



Countries: CANADA, UNITED STATES, MEXICO
Availability: ISIS, FleetISIS, NotSIR
Major System: ENGINE
Current Language: English
Other Languages: NONE
Viewed: 370

Document ID: IK1201514
Revision: 0
Created: 5/29/2025
Last Modified: 4/30/2026
Author: Greg Scheff

[Less Info](#)

Hide Details

Coding Information

Copy Link 	Copy Relative Link 	Bookmark View My Bookmarks	Add to Favorites 	Print 	Provide Feedback 	Helpful 3	Not Helpful 0
----------------------	-------------------------------	--	-----------------------------	------------------	-----------------------------	-------------------------	-----------------------------

Title: Sealing Oil from the Crankshaft Gear on S13 Engines

Applies To: MY2023, MY2024, MY2025, MY2026 All S13 Engines

CHANGE LOG

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

04/30/2026 - Initial Article Release

DESCRIPTION

This document provides instructions for sealing oil leakage past the flywheel bolt holes on S13 engines. Oil leaking from behind the crankshaft gear may exit through the flywheel bolt holes and is often misdiagnosed as a rear crankshaft seal leak. This condition is confirmed by oil-saturated flywheel bolts and visible oil pooling in the flywheel bolt holes behind the gear.



Figure #1: Excess Oil in the flywheel bolt holes

SYMPTOM(s)

Oil will leak from the lower flywheel housing area and coat the interior of the flywheel housing in a manner similar to a rear crankshaft 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 Crank Seal Kit	2523699C91	1	

Loctite 574 Flange Sealant	LOC230649KK	1	One Tube Services Multiple Gears
Gear Assy, Crankshaft	121691N91	1	
Rocker Cover Gasket	118225N1	1	

REPAIR STEP(s)

NOTE:

Please read the entire procedure BEFORE beginning the repair. A maximum time limit of 2 hours between steps 13 and 16 must be strictly observed for the repair to be effective.

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.



Figure #2: New 121691N91 Crankshaft Gear ID

IDENTIFYING THE NEW CRANKSHAFT GEAR

The new "laser-structured" crankshaft gear can be identified by dark rings around each of the 10 flywheel bolt holes on the backside of the gear (**Figure #2**). The instructions below must be followed exactly to install the new gear.

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
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 the diagnosis 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 a 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 the 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 the rear face of the crankshaft with Brake Clean or similar degreaser.

NOTE:

Beginning with step 13 below, there is a MAXIMUM allowable repair time of 2 hours from application of the sealant to the final torque of the flywheel at step 16. It is strongly suggested to have all the necessary parts clean and ready to assemble, and all specialty tools on hand before beginning assembly.

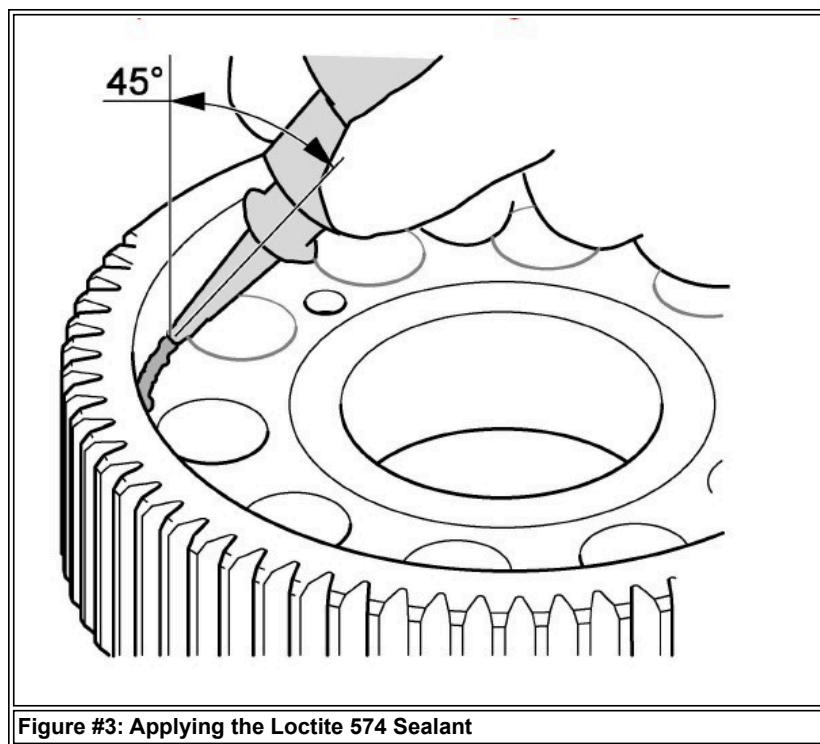


Figure #3: Applying the Loctite 574 Sealant

13. Apply a smooth 1.5mm bead of Loctite 574 at the inner radius of the new gear (**Figure #3**), holding the tube at a 45° angle; do not cut the tip of the sealant tube.

- See **figure #4** below for examples of the correct and incorrect amount of sealant used

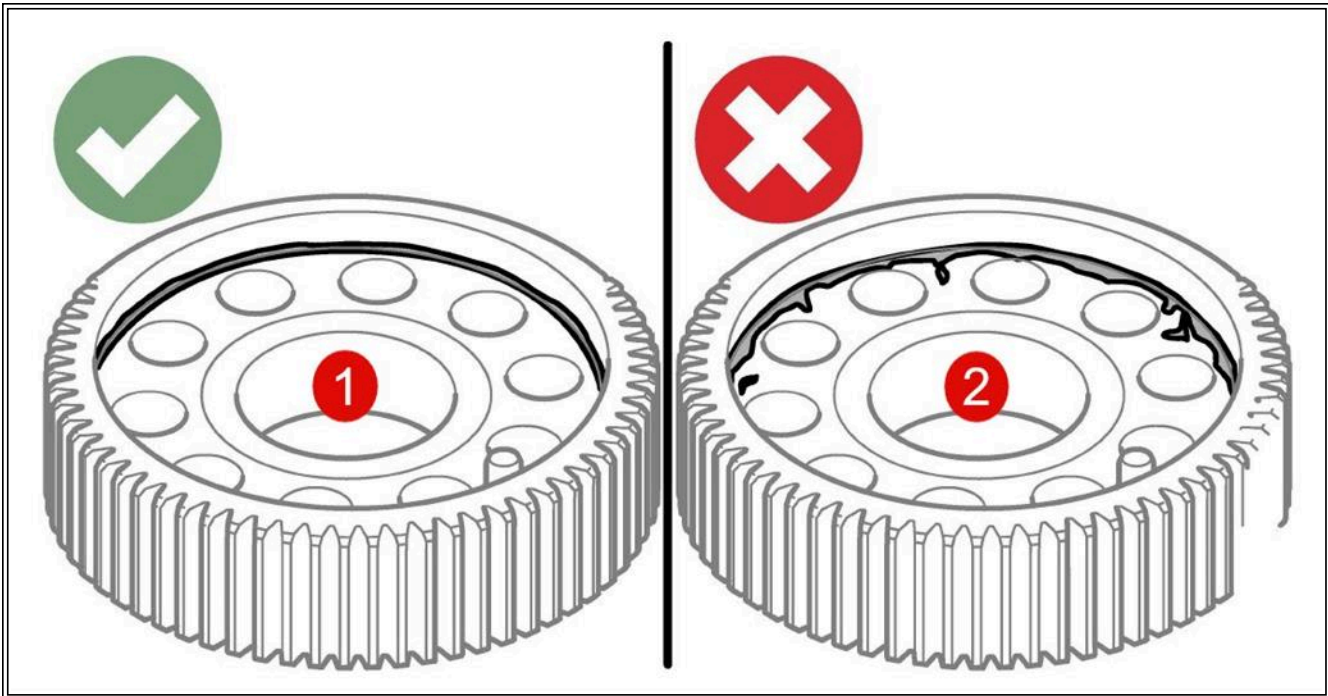


Figure #4: Examples of Sealant Quantity and Position

Item 1: **OK**, sealant bead is evenly applied only in the inner radius of the gear

Item 2: **NOT OK**, excess sealant applied unevenly. Requires sealant to be removed and reapplied properly

14. 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 #5, if the oil pump gear is NOT meshed, it will snap when the flywheel bolts are torqued, resulting in NO oil pressure on startup.

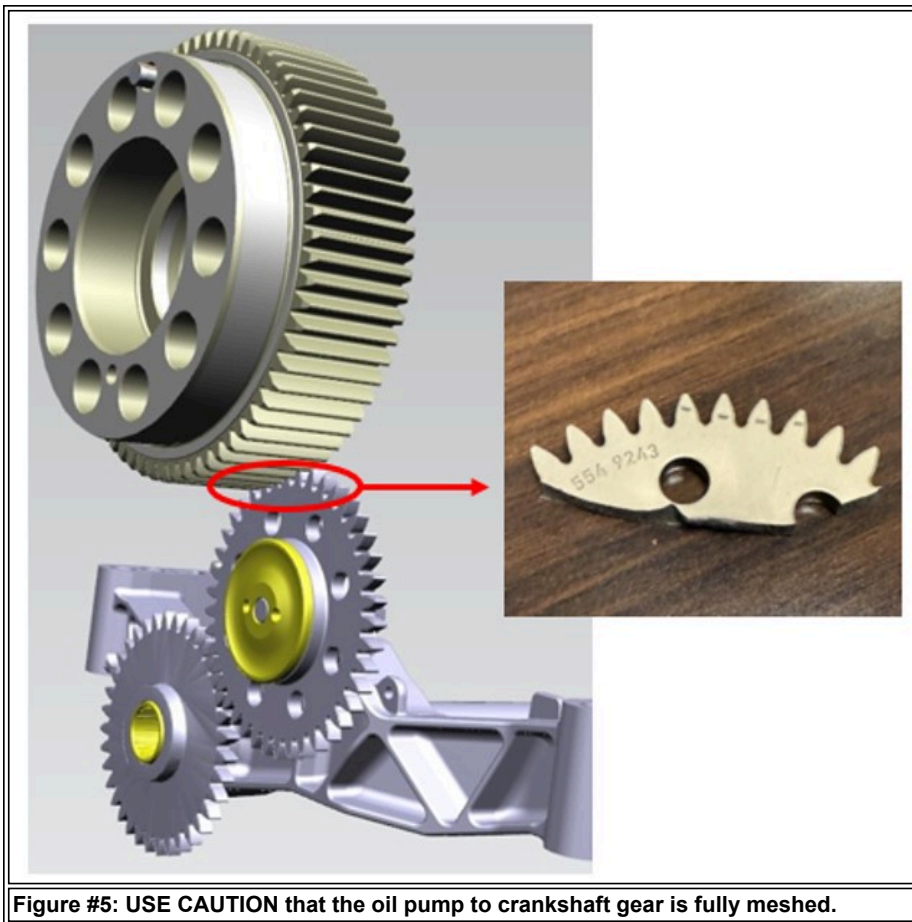


Figure #5: USE CAUTION that the oil pump to crankshaft gear is fully meshed.

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

 Hide Details

Feedback Information

Viewed: 369

Helpful: 3

Not Helpful: 0

No Feedback Found

