

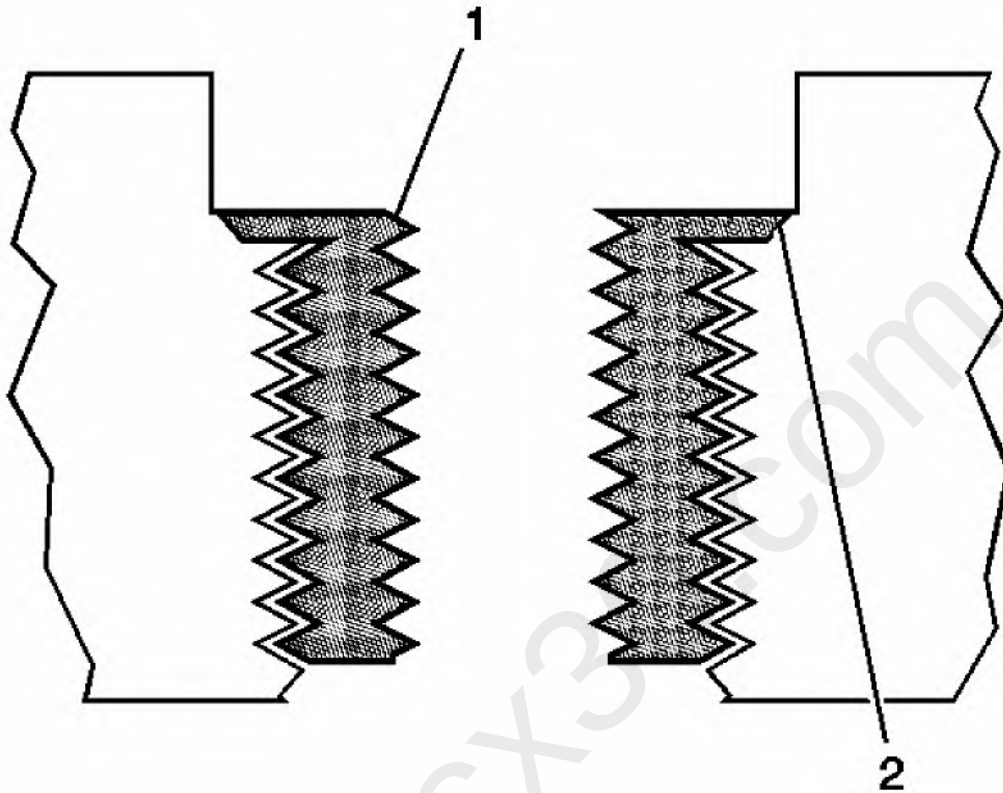
RECESSED THREAD REPAIR

Fig. 28: Inspecting Insert For Proper Installation - Recessed Thread
Courtesy of GENERAL MOTORS CORP.

CAUTION: Refer to Safety Glasses Caution .

IMPORTANT:

- The use of a cutting type fluid GM P/N 1052864, (Canadian P/N 992881), WD 40® or equivalent is recommended when performing the drilling, counterboring and tapping procedures.
- Do NOT remove the original stop collar from a counterbore drill.

When installed to the proper depth, the flange of the insert (1) will be seated against the counterbore (2) of the drilled/tapped hole.

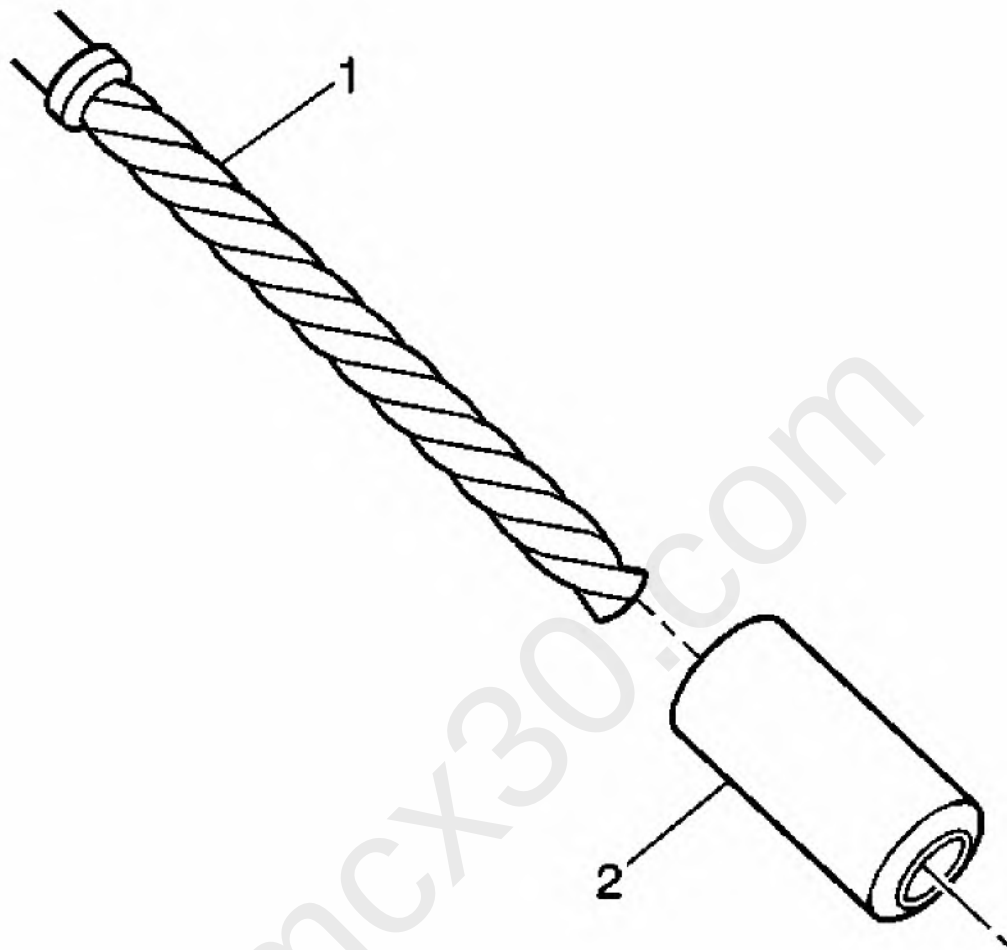


Fig. 29: View Of Stop Collar & Counterbore Drill
Courtesy of GENERAL MOTORS CORP.

1. Install a stop collar (2) on the counterbore drill (1), if required.

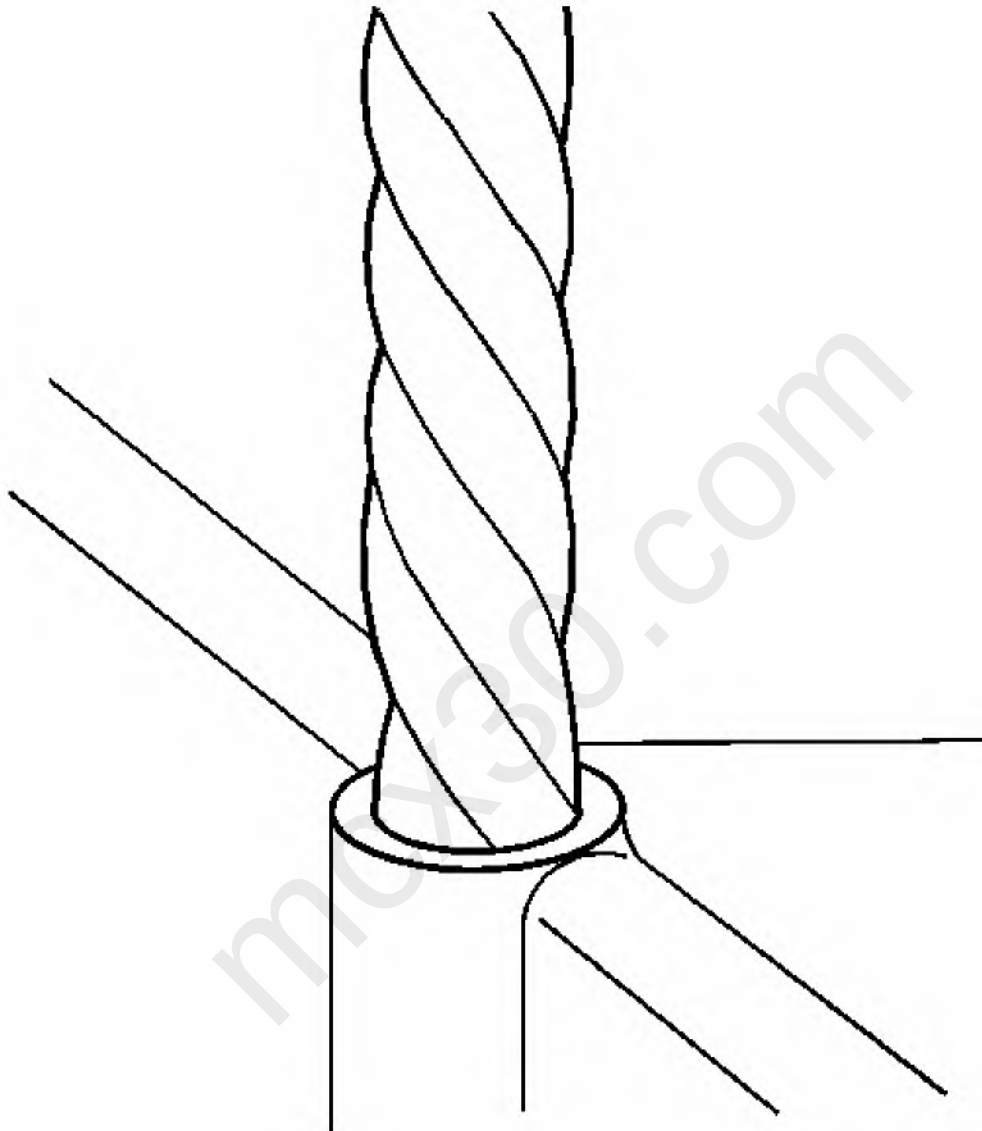


Fig. 30: Drilling Out Threads Of Damaged Hole
Courtesy of GENERAL MOTORS CORP.

IMPORTANT:

- During the drilling process, it is necessary to repeatedly remove the drill and clean chips from the hole and the flutes of the drill.
- Drill the hole until the stop collar contacts the surface of the base material.

2. Drill out the threads of the damaged hole.

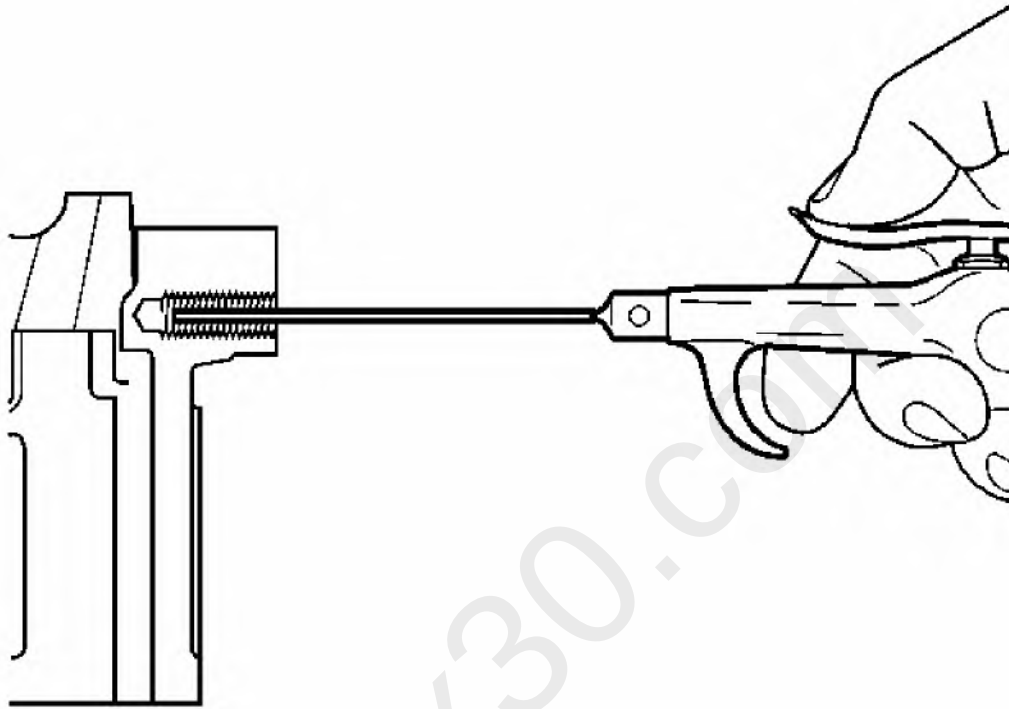


Fig. 31: Cleaning Out Metal Chips
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: All chips must be removed from the drilled hole prior to tapping.

3. Using compressed air, clean out any chips.

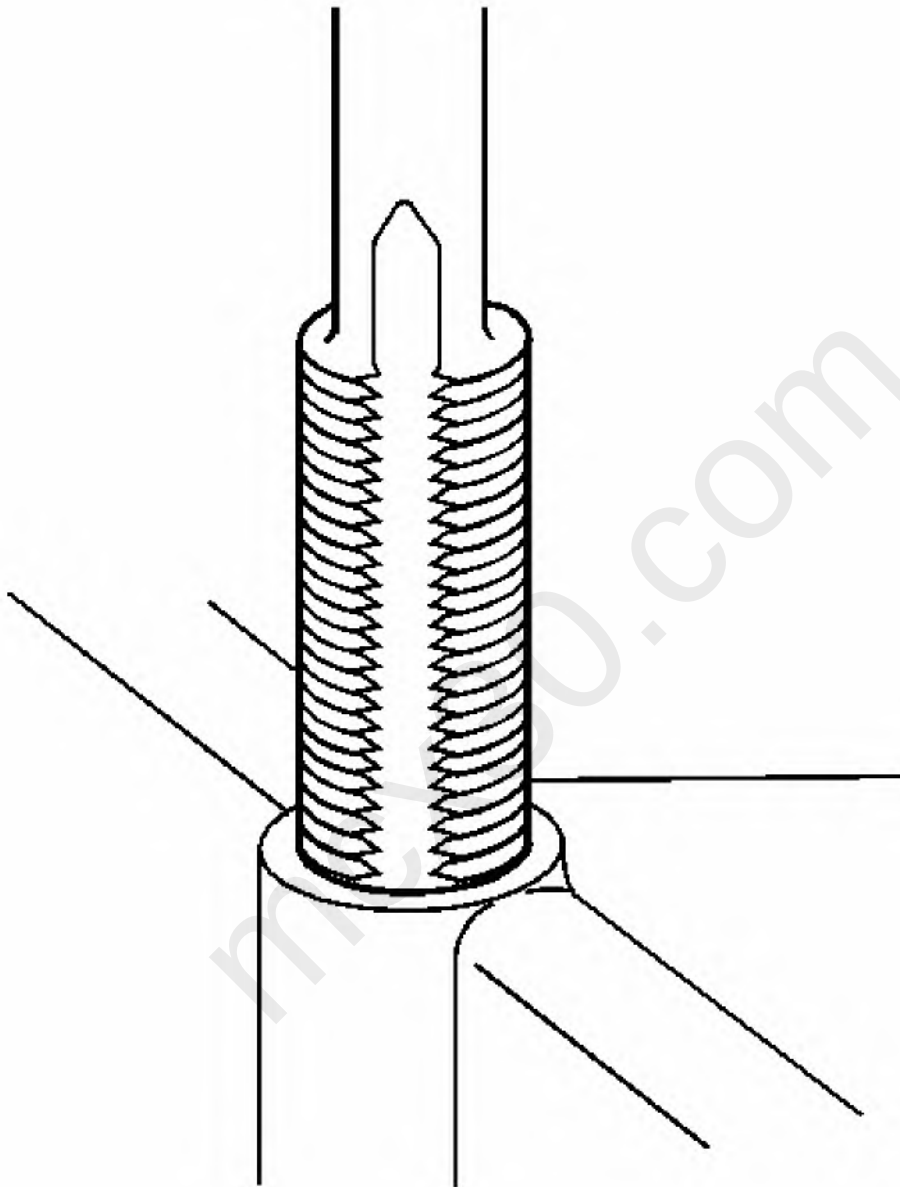


Fig. 32: Tapping Threads Of Drilled Hole
Courtesy of GENERAL MOTORS CORP.

IMPORTANT:

- During the tapping process, it is necessary to repeatedly remove the tap and clean chips from the hole and the flutes of the tap.
- Ensure the tap has created full threads at least to the

depth equal to the insert length.

4. Using a suitable tapping wrench, tap the threads of the drilled hole by hand only.

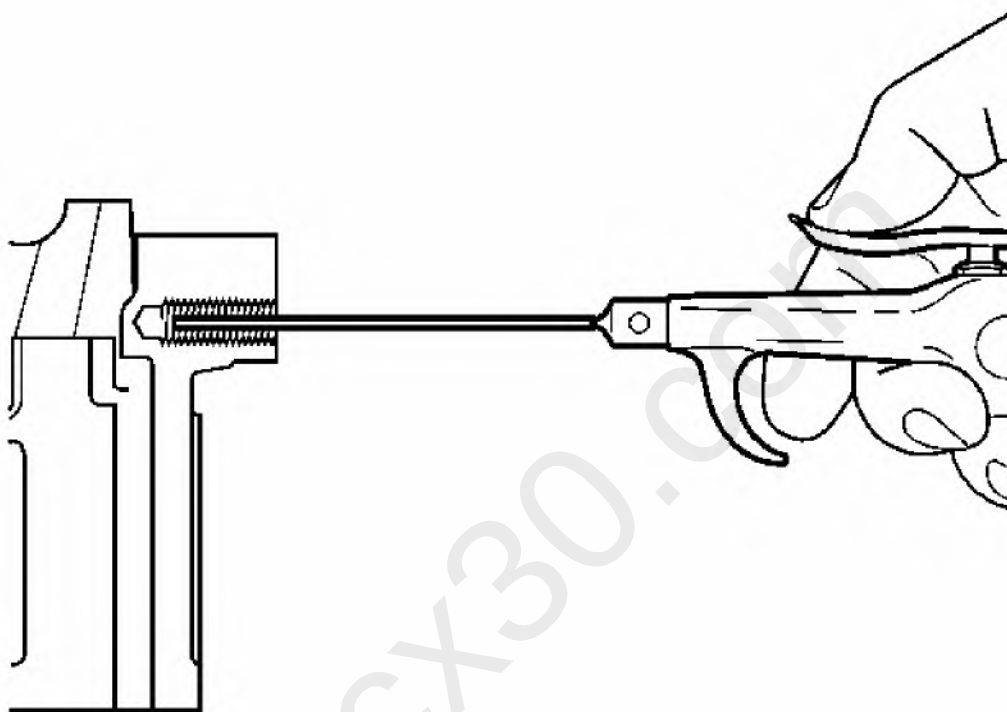


Fig. 33: Cleaning Out Metal Chips
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: All chips must be removed from the tapped hole prior to insert installation.

5. Using compressed air, clean out any chips.

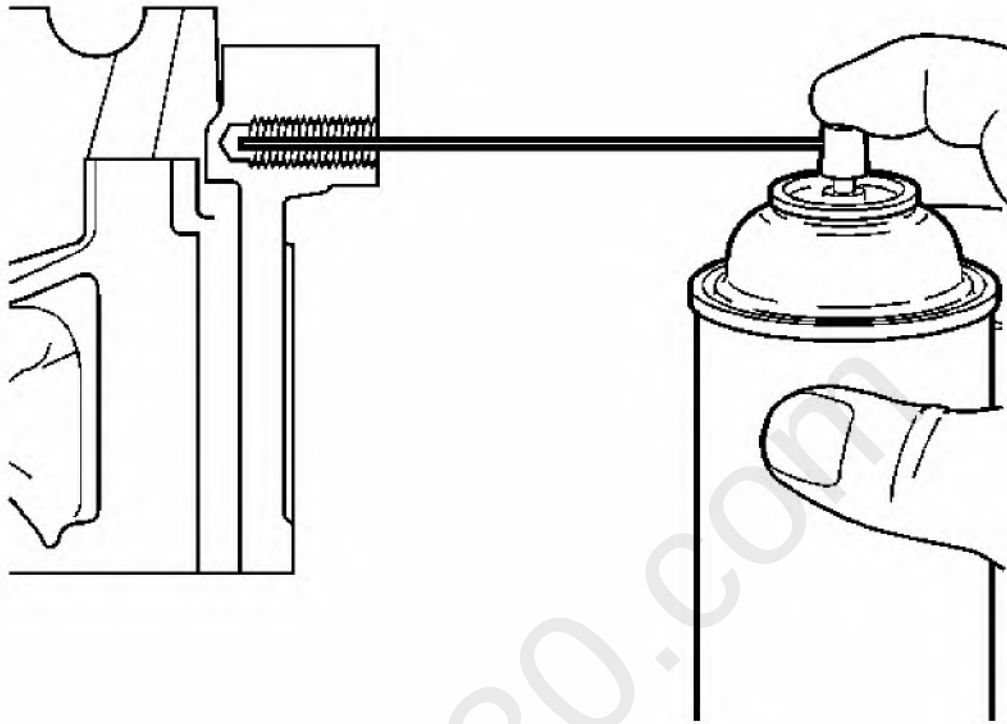


Fig. 34: Spraying Cleaner Into Tapped Hole
Courtesy of GENERAL MOTORS CORP.

6. Spray cleaner GM P/N 12346139, GM P/N 12377981 (Canadian P/N 10953463) or equivalent into the tapped hole.

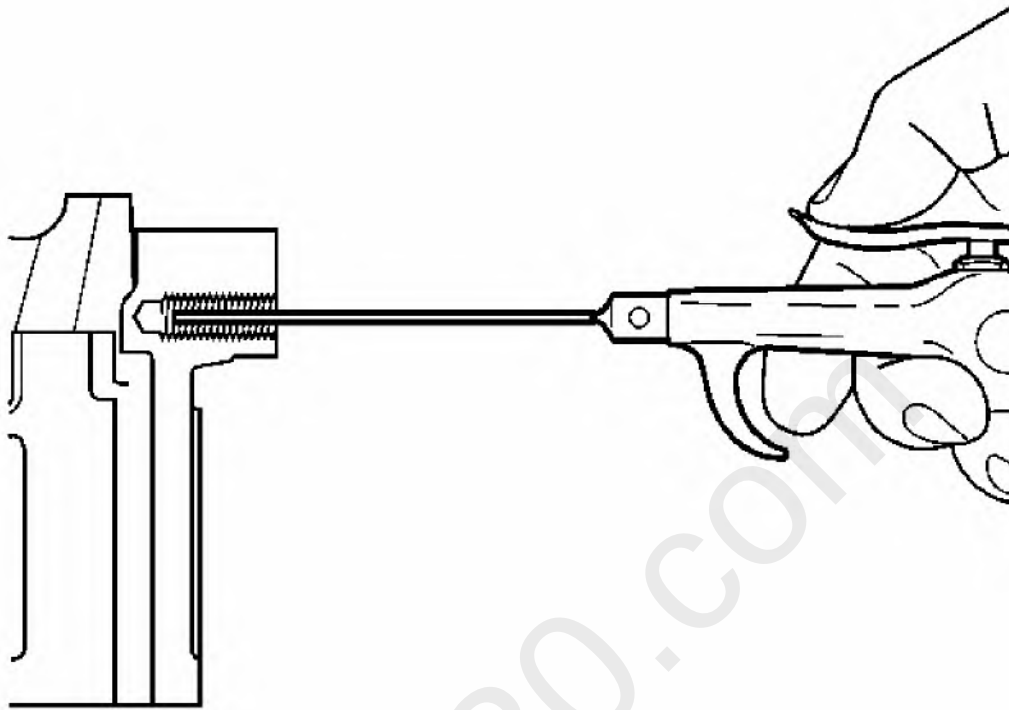


Fig. 35: Cleaning Out Metal Chips
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: All chips must be removed from the tapped hole prior to insert installation.

7. Using compressed air, clean out any chips.

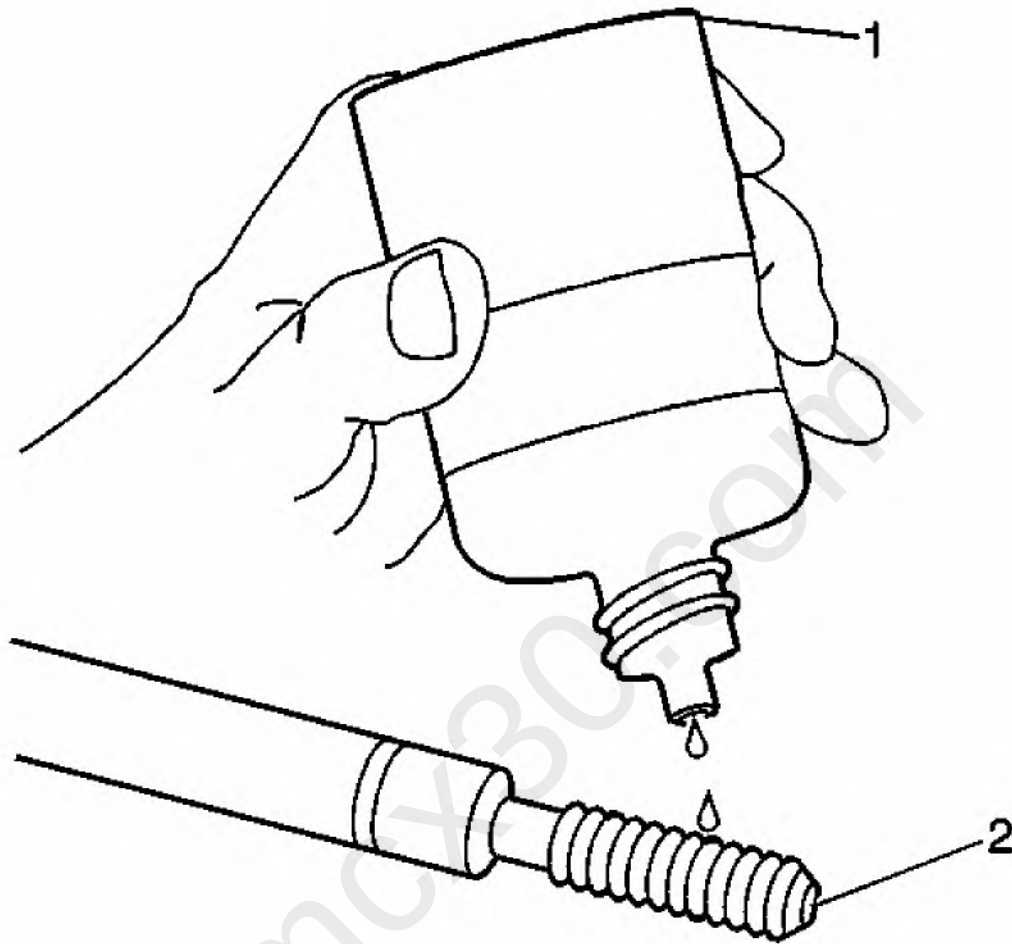


Fig. 36: Lubricating Installer Tool Using Driver Oil
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: Do not allow oil or other foreign material to contact the outside diameter (OD) of the insert.

8. Lubricate the threads of the driver installation tool (2) with the J 42385-110 (1).

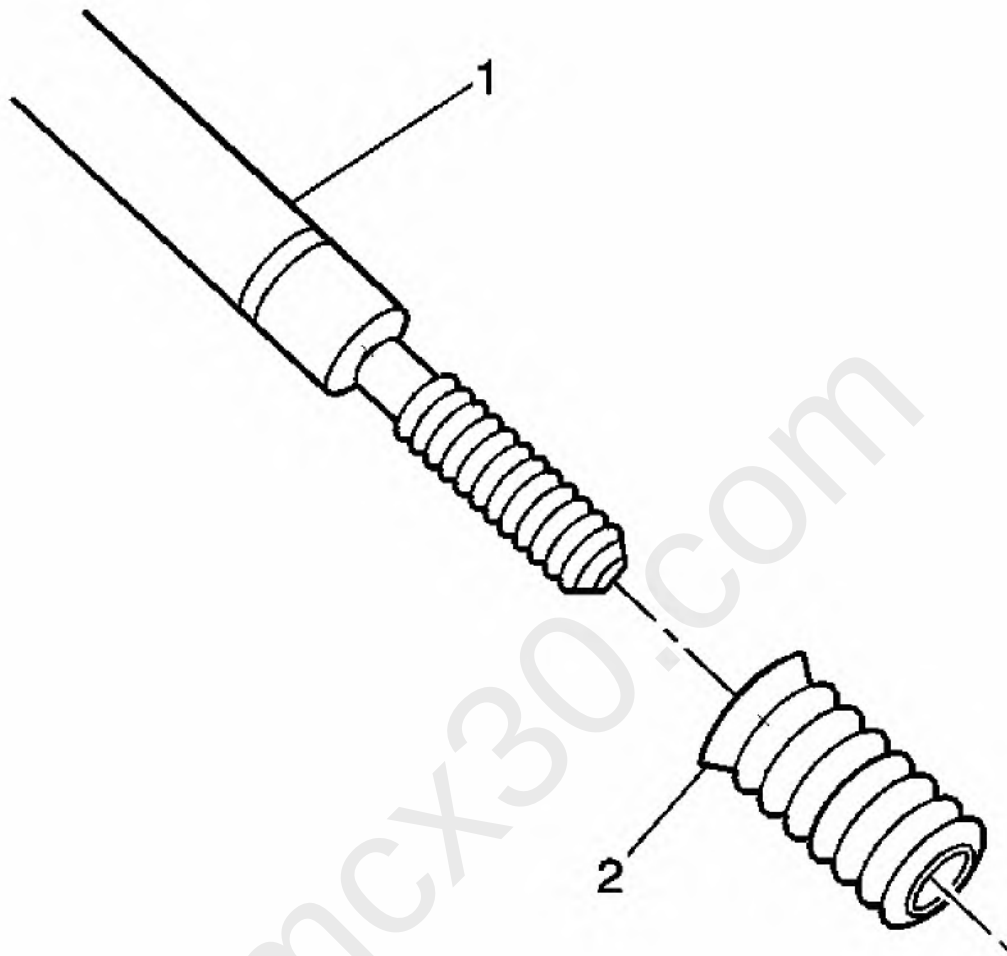


Fig. 37: View of Bushing Type Insert
Courtesy of GENERAL MOTORS CORP.

9. Install the insert (2) onto the driver installation tool (1).

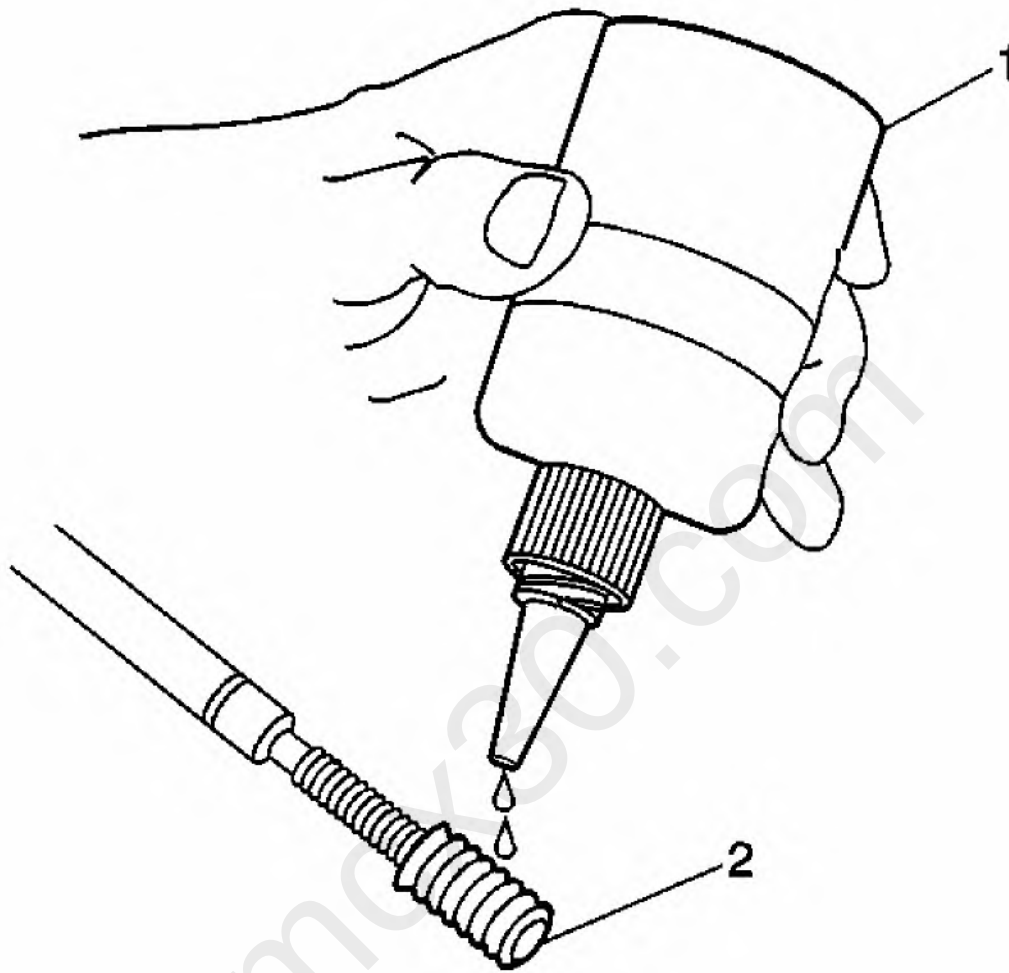


Fig. 38: Applying Threadlock To Insert
Courtesy of GENERAL MOTORS CORP.

10. Apply threadlock sealant GM P/N 12345493, (Canadian P/N 10953488), J 42385-109, LOCTITE 277® or equivalent (1) to the insert OD threads (2).

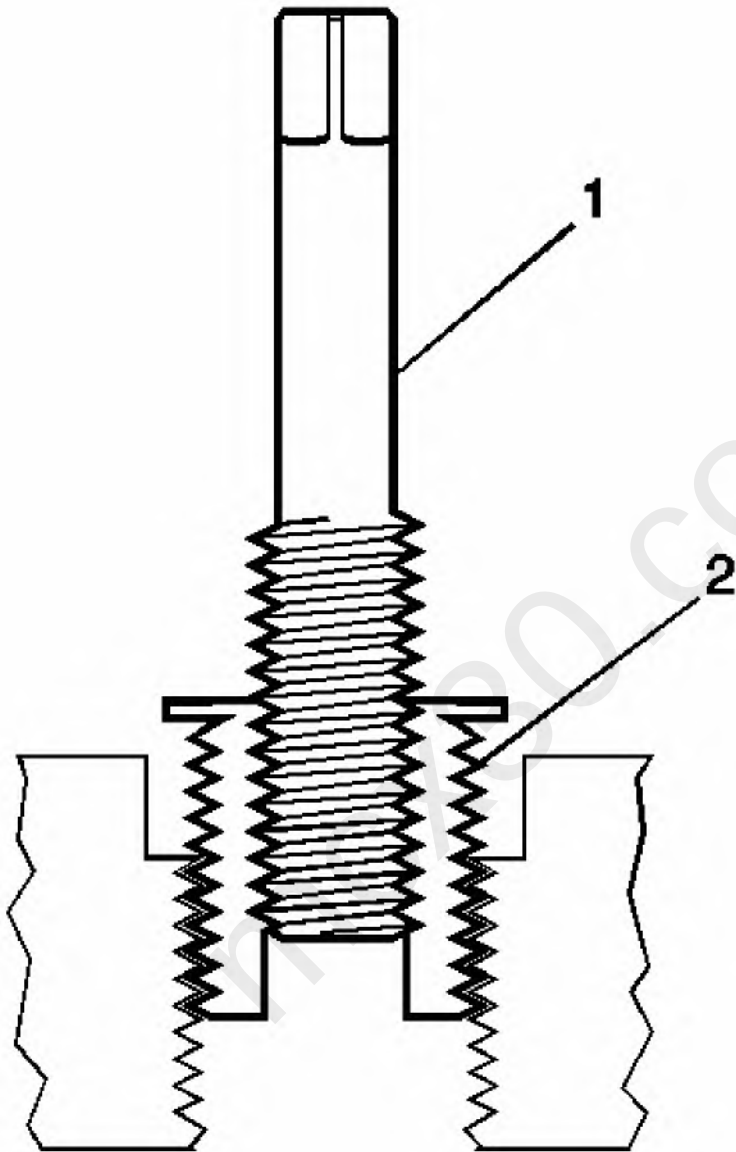


Fig. 39: Installing Insert - Recessed Thread
Courtesy of GENERAL MOTORS CORP.

11. Install the insert (2) into the tapped hole by hand only.

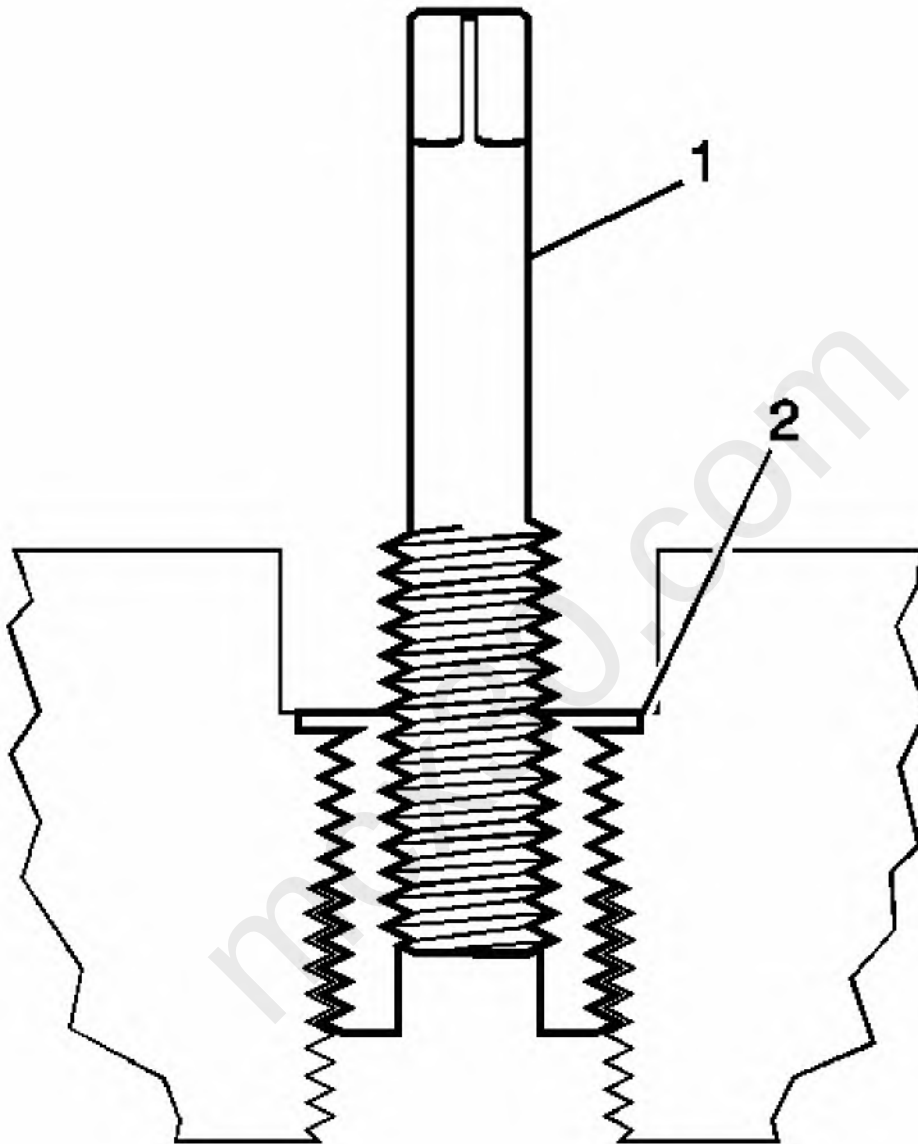


Fig. 40: View Of Installed Insert - Recessed Thread
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: If the insert will not thread down until the flange contacts the counterbored surface remove the insert immediately with a screw extracting tool and inspect the tapped hole for any remaining chips and/or improper tapping.

12. Install the insert until the flange (2) of the insert contacts the counterbored surface.

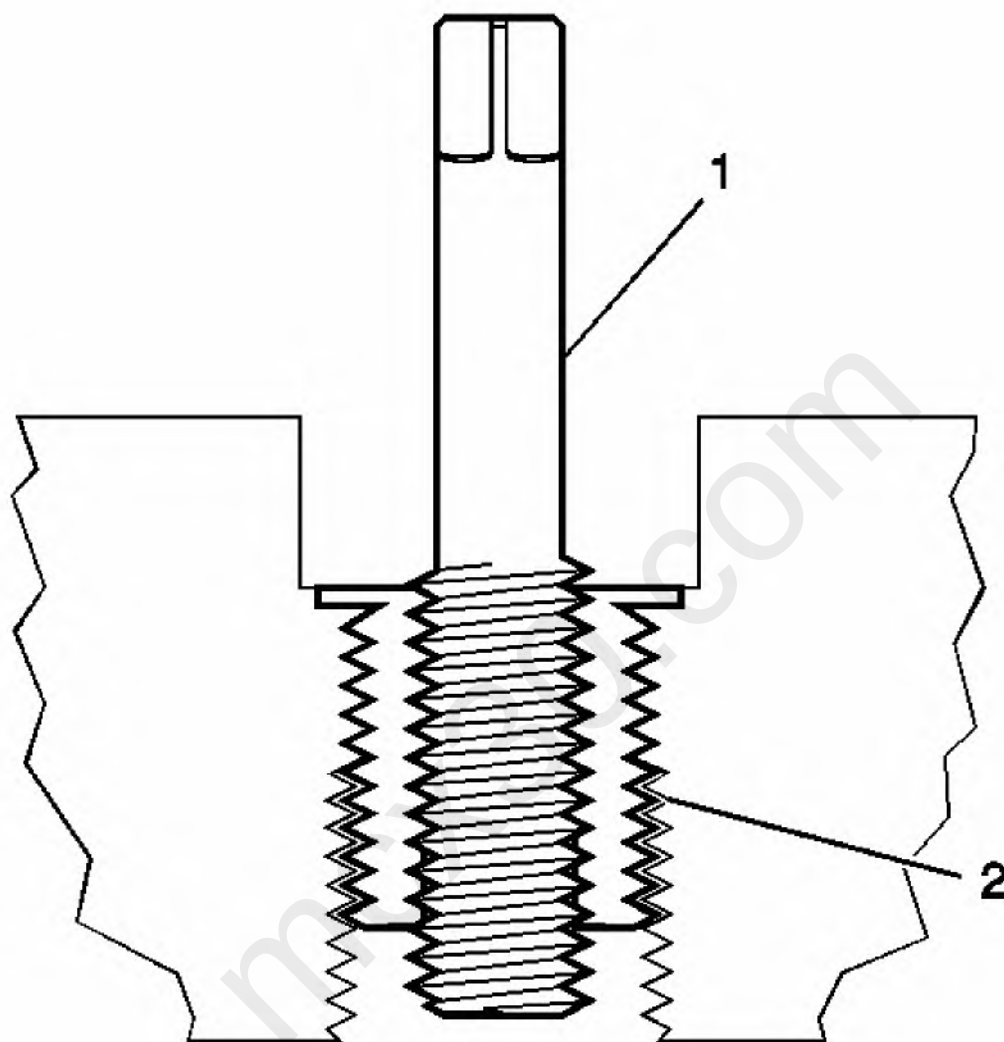


Fig. 41: Installed Insert - Recessed Thread Repair
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: The driver installation tool will tighten up before screwing completely through the insert. This is acceptable. The threads at the bottom of the insert are being formed and the insert is mechanically locking the insert into the base material threads.

13. Continue to rotate the driver installation tool (1) through the insert (2).

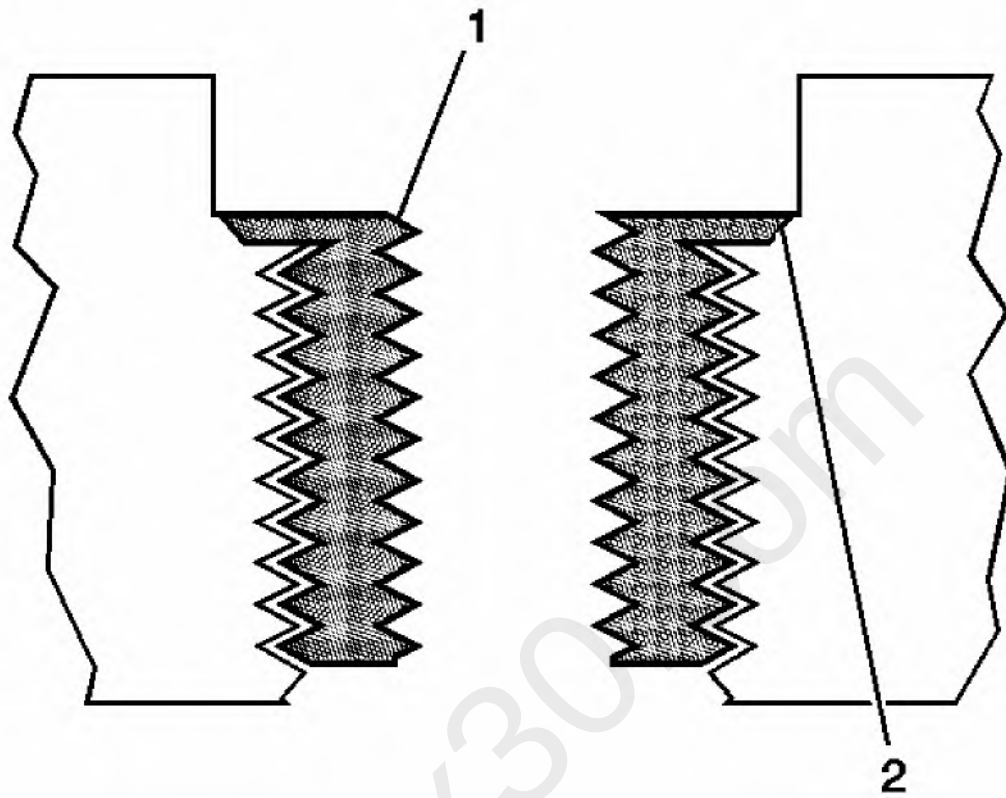


Fig. 42: Inspecting Insert For Proper Installation - Recessed Thread
Courtesy of GENERAL MOTORS CORP.

14. Inspect the insert (1) for proper installation (2) into the tapped hole.

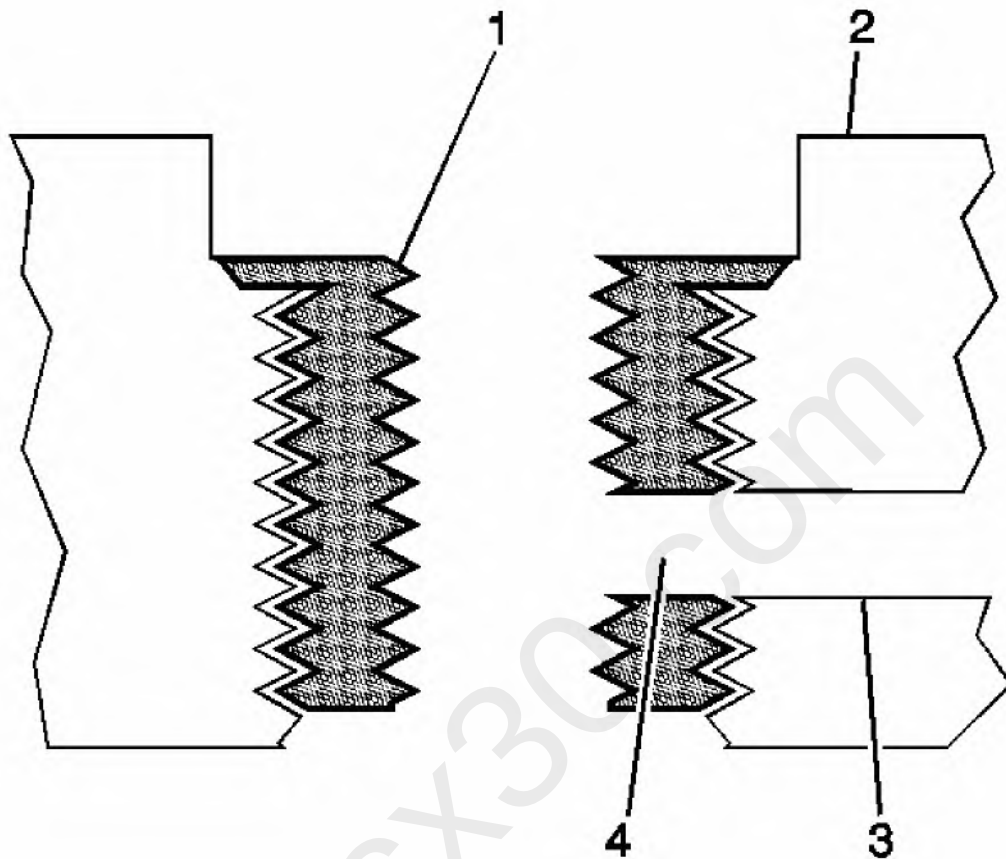


Fig. 43: View Of Restricted Engine Coolant Passage - Recessed Thread Repair
Courtesy of GENERAL MOTORS CORP.

15. Any installed insert that restricts or blocks an oil or engine coolant passage (3) will need to have the oil or engine coolant passage drilled out (4) to the original size of the oil or engine coolant passage. After drilling the restriction or blockage, clean out any chips and thread the installation driver tool through the insert again to remove any burrs caused by the drilling of the oil or engine coolant passage.