

DTC	B2000	RIGHT SIDE MOTOR LINE MALFUNCTION HI
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CIRCUIT DESCRIPTION

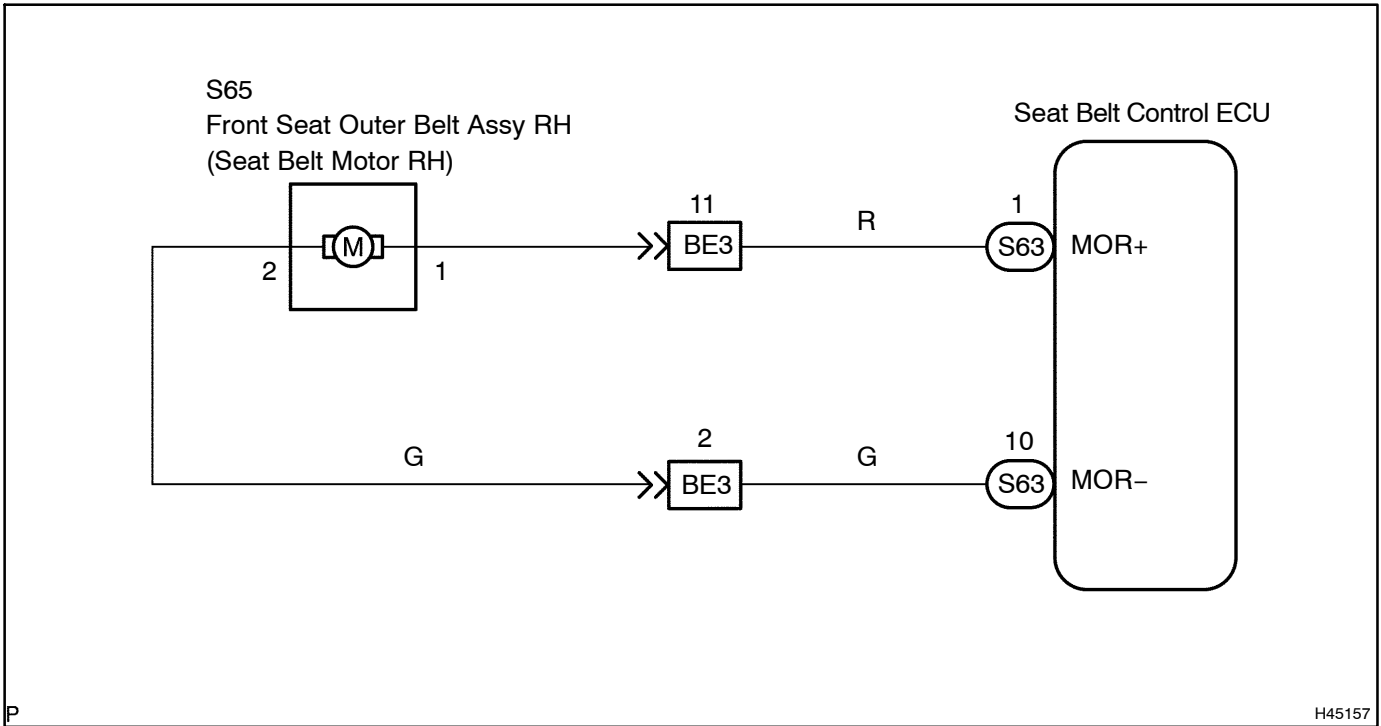
The seat belt control ECU receives information from the cruise control ECU assy (distance control ECU) through CAN communication and tightens the seat belt by operating the motor in the front seat outer belt assy RH.

NOTICE:

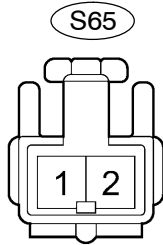
The pretensioner is built into the front seat outer belt assy RH. Be sure to follow the correct inspection procedure, as failure to follow the correct procedure (such as inspection of incorrect connectors) may activate the pretensioner.

DTC No.	DTC Detecting Condition	Trouble Area
B2000	<ul style="list-style-type: none"> • Short to B+ in the seat belt motor RH circuit continues for 1 second or more • Short in the seat belt motor RH circuit 	<ul style="list-style-type: none"> • Front seat outer belt assy RH • Wire harness (Seat belt control ECU - front seat outer belt assy RH) • Seat belt control ECU

WIRING DIAGRAM



INSPECTION PROCEDURE

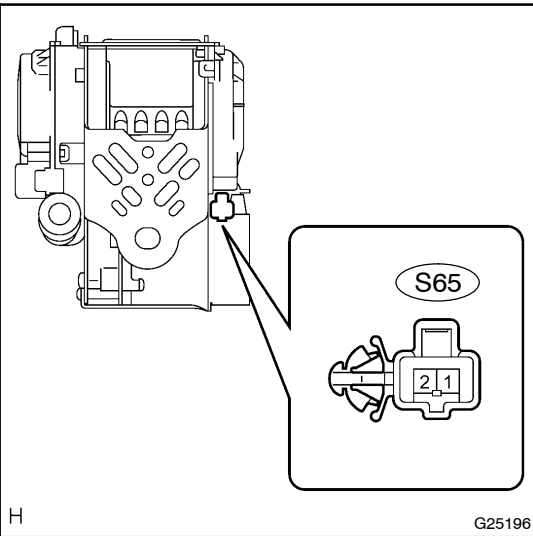
1 CHECK WIRE HARNESS (FRONT SEAT OUTER BELT ASSY RH - SEAT BELT CONTROL ECU)
Front Seat Inner Belt Assy RH Side:


H45168

- (a) Turn the ignition switch to the LOCK position.
- (b) Disconnect the negative (-) terminal cable from the battery.
- (c) Disconnect the connectors from the seat belt control ECU and front seat outer belt assy RH.
- (d) Connect the negative (-) terminal cable to the battery.
- (e) Turn the ignition switch to the ON position.
- (f) Measure the voltage and resistance according to the value(s) in the table below.

Standard:

Tester Connection	Condition	Specified Condition
S65-1 - Body ground	Ignition switch ON	Below 1 V
S65-2 - Body ground	Ignition switch ON	Below 1 V
S65-1 - S65-2	Always	1 M Ω or Higher

NG **REPAIR OR REPLACE WIRE HARNESS**
OK
2 CHECK FRONT SEAT OUTER BELT ASSY RH


G25196

- (a) Measure the voltage according to the value(s) in the table below when the ignition switch is in ON position.

NOTICE:
Be sure to inspect the correct connectors.
Standard:

Tester Connection	Condition	Specified Condition
S65-1 - Body ground	Ignition switch ON	Below 1 V
S65-2 - Body ground	Ignition switch ON	Below 1 V

NG **REPLACE FRONT SEAT OUTER BELT ASSY RH (SEE PAGE 61-21)**
OK
REPLACE SEAT BELT CONTROL ECU (SEE PAGE 61-40)

DTC	B2001	RIGHT SIDE MOTOR LINE MALFUNCTION LO
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CIRCUIT DESCRIPTION

The seat belt control ECU receives information from the cruise control ECU assy (distance control ECU) through CAN communication and tightens the seat belt by operating the motor in the front seat outer belt assy RH.

NOTICE:

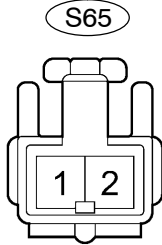
The pretensioner is built into the front seat outer belt assy RH. Be sure to follow the correct inspection procedure, as failure to follow the correct procedure (such as inspection of incorrect connectors) may activate the pretensioner.

DTC No.	DTC Detecting Condition	Trouble Area
B2001	<ul style="list-style-type: none"> • Short to ground in the seat belt motor RH circuit continues for 1 second or more • Short in the seat belt motor RH circuit 	<ul style="list-style-type: none"> • Front seat outer belt assy RH • Wire harness (Seat belt control ECU - front seat outer belt assy RH) • Seat belt control ECU

WIRING DIAGRAM

See page [05-1428](#).

INSPECTION PROCEDURE

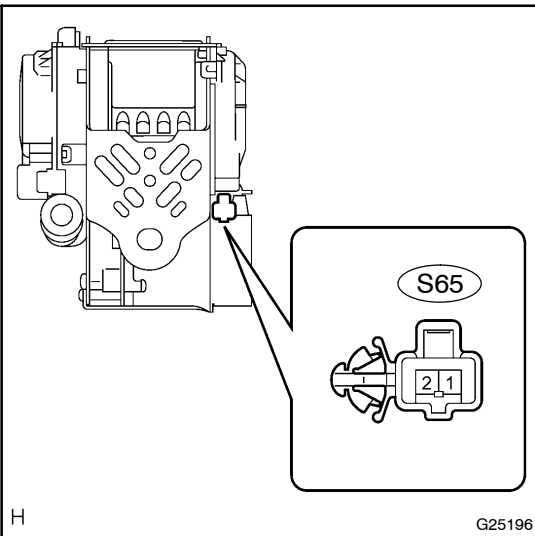
1 CHECK WIRE HARNESS (FRONT SEAT OUTER BELT ASSY RH - SEAT BELT CONTROL ECU)
Front Seat Inner Belt Assy RH Side:


H45168

- Turn the ignition switch to the LOCK position.
- Disconnect the negative (-) terminal cable from the battery.
- Disconnect the connectors from the seat belt control ECU and front seat outer belt assy RH.
- Measure the resistance according to the value(s) in the table below.

Standard:

Tester Connection	Condition	Specified Condition
S65-1 - Body ground	Always	1 MΩ or Higher
S65-2 - Body ground	Always	1 MΩ or Higher
S65-1 - S65-2	Always	1 MΩ or Higher

NG
REPAIR OR REPLACE WIRE HARNESS
OK
2 CHECK FRONT SEAT OUTER BELT ASSY RH


G25196

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

NOTICE:
Be sure to inspect the correct connectors.
Standard:

Tester Connection	Condition	Specified Condition
S65-1 - Body ground	Always	1 MΩ or Higher
S65-2 - Body ground	Always	1 MΩ or Higher

NG
REPLACE FRONT SEAT OUTER BELT ASSY RH (SEE PAGE 61-21)
OK
REPLACE SEAT BELT CONTROL ECU (SEE PAGE 61-40)

DTC	B2002	RIGHT SIDE MOTOR LINE MALFUNCTION OPEN
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CIRCUIT DESCRIPTION

The seat belt control ECU receives information from the cruise control ECU assy (distance control ECU) through CAN communication and tightens the seat belt by operating the motor in the front seat outer belt assy RH.

NOTICE:

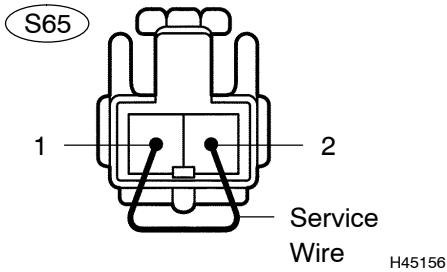
The pretensioner is built into the front seat outer belt assy RH. Be sure to follow the correct inspection procedure, as failure to follow the correct procedure (such as inspection of incorrect connectors) may activate the pretensioner.

DTC No.	DTC Detecting Condition	Trouble Area
B2001	<ul style="list-style-type: none"> • Open in the seat belt motor RH circuit continues for 1 second or more 	<ul style="list-style-type: none"> • Front seat outer belt assy RH • Wire harness (Seat belt control ECU - front seat outer belt assy RH) • Seat belt control ECU

WIRING DIAGRAM

See page [05-1428](#).

INSPECTION PROCEDURE

1 CHECK WIRE HARNESS (FRONT SEAT OUTER BELT ASSY RH - SEAT BELT CONTROL ECU)
Front Seat Outer Belt Assy RH Side:


- Turn the ignition switch to the LOCK position.
- Disconnect the negative (-) terminal cable from the battery.
- Disconnect the connectors from the seat belt control ECU and front seat outer belt Assy RH.
- Using a service wire, connect S65-1 and S65-2 of the connector on the front seat outer belt Assy RH side.

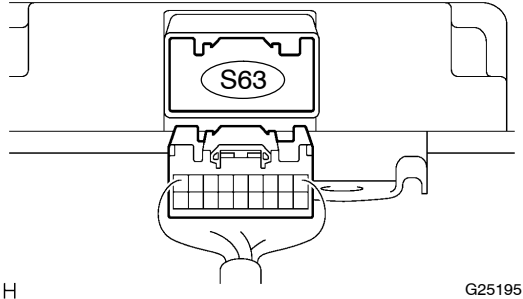
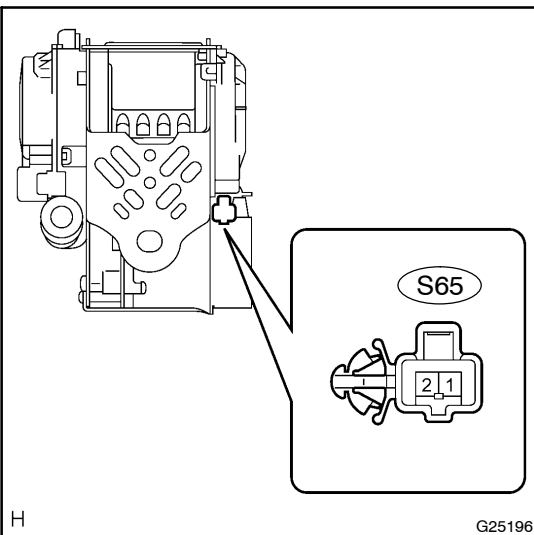
NOTICE:

Do not forcibly insert a service wire into the terminals of a connector.

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

Standard:

Tester Connection	Condition	Specified Condition
S63-1 (MOR+) - S63-10 (MOR-)	Always	Below 1 Ω

NG
REPAIR OR REPLACE WIRE HARNESS
Seat Belt Control ECU Side:

OK
2 CHECK FRONT SEAT OUTER BELT ASSY RH


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

NOTICE:

Be sure to inspect the correct connectors.

Standard:

Tester Connection	Condition	Specified Condition
S65-1 - S65-2	Always	Below 1 Ω

NG
REPLACE FRONT SEAT OUTER BELT ASSY RH (SEE PAGE 61-21)
OK
REPLACE SEAT BELT CONTROL ECU (SEE PAGE 61-40)

DTC	B2005	LEFT SIDE MOTOR LINE MALFUNCTION HI
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CIRCUIT DESCRIPTION

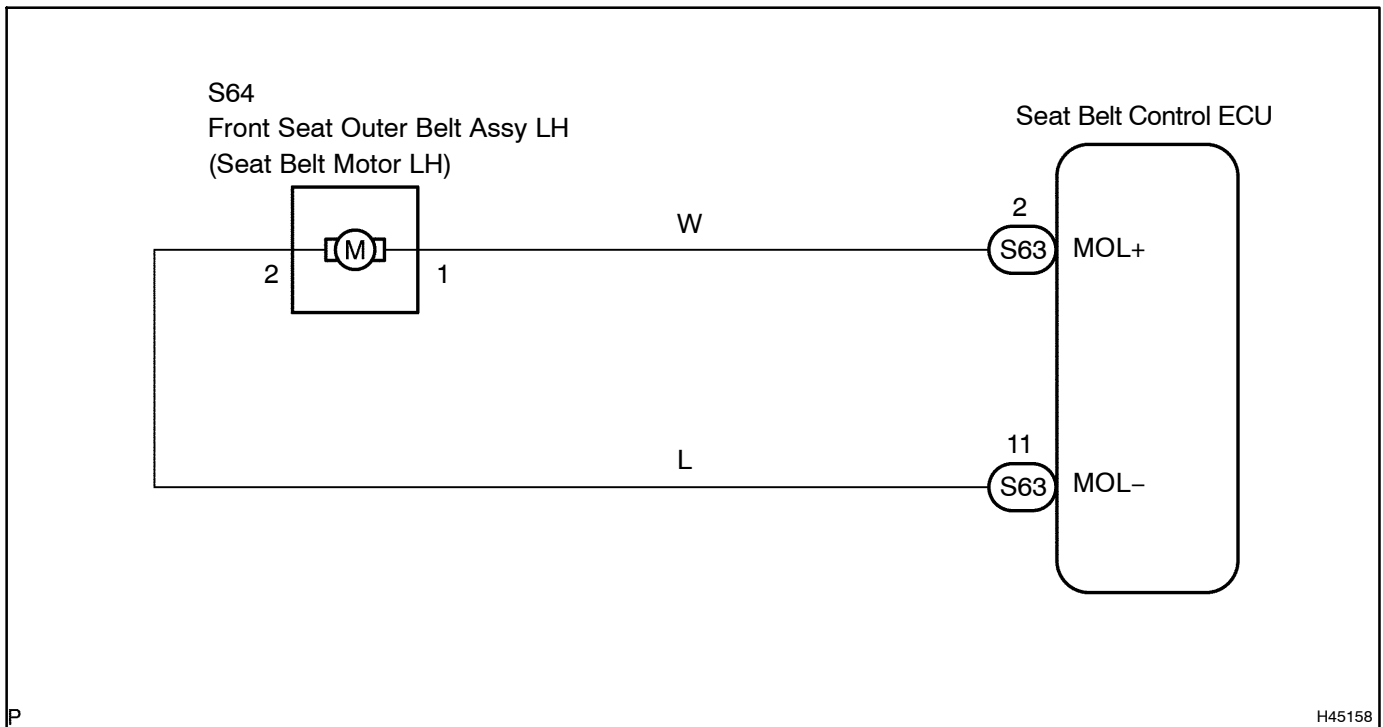
The seat belt control ECU receives information from the cruise control ECU assy (distance control ECU) through CAN communication and tightens the seat belt by operating the motor in the front seat outer belt assy LH.

NOTICE:

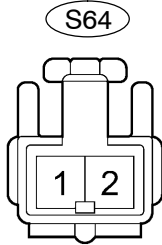
The pretensioner is built into the front seat outer belt assy LH. Be sure to follow the correct inspection procedure, as failure to follow the correct procedure (such as inspection of incorrect connectors) may activate the pretensioner.

DTC No.	DTC Detecting Condition	Trouble Area
B2005	<ul style="list-style-type: none"> • Short to B+ in the seat belt motor LH circuit continues for 1 second or more • Short in the seat belt motor LH circuit 	<ul style="list-style-type: none"> • Front seat outer belt assy LH • Wire harness (Seat belt control ECU - front seat outer belt assy LH) • Seat belt control ECU

WIRING DIAGRAM



INSPECTION PROCEDURE

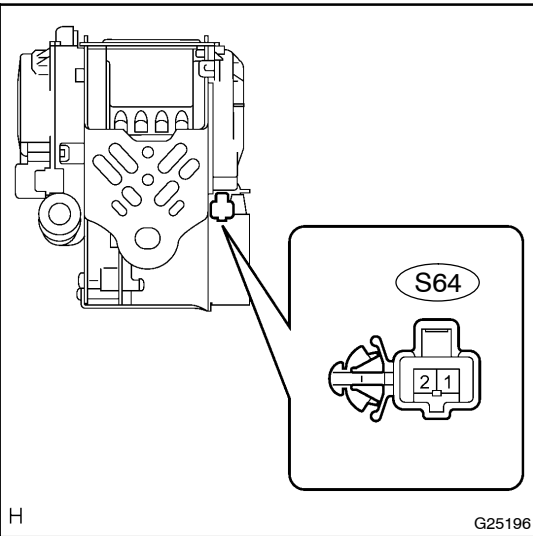
1 CHECK WIRE HARNESS (FRONT SEAT OUTER BELT ASSY LH - SEAT BELT CONTROL ECU)
Front Seat Outer Belt Assy LH Side:


H45168

- (a) Turn the ignition switch to the LOCK position.
- (b) Disconnect the negative (-) terminal cable from the battery.
- (c) Disconnect the connectors from the seat belt control ECU and front seat outer belt assy LH.
- (d) Connect the negative (-) terminal cable to the battery.
- (e) Turn the ignition switch to the ON position.
- (f) Measure the voltage and resistance according to the value(s) in the table below.

Standard:

Tester Connection	Condition	Specified Condition
S64-1 - Body ground	Ignition switch ON	Below 1 V
S64-2 - Body ground	Ignition switch ON	Below 1 V
S64-1 - S64-2	Always	1 MΩ or Higher

NG → **REPAIR OR REPLACE WIRE HARNESS**
OK
2 CHECK FRONT SEAT OUTER BELT ASSY LH


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G25196

- (a) Measure the voltage according to the value(s) in the table below when the ignition switch is in ON position.

NOTICE:
Be sure to inspect the correct connectors.
Standard:

Tester Connection	Condition	Specified Condition
S64-1 - Body ground	Ignition switch ON	Below 1 V
S64-2 - Body ground	Ignition switch ON	Below 1 V

NG → **REPLACE FRONT SEAT OUTER BELT ASSY LH (SEE PAGE 61-21)**
OK
REPLACE SEAT BELT CONTROL ECU (SEE PAGE 61-40)

DTC	B2006	LEFT SIDE MOTOR LINE MALFUNCTION LO
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CIRCUIT DESCRIPTION

The seat belt control ECU receives information from the cruise control ECU assy (distance control ECU) through CAN communication and tightens the seat belt by operating the motor in the front seat outer belt assy LH.

NOTICE:

The pretensioner is built into the front seat outer belt assy LH. Be sure to follow the correct inspection procedure, as failure to follow the correct procedure (such as inspection of incorrect connectors) may activate the pretensioner.

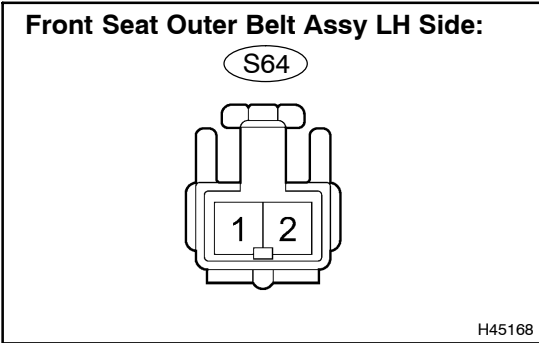
DTC No.	DTC Detecting Condition	Trouble Area
B2006	<ul style="list-style-type: none"> • Short to ground in the seat belt motor LH circuit continues for 1 second or more • Short in the seat belt motor LH circuit 	<ul style="list-style-type: none"> • Front seat outer belt assy LH • Wire harness (Seat belt control ECU - front seat outer belt assy LH) • Seat belt control ECU

WIRING DIAGRAM

See page [05-1434](#).

INSPECTION PROCEDURE

1 CHECK WIRE HARNESS (FRONT SEAT OUTER BELT ASSY LH - SEAT BELT CONTROL ECU)



- (a) Turn the ignition switch to the LOCK position.
- (b) Disconnect the negative (-) terminal cable from the battery.
- (c) Disconnect the connectors from the seat belt control ECU and front seat outer belt assy LH.
- (d) Measure the resistance according to the value(s) in the table below.

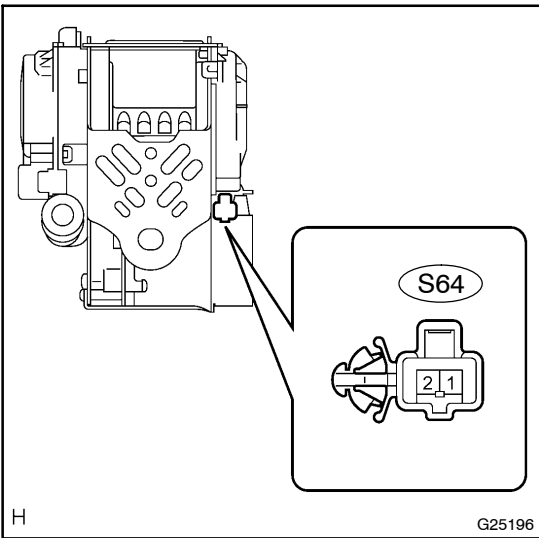
Standard:

Tester Connection	Condition	Specified Condition
S64-1 - Body ground	Always	1 MΩ or Higher
S64-2 - Body ground	Always	1 MΩ or Higher
S64-1 - S64-2	Always	1 MΩ or Higher

NG → REPAIR OR REPLACE WIRE HARNESS

OK

2 CHECK FRONT SEAT OUTER BELT ASSY LH



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

NOTICE:

Be sure to inspect the correct connectors.

Standard:

Tester Connection	Condition	Specified Condition
S64-1 - Body ground	Always	1 MΩ or Higher
S64-2 - Body ground	Always	1 MΩ or Higher

NG → REPLACE FRONT SEAT OUTER BELT ASSY LH (SEE PAGE 61-21)

OK

REPLACE SEAT BELT CONTROL ECU (SEE PAGE 61-40)

DTC	B2007	LEFT SIDE MOTOR LINE MALFUNCTION OPEN
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CIRCUIT DESCRIPTION

The seat belt control ECU receives information from the cruise control ECU assy (distance control ECU) through CAN communication and tightens the seat belt by operating the motor in the front seat outer belt assy LH.

NOTICE:

The pretensioner is built into the front seat outer belt assy LH. Be sure to follow the correct inspection procedure, as failure to follow the correct procedure (such as inspection of incorrect connectors) may activate the pretensioner.

DTC No.	DTC Detecting Condition	Trouble Area
B2007	<ul style="list-style-type: none"> • Open in the seat belt motor LH circuit continues for 1 second or more 	<ul style="list-style-type: none"> • Front seat outer belt assy LH • Wire harness (Seat belt control ECU - front seat outer belt assy LH) • Seat belt control ECU

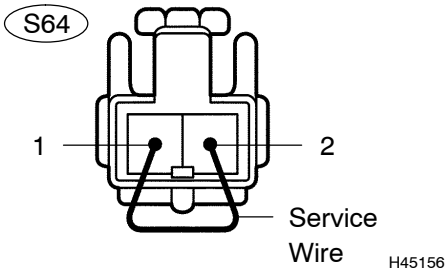
WIRING DIAGRAM

See page [05-1434](#).

INSPECTION PROCEDURE

1 CHECK WIRE HARNESS (FRONT SEAT OUTER BELT ASSY LH - SEAT BELT CONTROL ECU)

Front Seat Outer Belt Assy LH Side:



- Turn the ignition switch to the LOCK position.
- Disconnect the negative (-) terminal cable from the battery.
- Disconnect the connectors from the seat belt control ECU and front seat outer belt assy LH.
- Using a service wire, connect S64-1 and S64-2 of the connector on the front seat outer belt assy LH side.

NOTICE:

Do not forcibly insert a service wire into the terminals of a connector.

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

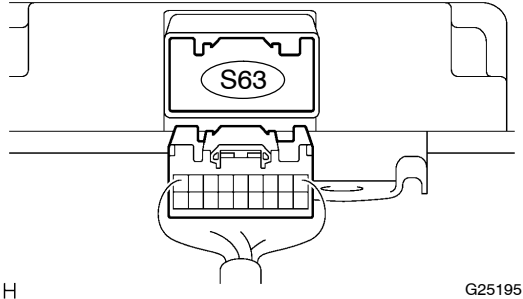
Standard:

Tester Connection	Condition	Specified Condition
S63-2 (MOL+) - S63-11 (MOL-)	Always	Below 1 Ω

NG

REPAIR OR REPLACE WIRE HARNESS

Seat Belt Control ECU Side:



OK

2 CHECK FRONT SEAT OUTER BELT ASSY LH

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

NOTICE:

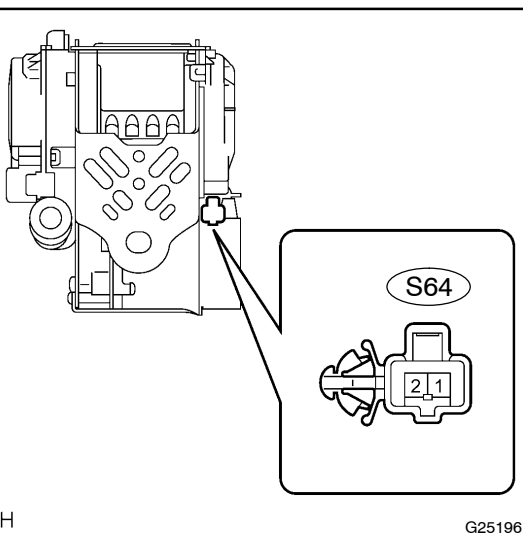
Be sure to inspect the correct connectors.

Standard:

Tester Connection	Condition	Specified Condition
S64-1 - S64-2	Always	Below 1 Ω

NG

REPLACE FRONT SEAT OUTER BELT ASSY LH (SEE PAGE 61-21)



OK

REPLACE SEAT BELT CONTROL ECU (SEE PAGE 61-40)

DTC	B2015	RIGHT SIDE UPPER MOS MALFUNCTION OPEN
DTC	B2016	RIGHT SIDE LOWER MOS MALFUNCTION OPEN
DTC	B2020	LEFT SIDE UPPER MOS MALFUNCTION OPEN
DTC	B2021	LEFT SIDE LOWER MOS MALFUNCTION OPEN
DTC	B2025	RIGHT SIDE CURRENT DETECTION CIRCUIT MALFUNCTION HI
DTC	B2026	RIGHT SIDE CURRENT DETECTION CIRCUIT MALFUNCTION LO
DTC	B2027	RIGHT SIDE OVER-CURRENT MALFUNCTION
DTC	B2030	LEFT SIDE CURRENT DETECTION CIRCUIT MALFUNCTION HI
DTC	B2031	LEFT SIDE CURRENT DETECTION CIRCUIT MALFUNCTION LO
DTC	B2032	LEFT SIDE OVER-CURRENT MALFUNCTION
DTC	B2035	POWER SUPPLY RELAY ADHERENCE MALFUNCTION
DTC	B2036	POWER SUPPLY RELAY MALFUNCTION OPEN
DTC	B2040	EEPROM MALFUNCTION

DTC	B2041	FALL OF THE RAISED VOLTAGE
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DTC	B2047	PRE-COLLISION SAFETY ECU INNER CIRCUIT MALFUNCTION
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CIRCUIT DESCRIPTION

These DTCs are output when a malfunction in the internal circuit is detected by seat belt control ECU self-diagnosis.

DTC No.	DTC Detecting Condition	Trouble Area
B2015	• Open in the right side upper MOS	• Seat belt control ECU
B2016	• Open in the right side lower MOS	• Seat belt control ECU
B2020	• Open in the left side upper MOS	• Seat belt control ECU
B2021	• Open in the left side lower MOS	• Seat belt control ECU
B2025	• Malfunction in the right side current detection HI circuit	• Seat belt control ECU
B2026	• Malfunction in the right side current detection LO circuit	• Seat belt control ECU
B2027	• Over-current in the right side circuit	• Seat belt control ECU
B2030	• Malfunction in the left side current detection HI circuit	• Seat belt control ECU
B2031	• Malfunction in the left side current detection LO circuit	• Seat belt control ECU
B2032	• Over-current in the left side circuit	• Seat belt control ECU
B2035	• Adherence in the power supply relay	• Seat belt control ECU
B2036	• Power supply relay open	• Seat belt control ECU
B2040	• EEPROM malfunction	• Seat belt control ECU
B2041	• Decline in raised voltage	• Seat belt control ECU
B2047	• Malfunction in the inner circuit of the pre-collision safety ECU	• Seat belt control ECU

INSPECTION PROCEDURE

1	CHECK DTC
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- (a) Turn the ignition switch to the LOCK position.
- (b) Disconnect the negative (-) terminal cable from the battery.
- (c) Connect the negative (-) terminal cable to the battery.
- (d) Turn the ignition switch to the ON position.
- (e) Clear the DTCs stored in memory (see page 05-1421).
- (f) Turn the ignition switch to the LOCK position.
- (g) Turn the ignition switch to the ON position.
- (h) Check the DTCs (see page 05-1421).

OK:

DTC is not output.

NG

**REPLACE SEAT BELT CONTROL ECU
(SEE PAGE 61-40)**

OK

USE SIMULATION METHOD TO CHECK (SEE PAGE 01-32)

DTC	B2043	FALL OF THE +B VOLTAGE
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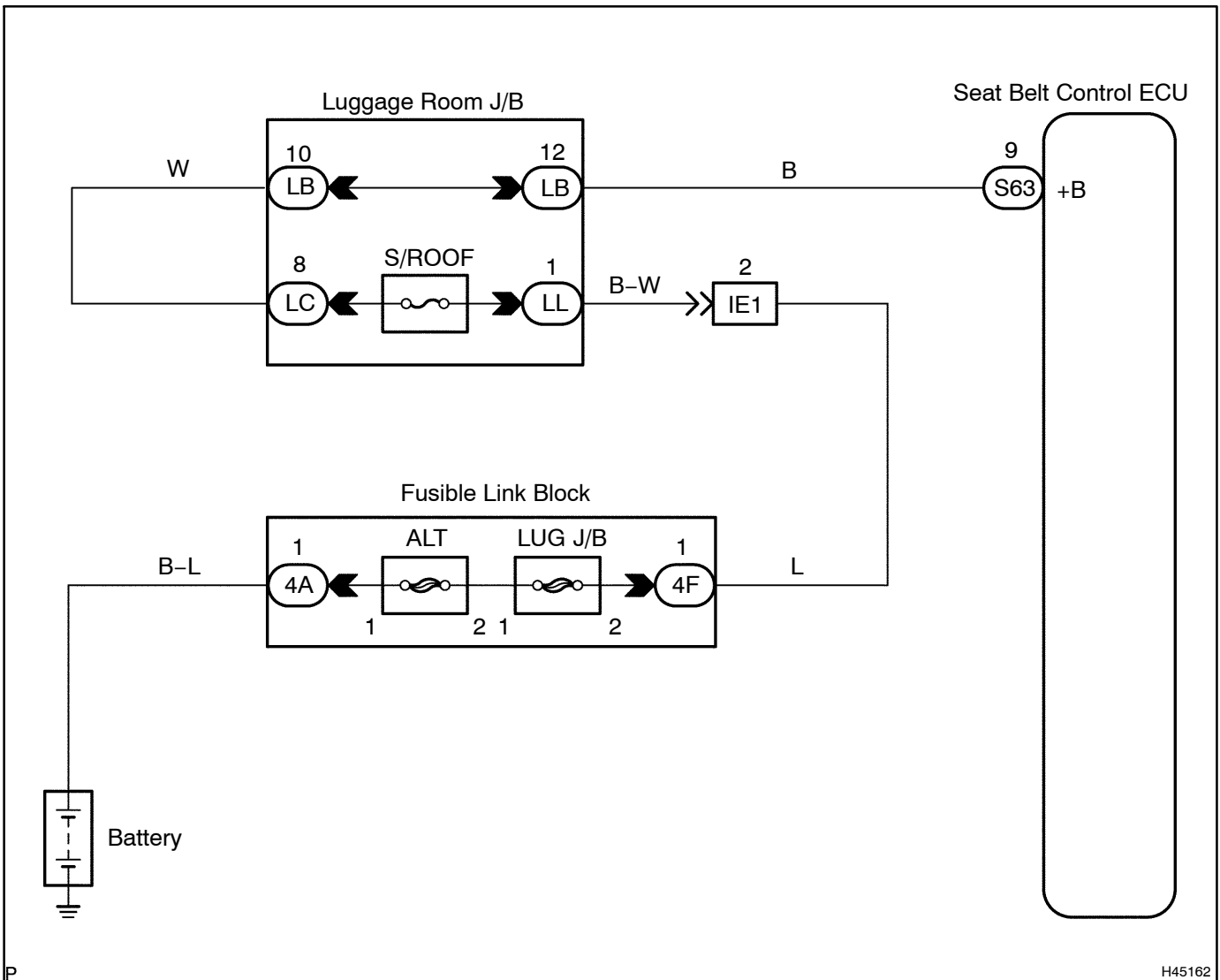
CIRCUIT DESCRIPTION

DTC B2043 is detected when the voltage of the +B terminal and IG terminal of the seat belt control ECU is not the same.

DTC B2043 is output when a malfunction inside the seat belt control ECU or the seat belt control ECU power supply circuit is detected.

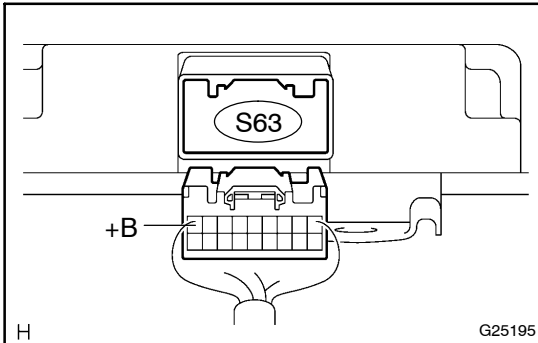
DTC No.	DTC Detecting Condition	Trouble Area
B2043	<ul style="list-style-type: none"> • The voltage of the +B terminal and IG terminal of the seat belt control ECU are not the same • There is a malfunction inside the seat belt control ECU • There is a malfunction in the seat belt control ECU power supply circuit 	<ul style="list-style-type: none"> • Seat belt control ECU • Wire harness (Seat belt control ECU - Battery) • Battery

WIRING DIAGRAM



INSPECTION PROCEDURE

1 CHECK WIRE HARNESS (SEAT BELT CONTROL ECU - BATTERY)



- (a) Turn the ignition switch to the LOCK position.
- (b) Disconnect the negative (-) terminal cable from the battery.
- (c) Disconnect the connector from the seat belt control ECU.
- (d) Connect the negative (-) terminal cable to the battery.
- (e) Turn the ignition switch to the ON position.
- (f) Measure the voltage according to the value(s) in the table below.

Standard:

Tester Connection	Condition	Specified Condition
S63-9 (+B) - Body ground	Ignition switch ON	10 to 14 V

NG

REPAIR OR REPLACE WIRE HARNESS (SEAT BELT CONTROL ECU - BATTERY) OR BATTERY

OK

2 CHECK DTC

- (a) Turn the ignition switch to the LOCK position.
- (b) Disconnect the negative (-) terminal cable from the battery.
- (c) Connect the connector to the seat belt control ECU.
- (d) Connect the negative (-) terminal cable to the battery.
- (e) Turn the ignition switch to the ON position.
- (f) Clear the DTCs stored in memory (see page 05-1421).
- (g) Turn the ignition switch to the LOCK position.
- (h) Turn the ignition switch to the ON position.
- (i) Check the DTCs (see page 05-1421).

OK:

DTC is not output.

NG

**REPLACE SEAT BELT CONTROL ECU
(SEE PAGE 61-40)**

OK

USE SIMULATION METHOD TO CHECK (SEE PAGE 01-32)

DTC	B2059	VEHICLE SPEED MALFUNCTION OF DISTANCE CONTROL ECU
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CIRCUIT DESCRIPTION

The seat belt control ECU receives vehicle speed information from the ECM and ABS & TRACTION actuator assy (skid control ECU) through CAN communication. The ECM receives vehicle speed information from the ABS & TRACTION actuator assy (skid control ECU) via the combination meter assy.

DTC B2059 is output when the vehicle speed information from the ECM and the ABS & TRACTION actuator assy (skid control ECU) differs by more than the specified value.

DTC No.	DTC Detecting Condition	Trouble Area
B2059	<ul style="list-style-type: none"> The vehicle speed information from the ECM and the ABS & TRACTION actuator assy (skid control ECU) differs by more than the specified value 	<ul style="list-style-type: none"> Combination meter assy ECM Cruise control ECU assy (Distance control ECU) ABS & TRACTION actuator assy (Skid control ECU) Seat belt control ECU

INSPECTION PROCEDURE

1 READ VALUE OF HAND-HELD TESTER (VEHICLE SPEED SIGNAL)

(a) Operate the hand-held tester according to the steps on the display and select the "DATA LIST".

METER:

Item	Measurement Item/ Range (Display)	Normal Condition	Diagnostic Note
SPEED METER	Vehicle speed / Min.: 0 km/h (0 mph), Max.: 255 km/h (158 mph)	Almost same as actual vehicle speed (When driving)	-

OK:

Vehicle speed displayed on the tester is almost the same as the actual vehicle speed.

NG →

**GO TO COMBINATION METER SYSTEM
(SEE PAGE 05-2000)**

OK

2 CHECK DTC (MALFUNCTION IN CAN COMMUNICATION WITH ECM)

(a) Check the DTC U0100 is not output.

OK:

DTC U0100 is not output.

NG →

REPLACE ECM (SEE PAGE 10-20)

OK

3 CHECK DTC (MALFUNCTION IN CAN COMMUNICATION WITH CRUISE CONTROL ECU ASSY (DISTANCE CONTROL ECU))

- (a) Check the DTC U0100, U0122 or U1101 is not output.

OK:

DTC U0100, U0122 or U1101 is not output.

NG

**REPLACE CRUISE CONTROL ECU ASSY
(SEE PAGE [82-2](#))**

OK

4 CHECK DTC (MALFUNCTION IN CAN COMMUNICATION WITH ABS & TRACTION CONTROL ACTUATOR ASSY (SKID CONTROL ECU))

- (a) Check the DTC U0073, U0122 or U0126 is not output.

OK:

DTC U0073, U0122 or U0126 is not output.

NG

**REPLACE ABS & TRACTION ACTUATOR ASSY
(SEE PAGE [32-45](#))**

OK

SEAT BELT CONTROL ECU (SEE PAGE [61-40](#))

DTC	B2064	VEHICLE TYPE SIGNAL MALFUNCTION
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CIRCUIT DESCRIPTION

The seat belt control ECU is connected to the network gateway ECU through CAN communication. The seat belt control ECU receives vehicle model information from the network gateway ECU and determines whether the seat belt buckle switch information from the airbag sensor assy center is for the driver seat or the passenger seat.

DTC B2064 is output when the CAN communication frame with the network gateway ECU is normal and communication is available, but the steering wheel position information is not set or varies.

DTC No.	DTC Detecting Condition	Trouble Area
B2064	<ul style="list-style-type: none"> • Communication with the network gateway ECU is normal and received steering wheel position information is not set (three times in succession) 	<ul style="list-style-type: none"> • Network gateway ECU • Seat belt control ECU

INSPECTION PROCEDURE

1	REPLACE NETWORK GATEWAY ECU (SEE PAGE 71-6)
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NG

**REPLACE SEAT BELT CONTROL ECU
(SEE PAGE 61-40)**

OK

END
