

Steering Intermediate Shaft Noise

Service Category Steering

Section Steering Gear/Linkage

Market USA

Toyota Supports
 ASE Certification 

Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2006	Highlander HV	
2004 – 2005	Highlander	
2004 – 2006	Solara	
2005 – 2006	Avalon	
2003 – 2006	Camry	

TSB SUPERSESSION NOTICE

The information contained in this TSB supersedes TSB No. ST001-06.

- **Applicability has been updated to include 2005 – 2006 model year Avalon and 2006 model year Highlander HV.**
- **Production Change information has been removed.**
- **The Introduction, Warranty Information, Parts Information, and Repair Procedure sections have been updated to reflect removal, lubrication, and reinstallation of the steering intermediate shaft instead of replacement.**

TSB No. ST001-06 is Obsolete and any printed versions should be discarded. Be sure to review the entire content of this service bulletin before proceeding.

Introduction

Some customers may hear a clunk, pop, or knock type noise when turning the steering wheel left or right. Use the following procedure to lubricate the intermediate shaft and address customer concerns.

Steering Intermediate Shaft Noise

Warranty Information

OP CODE	MODEL	DESCRIPTION	TIME	OFP	T1	T2
ST8005	Avalon	Remove, Lubricate, and Reinstall Intermediate Shaft	1.1	45220-#####	91	19
	Camry		1.3			
	Highlander, Highlander HV		1.1			
	Solara					

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

MODEL	PART NUMBER	PART NAME	QUANTITY NEEDED
Avalon	04007-76133	Grease Kit	2 Cylinders (4 g)
Camry			
Solara			
Highlander	04007-76248		5 Cylinders (10 g)
Highlander HV			

Steering Intermediate Shaft Noise

Repair Procedure

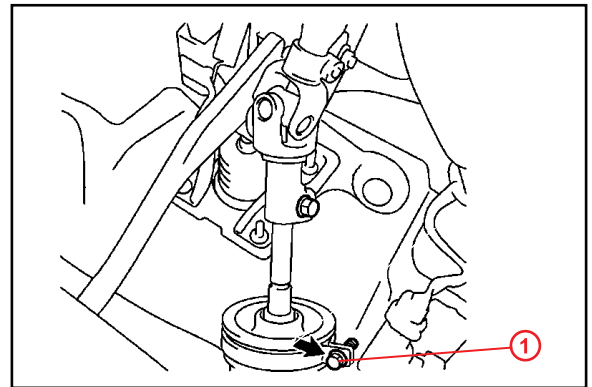
Steering Intermediate Shaft Removal

NOTE

Prior to removing the steering intermediate shaft, install a steering wheel holder to ensure that the steering wheel and front wheels remain stationary. Once the intermediate shaft is removed, do NOT allow the steering wheel to spin freely.

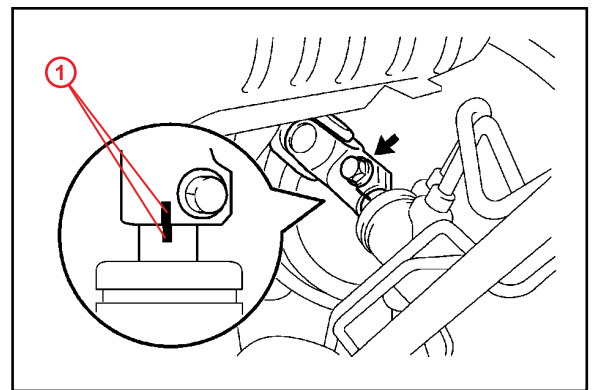
1. Disconnect the steering intermediate shaft sub-assembly.
 - A. Loosen the bolt and remove the clamp from the steering column boot.
 - B. Separate the steering column hole cover from the boot.
 - C. Place matchmarks on the steering intermediate shaft sub-assembly and steering gear assembly.

Figure 1.



1	Bolt
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Figure 2.



1	Matchmarks
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- D. Remove the bolt and disconnect the steering intermediate shaft sub-assembly.

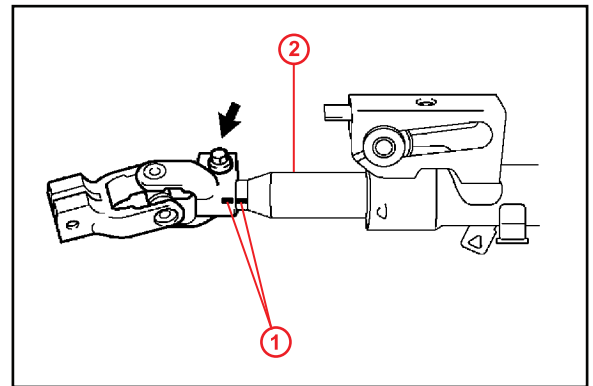
Steering Intermediate Shaft Noise

Repair Procedure

Steering Intermediate Shaft Removal (Continued)

2. Remove the steering intermediate shaft sub-assembly.
 - A. Place matchmarks on the steering sliding yoke sub-assembly and steering main shaft assembly.
 - B. Remove the bolt and steering sliding yoke sub-assembly from the steering main shaft assembly.

Figure 3.

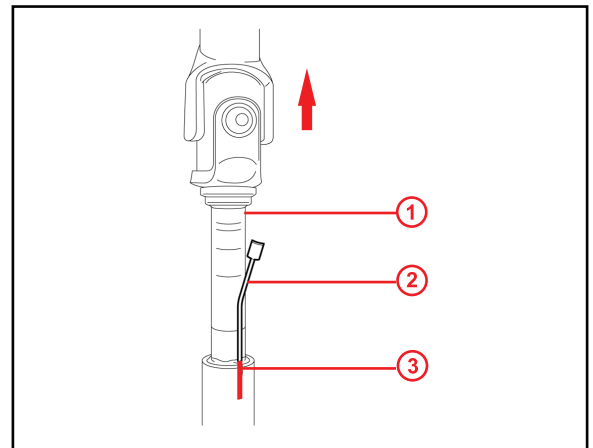


1	Matchmarks
2	Steering Main Shaft

3. Slightly lift the spline shaft upward and expose the splines. Two teeth have been machined down to allow a needle to be inserted to apply the lubricant. Once the missing spline has been located, mark it.

The other machined spline is located 180 degrees from the original.

Figure 4.



1	Spline Shaft
2	Grease Injection Needle
3	Marking

4. Insert the needle into the shaft and then install the tube of lubricant to the needle.

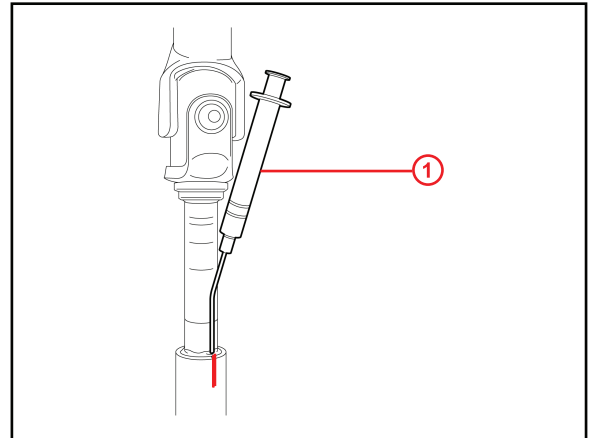
Steering Intermediate Shaft Noise

Repair Procedure

Steering Intermediate Shaft Removal (Continued)

5. After attaching lubricant to the needle, squeeze the tube to apply the grease to the splined portion. All of the grease in the tube should be applied.

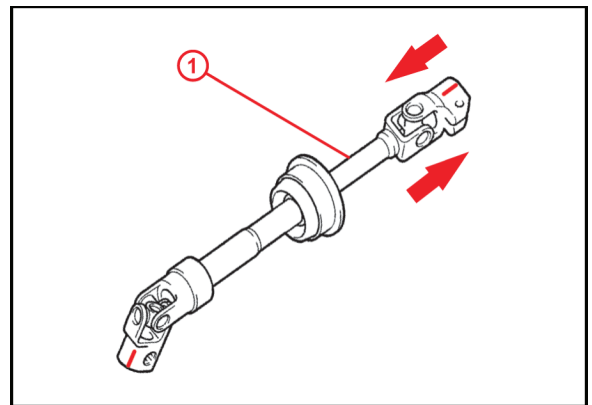
Figure 5.



1 Grease Injector

6. After applying the grease on one side, remove the needle from the shaft. Place the needle into the shaft on the opposite side (180 degrees from the original location) and add lubricant as performed in step 5.
7. Hold the intermediate shaft from the upper and lower portions and compress and extend about 20 times to ensure that the lubricant is thoroughly distributed inside the splined portion of the intermediate shaft.

Figure 6.



1 Steering Intermediate Shaft

NOTE
 Make sure that during this process, no foreign objects or material contaminate the grease.

Steering Intermediate Shaft Noise

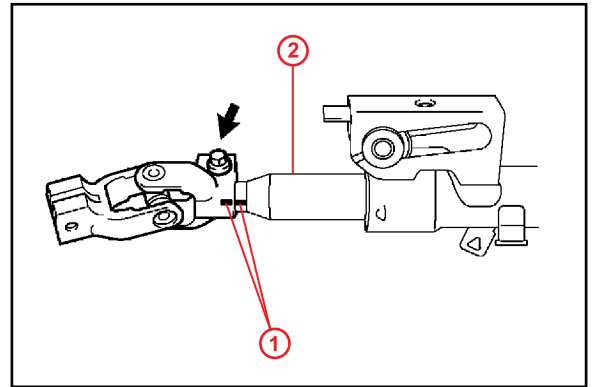
Repair Procedure

Steering Intermediate Shaft Installation

1. Install the steering intermediate shaft sub-assembly.
 - A. Align the matchmarks on the steering sliding yoke sub-assembly and the steering main shaft.
 - B. Install the steering sliding yoke sub-assembly with the bolt.

Torque: 35.3 N*m (360 kgf*cm, 26 ft*lbf)

Figure 7.



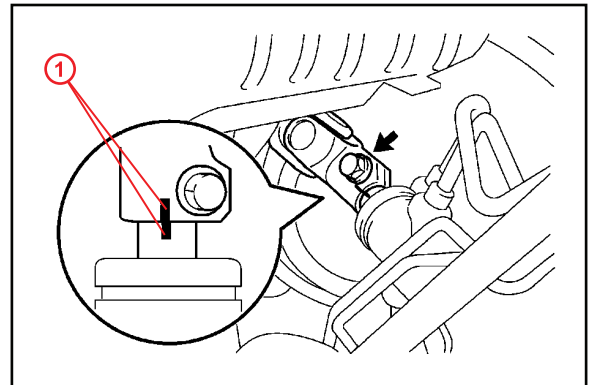
1	Matchmarks
2	Steering Main Shaft

2. Connect the steering intermediate shaft sub-assembly.
 - A. Align the matchmarks on the steering intermediate shaft sub-assembly and the steering gear assembly.

Torque: 35.3 N*m (360 kgf*cm, 26 ft*lbf)
 - B. Install the steering intermediate shaft sub-assembly with the bolt.

Torque: 35.3 N*m (360 kgf*cm, 26 ft*lbf)
 - C. Install the steering column hole cover to the boot.
 - D. Connect the clamp to the steering column hole cover boot and tighten the bolt.

Figure 8.



1	Matchmarks
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3. Road test the vehicle to ensure that the noise is gone.