



**Technical Service
BULLETIN**

July 3, 2003

Title:

ACCESSORY DRIVE BELT NOISE

Models:

'03 4Runner (1GR-FE)



REVISED

ENGINE
EG012-03

TSB REVISION NOTICE:

- **November 18, 2005: Applicable Warranty has been changed from Powertrain to the Toyota Basic Warranty.**
- Previous versions of this TSB should be discarded.

Introduction On some 2003 model year 4Runner vehicles equipped with the 1GR-FE V6 engine, under certain conditions, the accessory drive belt may make a “squealing” or “chirping” sound when the engine is first started. An improved auto tensioner assembly, flange bolt, V-rib belt, and service procedure have been developed to correct the condition.

- Applicable Vehicles**
- **2003 model year 4Runner vehicles equipped with the 1GR-FE engine.**

VIN Information With 4Runner vehicles **BEFORE** the engine number and **BEFORE** the VINs shown below, proceed to **step 1**.

MODEL	ENGINE NUMBER	VIN
4Runner	1GR-0053092	JTEZU17R030013188
		JTEBU14R830014935

With 4Runner vehicles **AFTER** the engine number and **AFTER** the VINs shown below, proceed to **step 7**.

MODEL	ENGINE NUMBER	VIN
4Runner	1GR-0053092	JTEZU14R938006844
		JTEBU14R638007466

Warranty Information

OP CODE	DESCRIPTION	TIME	OFF	T1	T2
EG3002	R & R Auto Tensioner & V-Rib Belt	2.5	16620-31010	91	99
160251	R & R V-Rib Belt	0.4	99367-D2120		

Applicable Warranty*:

This repair is covered under the Toyota Basic 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
N/A	99367-D2120	V-Rib Belt	1
16620-31010	16620-31011	Auto Tensioner Assembly	1
91512-61070	90105-10527	Flange Bolt	1
N/A	16639-31010	Shim Kit (Each kit has one 0.5, 1.0, 1.5, 2.0 mm shim)	1

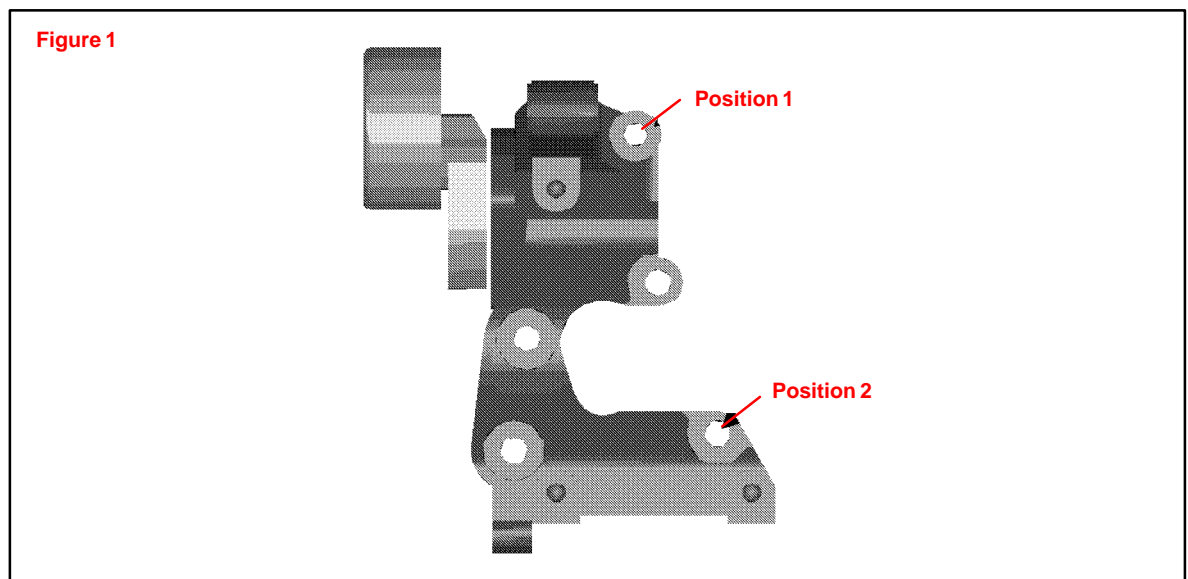
Required Tools & Material

TOOLS & MATERIAL	QUANTITY
Metric Socket Set and Basic Hand Tools	As Needed
Straightedge and Metric Ruler with (mm) increments	

**Repair
Procedure**

1. Check the engine number. If the engine number is higher than 1GR–0053092, go to step 7 (refer to the VIN Information table in this TSB). Otherwise, continue with step 2.
2. Remove the accessory drive belt and remove the alternator from the vehicle.
3. Remove the A/C compressor from the auto tensioner assembly and carefully move the A/C compressor to the side to allow access to the 5 bolts holding the auto tensioner assembly to the engine block. Pay close attention to all wire harnesses, connectors, and A/C lines. **It is NOT necessary to disconnect ANY A/C lines to perform this procedure.**
4. Remove the five bolts holding the auto tensioner assembly to the engine block and remove the auto tensioner assembly from the engine.
5. Install the NEW auto tensioner with the NEW flange bolt in Position 1 and one of the previously removed bolts in Position 2 as shown in Figure 1 below. Install the two bolts finger–tight. Then first torque the flange bolt in Position 1 to 27 ft•lbs and then torque the bolt in Position 2 to 27 ft•lbs. Lastly, tighten the other three bolts to 27 ft•lbs.

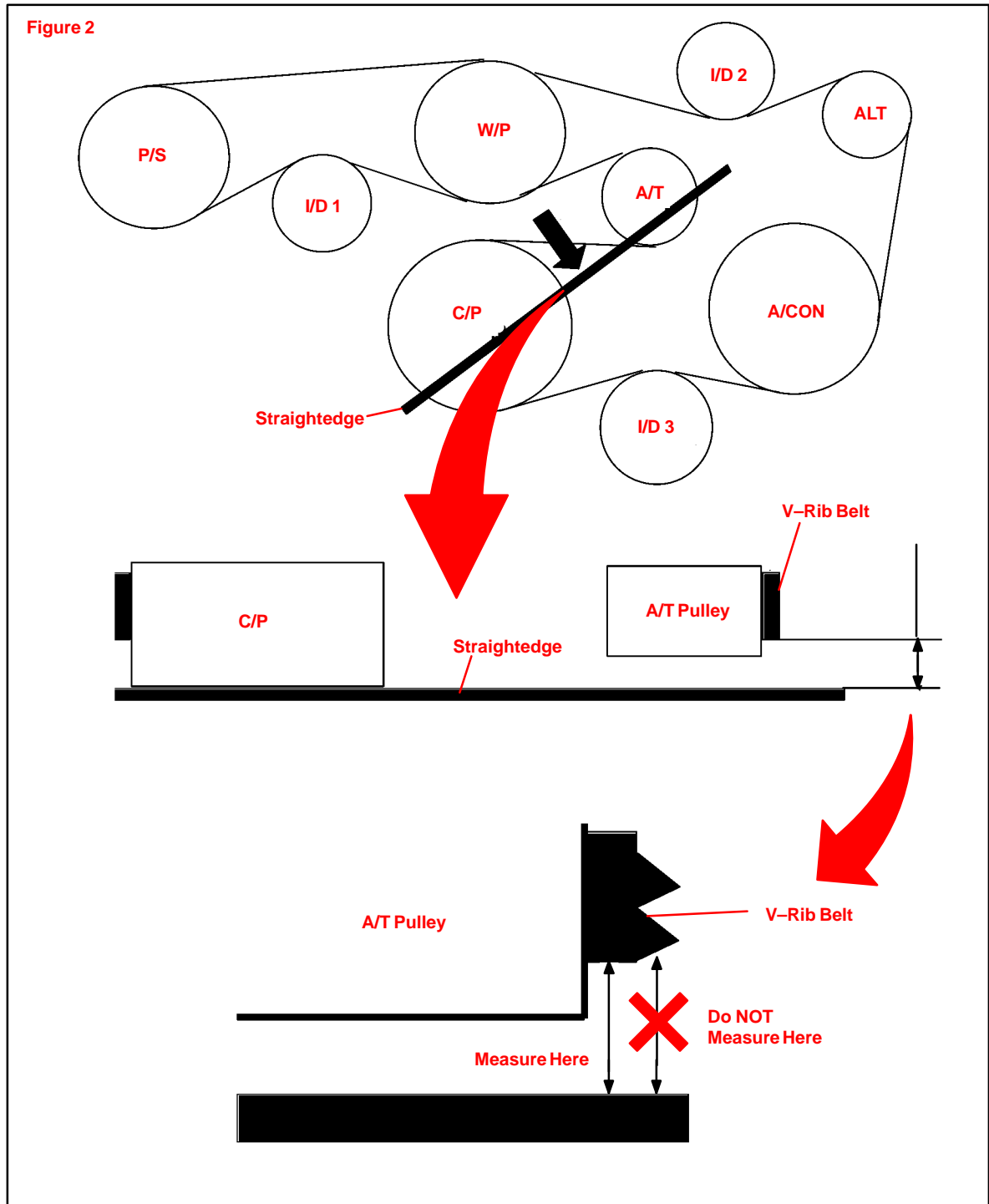
Torque: 36 N•m (373 kgf•cm, 27 ft•lbs)



6. Reinstall the A/C compressor and alternator, and then install the NEW V–rib belt ensuring that the belt is properly installed by using the diagram in Figure 2.
7. If the VIN in the VIN Information table refers to step 7, replace the V–rib belt before continuing on with step 8.
8. Start the engine and allow it to run for at least 10 seconds under the following conditions:
 - A/C switch in the OFF position and do NOT turn the steering wheel to prevent load on the power steering pump.
 - Engine temperature should be warm and engine speed should be kept below 1,000 rpm.

Repair Procedure
(Continued)

- Using the diagram below, with the engine OFF, hold a straightedge flat against the face of the crank pulley. Next, take the metric ruler and measure the distance from the straightedge to the side of the V-rib belt. The target specification is 8.5 – 10.5 mm. If the measurement is within the target, go to step 11. If the measurement is less than the target measurement, go to step 10.



**Repair
Procedure**
(Continued)

10. Remove the V-rib belt and auto tensioner pulley and insert a 0.5 mm shim in the location indicated in Figure 3 below.

NOTE:

The pulley bolt is a LEFT HAND threaded bolt.

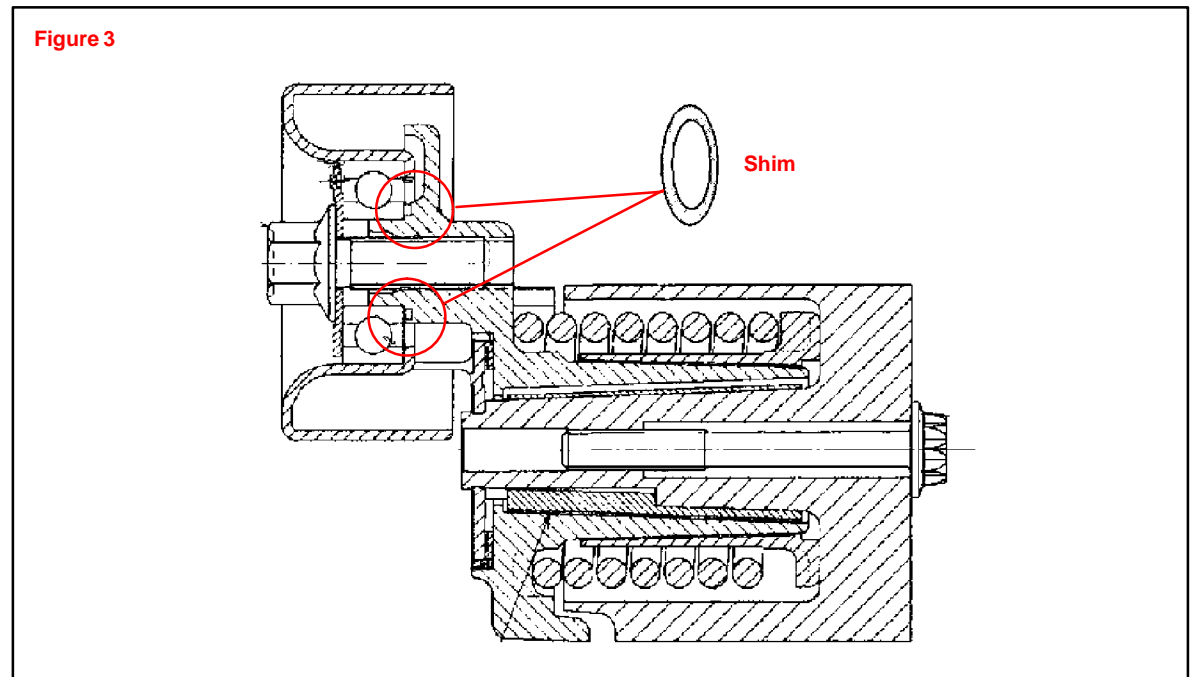
HINT:

- Only 1 shim should be inserted at a time.
- Total thickness of the shim inserted must be 2.0 mm or less.

Reinstall the pulley and torque the pulley bolt to 40 ft•lbs. Reinstall the V-rib belt and perform steps 8 and 9 again.

Torque: 54 N•m (553 kgf•cm, 40 ft•lbs)

If the measurement value is less than the target specification, replace the shim in the following order: 0.5 mm → 1.0 mm → 1.5 mm → 2.0 mm.



11. Start the engine and let the engine idle for 10 minutes to confirm the repair effectiveness.