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Model Year Start: 2014	**Model:** GX460	**Prod Date Range:** [08/2013 -]
Title: SUSPENSION CONTROL: AIR SUSPENSION SYSTEM: C1731/31-C1734/34; FR Damping Force Control Actuator Circuit; 2014 MY GX460 [08/2013 -]		

DTC	**C1731/31**	**FR Damping Force Control Actuator Circuit**

DTC	**C1732/32**	**FL Damping Force Control Actuator Circuit**

DTC	**C1733/33**	**RR Damping Force Control Actuator Circuit**

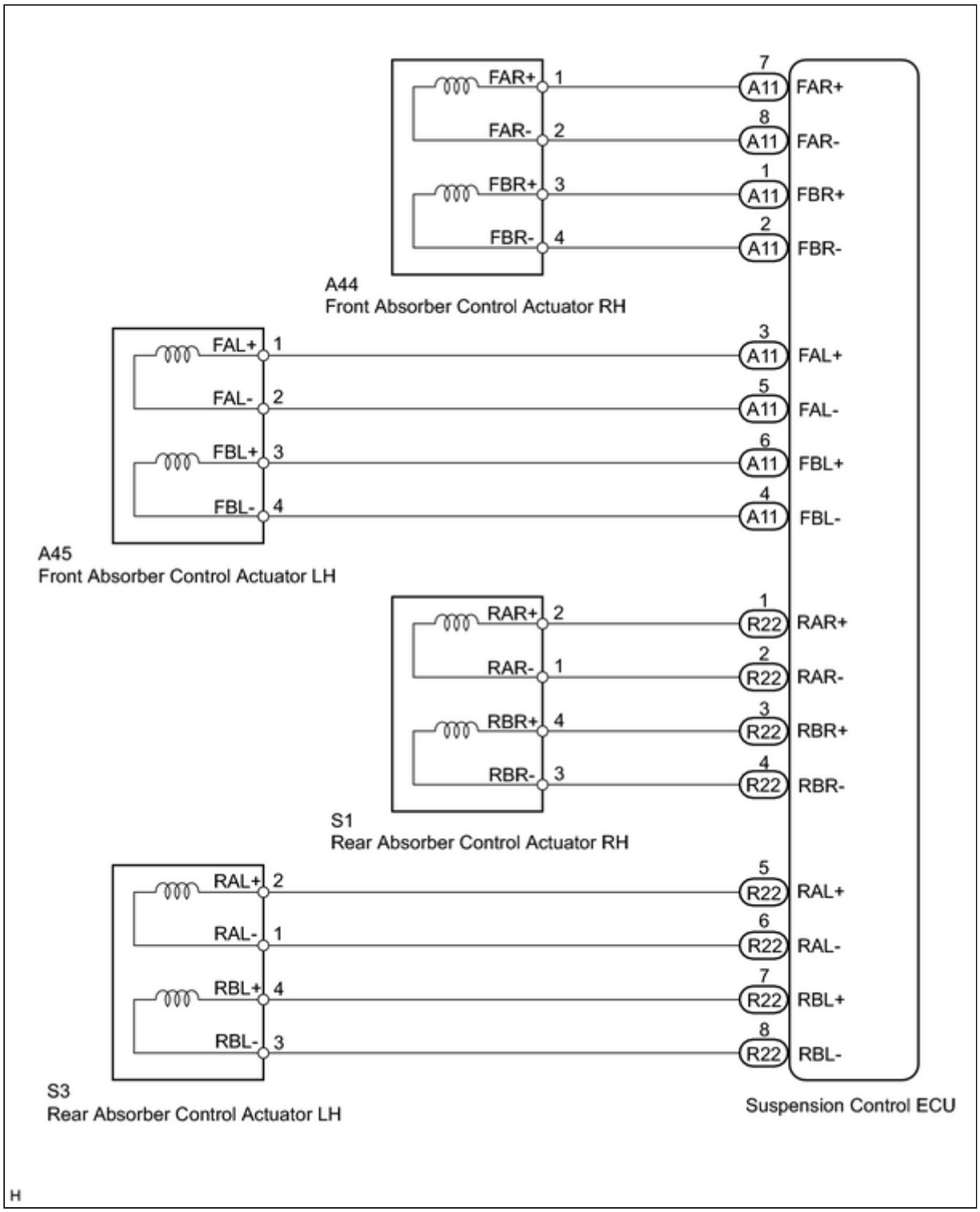
DTC	**C1734/34**	**RL Damping Force Control Actuator Circuit**

DESCRIPTION

The absorber control actuator switches the damping force depending on the suspension control ECU signals.

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
C1731/31	Either condition is met: • An actuator open-circuit signal is detected for at least 1 second when the actuator operates. • An actuator short-circuit signal is consecutively detected 8 times when the actuator operates.	• Harness or connector • Front absorber control actuator RH • Suspension control ECU
C1732/32	Either condition is met: • An actuator open-circuit signal is detected for at least 1 second when the actuator operates. • An actuator short-circuit signal is consecutively detected 8 times when the actuator operates.	• Harness or connector • Front absorber control actuator LH • Suspension control ECU
C1733/33	Either condition is met: • An actuator open-circuit signal is detected for at least 1 second when the actuator operates. • An actuator short-circuit signal is consecutively detected 8 times when the actuator operates.	• Harness or connector • Rear absorber control actuator RH (Rear shock absorber assembly) • Suspension control ECU
C1734/34	Either condition is met: • An actuator open-circuit signal is detected for at least 1 second when the actuator operates. • An actuator short-circuit signal is consecutively detected 8 times when the actuator operates.	• Harness or connector • Rear absorber control actuator LH (Rear shock absorber assembly) • Suspension control ECU

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

When replacing the suspension control ECU, perform registration INFO .

PROCEDURE

1.	**PERFORM ACTIVE TEST USING TECHSTREAM (DAMPER STEP)**

(a) Turn the engine switch off.

(b) Connect the Techstream to the DLC3.

(c) Turn the engine switch on (IG).

(d) Turn the Techstream on.

(e) Enter the following menus: Chassis / Air suspension / Active Test.

Air Suspension

TESTER DISPLAY	TEST PART	CONTROL RANGE	DIAGNOSTIC NOTE
Damper Step FR	Changes damper step (front RH)	1 to 16 step	The shock absorber hardens as the damper step increases.
Damper Step FL	Changes damper step (front LH)	1 to 16 step	The shock absorber hardens as the damper step increases.
Damper Step RR	Changes damper step (rear RH)	1 to 16 step	The shock absorber hardens as the damper step increases.
Damper Step RL	Changes damper step (rear LH)	1 to 16 step	The shock absorber hardens as the damper step increases.

OK:
The absorber control actuator operates.

NG ▶ **GO TO STEP 2**

OK ▶ **USE SIMULATION METHOD TO CHECK**

2.	**INSPECT ABSORBER CONTROL ACTUATOR**

(a) Turn the engine switch off.

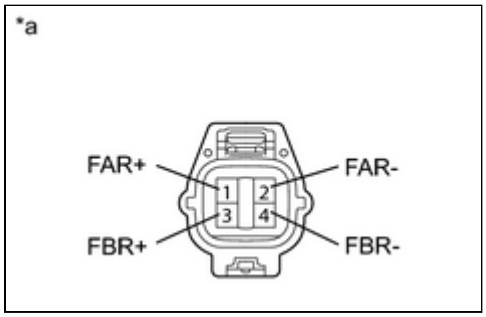
(b) Check the front absorber control actuator RH (when DTC C1731/31 is output).

(1) Disconnect the A44 actuator connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1 (FAR+) - 2 (FAR-)	Always	6.4 to 7.2 Ω
3 (FBR+) - 4 (FBR-)	Always	6.4 to 7.2 Ω



Text in Illustration

*a	Component without harness connected (Front Absorber Control Actuator RH)

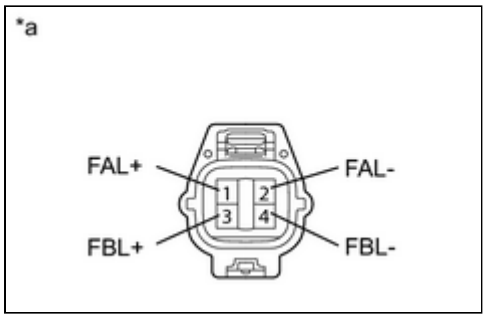
(c) Check the front absorber control actuator LH (when DTC C1732/32 is output).

(1) Disconnect the A45 actuator connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1 (FAL+) - 2 (FAL-)	Always	6.4 to 7.2 Ω
3 (FBL+) - 4 (FBL-)	Always	6.4 to 7.2 Ω



Text in Illustration

*a	Component without harness connected (Front Absorber Control Actuator LH)

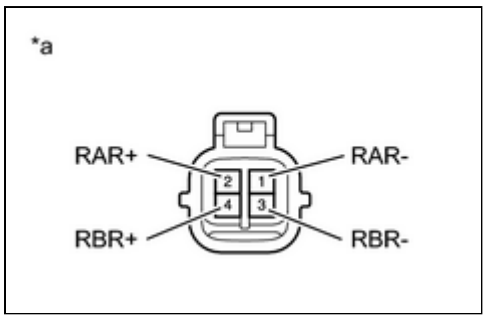
(d) Check the rear absorber control actuator RH (when DTC C1733/33 is output).

(1) Disconnect the S1 actuator connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1 (RAR-) - 2 (RAR+)	Always	6.4 to 7.2 Ω
3 (RBR-) - 4 (RBR+)	Always	6.4 to 7.2 Ω



Text in Illustration

*a	Component without harness connected (Rear Absorber Control Actuator RH)

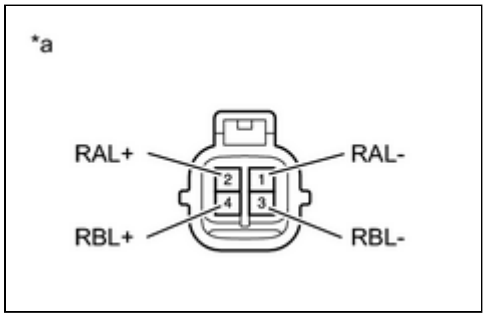
(e) Check the rear absorber control actuator LH (when DTC C1734/34 is output).

(1) Disconnect the S3 actuator connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1 (RAL-) - 2 (RAL+)	Always	6.4 to 7.2 Ω
3 (RBL-) - 4 (RBL+)	Always	6.4 to 7.2 Ω



Text in Illustration

*a	Component without harness connected (Rear Absorber Control Actuator LH)

Result

RESULT	PROCEED TO

RESULT	PROCEED TO
OK	A
NG (Front absorber control actuator RH)	B
NG (Front absorber control actuator LH)	C
NG (Rear absorber control actuator RH)	D
NG (Rear absorber control actuator LH)	E

B ▶ **REPLACE FRONT ABSORBER CONTROL ACTUATOR RH**

C ▶ **REPLACE FRONT ABSORBER CONTROL ACTUATOR LH**

D ▶ **REPLACE REAR SHOCK ABSORBER ASSEMBLY RH**

E ▶ **REPLACE REAR SHOCK ABSORBER ASSEMBLY LH**

A ▼

3.	**CHECK HARNESS AND CONNECTOR (ABSORBER CONTROL ACTUATOR - SUSPENSION CONTROL ECU)**

(a) Check the front side absorber control actuator.

(1) Disconnect the A44 and/or A45 front absorber control actuator connector.

(2) Disconnect the A11 suspension control ECU connector.

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

Standard Resistance:

for Front RH (for DTC C1731/31)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A44-1 (FAR+) - A11-7 (FAR+)	Always	Below 1 Ω
A44-2 (FAR-) - A11-8 (FAR-)	Always	Below 1 Ω
A44-3 (FBR+) - A11-1 (FBR+)	Always	Below 1 Ω
A44-4 (FBR-) - A11-2 (FBR-)	Always	Below 1 Ω
A44-1 (FAR+) - Body ground	Always	10 kΩ or higher
A44-2 (FAR-) - Body ground	Always	10 kΩ or higher
A44-3 (FBR+) - Body ground	Always	10 kΩ or higher
A44-4 (FBR-) - Body ground	Always	10 kΩ or higher

for Front LH (for DTC C1732/32)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A45-1 (FAL+) - A11-3 (FAL+)	Always	Below 1 Ω
A45-2 (FAL-) - A11-5 (FAL-)	Always	Below 1 Ω
A45-3 (FBL+) - A11-6 (FBL+)	Always	Below 1 Ω
A45-4 (FBL-) - A11-4 (FBL-)	Always	Below 1 Ω
A45-1 (FAL+) - Body ground	Always	10 kΩ or higher
A45-2 (FAL-) - Body ground	Always	10 kΩ or higher
A45-3 (FBL+) - Body ground	Always	10 kΩ or higher
A45-4 (FBL-) - Body ground	Always	10 kΩ or higher

(b) Check the rear side absorber control actuator.

(1) Disconnect the S1 and/or S3 rear absorber control actuator connector.

(2) Disconnect the R22 suspension control ECU connector.

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

Standard Resistance:

for Rear RH (for DTC C1733/33)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
S1-1 (RAR-) - R22-2 (RAR-)	Always	Below 1 Ω
S1-2 (RAR+) - R22-1 (RAR+)	Always	Below 1 Ω
S1-3 (RBR-) - R22-4 (RBR-)	Always	Below 1 Ω
S1-4 (RBR+) - R22-3 (RBR+)	Always	Below 1 Ω
S1-1 (RAR-) - Body ground	Always	10 kΩ or higher
S1-2 (RAR+) - Body ground	Always	10 kΩ or higher
S1-3 (RBR-) - Body ground	Always	10 kΩ or higher
S1-4 (RBR+) - Body ground	Always	10 kΩ or higher

for Rear LH (for DTC C1734/34)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
S3-1 (RAL-) - R22-6 (RAL-)	Always	Below 1 Ω
S3-2 (RAL+) - R22-5 (RAL+)	Always	Below 1 Ω
S3-3 (RBL-) - R22-8 (RBL-)	Always	Below 1 Ω
S3-4 (RBL+) - R22-7 (RBL+)	Always	Below 1 Ω
S3-1 (RAL-) - Body ground	Always	10 kΩ or higher
S3-2 (RAL+) - Body ground	Always	10 kΩ or higher
S3-3 (RBL-) - Body ground	Always	10 kΩ or higher
S3-4 (RBL+) - Body ground	Always	10 kΩ or higher

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK