

Document ID# 1790475
2005 Cadillac CTS



Subject: Engine Oil Leak at Crankshaft Rear Main Oil Seal (Install Revised Crankshaft Rear Main Oil Seal Using Revised Rear Main Seal Installer) #05-06-01-019C - (03/17/2006)

Models: 1986-2006 GM Cars and Light Duty Trucks (including Saturn) with 2.8L, 3.1L, 3.4L, 3.5L, 3.9L 60 Degree V6 Engine (VINs D, E, F, J, K, L, M, N, R, S, T, V, W, X, Z, 1, 8, 9 -- RPOs LG6, LA1, LNJ or LN9, LG8, LL1 or LX9, L82, LL2, LB8, LH0, LG5, LB6, LE2 or LQ1, LH7, LC1, LX9, L44, LZ4, LZE, LZ9)

This bulletin is being revised to add additional service information on the installation of the new rear main seal with protective nylon sleeve and EN-48108 installation tool. Please discard Corporate Bulletin Number 05-06-01-019B (Section 06 -- Engine/Propulsion System).

Notice: This bulletin only applies to 60 degree V6 engines . Some of the discontinued 60 degree V6 engine VINs and RPOs may have carried over to other new model year engines and may no longer be a 60 degree V6 engine. So this bulletin may not apply. It is very important to verify that the following information is correct before using this bulletin:

- Year of vehicle (e.g. N = 1992)
- V6 Engine Liter size (e.g. 3.4L)
- VIN CODE (e.g. X)

- RPO (e.g. LQ1)

If ALL the information from the vehicle (year, size, VIN Code, RPO) you're working on can be found under the models listed above, then this bulletin applies to that engine. If one or more of the vehicle's information can NOT be found under the models listed above, then this bulletin does NOT apply.

Important: This bulletin does not apply to 2004-2005 Saturn VUE models with 3.5L DOHC V6 Engine (VIN 4 - RPO L66) or 2005-2006 Cadillac CTS with 2.8L HFV6 Engine (VIN T - RPO LP1).

Condition

Some customers may comment on external oil leakage.

Correction

Important: Before replacement of the new design crankshaft rear main oil seal, be sure the PCV system is operating correctly.

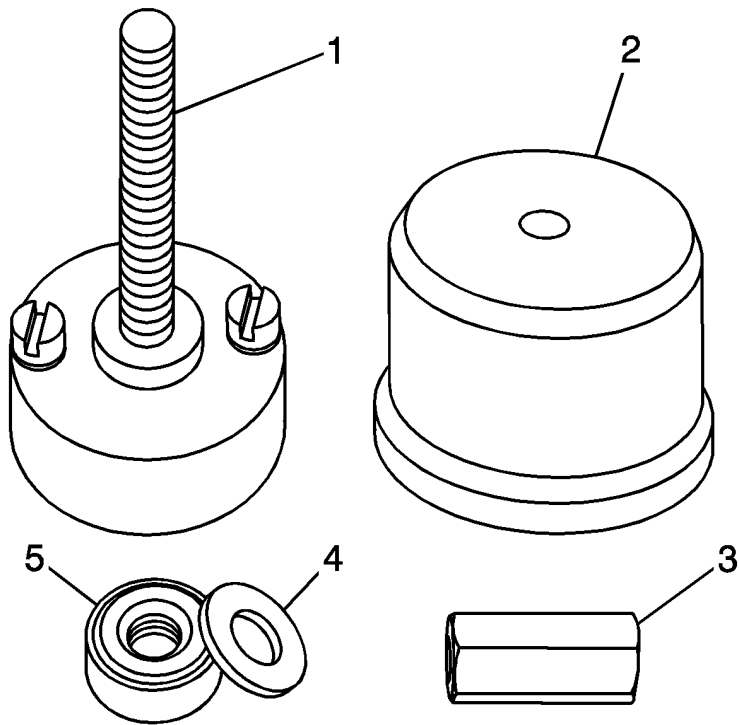
Notice: The new seal described below comes with a protective nylon sleeve already installed in the seal. This sleeve assures that the seal is installed in the correct direction and also protects the seal from getting damaged during installation. Do not remove the protective sleeve from the seal; if removed, the installation tool (EN-48108) will not work.

A new design crankshaft rear main oil seal and installation tool (EN-48108) has been released. This seal incorporates features that improve high mileage durability. Replace the crankshaft rear main oil seal with the new design rear main oil seal, P/N 12592195 (in Canada, P/N 31022784) using the following service procedures.

Tools Required

Important: TOOLS WERE SHIPPED TO DEALERS THE WEEK OF DECEMBER 19, 2005.

Important: TOOLS WERE SHIPPED TO SATURN DEALERS THE WEEK OF JANUARY 30, 2006.



EN-48108 Rear Main Oil Seal Installation Tool

This tool has a unique design to allow the technician to easily install the rear main seal squarely to the correct depth and direction. Before proceeding with installation, review the above illustration to become familiar with the following components:

1. Mandrel
2. Drive Drum
3. Drive Nut
4. Washer
5. Bearing

Removal Procedure

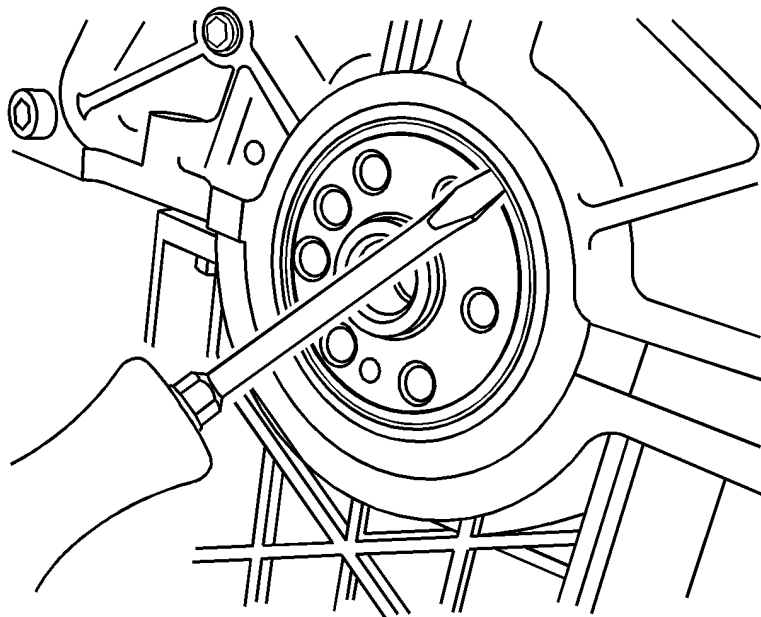
1. Remove the transmission. Refer to Transmission Replacement in SI or the appropriate Service Manual.
2. Remove the engine flywheel. Refer to Engine Flywheel Replacement in SI or the appropriate Service Manual.

Important: Do not nick the crankshaft sealing surface when removing the seal.

3. Remove crankshaft rear main oil seal using one of the following techniques:

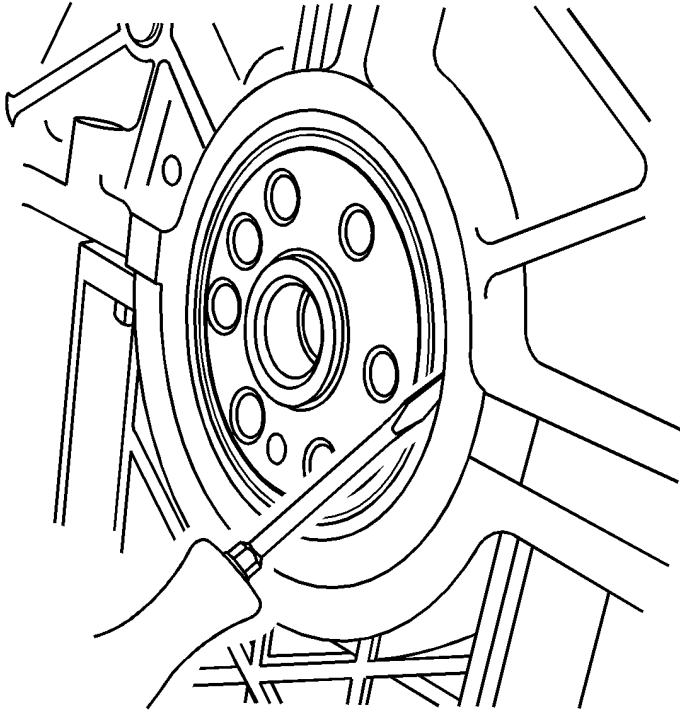
- Refer to graphic illustration "A" for the removal of new style crankshaft rear main oil seal.
- Refer to graphic illustration "B" for the removal of old style crankshaft rear main oil seal.

Graphic Illustration "A" New Style



- The seal lip faces outward. Insert a flat-bladed or similar tool between the sealing lip and the outer casing of the seal at an angle (refer to graphic Illustration "A" above).
- Pry seal out by moving tool towards the center of the crankshaft.

Graphic Illustration "B" Old Style



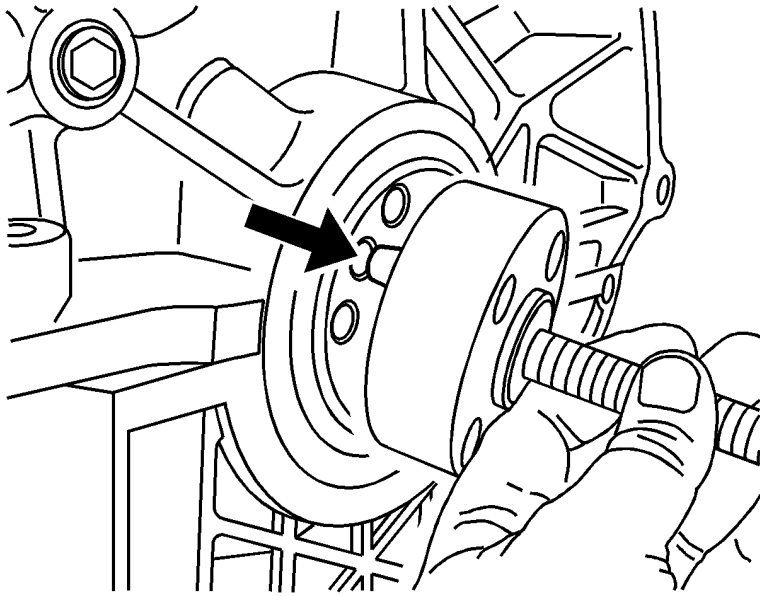
- Seal lip faces inward. Insert a flat-bladed or similar tool between the outer seal casing and the engine block casting.
- Gently pry seal out (refer to graphic Illustration "B" above).

4. Repeat above steps as necessary, around the crankshaft rear oil seal, until the seal is removed.

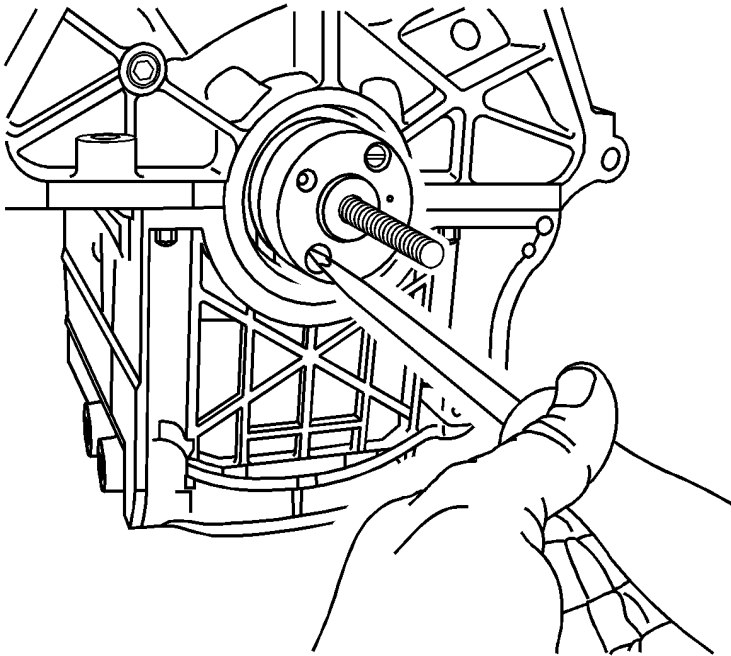
Installation Procedure

Notice: Do not remove protective nylon sleeve from the new rear main seal prior to installation. The EN-48108 is designed to install the rear main seal with the protective sleeve in place. Never apply or use any oil, lubricants or sealing compounds on the crankshaft rear main oil seal.

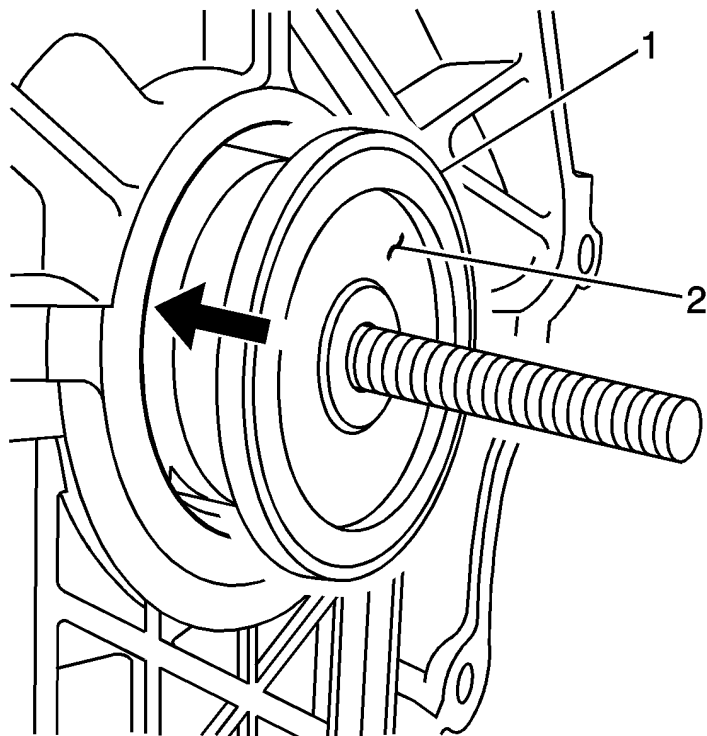
Notice: Clean the crankshaft sealing surface with a clean, lint free towel. Inspect the lead-in edge of the crankshaft for burrs or sharp edges that could damage the rear main oil seal. Remove any burrs or sharp edges with crocus cloth or equivalent before proceeding.



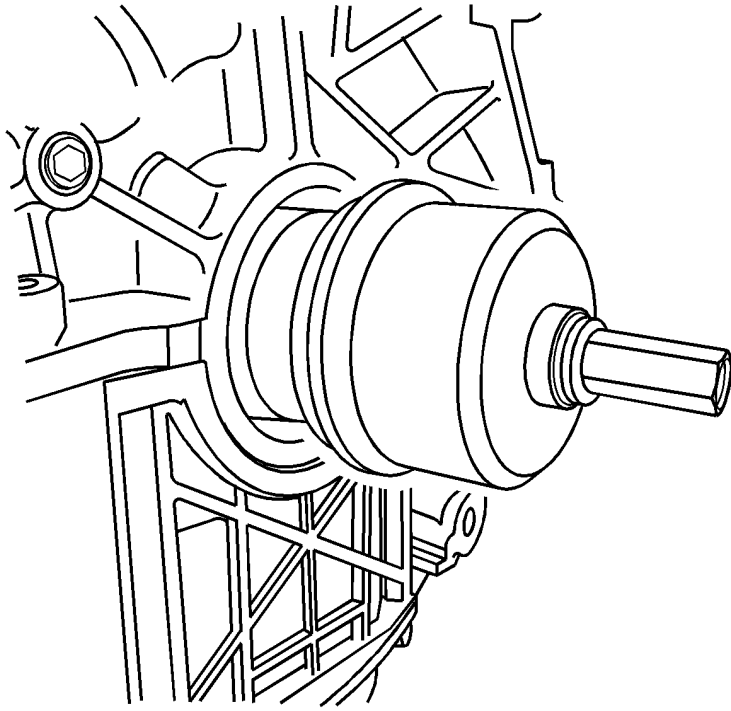
1. Align the mandrel dowel pin (EN-48108) to the dowel pin hole in the crankshaft. Refer to the above graphic Illustration.



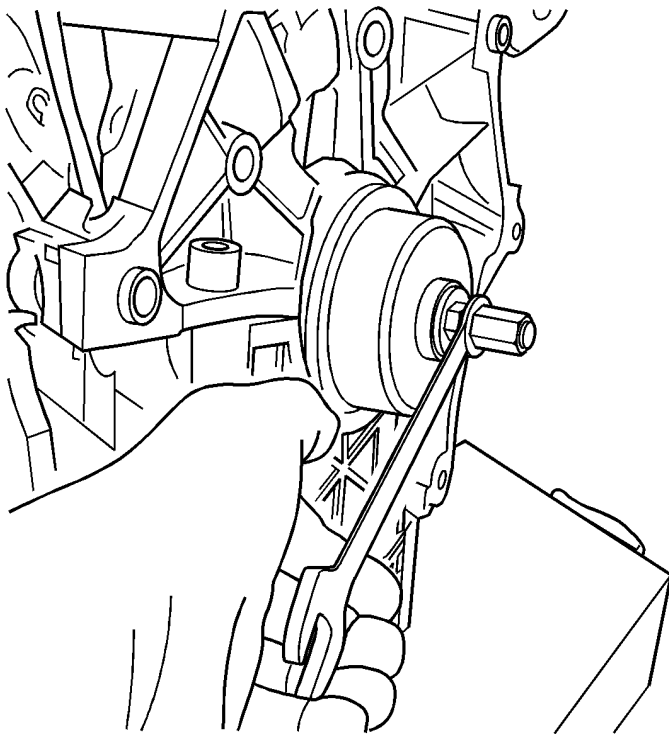
2. Using a large flat blade screwdriver, tighten the two mandrel screws to the crankshaft. Ensure the mandrel is snug to the crankshaft hub. Refer to the above graphic Illustration.



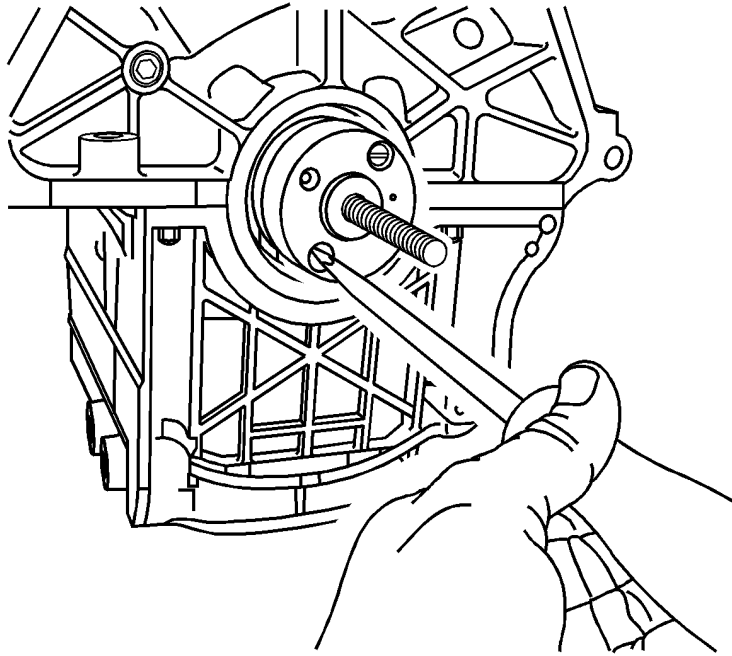
3. Install the rear main seal (1), with the protective nylon sleeve attached (2), onto the mandrel. The seal, if properly installed, will center on a step that protrudes from the center of the mandrel. As an error proof, seal will fit only one way onto the mandrel. Refer to the above graphic Illustration.



4. Install the outer drive drum onto the mandrel (EN-48108). Install the bearing, washer and the drive nut onto the threaded shaft. Refer to the above graphic Illustration.



5. Using a wrench, turn the drive nut on the mandrel (EN-48108) which will push the seal into the engine block bore. Turn the wrench until the drive drum is snug and flush against the engine block. Refer to the above graphic illustration.
6. Loosen and remove the drive nut, washer, bearing and drive drum. Discard the protective nylon sleeve.
7. Verify that the seal has seated properly.



8. Use a flat blade screwdriver to remove the two attachment screws from the mandrel and remove the mandrel from the crankshaft hub. Refer to the above graphic illustration.
9. Install the engine flywheel. Refer to Engine Flywheel Replacement in SI or the appropriate Service Manual.
10. Install the transmission. Refer to Transmission Replacement in SI or the appropriate Service Manual.
11. Inspect for proper fluid levels.
12. Inspect for leaks.

Parts Information

Part Number	Description
12592195 (U.S)	Seal Assembly, Crankshaft Rear Main Oil (Includes Nylon Protective Sleeve)
31022784 (Canada)	Seal Kit, Crankshaft Rear Main Oil (Includes Nylon Protective Sleeve)

Warranty Information

For vehicles repaired under warranty, use:

Labor Operation	Description	Labor Time
J1120	Seal, Crankshaft Rear Main - Replace	Use published labor operation time

GM bulletins are intended for use by professional technicians, NOT a "do-it-yourselfer". They are written to inform these technicians of conditions that may occur on some vehicles, or to provide information that could assist in the proper service of a vehicle. Properly trained technicians have the equipment, tools, safety instructions, and know-how to do a job properly and safely. If a condition is described, DO NOT assume that the bulletin applies to your vehicle, or that your vehicle will have that condition. See your GM dealer for information on whether your vehicle may benefit from the information.



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