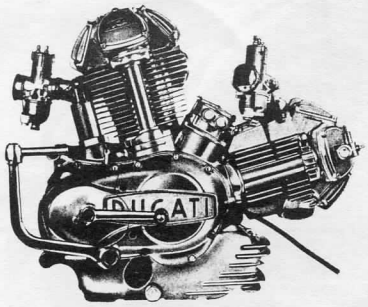
TECHNICAL



FLOWMETRICS

BY Jess J. O'Brien

I thought I would take this opportunity to bring you up-to date on what we're doing to the Ducati heads. Out of Syd's Cycle alone, we're running four singles, including Syd's; two heavies - one, Malcolm's 900 and Dennis Hatch's 750 cc. All six of these are using O'Brien Heads. Out of O'Brien Flowmetrics, we're running one 250-cc single experimental, ridden by Ed Culbertson with new single and twin yet to be built.

The Ducati Head (stock) is the worst I've ever seen! There are better ones out of Europe; but they will never be seen in the U.S. Ducati has rule, no matter how many races you lose - you cannot have what they have. I found same rule with Aeromacchi when I worked at Harley-Davidson factory.

The first thing we've found that doesn't work is California port (which I've referred to as "sewer pipe.") What we do is redesign ports

1. Weld up entire area above intake port in valve spring pocket.

2. Tunnel beside guides and build hump inside port and at the same time keep port area at 30 mm.

3. Change out valve seat to one of larger diameter.

4. Increase intake valve diameter with this completed; larger valve, reshaped port and larger carb. We have increased CFM (cubic feet per minute) with port at 30 mm. We have to keep FPS (feet per second) velocity up also. By increasing intake flow, second problem exists. The original exhaust port stock head flows 80% with intake flow increase; the exhaust port flow now has dropped to 60%. A good racing engine has to have 90% to 100% exhaust port flow. To do this, we weld block into exhaust port to reshape it; then increase valve size and shape and get 97% to 100% of intake flow. Now you have high efficiency flowed head and small percent of what is needed for a winning engine. The rest consists of valve springs, right cam, carb., exhaust and setting up engine. It is a sackage deal and always will be. Heads alone won't make racing engine.

In two years, I've worked with Ducatis, I can say this - frame stock is best racing frame I've ever seen; also engine is 80% more reliable than Harley-Davidson's. The main problem with Ducati, H-D, BMW, Motoguzzi is their twins. The best one of these develops 250 cfm per engine compared to 440 cfm of Kawasaki and Suzuki. In H.P., this is 90 H.P. vs. 158 H.P. at crank. If both engines develop 100% H.P. to air flow, this is something the AMA doesn't realize; or, does realize but doesn't want to offend major four manufacturers.

SPEED KIT INSTALLATION ON DUCATI DARMAHS

BY Rick Danks

With the help of Steve at Highway 61 Motors in Deer Lake, Pa. (Tele. 717-366-1093) it was possible to install a speed kit on my 1978 Darmah. Steve supplied all the necessary parts and technical information for the project.

The installation of the Conti mufflers was fairly straight-forward, but do not forget that spacers are required at the footpeg mounting flanges. Otherwise, the pipes will hit the rear axle nuts. The man at the local Ducati store informs me that Conti exhaust pipe clamps are no longer available and that LaFranconi clamps will not slip over the Conti pipes easily. I tapped my clamps on the Conti pipes with a rubber mallot. However, the threads on the clamp bolt rub against the outside of the Conti pipe. A possible solution to this is to use stainless steel pipe clamps as marketed by Drag Specialties.

I have heard that the standard Super Sport speed kit will not fit on the Darmah. The key to using the bigger 40 mm carbs is (1) Use an intake manifold for the front cylinder of a 900 Super Sport on the rear cylinder of the Darmah. This locates the rear carb where it does not hit the battery, and (2) Some machining of the manifold base mounting holes and rubber gasket mounting holes is required.

The centerline distance for the mainfold mounting studs is different on a Super Sport than for the Darmah. Consequently the manifold and gasket holes must be elongated so that they can slip over the Darmah studs (See enclosed pattern). Just make sure the manifold is centered over the port opening. Once this is completed installing the carbs is a bolt on operation.

Another necessary part is a throttle junction cylinder body from a Super Sport. This is longer than the Darmah item and it is required so that the carb slides can be opened all the way.

The final piece of work was to shorten the metal sheath on the throttle cable from the twist grip to the junction cylinder to compensate for the lengthened junction cylinder body.

Steve recommended using #165 main jets and these have worked well on my bike.

For air filters I chose the conical type K & N brand for a Moto Guzzi LeMans. On the front carb I mounted the filter directly on the carb. On the rear carb I used the filter in conjunction with the stock rubber air intake boot. This locates the filter so that the stock slide cover can be retained.

With the kit acceleration and top end have been noticably improved over stock without much extra work. The motor remains tractable and idles well.