

DUCATI TECHNICAL

DUCATI - COMINGS AND SHORTCOMINGS

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A while back you asked for technical information (or what I wanted to put on paper) for the DIOC. Fortunately or unfortunately depending on how you look at it, what with business and racing activities, these things have kept me wide open so I figure that if I just didn't sit down and do this piece it wouldn't get written.

First off, let me confess that I am the new kid on the block. I have only owned my Ducati for about a year now. About a year ago I broke down and got a new 860SS. At that time I was under the impression that after-market goodies were plentiful. This opinion was based on the number of ads I saw in your publication and others. Also I was under the misconception that the standard internals were superbly manufactured.

Since the day I took delivery of my bike, I have received one hell of an education.

95% of the items I tried to buy never materialized, and of the stuff that did--most of it was of questionable quality. At least questionable enough (as far as I was concerned) that I wouldn't want to put these items in or on my bike under any circumstances. So much for most of the accessory stuff.

The basic motorcycle is another matter entirely. In basic concept and design (for the most part) both the 750 and 860 V-Twin engines and chassis is really quite good, but the attention to quality control and detail is something else. Let's forget about the lousy fiberglass which everyone knows is poor anyway.

Let's start at the top of the engine and work down. My partner and I have been tinkering with race engines and competition bike stuff for 25 years, so while we may not be geniuses, there are certain lessons we have learned. I have heard the Ducati heads are nothing sensational. After I took my top end off the first time I found what an understatement that really was. What is truly amazing is that the Ducati runs as well as it does with the poor cylinder heads the bike comes with. After all in today's scheme of things, 100 HP per liter (61 cubic inches) is very common place among the automotive set. Why then is it necessary to settle for such poor performance for a motorcycle engine. Probably because bike people are willing to settle for this level of quality. Every once in a while a bike comes along that raises the performance level and then all the other manufacturers scramble to follow suit. However, it isn't until someone takes the bull by the horns and does something significant that the rest of the bike builders see fit to move off of center.

Let's get down to the cylinder heads for minute. The basic port design is right out of the twenties. When Ducati started with the first clean piece of paper and layed the V-Twin design, why in the world did they decide on such a poor layout? A look at what the best of the high performance world is doing will quickly illustrate what I am talking about. Aside from the inadequate portion of the design, the original engine design planners didn't leave enough material on the head to allow anyone to remedy the situation to any extent. You can spend a lot of dough on fancy port jobs and big valves but the net gain (forgetting the high cost) is negligible.

Then there is the matter of materials. The lousy quality of Ducatis valves guides is legend and most super sport owners have to change them almost immediately. The cams are also of questionable quality for the most part. After degreasing out a number of camshafts, we have come to the conclusion that the cams are ground immediately following the wine break in the factory. The super sport cams are incredibly inconsistent and the degree of finish is less than poor. This is especially true with the Imola versions

Everyone told us that it was impossible to make desmo cams better than the factory jobs. But being too stupid to know better we went ahead and did any way. Now instead of the cam time being off 10 to 20 (in any direction) the new hard faced jobs are within 1 degree. I see no reason why the Ducati factory couldn't do this themselves

The pistons and cylinders seem to live forever. They are of pretty good quality and construction but limited in displacement to 860ccs. We found that our 990cc kit brings up the level of performance to the point where extremely prudent judgement becomes necessary when squeezing on the throttle. With standard gearing a bored out version will go from 55 to 125 MPH in a flash providing those "men in blue" are no where in sight. It would really be neat if the factory punched out the barrels to a full 1000 ccs.

For a long time we have heard horror stories about the poor reliability of the crankshaft when the level of performance was raised. We have learned a few things about why this occurs

There are two basic problem areas. First of all there is the material heat treat deficiency. The rods and bearings are pretty good but the crank pin and thrust washers are not. We found that many of the reasons for failure seem to occur from a

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