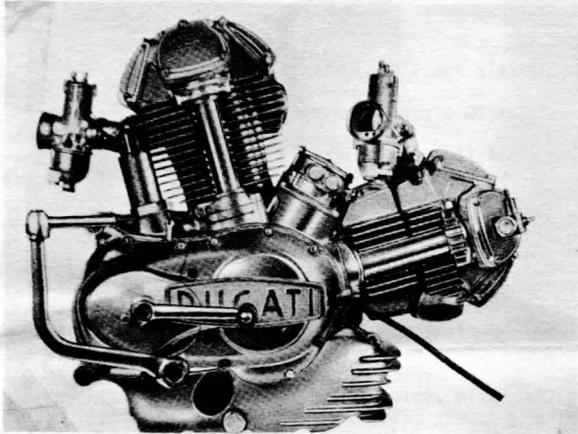


TECHNICAL



TROUBLESHOOTING CARBURETORS -- by Len Vucchi

(Editor's note: From time to time to time, magazines report on various technical aspects of our sport which we feel could benefit our club members. Such an article is the carburetor troubleshooting series that Cycle World is publishing. This section deals with Dell'Orto carbs and was published in the February 1977, issue of Cycle World. We reprint it here with the kind permission of editor Alan Girdler.)

Do it yourself.

In areas such as carburetion and ignition, a home tune up is one alternative to combat the rising cost of motorcycle maintenance.

Our purpose here is to illustrate how the average owner can perform a basic but thorough carburetor tune up. We will assume the rest of your bike's engine is in good working order, including ignition and compression. If you're looking for a cure for poor engine operation, eliminate other possibilities before attempting a carburetor tear down.

PRELIMINARY CHECKS

Before tackling the carbs, you should be sure the associated fuel system components are in proper condition. Service air filters and replace as necessary. Drain and flush the gas tank, and clean petcocks. Cracked or brittle fuel lines should be replaced. Inspect the throttle cables and replace if frayed. Lube them and make sure they are routed so they don't bind. If turning the handlebar from side to side causes a change in engine RPM, route cables in a different manner.

REBUILDING BASICS

When dealing with motorcycle carburetors, the words "rebuild" and "clean" are nearly synonymous. With the possible exception of worn gaskets or O-rings, rebuilding a carburetor usually entails disassembly, cleaning and inspection, then reassembly. In most cases, therefore, a complete rebuild will be unnecessary.

If yours is a good running street bike of recent vintage, you may wish to perform only the rudimentary adjustments. But if your pride has fallen victim to the ravages of time and neglect, the entire process may be necessary.

In any event, a few basic rules apply. Take a mental picture of the assembly, and make a few diagrams if necessary. If you take it apart, you must be able to reassemble it! Keep individual components sorted as to function and location. Although identical when manufactured, certain parts (throttle slides for example) will work best when replaced in their original locations.

Attempt to maintain a high level of cleanliness. The most common cause of carburetor malfunction is the entry of foreign matter into the fuel system. Seemingly

major problems are often traced to a bit of dirt in one of the small passages in the carb body or a jet orifice. Don't be too tight fisted when it comes to spending money on necessary parts. Gaskets and the like are most often reusable, but occasionally deteriorate to the point where they cease to function.

Many carburetors contain small seals which are not apparent even after disassembly. Commercial carburetor cleaners can cause permanent damage and should not be used. Instead, pump gasoline applied with a stiff brush is recommended.

In this installment, emphasis will be placed on idle adjustment and carb synchronization. If these procedures are inadequate for your particular application refer to your owners/workshop manual.

DELL'ORTO CARBURETOR WITH ACCELERATOR PUMP - FOUR STROKE TWIN

Although not very common on bike carburetors, several manufacturers utilize accelerator pumps. The illustrations here are of a Dell'Orto slide "bumper" on a BMW R90S (Ed. note: This is the same carb that is on Ducatis)

CARBURETOR REMOVAL

Using a 10 mm hex wrench, remove the starter circuit plunger, and leave it attached to the cable (photo 13).

Loosen the slide cover screws and remove the slide assembly from its bore. Compress the spring, and remove the needle and clip from the slide. Free the cable end and remove the slide. Check the needle for wear, and note the position of the retainer clip.

Loosen the hose clamps that secure the plastic air filter elbow, and remove it. Disconnect the fuel line, and loosen the spigot clamp to remove the carburetor.

FLOAT INSPECTION

Removal of the hex drain plugs allows the float bowl to be removed (photo14). Pull out the pivot pin, and lift out the float. The float needle engages a slot on the float tab and will be removed with it. The needle should be replaced if worn.

JET LOCATION

The Dell'Orto has an abundance of jets (photo 15). The starter circuit has its own replaceable jet --highly unusual! Make sure the O-ring is serviceable. The accelerator pump jet also contains a check valve. To test its action attempt to blow through the jet from each end -- air should pass one way only.

Remove the main jet holder and unscrew the needle jet. (Photo 16).

CARBURETOR BODY INSPECTION

Remove the fuel inlet fitting (Photo 17), take out the filter screen and clean.

Three screws secure the starting circuit housing, which may be removed for cleaning. (Photo18) The idle speed and mixture screws can also be taken out, but be careful not to misplace the washers and O-rings which seal each.

Take out the accelerator pump nozzle (Photo 19); and blow through to check for restrictions. Its orifice is extremely small and easily clogged.

Inspection and clean the accelerator pump check valve (Photo 20). One should be able to blow through the small end, but be unable to draw air back through. Remove the accelerator pump housing and spring by unscrewing three hold-down screws (Photo 21). The pump diaphragm should be free from holes or tears.

Do not alter the position of the volume adjust screw. It is factory set.