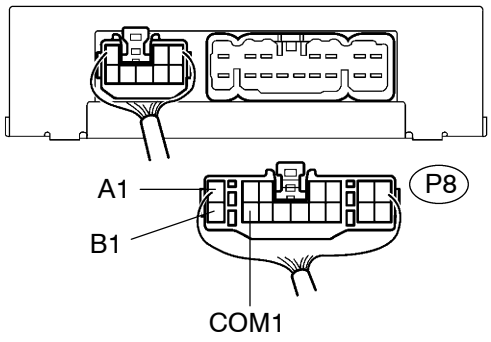
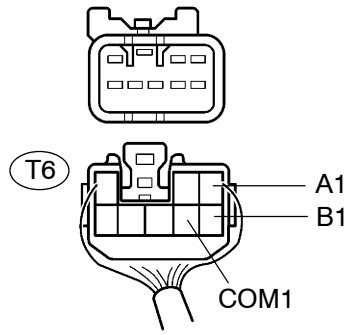
2	CHECK HARNESS AND CONNECTOR(MULTIPLEX TILT & TELESCOPIC ECU – POWER TILT MOTOR)

Multiplex Tilt & Telescopic ECU:



Power Tilt Motor:



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(a) Disconnect the P8 connector from the multiplex tilt & telescopic ECU.
(b) Disconnect the T6 connector from the power tilt motor.
(c) Measure the resistance according to the value(s) in the table below.

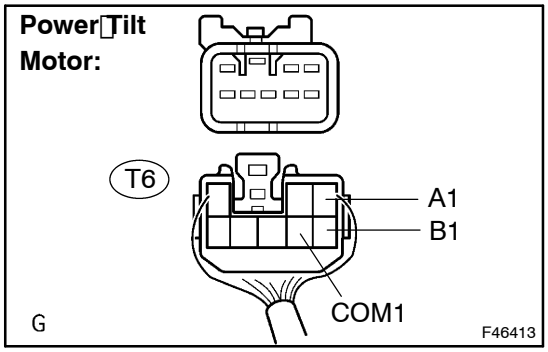
Standard:

Tester Connection	Condition	Specified Condition
P8–16 (B1) – T6–4 (B1)	Always	Below 1 Ω
P8–7 (A1) – T6–1 (A1)	Always	Below 1 Ω
P8–15 (COM1) – T6–5 (COM1)	Always	Below 1 Ω
P8–16 (B1) – Body ground	Always	10 kΩ or higher
P8–7 (A1) – Body ground	Always	10 kΩ or higher
P8–15 (COM1) – Body ground	Always	10 kΩ or higher

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

3 INSPECT MULTIPLEX TILT & TELESCOPIC ECU



(a) Connect the P8 connector to the multiplex tilt & telescopic ECU.

(b) Turn the ignition switch to the ON position.

(c) Measure the voltage according to the value(s) in the table below.

CAUTION:

- **Pay careful attention because high voltage AC (approximately 200 V) is used.**
- **Make sure that the tester setting is in the AC range.**

Standard:

Tester Connection	Condition (Manual switch position)	Specified Condition
T6–1 (A1) – T6–5 (COM1)	Tilt up or tilt down	190 to 230 V (AC)
T6–4 (B1) – T6–5 (COM1)	Tilt up or tilt down	190 to 230 V (AC)

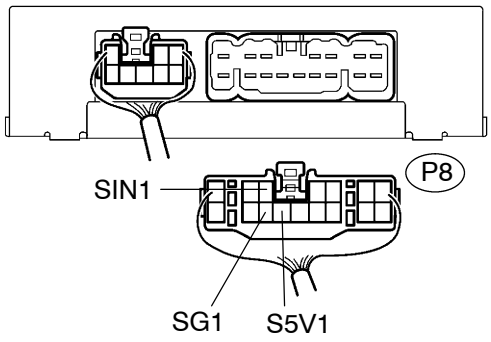
NG → **REPLACE MULTIPLEX TILT & TELESCOPIC ECU (SEE PAGE 50–26)**

OK

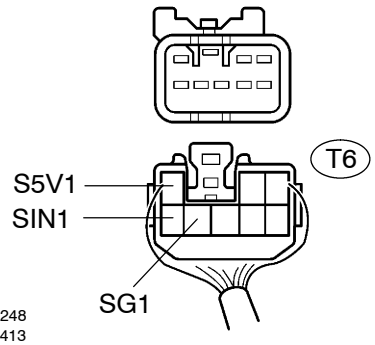
REPLACE POWER TILT MOTOR (SEE PAGE 50–10)

4 CHECK HARNESS AND CONNECTOR(MULTIPLEX TILT & TELESCOPIC ECU – TILT POSITION SENSOR)

Multiplex Tilt & Telescopic ECU:



Power Tilt Motor:



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(a) Disconnect the P8 connector from the multiplex tilt & telescopic ECU.

(b) Disconnect the T6 connector from the power tilt motor (tilt position sensor).

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

Standard:

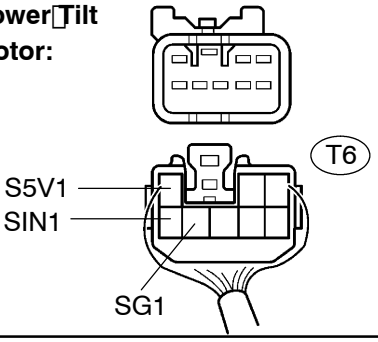
Tester Connection	Condition	Specified Condition
P8–13 (S5V1) – T6–3 (S5V1)	Always	Below 1 Ω
P8–5 (SIN1) – T6–8 (SIN1)	Always	Below 1 Ω
P8–14 (SG1) – T6–7 (SG1)	Always	Below 1 Ω
P8–13 (S5V1) – Body ground	Always	10 kΩ or higher
P8–5 (SIN1) – Body ground	Always	10 kΩ or higher
P8–14 (SG1) – Body ground	Always	10 kΩ or higher

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

5 INSPECT MULTIPLEX TILT & TELESCOPIC ECU

Power Tilt Motor:



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(a) Connect the P8 connector to the multiplex tilt & telescopic ECU.

(b) Turn the ignition switch to the ON position.

(c) Measure the voltage according to the value(s) in the table below.

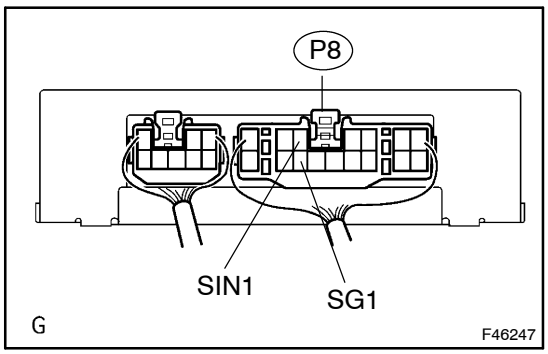
Standard:

Tester Connection	Condition	Specified Condition
T6–3 (S5V1) – T6–7 (SG1)	Ignition switch ON	4.5 to 5.5 V
T6–8 (SIN1) – T6–7 (SG1)	Ignition switch ON	4.5 to 5.5 V

NG → **REPLACE MULTIPLEX TILT & TELESCOPIC ECU (SEE PAGE 50–26)**

OK

6 INSPECT POWER TILT MOTOR(TILT POSITION SENSOR)



(a) Connect the T6 connector to the power tilt motor.

(b) Measure the voltage according to the value(s) in the table below.

Standard:

Tester Connection	Condition	Specified Condition
P8–5 (SIN1) – P8–14 (SG1)	Tilt up or tilt down	4.5 to 5.5 V (Pulse HI) Below 1 V (Pulse LOW)

NG → **REPLACE POWER TILT MOTOR (SEE PAGE 50–10)**

OK

REPLACE MULTIPLEX TILT & TELESCOPIC ECU (SEE PAGE 50–26)