

Amal or a Mikuni, Which is Best?

The question of which carb, an Amal or a Mikuni came up for me some five years ago when I freed my 1966 BSA A65 Hornet from a friend's garage and years of idleness. Being new to the game of motorcycle restoration (at the time I refused to call my project bike a restoration since that conjured up thoughts of ending up with a bike better than new and perfect) I "just wanted to see if it would run".

Sound familiar? Of course, I know better now, but that was another story wasn't it? In this process I ran up against the twin Amal carbs that were original. First, I cleaned them after a complete disassembly. After reassembly I found that the slides would stick at full throttle position. So I carefully started to sand both the slides and the slide bores, using layout blue to find the high spots. Well, they finally quit sticking at full throttle but were pretty loose. It seems that the problem was not high spots, but that the flanged nuts had been over tightened and the slide bore was warped. This is a common problem with all Amal Concentrics and Monoblocs. When the bike was finally started the loose slides in the twisted slide bores would not return to the same spot during a transition from throttle-on to idle and could be different from carb to carb (cylinder to cylinder). The idle was unpredictable to say the least.

At this point, lacking the knowledge that Amals were becoming available as new items, I chose to install a Sudco Mikuni kit. Well, it was really a tight fit and required re-tapping the head carb mounting flange to accommodate the Allen head bolts included in the kit. In fact, it was so tight that I had to cut back the side covers (fiberglass battery and oil tank covers) to fit the air cleaners. Then the fun began. Sudco had included the wrong jetting. After many changes of jets I finally got it to run reasonably well. It turns out that the engine was suffering an undetected head gasket leak between cylinders which complicated determining what the correct jetting should be. Carbon on the carb slides at each jet change should have been a warning, but was foolishly ignored.

After several years I finally went through the motor completely, finding the head gasket problem. The jetting problem reappeared after the rebuild of the engine with the jetting being too lean. I changed main jets, needle jets, pilots, you name it, but I finally got it close. The real problem with Mikunis is that they are so tunable. There are ten needle jet sizes between each Amal size. The needle choices are quite numerous. The result is that without a starting point it is easy to get lost and difficult to make changes of any consequence without a huge supply of parts. Direct translation of the Amal jets and needles doesn't work because the two carbs don't have the same air bleed jets or the same vacuum characteristics. Sudco's stock choices seemed completely wrong for my bike. Getting to close was about it without a dyno, lots of time, and an extreme case of persistentitis.

So what is the answer? Get an exact stock replacement part from Amal. They now make both the Concentric and the Monoblocs that you can jet as per the original specs. The Monoblocs are offered with chrome slides that eliminate the high wear we have all seen in Amals. Concentric chrome slides are still being developed and the first attempt didn't work. But with all new parts you can go for many years before the slide wear problem appears. And do not over tighten the carb flange nuts. Use the correct O-ring at the carb mouth and lock nuts snugged to just tight enough to keep the carb from leaking air around the o-ring.

Performance differences? Who can really tell on a 30-40 year old vintage bike that well earned restraint keeps you from really wicking up. I have gone the Amal way on both my subsequent restore jobs, my 441 Victor and my Triumph 500 cc Rickman and am pleased with the perfect color that appears on the plugs and, of course, the good performance. The Mikuni equipped A65 Hornet is still slightly lean if run at sea level but I live at 3000 ft, for which it is closer to correct. If I had to do the A65 over again I'd go for the Amals. The costs are very equivalent and the jetting would be perfection.

Addendum:

After writing this article I found the book by Victory Press "Mikuni Tuning for British Twins". That got me to a new starting point for the jetting and eventually after pumping in a bunch of expensive new tuning parts, to a excellent running bike. Even more recently I found the JRC carburetor that is simple to tune, fits perfectly, and is designed to eliminate all the AMAL problems of sticking slides and distorted bodies and it is a lot cheaper to buy. I now recommend this JRC carb if they have one for your bike