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REF: Oiling & Lubrication - Sub-05B

Running External Rocker Box Drains

There were no oil returns on the old Axtel big bore (or the day) cylinders.

So the oil return for the rocker boxes was piped externally.

If a windage tray was used, you could return the oil behind that (staying away from the flywheels). ¹⁾

Bringing the oil under the baffle or windage tray is the classic way to do it.

It's done to cut down on oil drag on the wheels (although I've never been able to prove a power increase). ²⁾

Rubbermount bikes don't have the issue since the oil drain holes dump into the cam chest.

The outlet is in the case itself.

The oil leaves the heads dumps into the case deck, drops down about an inch and then takes a 90° turn over to the cam box.

Then the cam box inlet of the oil pump takes care of scavenging it.

On my race bike, I have the oil tank mounted low, and the head drains go straight to the oil tank.

Eliminates the entire need to pump it out of the motor.

You can also block the drain holes in the heads and add external drains so the oil can go into the cam chest through the cam cover. ³⁾

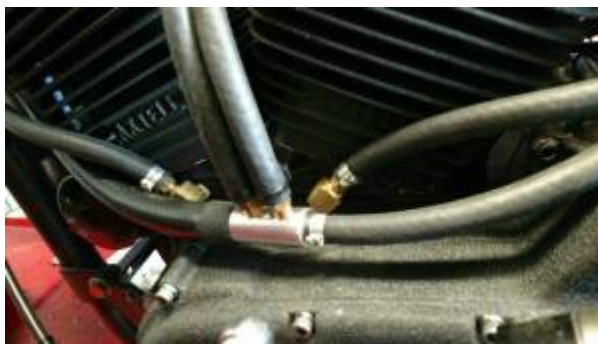
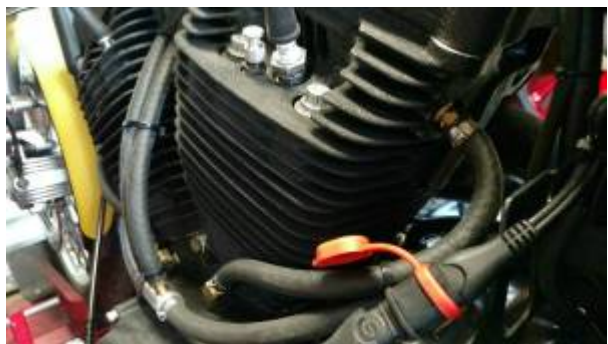
Pre-98 engine cases drain in the cam chest to the crankcase.

For those, you can also plug that drain and pipe the rocker box drains externally.

In 1998, the MoCo got rid of that drain passage and put a scavenge inlet into the neck of the pump to pull the oil directly out of the cam box.

You'll need a 98-Up style oil pump with the cam chest drain port built into it to make this work.

See more on the different oil pumps [HERE](#) in the Evo section of the Sportsterpedia.

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