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<b>Model Year Start:</b> 2007	<b>Model:</b> LS460	<b>Prod Date Range:</b> [09/2006 - ]
<b>Title:</b> SUSPENSION CONTROL: AIR SUSPENSION SYSTEM: INITIALIZATION; 2007 MY LS460 [09/2006 - ]		

## **INITIALIZATION**

### **1. DESCRIPTION**

- (a) If replacing the suspension control ECU and/or height control sensor, perform the vehicle height offset calibration.

### **2. VEHICLE HEIGHT OFFSET CALIBRATION**

#### **NOTICE:**

- Make sure that the pressure of the tires is normal.
- Make sure that the vehicle is empty.
- Make sure that the parking brake is released and that the shift lever is on N.

<b>1.</b>	<b>PERFORM VEHICLE HEIGHT INSPECTION</b>
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- (a) Adjust the pressure of the tires.
- (b) Stabilize the suspension by releasing the parking brake and bouncing the corners of the vehicle up and down.
- (c) Turn the engine switch off.
- (d) Connect the intelligent tester or Techstream to the DLC3.
- (e) Start the engine and the tester on.
- (f) Enter the following menus:
- (1) Intelligent tester - Select: DIAGNOSIS / OBD/MOBD / CHASSIS / AIR SUSPENSION / DATA LIST /
  - (2) Techstream - select: Chassis / Air suspension / Data List /
- (g) Press the height control switch and adjust the vehicle height to "HEIGHT HIGH".
- (h) Press the height control switch and return the vehicle height to normal.
- (i) Using the DATA LIST, confirm that the vehicle height control operation is complete.
- (1) Intelligent tester

### **AIR SUSPENSION**

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSIS NOTE
HEIGHT CTRL			-

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSIS NOTE
	Vehicle height control condition reading/ ON or OFF	ON: Vehicle height control operating OFF: Vehicle height control not operating	

(2) Techstream

### Air suspension

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSIS NOTE
Height Control	Vehicle height control condition reading/ ON or OFF	ON: Vehicle height control operating OFF: Vehicle height control not operating	-

(j) Turn the engine switch off.

(k) Move the shift lever to N and move the vehicle forward and rearward.

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

(m) Using the intelligent tester or Techstream

(1) Intelligent tester:

Enter the following menus: DIAGNOSIS / OBD/MOBD / CHASSIS / AIR SUSPENSION / DATA LIST /. Then read and write the values for "ADJUST" and "AFTER ADJUST" for each wheel.

### AIR SUSPENSION

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSIS NOTE
FR ADJUST	Display of vehicle height offset recorded value of front right wheel / min.: -3276.8 mm (-129 in.) max.: 3276.7 mm (129 in.)	-	-
FL ADJUST	Display of vehicle height offset recorded value of front left wheel / min.: -3276.8 mm (-129 in.) max.: 3276.7 mm (129 in.)	-	-
RR ADJUST	Display of vehicle height offset recorded value of rear right wheel / min.: -3276.8 mm (-129 in.) max.: 3276.7 mm (129 in.)	-	-
RL ADJUST		-	-

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSIS NOTE
	Display of vehicle height offset recorded value of rear left wheel / min.: -3276.8 mm (-129 in.) max.: 3276.7 mm (129 in.)		
FR AFTER ADJUST	Display of after-calibration vehicle height value of front right wheel / min.: -3276.8 mm (-129 in.) max.: 3276.7 mm (129 in.)	When vehicle height normal: 0 +/- 20 mm (0 +/- 0.79 in.) When vehicle height is changing: Varies based on vehicle height After HEIGHT HIGH adjustment: 20 +/- 20 mm (0.79 +/- 0.79 in.)	-
FL AFTER ADJUST	Display of after-calibration vehicle height value of front left wheel / min.: -3276.8 mm (-129 in.) max.: 3276.7 mm (129 in.)	When vehicle height normal: 0 +/- 20 mm (0 +/- 0.79 in.) When vehicle height is changing: Varies based on vehicle height After HEIGHT HIGH adjustment: 20 +/- 20 mm (0.79 +/- 0.79 in.)	-
RR AFTER ADJUST	Display of after-calibration vehicle height value of rear right wheel / min.: -3276.8 mm (-129 in.) max.: 3276.7 mm (129 in.)	When vehicle height normal: 0 +/- 20 mm (0 +/- 0.79 in.) When vehicle height is changing: Varies based on vehicle height After HEIGHT HIGH adjustment: 20 +/- 20 mm (0.79 +/- 0.79 in.)	-
RL AFTER ADJUST	Display of after-calibration vehicle height value of rear left wheel / min.: -3276.8 mm (-129 in.) max.: 3276.7 mm (129 in.)	When vehicle height normal: 0 +/- 20 mm (0 +/- 0.79 in.) When vehicle height is changing: Varies based on vehicle height After HEIGHT HIGH adjustment: 20 +/- 20 mm (0.79 +/- 0.79 in.)	-

(2) Techstream:

Enter the following menus: Chassis / Air suspension / Data List /. Then read and write the values for "After Height Adjust" and "Height Adjust" for each wheel.

**Air suspension**

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSIS NOTE
FR Height Adjust	Display of vehicle height offset recorded value of front right wheel / min.: -3276.8 mm (-129 in.) max.: 3276.7 mm (129 in.)	-	-
FL Height Adjust	Display of vehicle height offset recorded value of front left wheel /	-	-

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSIS NOTE
	min.: -3276.8 mm (-129 in.) max.: 3276.7 mm (129 in.)		
RR Height Adjust	Display of vehicle height offset recorded value of rear right wheel / min.: -3276.8 mm (-129 in.) max.: 3276.7 mm (129 in.)	-	-
RL Height Adjust	Display of vehicle height offset recorded value of rear left wheel / min.: -3276.8 mm (-129 in.) max.: 3276.7 mm (129 in.)	-	-
FR After Height Adjust	Display of after-calibration vehicle height value of front right wheel / min.: -3276.8 mm (-129 in.) max.: 3276.7 mm (129 in.)	When vehicle height normal: 0 +/-20 mm (0 +/- 0.79 in.) When vehicle height is changing: Varies based on vehicle height After HEIGHT HIGH adjustment: 20 +/- 20 mm (0.79 +/- 0.79 in.)	-
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RR After Height Adjust	Display of after-calibration vehicle height value of rear right wheel / min.: -3276.8 mm (-129 in.) max.: 3276.7 mm (129 in.)	When vehicle height normal: 0 +/-20 mm (0 +/- 0.79 in.) When vehicle height is changing: Varies based on vehicle height After HEIGHT HIGH adjustment: 20 +/- 20 mm (0.79 +/- 0.79 in.)	-
RL After Height Adjust	Display of after-calibration vehicle height value of rear left wheel / min.: -3276.8 mm (-129 in.) max.: 3276.7 mm (129 in.)	When vehicle height normal: 0 +/-20 mm (0 +/- 0.79 in.) When vehicle height is changing: Varies based on vehicle height After HEIGHT HIGH adjustment: 20 +/- 20 mm (0.79 +/- 0.79 in.)	-

(n) Turn the engine switch off.

(o) Perform the vehicle height inspection.

Standard vehicle height:

VEHICLE SPECIFICATION	FRONT (MEASURED HEIGHT A MINUS B)	REAR (MEASURED HEIGHT D MINUS C)
18 in. Wheel	98 mm (3.86 in.)	93 mm (3.66 in.)
19 in. Wheel	98 mm (3.86 in.)	93 mm (3.66 in.)

Measuring points:

**A**

Ground clearance of front wheel center

**B**

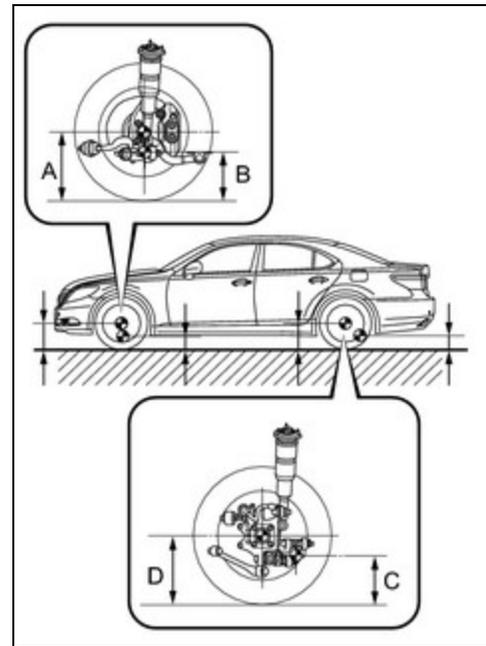
Ground clearance of front suspension lower No. 2 arm assembly front bush installation bolt head rear

**C**

Ground clearance of protrusion of rear suspension arm attachment (lower No. 2 installation cam bolt) INFO

**D**

Ground clearance of rear wheel center



## NEXT



### 2. PERFORM VEHICLE HEIGHT OFFSET CALIBRATION

#### NOTICE:

The possible vehicle height automatic adjustment value is 20 mm (0.78 in.). If the "Height Adjust" value + (Standard value - Measurement value - "After Height Adjust" value) is 20 mm (0.78 in.) or more, first perform the vehicle height adjustment (height control link adjustment) INFO.

- (a) Turn the engine switch off.
- (b) Connect the intelligent tester or Techstream to the DLC3.
- (c) Turn the engine switch on (IG).
- (d) Turn the tester ON.
- (e) Enter the following menus:
  - (1) Intelligent tester - Select: DIAGNOSIS / OBD/MOBD / CHASSIS / AIR SUSPENSION / HEIGHT OFFSET /
  - (2) Techstream - Select: Chassis / Air suspension / Utility / Height Offset /
- (f) For each wheel, follow the instructions on the tester screen and input the input value to complete the vehicle height offset calibration.

#### HINT:

Input value = Measurement value

- (g) Start the engine.
  - (h) In the DATA LIST, enter "HEIGHT CTRL" or "Height Control".
  - (i) Press the height control switch and adjust the vehicle height to "HEIGHT HIGH".
  - (j) Press the height control switch and return the vehicle height to normal.
  - (k) Using the DATA LIST, confirm that the vehicle height control operation is complete.
- (1) Intelligent tester

**AIR SUSPENSION**

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSIS NOTE
HEIGHT CTRL	Vehicle height control condition reading/ ON or OFF	ON: Vehicle height control operating OFF: Vehicle height control not operating	-

- (2) Techstream

**Air suspension**

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Height Control	Vehicle height control condition reading/ ON or OFF	ON: Vehicle height control operating OFF: Vehicle height control not operating	-

- (l) Turn the engine switch off.
- (m) Perform the vehicle height inspection. Check that the result is within +/-14.3 mm (+/-0.56 in.) of the standard value.

**NEXT** ► **END**

