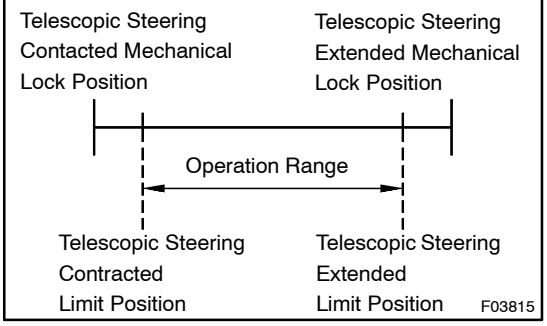
| DTC | B2611 | TELESCOPIC POSITION SENSOR OR TELESCOPIC MOTOR CIRCUIT MALFUNCTION |
|---|---|---|




## CIRCUIT DESCRIPTION

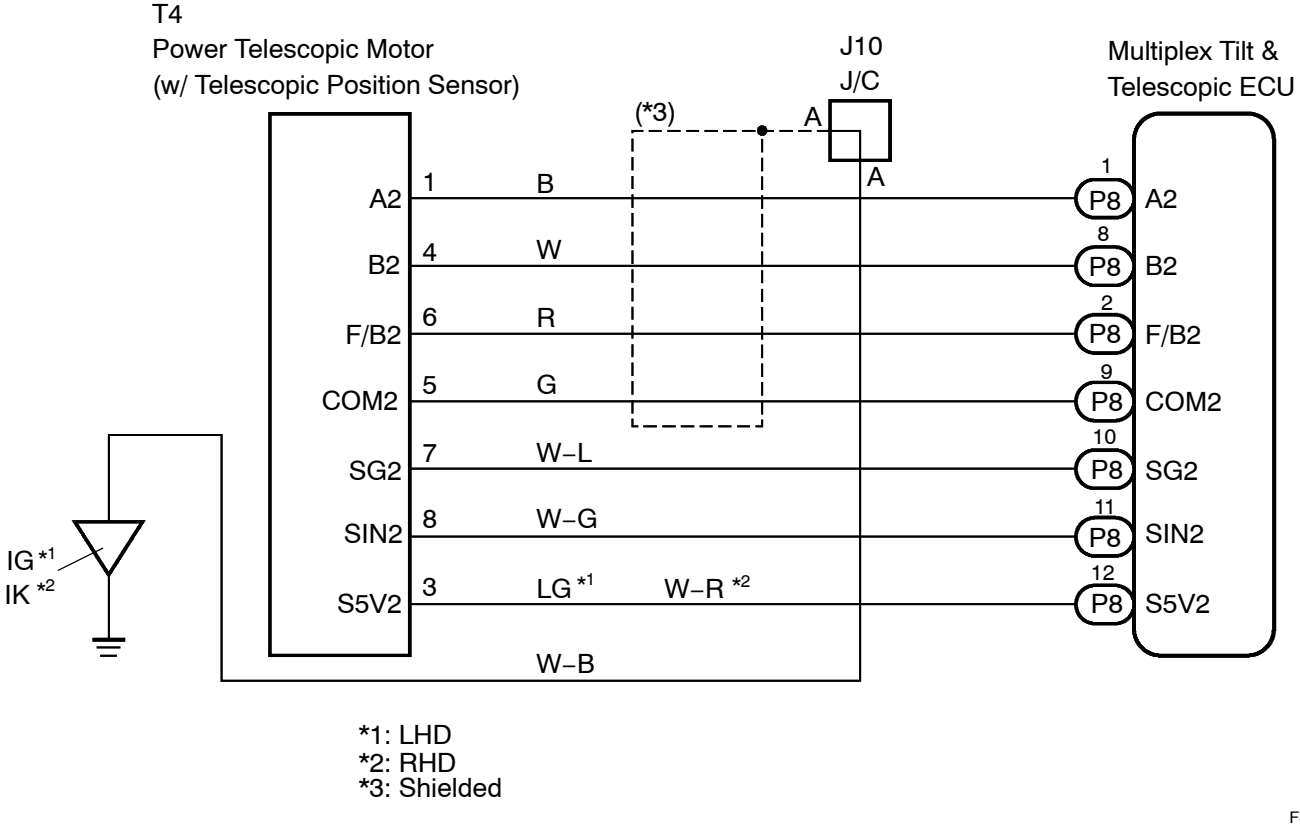
The telescopic motor is operated by the power source voltage supplied from the multiplex tilt & telescopic ECU and makes the steering column slide forwards and backwards. The telescopic position sensor (Hole IC) in the telescopic motor detects the sliding position in the forward and backward direction of the steering column and outputs a signal to the CPU based on that sliding amount.

HINT:

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

| DTC No. | Detection Item | Trouble Area |
|---|---|---|
| B2611 | Telescopic operation stops within the operation range while in operation. | • Power telescopic motor (w/ telescopic position sensor)<br>• Actuator power source circuit<br>• Telescopic position sensor or telescopic motor circuit<br>• Multiplex tilt & telescopic ECU |

## WIRING DIAGRAM

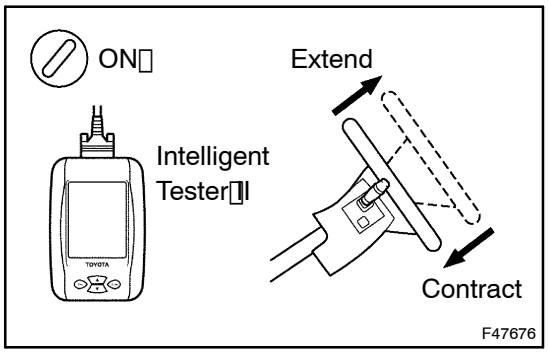


## INSPECTION PROCEDURE

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 ”Telesco Operatioin” from the ACTIVE TEST, and perform the test using the intelligent tester II.
(d) Check that the steering column contracts (extends) when the ACTIVE TEST is carried out.

| Item | Vehicle Condition/ Test Details | Diagnostic Note |
|---|---|---|
| Telesco Operation | Telescopic operation/ LONG or SHORT | – |

**OK:**

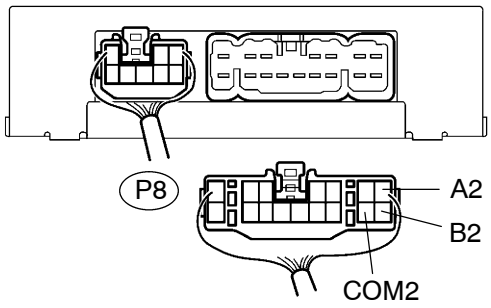
**The steering column extends and contracts in accordance with the intelligent tester II operation.**

| OK | Go to step 4 |
|---|---|

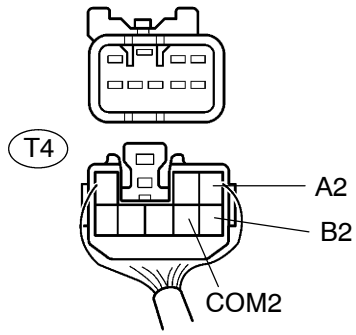
NG

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

**Multiplex Tilt & Telescopic ECU:**




**Power Telescopic Motor:**




F46248
F46413
F46417

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

(b) Disconnect the T4 connector from the power telescopic motor.

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

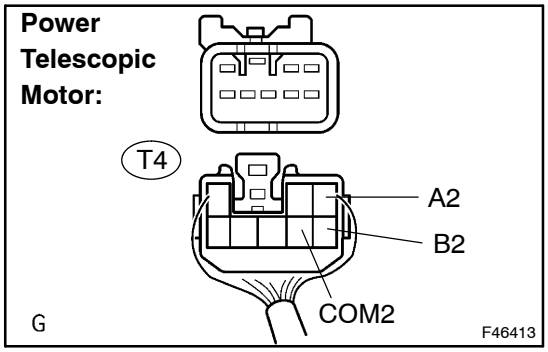
**Standard:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| P8–8 (B2) – T4–4 (B2) | Always | Below 1 Ω |
| P8–1 (A2) – T4–1 (A2) | Always | Below 1 Ω |
| P8–9 (COM2) – T4–5 (COM2) | Always | Below 1 Ω |
| P8–8 (B2) – Body ground | Always | 10 kΩ or higher |
| P8–1 (A2) – Body ground | Always | 10 kΩ or higher |
| P8–9 (COM2) – 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 |
|---|---|---|
| T4–1 (A2) – T4–5 (COM2) | Telescopic steering contracts or extends | 190 to 230 V (AC) |
| T4–4 (B2) – T4–5 (COM2) | Telescopic steering contracts or extends | 190 to 230 V (AC) |

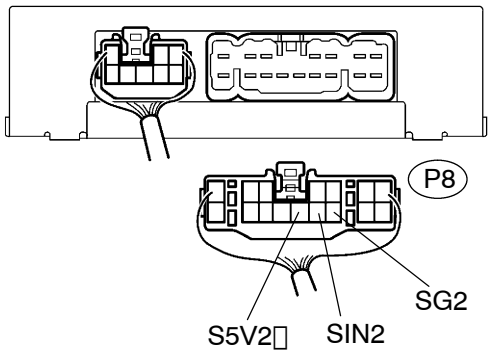
NG → **REPLACE MULTIPLEX TILT & TELESCOPIC ECU (SEE PAGE 50–26)**

OK

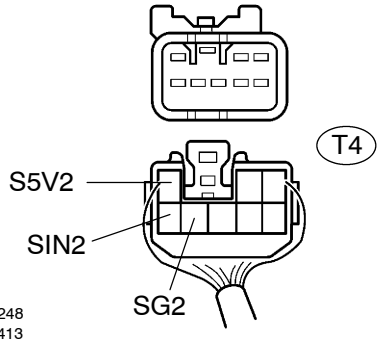
**REPLACE POWER TELESCOPIC MOTOR (SEE PAGE 50–10)**

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

**Multiplex Tilt & Telescopic ECU:**




**Power Telescopic Motor:**




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

(b) Disconnect the T4 connector from the power telescopic motor (telescopic position sensor).

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

**Standard:**

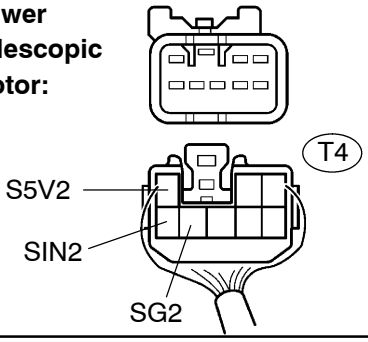
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| P8–12 (S5V2) – T4–3 (S5V2) | Always | Below 1 Ω |
| P8–11 (SIN2) – T4–8 (SIN2) | Always | Below 1 Ω |
| P8–10 (SG2) – T4–7 (SG2) | Always | Below 1 Ω |
| P8–12 (S5V2) – Body ground | Always | 10 kΩ or higher |
| P8–11 (SIN2) – Body ground | Always | 10 kΩ or higher |
| P8–10 (SG2) – Body ground | Always | 10 kΩ or higher |

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

OK

## 5 INSPECT MULTIPLEX TILT & TELESCOPIC ECU

**Power Telescopic Motor:**




(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.

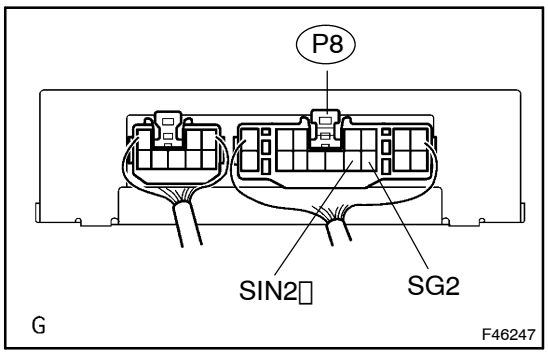
**Standard:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| T4–3 (S5V2) – T4–7 (SG2) | Ignition switch ON | 4.5 to 5.5 V |
| T4–8 (SIN2) – T4–7 (SG2) | Ignition switch ON | 4.5 to 5.5 V |

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

OK

**6 INSPECT POWER TELESCOPIC MOTOR(TELESCOPIC POSITION SENSOR)**




(a) Connect the T4 connector to the power telescopic motor.

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

**Standard:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| P8–11 (SIN2) – P8–10 (SG2) | telescopic steering contracts or extends | 4.5 to 5.5 V (Pulse HI) |
| | | Below 1 V (Pulse LOW) |

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

**OK**

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