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# IH: Oiling & Lubrication - Sub-031

## 57-76 Oil Pump Assembly

Per the FSMs,

Clean all parts in gas or solvent. Blow out the orifices, pump nipple passage and nipple valve spring guide with compressed air.

Examine the check valve nipple surface and threads for damage or debris that would hinder the ball from seating or operation of the spring.

Inspect the ball spring for breakage or rust. Check the free length of the spring.

Inspect the check ball for wear rings or rust.

Balls not perfectly round should be replaced.

Inspect the ball seat in the pump body using a light. Check for pitting or debris that would hinder the ball and seat.

Check the body and parts for wear or cracks.

## Shaft Seal

The seal lip goes toward the feed gears.

Oil seals are installed with the open lip side towards the pressure which makes the lip expand against the shaft and seal.

Installed the other way the oil can just push past the lip.

Be sure to push the seal all the way in or it will add resistance to turn on the gears. <sup>1)</sup>

Note:

For anybody who kitted their pump to add a second seal in the top cover, the open lip goes towards the gears to keep oil from getting into the breather. <sup>2)</sup>



3)



4)

[Click here](#) for the 57-76 Oil Pump Damage and Repair page in the Sportsterpedia.

## Smoke Testing the Oil Supply

This is not required but doesn't sound like a bad idea to test the oil pump and supply feed passages on a new engine or pump build.

It has more advantages for 57-76 motors since you have to pull the engine to replace the oil pump if something is wrong.

But it also isn't a bad idea for 77-up engines. As the article says, cheap insurance.

Plus it'll let you know if your feed and return lines are crossed before it's too late to do anything about it.

This is a excerpt of an article from Ironheacycle.com <sup>5)</sup>

I hook up the oil pump supply line and fill it with engine oil, sometimes a funnel stuck in the end of a hose is all you need, in this case I hooked it right up to the oil tank. Then I grab the rods and spin the motor over until oil wells up in the holes that go to the rocker boxes. This makes sure that the pump is working and that all the oil passages are free and clear. Sometimes it is hard to make a new motor start pumping oil, in those cases I put an air hose on the oil tank and pressurize the tank with maybe three or four PSI out of my air hose to force oil into the supply line. I had to do that on this motor. It is not unusual. After oil wells up into those rocker box supply holes, I plug them. I usually just stick an old ball bearing in the fitting for the rocker supply line. Then keep spinning the motor, after just a little bit you should see oil coming out from around the connecting rods. If you don't you've got a problem. And as bad as it is to find that out now, it is a lot better to fine out now than after you've fired and fried the engine. All the oil you see around these rods is oil that got there by me spinning the engine over just by grabbing the ends of the connecting rods. I also dumped a little oil into the cam chest through the lifter block holes, after just a little spinning oil started being pumped out of the return to the tank fitting, so now I know the scavenge side of the pump is also working. I do this procedure on every engine I have the heads and barrels off on. It is cheap insurance to avoid costly problems down the road.

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Jaime1840

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/ironhead-sportster-motorcycle-talk-1957-1985/202622-74-ironhead-oil-pump-breather-valve-gear-drag-video>

2)

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<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/ironhead-sportster-motorcycle-talk-1957-1985/202676-oil-pump-seal>

3)

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5)

<https://ironheadcycle.com/pages/howto5.html>

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