TOYOTA

Technical Service BULLETIN

March 24, 2005

Title:

FUEL INJECTOR "TICKING" NOISE

Models:

'01 – '05 Highlander (V6)

TSB

REVISED EG013-05 ENGINE

TSB REVISION NOTICE:

- **June 28, 2005: A new section, "Component Identification," has been added; a note has been added to step 2 of the Repair Procedure, and component identification information has been enhanced in Figures 2 and 6.**

The previous TSB should be discarded.

Introduction

Some customers with 2001 – 2005 model year Highlander vehicles with V6 engines may complain of a "ticking" noise from the engine compartment when the engine is idling. An updated fuel main tube has been made available, and a second fuel pressure pulsation damper has been added to improve this condition.

Applicable Vehicles

- **2001 – 2005** model year **Highlander** vehicles equipped with **V6 engines** produced **BEFORE** the Production Change Effective VINs shown below.

Production Change Information

MODEL	DRIVETRAIN	PRODUCTION CHANGE EFFECTIVE VIN
2005 Highlander	2WD	JTE*P21A#50058820
	4WD	JTE*P21A#50091261

Warranty Information

OP CODE	DESCRIPTION	TIME	OFP	T1	T2
EG5015	R & R Fuel Pipe Sub–assembly No. 1	1.0	23801–20180 23801–20120	06	50

Applicable Warranty*:

This repair is covered under the Toyota Comprehensive Warranty. This warranty is in effect for 36 months or 36,000 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

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
23801–20180 23801–20120	23801–20260	Pipe Sub–assembly, Fuel, No. 1	1
23270–62010	23270–62011	Damper Assembly, Fuel Pressure Pulsation	1
23232–41081	Same	Gasket	4

Required SSTs

ITEM NO.	SPECIAL SERVICE TOOLS (SSTs)	PART NUMBER	QTY	DRW**
1	**Toyota Diagnostic Tester Kit***  NOTE: • All components from this kit/set are required • 12 Megabyte Diagnostic Tester Program Card (P/N 01002593–005) with version 12.2a Software (or later) is required	TOY220036	1	9
2	**CAN Interface Module Kit***  NOTE: • All components from this kit/set are required	01002744	1	9

* Essential SSTs.

** Refers to drawer number in SST Storage System.

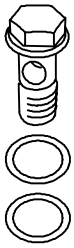
NOTE:

Additional Diagnostic Tester Kits, CAN Interface Modules, Program Cards, or other SSTs may be ordered by calling SPX/OTC at 1-800-933-8335.

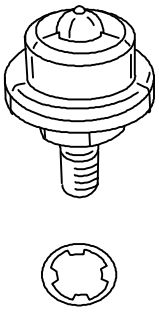
Component Identification

Bolt and 2 Washers

BOLT AND 2 WASHERS ARE REMOVED AND REPLACED WITH NEW PULSATION DAMPER AND GASKET



Pulsation Damper and Gasket



NEW PULSATION DAMPER AND GASKET INSTALLED WHERE BOLT AND WASHERS WERE REMOVED

Repair Procedure

CAUTION:
- **Do NOT smoke or work near an open flame when working on the fuel system.**
- **Keep gasoline away from rubber or leather parts.**
- **Wear safety goggles while working with the fuel system under pressure.**
- **Do NOT disconnect any part of the fuel system until you have discharged the fuel system pressure.**
- **Even after discharging the fuel pressure, place a shop rag over fittings as you separate them to reduce risk of fuel spray on yourself or in the engine compartment.**

1. Discharge fuel system pressure.
   A. Remove Circuit Opening Relay from Relay Block No. 1 located to the left of the Instrument Panel Junction Block behind the left lower finish panel.

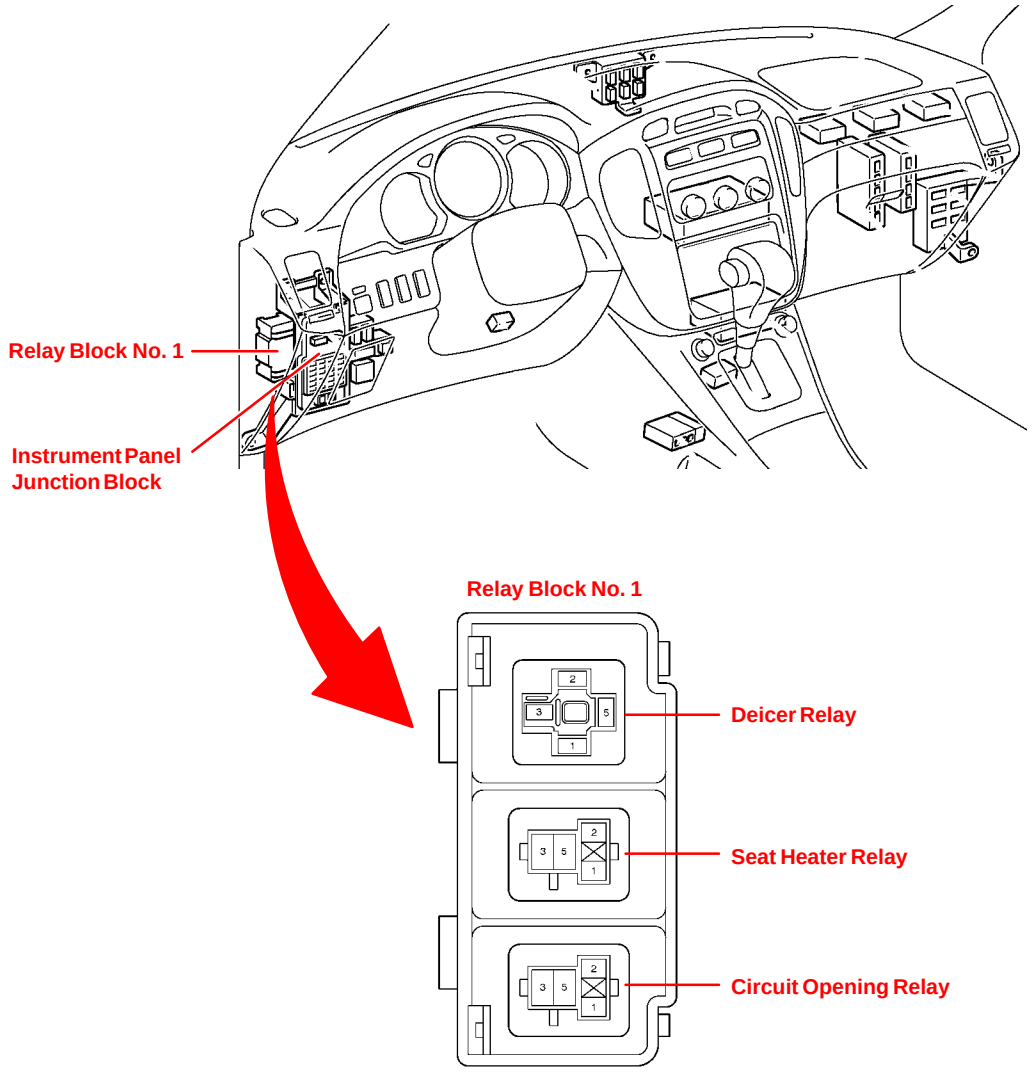


Figure 1

   B. Start the engine. After the engine has stalled, turn the ignition switch OFF.
   C. Reinstall the Circuit Opening Relay.
   D. Disconnect the negative (–) battery cable.

Repair Procedure (Continued)

2. Disconnect Fuel Pipe Sub–assembly No. 1.

NOTE:
- **Ensure that the removed bolt and washers are discarded.**
- **Refer to the "Component Identification" section on page 2 to ensure that the correct bolt and washers are removed and damper is installed.**

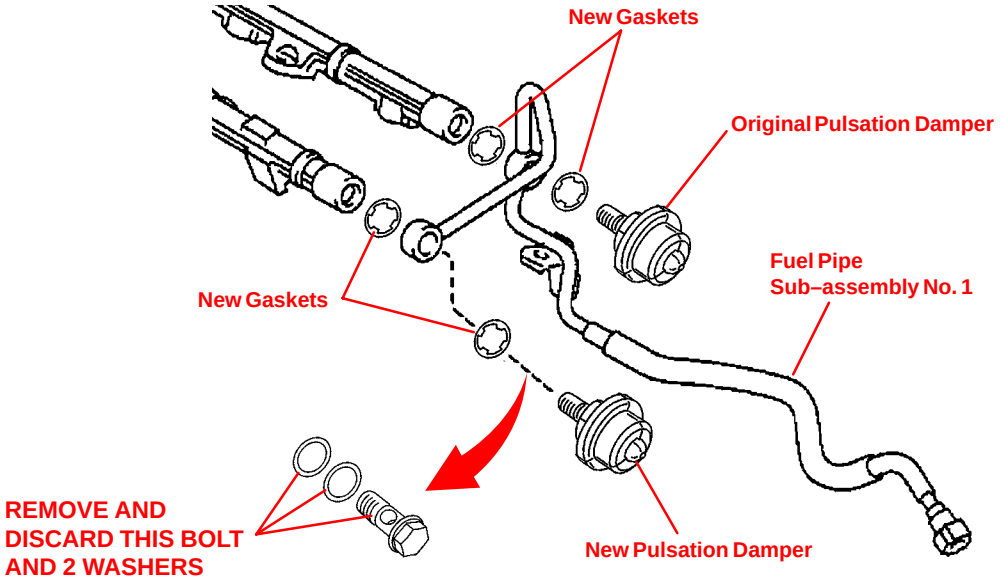


Figure 2

A. Disconnect the fuel pipe clamp No. 1 from the connector.

B. Check if there is any dirt or mud on the pipe and around the connector before disconnecting the fuel line. Clean if necessary.

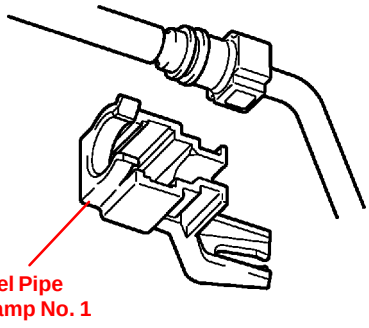


Figure 3

Repair Procedure (Continued)

C. Disconnect the connector from the hose while pinching portion "A" with your fingers as shown in the illustration.

D. If the connector and pipe are stuck, pinch the fuel pipe, push and pull the connector by hand to disconnect them. Do not use any tools.

E. Drain the fuel that remains inside Fuel Pipe Sub–assembly No. 1.

F. Place a tray under the vehicle or point of disconnection, if needed, to catch any fuel that may spill.

G. Protect the disconnected fuel lines from debris by covering with a vinyl or plastic bag.

H. Remove the original pulsation damper from the rear fuel rail.

I. Remove and discard the remaining bolt holding Fuel Pipe Sub–assembly No. 1 to the front fuel rail.

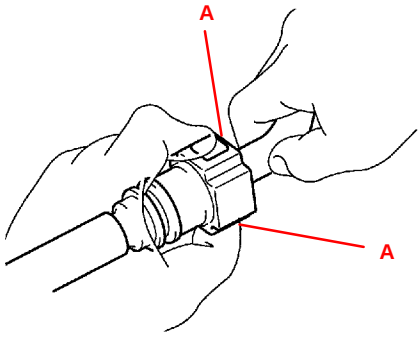


Figure 4

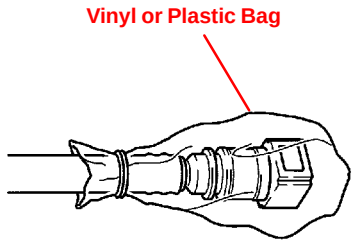


Figure 5

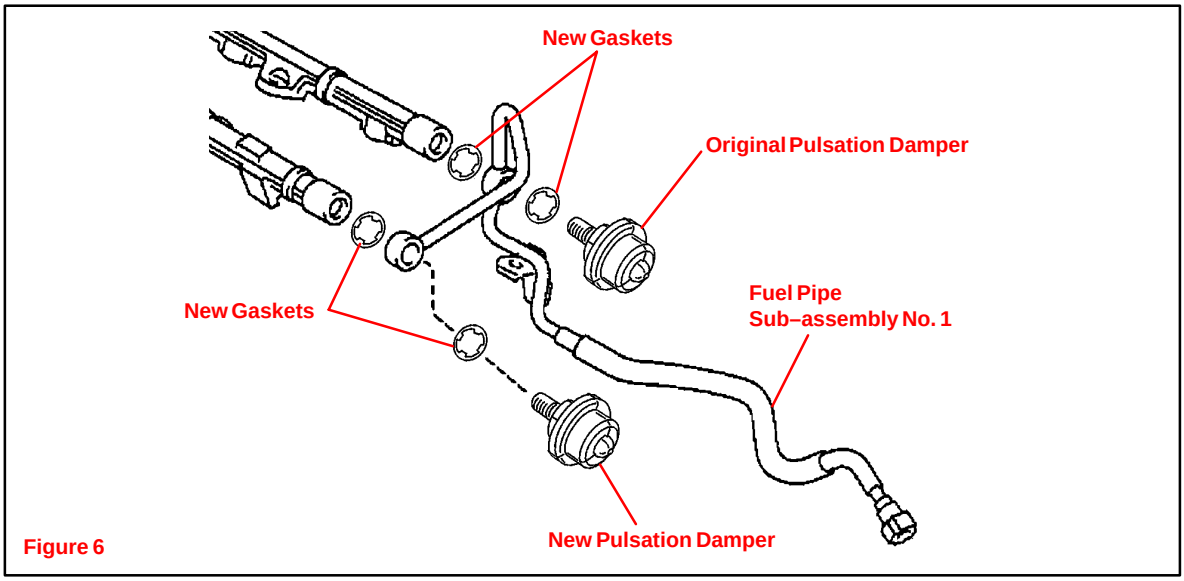


Figure 6

3. Install the new Fuel Pipe Sub–assembly No. 1 onto the vehicle.

4. Install both the original pulsation damper and the new (additional) damper with the new fuel pipe hose gaskets as shown, and torque to the following specifications.

   Torque: 33 N•m (24 ft•lbf, 331 kgf•cm)

Repair Procedure (Continued)

5. Check for fuel leaks.
   A. Reconnect the negative (–) battery terminal.
   B. Connect the Toyota Diagnostic Tester.
   C. Turn the ignition switch to the "ON" position (do NOT start the engine).
   D. Turn the Diagnostic Tester ON.
   E. Select "1. DIAGNOSIS" on the Diagnostic Tester.
   F. Select "2. ENHANCED OBD II."
   G. Select "3. ACTIVE TEST."
   H. Select "FUEL PUMP/SPD."
   I. Turn on the fuel pump with Active Test by pressing the right arrow on the Diagnostic Tester.
   J. Check for fuel leaks.
   K. Check and clear any DTCs that may have been set while performing the repair.
6. Once confirmed that no leaks are present, take the vehicle on a test drive to ensure that any air trapped in the pulsation dampers has been purged.
7. Repair is complete.