TECHNICAL BULLETIN

WHY REPLACE OIL PUMP SCREENS?

The oil pump pickup screen assembly delivers a flow of oil from the oil pan and filters out large pieces of debris that can lock up the oil pump. The pickup screen is the only part in the engine which assists the oil pump in its function. All other engine parts depend on the oil pump to assist them.

Oil pickup screen assemblies should be replaced every time a new oil pump is installed on the engine. Oil and contaminants can buildup over time and create restrictions not only on the screen mesh but also inside of the assembly. Due to their manufacturing process, screen assemblies cannot simply be taken apart and therefore cannot be cleaned correctly and thoroughly. Any debris left inside the screen assembly has the potential of locking up the pump.

Another potential effect of trying to reclaim and clean a used screen has to do with varnish build-up on the wire mesh. The oil flow through the screen is directly proportional to the area of the openings in the wire mesh. The most common screen mesh has a .040" square opening between the wires. If the varnish coating is .005" thick, the square opening has been reduced from .040" down to .030". This is a 25% reduction in the size of the opening and a 44% reduction in the area of each square opening. This reduction in the opening directly impacts the amount of oil flow through the wire mesh and the operation of the oil pump.

Some older designed screen assemblies had valves or passageways designed into them to allow oil to be re-directed around the wire mesh in the event the mesh became plugged. Bypassing the wire mesh can allow debris to get through to the oil pump which can then lock up the pump.

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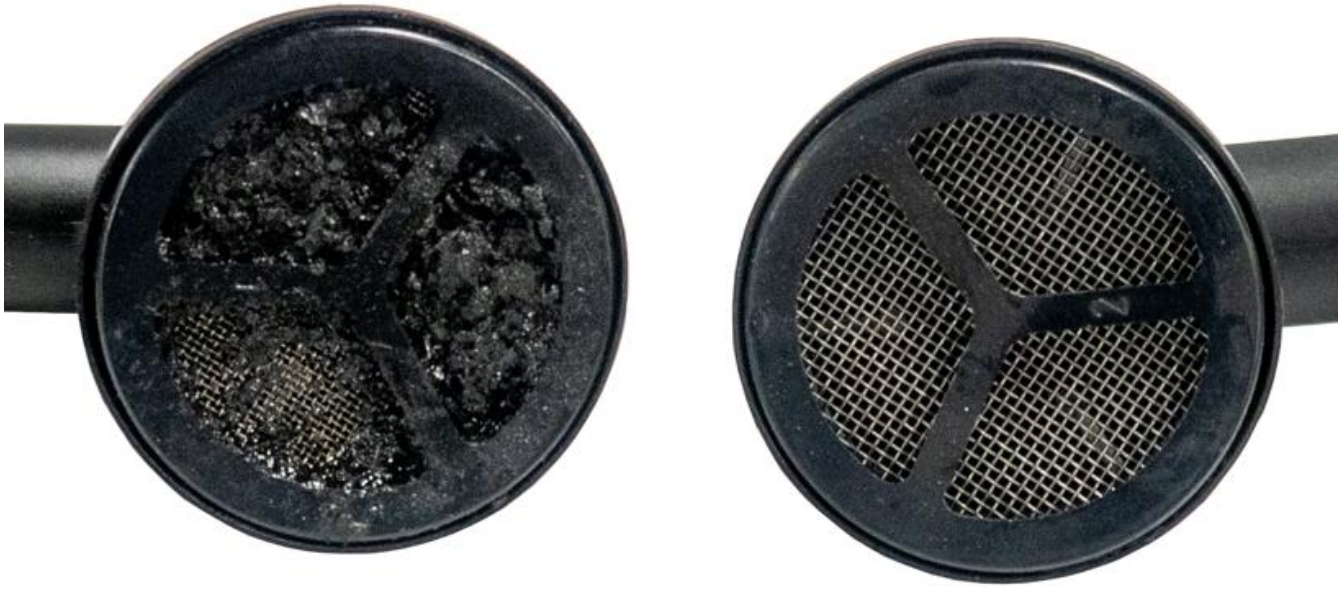
The following is a perfect example of a used screen (left) as pulled from an engine shown next to a brand new screen (right).



To summarize, oil pump screens should always be replaced with an oil pump. There is not a more economical way to reduce oil pump and engine failure from ingested foreign material.