 **Warning:** To avoid serious personal injury, possible death or damage to the engine or vehicle, read all safety instructions in the foreword of the corresponding model year service manual.



The Oil Level Gauge repair kit contains the following parts:

1. 3.35oz tube of Permatex flange sealant
2. Galley brush
3. Oil level gauge adapter gasket
4. Viton® Oil level gauge adapter o-ring
5. Ford OEM Oil level tube o-ring (not cheap aftermarket)
6. Oil level flange nut (OEM International Nut)

1. Disconnect the main negative battery cables on both batteries.
2. Remove the starter
3. Remove the oil level tube assembly. Use care when removing the nut that holds the tube bracket to the engine head so the bracket does not attempt to wrap itself around the tube which will severely damage the tube.
4. Remove and discard the tube assembly o-ring.
5. Loosen (DO NOT REMOVE) the adapter retainer flange nut.



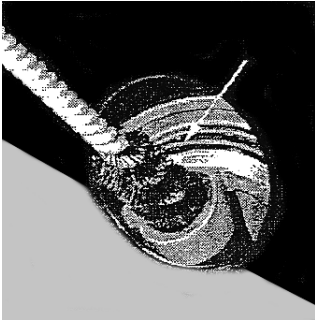
6. Insert the galley brush into the oil level gauge adapter and into the oil pan. **Insert it all the way so the bristles are all in the oil pan.** This will prevent the adapter from falling into the oil pan. Tie a heavy string to the open end of the brush in case it is dropped into the oil pan for quick retrieval.



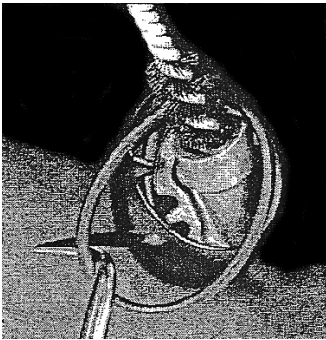
Note: Record and place a mark on the oil pan at the “pointer threads” of the oil level gauge adapter. The adaptor must be installed to the original orientation and seated securely or the oil level gauge tube assembly will not be properly installed.



7. Remove the adapter retainer nut and discard the nut.



8. Locate the O-ring on the oil level gauge adapter on the flange interior of the oil pan. **(This picture is deceiving as you should not be able to see any of the brush's bristles!)**



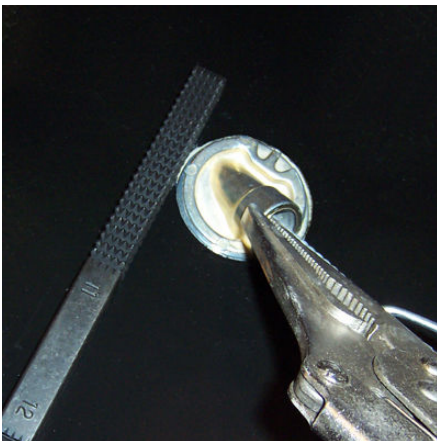
9. Using a pick tool, remove and discard the o-ring.



10. When the old internal O-ring begins to swell and pushes itself out of the groove in the adapter, it puts enormous pressures on the adapter's threads, stretching and distorting them to the point that the new nut is difficult to install. We offer a thread repair file to renew the threads on the adapter but you will need to hold the adapter solidly to clean and straighten the thread. We have found that by using a set of needle nose vise grips inserting into the dipstick tube opening does a good job at this.



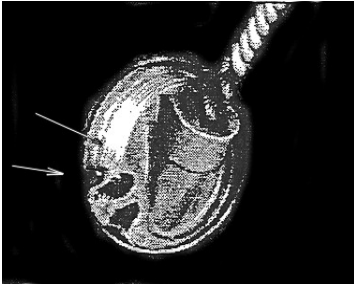
NOTE: Follow the following procedures in repairing the threads while test fitting the new nut until the new nut screws onto the adapter easily.



11. While holding the adapter with the vise grips, rotate the flange while using the #16 thread file to straighten and repair the damaged threads. Be careful not to remove too much of the thread material which will weaken the flange adapter's threads. Once you feel that the threads are in good condition, test fit the nut to assure that it will screw on easily onto the adapter and can fully seat against the oil pan.



NOTE: It is easy to begin cross threading the nut on to the flange, even when using a new flange adapter and new nut. It may require some filing on the first thread of the adapter if it has received some damage from the tires throwing up rocks and bouncing off the adapter. Test fit the new nut making sure that it will thread onto the adapter flange easily before proceeding to the next step.



12. Position the adapter to original orientation prior to removal. Pull the oil level gauge adapter into place.

13. Clean the following components with an automotive degreaser:

1. Outside of the oil pan (new gasket mating surface).
2. Oil Level gauge adapter threads and slots.
3. The new adapter flange nut (supplied) to remove any machine oil.



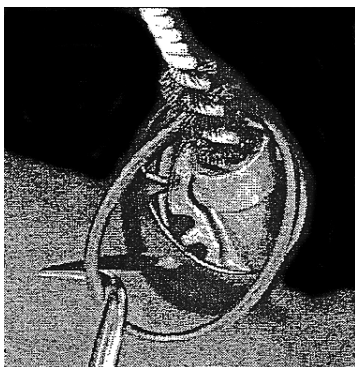
CAUTION: Do not allow the cleaning solution to drain into the oil pan. If the oil is contaminated, drain and replace with new engine oil.

NOTE: If the internal part of the flange adapter has been bent due to attempting to tighten the nut when the adapter began to leak or if the swelling of the o-ring has pushed the internal flange where it is more of a “Y” shape than a “T” shape, do not use the o-ring that came with the kit. Use the Permatex gasket maker to seal the flange to the oil pan.

When using the Permatex silicone, you must make sure that all surfaces are completely oil-film free and allow the silicone to cure for 24 hours before attempting to re-start the engine.

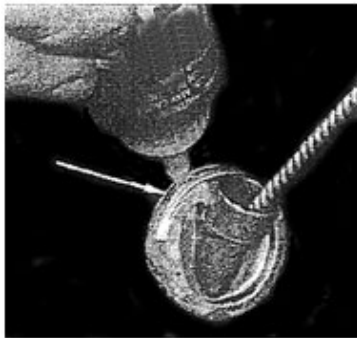
By using the Permatex silicone and the components in this kit, you will have nearly a 100% chance of resealing this oil leak without having to pull the engine and oil pan.

INSTALLATION

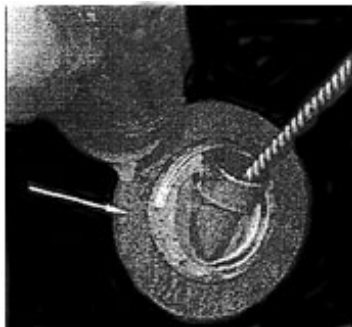


1a. **If using the o-ring** included in the kit, use a pick tool or a small flat tipped screwdriver to position the new Viton o-ring into the flange's interior groove. Once the o-ring is in the groove, position the adapter to its original orientation aligning it with the mark on the oil pan. Pull the oil level gauge adapter into place making sure the new interior o-ring does not get moved from its correct position. Align the adapter to the markings you made during disassembly.

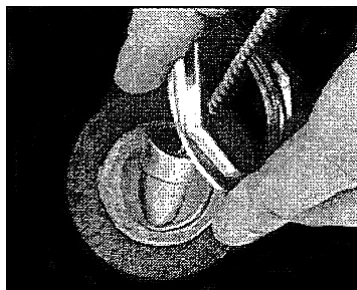
1b. **If using the Permatex Silicone**, run a bead of the silicone on the interior on the flange. Pull the oil level gauge adapter into place and align the adapter to the markings you made during disassembly.



2 Apply a generous amount **Permatex Silicone** on the adapter threads.



3 **Permatex Silicone** to both sides of the new gasket. Cover completely. Slide the new gasket over the gallery brush. Seal the new gasket to the oil pan.



4 Slide the new adapter retainer flange nut over the gallery brush. Hand-tighten the flange nut on the oil level gauge adapter. Remove the gallery brush.



NOTE: Ensure the adapter is oriented properly & seated securely in slots.



5. Lightly lubricate the new tube o-ring with engine oil. Install the o-ring on the oil level gauge tube assembly.

6. Install the oil level gauge lube assembly into the oil level gauge adapter.

7. Install the starter. Reconnect the battery cables.

8. Torque the adapter retainer flange nut to 54 Nm (40 lbs/ft)