



**Technical Service
BULLETIN**

September 1, 2005

Title:

EXHAUST BOOMING AT IDLE

Models:

'98 – '06 Land Cruiser



ENGINE
EG038-05

TSB UPDATE NOTICE:

The information contained in this TSB supercedes TSB No. EG003-04.
TSB No. EG003-04 is now obsolete and should be discarded.

Introduction Some 1998 – 2006 model year Land Cruiser vehicles may exhibit an exhaust booming noise after the vehicle reaches operating temperature at idle with the vehicle stopped and the transmission in the “D” range. The following procedures have been developed to correct this condition.

Applicable Vehicles • **1998 – 2006** model year **Land Cruiser** vehicles produced in the VIN ranges listed below.

| MODEL | MODEL YEAR | APPLICABLE VEHICLE VIN RANGE |
|--------------|-------------|---|
| Land Cruiser | 1998 – 1999 | JT3HT05J#W0001037 – JT3HT05J#X0034456 |
| | 1999 – 2003 | JT3HT05J#X0034457 – JTEHT05J#32042792 |
| | 2003 | JTEHT05J#32042793 – JTEHT05J#32050153 |
| | 2003 – 2005 | JTEHT05J#32050154 – JTEHT05J#52068374 |
| | 2005 – 2006 | JTEHT05J#52068375 – JTEHT05J#62080360 |
| | 2006 | JTEHT05J#62080361 – End of 2006 MY Production |

Required Tools & Material

| TOOLS & MATERIAL | QUANTITY |
|--|--------------|
| Metric Hand Tools / Wrenches / Sockets | As Necessary |

Warranty Information

| OP CODE | DESCRIPTION | TIME | OFF | T1 | T2 |
|---------|--|------|-------------|----|----|
| EG4002 | Install Revised Parts for Specific Model Year and VIN Range as Indicated by the Supplied Parts Information in this TSB | 2.5 | 12361-50210 | 91 | 99 |

Applicable Warranty*:

This repair is covered under the Toyota Powertrain Warranty. This warranty is in effect for 60 months or 60,000 miles, whichever occurs first, from the vehicle's in-service date.

* Warranty application is limited to correction of a problem based upon a customer's specific complaint.



Parts Information

| REPAIR PROCEDURE | PREVIOUS PART NUMBER | CURRENT PART NUMBER | PART NAME | QTY | |
|------------------|-----------------------|---------------------|-------------------------------------|--------------------------------|---|
| A | 17405-50030 | 17405-50040 | Pipe Assembly, Exhaust, Tail | 1 | |
| B | 90179-10070 | Same | Nut, Exhaust Pipe Set Stud Bolt | 6 | |
| | 94185-61000 | 90177-A0004 | Nut, Lock | 6 | |
| C1 | N/A | N/A | Wire (Size: 100 cm, 3 sq)* | 3 | |
| | 51543-60020 | Same | Bracket, Damper | 1 | |
| C2 | 51259-60030 | Same | Weight, No. 4 Crossmember Damper | 1 | |
| | 91626-61030 | Same | Bolt, w/Washer | 2 | |
| D | N/A (no parts needed) | | | | |
| E1 | E2 | 17581-70090 | Same | Damper, Exhaust Pipe (32 Hz) | 1 |
| | | 17581-50090 | Same | Damper, Exhaust Pipe (39 Hz) | 1 |
| | | 17581-17020 | Same | Damper, Exhaust Pipe (48 Hz) | 1 |
| | | 17581-50140 | Same | Damper, Exhaust Pipe (43.8 Hz) | 1 |
| | | 17581-70080 | Same | Damper, Exhaust Pipe (34.6 Hz) | 1 |
| | 17551-50090 | 17551-50091 | Insulator, Exhaust Pipe Heat, No. 1 | 1 | |
| F | 51259-60030 | 51259-60040 | Weight, No. 4 Crossmember Damper | 1 | |
| | 91626-61030 | Same | Bolt, w/Washer | 2 | |
| G | 12371-50180 | Same | Insulator, Engine Mounting, RR | 1 | |
| H | 12361-50210 | Same | Insulator, Engine Mounting, FR | 2 | |

* Prepare the wires at the dealer.

Repair Procedure Order

Using the model years and VIN ranges provided in the chart below, locate the model year and VIN of the complaint vehicle. Determine the parts that will be necessary to install **AND** in what order to perform the installation operation.

| MODEL YEAR | APPLICABLE VEHICLE VIN RANGE | REPAIR PROCEDURE REPLACEMENT ORDER** |
|-------------|---|--------------------------------------|
| 1998 – 1999 | JT3HT05J#W0001037 – JT3HT05J#X0034456 | A, B, C1, D, E1, F |
| 1999 – 2003 | JT3HT05J#X0034457 – JTEHT05J#32042792 | A, B, C1, D, E1, F, G, H |
| 2003 | JTEHT05J#32042793 – JTEHT05J#32050153 | A, B, C1, D, E1, F, H |
| 2003 – 2005 | JTEHT05J#32050154 – JTEHT05J#52068374 | A, B, C2, D, E1, F, H |
| 2005 – 2006 | JTEHT05J#52068375 – JTEHT05J#62080360 | A, B, C2, D, E2, F, H |
| 2006 | JTEHT05J#62080361 – End of 2006 MY Production | B, C2, D, E2, F, H |

** Refer to Parts Information.

Use the following repair procedures to install the necessary parts. Be sure to install the parts using the installation order provided in the above chart.

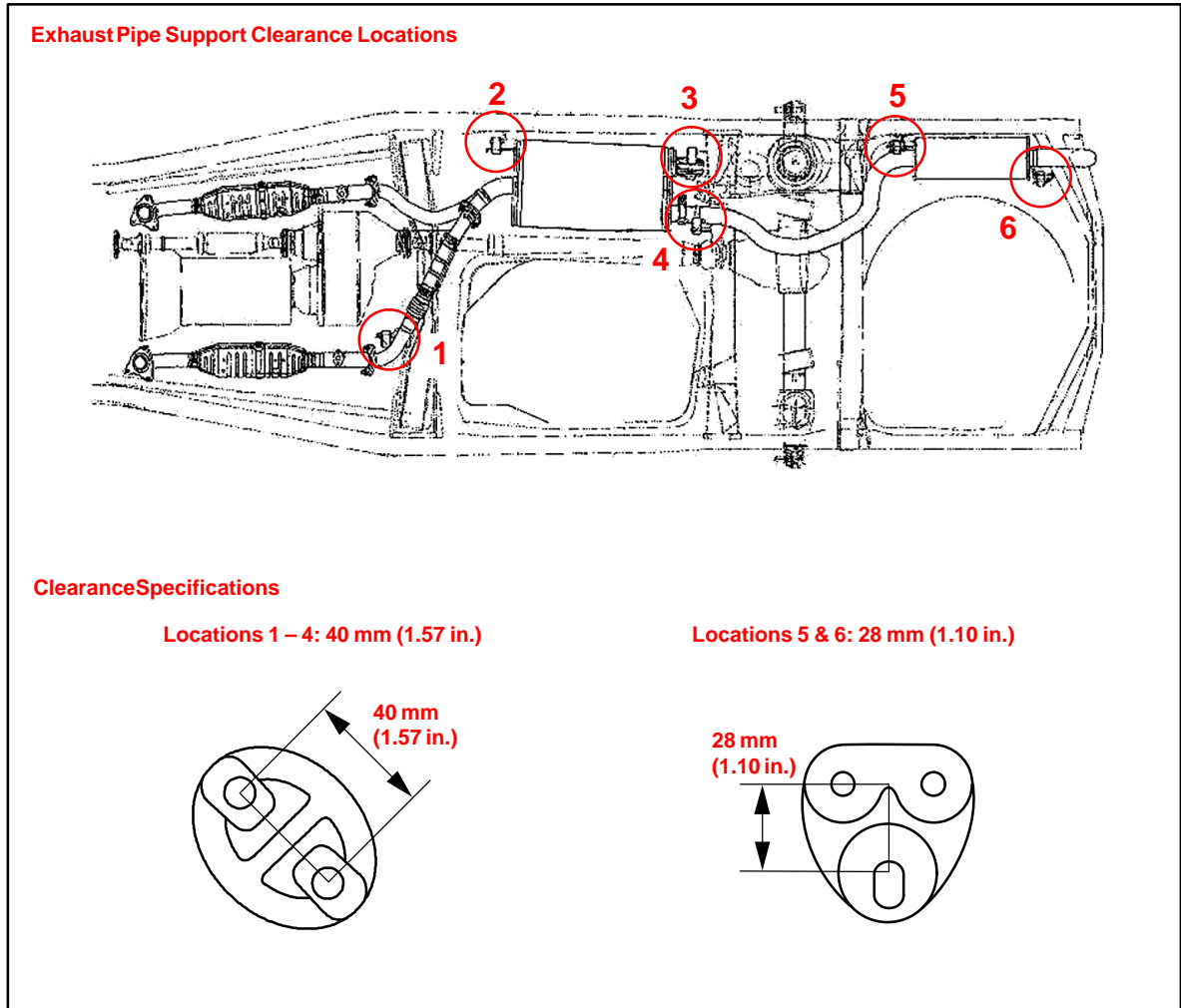
Repair Procedure A

Install New Tailpipe Assembly

- Refer to the Technical Information System (TIS), applicable model year Land Cruiser Repair Manual: *Engine Mechanical:Exhaust System:Components*.

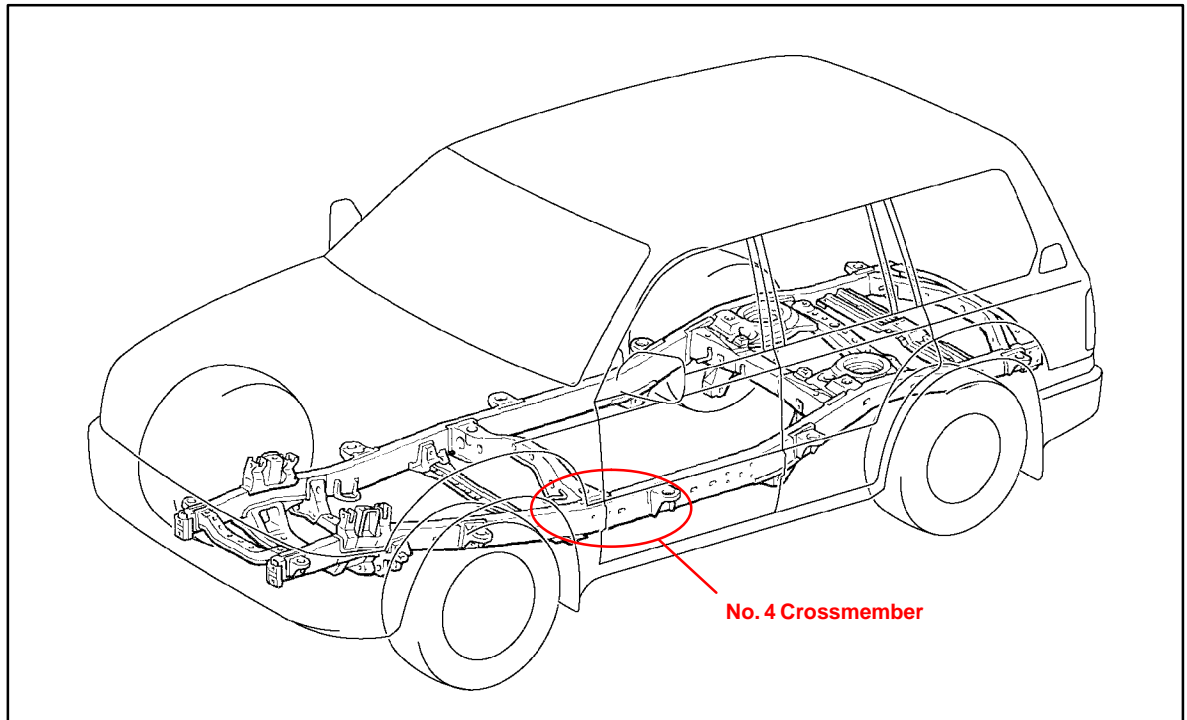
**Repair
Procedure B**
(Continued)

3. Check each exhaust pipe support clearance and compare to the specification listed below. Adjust each support to as near to the clearance specification as possible.



Repair
Procedure
C1 & C2

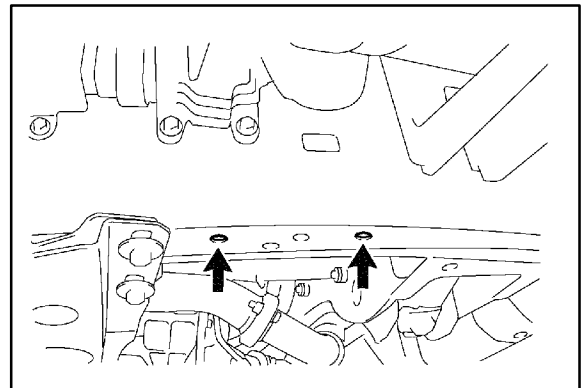
Install Driver's Side Crossmember Frame Damper Weight



No. 4 Crossmember Damper Weight Installation

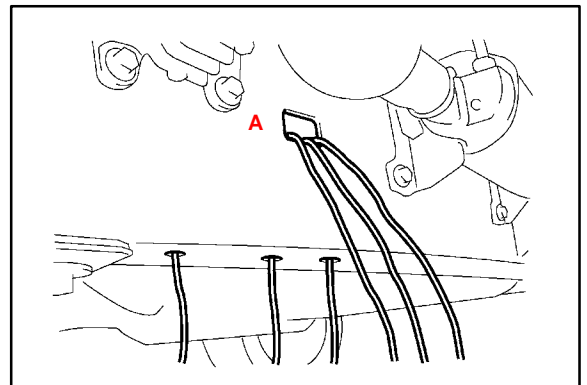
1. Check Bolt Hole.

- A. Check the 2 bolt holes located in the LH frame rail. If there are weld nuts, go to step 2–H.
- B. Check the 2 bolt holes located in the LH frame rail. If there are **NO** weld nuts, go to step 2–A.



2. Install No. 4 Crossmember Damper Weight.

- A. Insert the wires into each bolt hole of the frame, and pull out the wires from hole "A."



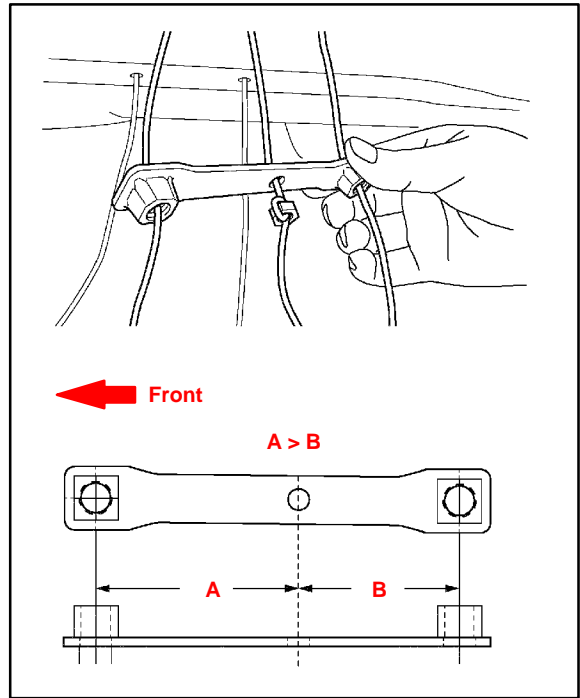
**Repair
Procedure
C1 & C2
(Continued)**

- B. Insert the 3 wires into the holes of the bracket at the direction shown in the illustration.

NOTE:

Due to the spacing of the bolt holes in the frame, be careful to install the bracket in the correct direction.

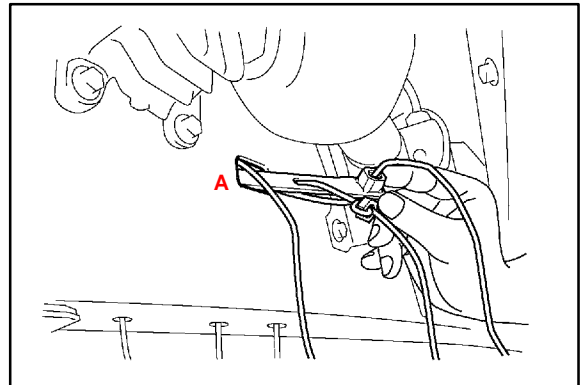
- C. Attach a nut to the center wire as shown in the illustration.



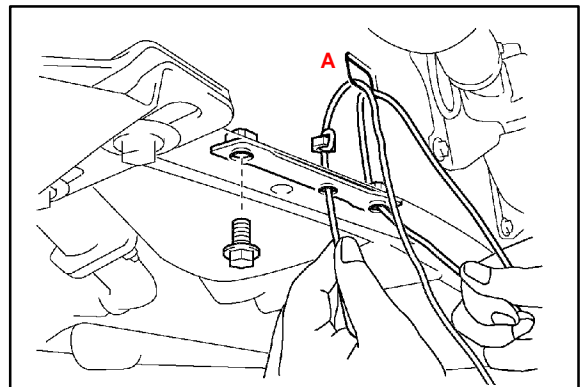
- D. Insert the bracket into hole "A" of the frame.

NOTE:

Ensure that the wires do not completely enter hole "A."

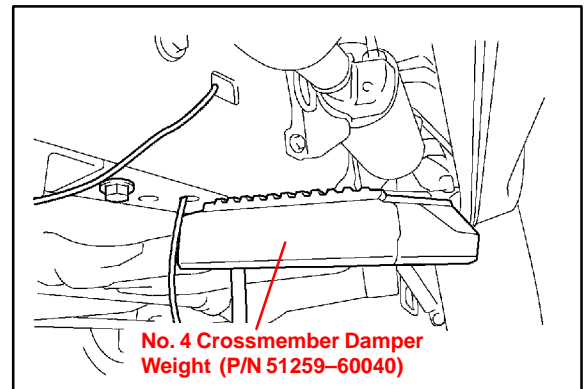


- E. Using the 3 wires, position the bracket and pull out the front wire through hole "A."
- F. Tighten the front bolt temporarily by pulling the center wire from the bottom and holding down the bracket.
- G. Using the wire at the rear side, position the bracket.



**Repair
Procedure
C1 & C2
(Continued)**

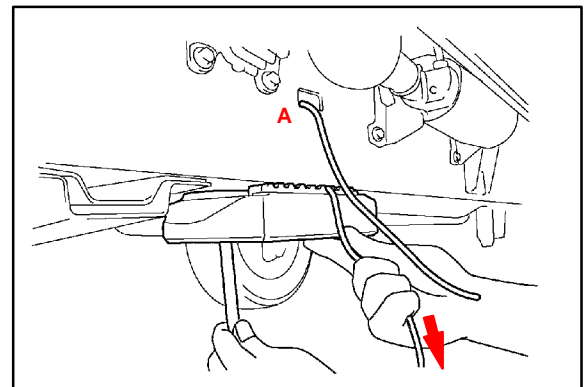
- H. Attaching the No. 4 crossmember damper weight, tighten the rear bolt temporarily.
- I. Remove the front bolt.



- J. Rotate the No. 4 crossmember damper weight, reinstall and tighten the front bolt.

HINT:

When rotating the No. 4 crossmember damper weight, pull the center wire from the bottom to press the bracket down.



- K. Pull out the center wire from hole "A."
- L. Tighten the No. 4 crossmember damper weight with the 2 bolts.

Torque: 39 N•m (400 kgf•cm, 29 ft•lbf)

**Repair
Procedure D**

Loosen and Retighten Spare Tire

1. Loosen the spare tire.
2. Pull spare tire toward the rear of the vehicle as much as possible.
3. Retighten the spare tire.

NOTE:

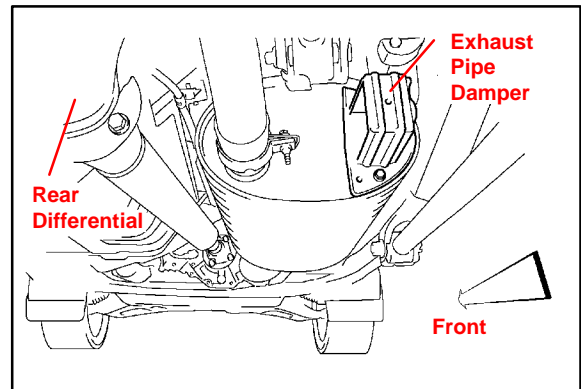
The spare tire carrier may become damaged if an impact wrench or any other type of power tool is used to raise or lower the spare tire.

**Repair
Procedure E1****Install Exhaust Pipe Damper**

1. Remove the heat insulator from the main muffler.
2. Remove the exhaust pipe damper from the main muffler.
3. Install the new exhaust pipe damper to the main muffler with the 2 bolts.

NOTE:

- The 5 exhaust pipe dampers are tuned to different frequencies (32 Hz, 39 Hz, 48 Hz, 43.8 Hz, and 34.6 Hz). Install each of the 5 exhaust pipe dampers to determine which is the most effective.
- Due to its larger size, when installing the 43.8 Hz damper, you **MUST** use a new heat insulator (P/N 17551-50091) in place of the original heat insulator.



4. Install the appropriate heat insulator to the main muffler with the 2 nuts.

**Repair
Procedure E2****Install Exhaust Pipe Damper**

1. Remove the heat insulator from the main muffler.
2. Remove the exhaust pipe damper from the main muffler.
3. Install the new exhaust pipe damper to the main muffler with the 2 bolts.

NOTE:

The 5 exhaust pipe dampers are tuned to different frequencies (32 Hz, 39 Hz, 48 Hz, 43.8 Hz, and 34.6 Hz). Install each of the 5 exhaust pipe dampers to determine which is the most effective.

4. Reinstall the heat insulator to the main muffler with the 2 nuts.

**Repair
Procedure F****Install Passenger's Side Crossmember Frame Damper Weight**

1. Install the RH No. 4 crossmember damper weight.
 - A. Install the RH No. 4 crossmember damper weight by following steps H – L of Repair Procedure C2.
 - B. After installation, check the vibration level again. If vibration level is worse after installing the RH No. 4 crossmember damper weight, remove it and do NOT utilize this part.

NOTE:

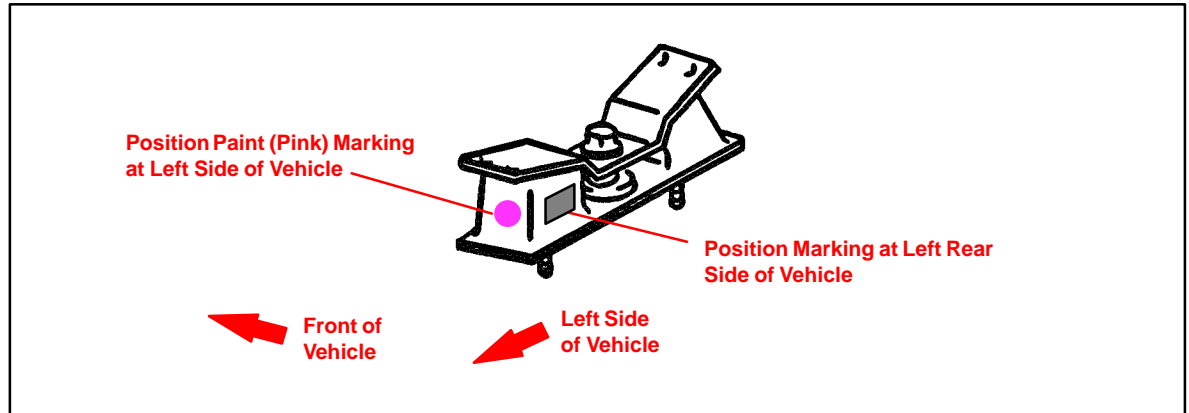
For all model year vehicles, weld nuts are located in the passenger's side frame rail. Therefore, installation of the securing bracket inside the frame rail is not necessary.

**Repair
Procedure G****Replace Rear Engine Mount Insulator**

- Refer to TIS, applicable model year Land Cruiser Repair Manual: *Engine Mechanical: Exhaust Unit:Removal*.

NOTE:

This mount must be installed in the correct direction. Use the paint marks on the mount to determine correct installation direction.

**Repair
Procedure H****Replace Front Engine Mount Insulator**

- Refer to TIS, applicable model year Land Cruiser Repair Manual: *Engine Mechanical: Exhaust Unit:Removal*.

NOTE:

Installation of these mounts may result in body vibration at driving speeds of 80 mph (129 km/h) or higher. If body vibration occurs, reinstall original engine mounts.