

FITTING AN EXTERNAL OIL FILTER TO MATCHLESS ALTERNATOR TWINS

By Paul Allen

As I step through the rebuild and restoration of my 1963 G15/45 twin, decisions arise regularly. Should I keep it dead stock, or make improvements based on the years of operating and learning experience since the bike was first new? Recently, I had the chance to buy a second G15/45 lower end, minus barrels and heads, that had sat open for perhaps 30 years or so. My G15/45 engine number is #272, and this second lower end is #270, so I couldn't pass it up. When I took that second engine apart, my decision about adding an external oil filter was clear.

As our Editor, Chris Read wrote in his good article in the September, 1998 Jampot (Issue # 554), if not maintained well, early 60's twins had a tendency to lose oil pressure to the drive side connecting rod journal. This caused some engines to saw themselves in half. My second G15/45 engine had come perilously close to that end. It opened up about 1/16" clearance at the drive side big end journal, but the rider fortunate to shut it down before it actually threw the rod. When he tore it down to inspect the damage, he chose not to repair it. He had evidently had a similar failure once before, judging from the welded repairs inside that half of the cases. He probably just left it sitting open in the dirt, in disgust, and I'm sure his stories fed the rumor mills about Matchlesses and their weak twin cranks.

The one-piece felt-covered oil filter in my second G15/45 had been hydraulically collapsed, as Chris Read had found on his bike. The photo shows that collapsed old filter, along with a gorgeous new one that has just been recently manufactured and made available by the Spares Scheme. I intend to use the new filter in my rebuild, and to watch it carefully for any clogging that might lead to a pressure loss. As an added precaution, I decided to add a Commando-style full-flow external filter in the return line from the engine to the tank. The life of an engine with shell bearings on the crank and connecting rods is so dependent on good, clean oil flow.



I had mounted a similar Commando filter in the return oil line of my restored 1966 G12CSR. That has worked perfectly through its first 1,000 miles, and I look forward to a long and happy life for that engine for years to come. For the G15/45, I just repeated the steps I took to make that first one. I bought a Commando-style filter head, available from parts suppliers. With its screw-on filter cartridge, it fits nicely in the unused dyno pocket at the front of the engine cases on alternator twins. Changing the oil filter can be a bit messy, but an aluminum foil tray fashioned to catch most of the oil that tries to escape when you change one is helpful. Fortunately, a bit of oil here and there on our beloved motorcycles isn't completely unheard of.

Mounting the oil filter ahead of the engine requires running the return line forward, instead of directly back to the tank. To do this, I bent a short length of 1/2" copper tubing in a 180 degree arc. Using a proper tubing bender for this assures that the bend won't crimp. I haven't experienced a tubing failure on my G12 due to any stretching of the copper tubing. With a propane torch, I unsoldered the original straight copper tube from the return banjo, and soldered the new bent one in place. The resulting positions of the rubber oil lines are good, allowing two lines to go to and from the filter, and two lines to go back to the oil tank, crossing over at the banjos. I put a shroud around each pair, forward and back, similar to the original line shroud. I used a heat gun and heat-shrink tubing intended for repairing old wooden garden tool handles- it works great, and looks good.



Mounting the oil filter up front requires spending a little time with a hacksaw and files to fashion a bracket from a 3 7/8" length of 1 1/2" x 1/8" angle iron, as shown in the photo. The shape and measurements of this aren't rocket science. Making a cardboard mockup can help, if necessary. For the 1/2" rubber oil lines to fit on the smaller stubs of the Commando filter head, I cut two short lengths of 1/2" copper tubing and bonded those on with epoxy, filling the internal gaps between the inner and outer tubes. These should be a bit off-center, to leave as much clearance between the two stubs as possible, allowing room for two 1/2" rubber oil lines to slip on comfortably later. Due to that same narrow clearance, I used two small screw-on hose clamps rather than the brass ferrules I prefer, when there is room to properly crimp them.





As shown in the photos, the final assembly looks like it was intended to be there. It certainly contributes to peace of mind as you are off on a long ride, when collapsed filters might otherwise be recalled. There is still no replacement for regular oil and filter changes, and for checking the condition of the original one-piece filter in the feed side of the oil system. With good care I suspect my rebuilt engines will outlast me, but I'm still going to do my best to try wear them out by riding regularly.





