

2010 Cadillac SRX

2010 Driveline/Axle Propeller Shaft - SRX

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Propeller Shaft - SRX

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Application	Specification	
	Metric	English
Propeller Shaft Bolts	36 mm	2 1/2 ft
Support Bearing Mounting Bolts	58 mm	3 1/2 ft

ADHESIVES, FLUIDS, LUBRICANTS, AND SEALERS

Application	Type of Material	GM Part Number
Grease	Sealant	Refer to appropriate Ichni Parts Catalogue
Coating Agent	Sealant	Refer to appropriate Ichni Parts Catalogue

DIAGNOSTIC INFORMATION AND PROCEDURES

SYMPTOMS - PROPELLER SHAFT

Before beginning diagnosis review the system description and operation in order to familiarize yourself with the system. Refer to **Propeller Shaft Description and Operation**

Classifying the Symptom

Propeller Shaft symptoms are classified into the following categories:

- Vibration
- Noise
- Drivability

Vibration and noise related symptoms are diagnosed in the Propeller Shaft section. Drivability related symptoms are described in General Information - Drivability Diagnosis and Correction. Refer to **Symptoms - Vibration Diagnosis and Correction**

Visual/Physical Inspection

- Inspect the system for a term that describes the condition of the Propeller Shaft.
- Inspect the ease of assembly or visible system components for obvious damage or conditions that could cause a symptom.

Symptom List

Refer to **Propeller Shaft Diagnosis** in order to diagnose the symptom.

PROPELLER SHAFT DIAGNOSIS

Review the rollers at the stem nut. Refer to **Propeller Shaft Description and Operation**

Inspect for loose or missing rollers at the tongue bolts. Tighten or replace as necessary. Refer to **Propeller Shaft Replacement**

Inspect for loose rack bolts and damaged rollers. Tighten or replace as necessary. Refer to **Propeller Shaft Replacement**

Rollers at the joints are not serviceable.

Joint seals should be inspected for the following:

- Tears
- Cracks
- Contamination of the lubricating grease

Carefully inspect the seal and feel for the presence of grit.

- Loose or missing seal lips
- Leakage of lubricating grease from the seals

Joints should be inspected for the following conditions:

- Binding or limited motion during axial movement of the front and rear joints
- Binding or limited motion during lateral movement of the rear joint
- Loose or missing rimed-on end caps
- Leakage of lubricating grease from the end caps

Rollers at the stem nut are replaced if any of the above conditions exist. This allows the roller shaft to continue to operate as intended and does not damage the other driveline components.

REPAIR INSTRUCTIONS**PROPELLER SHAFT REPLACEMENT**

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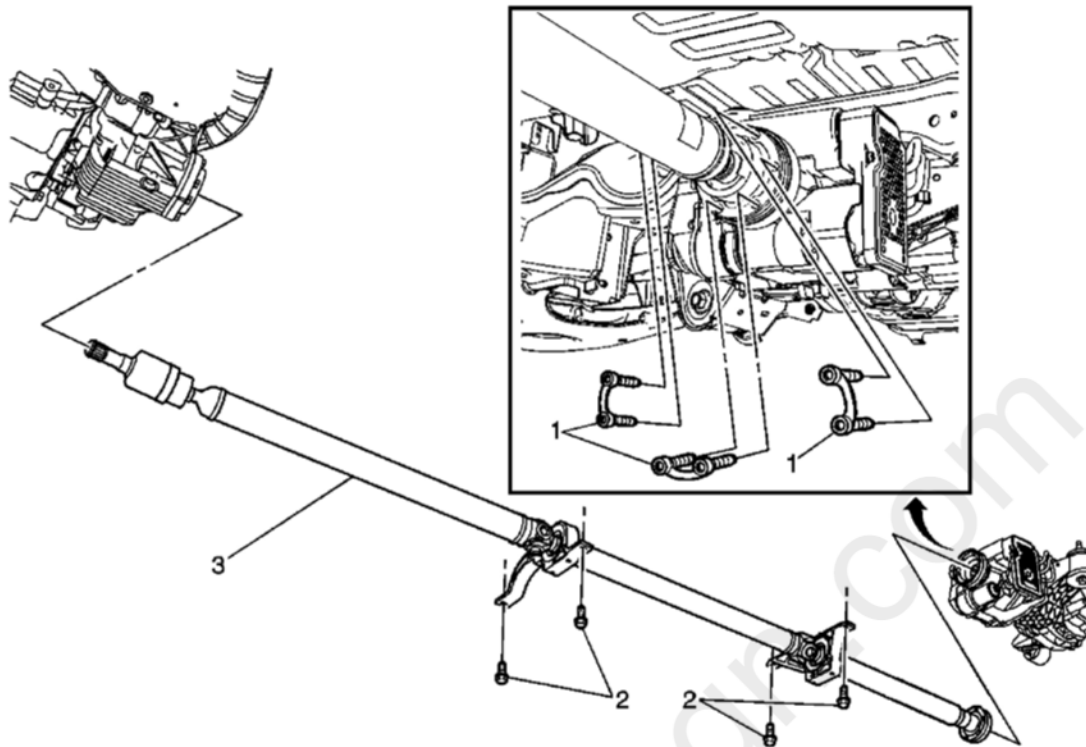


Fig. 1: View Of Propeller Shaft

Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
Preliminary Procedure: Raise and support the vehicle. Refer to <u>Lifting and Jacking the Vehicle</u> .	
	Rear differential drive flange Bolts and Retainers (3)
	CAUTION: Refer to <u>Fastener Caution</u> .
	Procedure
1	1. Remove the rear differential drive flange bolts and retainers. 2. Using the appropriate tools, remove the flange bolts and the retainers. 3. Set the J 22912-01 roller if needed to remove the rollers at
	Tighten: 36 in-lb (4 Nm)

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	Special Tools: J 22912-01 Puller or equivalent regional tools refer to <u>Special Tools</u>
2	Support Bearing Mounting Bolts Procedure 1. Insert the evaporator canister to gain access to the bearing bolts. Refer to <u>Evaporative Emission Canister Replacement (NT7, NU5)</u> 2. Support the bearing with a stand. 3. Clean threads of all residue of the old thread locker. Apply thread locker to the bolts. Refer to <u>Adhesives, Fluids, Lubricants, and Sealers</u> Tighten: 58 in-lb
3	Propeller Shaft Procedure 1. Using the J 22912-01 or appropriate tool, remove the propeller shaft from the transfer case. 2. It may be necessary to have the help of an assistant to remove the propeller shaft. 3. Apply grease on the splines. Refer to <u>Adhesives, Fluids, Lubricants, and Sealers</u> Special Tools: J 22912-01 or appropriate removal tool for Cardan Removal or equivalent regional tools refer to <u>Special Tools</u>

DESCRIPTION AND OPERATION

PROPELLER SHAFT DESCRIPTION AND OPERATION

The function of the propeller shaft is to transfer power from the transfer case to the differential. It consists of three sections: a front Rear Axle Joint to the Polymounts in the center and a rear Rear Axle Joint to the propeller shaft splines. The bearing housings are fitted to the Polymounts. The bearings are mounted in rubber boots. The boots are fitted in boots and these in turn are bolted to the underside of the vehicle. The position of the boots is very precise, measured by a line. The propeller shaft does not run in a straight line between the transfer case and the differential. It is instead gently curved and this is to avoid vibration.

Front Drive Shaft

The propeller shaft connects into the transfer case inion. It is a line which is part of the front drive shaft universal joint. The function of the joint is to handle the difference in angle between inion and

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rollers at as well as to the longitudinal

Support Bearings

The tapered roller bearings are the rollers at the support bearings. They are the single-roller permanent-lubricated groove ball bearing type. They are fitted in the rear springs. They in turn are fitted in the rails.

The rails are bolted to the underside of the vehicle and their position is very precisely measured during vehicle manufacture. The support bearing rails are fitted in order to prevent vibration of the

Rear Drive Shaft

The rollers at the ends of the differential half driver means of the rear drive shaft universal joint is bolted to the driver.

The function of the joint is to handle the difference in angle between the differential half driver and rollers at as well as to the longitudinal. The rear drive shaft universal joint is also a Rzeppa joint and is rigidly welded to the rear differential and constitutes one unit together with the rollers at

Front/Rear Drive Shaft Universal Joint (Rzeppa Joint)

The Rzeppa joint consists of an outer bearing race. It also constitutes the joints. On its inside are 6 semi-spherical grooves. The inner bearing race consists of a cylindrical section in the center. On it are 6 semi-spherical grooves. The inner bearing race is fitted inside the outer one and there are 6 steel balls between the grooves. A ball holder is fitted between the outer and inner bearing races. There are steel balls between the bearing races. It transfers the movement between the outer and inner bearing races.

Center Joints (Polhem Joint)

There are Polhem joints fitted between front and center differential sections as well as between center and rear differential sections. Their function is to handle the angle difference between the sections. The joints are angled 5 degrees in relation to each other to avoid vibration.

The Polhem joint consists of two rods made of forged steel. The grippers means of arms. The ends of the rods are mounted in needle bearings in the outer bearing sleeves. The sleeves are permanently lubricated in the outer means of compressive strain.

The bearing sleeves are permanently lubricated with synthetic grease. It contains molybdenum disulfide.

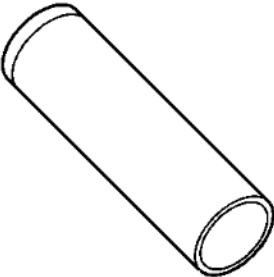
The drive shaft universal joint is rigidly welded to the relevant differential section and constitutes one unit together with the rollers at

SPECIAL TOOLS AND EQUIPMENT

SPECIAL TOOLS

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Illustration	Tool Number/Description
	J 22912-01 Rear Pinion and Axle Bearing Remover
	J 25863 Pinion Cone and Side Bearing Installer

