

# Mincomp's Corner

May, 95



I ended last month's article having had an oil pressure problem in both of my race motors in the first two SCCA Nationals of 1995.

In an A-Series motor, be it an 850 or a 1430, the oil volume is limited by the internal sizing of all the related passages that the oil must pass through getting from point A, the oil pick-up, to point B, the main oil galley. If you are following me so far, I am not referring to oil pressure, I am referring to volume. You can have 100 lbs. of oil pressure and fill one quart can in an hour and you can

also have 100 lbs of oil pressure and flow 15 gallons in an hour. This is volume verses pressure. When building a performance motor, especially one that will be used for racing, particular attention will need to be spent looking at the internal sizing of the oil passages. I have found that oil fittings, hoses, coolers, and remote filters need to have a minimum I.D. of .490". To achieve this, you may have to have to do a bit of transition matching the fittings coming out of and returning to the block. If you have a .490 hose and a .400 fitting ID, you still got flow restriction. You will also find that the oil exit and entrance back into the block will have to be opened up also. Nominally, blocks come from the factory with a .315" hole. This is too small for high RPM oil flow.

So going back to my intro, what I discovered to be my oiling problem was the oil pick-up I had because of deterioration, decided to replace them with new ones. Well, the new ones were not made to the same specs as the ones that were removed. In manufacturing, somebody decided to cut the pick-up pipe off at a 30 degree angle rather than milling it off in the proper configuration, thus the oil pick up surface area was reduced from approximately 2.5 square inches down to about 1.0 square inch. This is a surface area reduction of 250%. I replaced these pick-ups prior to going to the Runoffs, where they seemed to work fine using 40 wt. oil and 9500 RPM. But when combined with 50 wt. oil and 8500 RPM, it was like trying to suck honey through a drinking straw, or more correctly, there was very little volume because the engine demand was greater than what the oil pick up could supply.

Mincomp race report: I ran a National Race at Firebird in February. There was really no competition for me, so I just used the weekend for testing and some easy points towards the Runoffs. After my dismal first two races as a result of the oiling problem, I went to this weekend to run as much as possible. I ran every lap of every session with no problems, and the oil pressure was great all weekend.

*bio gilmore*