

# Steering Intermediate Shaft Noise

**Service Category** Steering

**Section** Steering Gear/Linkage

**Market** USA

Toyota Supports  
 ASE Certification 

## Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2008 – 2013	Highlander HV	
2008 – 2013	Highlander	

## Introduction

Some 2008 – 2013 model year Highlander and Highlander HV vehicles may exhibit a clunk, pop, or knock-type noise when turning the steering wheel left or right. A new intermediate shaft has been developed to address this condition. Use the following repair procedure to remove and replace the steering intermediate shaft.

## Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
45220-48170	Same	Shaft Assy, Steering Intermediate	1

## Warranty Information

OP CODE	DESCRIPTION	MODEL	TIME	OFP	T1	T2
ST1203	R & R Steering Intermediate Shaft	Highlander	0.9	45220-48170	91	19
		Highlander HV				

### 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 occurrence of the specified condition described in this bulletin.

## Steering Intermediate Shaft Noise

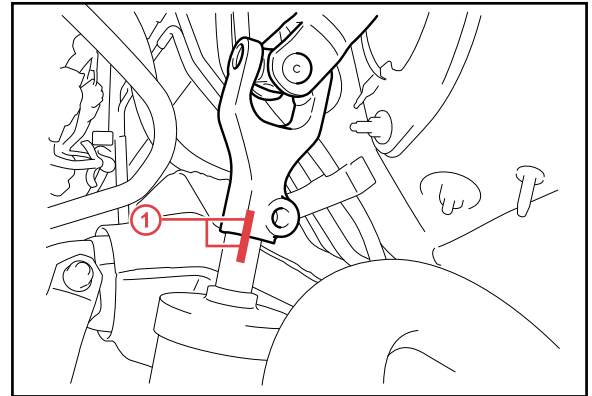
### Repair Procedure

**NOTICE**

- Prior to removing the steering intermediate shaft, make sure the steering wheel and front wheels remain stationary. Once the intermediate shaft is removed, do NOT allow the steering wheel to spin freely.
- Ensure the wheels are straight and the steering wheel is centered before removing the steering intermediate shaft by installing a steering wheel holder.

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

**Figure 1.**



<b>1</b>	<b>Matchmark</b>
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- D. Remove the bolt and disconnect the steering intermediate shaft.

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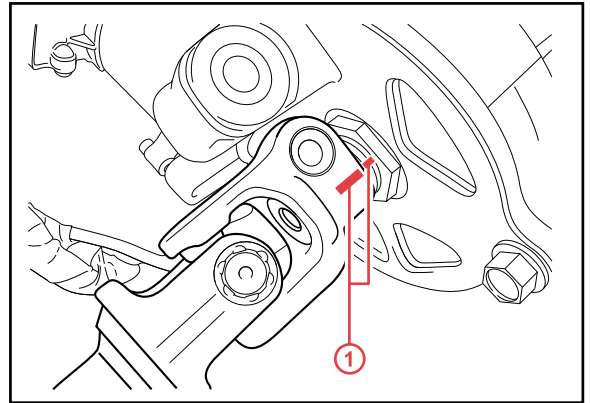
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### Repair Procedure (Continued)

2. Remove the steering intermediate shaft.

A. Place matchmarks on the steering sliding yoke sub-assembly and steering main shaft assembly.

**Figure 2.**



<b>1</b>	<b>Matchmark</b>
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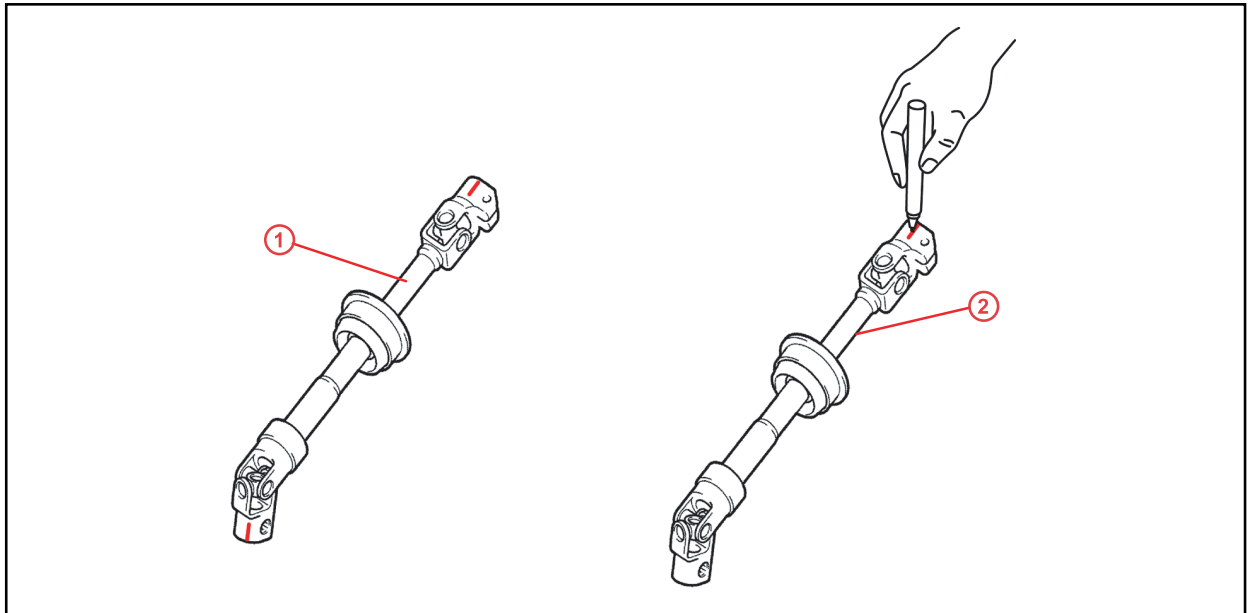
B. Remove the bolt and steering sliding yoke sub-assembly from the steering main shaft assembly.

## Steering Intermediate Shaft Noise

### Repair Procedure (Continued)

3. Place the corresponding matchmarks on the NEW steering intermediate shaft. To place the matchmarks on the NEW steering intermediate shaft, place a NEW steering intermediate shaft next to the original steering intermediate shaft (removed in the previous step) and transfer those matchmarks to the same locations on the NEW steering intermediate shaft.

**Figure 3.**



**1** Original Steering Intermediate Shaft

**2** New Steering Intermediate Shaft

4. Install the NEW steering intermediate shaft.
  - A. Align the matchmarks on the steering intermediate shaft assembly and the power steering main shaft assembly.
  - B. Install the steering sliding yoke sub-assembly with the bolt.  
**Torque: 35 N\*m (357 kgf\*cm, 26 ft\*lbf)**
5. Connect the steering intermediate shaft.
  - A. Align the matchmarks on the steering intermediate shaft and the steering gear assembly.
  - B. Install the steering intermediate shaft with the bolt.  
**Torque: 35 N\*m (357 kgf\*cm, 26 ft\*lbf)**
  - C. Install the steering column hole cover to the cover boot.
  - D. Install the clamp to the steering column cover hole shield.

## Steering Intermediate Shaft Noise

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### Repair Procedure (Continued)

6. Remove the steering wheel holder from the vehicle (if used).
7. Road test the vehicle to verify the repair and confirm that the steering wheel is centered.