PRIMING THE OIL PUMP

1. For continuity with engine repair manuals we will use #1 TDC compression as a reference point for distributor alignment. Take a photo of the distributor position in relation to the block and one of the ¼" bolt holding the distributor clamp plate to the pedestal showing where the bolt is in the slot in the plate. Remove the bolt and pull the distributor out of the pedestal and move it to the side. Do not loosen the horizontal bolt clamping the plate onto the distributor.
2. Remove the two 5/16" nuts and lock washers and carefully pull the pedestal out of the block being careful to not tear the thin shim gasket.
3. Take a photo showing the orientation of the slot in the gear. It should be close to 1:00/7:00 position when 12:00 is toward the block. The slot should be offset toward the front of the engine. See photo 1.
4. Use Good Parts SKU 2227T gear puller or an appropriate internal snap ring tool to grip inside the gear slot and lift the gear out while turning counter clockwise.
5. To align the oil grooves in the rear cam journal in the best position to allow oil flow to the rocker assembly, turn the crank until #1 exhaust valve (valve in the very front of the engine) is fully open. This should be at about 110 BTDC of exhaust stroke. (Plus or minus depending on your cam timing but close enough for our purposes here.) If you have timing marks the whole way around your damper you can use them to position the crank. Starting from #1 TDC compression, turn the crank clockwise viewed from front until you reach the 110 mark. Another indicator that the cam is in the right position is when the two rockers that you see through the oil fill hole (#4 exhaust and #5 exhaust) are "on the rock". One is just closing and the other is just opening. Neither will have valve lash. When both rockers are at the same height, the cam is in a good position for oil flow to the rocker assembly.
6. Clamp the plain end of the pump priming tool in a 1/2" drill and set to reverse in low speed. Oil the shank and insert the slotted end of tool into block where gear was, push down and rotate slowly until the slot engages the tang of oil pump. Run drill in reverse slowly until oil pressure builds. Maintain pressure for about a minute to distribute oil. If you have the rocker cover off check that oil is flowing from the rocker arms including the front one. If the cover is on, at least check the rockers you can see.
7. Pull the tool out of block and remove from drill.
8. Insert the tool back into the block by hand, push down and rotate to engage the oil pump tang. Turn the tool until the machined groove on the end of tool is at 1:30/7:30 position or aligned about 15 degrees clockwise from where the gear slot was in your photo. See photo 2.
9. Turn engine to #1 TDC compression.
10. Using your gear puller tool, insert the gear with the slot aligned at about 11:00/5:00 position and the slot is offset toward the front of the engine. See photo 3.

Lower the gear down, rotating it slightly to engage the teeth into the cam gear. The angle of the teeth will rotate the gear clockwise as it goes on in. If the alignment of the pump shaft happened to be perfect, the slot in the end of the gear shaft will engage the oil pump tang and the gear will continue on in till fully seated. More likely it will hit up on the tang and you have to rotate the crank forward or backward a little while pushing down on the gear until you feel it engage and the gear goes on in 3/16". The top of the gear should be 1-5/16" below the block when fully seated.

11. If you had to turn the crank, reposition it to TDC. Make sure the gear is fully down and check the orientation of the gear compared to your photo. If it is off, pull the gear back out and jump a tooth to re-align it as needed.
12. Replace the shim gasket if it is torn. Coat the gasket with sealer and bolt the pedestal back onto the block. If you did not change the number of shim gaskets the gear end float should not have changed. If it is a new build, test fit the pedestal with no gasket and carefully snug up the nuts. Using a screw driver, make sure the gear can rotate slightly against the backlash of the teeth. If it is free to move, adding one shim gasket will assure that you have the minimum .005” end float since the gaskets are about .005” thick. If it was not able to move, add shim gaskets as needed to achieve .005” end float.
13. Slide the distributor into the pedestal, rotating the rotor to engage the slot in the gear. It only fits one way due to the offset of the slot. When it is fully seated, bolt the clamp plate onto the pedestal in the same position as your photo.
14. Start the engine soon as possible after priming.



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