

# The =MM= Oil Filter for Twins

Version 1.3

Here are some instructions on how to build a filter for the twins. Don't think it will work on the singles - not enough oil pressure or flow. The pictures are far more eloquent than I am!

The plate shown is made from 1/4" mild steel. It is 3.25" wide x 3.50" long. It has one end cut off in a radius to match the O.D. of the filter body - giving you a little extra material around the gasket or O-ring. The other end is left square to accept the mounting clamps. I lapped the first one flat.

Experiments with the second showed that it didn't matter and a lot of labor was saved! The O-ring is thick enough to take up any inaccuracies in the manufacturing process. Don't worry, mine has never leaked a drop!

The center pipe is Metric - to accept the wide variety of Metric filters available. I use a Pro-Line PPL 14459 US made filter - easily found at auto parts stores. The pipe was purchased at a V.W. dealership - but any dealership with Metric cars should carry it.

Two filters can be made from one pipe, as it is cut in half and both ends are already threaded. A 3/4" hole is required in the plate, but it can be filed from a smaller hole if need be. Once the pipe is brazed in, a stub of 1/2" soft copper is brazed inside it that protrudes out the other side, to give a pipe stub to silver solder the copper fitting to.

All fitting used are common copper water fittings in 1/2" I.D. I use this stuff because it is cheap, readily available and has gentle radiuses to keep oil flow high. Important in the under oiled twins. It is also easily silver soldered (sliver brazed) and is able to handle the required pressure without problem. The stubs for mounting the curved fittings is 1/2" O.D. soft copper and has to be expanded a bit to fit the I.D. of the copper pipe fittings. So do the pipes leading to the return oil line.

To expand this pipe to fit, I made a simple bullet shaped die to expand the pipe and squeezed the short sections in a vise. Use some lubricant when using the die, but be sure to remove it before silver soldering! I used this size pipe because it left enough room to fit both pipes to the filter and still have the return pipe inside the filter body/O-ring.

Next to the 3/4" hole for the Metric pipe, you need to drill a 1/2" hole - leaving exactly 1/8" between them. Your short piece of 1/2" soft copper pipe to fit this hole will need to be expanded on the end receiving the copper fitting. When final silver soldering the two curved copper pipe fittings, it is a good idea to first check fit on your bike, as you need to bend/splay the two oil pipes to clear obstructions like engine mounting studs, etc. See the side view of the filter as installed on my 1960 G12.

For mounting purposes, I used two sections of aluminium angle iron. One piece is bolted to each side of the filter and this creates a narrow channel that will lock the filter to the frame downtube when the clamps are tightened. It also provides the mounting place for the clamps, which are simple sheet metal clamps for water pipes in 1" size. The angle iron is threaded to receive the 1/4" coarse threaded mounting bolts for the clamps and you can delete extra material by cutting it away with a bandsaw or coping saw. I don't remember how wide the angle iron is, but you need to size it the the clamps anyway, so buy them first and then go shopping for angle iron.

That's about it. Like I said, I have used this filter for 1000's of miles and so has my friend Jim. It isn't hard to build, but it is a bit time consuming and you need to be able to silver solder and braze. I suppose it could be soldered together - the original oil pipes are - but I went with the stronger material because I had it here. Next time I have it off, I'll paint everything black!

Questions? Contact Mark Seibert at:  
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Let me know how yours came out? ;0)- =MM=



The Norton Commando after-market filter attachment and it's metric adapter.



Backside of the Norton filter.



My filter installed on my 1960 G12



A side view showing potential obstructions



Correct connection of filter to return oil line



Filter plate and copper fitting – two needed.



Filter plate with one fitting in place



Metric pipe brazed in place.