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REF: Oiling & Lubrication - Sub-05H

norseXL's 1986 Engine Oiling Mods

Article by norseXL of the XLFORUM ¹⁾

Normally, when the oil pressure regulator opens to purge excess pressure from the filter pad, the oil is routed thru a hole in the pad and into the gearcase.

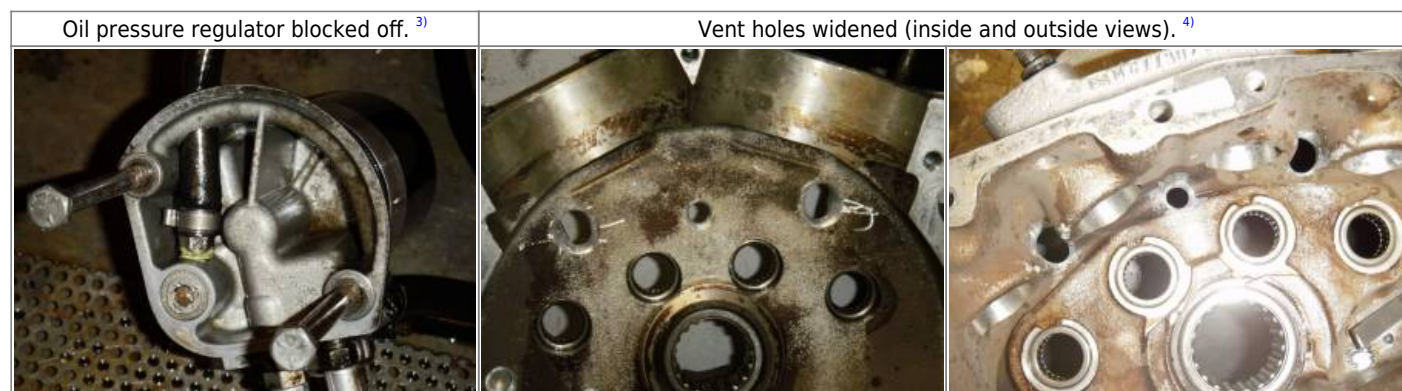
The regulator can open at various times and even get stuck in the open position while continuously dumping feed oil before it goes into the motor.

See also [1986-1990 Oil Filter Mount Mods](#) in the Sportsterpedia.

With this mod, you can render the affects of the pressure regulator inoperative while leaving the plunger and spring in place in the filter pad. Tapping the discharge hole is another way of getting the excess oil back to the tank without running it through the engine first.

The rear discharge hole was plugged and the side of the discharge hole was tapped with an 1/8" nipple. A hole was drilled into the top of the mount behind the internal cavities for a hose to run from there straight to the oil tank cap. ²⁾

With the cases apart, the vent / splash holes to the cam chest were enlarged and ported.



The umbrella valve in the cam cover was removed and a larger hose (3/4") fitting was added to use a reed valve for crankcase breathing instead.

About a foot of 3/4" hose was run to a reed-valve outside the engine.

the theory is that the larger ID on the hose slows the air speed to keep oil mist from being flinging out.

A windage tray was made with a 2mm thick aluminum plate to also act as a flywheel scraper.

The front part was bent toward the fly-wheels after the pic below was taken. ⁵⁾

The bolts are secured with Loctite (2701).

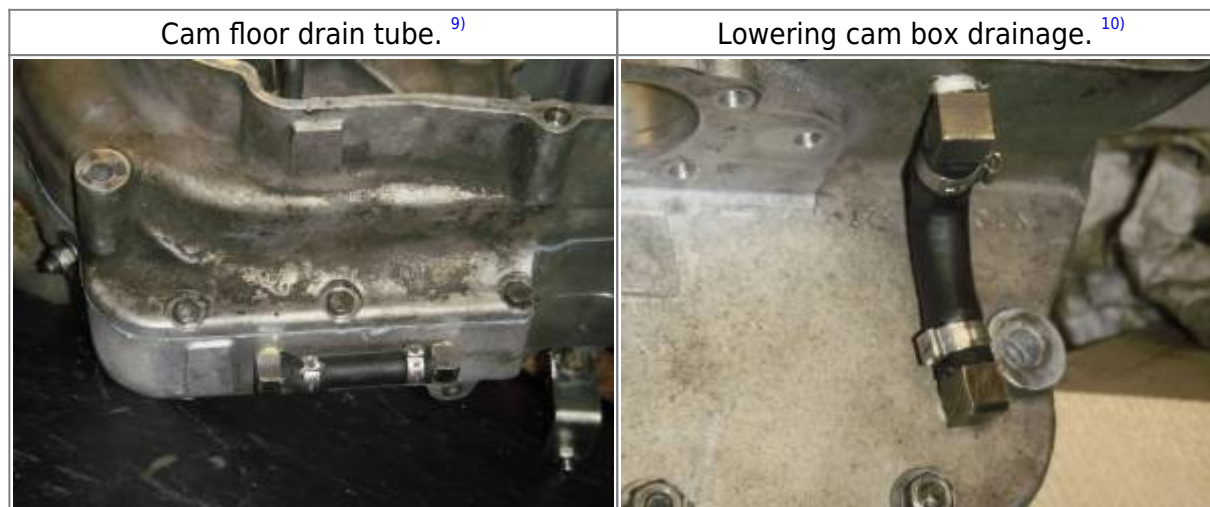
See more on [Windage Trays](#) in the Sportsterpedia.



Cam box oil routing was also modified.

A line was tapped into the bottom of the case so the oil level doesn't rise above the castings for the bolts to flow to the scavenge hole at the rear of the crankcase.

Also an external drain was plumbed from the cam chest to the crankcase (under the windage-plate).



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<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/frame-mount-evo-sportster-talk-1986-2003-models/131026-my-mods-to-venting-and-oiling?t=1386341>

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<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-motor-engine/sportster-motorcycle-bottom-end/170871-flywheel-scraper-windage-kits?t=1833647>

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<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-motor-engine/sportster-motorcycle-engine-conversions/134422-~grinds~-hammer-performance-1250-build/page84?highlight=deimus#post3052117>

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<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/frame-mount-evo-sportster-talk-1986-2003-models/131026-my-mods-to-venting-and-oiling/page2?t=1386341&page=2>

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