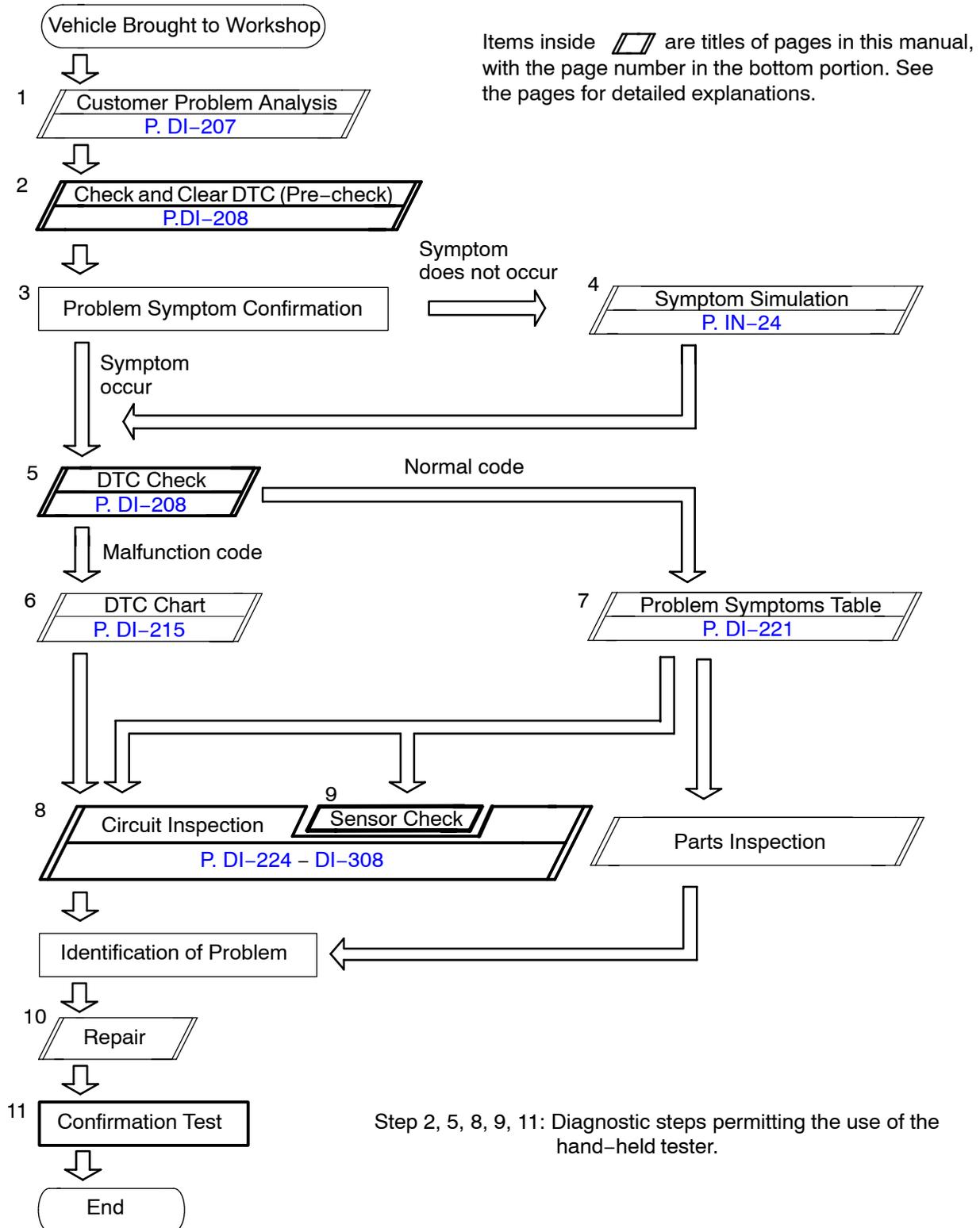


# ACTIVE HEIGHT CONTROL SUSPENSION & SKYHOOK TEMS

## HOW TO PROCEED WITH TROUBLESHOOTING

DI3GA-03

Troubleshooting in accordance with the procedure on the following pages.

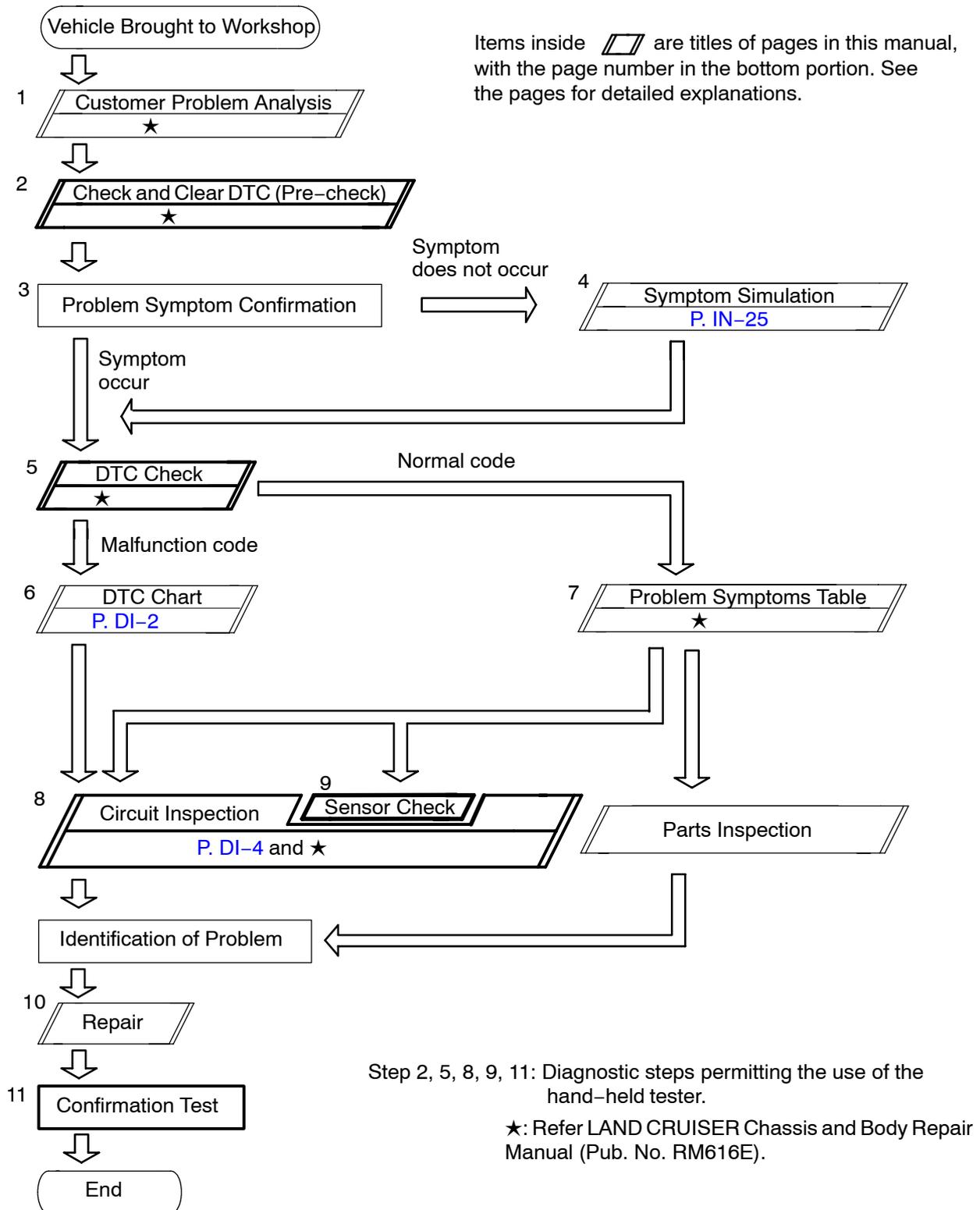


# ACTIVE HEIGHT CONTROL SUSPENSION & SKYHOOK TEMS

## HOW TO PROCEED WITH TROUBLESHOOTING

DI3GA-04

Troubleshooting in accordance with the procedure on the following pages.



# CUSTOMER PROBLEM ANALYSIS CHECK

## Suspension Control System Check Sheet

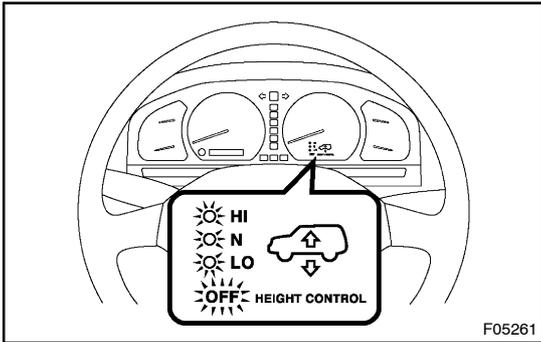
Inspector's Name \_\_\_\_\_

Customer's Name		Registration No.	
		Registration Year	
		Frame No.	/ /
Date Vehicle Brought In	/ /	Odometer Reading	

Date Problem First Occurred		
Frequency Problem Occurs		<input type="checkbox"/> Constant <input type="checkbox"/> Sometimes ( times per day, month) <input type="checkbox"/> Once only
Conditions at Time of Problem Occurrence	Weather	<input type="checkbox"/> Fine <input type="checkbox"/> Cloudy <input type="checkbox"/> Rainy <input type="checkbox"/> Snowy <input type="checkbox"/> Various/Others
	Outdoor Temperature	<input type="checkbox"/> Hot <input type="checkbox"/> Warm <input type="checkbox"/> Cool <input type="checkbox"/> Cold (Approx. °F ( °C))
	Place	<input type="checkbox"/> Highway <input type="checkbox"/> Suburbs <input type="checkbox"/> Inner City <input type="checkbox"/> Hill (Up, Down) <input type="checkbox"/> Rough Road <input type="checkbox"/> Others

Symptoms	<input type="checkbox"/> Malfunction in damping force control	<input type="checkbox"/> Vehicle ride is uncomfortable <input type="checkbox"/> Vehicle ride too soft <input type="checkbox"/> Vehicle steering roll is different from right and left turn <input type="checkbox"/> Vehicle braking dive and starting squat are large <input type="checkbox"/> Others ( )
	<input type="checkbox"/> Malfunction in vehicle height control	<input type="checkbox"/> Vehicle height cannot be changed by operating the height control switch <input type="checkbox"/> Vehicle height is extremely low when vehicle is parked <input type="checkbox"/> Vehicle leans to the right, left, front or rear <input type="checkbox"/> Abnormal sound sounds from AHC system <input type="checkbox"/> Others ( )
	<input type="checkbox"/> Others	

DTC Check	1st Time	<input type="checkbox"/> Normal Code <input type="checkbox"/> Malfunction Code (Code )
	2nd Time	<input type="checkbox"/> Normal Code <input type="checkbox"/> Malfunction Code (Code )

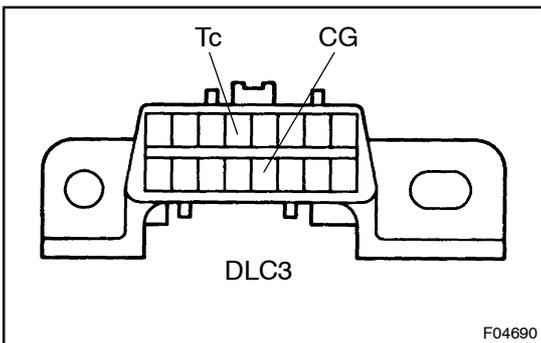


## PRE-CHECK

### 1. DIAGNOSIS SYSTEM

- (a) Check the indicator light.
  - (1) Turn the ignition switch ON.
  - (2) Check that the height control indicator light and height control OFF indicator light lights up for 2 seconds.

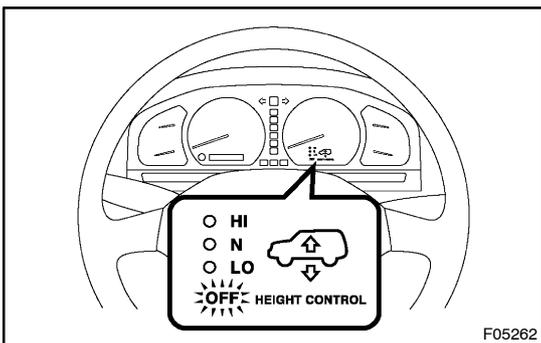
If the indicator does not light, inspect the height control OFF indicator light circuit and height control indicator light circuit (See page DI-299 and DI-303).

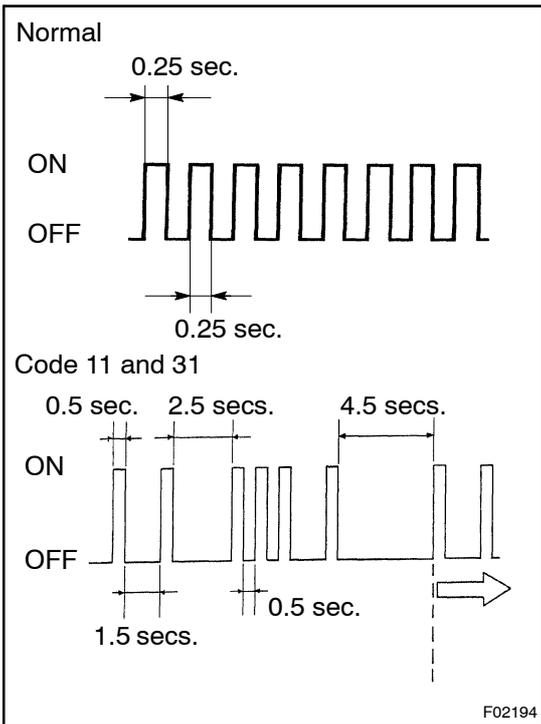


- (b) In case of not using hand-held tester:
  - Check the DTC.
    - (1) Check the battery voltage.
    - (2) Check that the alternator is generating electricity when engine running.
    - (3) Check that other system is operated normally.
    - (4) Using SST, connect the terminal Tc to CG of DLC3. SST 09843-18040
    - (5) Turn the ignition switch ON.
    - (6) Read the DTC output by the height control OFF indicator light on the combination meter.

#### HINT:

- If no code appears, inspect the Tc terminal circuit or height control OFF indicator light circuit (See page DI-306 or DI-299).

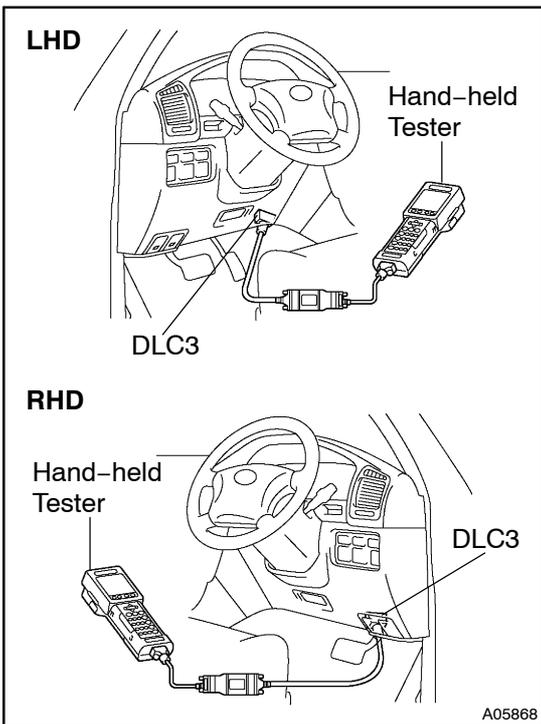




- For an example, the blinking patterns for normal code, 11 and 31 are as shown in the illustration.
- (7) Details of the codes are in the code table on [page DI-215](#).
- (8) After completing the check, disconnect the terminals Tc from CG, and turn off the display.

**HINT:**

When there are 2 malfunction codes or more, they will be displayed in the order of ascending number.



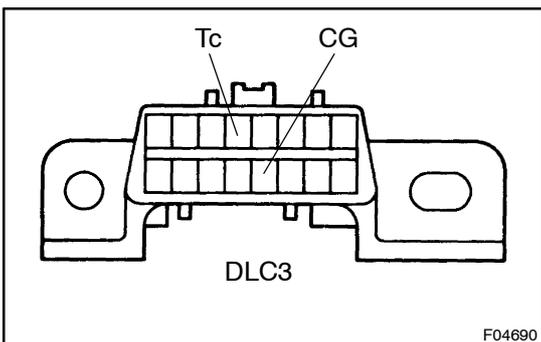
- (c) In case of using hand-held tester:

Check the DTC.

- (1) Connect the hand-held tester to the DLC3.
- (2) Turn the ignition switch ON.
- (3) Read the DTCs by following the prompts on the tester screen.

**HINT:**

Please refer to the hand-held tester operator's manual for further details.



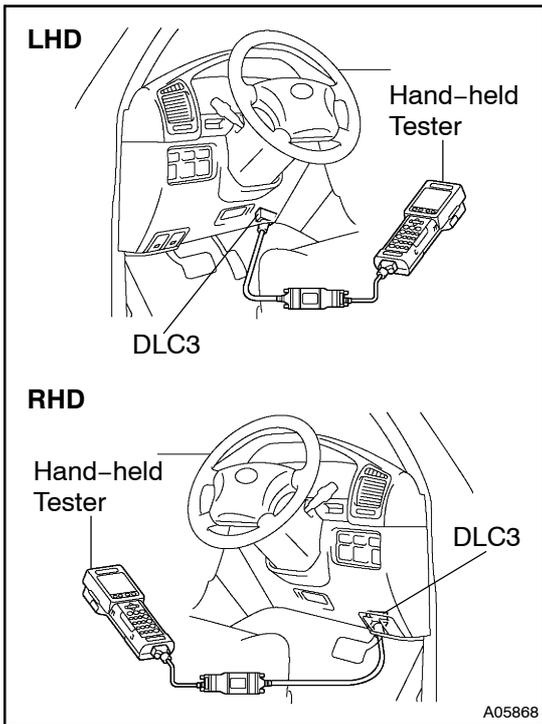
- (d) In case of not using the hand-held tester:

Clear the DTC.

- (1) Using SST, connect the terminals Tc to CG of DLC3. SST 09843-18040
- (2) Turn the ignition switch ON.
- (3) Depress the brake pedal 8 times or more within 3 seconds.

**HINT:**

By completing the above operation, the DTC of the ABS will be cancelled out.



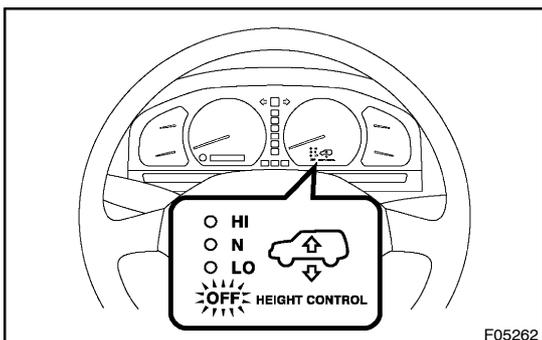
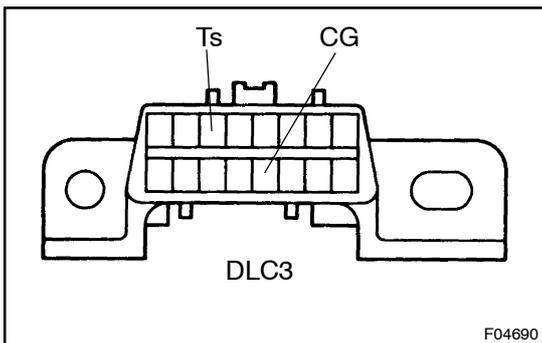
- (e) In case of using the hand-held tester:  
Clear the DTC.
- (1) Connect the hand-held tester to the DLC3.
  - (2) Turn the ignition switch ON.
  - (3) Operating the hand-held tester to erase the codes.  
(See hand-held tester operator's manual.)

## 2. INPUT SIGNAL CHECK (TEST MODE CHECK)

### HINT:

This function checks if signals from the steering sensor, the stop light switch, etc. are input normally to the ECU.

- (a) In case of not using hand-held tester:  
Check the input signal.
- (1) Turn the ignition switch OFF.
  - (2) Set each check item in the following table to the condition described in Operation (A).
  - (3) Using SST, connect the terminals Ts to CG of DLC3.  
SST 09843-18040
  - (4) Turn the ignition switch ON.



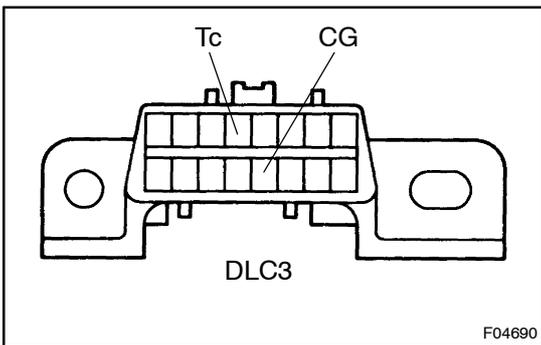
### HINT:

- At this time the height control OFF indicator light come on 2 seconds. Then, this light flashes at 0.25 second intervals.
  - When the height control OFF indicator does not flashe, check the Ts terminal circuit on [page DI-308](#).
- (5) Each check item is set to the condition described in Operation (B).

HINT:

When operation of the check items, the height control OFF indicator light come on 1 second.

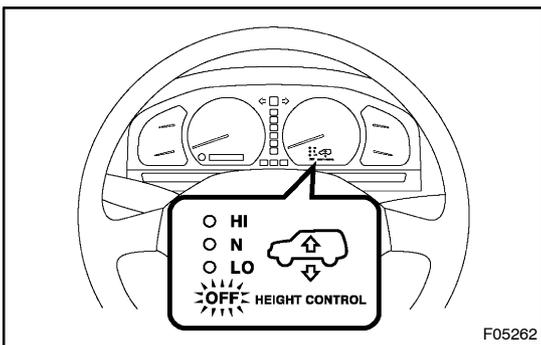
Check Item	Operation (A)	Operation (B)
Steering angle sensor signal	Steering wheel straight ahead	Turn the steering wheel 36° degrees or more
Stop light switch signal	OFF (Brake pedal not depressed)	ON (Brake pedal depressed)
Door courtesy switch signal	ON (Each door opened)	OFF (All doors closed)
Height control switch signal	Vehicle height is in "NORM" position	Vehicle height is in HIGH and LOW position
Damping mode select switch signal	Damping mode select switch is in "NORMAL" position	Turn the damping mode select switch "COMFORT" ↔ "SPORT 2" both way once
Height control switch signal	OFF (Height control switch not pushed in)	ON ↔ OFF (Height control switch pushed in and released)
L4 position switch signal	Transfer shift lever is in "H4" position	Shift the transfer shift lever to L4 position
Center DIFF. lock position switch signal	Center diff. lock switch OFF (Not pushed in)	Center diff. lock switch ON ↔ OFF (Pushed in and released)
Vehicle speed sensor signal	Vehicle in the stationary condition	Vehicle speed 20 km/h (12 mph) or higher



(6) Using SST, connect the terminal Tc to CG of DLC3.  
SST 09843-18040

HINT:

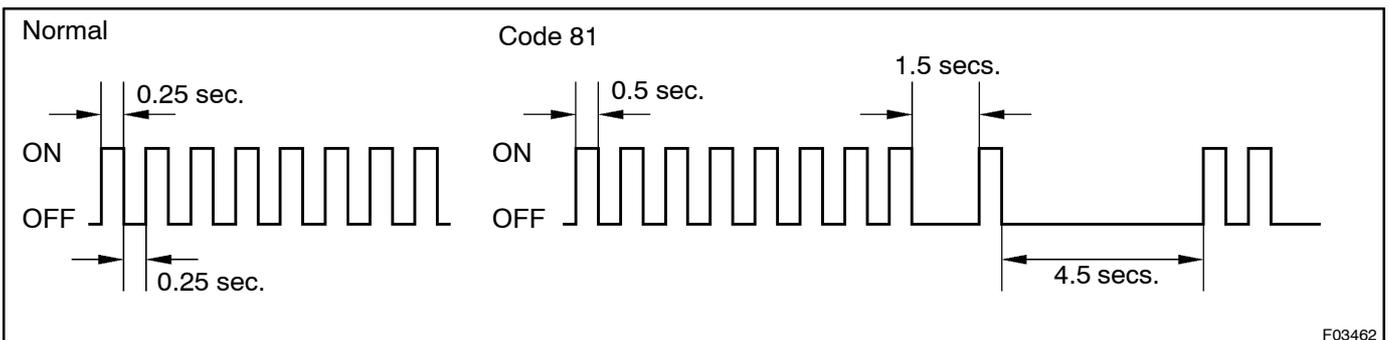
This should be done while you connect terminals Ts and CG.



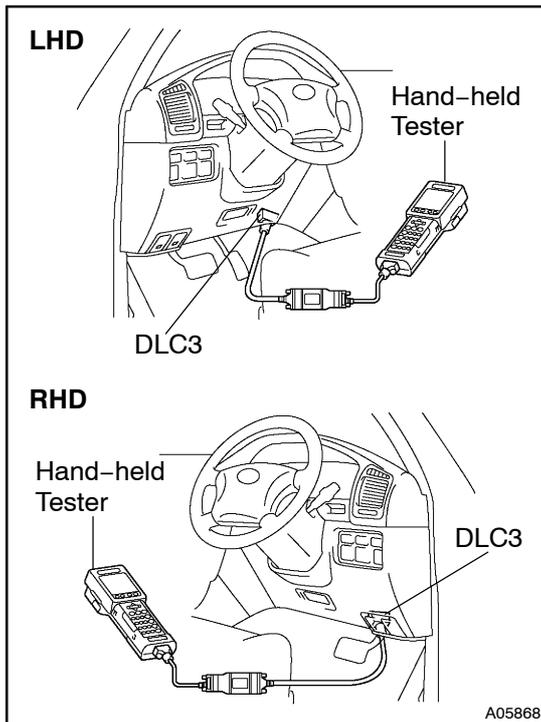
(7) Read the test DTC output by the height control OFF indicator light.

HINT:

- For an example, the blinking patterns for codes normal and 81 are as shown in the illustration.
- If 2 malfunctions or more are identified at the same time, the lowest numbered code will be displayed first.
- When the DTC is not output, check the Tc terminal circuit on [page DI-306](#).



- (8) Check the malfunction using the code table on the next page.
  - (9) Cancel the input signal check mode.  
With the ignition switch OFF, disconnect the SST from DLC3 and then turn the ignition switch ON.
- SST 09843-18040



- (b) In case of using the hand-held tester:  
Check the input signal.
  - (1) Follow the step (1) and (2) on the step 2. - (a).
  - (2) Connect the hand-held tester to the DLC3.
  - (3) Turn the ignition switch ON.
  - (4) Select the SIGNAL CHECK mode on the hand-held tester.
  - (5) Follow the step (5) on the step 2. - (a).

**HINT:**

Individual checking of each signal in step (5) can be performed.

- (6) Read the DTC by following prompts on the tester screen.

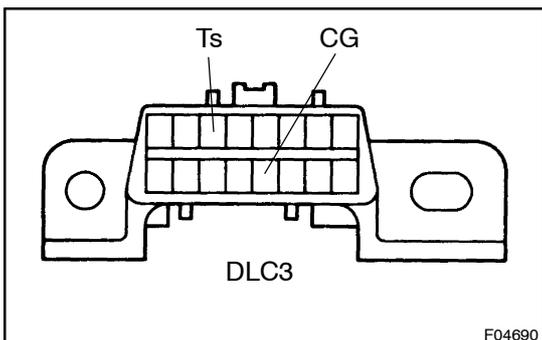
**HINT:**

Please refer to the hand-held tester operator's manual for further details.

### 3. DTC OF INPUT SIGNAL CHECK

If a malfunction code is displayed during the test DTC check, check the circuit listed for that code. For details of each code, turn to the page referred to under the "See page" for respective "DTC No." in this DTC chart.

DTC No. (See Page)	Detection Item	Trouble Area
C1781 / 81 (DI-265)	Steering angle sensor circuit malfunction	<ul style="list-style-type: none"> <li>• Steering angle sensor</li> <li>• Steering angle sensor circuit</li> <li>• Suspension control ECU</li> </ul>
C1782 / 82 (DI-270)	Stop light switch circuit malfunction	<ul style="list-style-type: none"> <li>• Stop light switch</li> <li>• Stop light switch circuit</li> <li>• Suspension control ECU</li> </ul>
C1783 / 83 (DI-273)	Door courtesy switch circuit malfunction	<ul style="list-style-type: none"> <li>• Door courtesy switch</li> <li>• Door courtesy switch circuit</li> <li>• Instrument ECU</li> <li>• Suspension control ECU</li> </ul>
C1786 / 86 (DI-275)	Height select switch circuit malfunction	<ul style="list-style-type: none"> <li>• Height select switch</li> <li>• Height select switch circuit</li> <li>• Suspension control ECU</li> </ul>
C1787 / 87 (DI-278)	Damping mode select switch circuit malfunction	<ul style="list-style-type: none"> <li>• Damping mode select switch</li> <li>• Damping mode select switch circuit</li> <li>• Suspension control ECU</li> </ul>
C1788 / 88 (DI-282)	Height control switch circuit malfunction	<ul style="list-style-type: none"> <li>• Height control switch</li> <li>• Height control switch circuit</li> <li>• Suspension control ECU</li> </ul>
C1789 / 89 (DI-285)	L4 position switch circuit malfunction	<ul style="list-style-type: none"> <li>• L4 position switch</li> <li>• L4 position switch circuit</li> <li>• Suspension control ECU</li> </ul>
C1794 / 94 (DI-288)	Right front speed sensor circuit malfunction	<ul style="list-style-type: none"> <li>• Right front speed sensor</li> <li>• Right front speed sensor circuit</li> <li>• ABS ECU</li> <li>• Suspension control ECU</li> </ul>
C1795 / 95 (DI-288)	Left front speed sensor circuit malfunction	<ul style="list-style-type: none"> <li>• Left front speed sensor</li> <li>• Left front speed sensor circuit</li> <li>• ABS ECU</li> <li>• Suspension control ECU</li> </ul>
C1796 / 96 (DI-290)	Center diff. lock position switch circuit malfunction	<ul style="list-style-type: none"> <li>• Center diff. lock position switch</li> <li>• Center diff. lock position switch circuit</li> <li>• Suspension control ECU</li> </ul>



### 4. DAMPING FORCE CONTROLLING CONDITION CHECK

- (a) Using SST, connect the terminal Ts to CG of DLC3.  
SST 09843-18040
- (b) Start the engine.

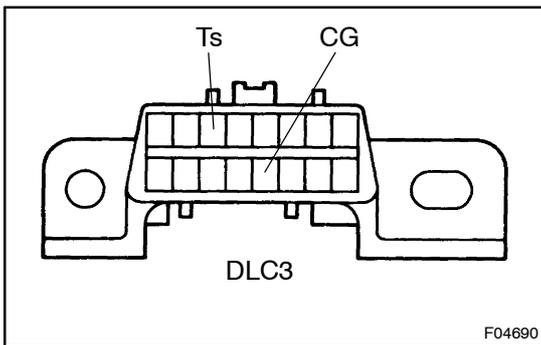
HINT:

In this condition, the damping force control actuator position becomes 1 position.

- (c) Starting from the above mentioned position, as the brake pedal is depressed, the damping force control actuator position increases (1 → 2 → 3 → . . . 15 → 16). At this time, bounce the vehicle and check that the shock absorber is becoming harder.

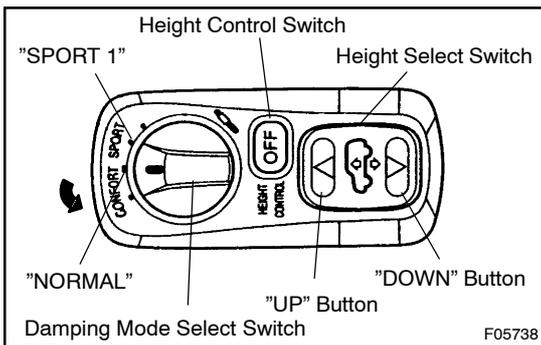
HINT:

- To hold the damping force control actuator at a specific position, adjust it to the position using the above mentioned procedure then increase the vehicle speed to over 5 km/h (3 mph).
- Then that the damping force control actuator position does not change until the ignition switch is turned OFF.
- If the damping force control actuator does not operate, inspect the damping force control actuator circuit and suspension control ECU.



5. HEIGHT CONTROL OPERATION TEST (ACTIVE TEST)

- (a) Using SST, connect the terminal Ts to CG of DLC3.  
SST 09843-18040



- (b) Push the "DOWN" button of the height select switch 5 times or more within 5 seconds after starting the engine.

HINT:

At this time the height control OFF indicator light flashes at 0.25 second intervals.

- (c) By operating each switch in the following table, check the operation of the height control of each wheel.

	Damping mode select switch	Height control switch	Height select switch
Front wheels up	"COMFORT" mode	-	Push "UP" button
Rear wheels up	"COMFORT" mode	Push and hold	Push "UP" button
Front wheels down	"COMFORT" mode	-	Push "DOWN" button
Rear wheels down	"COMFORT" mode	Push and hold	Push "DOWN" button

**NOTICE:**

**Do not raise the vehicle height higher than the "HI" position when raising it with the active test.**

## DIAGNOSTIC TROUBLE CODE CHART

### HINT:

- Using SST 09843–18040, connect the terminals Tc and CG of DLC3.
- If any abnormality is not found when inspection parts, inspect the ECU.
- If a malfunction code is displayed during the DTC check, check the circuit listed for that code. For details of each code, turn to the page referred to under the "See page" for respective "DTC No." in the DTC chart.

DTC No. (See Page)	Detection Item	Trouble Area	Warning	Memory
C1711 / 11 (DI-224)	Open or short circuit in right front height control sensor circuit	<ul style="list-style-type: none"> <li>• Right front, left front, rear height control sensor</li> <li>• Each height control sensor circuit</li> <li>• Suspension control ECU</li> </ul>	○	○
C1712 / 12 (DI-224)	Open or short circuit in left front height control sensor circuit		○	○
C1713 / 13 (DI-224)	Open or short circuit in rear height control sensor circuit		○	○
C1718 / 18 (DI-229)	Open or short circuit in fluid pressure sensor circuit	<ul style="list-style-type: none"> <li>• Fluid pressure sensor</li> <li>• Fluid pressure sensor circuit</li> <li>• Suspension control ECU</li> </ul>	○	○
C1719 / 19 (DI-233)	Open or short circuit in fluid temperature sensor circuit	<ul style="list-style-type: none"> <li>• Fluid temperature sensor</li> <li>• Fluid temperature sensor circuit</li> <li>• Suspension control ECU</li> </ul>	X	○
C1721 / 21 (DI-236)	Short circuit in front damping force control actuator circuit	<ul style="list-style-type: none"> <li>• Front damping force control actuator</li> <li>• Front damping force control actuator circuit</li> <li>• Suspension control ECU</li> </ul>	X	○
C1723 / 23 (DI-236)	Short circuit in rear damping force control actuator circuit	<ul style="list-style-type: none"> <li>• Rear damping force control actuator</li> <li>• Rear damping force control actuator circuit</li> <li>• Suspension control ECU</li> </ul>	X	○
C1731 / 31 (DI-239)	Open or short circuit in front gate valve solenoid circuit	<ul style="list-style-type: none"> <li>• Front gate valve solenoid</li> <li>• Front gate valve solenoid circuit</li> <li>• Suspension control ECU</li> </ul>	○	○
C1732 / 32 (DI-239)	Open or short circuit in front leveling valve solenoid circuit	<ul style="list-style-type: none"> <li>• Front leveling valve solenoid</li> <li>• Front leveling valve solenoid circuit</li> <li>• Suspension control ECU</li> </ul>	○	○
C1733 / 33 (DI-239)	Open or short circuit in rear gate valve solenoid circuit	<ul style="list-style-type: none"> <li>• Rear gate valve solenoid</li> <li>• Rear gate valve solenoid circuit</li> <li>• Suspension control ECU</li> </ul>	○	○
C1734 / 34 (DI-239)	Open or short circuit in rear leveling valve solenoid circuit	<ul style="list-style-type: none"> <li>• Rear leveling valve solenoid</li> <li>• Rear leveling valve solenoid circuit</li> <li>• Suspension control ECU</li> </ul>	○	○
C1736 / 36 (DI-239)	Open or short circuit in accumulator solenoid circuit	<ul style="list-style-type: none"> <li>• Accumulator solenoid</li> <li>• Accumulator solenoid circuit</li> <li>• Suspension control ECU</li> </ul>	○	○
C1741 / 41 (DI-243)	Short circuit in AHC motor relay circuit	<ul style="list-style-type: none"> <li>• AHC motor relay</li> <li>• AHC motor relay circuit</li> <li>• Suspension control ECU</li> </ul>	○	○
C1743 / 43 (DI-248)	AHC main relay circuit malfunction	<ul style="list-style-type: none"> <li>• AHC main relay</li> <li>• AHC main relay circuit</li> <li>• Suspension control ECU</li> </ul>	○	○

C1751 / 51 (DI-252)	Continuous electric current to AHC pump & motor	<ul style="list-style-type: none"> <li>• AHC pump &amp; motor</li> <li>• AHC pump &amp; motor circuit</li> <li>• AHC motor relay</li> <li>• Height control sensor link comes off</li> <li>• Fluid leakage from the fluid line or each solenoid valve</li> <li>• Fluid clog in the fluid line or each solenoid valve</li> <li>• Torsion bar spring</li> </ul>	X	○
C1761 / 61 (DI-256)	Suspension control ECU malfunction	<ul style="list-style-type: none"> <li>• ECU internal memory error</li> </ul>	X	X
C1762 / 62 (DI-257)	Fluid pressure malfunction (Pump motor does not supply fluid)	<ul style="list-style-type: none"> <li>• AHC pump &amp; motor</li> <li>• Fluid pressure sensor</li> <li>• AHC motor relay</li> <li>• Fluid empty</li> </ul>	○	○
C1763 / 63 (DI-261)	Fluid pressure malfunction (Leveling valve does not open)	<ul style="list-style-type: none"> <li>• Control valve assembly</li> <li>• Control valve assembly circuit</li> <li>• Fluid pressure sensor</li> <li>• Fluid clog in the fluid line or each solenoid valve</li> </ul>	○	○
C1764 / 64 (DI-261)	Fluid pressure malfunction (Accumulator valve does not open)	<ul style="list-style-type: none"> <li>• Height control accumulator</li> <li>• Height control accumulator valve circuit</li> <li>• Fluid pressure sensor</li> <li>• Fluid clog in the fluid line or each solenoid valve</li> </ul>	○	○

**DIAGNOSTIC TROUBLE CODE CHART****HINT:**

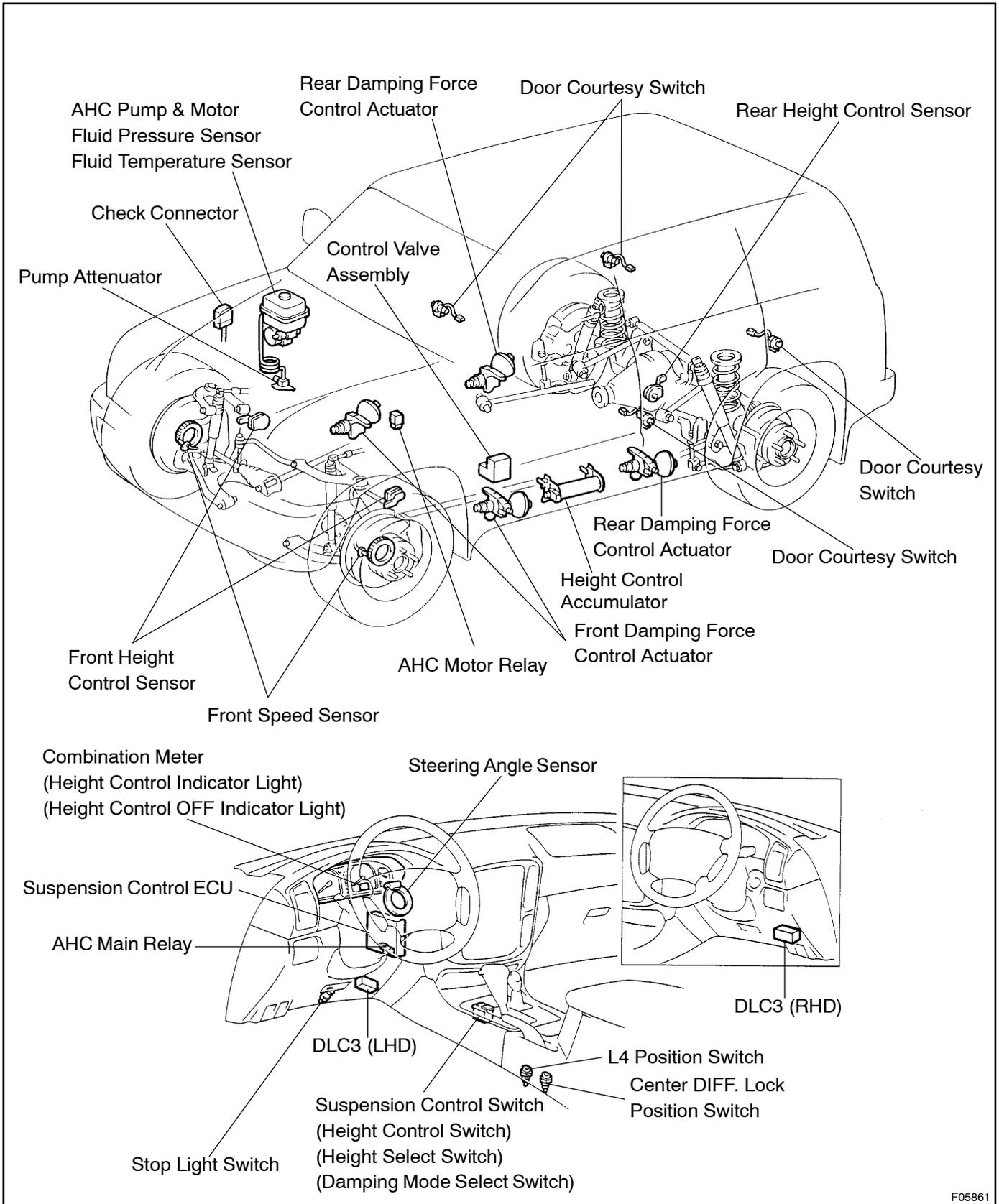
- Using SST 09843-18040, connect the terminals Tc and CG of DLC3.
- If any abnormality is not found when inspection parts, inspect the ECU.
- If a malfunction code is displayed during the DTC check, check the circuit listed for that code. For details of each code, turn to the page referred to under the "See page" for respective "DTC No." in the DTC chart.

DTC No. (See Page)	Detection Item	Trouble Area	Warning	Memory
C1711 / 11 ( ★ )	Open or short circuit in right front height control sensor circuit	<ul style="list-style-type: none"> <li>• Right front, left front, rear height control sensor</li> <li>• Each height control sensor circuit</li> <li>• Suspension control ECU</li> </ul>	○	○
C1712 / 12 ( ★ )	Open or short circuit in left front height control sensor circuit		○	○
C1713 / 13 ( ★ )	Open or short circuit in rear height control sensor circuit		○	○
C1718 / 18 (DI-4)	Open or short circuit in fluid pressure sensor circuit	<ul style="list-style-type: none"> <li>• Fluid pressure sensor</li> <li>• Fluid pressure sensor circuit</li> <li>• Suspension control ECU</li> </ul>	○	○
C1719 / 19 ( ★ )	Open or short circuit in fluid temperature sensor circuit	<ul style="list-style-type: none"> <li>• Fluid temperature sensor</li> <li>• Fluid temperature sensor circuit</li> <li>• Suspension control ECU</li> </ul>	X	○
C1721 / 21 ( ★ )	Short circuit in front damping force control actuator circuit	<ul style="list-style-type: none"> <li>• Front damping force control actuator</li> <li>• Front damping force control actuator circuit</li> <li>• Suspension control ECU</li> </ul>	X	○
C1723 / 23 ( ★ )	Short circuit in rear damping force control actuator circuit	<ul style="list-style-type: none"> <li>• Rear damping force control actuator</li> <li>• Rear damping force control actuator circuit</li> <li>• Suspension control ECU</li> </ul>	X	○
C1731 / 31 ( ★ )	Open or short circuit in front gate valve solenoid circuit	<ul style="list-style-type: none"> <li>• Front gate valve solenoid</li> <li>• Front gate valve solenoid circuit</li> <li>• Suspension control ECU</li> </ul>	○	○
C1732 / 32 ( ★ )	Open or short circuit in front leveling valve solenoid circuit	<ul style="list-style-type: none"> <li>• Front leveling valve solenoid</li> <li>• Front leveling valve solenoid circuit</li> <li>• Suspension control ECU</li> </ul>	○	○
C1733 / 33 ( ★ )	Open or short circuit in rear gate valve solenoid circuit	<ul style="list-style-type: none"> <li>• Rear gate valve solenoid</li> <li>• Rear gate valve solenoid circuit</li> <li>• Suspension control ECU</li> </ul>	○	○
C1734 / 34 ( ★ )	Open or short circuit in rear leveling valve solenoid circuit	<ul style="list-style-type: none"> <li>• Rear leveling valve solenoid</li> <li>• Rear leveling valve solenoid circuit</li> <li>• Suspension control ECU</li> </ul>	○	○
C1736 / 36 ( ★ )	Open or short circuit in accumulator solenoid circuit	<ul style="list-style-type: none"> <li>• Accumulator solenoid</li> <li>• Accumulator solenoid circuit</li> <li>• Suspension control ECU</li> </ul>	○	○
C1741 / 41 ( ★ )	Short circuit in AHC motor relay circuit	<ul style="list-style-type: none"> <li>• AHC motor relay</li> <li>• AHC motor relay circuit</li> <li>• Suspension control ECU</li> </ul>	○	○
C1743 / 43 ( ★ )	AHC main relay circuit malfunction	<ul style="list-style-type: none"> <li>• AHC main relay</li> <li>• AHC main relay circuit</li> <li>• Suspension control ECU</li> </ul>	○	○

C1751 / 51 ( ★ )	Continuous electric current to AHC pump & motor	<ul style="list-style-type: none"> <li>• AHC pump &amp; motor</li> <li>• AHC pump &amp; motor circuit</li> <li>• AHC motor relay</li> <li>• Height control sensor link comes off</li> <li>• Fluid leakage from the fluid line or each solenoid valve</li> <li>• Fluid clog in the fluid line or each solenoid valve</li> <li>• Torsion bar spring</li> </ul>	X	○
C1761 / 61 ( ★ )	Suspension control ECU malfunction	ECU internal memory error	X	X
C1762 / 62 (DI-8)	Fluid pressure malfunction (Pump motor does not supply fluid)	<ul style="list-style-type: none"> <li>• AHC pump &amp; motor</li> <li>• Fluid pressure sensor</li> <li>• AHC motor relay</li> <li>• Fluid empty</li> </ul>	○	○
C1763 / 63 (DI-12)	Fluid pressure malfunction (Leveling valve does not open)	<ul style="list-style-type: none"> <li>• Control valve assembly</li> <li>• Control valve assembly circuit</li> <li>• Fluid pressure sensor</li> <li>• Fluid clog in the fluid line or each solenoid valve</li> </ul>	○	○
C1764 / 64 (DI-12)	Fluid pressure malfunction (Accumulator valve does not open)	<ul style="list-style-type: none"> <li>• Height control accumulator</li> <li>• Height control accumulator valve circuit</li> <li>• Fluid pressure sensor</li> <li>• Fluid clog in the fluid line or each solenoid valve</li> </ul>	○	○

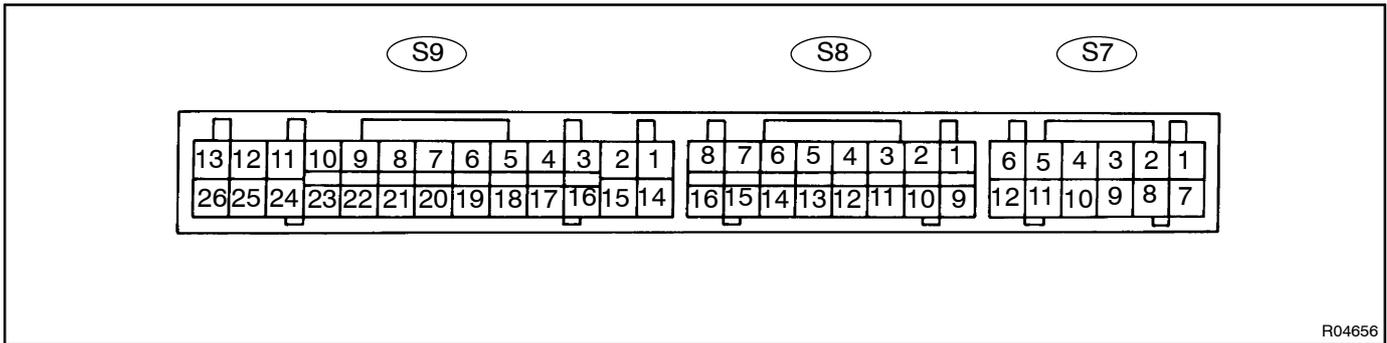
★: Refer LAND CRUISER Chassis and Body Repair Manual (Pub. No. RM616E).

# PARTS LOCATION



F05861

## TERMINALS OF ECU



R04656

Symbols (Terminals No.)	Wiring Color	Condition	STD Voltage (V)
STP (S9 - 1) - GND (S7 - 7, S9 - 26)	G-W ↔ W-B	IG switch ON, brake pedal is depressed	9 - 14
		IG switch ON, brake pedal is released	Below 1.5
REG (S9 - 2) - GND (S7 - 7, S9 - 26)	B-O ↔ W-B	IG switch ON	Below 1.5
		Engine idling	9 - 14
SS1 (S9 - 3) - GND (S7 - 7, S9 - 26)	R-B ↔ W-B	IG switch ON, steering wheel is being turned slowly	Repeat 0 ↔ Approx. 5
FRO (S9 - 4) - GND (S7 - 7, S9 - 26)	R-W ↔ W-B	Vehicle driving at about 20 km/h (12 mph)	Pulse generation
RC (S9 - 5) - GND (S7 - 7, S9 - 26)	G-Y ↔ W-B	Engine idling, "UP" or "DOWN" button of height select switch is pushed from "N" position of vehicle height	9 - 14
SLAC (S9 - 6) - GND (S7 - 7, S9 - 26)	L-R ↔ W-B	Engine idling, "UP" or "DOWN" button of height select switch is pushed from "N" position of vehicle height	5 - 14
SLFG (S9 - 7) - GND (S7 - 7, S9 - 26)	V ↔ W-B	Engine idling	9 - 14
SLRG (S9 - 8) - GND (S7 - 7, S9 - 26)	B-R ↔ W-B	Engine idling	9 - 14
LO (S9 - 9) - GND (S7 - 7, S9 - 26)	Y-R ↔ W-B	IG switch ON, height control "LO" indicator light ON	9 - 14
		IG switch ON, height control "N" or "HI" indicator light ON	Below 1.5
NR (S9 - 10) - GND (S7 - 7, S9 - 26)	Y-B ↔ W-B	IG switch ON, height control "N" indicator light ON	9 - 14
		IG switch ON, height control "LO" or "HI" indicator ON	Below 1.5
HI (S9 - 11) - GND (S7 - 7, S9 - 26)	Y ↔ W-B	IG switch ON, height control "HI" indicator light ON	9 - 14
		IG switch ON, height control "N" or "LO" indicator light ON	Below 1.5
B (S9 - 13) - GND (S7 - 7, S9 - 26)	W-L ↔ W-B	IG switch ON	9 - 14
DOOR (S9 - 15) - GND (S7 - 7, S9 - 26)	R-W ↔ W-B	IG switch ON, each door opened	Below 1.5
		IG switch ON, all door closed	9 - 14
SS2 (S9 - 16) - GND (S7 - 7, S9 - 26)	G-W ↔ W-B	IG switch ON, steering wheel is being turned slowly	Repeat 0 ↔ Approx. 5
FLO (S9 - 17) - GND (S7 - 7, S9 - 26)	R-Y ↔ W-B	Vehicle driving at about 20 km/h (12 mph)	Pulse generation
EXI (S9 - 18) - GND (S7 - 7, S9 - 26)	P-B ↔ W-B	IG switch ON, center diff. lock indicator light ON	Below 1.5
		IG switch ON, center diff. lock indicator light OFF	9 - 14
SLFL (S9 - 20) - GND (S7 - 7, S9 - 26)	B-Y ↔ W-B	Engine idling, "UP" or "DOWN" button of height select switch is pushed from "N" position of vehicle height	5 - 14
SLRL (S9 - 21) - GND (S7 - 7, S9 - 26)	B-O ↔ W-B	Engine idling, "UP" or "DOWN" button of height select switch is pushed from "N" position of vehicle height	5 - 14

Symbols (Terminals No.)	Wiring Color	Condition	STD Voltage (V)
VN (S9 – 23) – GND (S7 – 7, S9 – 26)	B-R ↔ W-B	IG switch ON, height control OFF indicator light ON	9 – 14
		IG switch ON, height control OFF indicator light OFF	Below 1.5
SLB (S9 – 24) – GND (S7 – 7, S9 – 26)	L-Y ↔ W-B	Engine idling, "UP" or "DOWN" button of height select switch is pushed from "N" position of vehicle height	9 – 14
MRLY (S9 – 25) – GND (S7 – 7, S9 – 26)	W ↔ W-B	IG switch ON	9 – 14
SHB (S8 – 1) – GND (S7 – 7, S9 – 26)	R-B ↔ W-B	IG switch ON	Approx. 5
SHRR (S8 – 2) – GND (S7 – 7, S9 – 26)	W ↔ W-B	Engine idling, "UP" or "DOWN" button of height select switch is pushed to "N" position of vehicle height	Approx. 2.5
TOIL (S8 – 3) – GND (S7 – 7, S9 – 26)	G-R ↔ W-B	Engine idling, fluid temperature: 0 °C (32 °F) or less	Min. 3.4
		Engine idling, fluid temperature: 20 °C (68 °F) or less	Max. 2.4
PACC (S8 – 4) – GND (S7 – 7, S9 – 26)	*1R-B ↔ W-B	Engine idling, fluid pressure: 0 MPa (0 kgf/cm <sup>2</sup> )	0.5
	*2R-W ↔ W-B	Engine idling, fluid pressure: 6 MPa (60 kgf/cm <sup>2</sup> )	1.7
TSW1 (S8 – 5) – GND (S7 – 7, S9 – 26)	L-W ↔ W-B	IG switch ON, damping force control switch is in "NORMAL" or "COMFORT" position	Below 1.5
		IG switch ON, damping mode select switch is in "SPORT 1" or "SPORT 2" position	9 – 14
NSW (S8 – 6) – GND (S7 – 7, S9 – 26)	LG-R ↔ W-B	IG switch ON, height control switch pushed in	Below 1.5
		IG switch ON, height control switch released	9 – 14
DNSW (S8 – 7) – GND (S7 – 7, S9 – 26)	L-B ↔ W-B	IG switch ON, "DOWN" button of height select switch pushed in	Below 1.5
UPSW (S8 – 8) – GND (S7 – 7, S9 – 26)	R-Y ↔ W-B	IG switch ON, "UP" button of height select switch pushed in	Below 1.5
SHG (S8 – 9) – GND (S7 – 7, S9 – 26)	G-Y ↔ W-B	Always	Continuity
SHFL (S8 – 10) – GND (S9 – 26, S7 – 7)	R-L ↔ W-B	Engine idling, "UP" or "DOWN" button of height select switch is pushed to "N" position of vehicle height	Approx. 2.5
SHFR (S8 – 11) – GND (S9 – 26, S7 – 7)	R-Y ↔ W-B	Engine idling, "UP" or "DOWN" button of height select switch is pushed to "N" position of vehicle height	Approx. 2.5
L4SW (S8 – 12) – GND (S7 – 7, S9 – 26)	B-L ↔ W-B	IG switch ON, transfer shift lever is in L4 position	Below 1.5
		IG switch ON, transfer shift lever is in H4 position	9 – 14
TSW2 (S8 – 13) – GND (S7 – 7, S9 – 26)	L-Y ↔ W-B	IG switch ON, damping mode select switch is in "Normal" or "SPORT 1" position	Below 1.5
		IG switch ON, damping mode select switch is in "COMFORT" or "SPORT 2" position	9 – 14
Ts (S8 – 14) – GND (S7 – 7, S9 – 26)	W ↔ W-B	IG switch ON, connect between terminals Ts and E1 of DLC1	Below 1.5
		IG switch ON	9 – 14
Tc (S8 – 15) – GND (S7 – 7, S9 – 26)	*3P-L ↔ W-B	IG switch ON, connect between terminals Tc and E1 of DLC1	Below 1.5
	*4P-B ↔ W-B	IG switch ON	9 – 14
SIL (S8 – 16) – GND (S7 – 7, S9 – 26)	V-W ↔ W-B	IG switch ON	9 – 14
IG (S9 – 1) – GND (S7 – 7, S9 – 26)	B-Y ↔ W-B	IG switch ON	9 – 14
RB+ (S9 – 2) – GND (S7 – 7, S9 – 26)	G-W ↔ W-B	Always	Continuity
RA+ (S9 – 3) – GND (S7 – 7, S9 – 26)	W ↔ W-B	Always	Continuity

Symbols (Terminals No.)	Wiring Color	Condition	STD Voltage (V)
FB+ (S9 - 4) - GND (S7 - 7, S9 - 26)	Y ↔ W-B	Always	Continuity
FA+ (S9 - 5) - GND (S7 - 7, S9 - 26)	B ↔ W-B	Always	Continuity
RB- (S9 - 8) - GND (S7 - 7, S9 - 26)	LG ↔ W-B	Always	Continuity
RA- (S9 - 9) - GND (S7 - 7, S9 - 26)	GR ↔ W-B	Always	Continuity
FB- (S9 - 10) - GND (S7 - 7, S9 - 26)	R ↔ W-B	Always	Continuity
FA- (S9 - 11) - GND (S7 - 7, S9 - 26)	L ↔ W-B	Always	Continuity
GND (S7 - 7, S9 - 26) - Body ground	W-B - Body	Always	Continuity

\*1: LHD

\*2: RHD

\*3: LHD 1HD-T Engine

\*4: Others

## PROBLEM SYMPTOMS TABLE

If a normal code is displayed during the DTC check but the problem still occurs, check the circuits for each problem symptom in the order given in the table below and proceed to the relevant troubleshooting page.

Symptom	Suspect Area	See page
Lighting up position of height control indicator light does not change according to operation of height control switch.	<ol style="list-style-type: none"> <li>1. Check that the height control switch is not "OFF".</li> <li>2. Check the DTC.</li> <li>3. Perform the INPUT SIGNAL CHECK.</li> </ol>	<p>–</p> <p><a href="#">DI-208</a></p> <p><a href="#">DI-208</a></p>
Vehicle height control function does not operate.	<p>When the followings 1. to 6. are all normal and the problem is still occurring, replace ECU.</p> <ol style="list-style-type: none"> <li>1. Check the power source circuit of the ECU.</li> <li>2. Check if it is included in the inhibited conditions of the height control. (Rough road judgment, Diff. lock, etc.)</li> <li>3. Check the indicator light.</li> <li>4. Check the DTC.</li> <li>5. Perform the HEIGHT CONTROL OPERATION TEST.</li> <li>6. Perform the INPUT SIGNAL CHECK.</li> </ol>	<p><a href="#">DI-294</a></p> <p>–</p> <p><a href="#">DI-208</a></p> <p><a href="#">DI-208</a></p> <p><a href="#">DI-208</a></p> <p><a href="#">DI-208</a></p>
Vehicle height control operates, but the vehicle height does not raise to "N" or "HI" position.	<ol style="list-style-type: none"> <li>1. Check that the loading weight does not exceed the pre-determined value.</li> <li>2. Check if any heavy object such as a winch is installed.</li> <li>3. Check that the fluid does not have a shortage.</li> <li>4. Check the DTC.</li> <li>5. Perform the INPUT SIGNAL CHECK.</li> <li>6. Check the front and rear shock absorber fluid pressure.</li> <li>7. Check the vehicle height. (Height control sensor link)</li> </ol>	<p>–</p> <p>–</p> <p>–</p> <p><a href="#">DI-208</a></p> <p><a href="#">DI-208</a></p> <p><a href="#">SA-305</a></p> <p><a href="#">SA-313</a></p>
Vehicle height raises, but vehicle height does not go down to "N" or "LO" position.	<ol style="list-style-type: none"> <li>1. Check that the vehicle weight is extremely light.</li> <li>2. Check if there is anything caught in the absorber and coil spring.</li> <li>3. Check the DTC.</li> <li>4. Perform the INPUT SIGNAL CHECK.</li> <li>5. Check the front and rear shock absorber fluid pressure.</li> <li>6. Check the vehicle height. (Height control sensor link)</li> </ol>	<p>–</p> <p>–</p> <p><a href="#">DI-208</a></p> <p><a href="#">DI-208</a></p> <p><a href="#">SA-305</a></p> <p><a href="#">SA-313</a></p>
Vehicle height is extremely low when vehicle is parked.	<p>HINT: Vehicle height may go down because of the atmosphere temperature change when vehicle is parked. Check the fluid leakage of the gas chamber, shock absorber, etc. and if it is normal, replace the control valve assembly.</p>	<p><a href="#">SA-305</a></p>
Vehicle leans to the right or left.	<ol style="list-style-type: none"> <li>1. Check if the luggage are loaded with a slant.</li> <li>2. Check the DTC.</li> <li>3. Adjust the vehicle height.</li> <li>4. Check the front and rear shock absorber fluid pressure.</li> <li>5. Check the control valve assembly. (Front and rear gate valve)</li> <li>6. Check fluid clog in the fluid line and shock absorber, etc.</li> </ol>	<p>–</p> <p><a href="#">DI-208</a></p> <p><a href="#">SA-313</a></p> <p><a href="#">SA-305</a></p> <p><a href="#">DI-239</a></p> <p>–</p>

Vehicle height raise control requires a long time.	<p>HINT: Vehicle raise control may require a long time in case that the ambient temperature is <math>-15^{\circ}\text{C}</math> (<math>5^{\circ}\text{F}</math>) or less or the accumulation pressure of the height control accumulator is not completed.</p> <p>When the followings 1. to 6. are all normal and the problem is still occurring, replace the AHC pump &amp; motor.</p> <ol style="list-style-type: none"> <li>1. Check that the loading weight does not exceed the pre-determined value.</li> <li>2. Check that the vehicle weight is extremely light.</li> <li>3. Check the DTC.</li> <li>4. Check the front and rear shock absorber fluid pressure.</li> <li>5. Check the vehicle height. (Height control sensor link)</li> <li>6. Check that the fluid pressure of the height control accumulator is not lost.</li> </ol>	<p>–</p> <p>–</p> <p><a href="#">DI-208</a></p> <p><a href="#">SA-305</a></p> <p><a href="#">DI-239</a></p> <p>–</p>
Vehicle height down control requires a long time.	<p>HINT: Vehicle height down control may require a long time in case that the ambient temperature is <math>-15^{\circ}\text{C}</math> (<math>5^{\circ}\text{F}</math>) or less.</p> <p>When the followings 1. to 3. are all normal and the problem is still occurring, replace the control valve assembly.</p> <ol style="list-style-type: none"> <li>1. Check that the vehicle weight is extremely light.</li> <li>2. Check the front and rear shock absorber fluid pressure.</li> <li>3. Check the vehicle height. (Height control sensor link)</li> </ol>	<p>–</p> <p><a href="#">SA-305</a></p> <p><a href="#">DI-239</a></p>
Vehicle leans to the front or rear.	<p>When the followings 1. to 4. are all normal and the problem is still occurring, replace the control valve assembly.</p> <ol style="list-style-type: none"> <li>1. Check that the height control switch is not "OFF".</li> <li>2. Check fluid leakage. (Gas chamber, shock absorber, etc.)</li> <li>3. Check the DTC.</li> <li>4. Check the vehicle height. (Height control sensor link)</li> </ol>	<p>–</p> <p><a href="#">SA-305</a></p> <p><a href="#">DI-208</a></p> <p><a href="#">DI-239</a></p>
Vehicle goes down leaning.	<p>When the followings 1. and 2. are all normal and the problem is still occurring, replace the control valve assembly.</p> <ol style="list-style-type: none"> <li>1. Check air leakage of the gas chamber. (Check the fluid level change of the reservoir tank.)</li> <li>2. Perform the DAMPING FORCE CONTROLLING CONDITION CHECK.</li> </ol>	<p><a href="#">SA-338</a></p> <p><a href="#">DI-208</a></p>
Abnormal sound sounds from AHC system.	<p>When the followings 1. and 2. are all normal and the problem is still occurring, replace the pump attenuator.</p> <ol style="list-style-type: none"> <li>1. Check interference of the fluid line.</li> <li>2. Check interference of the AHC pump &amp; motor.</li> </ol>	<p>–</p> <p>–</p>
Vehicle ride is uncomfortable.	<p>HINT: Vehicle ride may be uncomfortable soon after the starting when the ambient temperature is <math>-10^{\circ}\text{C}</math> (<math>14^{\circ}\text{F}</math>) or less because the fluid viscosity is high.</p> <p>When the followings 1. to 7. are all normal and the problem is still occurring, replace shock absorber.</p> <ol style="list-style-type: none"> <li>1. Check the power source circuit of the ECU.</li> <li>2. Check the DTC.</li> <li>3. Perform the DAMPING FORCE CONTROLLING CONDITION CHECK.</li> <li>4. Perform the INPUT SIGNAL CHECK.</li> <li>5. Check resistance of the damping force control actuator.</li> <li>6. Check air leakage of the gas chamber. (Check the fluid level change of the reservoir tank.)</li> <li>7. Check the front and rear shock absorber fluid pressure.</li> </ol>	<p><a href="#">DI-294</a></p> <p><a href="#">DI-208</a></p> <p><a href="#">DI-208</a></p> <p><a href="#">DI-208</a></p> <p><a href="#">DI-236</a></p> <p><a href="#">SA-338</a></p> <p><a href="#">SA-305</a></p>

<p>Vehicle ride too soft.</p>	<p>When the followings 1. to 5. are all normal and the problem is still occurring, replace the damping force control actuator or shock absorber.</p> <ol style="list-style-type: none"> <li>1. Check the power source circuit of the ECU.</li> <li>2. Check the DTC.</li> <li>3. Perform the DAMPING FORCE CONTROLLING CONDITION CHECK.</li> <li>4. Perform the INPUT SIGNAL CHECK.</li> <li>5. Check resistance of the damping force control actuator.</li> </ol>	<p>DI-294 DI-208 DI-208 DI-208 DI-236</p>
<p>Vehicle steering roll is different from right and left turn.</p>	<p>When the followings 1. to 7. are all normal and the problem is still occurring, replace the damping force control actuator or shock absorber.</p> <ol style="list-style-type: none"> <li>1. Check if the luggage are loaded with a slant.</li> <li>2. Check the power source circuit of the ECU.</li> <li>3. Check the DTC.</li> <li>4. Perform the DAMPING FORCE CONTROLLING CONDITION CHECK.</li> <li>5. Perform the INPUT SIGNAL CHECK.</li> <li>6. Check resistance of the damping force control actuator.</li> <li>7. Check air leakage of the gas chamber. (Check the fluid level change of the reservoir tank.)</li> </ol>	<p>– DI-294 DI-208 DI-208 DI-208 DI-236 SA-338</p>
<p>Vehicle braking dive and starting squat are large.</p>	<p>When the followings 1. to 5. are all normal and the problem is still occurring, replace the damping force control actuator or shock absorber.</p> <ol style="list-style-type: none"> <li>1. Check the power source circuit of the ECU.</li> <li>2. Check the DTC.</li> <li>3. Perform the DAMPING FORCE CONTROLLING CONDITION CHECK.</li> <li>4. Perform the INPUT SIGNAL CHECK.</li> <li>5. Check resistance of the damping force control actuator.</li> </ol>	<p>DI-294 DI-208 DI-208 DI-208 DI-236</p>
<p>DTC check cannot be done.</p>	<ol style="list-style-type: none"> <li>1. Check the height control OFF indicator circuit.</li> <li>2. Check the Tc terminal circuit.</li> <li>3. Check the power source circuit of the ECU.</li> </ol>	<p>DI-299 DI-306 DI-294</p>
<p>INPUT SIGNAL CHECK cannot be done.</p>	<ol style="list-style-type: none"> <li>1. Check the Ts terminal circuit.</li> <li>2. Check the power source circuit of the ECU.</li> </ol>	<p>DI-308 DI-294</p>

## CIRCUIT INSPECTION

<b>DTC</b>	<b>C1711 / 11 to C1713 / 13</b>	<b>Height Control Sensor Circuit</b>
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### CIRCUIT DESCRIPTION

Inside each sensor, a brush integrated with the control sensor rotor shaft moves above the resistor, proving linear output. The resistance value between the brush and resistor terminal changes in proportion to the shaft rotation angle, so the fixed voltage applied to the resistor by the ECU is modified by the sensor and output to the ECU as a voltage indication the shaft rotation angle.

DTC No.	DTC Detecting Condition	Trouble Area
C1711 / 11 C1712 / 12 C1713 / 13	When the following condition is consisting and the abnormal signal continued for 1 sec. at the vehicle speed 8 km/h (5 mph) or more: Detecting the abnormal signal (Height control sensor terminal voltage of ECU is 0.3 V or less or 4.7 V or more) for every 0.01 sec. and that continued for 0.2 sec.	<ul style="list-style-type: none"> <li>• Right front, left front, rear height control sensor</li> <li>• Each height control sensor circuit</li> <li>• Suspension control ECU</li> </ul>

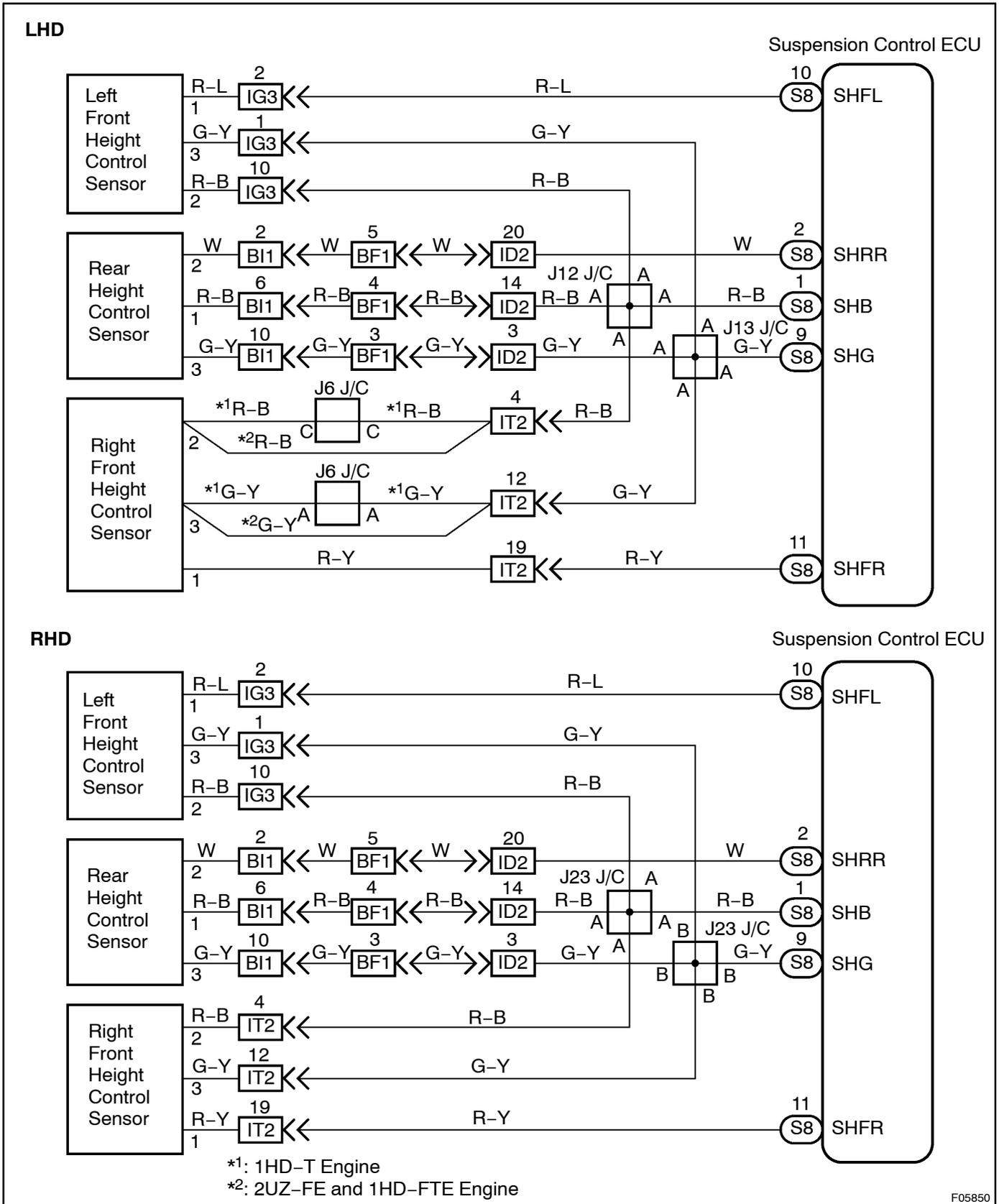
#### HINT:

- Code C1711 / 11 corresponds to the right front height control sensor circuit.
- Code C1712 / 12 corresponds to the left front height control sensor circuit.
- Code C1713 / 13 corresponds to the rear height control sensor circuit.

#### Fail safe function:

If a trouble occurs in the height control sensor circuit, the height control is prohibited after the ECU has adjusted the vehicle height to the standard (fluid pressure correspond to the standard height).

WIRING DIAGRAM



**INSPECTION PROCEDURE**

1	<b>Check output value of height control sensor.</b>
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**IN CASE OF USING HAND-HELD TESTER:****PREPARATION:**

- (a) Connect the hand-held tester to the DLC3.
- (b) Turn the ignition switch ON and push the hand-held tester main switch ON.
- (c) Select the DATALIST mode on the hand-held tester.

**CHECK:**

Check that the vehicle height value of the height control sensor displayed by the hand-held tester is changing when pushing the "UP" or "DOWN" button of the height select switch.

**OK:**

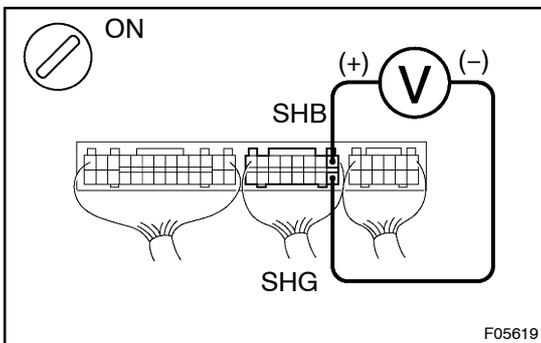
Vehicle height value must be changing.

NG

Go to step 2.

OK

Clear the DTC (See page DI-208).

**IN CASE OF NOT USING HAND-HELD TESTER:****PREPARATION:**

Remove the suspension control ECU with connectors still connected.

**CHECK:**

- (a) Turn the ignition switch ON.
- (b) Measure voltage between terminals SHB and SHG of suspension control ECU connector.

**OK:**

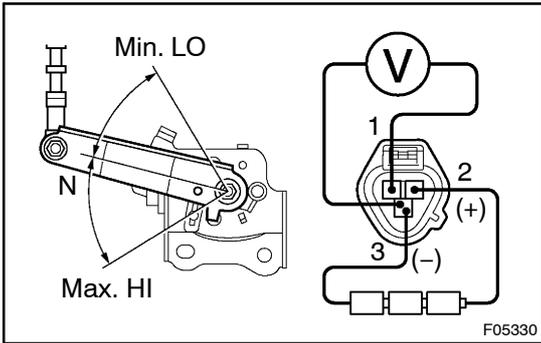
Voltage: Approx. 5 V

NG

Check and replace suspension control ECU.

OK

**2 Check height control sensor.**



**FRONT HEIGHT CONTROL SENSOR**

**PREPARATION:**

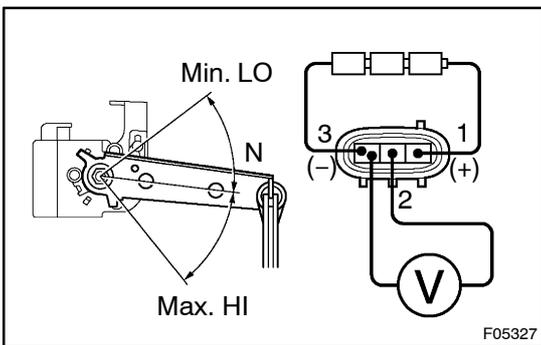
- (a) Disconnect the height control sensor connector.
- (b) Remove the height control sensor.

**CHECK:**

- (a) Connect 3 dry batteries of 1.5 V in series.
- (b) Connect terminal 2 to the batteries' positive (+) terminal, and terminal 3 to the batteries' negative (-) terminal, then apply voltage about 4.5 V between terminals 2 and 3.
- (c) Measure the voltage between terminals 1 and 3, when the height control sensor link is slowly moved up and down.

**OK:**

Sensor Link Position	Voltage
Max. HI	Approx. 4.05 V
N	Approx. 2.25 V
Min. LO	Approx. 0.45 V



**REAR HEIGHT CONTROL SENSOR**

**PREPARATION:**

- (a) Disconnect the height control sensor connector.
- (b) Remove the height control sensor.

**CHECK:**

- (a) Connect 3 dry batteries of 1.5 V in series.
- (b) Connect terminal 1 to the batteries' positive (+) terminal, and terminal 3 to the batteries' negative (-) terminal, then apply voltage about 4.5 V between terminals 2 and 3.
- (c) Measure the voltage between terminals 2 and 3, when the height control sensor link is slowly moved up and down.

**OK:**

Sensor Link Position	Voltage
Max. HI	Approx. 4.05 V
N	Approx. 2.25 V
Min. LO	Approx. 0.45 V

**NG**

**Replace height control sensor.**

**OK**

- |          |  |
|----------|--|
| <b>3</b> | <b>Check for open and short circuit in harness and connector between height control sensor, fluid pressure sensor, fluid temp. sensor and suspension control ECU (See page IN-35).</b> |
|----------|--|

NG

Repair or replace harness or connector.

OK

Clear the DTC (See page DI-208).

<b>DTC</b>	<b>C1718 / 18</b>	<b>Fluid Pressure Sensor Circuit</b>
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## CIRCUIT DESCRIPTION

This circuit is sending the data to detect the pressure output from the pump and to judge the abnormality of the fluid pressure by the ECU.

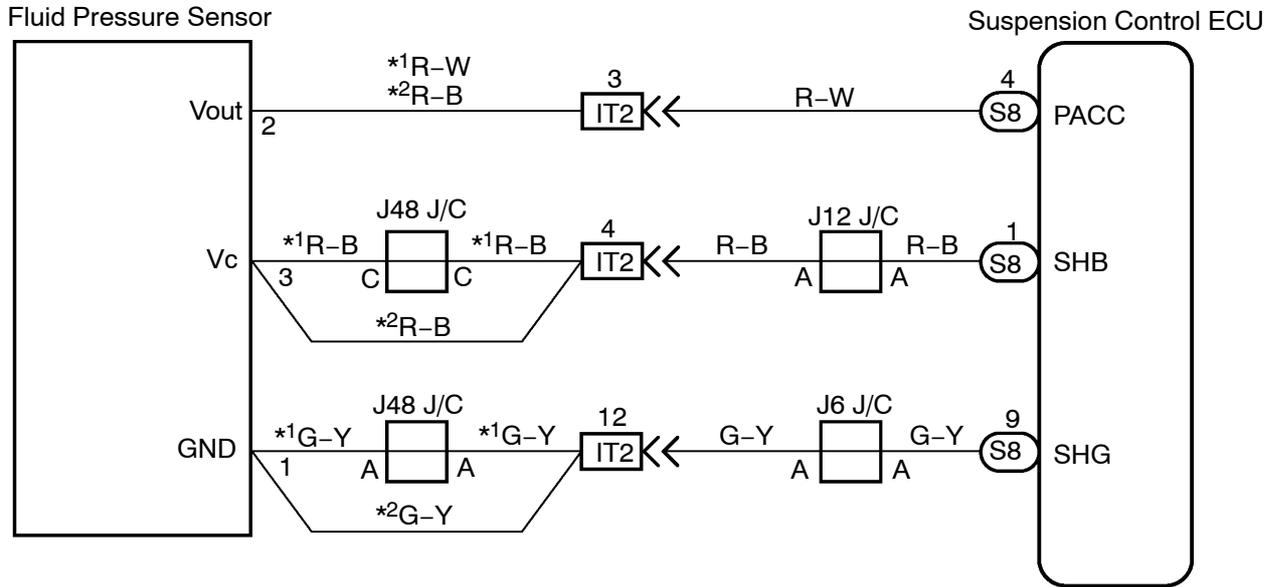
DTC No.	DTC Detecting Condition	Trouble Area
C1718 / 18	Either of the following 1. or 2. is detected: 1. When detecting the abnormal signal from the fluid pressure sensor (Fluid pressure sensor terminal voltage of ECU is 0.3 V or less or 4.7 V or more) for every 0.01 sec. and that condition continued for 1 sec. 2. While the motor relay is non-operating, the condition that the fluid pressure exceeds 1 MPa (10.2 kg/cm <sup>2</sup> , 145 psi) continued for 10 secs.	<ul style="list-style-type: none"><li>• Fluid pressure sensor</li><li>• Fluid pressure sensor circuit</li><li>• Suspension control ECU</li></ul>

Fail safe function:

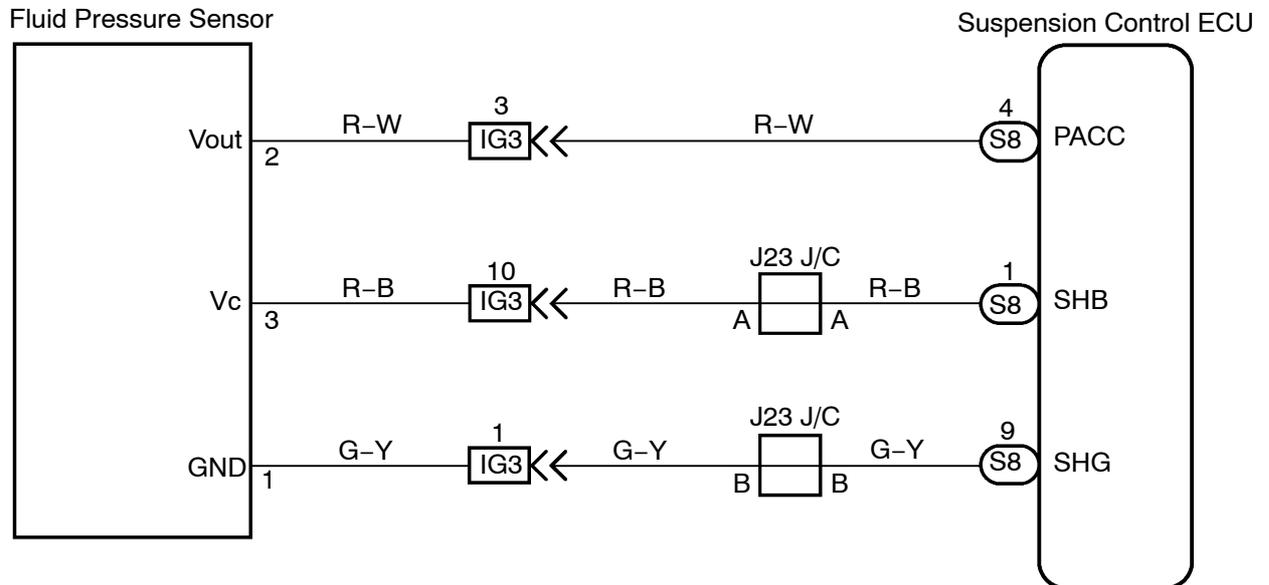
If trouble occurs in the fluid pressure sensor circuit, the height control is prohibited after the ECU has adjusted the vehicle height to the standard.

WIRING DIAGRAM

LHD



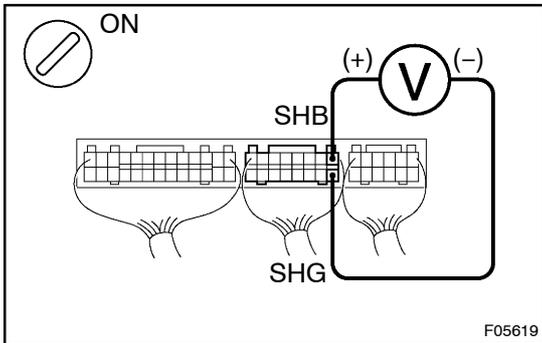
RHD



\*1: 1HD-T Engine  
 \*2: 2UZ-FE and 1HD-FTE Engine

## INSPECTION PROCEDURE

### 1 Check output value of fluid pressure sensor.



**PREPARATION:**

Remove the suspension control ECU with connectors still connected.

**CHECK:**

- (a) Turn the ignition switch ON.
- (b) Measure voltage between terminals SHB and SHG of suspension control ECU connector.

**OK:**

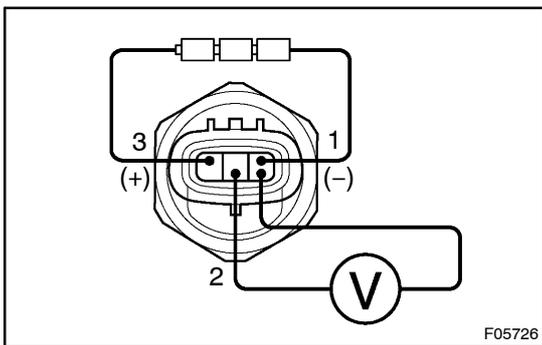
**Voltage: Approx. 5 V**

**NG**

**Check and replace suspension control ECU.**

**OK**

### 2 Check fluid pressure sensor.



**PREPARATION:**

Disconnect the fluid pressure sensor connector.

**CHECK:**

- (a) Connect 3 dry batteries of 1.5 V in series.
- (b) Connect terminal 3 to the batteries' positive (+) terminal, and terminal 1 to the batteries' negative (-) terminal, then apply voltage about 4.5 V between terminals 1 and 3.
- (c) Measure voltage between terminals 1 and 2.

**OK:**

**Voltage: Approx. 4.5 V**

**NG**

**Replace fluid pressure sensor.**

**OK**

- |          |  |
|----------|--|
| <b>3</b> | <b>Check for open and short circuit in harness and connector between fluid pressure sensor, height control sensor, fluid temp. sensor and suspension control ECU (See page IN-35).</b> |
|----------|--|

**NG**

**Repair or replace harness or connector.**

**OK**

**Clear the DTC (See page DI-208).**

## CIRCUIT INSPECTION

<b>DTC</b>	<b>C1718 / 18</b>	<b>Fluid Pressure Sensor Circuit</b>
------------	-------------------	--------------------------------------

## CIRCUIT DESCRIPTION

This circuit is sending the data to detect the pressure output from the pump and to judge the abnormality of the fluid pressure by the ECU.

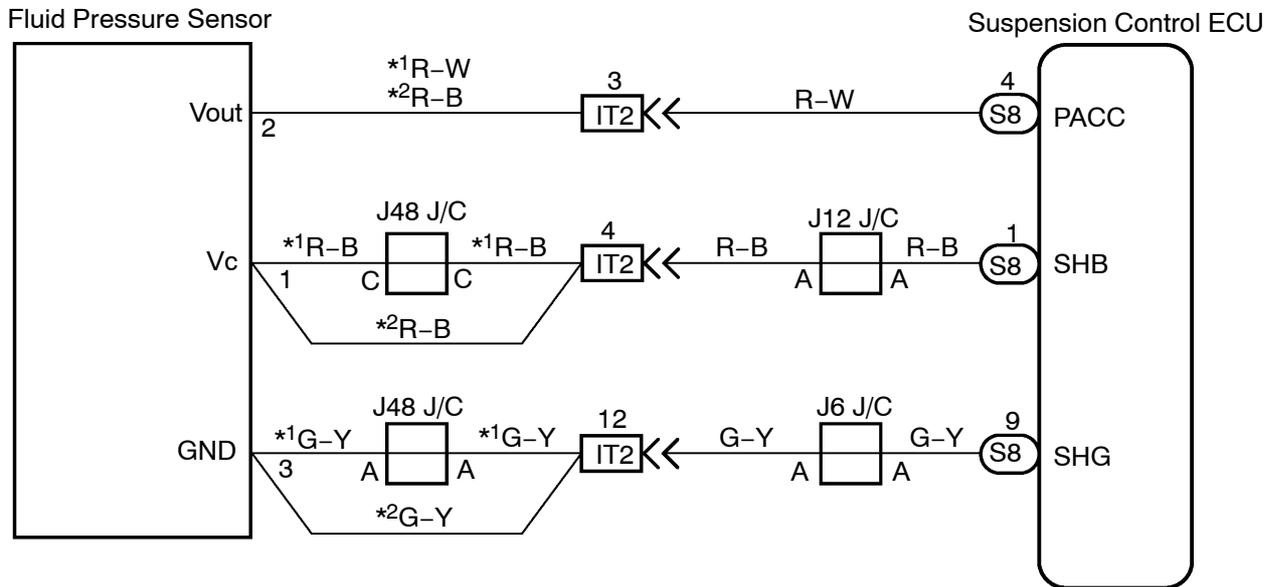
DTC No.	DTC Detecting Condition	Trouble Area
C1718 / 18	<p>Either of the following 1. or 2. is detected:</p> <ol style="list-style-type: none"> <li>When detecting the abnormal signal from the fluid pressure sensor (Fluid pressure sensor terminal voltage of ECU is 0.3 V or less or 4.7 V or more) for every 0.01 sec. and that condition continued for 1 sec.</li> <li>While the motor relay is non-operating, the condition that the fluid pressure exceeds 1 MPa (10.2 kg/cm<sup>2</sup>, 145 psi) continued for 10 secs.</li> </ol>	<ul style="list-style-type: none"> <li>• Fluid pressure sensor</li> <li>• Fluid pressure sensor circuit</li> <li>• Suspension control ECU</li> </ul>

Fail safe function:

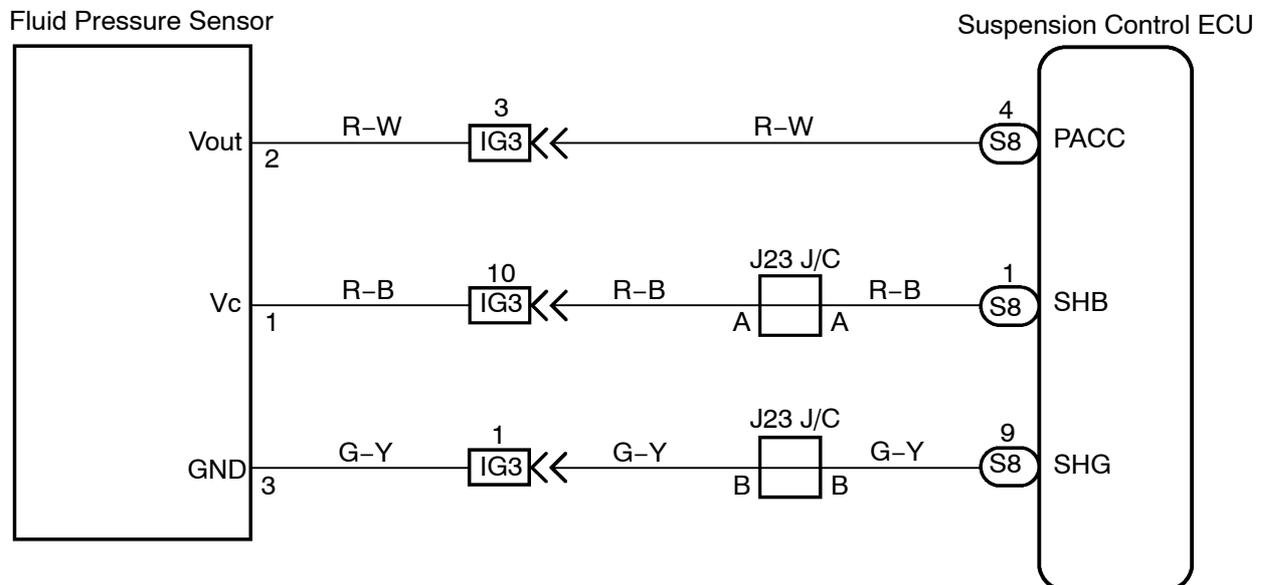
If trouble occurs in the fluid pressure sensor circuit, the height control is prohibited after the ECU has adjusted the vehicle height to the standard.

# WIRING DIAGRAM

## LHD



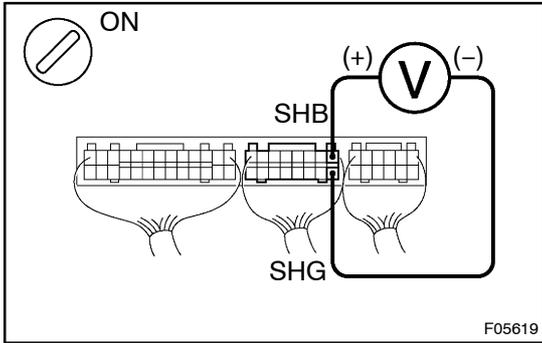
## RHD



\*1: 1HD-T Engine

\*2: 2UZ-FE and 1HD-FTE Engine

F05851

**INSPECTION PROCEDURE****1 Check output value of fluid pressure sensor.****PREPARATION:**

Remove the suspension control ECU with connectors still connected.

**CHECK:**

- (a) Turn the ignition switch ON.
- (b) Measure voltage between terminals SHB and SHG of suspension control ECU connector.

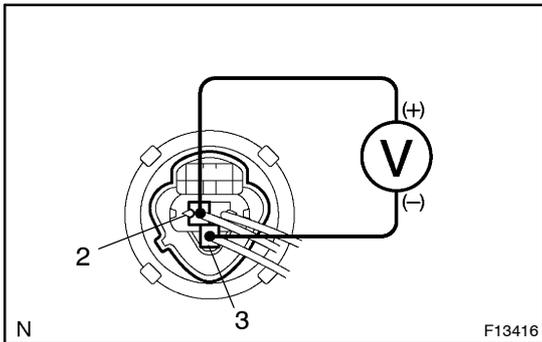
**OK:**

**Voltage: Approx. 5 V**

**NG**

**Check and replace suspension control ECU.**

**OK**

**2 Check fluid pressure sensor.****PREPARATION:**

Start the engine and push the vehicle height select switch to select the "N" mode.

**CHECK:**

Measure voltage between terminals 2 and 3 of the fluid pressure sensor connector.

**OK:**

**Voltage: 1.48 - 1.85**

**NG**

**Replace fluid pressure sensor.**

**OK**

**3** Check for open and short circuit in harness and connector between fluid pressure sensor, height control sensor, fluid temp. sensor and suspension control ECU (See page IN-35).

NG

Repair or replace harness or connector.

OK

Clear the DTC (See Pub. No. RM616E on page DI-208).

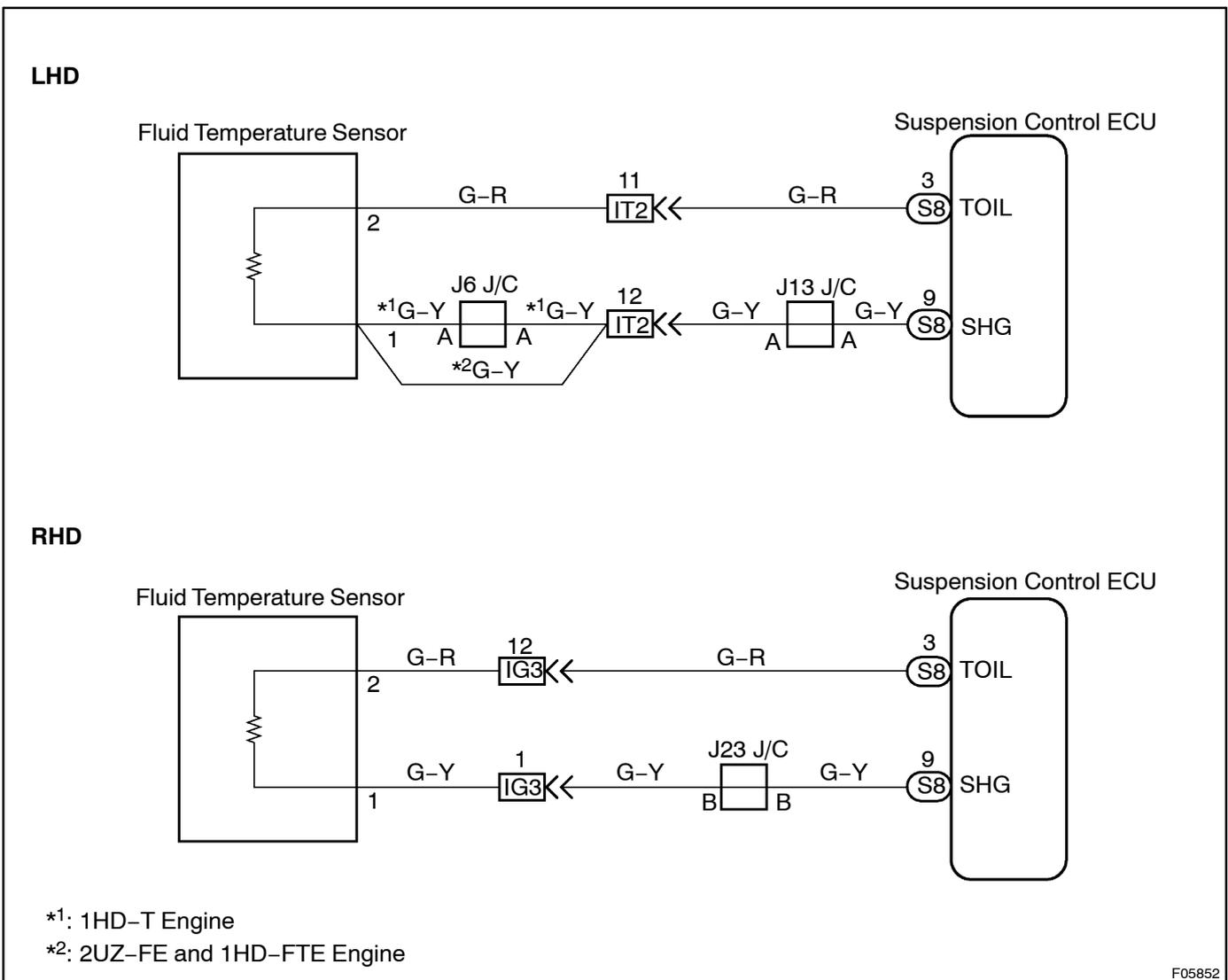
<b>DTC</b>	<b>C1719 / 19</b>	<b>Fluid Temperature Sensor Circuit</b>
------------	-------------------	---

**CIRCUIT DESCRIPTION**

This circuit is sending the data to detect the fluid temperature of the pump and to judge the abnormality of the fluid by the ECU.

DTC No.	DTC Detecting Condition	Trouble Area
C1719 / 19	When detecting the abnormal signal from the fluid temp. sensor (Fluid temp. sensor terminal voltage of ECU is 0.1 V or less or 4.8 V or more) for every 0.01 sec. and that condition continued for 0.5 sec. and had been consisted 10 times.	<ul style="list-style-type: none"> <li>• Fluid temperature sensor</li> <li>• Fluid temperature sensor circuit</li> <li>• Suspension control ECU</li> </ul>

**WIRING DIAGRAM**



**INSPECTION PROCEDURE**

Start the inspection from step 1 in case of using the hand-held tester and start from step 2 in case of not using the hand-held tester.

<b>1</b>	<b>Check output value of fluid temperature sensor.</b>
----------	--

**PREPARATION:**

- (a) Connect the hand-held tester to the DLC3.
- (b) Turn the ignition switch ON and push the hand-held tester main switch ON.
- (c) Select the DATALIST mode on the hand-held tester.

**CHECK:**

Check the temperature value of the fluid temperature sensor displayed on the hand-held tester.

**OK:**

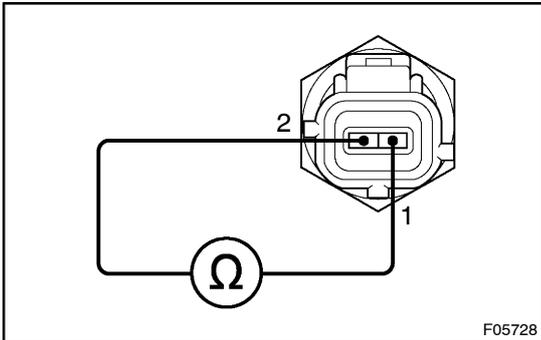
Same as actual fluid temperature

OK

Clear the DTC (See page DI-208).

NG

<b>2</b>	<b>Check fluid temperature sensor.</b>
----------	--

**PREPARATION:**

Disconnect the fluid temperature sensor connector.

**CHECK:**

Measure resistance between terminals 1 and 2 of fluid temperature sensor connector.

**OK:**

**Resistance:  $2.45 \pm 0.45 \text{ k}\Omega$  at  $20 \text{ }^\circ\text{C}$  ( $68 \text{ }^\circ\text{F}$ )**

NG

Replace fluid temperature sensor.

OK

**3** Check for open and short circuit in harness and connector between fluid temperature sensor and suspension control ECU (See page IN-35).

NG

Repair or replace harness or connector.

OK

Clear the DTC (See page DI-208).

<b>DTC</b>	<b>C1721 / 21, C1723 / 23</b>	<b>Damping Force Control Actuator Circuit</b>
------------	-------------------------------	---

## CIRCUIT DESCRIPTION

ECU sends a signal to damping force control actuator to drive the rotary valve of the shock absorber changing the shock absorber damping force.

The actuator is driven electromagnetically by step motor so that it can accurately follow the driving conditions that change frequently.

DTC No.	DTC Detecting Condition	Trouble Area
C1721 / 21	When detecting the over current detection condition (When the condition that the current between the actuator drive terminal of ECU and GND is 3.5 to 6.0 A or more continued for $1 \pm 0.5$ msec.) 10 times continuously.	<ul style="list-style-type: none"> <li>• Front damping force control actuator</li> <li>• Front damping force control actuator circuit</li> <li>• Suspension control ECU</li> </ul>
C1723 / 23		<ul style="list-style-type: none"> <li>• Rear damping force control actuator</li> <li>• Rear damping force control actuator circuit</li> <li>• Suspension control ECU</li> </ul>

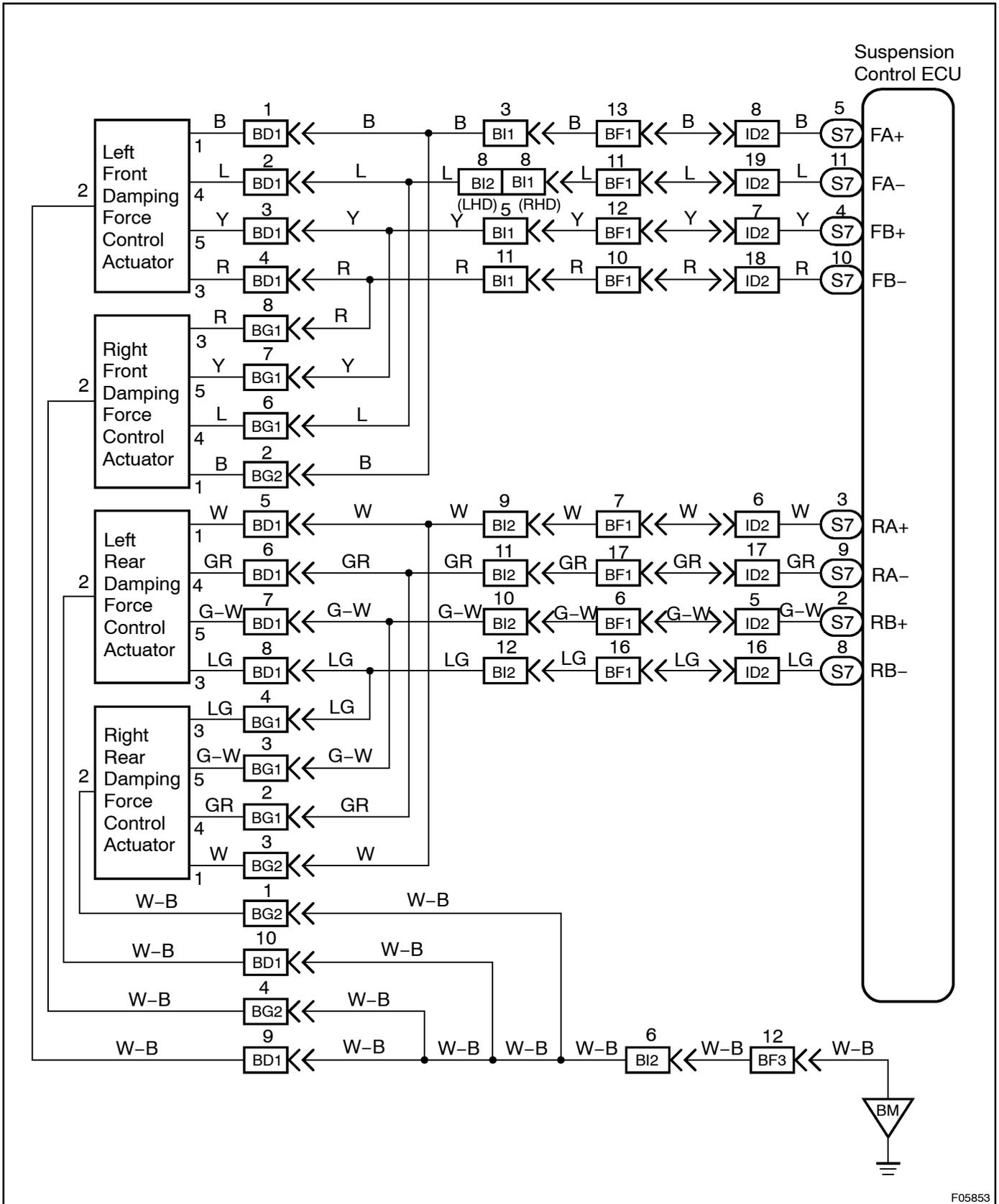
### HINT:

- Code C1721 / 21 corresponds to the front damping force control actuator circuit.
- Code C1723 / 23 corresponds to the rear damping force control actuator circuit.

### Fail safe function:

If trouble occurs in the front or rear wheel damping force control actuator circuit, ECU prohibits the damping force control after the ECU has returned the damping force of the other side wheel to the normal condition.

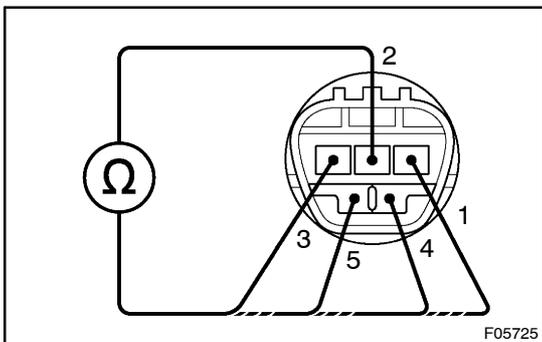
WIRING DIAGRAM



F05853

**INSPECTION PROCEDURE****1 Check operation of damping force control actuator.****CHECK:**

Using the same method as used for the "DAMPING FORCE CONTROLLING CHECK" (See page DI-208), bounce the vehicle and check that the shock absorber becoming harder.

**OK****Clear the DTC (See page DI-208).****NG****2 Check for open and short circuit in harness and connector between damping force control actuator and suspension control ECU (See page IN-35).****NG****Repair or replace harness or connector.****OK****3 Check damping force control actuator.****PREPARATION:**

Disconnect the damping force control actuator connector.

**CHECK:**

Measure resistance between each terminal of damping force control actuator.

**OK:**

Terminals 1 and 2	12.0 – 13.6 Ω
Terminals 2 and 3	12.0 – 13.6 Ω
Terminals 2 and 4	12.0 – 13.6 Ω
Terminals 2 and 5	12.0 – 13.6 Ω

**NG****Replace damping force control actuator.****OK****Clear the DTC (See page DI-208).**

<b>DTC</b>	<b>C1731 / 31 to C1736 / 36</b>	<b>Control Valve Solenoid and Accumulator Solenoid Circuit</b>
------------	---------------------------------	--

## CIRCUIT DESCRIPTION

The control valve assembly consists of each front and rear leveling valve and gate valve and performs the height control and connecting and disconnecting the fluid line of the right and left shock absorber by operating the solenoid valve ON and OFF with the control signal from the ECU.

DTC No.	DTC Detecting Condition	Trouble Area
C1731 / 31 C1733 / 33	When either of the following condition consisted 4 times continuously: 1. When the condition that the B terminal voltage of ECU is more than $10 \pm 0.5$ V and the lower reaches voltage of the solenoid while it is in non-operation condition is less than 20 % of the B terminal voltage continued for $20 \pm 5$ msec. 2. When the condition that the B terminal voltage of ECU is more than $10 \pm 0.5$ V and the lower reaches voltage of the solenoid while it is in operation condition is more than 80 % of the B terminal voltage continued for $20 \pm 5$ msec.	• Front, rear gate valve solenoid • Front, rear gate valve solenoid circuit • Suspension control ECU
C1732 / 32 C1734 / 34		• Front, rear leveling valve solenoid • Front, rear leveling valve solenoid circuit • Suspension control ECU
C1736 / 36		• Accumulator solenoid • Accumulator solenoid circuit • Suspension control ECU

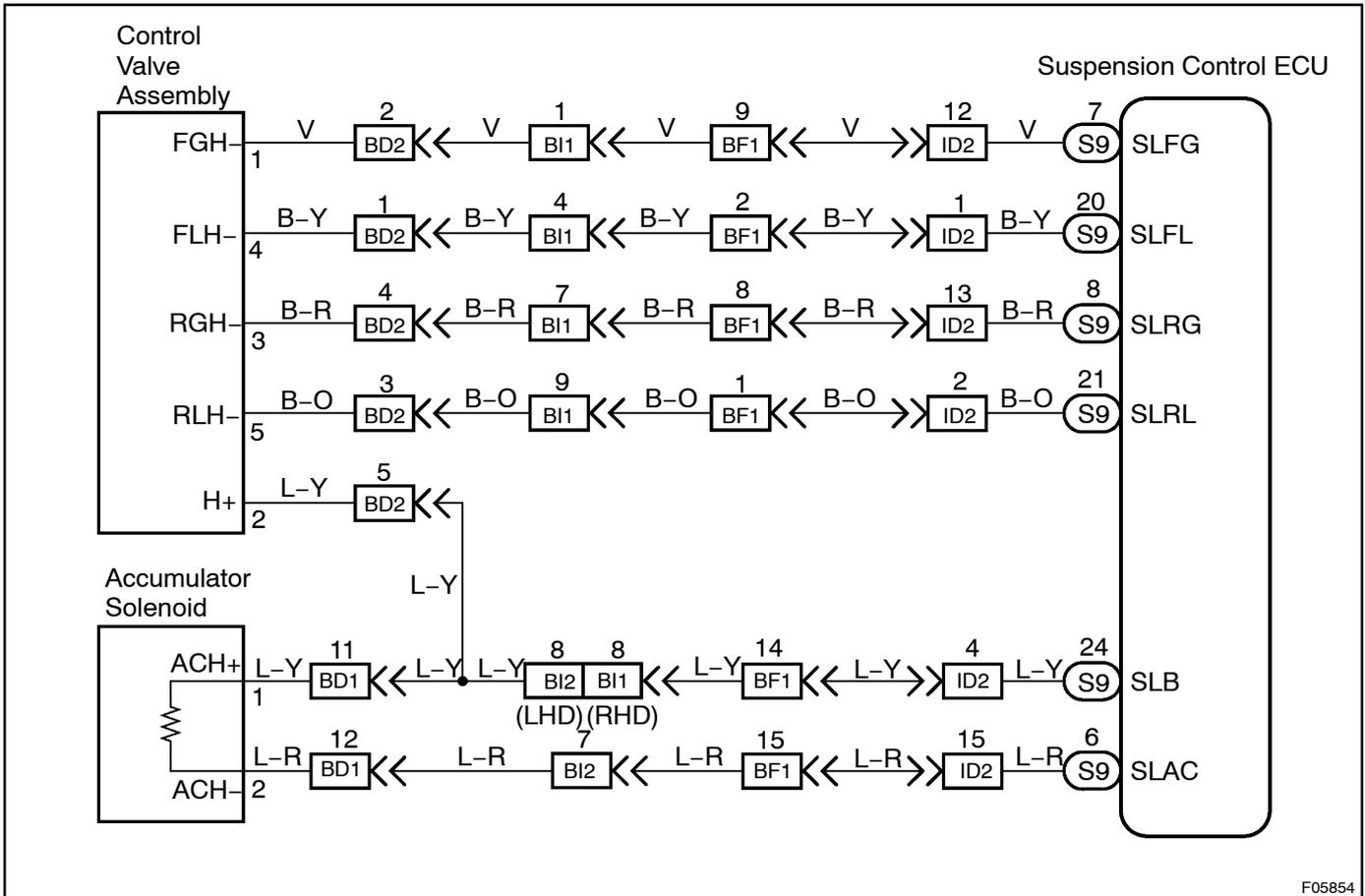
### HINT:

- Code C1731 / 31 corresponds to the front gate valve solenoid circuit.
- Code C1732 / 32 corresponds to the front leveling valve solenoid circuit.
- Code C1733 / 33 corresponds to the rear gate valve solenoid circuit.
- Code C1734 / 34 corresponds to the rear leveling valve solenoid circuit.
- Code C1736 / 36 corresponds to the accumulator solenoid circuit.

### Fail safe function:

If trouble occurs in the control valve assembly circuit, the ECU prohibits the height control and fixed the damping force at the sports mode.

## WIRING DIAGRAM



## INSPECTION PROCEDURE

- |   |   |
|---|---|
| 1 | <b>Check control valve assembly and accumulator solenoid operation.</b> |
|---|---|

## IN CASE OF USING HAND-HELD TESTER:

**PREPARATION:**

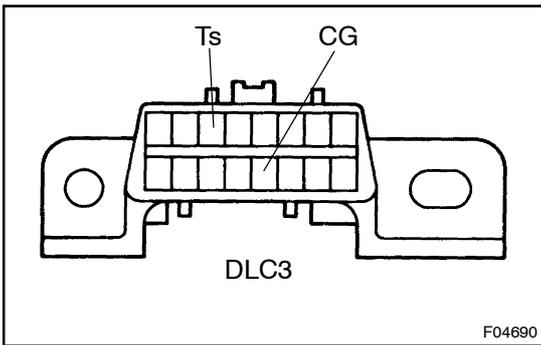
- Connect the hand-held tester to the DLC3.
- Start the engine and push the hand-held tester main switch ON.
- Select the ACTIVE TEST mode on the hand-held tester.

**CHECK:**

Check that the operation sound of solenoid or vibration of the control valve assembly and height control accumulator when operating the solenoid with the hand-held tester.

**OK:**

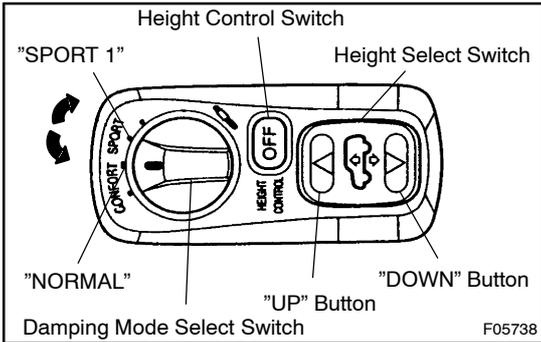
The operation sound of the solenoid be heard or the vibration of the control valve assembly or height control accumulator should be felt.



**IN CASE OF NOT USING HAND-HELD TESTER:**

**PREPARATION:**

- (a) Using SST, connect the terminal Ts to CG of DLC3.  
SST 09843-18040



- (b) Push the "DOWN" button of the height select switch 5 times or more within 5 seconds after starting the engine.

**HINT:**

At this time the height control OFF indicator light flashes at 0.25 second intervals.

**CHECK:**

Perform each solenoid inspection by the switches of the following table, then check that the operation sound of the solenoid or the vibration of the control valve assembly or height control accumulator.

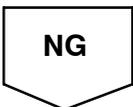
	Damping mode select switch	Height control switch	Height select switch
Front leveling solenoid	"SPORT 1" mode	-	Push "UP" button
Rear leveling solenoid	"SPORT 1" mode	-	Push "DOWN" button
Front gate solenoid	"SPORT 1" mode	Push and hold	Push "UP" button
Rear gate solenoid	"SPORT 1" mode	Push and hold	Push "DOWN" button
Accumulator solenoid	"NORMAL" mode	-	Push "UP" button

**OK:**

The operation sound of the solenoid should be heard or the vibration of the control valve assembly or height control accumulator should be felt.

OK

Clear the DTC (See page DI-208).



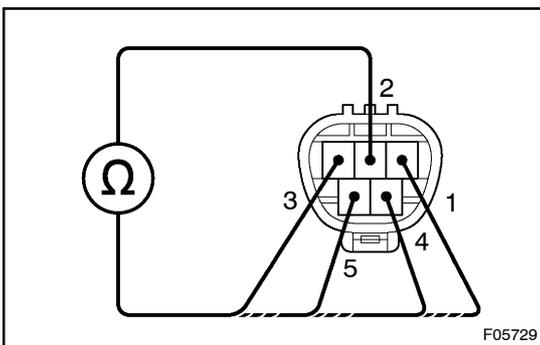
- 2 Check for open and short circuit in harness and connector between control valve assembly or accumulator solenoid and suspension control ECU (See page IN-35).

NG

Repair or replace harness or connector.

OK

- 3 Check control valve solenoid and accumulator solenoid.

**CONTROL VALVE SOLENOID****PREPARATION:**

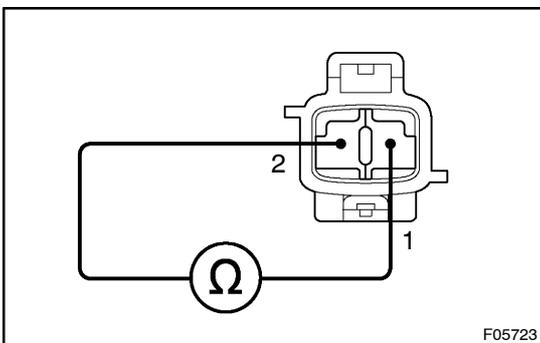
Disconnect the control valve assembly connector.

**CHECK:**

Check continuity between terminals 2 and 1, 3, 4, 5 of the control valve assembly connector.

**OK:**

Continuity

**ACCUMULATOR SOLENOID****PREPARATION:**

Disconnect the accumulator solenoid connector from the height control accumulator.

**CHECK:**

Check continuity between terminals 1 and 2 of the accumulator solenoid connector.

**OK:**

Continuity

NG

Replace control valve assembly or accumulator solenoid.

OK

Clear the DTC (See page DI-208).

<b>DTC</b>	<b>C1741 / 41</b>	<b>AHC Motor Relay Circuit</b>
------------	-------------------	--------------------------------

## CIRCUIT DESCRIPTION

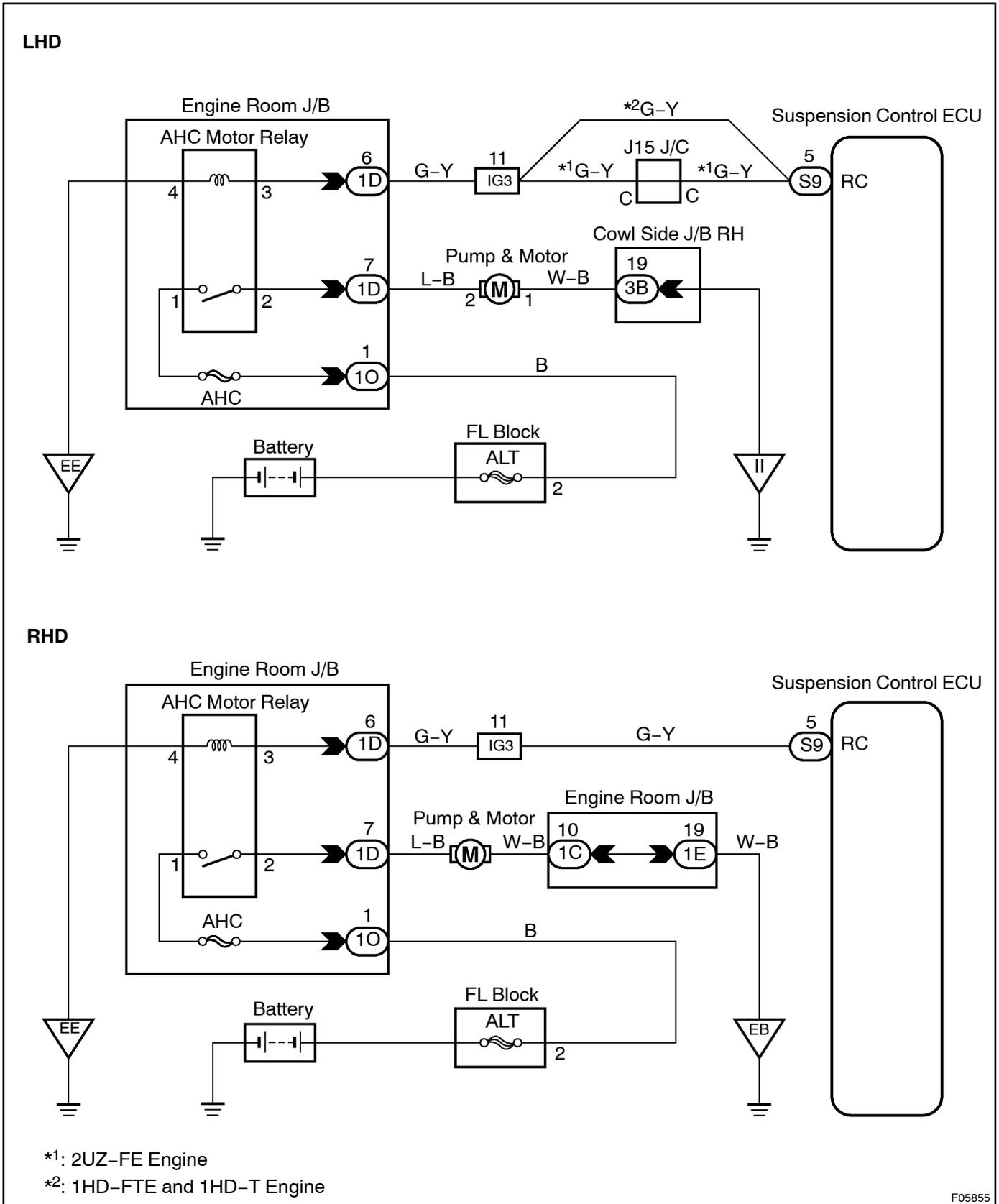
This relay is to supply power source to the pump & motor. The relay is stays ON while the height control is operated.

DTC No.	DTC Detecting Condition	Trouble Area
C1741 / 41	After the condition that the upper reaches voltage of the motor relay solenoid is 2 V or less when motor relay is ON continued for $40 \pm 10$ msec. and when turning on the electricity 1 sec. later and detecting the short circuit condition 2 times continuously.	<ul style="list-style-type: none"> <li>•AHC motor relay</li> <li>•AHC motor relay circuit</li> <li>•Suspension control ECU</li> </ul>

Fail safe function:

If trouble occurs in the AHC motor relay circuit, the height control is prohibited after adjusting the vehicle to the standard height in case that the height is higher than the standard or to the lowest wheel of the 4 wheels in case that the height is lower than the standard.

WIRING DIAGRAM



## INSPECTION PROCEDURE

1	<b>Check AHC motor relay operation.</b>
---	---

### IN CASE OF USING HAND-HELD TESTER:

#### PREPARATION:

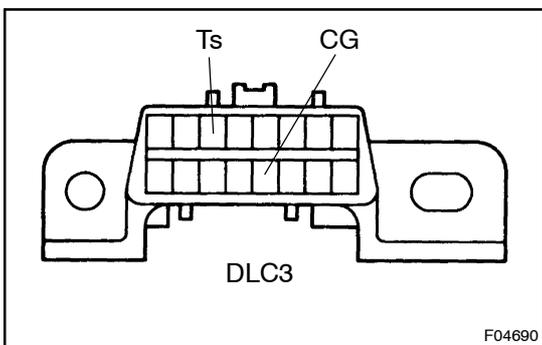
- (a) Connect the hand-held tester to the DLC3.
- (b) Start the engine and push the hand-held tester main switch ON.
- (c) Select the ACTIVE TEST mode on the hand-held tester.

#### CHECK:

Check the operation sound of the AHC motor relay when operating it with the hand-held tester.

#### OK:

The operation sound of the AHC motor relay should be heard.



### IN CASE OF NOT USING HAND-HELD TESTER:

#### PREPARATION:

- (a) Using SST, connect terminals Ts and CG of DLC3.  
SST 09843-18040
- (b) Push the "DOWN" button of the height select switch 5 times or more within 5 seconds after starting the engine.

#### HINT:

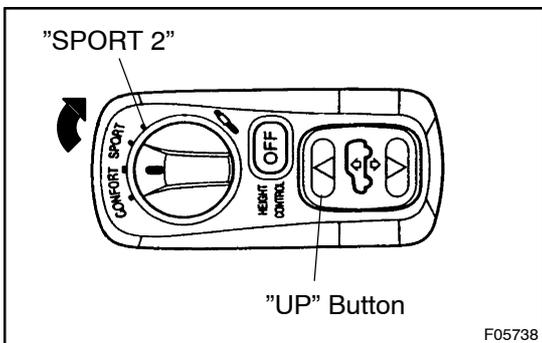
At this time the height control OFF indicator light flashes at 0.25 second intervals.

#### CHECK:

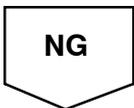
- (a) Change the damping mode select switch to the "SPORT 2" position.
- (b) Push the "UP" button of the height select switch, then check the operation sound of the AHC motor relay.

#### OK:

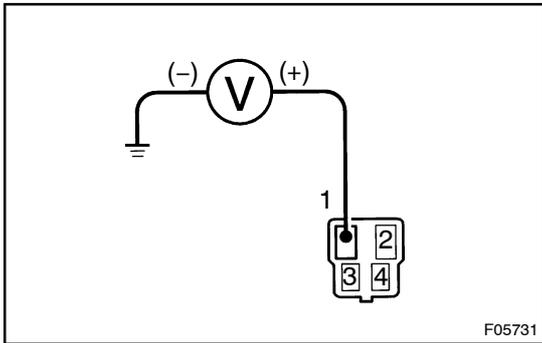
The operation sound of the AHC motor relay should be heard.



<b>OK</b>	<b>Go to step 4.</b>
-----------	----------------------



**2 Check voltage between terminal 1 of Engine Room J/B (for AHC motor relay) and body ground.**



**PREPARATION:**

Remove the AHC motor relay from Engine Room J/B.

**CHECK:**

Measure voltage between terminal 1 of Engine Room J/B (for AHC motor relay) and body ground.

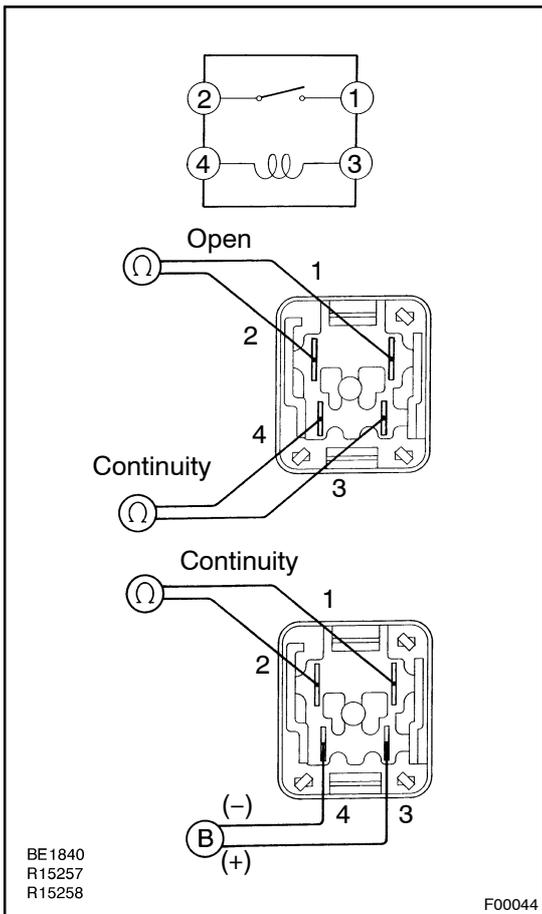
**OK:**

**Voltage: 10 - 14 V**

**NG** Check and repair harness or connector.

**OK**

**3 Check AHC motor relay.**



**PREPARATION:**

Remove the AHC motor relay from Engine Room J/B.

**CHECK:**

Check continuity between each pair of terminal of motor relay.

**OK:**

Terminals 3 and 4	Continuity (Reference value 62 Ω)
Terminals 1 and 2	Open

**CHECK:**

- (a) Apply battery voltage between terminals 3 and 4.
- (b) Check continuity between terminals 1 and 2.

**OK:**

Terminals 1 and 2	Continuity
-------------------	------------

**NG** Replace AHC motor relay.

**OK**

**4** Check for open and short circuit in harness and connector between AHC motor relay and pump & motor, suspension control ECU ([See page IN-35](#)).

NG

Repair or replace harness or connector.

OK

Clear the DTC ([See page DI-208](#)).

<b>DTC</b>	<b>C1743 / 43</b>	<b>AHC Main Relay Circuit</b>
------------	-------------------	-------------------------------

### CIRCUIT DESCRIPTION

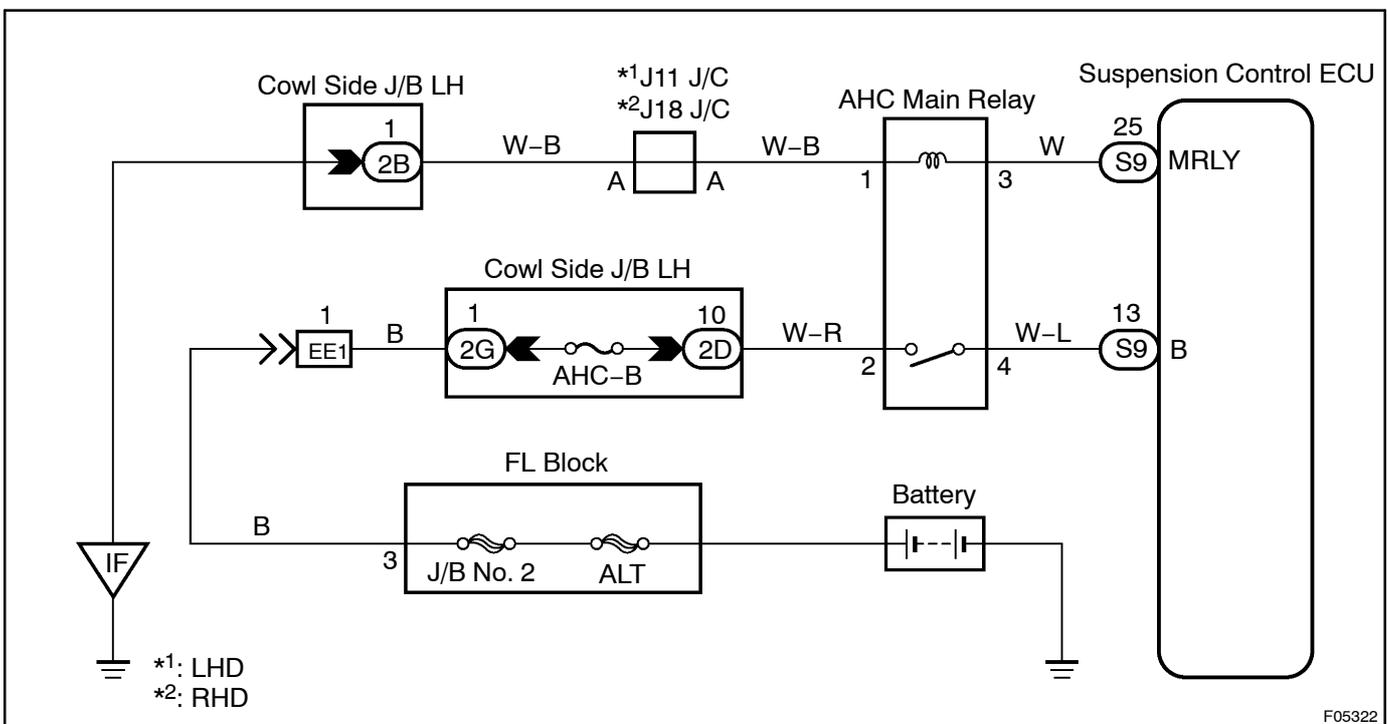
This relay is to supply power source to the suspension control ECU. The relay comes ON a few seconds after the ignition switch is turned ON.

DTC No.	DTC Detecting Condition	Trouble Area
C1743 / 43	Either of the following 1., 2. or 3. detected: 1. When the condition that the IG terminal voltage of ECU is more than $10 \pm 0.5$ V and the B terminal voltage of ECU is 1.0 V or less while the main relay is in drive condition continued for 0.5 sec. 2. After the condition that the upper reaches voltage of the main solenoid when the main relay is ON is 2 V or less continued for $40 \pm 10$ msec. and when turning the electricity $1 \pm 0.1$ sec. later and detecting the short circuit condition 4 times continuously. 3. When detecting that the IG terminal voltage of ECU is $10 \pm 0.5$ V or more when the main relay is non-driving and the condition that the IG terminal voltage is less than the voltage added 4 V to the B terminal voltage of ECU continued for 2 secs.	<ul style="list-style-type: none"> <li>•AHC main relay</li> <li>•AHC main relay circuit</li> <li>•Suspension control ECU</li> </ul>

Fail safe function:

If a trouble occurs in the AHC main relay circuit, the ECU prohibits the height control and fixed the damping force at the sports mode.

### WIRING DIAGRAM



## INSPECTION PROCEDURE

1	<b>Check AHC main relay operation.</b>
---	--

### IN CASE OF USING HAND-HELD TESTER:

#### PREPARATION:

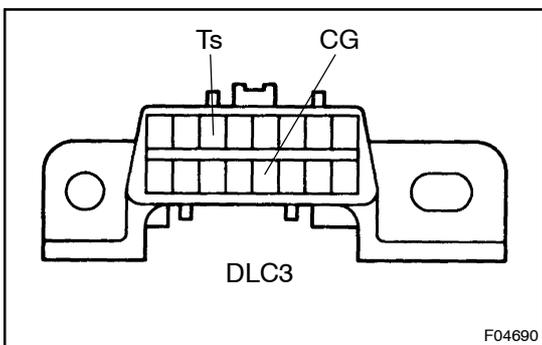
- (a) Connect the hand-held tester to the DLC3.
- (b) Turn the ignition switch ON and push the hand-held tester main switch ON.
- (c) Select the ACTIVE TEST mode on the hand-held tester.

#### CHECK:

Check the operation sound of the AHC main relay when operating it with the hand-held tester.

#### OK:

**The operation sound of the AHC main relay should be heard.**



### IN CASE OF NOT USING HAND-HELD TESTER:

#### PREPARATION:

- (a) Using SST, connect terminals Ts and CG of DLC3.  
SST 09843-18040
- (b) Push the "DOWN" button of the height select switch 5 times or more within 5 seconds after turning the ignition switch ON.

#### HINT:

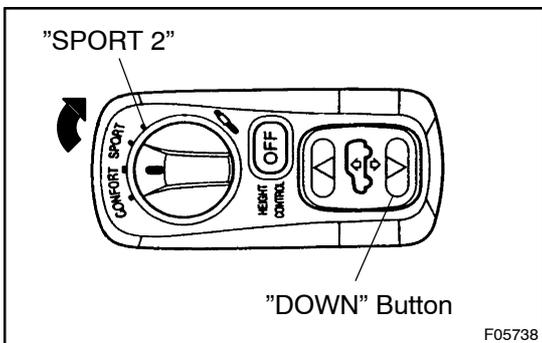
At this time the height control OFF indicator light flashes at 0.25 second intervals.

#### CHECK:

- (a) Change the damping mode select switch to the "SPORT 2" position.
- (b) Push the "DOWN" button of the height select switch, then check the operation sound of the AHC main relay.

#### OK:

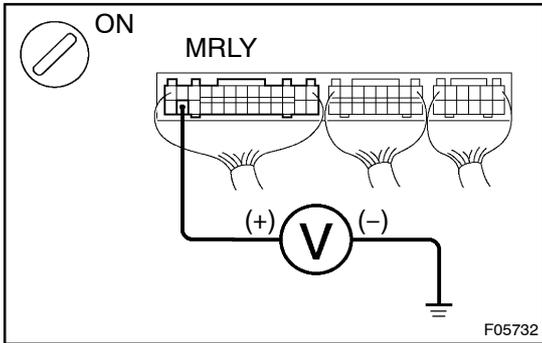
**The operation sound of the AHC main relay should be heard.**



OK	<b>Clear the DTC (See page DI-208).</b>
----	---



**2 Check voltage between terminal MRLY of suspension control ECU and body ground.**



**PREPARATION:**

Remove the suspension control ECU with connectors still connected.

**CHECK:**

- (a) Turn the ignition switch ON.
- (b) Measure voltage between terminal MRLY of suspension control ECU and body ground.

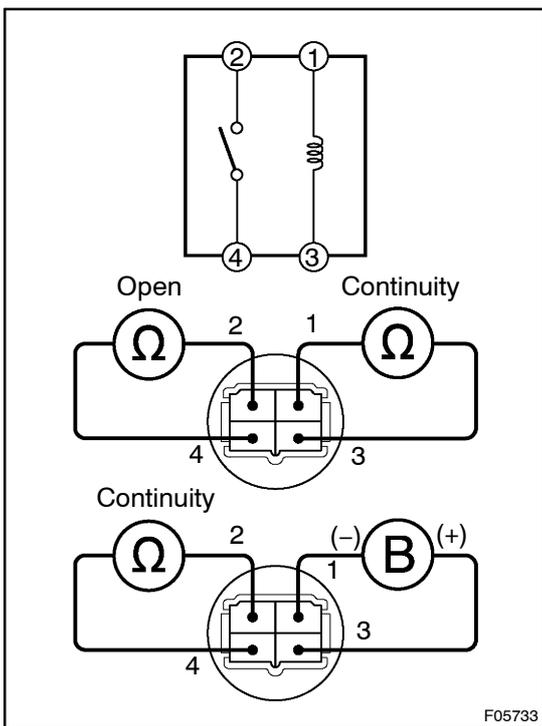
**OK:**

**Voltage: 9 - 14 V**

**NG** Check and replace suspension control ECU.

**OK**

**3 Check AHC main relay.**



**PREPARATION:**

- (a) Disconnect the AHC main relay connector.
- (b) Remove the AHC main relay from suspension control ECU.

**CHECK:**

Check continuity between each pair of terminal of motor relay.

**OK:**

Terminals 1 and 3	Continuity (Reference value 62 Ω)
Terminals 2 and 4	Open

**CHECK:**

- (a) Apply battery voltage between terminals 1 and 3.
- (b) Check continuity between terminals 2 and 4.

**OK:**

Terminals 2 and 4	Continuity
-------------------	------------

**NG** Replace AHC main relay.

**OK**

**4** Check for open and short circuit in harness and connector between AHC main relay and battery, suspension control ECU ([See page IN-35](#)).

NG

Repair or replace harness or connector.

OK

Clear the DTC ([See page DI-208](#)).

<b>DTC</b>	<b>C1751 / 51</b>	<b>AHC Pump &amp; Motor Circuit</b>
------------	-------------------	-------------------------------------

## CIRCUIT DESCRIPTION

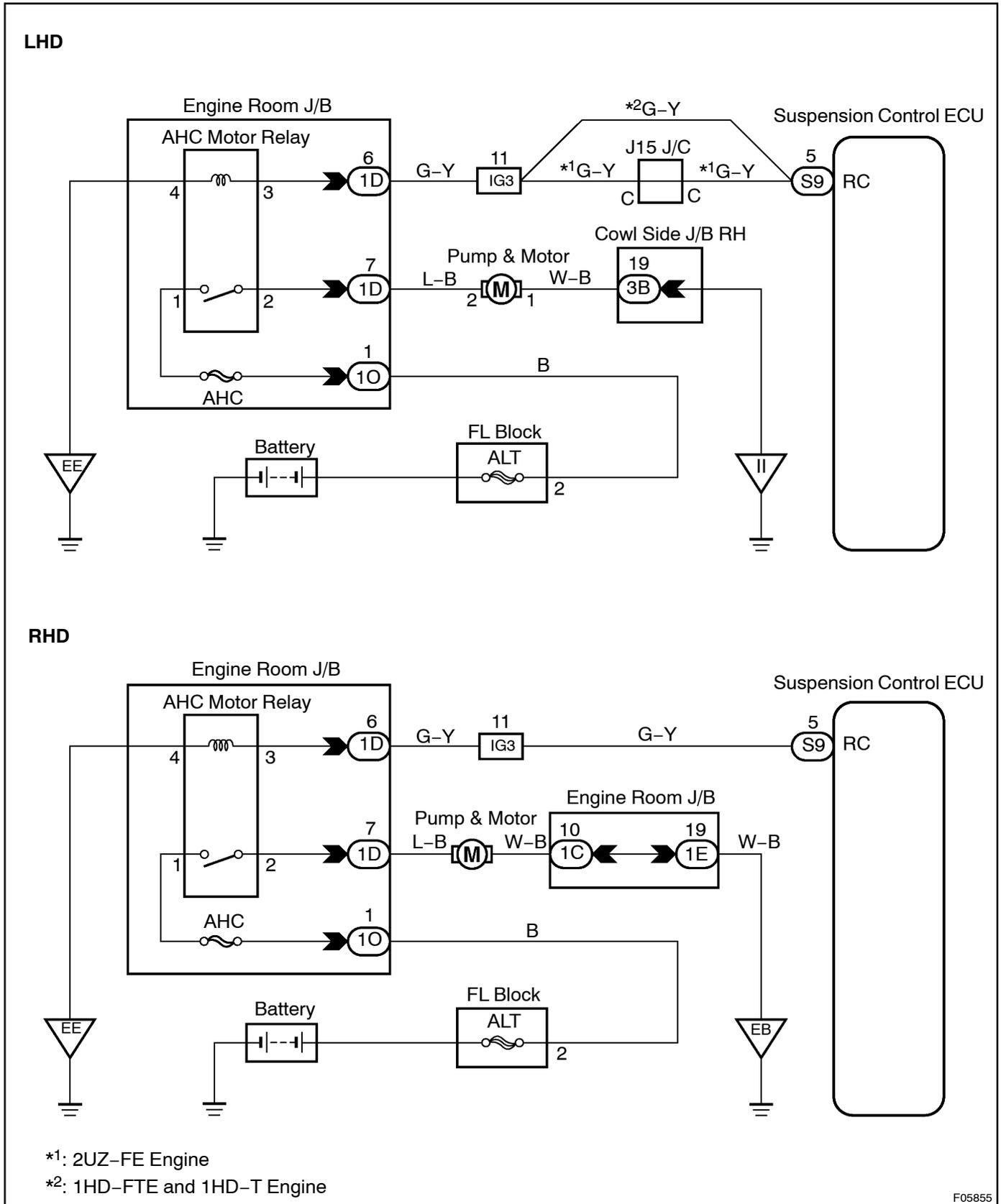
In case that the height control has not consisted in spite of performing the raise control for a certain period of time, the ECU interrupts the height control.

DTC No.	DTC Detecting Condition	Trouble Area
C1751 / 51	When the rise control completion condition has not consisted in spite of turning on electricity to the relay for the following period of time: LO → N: 85 seconds N → HI: 100 seconds	<ul style="list-style-type: none"> <li>•AHC pump &amp; motor</li> <li>•AHC pump &amp; motor circuit</li> <li>•AHC motor relay</li> <li>•Height control sensor link comes off</li> <li>•Fluid leakage from the fluid line or each solenoid valve</li> <li>•Fluid clog in the fluid line or each solenoid valve</li> <li>•Torsion bar spring</li> </ul>

Fail safe function:

If trouble occurs, the height control is prohibited after adjusting the vehicle to the standard height in case that the height is higher than the standard or to the lowest wheel of the 4 wheels in case that the height is lower than the standard.

WIRING DIAGRAM



**INSPECTION PROCEDURE**

**1** Check fluid level of the reservoir tank ([See page SA-303](#)).

**NG**

Fill the reservoir tank with suspension fluid AHC.

**OK**

**2** Check fluid leakage ([See page SA-305](#)).

**NG**

Repair or replace the part with fluid leakage.

**OK**

**3** Check that the height control sensor link has not come off.

**NO**

Repair or replace height control sensor link.

**YES**

**4** Check fluid delivery pressure of the AHC pump & motor.

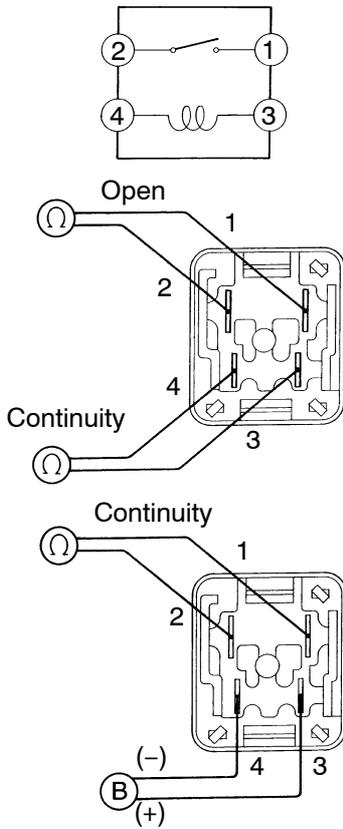
Check that the fluid pressure raises by raising the vehicle height with the height select switch with the same procedure as the torsion bar spring adjustment ([See page SA-313](#)).

**NG**

Replace AHC pump & motor.

**OK**

**5 Check AHC motor relay.**



BE1840  
R15257  
R15258

F00044

**PREPARATION:**

Remove the AHC motor relay from Engine Room J/B.

**CHECK:**

Check continuity between each pair of terminal of motor relay.

**OK:**

Terminals 3 and 4	Continuity (Reference value 62 Ω)
Terminals 1 and 2	Open

**CHECK:**

- (a) Apply battery voltage between terminals 3 and 4.
- (b) Check continuity between terminals 1 and 2.

**OK:**

Terminals 1 and 2	Continuity
-------------------	------------

**NG**

**Replace AHC motor relay.**

**OK**

**6 Check for open and short circuit in harness and connector between AHC pump & motor and suspension control ECU, AHC motor relay and battery (See page IN-35).**

**NG**

**Repair or replace harness or connector.**

**OK**

**Clear the DTC (See page DI-208).**

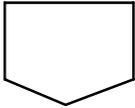
<b>DTC</b>	<b>C1761 / 61</b>	<b>Malfunction in ECU (Memory Error)</b>
------------	-------------------	--

**CIRCUIT DESCRIPTION**

DTC No.	DTC Detecting Condition	Trouble Area
C1761 / 61	When the EEPROM of the ECU has become abnormal.	• ECU internal memory error

**INSPECTION PROCEDURE**

<b>1</b>	<b>Clear the DTC (See page DI-208).</b>
----------	---



<b>2</b>	<b>Turn the ignition switch ON and check that the DTC is not detected.</b>
----------	--

**YES****No problem.****NO****Check and replace suspension control ECU.**

<b>DTC</b>	<b>C1762 / 62</b>	<b>Fluid Pressure Abnormality (Pump &amp; Motor Does Not Supply Fluid)</b>
------------	-------------------	--

**CIRCUIT DESCRIPTION**

DTC No.	DTC Detecting Condition	Trouble Area
C1762 / 62	Either of the following 1. or 2. is detected: 1. While the motor relay is in operation, the condition that the fluid pressure is less than 0.5 MPa (5.1 kg/cm <sup>2</sup> , 73 psi) continued for 0.6 sec. 2. When the pump motor is in delivering condition, the delivery portion does not change and the fluid pressure change is small.	<ul style="list-style-type: none"> <li>• AHC pump &amp; motor</li> <li>• Fluid pressure sensor</li> <li>• AHC motor relay</li> <li>• Fluid empty</li> </ul>

Fail safe function:

If the DTC C1762 / 62 detected, the height control is prohibited after adjusting the vehicle height to the standard height in case that the height is higher than the standard or to the lowest wheel of the 4 wheels in case that the height is lower than the standard.

**INSPECTION PROCEDURE**

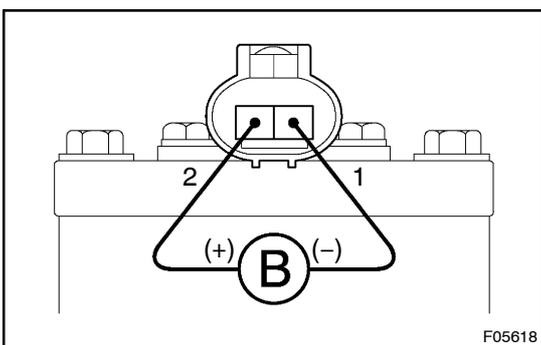
<b>1</b>	<b>Check fluid level of the reservoir tank (See page SA-303).</b>
----------	---

NG

Fill the reservoir tank with suspension fluid AHC.

OK

<b>2</b>	<b>Check operation of AHC pump &amp; motor.</b>
----------	---



**PREPARATION:**

Disconnect the AHC pump & motor connector.

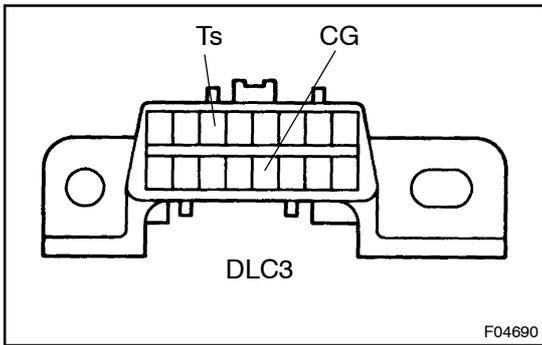
**CHECK:**

Connect positive ⊕ lead to terminal 2 and negative ⊖ lead to terminal 1 of the AHC pump & motor connector, check that the AHC pump & motor is operated.

NG

Replace AHC pump & motor.

OK

**3 Bleed air of AHC & skyhook TEMS hydraulic system.****PREPARATION:**

- (a) Using SST, connect the terminal Ts to CG of DLC3.  
SST 09843-18040
- (b) Push the "DOWN" button of the height select switch 5 times or more within 5 seconds after starting the engine.

**HINT:**

At this time, the height control OFF indicator light flashes at 0.25 second intervals.

**CHECK:**

- (a) Change the damping mode select switch to the "COMFORT" position.
- (b) Push and hold the "UP" button of the height select switch for 10 seconds.

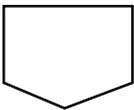
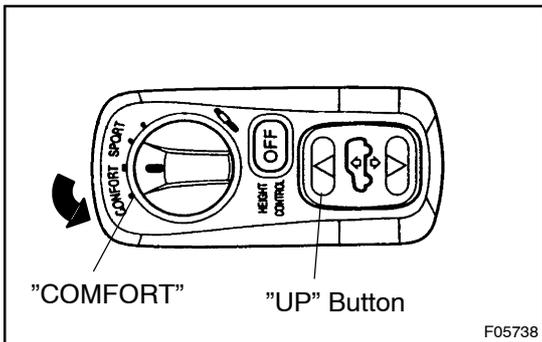
**HINT:**

At this time, the AHC motor relay comes ON in order to raise the vehicle height of the front wheels and air inside of the AHC & skyhook TEMS hydraulic system start to bleed with the pump motor operating.

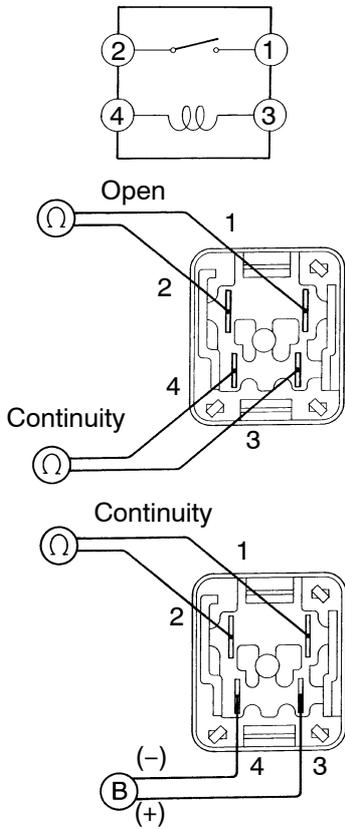
**NOTICE:**

**Do not raise the vehicle height higher than the "HI" position when raising it with the active test.**

- (c) Turn the ignition switch OFF, disconnect SST from DLC3.  
SST 09843-18040



**4 Check AHC motor relay.**



BE1840  
R15257  
R15258

F00044

**PREPARATION:**

Remove the AHC motor relay from Engine Room J/B.

**CHECK:**

Check continuity between each pair of terminal of motor relay.

**OK:**

Terminals 3 and 4	Continuity (Reference value 62 Ω)
Terminals 1 and 2	Open

**CHECK:**

- (a) Apply battery voltage between terminals 3 and 4.
- (b) Check continuity between terminals 1 and 2.

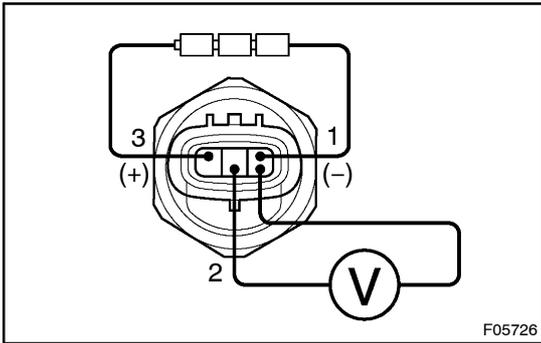
**OK:**

Terminals 1 and 2	Continuity
-------------------	------------

**NG**

**Replace AHC motor relay.**

**OK**

**5 Check fluid pressure sensor.****PREPARATION:**

Disconnect the fluid pressure sensor connector.

**CHECK:**

- Connect 3 dry batteries of 1.5 V in series.
- Connect terminal 3 to the batteries' positive (+) terminal, and terminal 1 to the batteries' negative (-) terminal, then apply voltage about 4.5 V between terminals 1 and 3.
- Measure voltage between terminals 1 and 2.

**OK:**

**Voltage: Approx. 4.5 V**

**NG****Replace fluid pressure sensor.****OK****Clear the DTC (See page DI-208).**

<b>DTC</b>	<b>C1762 / 62</b>	<b>Fluid Pressure Abnormality (Pump &amp; Motor Does Not Supply Fluid)</b>
------------	-------------------	--

## CIRCUIT DESCRIPTION

DTC No.	DTC Detecting Condition	Trouble Area
C1762 / 62	Either of the following 1. or 2. is detected: 1. While the motor relay is in operation, the condition that the fluid pressure is less than 0.5 MPa (5.1 kg/cm <sup>2</sup> , 73 psi) continued for 0.6 sec. 2. When the pump motor is in delivering condition, the delivery portion does not change and the fluid pressure change is small.	<ul style="list-style-type: none"> <li>• AHC pump &amp; motor</li> <li>• Fluid pressure sensor</li> <li>• AHC motor relay</li> <li>• Fluid empty</li> </ul>

Fail safe function:

If the DTC C1762 / 62 detected, the height control is prohibited after adjusting the vehicle height to the standard height in case that the height is higher than the standard or to the lowest wheel of the 4 wheels in case that the height is lower than the standard.

## INSPECTION PROCEDURE

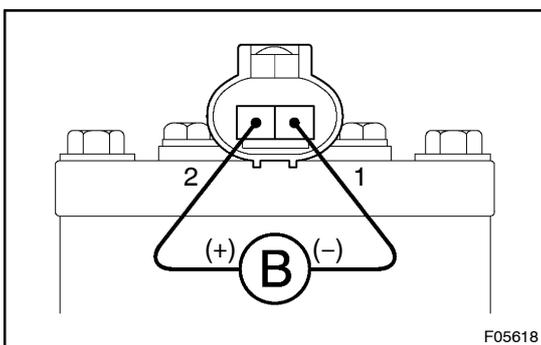
<b>1</b>	<b>Check fluid level of the reservoir tank (See Pub. No. RM616E on page SA-303).</b>
----------	--

**NG**

**Fill the reservoir tank with suspension fluid AHC.**

**OK**

<b>2</b>	<b>Check operation of AHC pump &amp; motor.</b>
----------	---



### PREPARATION:

Disconnect the AHC pump & motor connector.

### CHECK:

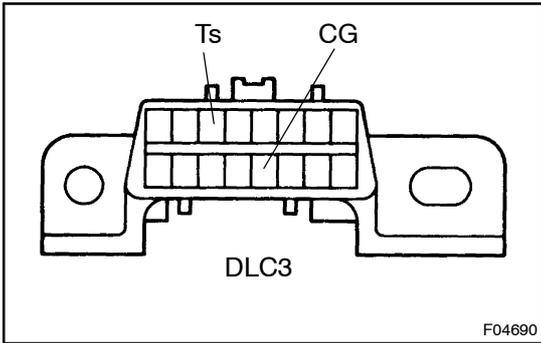
Connect positive ⊕ lead to terminal 2 and negative ⊖ lead to terminal 1 of the AHC pump & motor connector, check that the AHC pump & motor is operated.

**NG**

**Replace AHC pump & motor.**

**OK**

**3 Bleed air of AHC & skyhook TEMS hydraulic system.**



**PREPARATION:**

- (a) Using SST, connect the terminal Ts to CG of DLC3.  
SST 09843-18040
- (b) Push the "DOWN" button of the height select switch 5 times or more within 5 seconds after starting the engine.

**HINT:**

At this time, the height control OFF indicator light flashes at 0.25 second intervals.

**CHECK:**

- (a) Change the damping mode select switch to the "COMFORT" position.
- (b) Push and hold the "UP" button of the height select switch for 10 seconds.

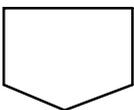
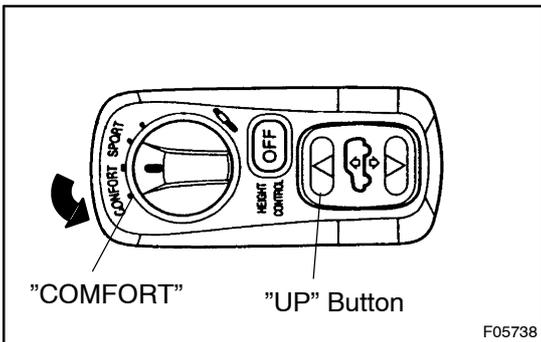
**HINT:**

At this time, the AHC motor relay comes ON in order to raise the vehicle height of the front wheels and air inside of the AHC & skyhook TEMS hydraulic system start to bleed with the pump motor operating.

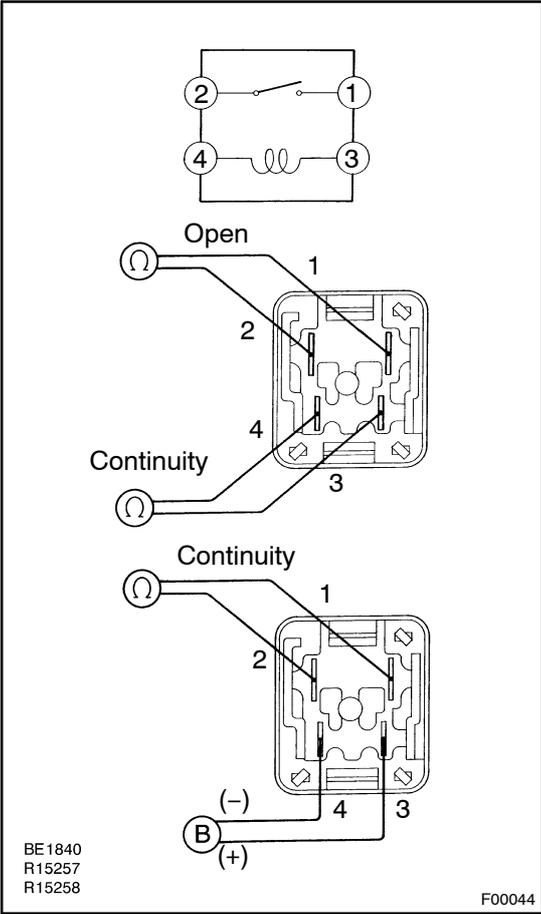
**NOTICE:**

**Do not raise the vehicle height higher than the "HI" position when raising it with the active test.**

- (c) Turn the ignition switch OFF, disconnect SST from DLC3.  
SST 09843-18040



**4 Check AHC motor relay.**



**PREPARATION:**

Remove the AHC motor relay from Engine Room J/B.

**CHECK:**

Check continuity between each pair of terminal of motor relay.

**OK:**

Terminals 3 and 4	Continuity (Reference value 62 Ω)
Terminals 1 and 2	Open

**CHECK:**

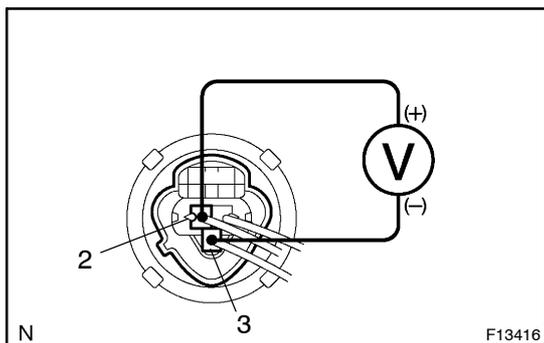
- (a) Apply battery voltage between terminals 3 and 4.
- (b) Check continuity between terminals 1 and 2.

**OK:**

Terminals 1 and 2	Continuity
-------------------	------------

**NG** Replace AHC motor relay.

**OK**

**5 Check fluid pressure sensor.****PREPARATION:**

Start the engine and push the vehicle height select switch to select the "N" mode.

**CHECK:**

Measure voltage between terminals 2 and 3 of the fluid pressure sensor connector.

**OK:**

**Voltage: 1.48 – 1.85**

**NG****Replace fluid pressure sensor.****OK****Clear the DTC (See Pub. No. RM616E on page DI-208).**

<b>DTC</b>	<b>C1763 / 63, C1764 / 64</b>	<b>Fluid Pressure Abnormality (Valve Does Not Open)</b>
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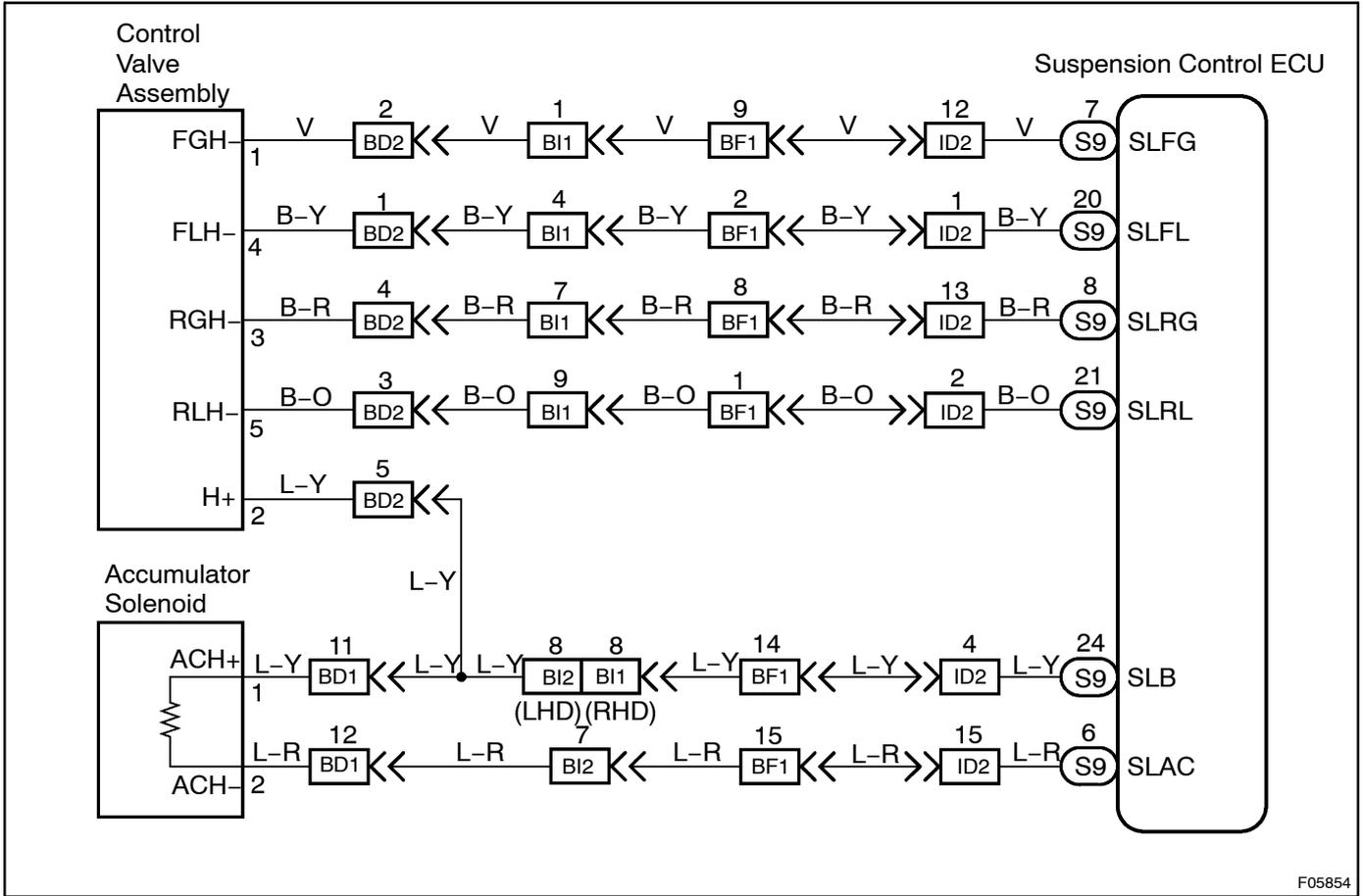
## CIRCUIT DESCRIPTION

DTC No.	DTC Detecting Condition	Trouble Area
C1763 / 63	When the pump & motor is ON and the pump delivery pressure has exceeded 15.8 MPa (161 kgf/cm <sup>2</sup> , 2,290 psi) continuously for 0.3 sec.	<ul style="list-style-type: none"> <li>• Control valve assembly</li> <li>• Control valve assembly circuit</li> <li>• Fluid pressure sensor</li> <li>• Fluid clog in the fluid line or each solenoid valve</li> </ul>
C1764 / 64		<ul style="list-style-type: none"> <li>• Height control accumulator</li> <li>• Height control accumulator circuit</li> <li>• Fluid pressure sensor</li> <li>• Fluid clog in the fluid line or each solenoid valve</li> </ul>

### Fail safe function:

- If the DTC C1763 / 63 detected, the height control is prohibited after the following controls have been performed.
  - ◆ In case that the height of the defect wheel is –10 mm (–0.4 in.) to +10 mm (0.4 in.) against the other wheels, adjust the normal wheels to the standard height.
  - ◆ In case that the height of the defect wheel is more than 10 mm (0.4 in.) higher than the other wheels, adjust the normal wheels 10 mm (0.4 in.) higher.
  - ◆ In case that the height of the defect wheel is less than 10 mm (0.4 in.) lower than the other wheels, adjust the normal wheels 10 mm (0.4 in.) lower.
- If the DTC C1764 / 64 detected, the ECU prohibits the control of accumulating and releasing of the pressure of the height control accumulator.

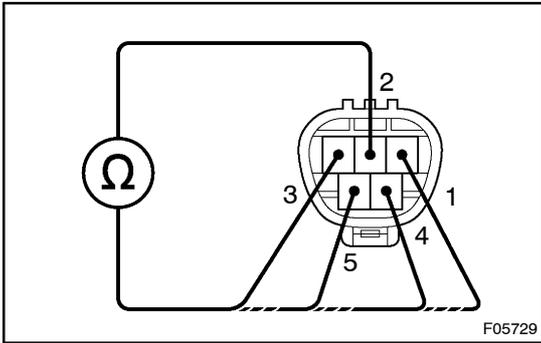
# WIRING DIAGRAM



F05854

## INSPECTION PROCEDURE

### 1 Check control valve solenoid and accumulator solenoid.



#### CONTROL VALVE SOLENOID

##### PREPARATION:

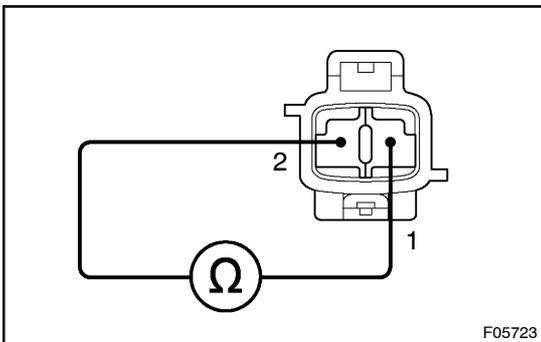
Disconnect the control valve assembly connector.

##### CHECK:

Check continuity between terminals 2 and 1, 3, 4, 5 of the control valve assembly connector.

##### OK:

**Continuity**



#### ACCUMULATOR SOLENOID

##### PREPARATION:

Disconnect the accumulator solenoid connector from the height control accumulator.

##### CHECK:

Check continuity between terminals 1 and 2 of the accumulator solenoid connector.

##### OK:

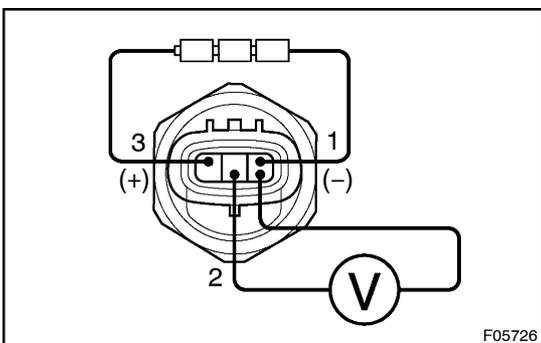
**Continuity**

**NG**

**Replace control valve assembly or accumulator solenoid.**

**OK**

### 2 Check fluid pressure sensor.



##### PREPARATION:

Disconnect the fluid pressure sensor connector.

##### CHECK:

- Connect 3 dry batteries of 1.5 V in series.
- Connect terminal 3 to the batteries' positive (+) terminal, and terminal 1 to the batteries' negative (-) terminal, then apply voltage about 4.5 V between terminals 1 and 3.
- Measure voltage between terminals 1 and 2.

##### OK:

**Voltage: Approx. 4.5 V**

**NG**

**Replace fluid pressure sensor.**

**OK**

- |          |  |
|----------|--|
| <b>3</b> | <b>Check for open and short circuit in harness and connector between control valve assembly, height control accumulator and suspension control ECU (See <a href="#">page IN-35</a>).</b> |
|----------|--|

**NG**

**Repair or replace harness or connector.**

**OK**

**Clear the DTC (See [page DI-208](#)).**

<b>DTC</b>	<b>C1763 / 63, C1764 / 64</b>	<b>Fluid Pressure Abnormality (Valve Does Not Open)</b>
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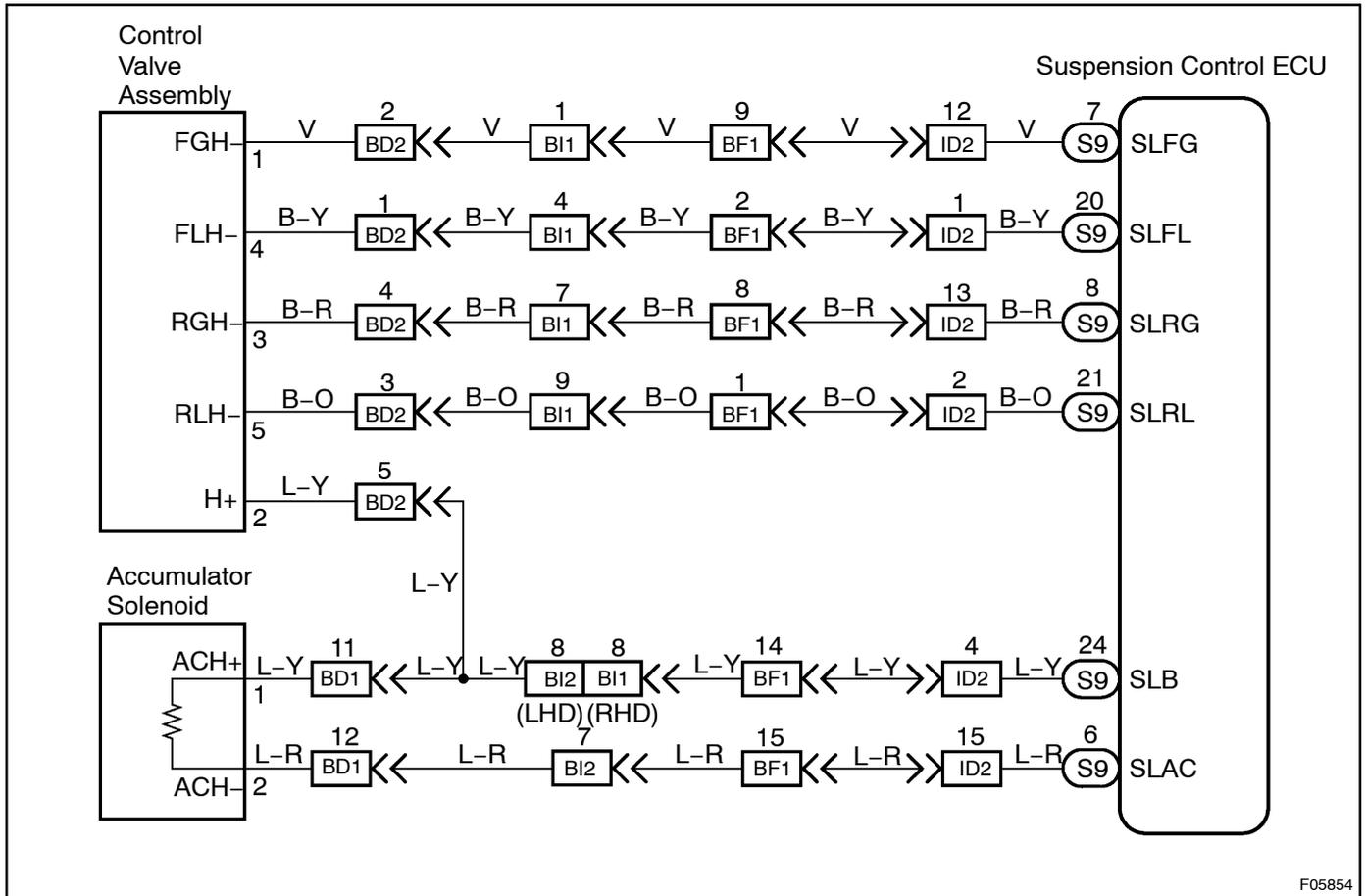
## CIRCUIT DESCRIPTION

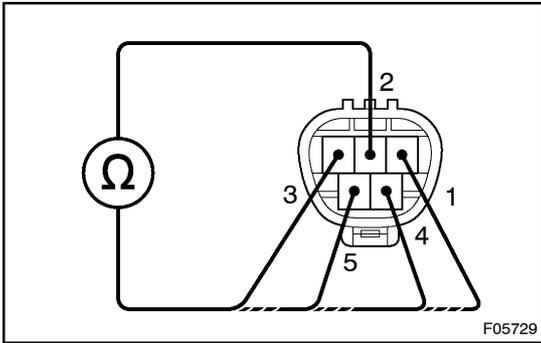
DTC No.	DTC Detecting Condition	Trouble Area
C1763 / 63	When the pump & motor is ON and the pump delivery pressure has exceeded 15.8 MPa (161 kgf/cm <sup>2</sup> , 2,290 psi) continuously for 0.3 sec.	<ul style="list-style-type: none"> <li>• Control valve assembly</li> <li>• Control valve assembly circuit</li> <li>• Fluid pressure sensor</li> <li>• Fluid clog in the fluid line or each solenoid valve</li> </ul>
C1764 / 64		<ul style="list-style-type: none"> <li>• Height control accumulator</li> <li>• Height control accumulator circuit</li> <li>• Fluid pressure sensor</li> <li>• Fluid clog in the fluid line or each solenoid valve</li> </ul>

### Fail safe function:

- If the DTC C1763 / 63 detected, the height control is prohibited after the following controls have been performed.
  - ◆ In case that the height of the defect wheel is -10 mm (-0.4 in.) to +10 mm (0.4 in.) against the other wheels, adjust the normal wheels to the standard height.
  - ◆ In case that the height of the defect wheel is more than 10 mm (0.4 in.) higher than the other wheels, adjust the normal wheels 10 mm (0.4 in.) higher.
  - ◆ In case that the height of the defect wheel is less than 10 mm (0.4 in.) lower than the other wheels, adjust the normal wheels 10 mm (0.4 in.) lower.
- If the DTC C1764 / 64 detected, the ECU prohibits the control of accumulating and releasing of the pressure of the height control accumulator.

**WIRING DIAGRAM**



**INSPECTION PROCEDURE****1 Check control valve solenoid and accumulator solenoid.****CONTROL VALVE SOLENOID****PREPARATION:**

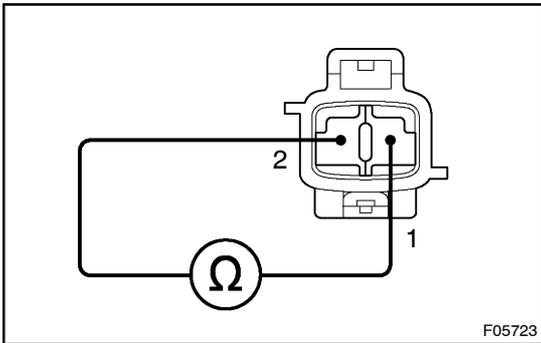
Disconnect the control valve assembly connector.

**CHECK:**

Check continuity between terminals 2 and 1, 3, 4, 5 of the control valve assembly connector.

**OK:**

**Continuity**

**ACCUMULATOR SOLENOID****PREPARATION:**

Disconnect the accumulator solenoid connector from the height control accumulator.

**CHECK:**

Check continuity between terminals 1 and 2 of the accumulator solenoid connector.

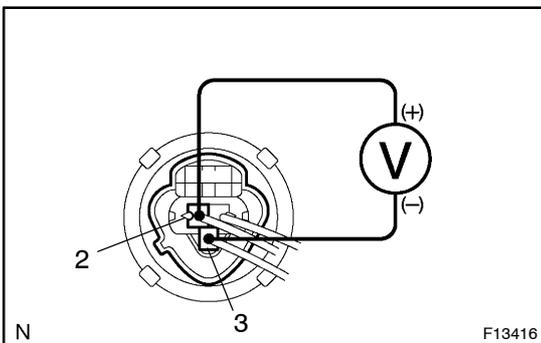
**OK:**

**Continuity**

**NG**

**Replace control valve assembly or accumulator solenoid.**

**OK**

**2 Check fluid pressure sensor.****PREPARATION:**

Start the engine and push the vehicle height select switch to select the "N" mode.

**CHECK:**

Measure voltage between terminals 2 and 3 of the fluid pressure sensor connector.

**OK:**

**Voltage: 1.48 - 1.85**

**NG**

**Replace fluid pressure sensor.**

**OK**

**3** Check for open and short circuit in harness and connector between control valve assembly, height control accumulator and suspension control ECU (See [page IN-35](#)).

NG

Repair or replace harness or connector.

OK

Clear the DTC (See Pub. No. RM616E on page DI-208).

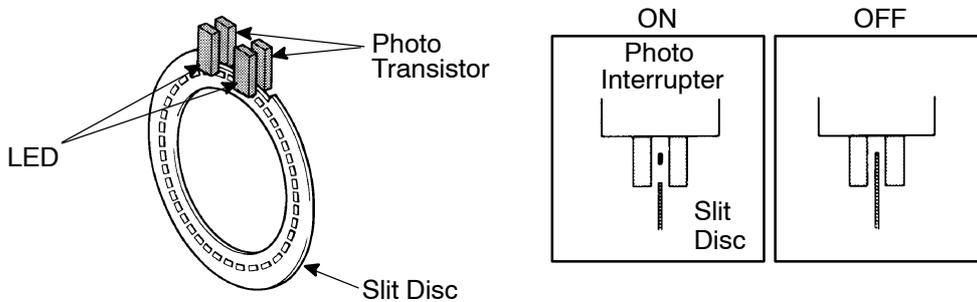
<b>DTC</b>	<b>C1781 / 81</b>	<b>Steering Angle Sensor Circuit</b>
------------	-------------------	--------------------------------------

**CIRCUIT DESCRIPTION**

The steering angle sensor is fitted to the turn signal switch assembly and detects the steering rotating direction and angle.

The sensor consists of a slit disc that rotates with the steering wheel as a unit, and a pair of photo interrupters. Each photo interrupter consists of an LED (Light Emitting Diode) and a photo transistor, located facing each other. It converts the change in the light irradiation between the two elements to the on/off signals. The slit disc rotates between the LED and the photo transistor of the pair of photo interrupters. As the steering wheel is operated, the slit disc rotates with the wheel as a unit and shuts and makes the light transmission between the 2 elements. The pair of photo interrupters have phases and the suspension control ECU detects the steering direction and angle based on the changes of the each output.

And when it is judged that the steering wheel’s turning angle is large and the speed is greater than a set value, the ECU causes the damping force to increase.

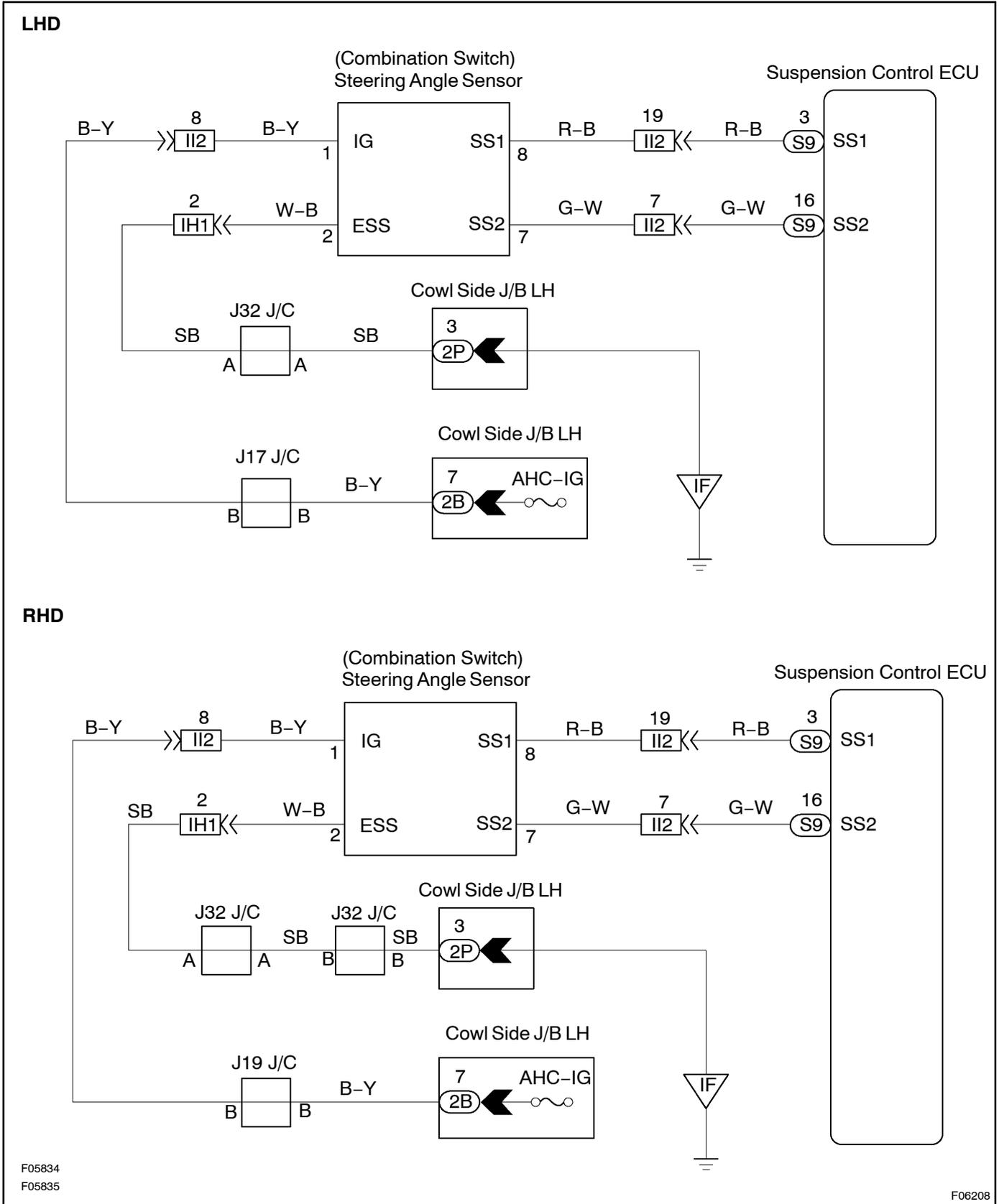


R05437 SA0851

F00424

DTC No.	DTC Detecting Condition	Trouble Area
C1781 / 81	Steering angle 36° or larger signal does not input.	<ul style="list-style-type: none"> <li>• Steering angle sensor</li> <li>• Steering angle sensor circuit</li> <li>• Suspension control ECU</li> </ul>

WIRING DIAGRAM



## INSPECTION PROCEDURE

1	<b>Check output value of steering angle sensor.</b>
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### IN CASE OF USING HAND-HELD TESTER:

#### PREPARATION:

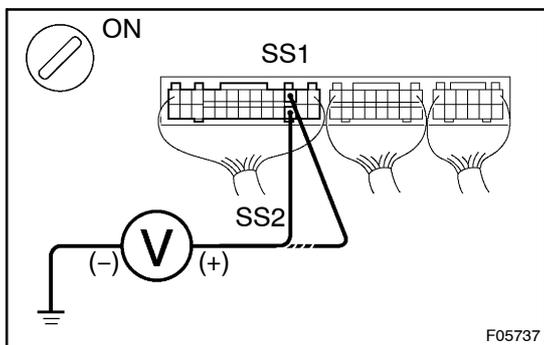
- (a) Connect the hand-held tester to the DLC3.
- (b) Turn the ignition switch ON and push the hand-held tester main switch ON.
- (c) Select the DATALIST mode on the hand-held tester.

#### CHECK:

Check that the steering wheel turning angle value of the steering angle sensor displayed by the hand-held tester is changing when turning the steering wheel.

#### OK:

**Steering angle turning value must be changing.**



### IN CASE OF NOT USING HAND-HELD TESTER:

#### PREPARATION:

Remove the suspension control ECU with connectors still connected.

#### CHECK:

- (a) Turn the ignition switch ON.
- (b) Measure voltage between terminals SS1 and SS2 of suspension control ECU connector and body ground when steering wheel is being turned slowly.

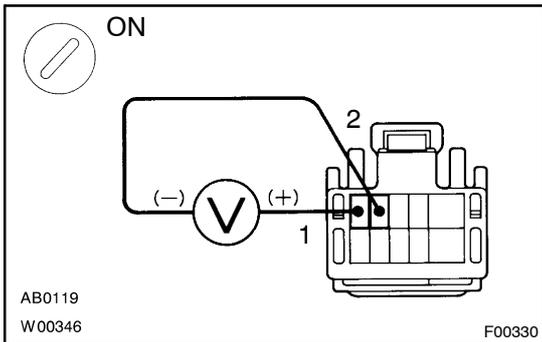
#### OK:

**Voltage: Changes between 0 V and approx. 5 V.**

<b>OK</b>	<b>No problem.</b>
-----------	--------------------



## 2 Check voltage between terminals 1 and 2 of steering angle sensor connector.



### PREPARATION:

- Remove the steering wheel lower No. 2 and No. 3 covers, steering wheel pad, steering wheel column upper and lower covers (See page SR-13).
- Disconnect the combination switch connector (for steering angle sensor).

### CHECK:

- Turn the ignition switch ON.
- Measure voltage between terminals 1 and 2 of steering angle sensor connector.

### OK:

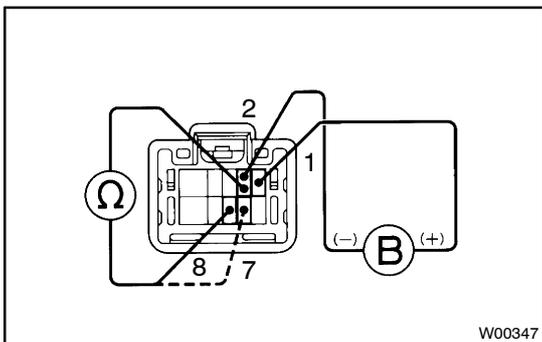
**Voltage: 9 – 14 V**

**NG**

**Check and repair harness and connector between battery and steering angle sensor, steering angle sensor and body ground.**

**OK**

## 3 Check steering angle sensor.



### PREPARATION:

Apply battery voltage between terminals 1 and 2.

### CHECK:

Measure resistance between terminals 2 and 7, 8 of steering angle sensor connector when the rotating part of steering angle sensor is turned slowly.

### OK:

**Resistance: Changes between 0  $\Omega$  and  $\infty \Omega$ .**

**NG**

**Replace steering angle sensor.**

**OK**

**4** Check for open and short circuit in harness and connector between steering angle sensor and suspension control ECU ([See page IN-35](#)).

**NG**

Repair or replace harness or connector.

**OK**

Check and replace suspension control ECU.

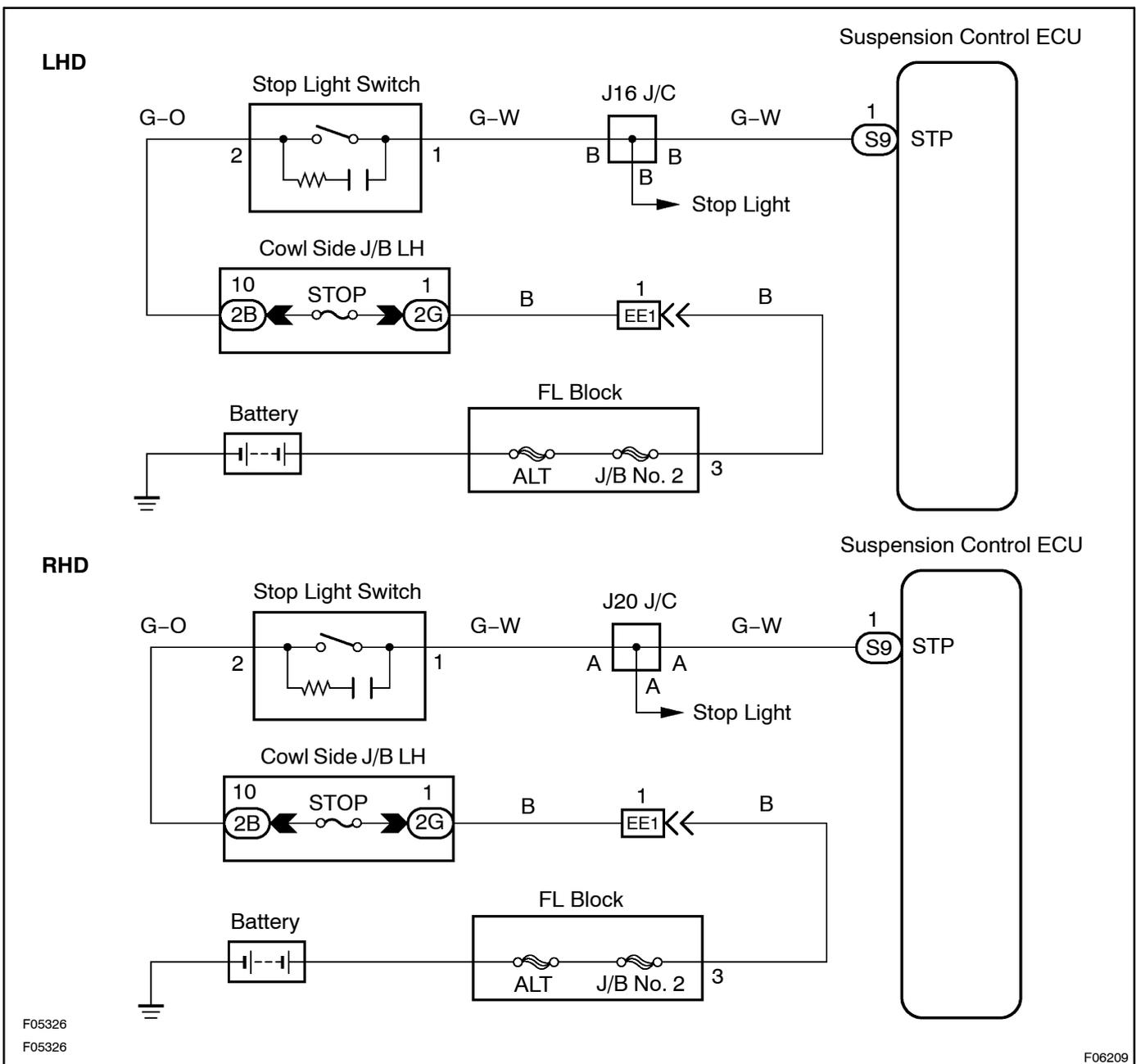
<b>DTC</b>	<b>C1782 / 82</b>	<b>Stop Light Switch Circuit</b>
------------	-------------------	----------------------------------

### CIRCUIT DESCRIPTION

When the brake pedal is depressed, the stop light switch comes on and battery voltage is applied to terminal STP of ECU. This signal is used by the ECU as one of the starting conditions for anti-dive control.

DTC No.	DTC Detecting Condition	Trouble Area
C1782 / 82	Stop light switch signal does not change.	<ul style="list-style-type: none"> <li>• Stop light switch</li> <li>• Stop light switch circuit</li> <li>• Suspension control ECU</li> </ul>

### WIRING DIAGRAM



## INSPECTION PROCEDURE

<b>1</b>	<b>Check operation of stop light.</b>
----------	---------------------------------------

**CHECK:**

Check that the stop light comes on when the brake pedal is depressed and turns off when the brake pedal is released.

**NG**

**Check stop light circuit (See page BE-58).**

**OK**

<b>2</b>	<b>Check output signal of stop light switch.</b>
----------	--

**IN CASE OF USING HAND-HELD TESTER:**

**PREPARATION:**

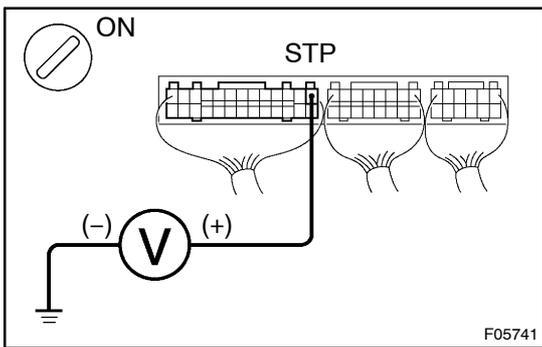
- (a) Connect the hand-held tester to the DLC3.
- (b) Turn the ignition switch ON and push the hand-held tester main switch ON.
- (c) Select the DATALIST mode on the hand-held tester.

**CHECK:**

Check the stop light switch condition displayed on the hand-held tester when depressing and releasing the brake pedal.

**OK:**

**When the brake pedal is depressed: "ON" is displayed for stop light switch condition.**  
**When the brake pedal is released: "OFF" is displayed for stop light switch condition.**



**IN CASE OF NOT USING HAND-HELD TESTER:**

**PREPARATION:**

Remove the suspension control ECU with connectors still connected.

**CHECK:**

- (a) Turn the ignition switch ON.
- (b) Measure voltage between terminal STP of suspension control ECU connector and body ground when brake pedal is released and depressed.

**OK:**

Brake pedal	Voltage
Depressed	9 – 14 V
Released	Below 1.5 V

**OK**

**No problem.**

**NG**

3

Check for open circuit in harness and connector between stop light switch and suspension control ECU ([See page IN-35](#)).

NG

Repair or replace harness or connector.

OK

Check and replace suspension control ECU.

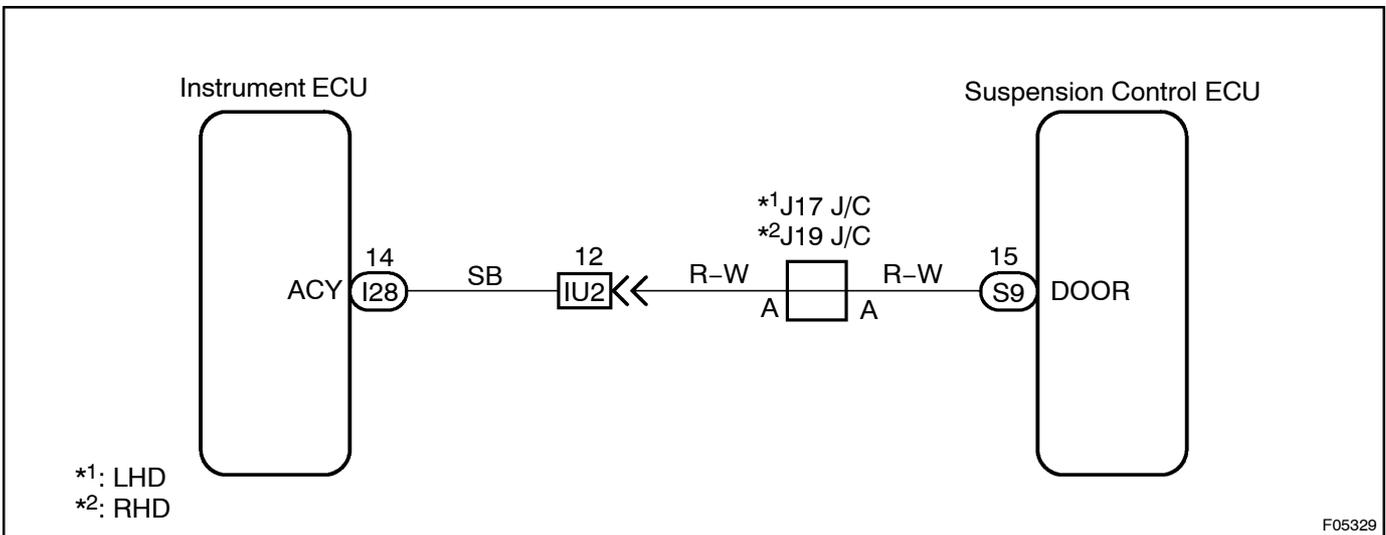
<b>DTC</b>	<b>C1783 / 83</b>	<b>Door Courtesy Switch Circuit</b>
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### CIRCUIT DESCRIPTION

The door courtesy switch comes on when the door is opened and goes off when the door is closed. Therefore, battery positive voltage is applied to the terminal DOOR of the ECU when all the doors are closed and 0 V is applied when even one door is opened.

DTC No.	DTC Detecting Condition	Trouble Area
C1783 / 83	Door courtesy switch signal does not change.	<ul style="list-style-type: none"> <li>• Door courtesy switch</li> <li>• Door courtesy switch circuit</li> <li>• Instrument ECU</li> <li>• Suspension control ECU</li> </ul>

### WIRING DIAGRAM



### INSPECTION PROCEDURE

<b>1</b>	<b>Check operation of open door warning light.</b>
----------	--

**CHECK:**

Check that open door warning light comes on when each door is opened and goes off when all doors are closed.

NG

**Check open door warning light circuit (See page [BE-78](#)).**

**OK**

## 2 Check output signal of door courtesy switch.

### IN CASE OF USING HAND-HELD TESTER:

#### PREPARATION:

- Connect the hand-held tester to the DLC3.
- Turn the ignition switch ON and push the hand-held tester main switch ON.
- Select the DATALIST mode on the hand-held tester.

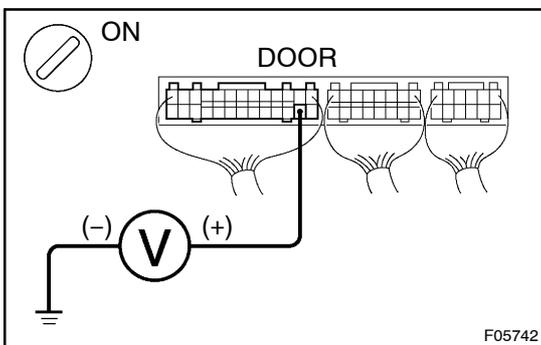
#### CHECK:

Check the door courtesy switch condition displayed on the hand-held tester when all doors are closed and each door is opened.

#### OK:

When each door is opened: "ON" is displayed for door courtesy switch condition.

When all doors are closed: "OFF" is displayed for door courtesy switch condition.



### IN CASE OF NOT USING HAND-HELD TESTER:

#### PREPARATION:

Remove the suspension control ECU with connectors still connected.

#### CHECK:

- Turn the ignition switch ON.
- Measure voltage between terminal DOOR of suspension control ECU connector and body ground when all doors are closed and each door is opened.

#### OK:

Door condition	Voltage
All doors closed	9 - 14 V
Each door opened	Below 1.5 V

OK

No problem.

NG

## 3 Check for open circuit in harness and connector between instrument ECU and suspension control ECU (See page IN-35).

NG

Repair or replace harness or connector.

OK

Check and replace suspension control ECU.

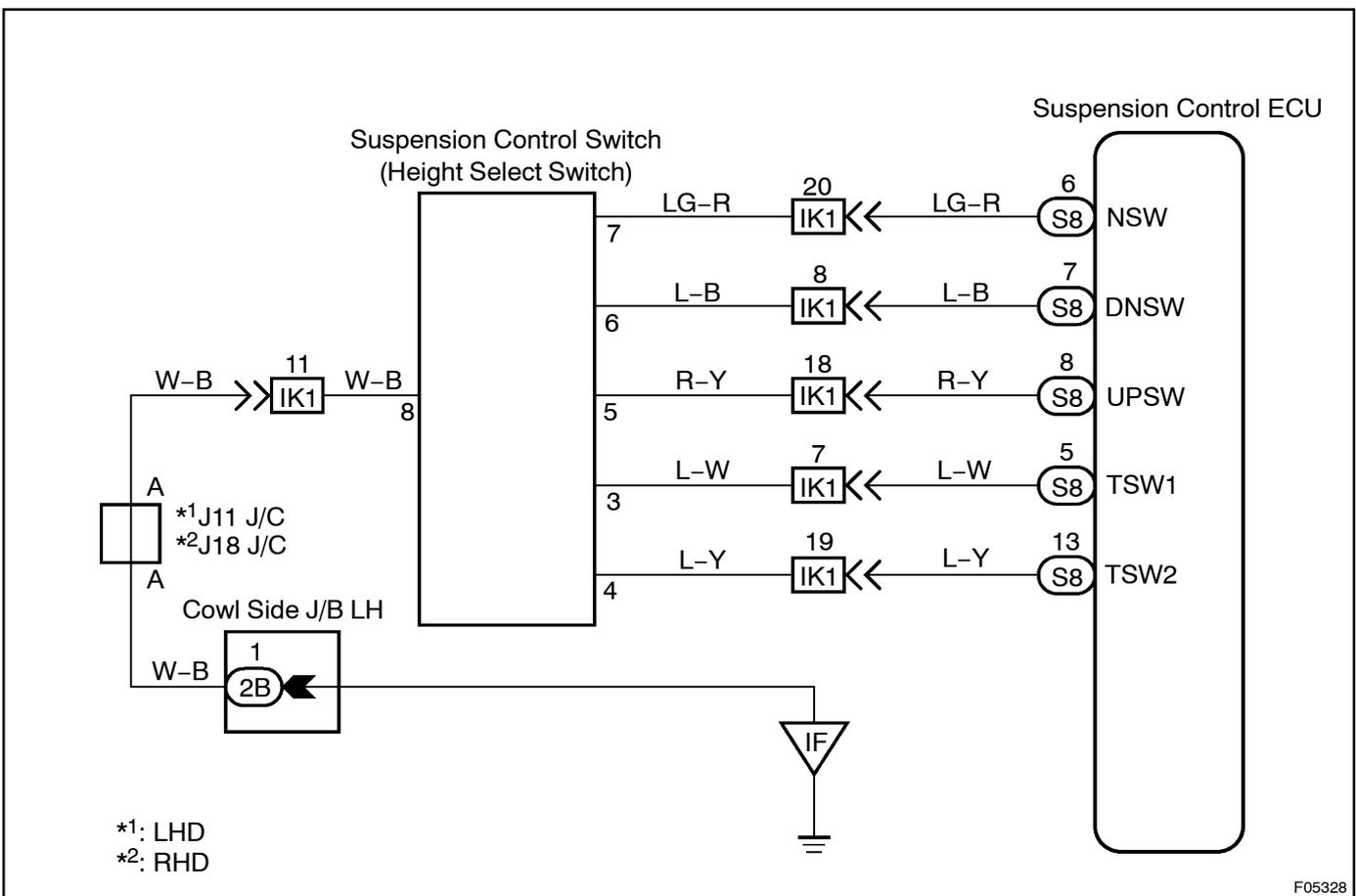
<b>DTC</b>	<b>C1786 / 86</b>	<b>Height Select Switch Circuit</b>
------------	-------------------	-------------------------------------

### CIRCUIT DESCRIPTION

This circuit sending the signal to ECU in order to adjust the height to the aimed height selected by the height select switch.

DTC No.	DTC Detecting Condition	Trouble Area
C1786 / 86	Height select switch signal does not change.	<ul style="list-style-type: none"> <li>• Height select switch</li> <li>• Height select switch circuit</li> <li>• Suspension control ECU</li> </ul>

### WIRING DIAGRAM



**INSPECTION PROCEDURE**

1	<b>Check output signal of height select switch.</b>
---	---

**IN CASE OF USING HAND-HELD TESTER:****PREPARATION:**

- (a) Connect the hand-held tester to the DLC3.
- (b) Turn the ignition switch ON and push the hand-held tester main switch ON.
- (c) Select the DATALIST mode on the hand-held tester.

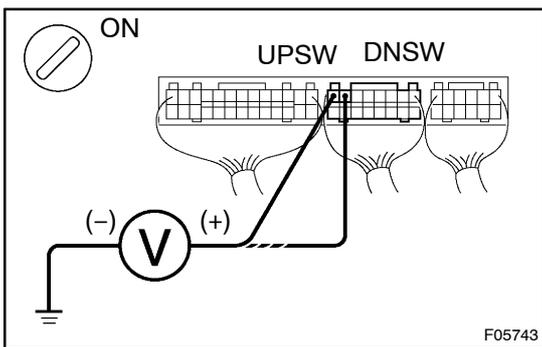
**CHECK:**

Check the height select switch condition displayed on the hand-held tester when pushing "UP" and "DOWN" button of the height select switch.

**OK:**

When "UP" button is pushed: "ON" is displayed for height select up switch condition.

When "DOWN" button is pushed: "ON" is displayed for height select down switch condition.

**IN CASE OF NOT USING HAND-HELD TESTER:****PREPARATION:**

Remove the suspension control ECU with connectors still connected.

**CHECK:**

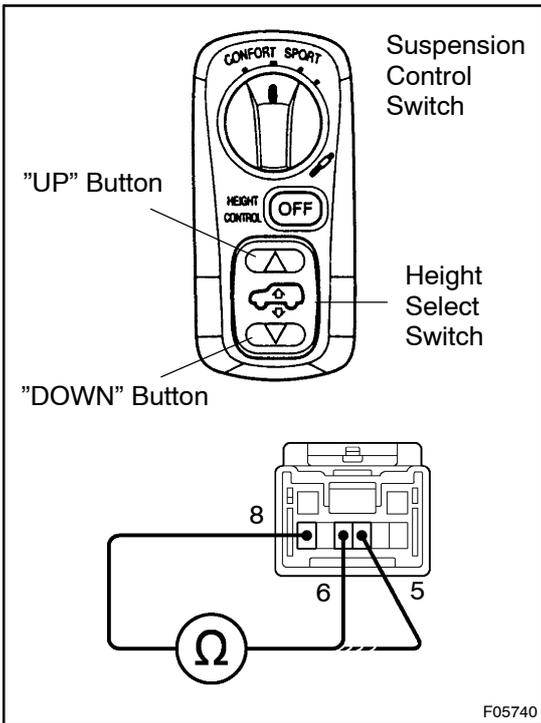
- (a) Turn the ignition switch ON.
- (b) Measure voltage between terminals DNSW and UPSW of suspension control ECU connector and body ground when "DOWN" and "UP" button of height select switch is pushed.

**OK:**

Terminal	Switch condition	Voltage
DNSW - Body ground	"DOWN" button pushed	9 - 14 V
	"UP" button pushed	Below 1.5 V
UPSW - Body ground	"UP" button pushed	9 - 14 V
	"DOWN" button pushed	Below 1.5 V

**OK****No problem.****NG**

**2 Check height select switch.**



**PREPARATION:**

- (a) Remove the suspension control switch.
- (b) Disconnect the suspension control switch (for height select switch) connector.

**CHECK:**

Measure resistance between terminals 5, 6 and 8 of suspension control switch (for height select switch) connector when "UP" and "DOWN" button of the height select switch is pushed.

**OK:**

Terminal	Switch condition	Resistance
5 – 8	"UP" button pushed	0 Ω (Continuity)
	"DOWN" button pushed	∞ Ω (Open)
6 – 8	"DOWN" button pushed	0 Ω (Continuity)
	"UP" button pushed	∞ Ω (Open)

NG

Replace suspension control switch.

OK

**3 Check for open and short circuit in harness and connector between height select switch and suspension control ECU (See page IN-35).**

NG

Repair or replace harness or connector.

OK

Check and replace suspension control ECU.

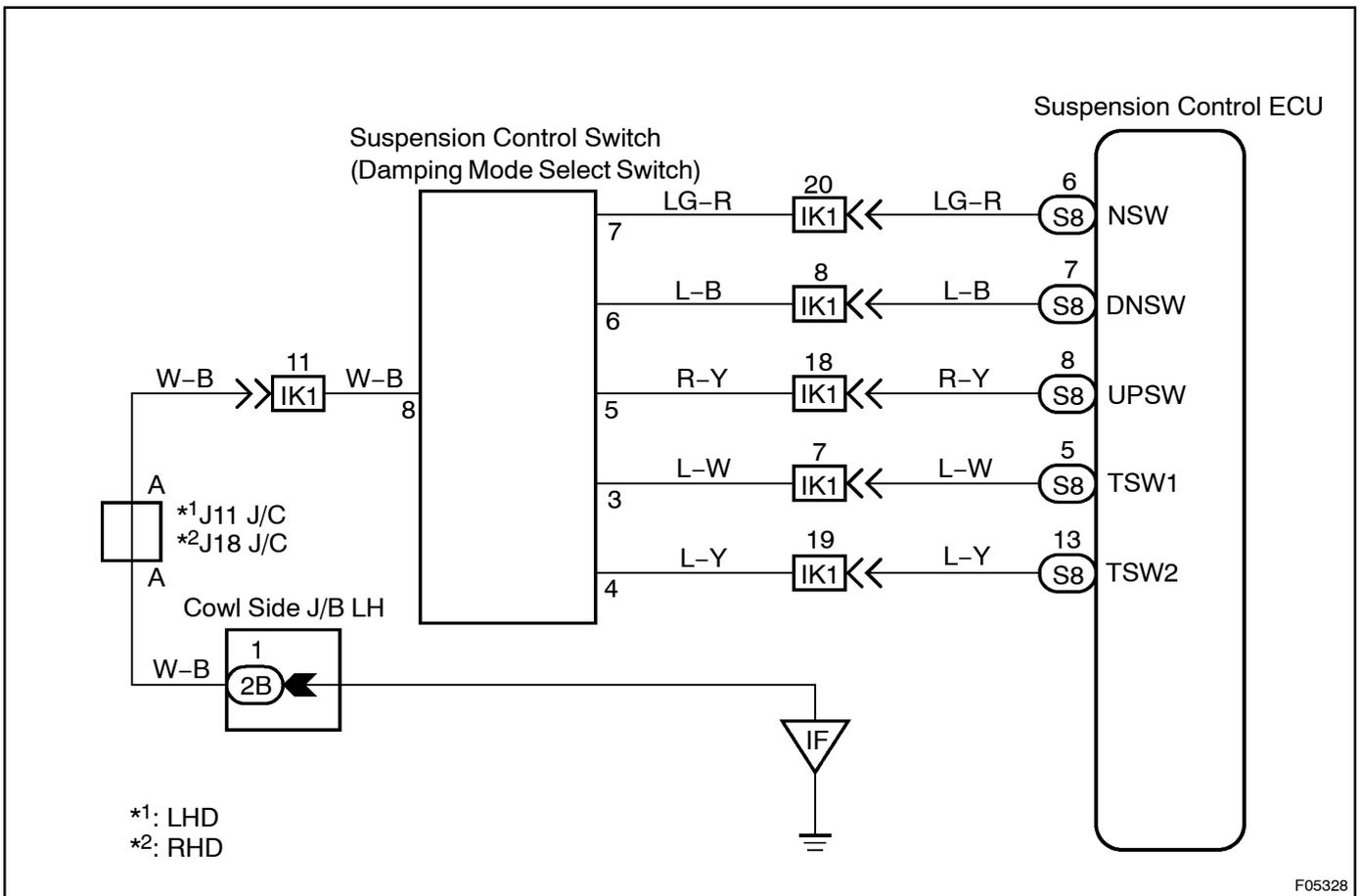
<b>DTC</b>	<b>C1787 / 87</b>	<b>Damping Mode Select Switch Circuit</b>
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**CIRCUIT DESCRIPTION**

This circuit is sending the signal to the ECU to switch over to the damping mode selected by the damping mode select switch.

DTC No.	DTC Detecting Condition	Trouble Area
C1787 / 87	TSW1 and TSW2 of damping mode select switch signals do not change.	<ul style="list-style-type: none"> <li>• Damping mode select switch</li> <li>• Damping mode select switch circuit</li> <li>• Suspension control ECU</li> </ul>

**WIRING DIAGRAM**



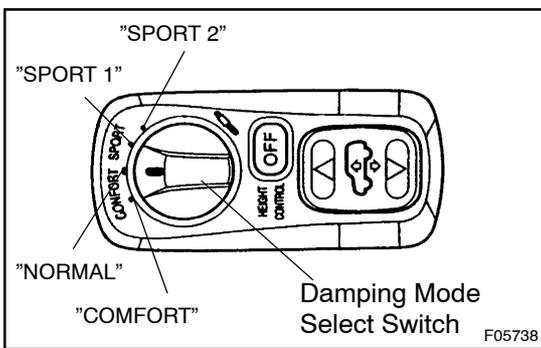
## INSPECTION PROCEDURE

1	<b>Check output signal of damping mode select switch.</b>
---	---

### IN CASE OF USING HAND-HELD TESTER:

#### PREPARATION:

- (a) Connect the hand-held tester to the DLC3.
- (b) Turn the ignition switch ON and push the hand-held tester main switch ON.
- (c) Select the DATALIST mode on the hand-held tester.



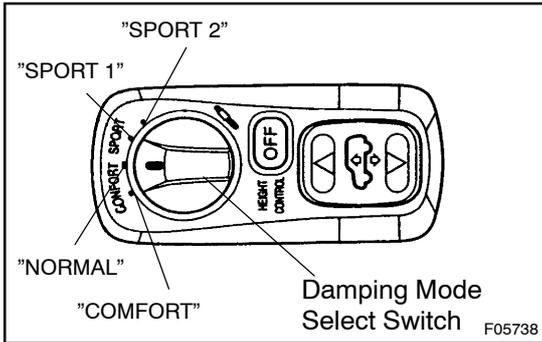
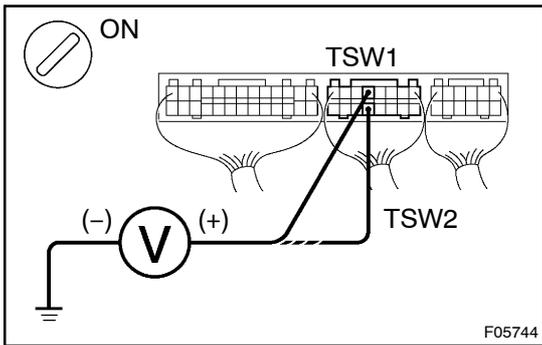
#### CHECK:

Check the damping mode select switch condition displayed on the hand-held tester when changing the damping mode select switch to each mode.

#### OK:

**Damping mode select switch must display the condition as the following table.**

Switch position	Switch condition
"COMFORT"	"ON" is displayed for TSW1 of damping mode select switch condition. "OFF" is displayed for TSW2 of damping mode select switch condition.
"NORMAL"	"ON" is displayed for TSW1 and TSW2 of damping mode select switch condition.
"SPORT 1"	"OFF" is displayed for TSW1 of damping mode select switch condition. "ON" is displayed for TSW2 of damping mode select switch condition.
"SPORT 2"	"OFF" is displayed for TSW1 and TSW2 of damping mode select switch condition.

**IN CASE OF NOT USING HAND-HELD TESTER:****PREPARATION:**

Remove the suspension control ECU with connectors still connected.

**CHECK:**

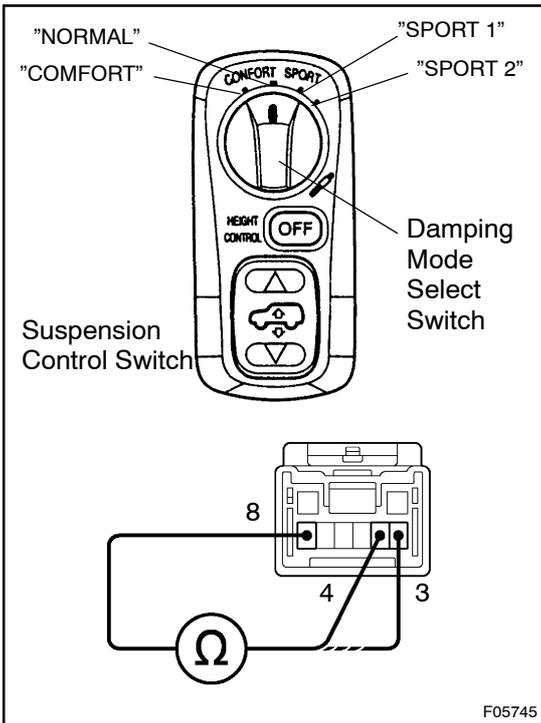
- Turn the ignition switch ON.
- Measure voltage between terminals TSW1 and TSW2 of suspension control ECU connector and body ground when changing the damping mode select switch to each mode.

**OK:**

Terminal	Switch position	Voltage
TSW1 - Body ground	"COMFORT"	9 - 14 V
	"NORMAL"	9 - 14 V
	"SPORT 1"	Below 1.5 V
	"SPORT 2"	Below 1.5 V
TSW2 - Body ground	"COMFORT"	Below 1.5 V
	"NORMAL"	9 - 14 V
	"SPORT 1"	9 - 14 V
	"SPORT 2"	Below 1.5 V

**OK****No problem.****NG**

**2 Check damping mode select switch.**



**PREPARATION:**

- (a) Remove the suspension control switch.
- (b) Disconnect the suspension control switch (for damping mode select switch) connector.

**CHECK:**

Measure resistance between terminals 3, 4 and 8 of suspension control switch (for damping mode select switch) connector when changing the damping mode select switch to each mode.

**OK:**

Terminal	Switch position	Resistance
3 – 8	"COMFORT"	0 Ω (Continuity)
	"NORMAL"	0 Ω (Continuity)
	"SPORT 1"	∞ Ω (Open)
	"SPORT 2"	∞ Ω (Open)
4 – 8	"COMFORT"	∞ Ω (Open)
	"NORMAL"	0 Ω (Continuity)
	"SPORT 1"	0 Ω (Continuity)
	"SPORT 2"	∞ Ω (Open)

**NG**

**Replace suspension control switch.**

**OK**

**3 Check for open and short circuit in harness and connector between damping mode select switch and suspension control ECU (See page IN-35).**

**NG**

**Repair or replace harness or connector.**

**OK**

**Check and replace suspension control ECU.**

<b>DTC</b>	<b>C1788 / 88</b>	<b>Height Control Switch Circuit</b>
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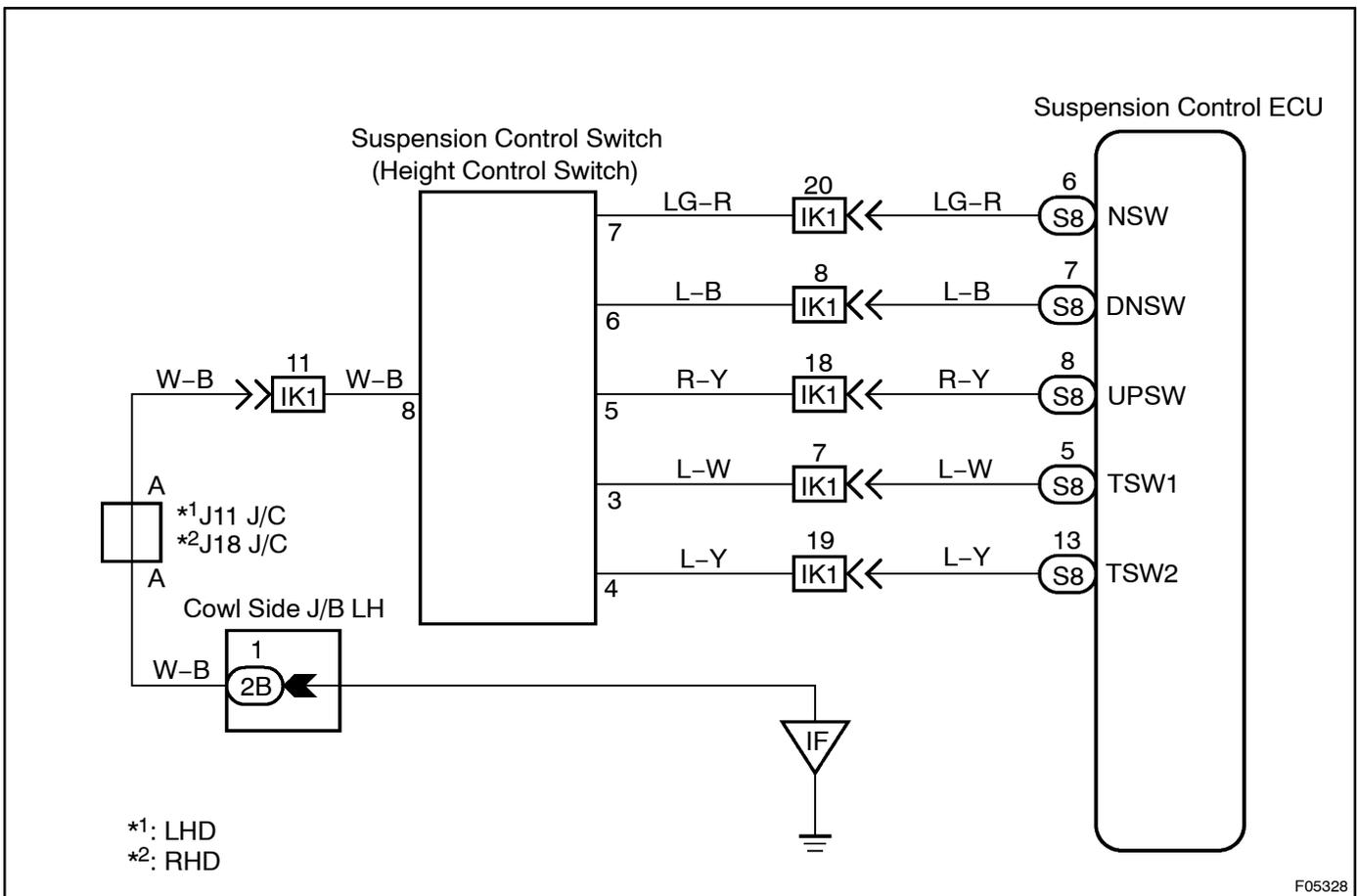
**CIRCUIT DESCRIPTION**

This is the height control system main switch. When the height control switch is pushed, the height control OFF indicator light lights up and height control goes off.

The "OFF" condition of the height control will not be cancelled until the height control switch is pushed again or the vehicle is driven.

DTC No.	DTC Detecting Condition	Trouble Area
C1788 / 88	Height control switch signal does not input.	<ul style="list-style-type: none"> <li>• Height control switch</li> <li>• Height control switch circuit</li> <li>• Suspension control ECU</li> </ul>

**WIRING DIAGRAM**



## INSPECTION PROCEDURE

1	<b>Check output signal of height control switch.</b>
---	--

### IN CASE OF USING HAND-HELD TESTER:

#### PREPARATION:

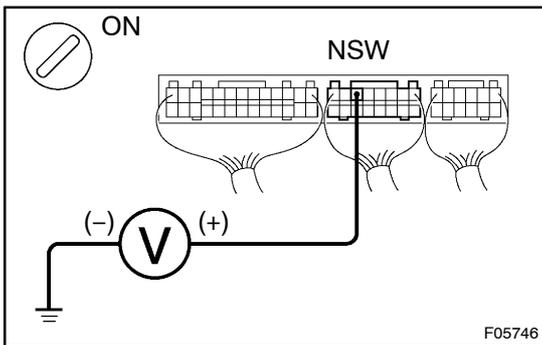
- (a) Connect the hand-held tester to the DLC3.
- (b) Turn the ignition switch ON and push the hand-held tester main switch ON.
- (c) Select the DATALIST mode on the hand-held tester.

#### CHECK:

Check the height control switch condition displayed on the hand-held tester when pushing the height control switch.

#### OK:

When height control switch is pushed: "ON" is displayed for height control switch condition.



### IN CASE OF NOT USING HAND-HELD TESTER:

#### PREPARATION:

Remove the suspension control ECU with connectors still connected.

#### CHECK:

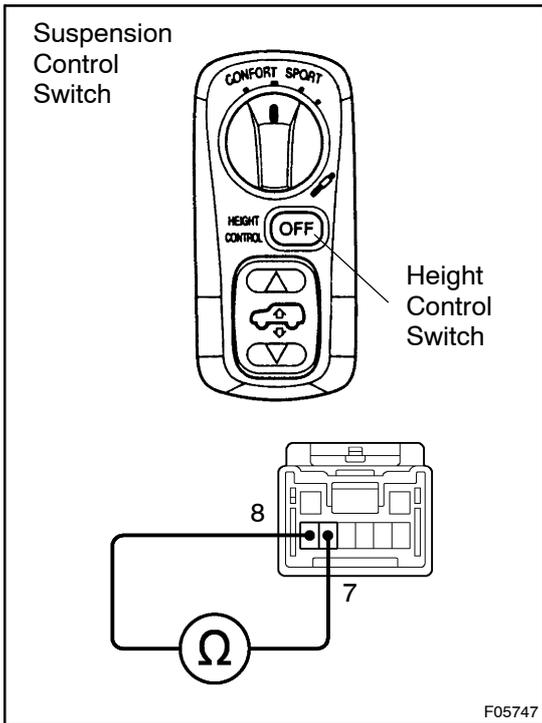
- (a) Turn the ignition switch ON.
- (b) Measure voltage between terminal NSW of suspension control ECU connector and body ground when height control switch is pushed and released.

#### OK:

Switch condition	Voltage
Pushed	9 – 14 V
Released	Below 1.5 V

<b>OK</b>	<b>No problem.</b>
-----------	--------------------



**2 Check height control switch.****PREPARATION:**

- Remove the suspension control switch.
- Disconnect the suspension control switch (for height control switch) connector.

**CHECK:**

Measure resistance between terminals 7 and 8 of suspension control switch (for height control switch) connector when the height control switch is pushed and released.

**OK:**

Terminal	Switch condition	Resistance
7 - 8	Pushed	0 Ω (Continuity)
	Released	∞ Ω (Open)

**NG****Replace suspension control switch.****OK****3 Check for open and short circuit in harness and connector between height control switch and suspension control ECU (See page IN-35).****NG****Repair or replace harness or connector.****OK****Check and replace suspension control ECU.**

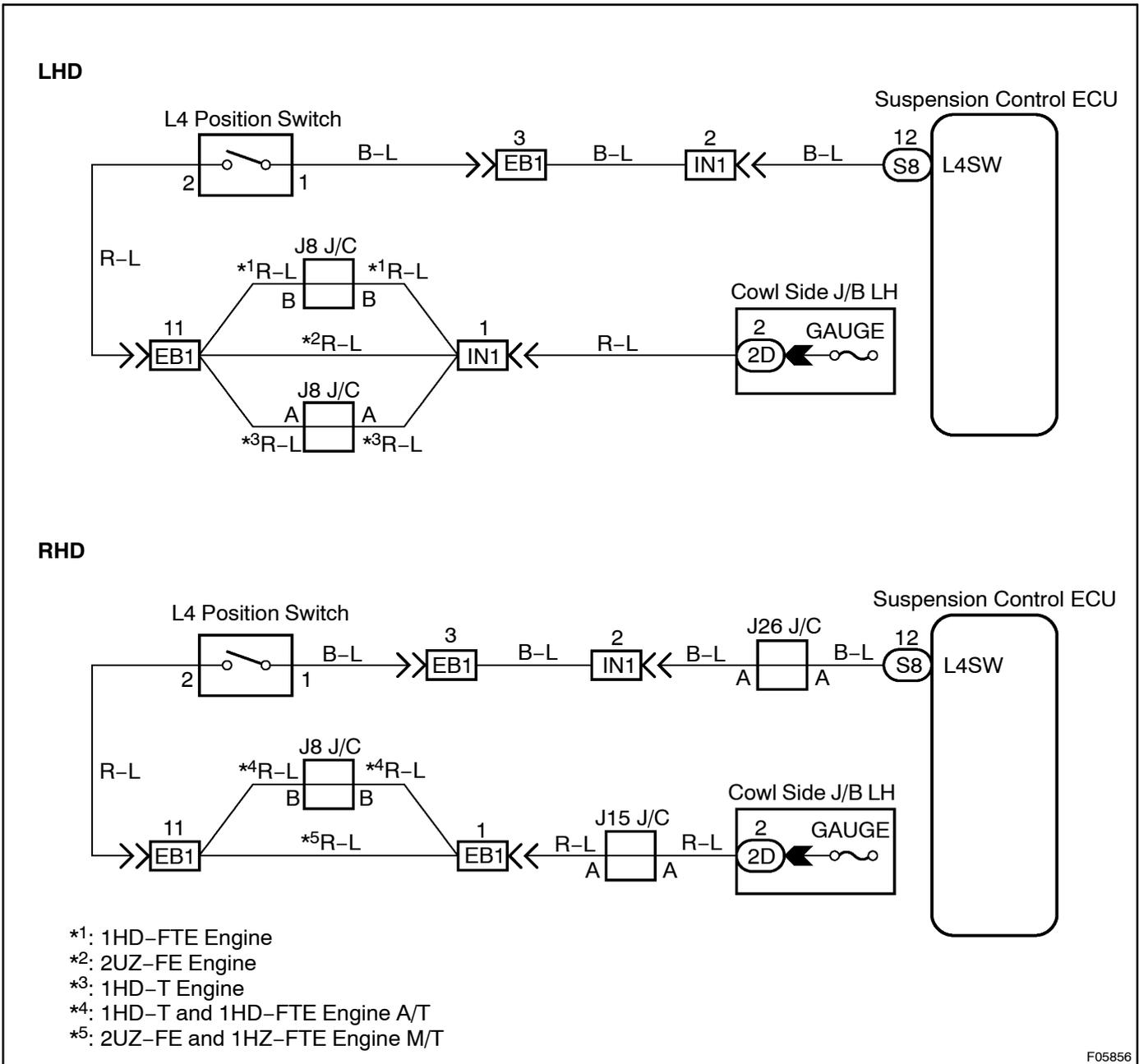
<b>DTC</b>	<b>C1789 / 89</b>	<b>L4 Position Switch Circuit</b>
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**CIRCUIT DESCRIPTION**

This circuit is sending the signal to the ECU by detecting that the transfer shift lever is in "L4" position.

DTC No.	DTC Detecting Condition	Trouble Area
C1789 / 89	L4 position switch signal does not change.	<ul style="list-style-type: none"> <li>• L4 position switch</li> <li>• L4 position switch circuit</li> <li>• Suspension control ECU</li> </ul>

**WIRING DIAGRAM**



**INSPECTION PROCEDURE**

1	<b>Check output signal of L4 position switch.</b>
---	---

**IN CASE OF USING HAND-HELD TESTER:****PREPARATION:**

- (a) Connect the hand-held tester to the DLC3.
- (b) Turn the ignition switch ON and push the hand-held tester main switch ON.
- (c) Select the DATALIST mode on the hand-held tester.

**CHECK:**

Check the L4 position switch condition displayed on the hand-held tester when shifting the transfer shift lever in "L4" and "H4" positions.

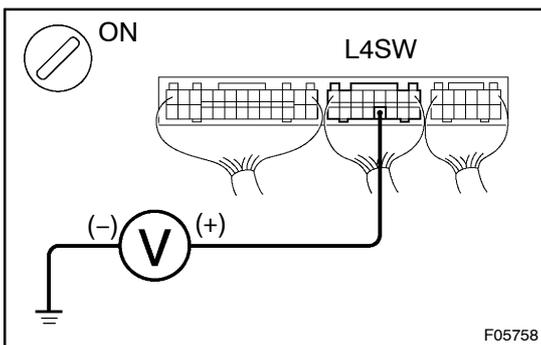
**OK:**

**When the transfer shift lever is shifted in "L4" position:**

**"ON" is displayed for L4 position switch condition.**

**When the transfer shift lever is shifted in "H4" position:**

**"OFF" is displayed for L4 position switch condition.**

**IN CASE OF NOT USING HAND-HELD TESTER:****PREPARATION:**

Remove the suspension control ECU with connectors still connected.

**CHECK:**

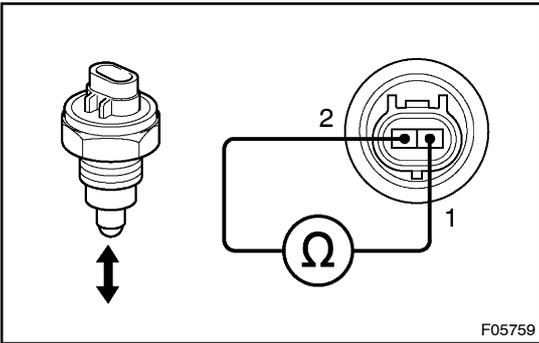
- (a) Turn the ignition switch ON.
- (b) Measure voltage between terminal L4SW of suspension control ECU connector and body ground when transfer shift lever is shifted in "L4" and "H4" position.

**OK:**

Transfer shift lever position	Voltage
L4	Below 1.5 V
H4	9 - 14 V

**OK****No problem.****NG**

**2 Check L4 position switch.**



**PREPARATION:**

- (a) Disconnect the L4 position switch connector.
- (b) Remove the L4 position switch (See page TR-9).

**CHECK:**

Measure resistance between terminals 1 and 2 of L4 position switch connector when the L4 position switch pushed and released.

**OK:**

Switch condition	Resistance
Pushed	0 Ω (Continuity)
Released	∞ Ω (Open)

**NG**

**Replace L4 position switch.**

**OK**

**3 Check for open and short circuit in harness and connector between L4 position switch and suspension control ECU (See page IN-35).**

**NG**

**Repair or replace harness or connector.**

**OK**

**Check and replace suspension control ECU.**

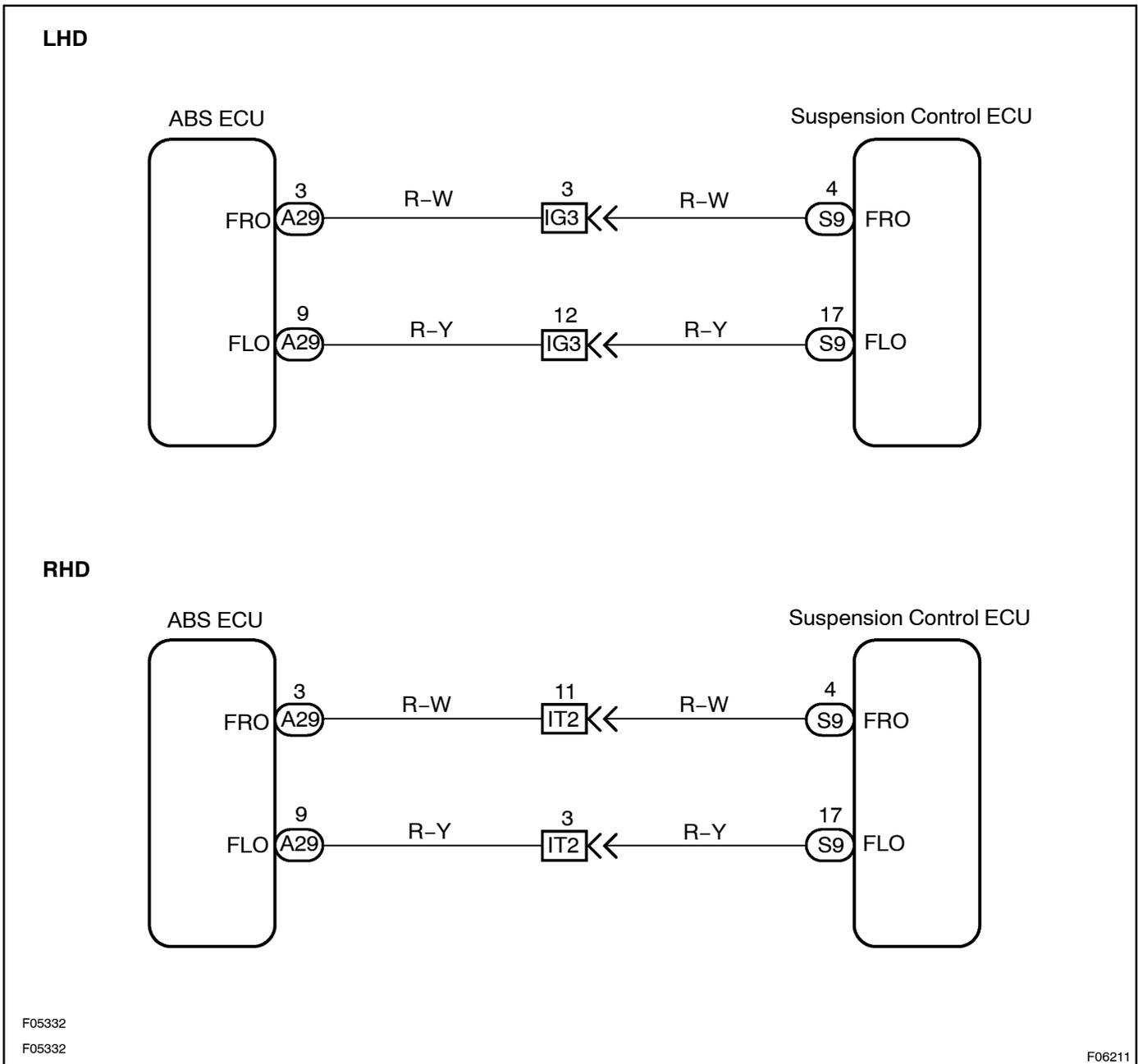
<b>DTC</b>	<b>C1794 / 94, C1795 / 95</b>	<b>Vehicle Speed Sensor Circuit</b>
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**CIRCUIT DESCRIPTION**

This circuit receiving the speed detected by the speed sensor from the ABS ECU.

DTC No.	DTC Detecting Condition	Trouble Area
C1794 / 94 C1795 / 95	Vehicle speed 12 mph (20 km/h) or higher signal does not input.	<ul style="list-style-type: none"> <li>• Right front, left front speed sensor</li> <li>• Each speed sensor circuit</li> <li>• ABS ECU</li> <li>• Suspension control ECU</li> </ul>

**WIRING DIAGRAM**



## INSPECTION PROCEDURE

<b>1</b>	<b>Check whether or not the ABS ECU outputs DTC 31 or 32.</b>
----------	---

Check DTC on [page DI-208](#).

<b>YES</b>	<b>Check ABS speed sensor circuit. (See <a href="#">page DI-325</a>)</b>
------------	--

**NO**

<b>2</b>	<b>Check for open and short circuit in harness and connector between ABS ECU and suspension control ECU (See <a href="#">page IN-35</a>).</b>
----------	---

<b>NG</b>	<b>Repair or replace harness or connector.</b>
-----------	--

**OK**

<b>Check and replace suspension control ECU.</b>
--

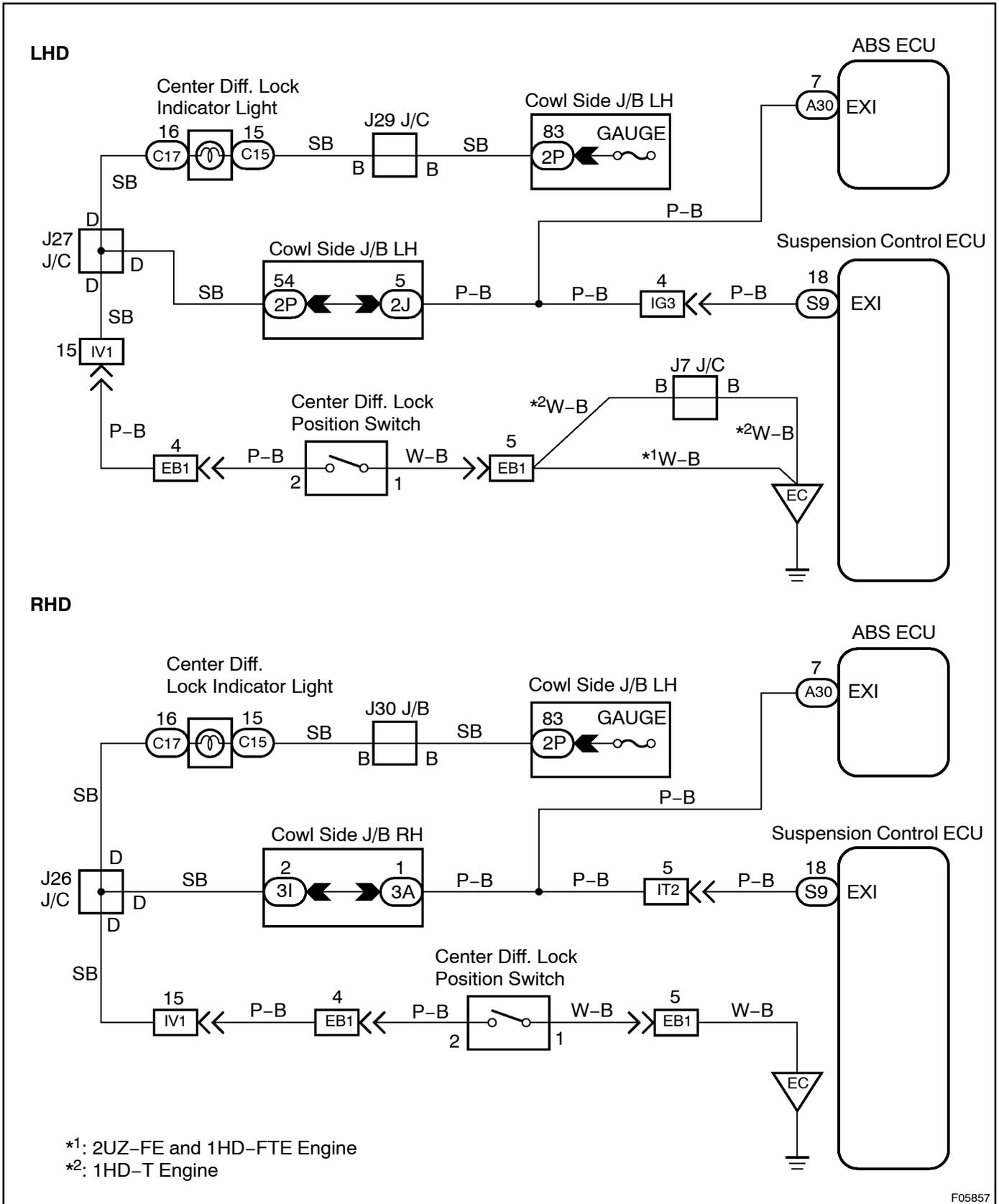
<b>DTC</b>	<b>C1796 / 96</b>	<b>Center DIFF. Lock Position Switch Circuit</b>
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## CIRCUIT DESCRIPTION

This circuit is sending the signal to the ECU by detecting that the transfer center differential is in the "LOCK" condition.

DTC No.	DTC Detecting Condition	Trouble Area
C1796 / 96	Center diff. lock position switch signal does not change.	<ul style="list-style-type: none"> <li>• Center diff. lock position switch</li> <li>• Center diff. lock position switch circuit</li> <li>• Suspension control ECU</li> </ul>

WIRING DIAGRAM



**INSPECTION PROCEDURE**

1	<b>Check output signal of center diff. lock position switch.</b>
---	--

**IN CASE OF USING HAND-HELD TESTER:****PREPARATION:**

- (a) Connect the hand-held tester to the DLC3.
- (b) Turn the ignition switch ON and push the hand-held tester main switch ON.
- (c) Select the DATALIST mode on the hand-held tester.

**CHECK:**

Check the center diff. lock position switch condition displayed on the hand-held tester when pushing the center diff. lock switch.

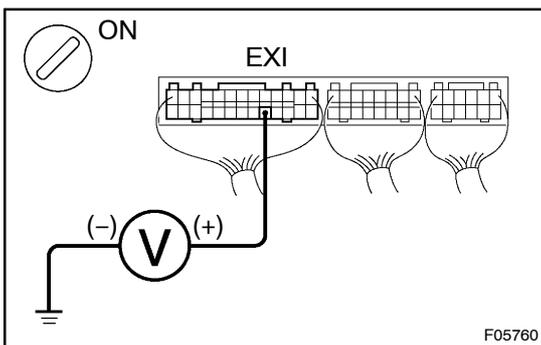
**OK:**

**When the center diff. lock switch pushed once:**

**"ON" is displayed for center diff. lock position switch condition.**

**When the center diff. lock switch pushed twice:**

**"OFF" is displayed for center diff. lock position switch condition.**

**IN CASE OF NOT USING HAND-HELD TESTER:****PREPARATION:**

Remove the suspension control ECU with connectors still connected.

**CHECK:**

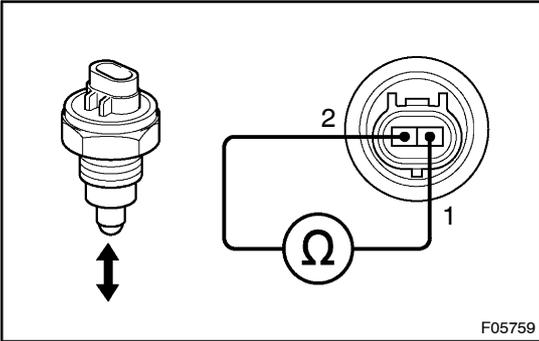
- (a) Turn the ignition switch ON.
- (b) Measure voltage between terminal EXI of suspension control ECU connector and body ground when the center diff. lock switch is pushed twice.

**OK:**

Center diff. lock Switch condition	Voltage
Pushed once	Below 1.5 V
Pushed twice	9 - 14 V

**OK****No problem.****NG**

**2 Check center diff. lock position switch.**



**PREPARATION:**

- (a) Disconnect the center diff. lock position switch connector.
- (b) Remove the center diff. lock position switch (See page [TR-9](#)).

**CHECK:**

Measure resistance between the terminal 1 and 2 of center diff. lock position switch connector when the center diff. lock position switch pushed and released.

**OK:**

Switch condition	Resistance
Pushed	0 Ω (Continuity)
Released	∞ Ω (Open)

**NG**

**Replace center diff. lock position switch.**

**OK**

**3 Check for open and short circuit in harness and connector between center diff. lock position switch and suspension control ECU (See page [IN-35](#)).**

**NG**

**Repair or replace harness or connector.**

**OK**

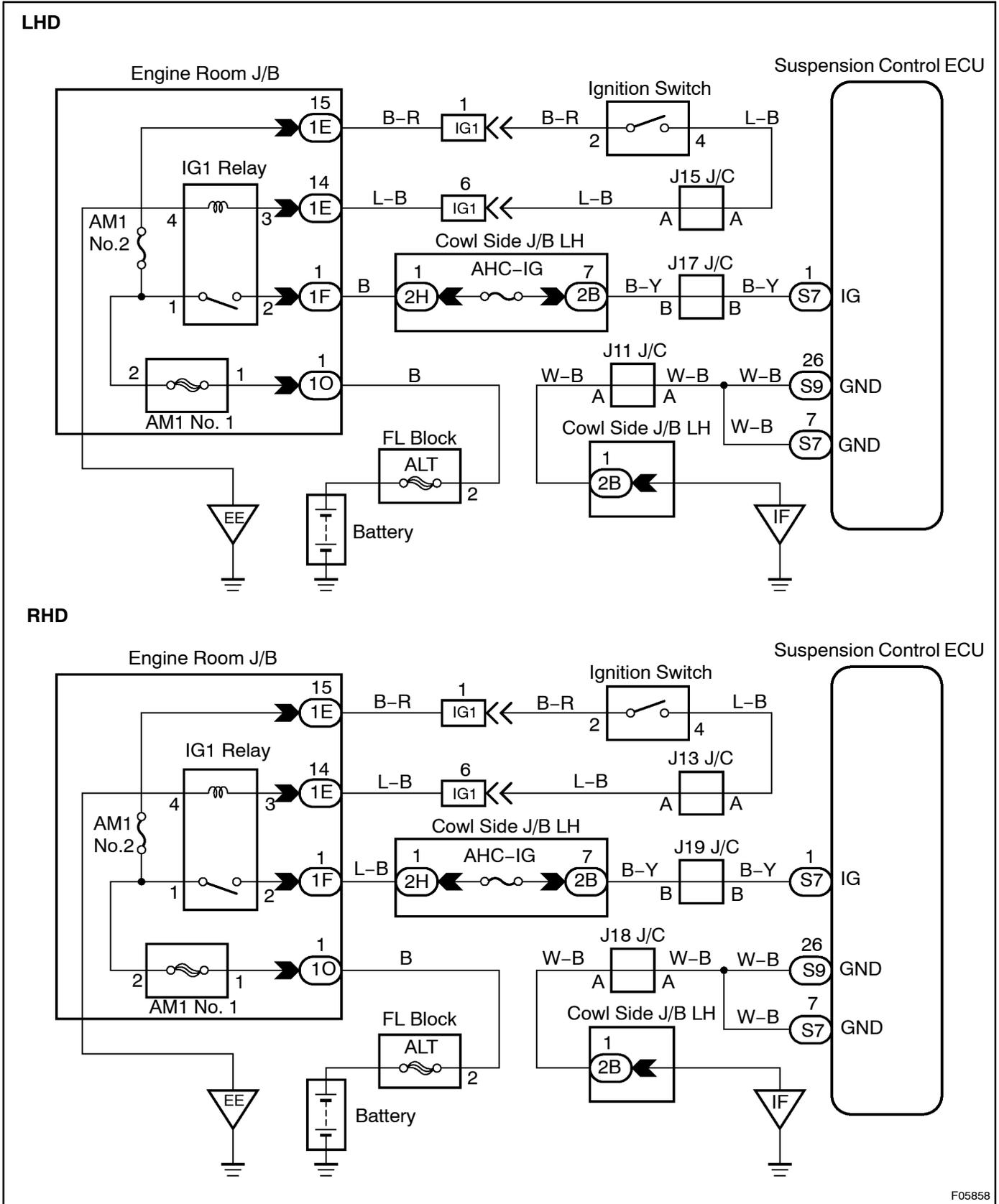
**Check and replace suspension control ECU.**

## Power Source Circuit

### CIRCUIT DESCRIPTION

This circuit supplies power source to the suspension control ECU. Hence the AHC pump & motor and damping force control actuator can be operated.

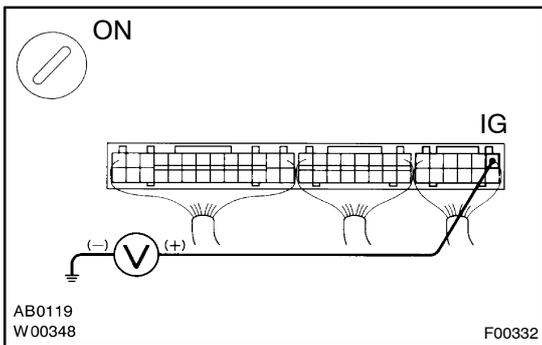
WIRING DIAGRAM



F05858

**INSPECTION PROCEDURE****1 Check battery voltage.****CHECK:**

- (a) Start the engine.
- (b) Check the battery voltage.

**OK:****Voltage: 10 - 16 V****NG****Check and repair charging system.****OK****2 Check voltage between terminal IG of suspension control ECU and body ground.****PREPARATION:**

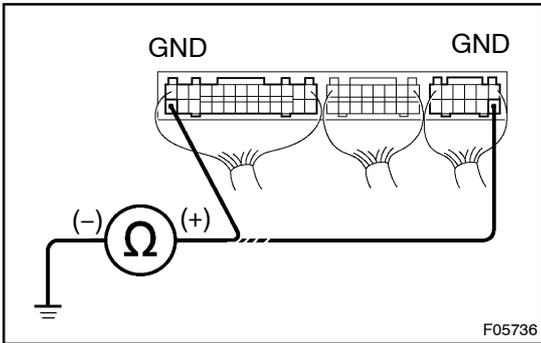
Remove the suspension control ECU with connectors still connected.

**CHECK:**

- (a) Turn the ignition switch ON.
- (b) Measure voltage between terminal IG of suspension control ECU and body ground.

**OK:****Voltage: 9 - 14 V****OK****No problem.****NG**

**3 Check continuity between terminal GND of suspension control ECU and body ground.**



**PREPARATION:**

Remove the suspension control ECU with connectors still connected.

**CHECK:**

Check continuity between terminal GND of suspension control ECU and body ground.

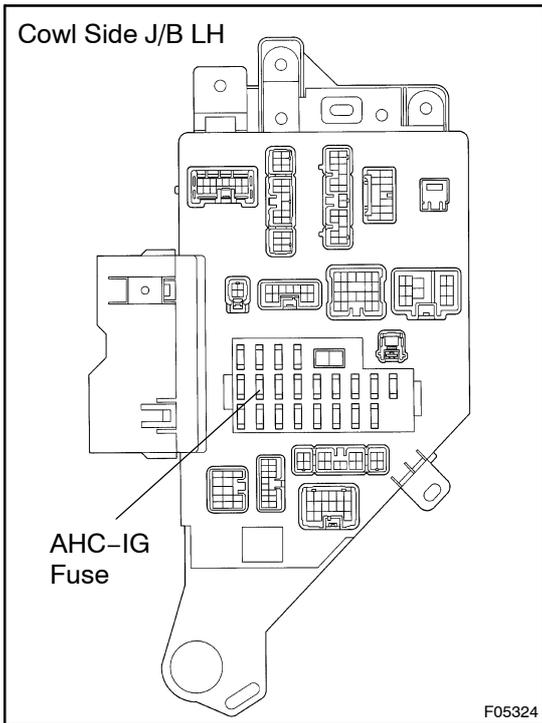
**OK:**

**Continuity**

**OK**

**Go to step 5.**

**NG**

**4 Check AHC-IG fuse.****PREPARATION:**

Remove AHC-IG fuse from Cowl Side J/B LH.

**CHECK:**

Check continuity of AHC-IG fuse.

**OK:**

**Continuity**

**NG**

**Check for short circuit in all the harness and components connected to AHC-IG fuse (See attached wiring diagram).**

**OK**

**5 Check for open circuit in harness and connector between suspension control ECU and battery (See page IN-35).**

**NG**

**Repair or replace harness or connector.**

**OK**

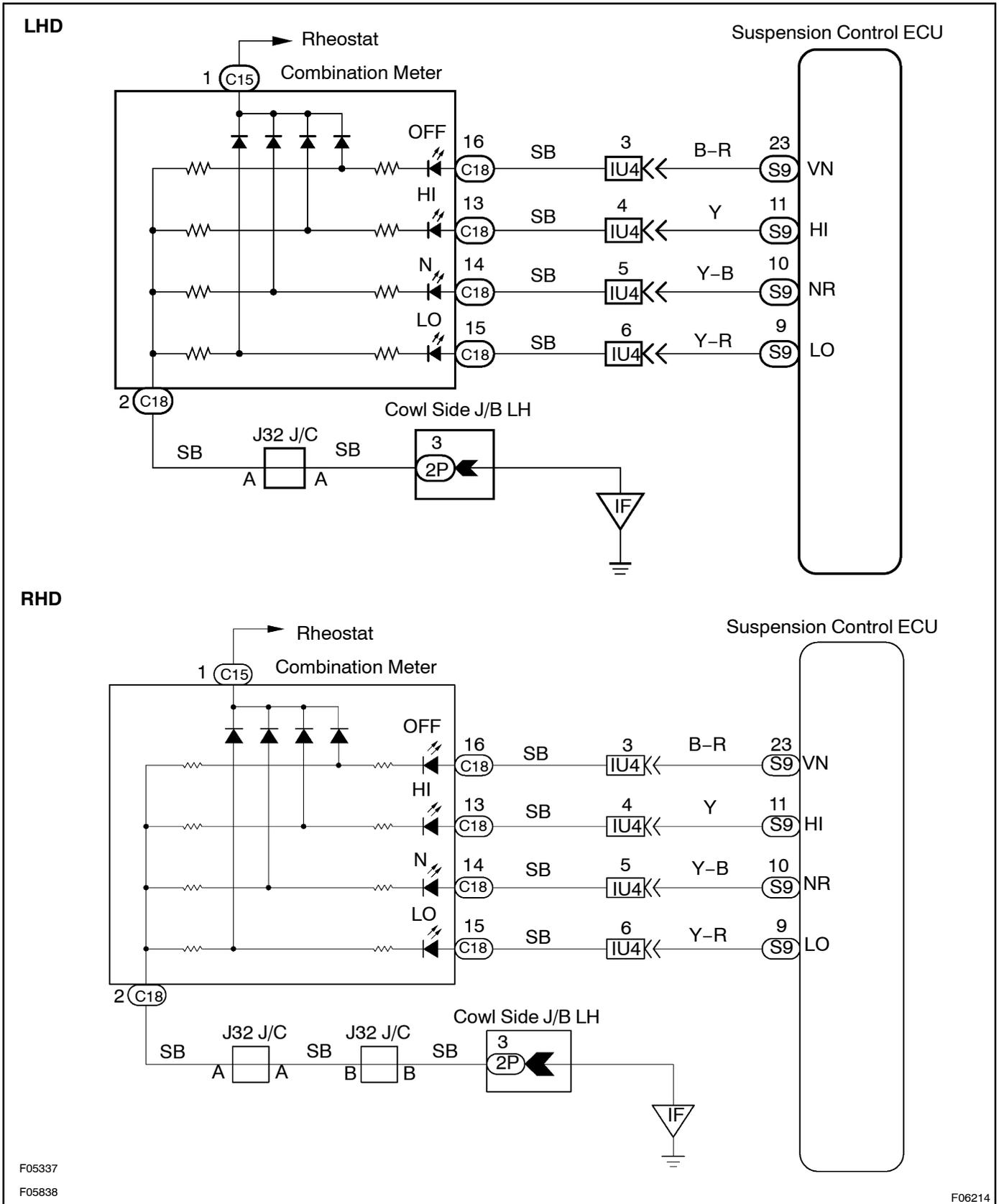
**Check and replace suspension control ECU.**

## Height Control OFF Indicator Light Circuit

### CIRCUIT DESCRIPTION

If the ECU detects a problem with the Height Control the OFF indicator light will flash. At this time, the ECU records a DTC in memory and any further height control is prohibited. DTCs in memory can be retrieved by connecting terminals Tc and CG of the DLC3.

# WIRING DIAGRAM



## INSPECTION PROCEDURE

HINT:

Troubleshooting in accordance with the chart below for each trouble symptom.

Height control OFF indicator light does not light up	Go to step 1
Height control OFF indicator light flashes	Go to step 3

<b>1</b>	<b>Check height control OFF indicator light.</b>
----------	--

See combination meter troubleshooting on [page BE-2](#).

<b>NG</b>	<b>Repair bulb or combination meter assembly.</b>
-----------	---

<b>OK</b>
-----------

<b>2</b>	<b>Check for open circuit in harness and connector between height control OFF indicator light and suspension control ECU (See <a href="#">page IN-35</a>).</b>
----------	--

<b>NG</b>	<b>Repair or replace harness or connector.</b>
-----------	--

<b>OK</b>
-----------

<b>Check and replace suspension control ECU.</b>
--

<b>3</b>	<b>Check that the ECU connectors are securely connected to the ECU.</b>
----------	---

<b>NO</b>	<b>Connect the connector to the ECU.</b>
-----------	--

<b>YES</b>
------------

**4** Is DTC output?

Check DTC on [page DI-208](#).

**YES**

Repair circuit indicated by the code output.

**NO**

**5** Check for short circuit in harness and connector between height control OFF indicator light and suspension control ECU ([See page IN-35](#)).

**NG**

Repair or replace harness or connector.

**OK**

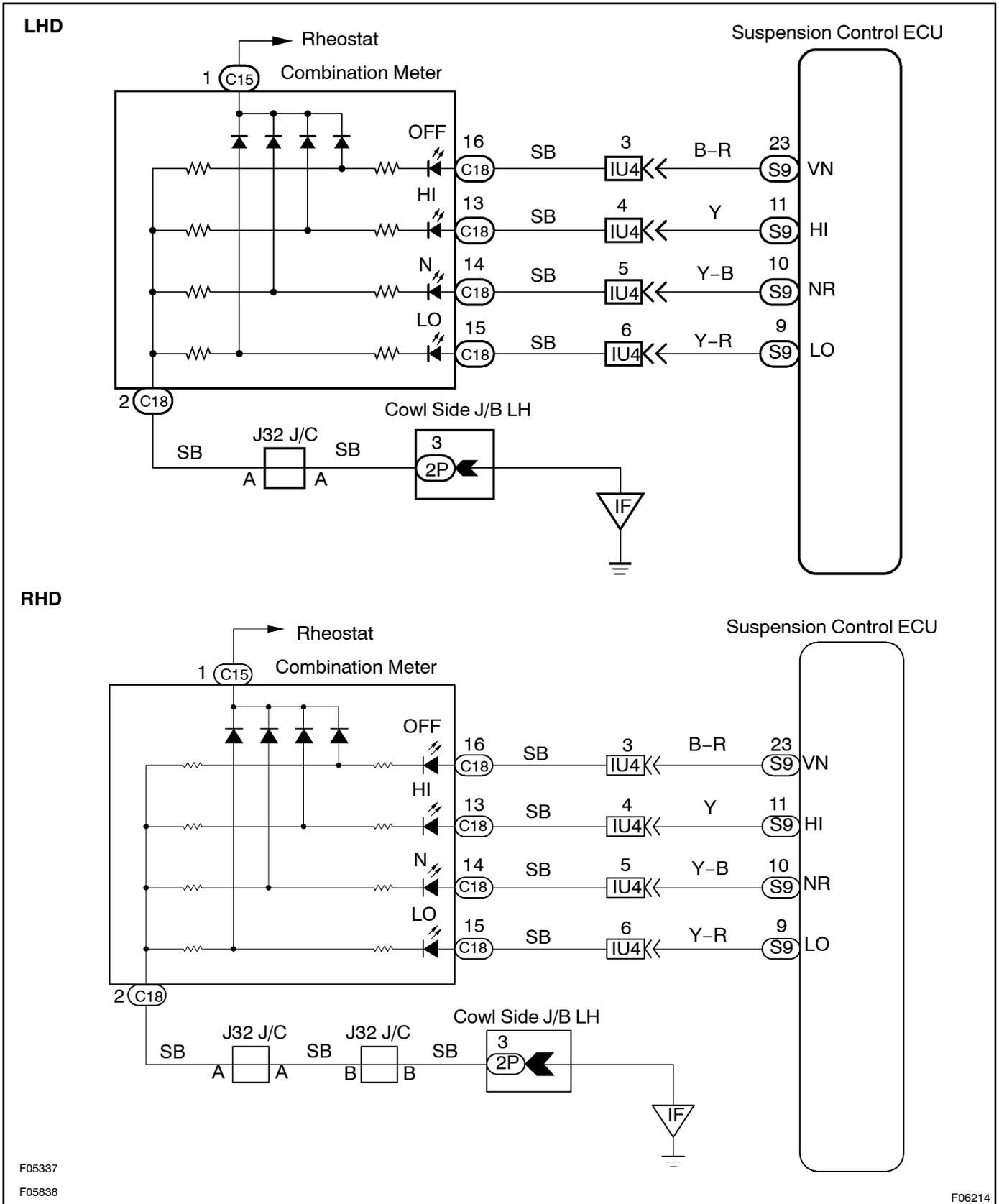
Check and replace suspension control ECU.

## Height Control Indicator Light Circuit

### CIRCUIT DESCRIPTION

This indicator light indicates the present vehicle height. The indicator light of the target vehicle height selected by the height select switch is flashed while the height control is operated and waited.

# WIRING DIAGRAM



F05337  
F05838

F06214

**INSPECTION PROCEDURE**

<b>1</b>	<b>Check height control indicator light.</b>
----------	--

See combination meter troubleshooting on [page BE-2](#).

<b>NG</b>
-----------

<b>Repair bulb or combination meter assembly.</b>
---

<b>OK</b>
-----------

<b>2</b>	<b>Check for open and short circuit in harness and connector between height control indicator and suspension control ECU (See <a href="#">page IN-35</a>).</b>
----------	--

<b>NG</b>
-----------

<b>Repair or replace harness or connector.</b>
--

<b>OK</b>
-----------

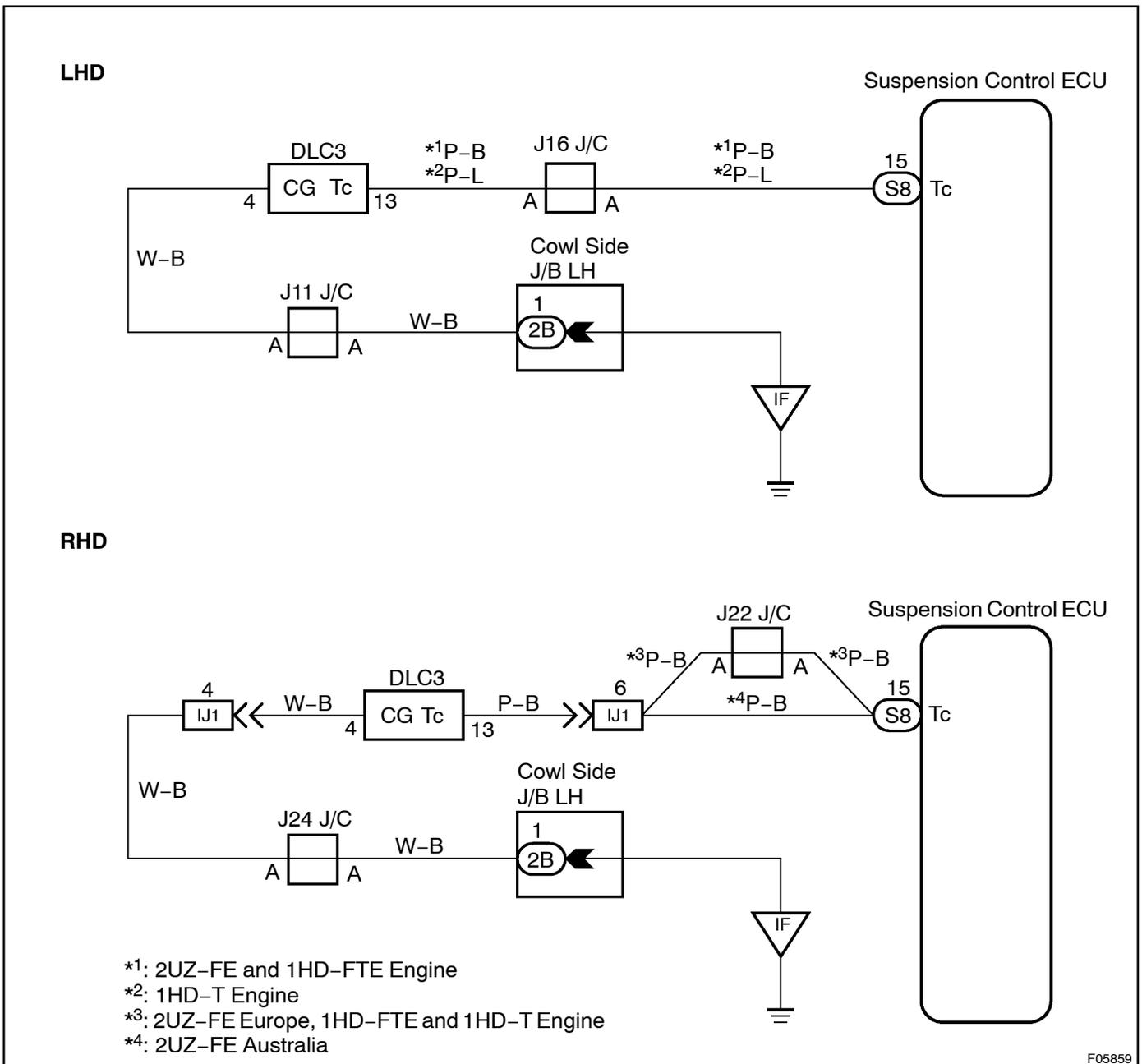
<b>Check and replace suspension control ECU.</b>
--

# Tc Terminal Circuit

## CIRCUIT DESCRIPTION

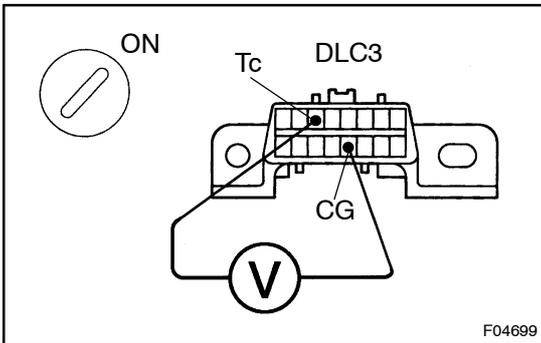
Connecting terminals Tc and CG of the DLC3 causes the ECU to display the DTC by flashing the height control OFF indicator light.

## WIRING DIAGRAM



## INSPECTION PROCEDURE

**1 Check voltage between terminals Tc and CG of DLC3.**



**CHECK:**

- (a) Turn the ignition switch ON.
- (b) Measure the voltage between terminals Tc and CG of DLC3.

**OK:**

**Voltage: 9 – 14 V**

**OK**

**No problem.**

**NG**

**2 Check for open and short circuit in harness and connector between suspension control ECU and DLC3, DLC3 and body ground (See page IN-35).**

**NG**

**Repair or replace harness or connector.**

**OK**

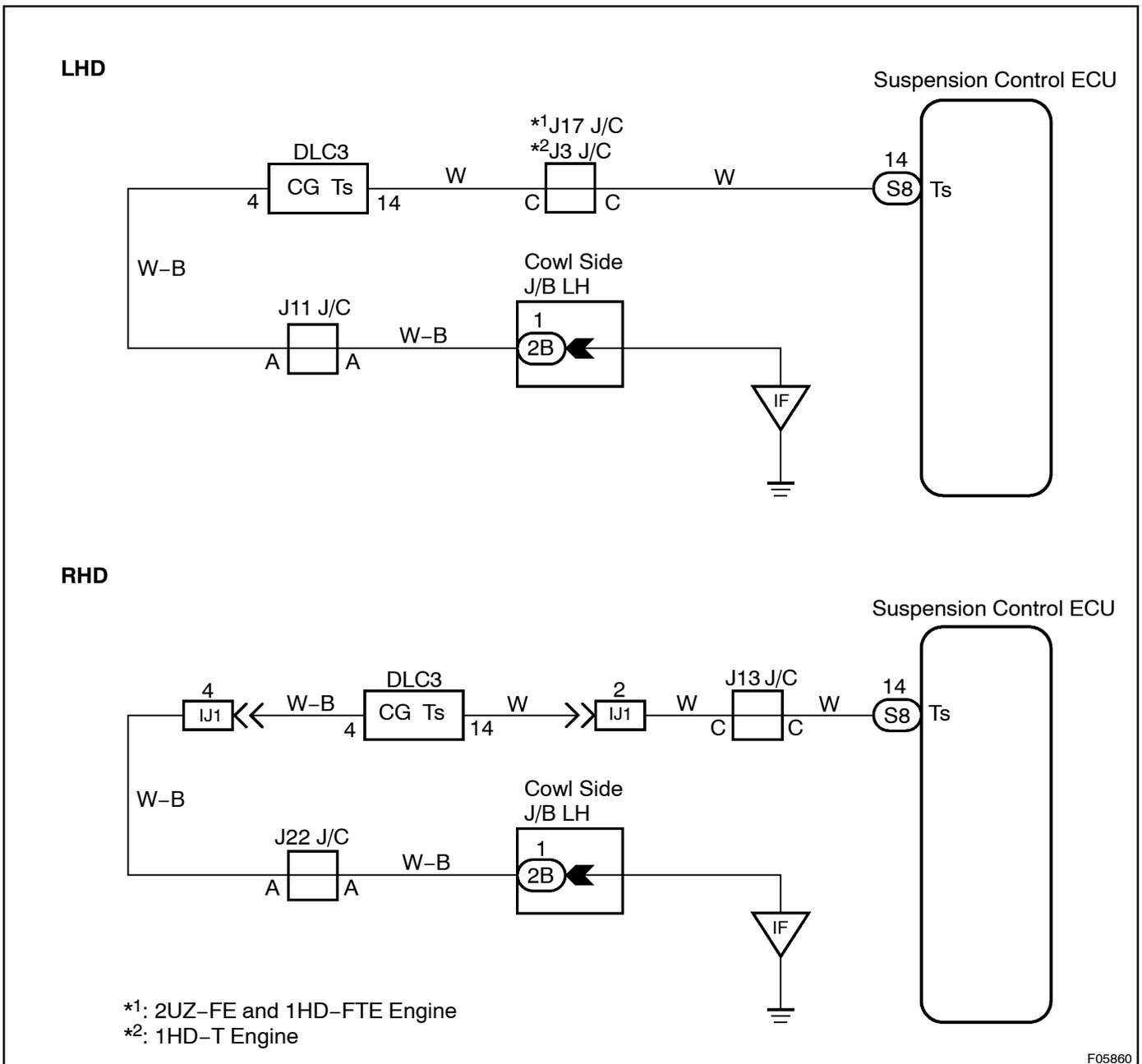
**Check and replace suspension control ECU.**

# Ts Terminal Circuit

## CIRCUIT DESCRIPTION

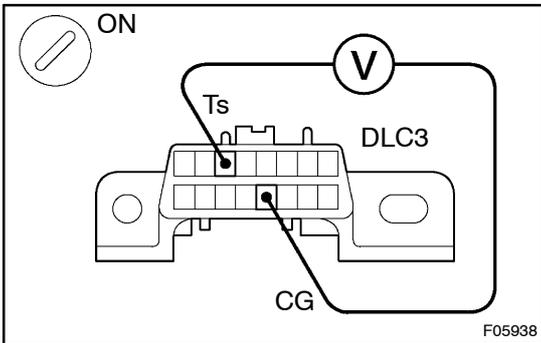
By connecting terminals Ts and CG of the DLC3, an input signal check can be performed (See page DI-208).

## WIRING DIAGRAM



## INSPECTION PROCEDURE

**1 Check voltage between terminals Ts and CG of DLC3.**



**CHECK:**

- (a) Turn the ignition switch ON.
- (b) Measure the voltage between terminals Ts and CG of DLC3.

**OK:**

**Voltage: 9 - 14 V**

**OK**

**No problem.**

**NG**

**2 Check for open and short circuit in harness and connector between suspension control ECU and DLC3, DLC3 and body ground (See page IN-35).**

**NG**

**Repair or replace harness or connector.**

**OK**

**Check and replace suspension control ECU.**