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Coding Information

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Title: Replacing the Crankshaft Gear on S13 Engines

Applies To: All S13 Engines

CHANGE LOG

Please refer to the change log text box below for recent changes to this article:

06/24/2025 - Initial Article Release

DESCRIPTION

This document will guide the user through the process of replacing the crankshaft gear for instances where excess oil is seen in the flywheel bolt holes. Oil can leak from behind the crankshaft gear and out the flywheel bolt holes often times misdiagnosed as a leaking rear crank seal. A simple way to tell if this is occurring is the flywheel bolts will be very wet with oil, and oil can be seen puddling in the bolt holes inside the gear.



Figure #1: Excess Oil in the flywheel bolt holes

SYMPTOM(s)

Oil will be seen leaking from the bottom of the flywheel housing area and will coat the inside of the flywheel housing similar to a rear crank seal leak.

SPECIAL TOOL(s) / SOFTWARE

Tool Description	Tool Number	Comments	Instructions
M20 Guide Pins (2)	11-729-05-05	Part of 11-729-05 Trans Service Kit	
Rear Crank Seal Removal Tool	12-183-08		Service Manual Link
Rear Crank Seal Installation Tool	12-183-09		Service Manual Link
Camshaft Locking Tool	12-357-01		

SERVICE PARTS INFORMATION

Kit Description	Part Number	Quantity Required	Notes
Rear Main Seal Kit	2523699C91	1	

Gear Assy, Crankshaft	112911N91	1	
Rocker Cover Gasket	118225N1	1	

REPAIR STEP(s)

WARNING! To prevent property damage, personal injury, and / or death, park vehicle on a hard, flat surface, turn the engine off, set the parking brake, and install wheel chocks to prevent the vehicle from moving in either direction.

WARNING! To prevent property damage, personal injury, and / or death, if the vehicle must be raised, do not work under the vehicle supported only by jacks. Jacks can slip or fall over.

WARNING! To prevent personal injury and / or death, always wear safe eye protection when performing vehicle maintenance.

WARNING! To prevent property damage, personal injury, and / or death, keep flames or sparks away from vehicle and do not smoke while servicing the vehicle's batteries. Batteries expel explosive gases.

WARNING! To prevent property damage, personal injury, and / or death, remove the ground cable from the negative terminal of the battery box before disconnecting any electrical components. Always connect the ground cable last.

INSPECTION / REMOVAL PROCEDURE:

When inspecting for the source of excess oil coating the inside of the engine flywheel housing, please follow the steps below once the transmission and clutch have been removed (flywheel on).

1. Disconnect the batteries if not already done
2. Set the engine to TDC following instructions in the [Service Manual](#)
3. Begin removing the flywheel bolts, inspect each one for the presence of excess oil on the bolt shanks
4. If any of the flywheel bolts are wet with excess oil, proceed through this article
5. If no oil is found on the bolts, DO NOT proceed with this instruction and continue with diag to locate the source of the oil (possible crank seal).
6. Remove the valve cover and install the 12-357-01 camshaft locking tool
7. Before removing the crankshaft seal, clean the oil from inside the flywheel and transmission housings using brake cleaner or similar degreaser.
This will help to prevent any false indications of an oil leak in the future, and will also keep cleaning debris from entering the crankcase.
8. Remove the rear crankshaft seal following instructions linked [HERE](#)

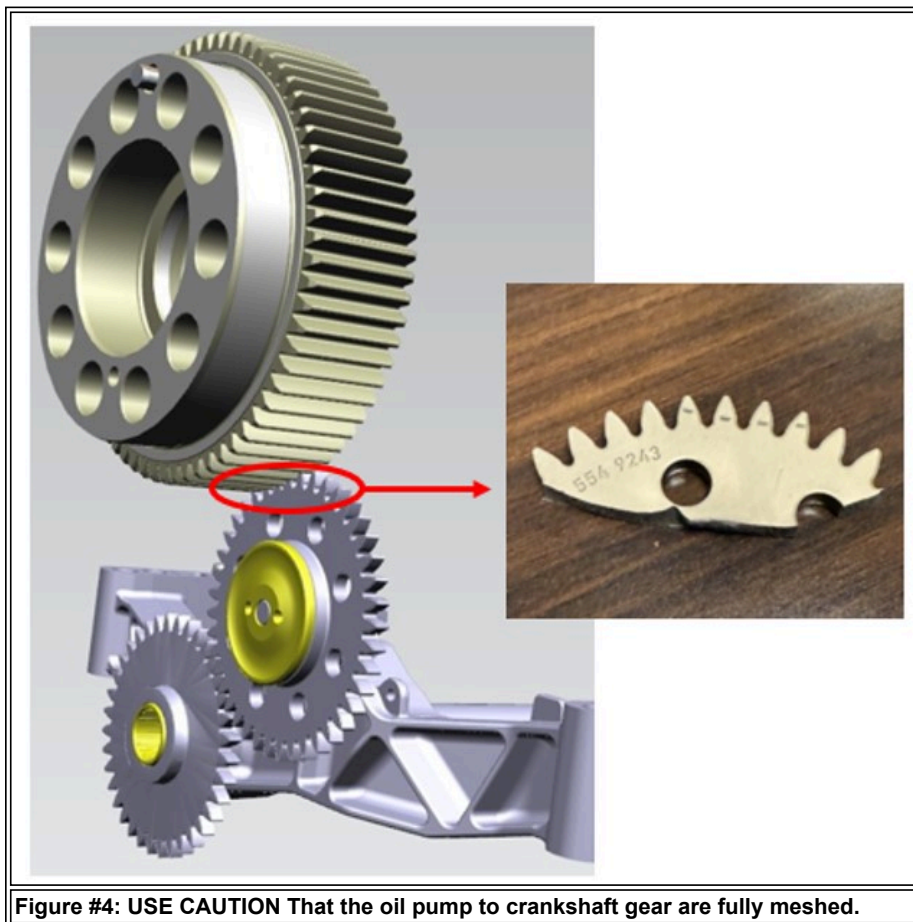
9. Thread two of the 11-729-05-05 M20 guide studs through the crank gear and into the crankshaft
10. The crank gear should be able to be worked loose with even side to side force and slide off over the two guide studs
11. Clean any oil from the face of the crankshaft after the gear has been removed.

ASSEMBLY PROCEDURE:

12. Clean the mating surface of the new crankshaft gear, and rear crankshaft flange
13. Thread the two M20 guide pins into the crankshaft. Carefully position the new gear over the studs so that the alignment pin (dowel) in the gear aligns with the hole in the rear of the crankshaft. Make sure the gear fully bottoms out against the crankshaft and that **BOTH** the lower oil pump drive gear and upper idler gear are properly meshed. A clean plastic or rubber mallet may be needed to gently tap the gear side to side evenly to get it to fully seat.

CAUTION:

Make certain the lower oil pump gear is properly meshed with the new crankshaft gear. See figure #4, if the oil pump gear is NOT meshed, it will snap when the flywheel bolts are torqued resulting in NO oil pressure on startup.



14. Install the new rear crankshaft seal following instructions in the [Service Manual](#)
15. Using the two M20 guide pins again, install the flywheel with new bolts as outlined in the [Service Manual](#) and torque to specifications.
16. Remove the 12-357-01 camshaft locking tool and install the valve cover per the [Service Manual](#) instructions.

17. Finish with installation of the clutch and transmission

WARRANTY INFORMATION

Warranty Claim Coding:

Refer to the [Warranty Coding Manual](#) for Group and Noun Codes.

Standard Repair Time(s):

Refer to the [SRT Manual](#) for Repair Times

OTHER RESOURCES

[Master Service Information Site](#)

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