



RACING

DATE

238 SERIES

MODIFICATIONS

1062 McGAW AVENUE, SANTA ANA, CALIFORNIA 92705

May 1, 1969

GREEN STREAK SPECIAL

The following modifications are the results of the 238 green-streaks, which won the North/South Championship. Most of the changes made were to clean and match all the ports.

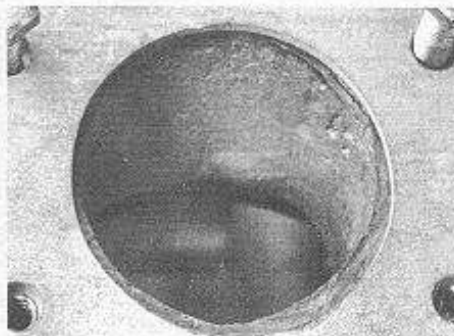
R. P. M. RANGE

Recommended speed range for maximum performance using the following modifications is from 4,500 to 8,000 R.P.M. Once again this machine can over-speed if too low of gearing is used. Recommended gearing is 16-40. 16 Tooth Drive Sprocket, 40 Tooth Rear Sprocket.

EXHAUST PORT

Matching of the exhaust port and the expansion chamber mounting bracket is of extreme importance. Follow the below pictured procedure closely. After the port is matched, it should be polished.

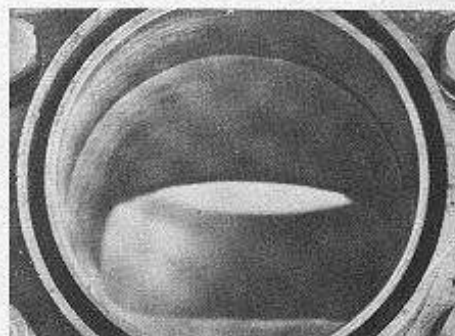
STEP NO. 1



STEP NO. 2



STEP NO. 3



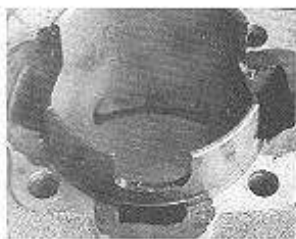
CAUTION! DO NOT RAISE LOWER OR WIDEN THE EXHAUST PORT IN THE STEEL LINER OPENING AS THIS PORT IS EXTRA LARGE ALREADY.

The cutting and polishing can be accomplished by using a ¼" electric drill or a high speed Dremel Motor.

TRANSFER & BOOST PORTS

The transfer and boost ports should be matched to the cylinder base gasket. You will note they are very small. Especially the 3rd or Boost port. Open them up in the alloy portion only. Do not change the size or shape of these ports in the liner. Also you will have to match the cases to the cylinder base gasket. (Check Diagram Below)

STEP NO. 4



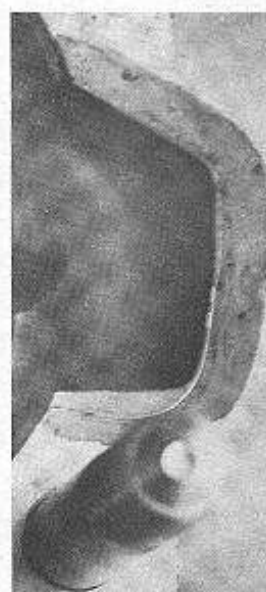
STEP NO. 5



STEP NO. 6



STEP NO. 7



INTAKE PASSAGE

As long as you have the cases split you should match the intake passage to the cut of the rotary valve as depicted in following photograph.

STEP NO. 8



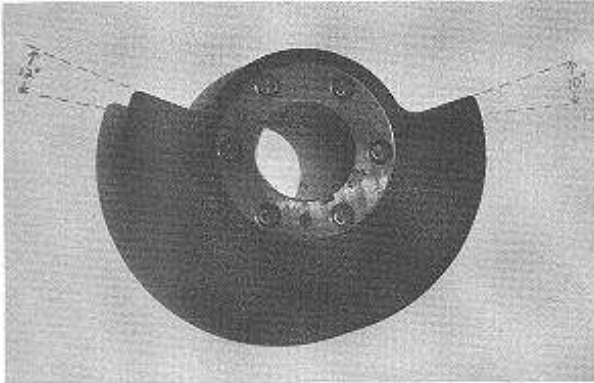
You will note the port will now be much wider at the top than the bottom. DO NOT raise this port as the rotary valve will not close completely. Now your valve will open and close sharply. The rotary valve cover should also be matched in the same manner.

STEP NO. 9



ROTARY VALVE

The rotary valve should be cut as follows:



The above cuts are from the standard valve.

IGNITION SYSTEM

The magneto from the F-2 speed kit was used. This one item will insure a smoother and more stable running engine. PART NO. B1430 - 8100

The best results were attained by setting the ignition timing at 3.0 m/m B.T.D.C.

DO NOT RAISE THE COMPRESSION AS IT IS NOT NECESSARY.

Torque the head bolts at 30 ft. lbs.

CARBURETION

For best results we suggest the use of English Amal Concentric Carburetors. The specials for the North/South were using 32 m/m carburetors. Also, one of the specials has since been run on a 1 mile dirt oval at speeds over 100 mph, using a 34 m/m Mikuni similar to the one's being used on the 500 cc Suzuki.

The following are the suggested settings for this 32 m/m Concentric:

| | | |
|---------------|---|--------------|
| Main Jet | = | 330-340 |
| Needle | = | Middle Notch |
| Pilot Jet | = | No. 25 |
| Slide Cutaway | = | 3.0 |

INSTALLATION OF FLANGE MOUNT

A boss must be made of alloy, approximately $\frac{3}{8}$ " thick. A hole the size of the ventury must be bored, example: if you choose a 30 m/m a 30 m/m hole should be bored.

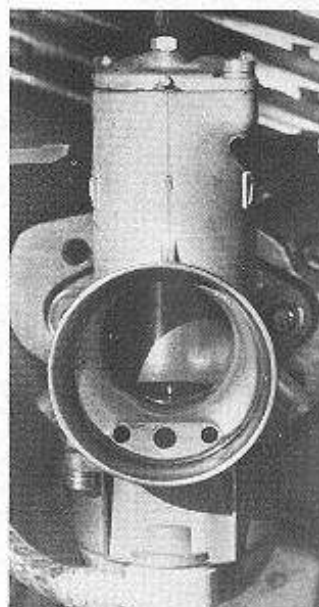
Also two holes should be drilled and tapped for the mounting studs. Then Heliarked to the clutch housing cover.

STEP NO. 11

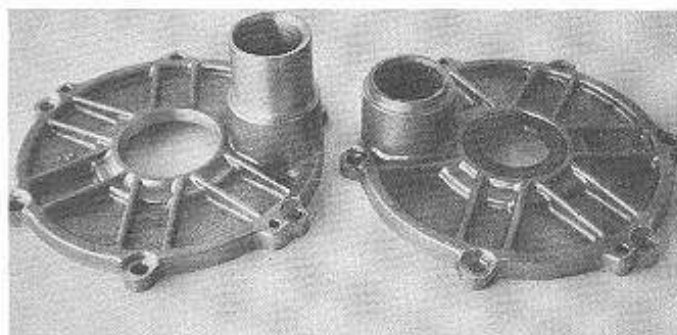


Now your carburetor installation will appear like photograph.

STEP NO. 12



You will have to cut the rotary valve cover mounting pipe off at a point 5 m/m from the existing "O" ring shoulder as depicted by Photo 13.



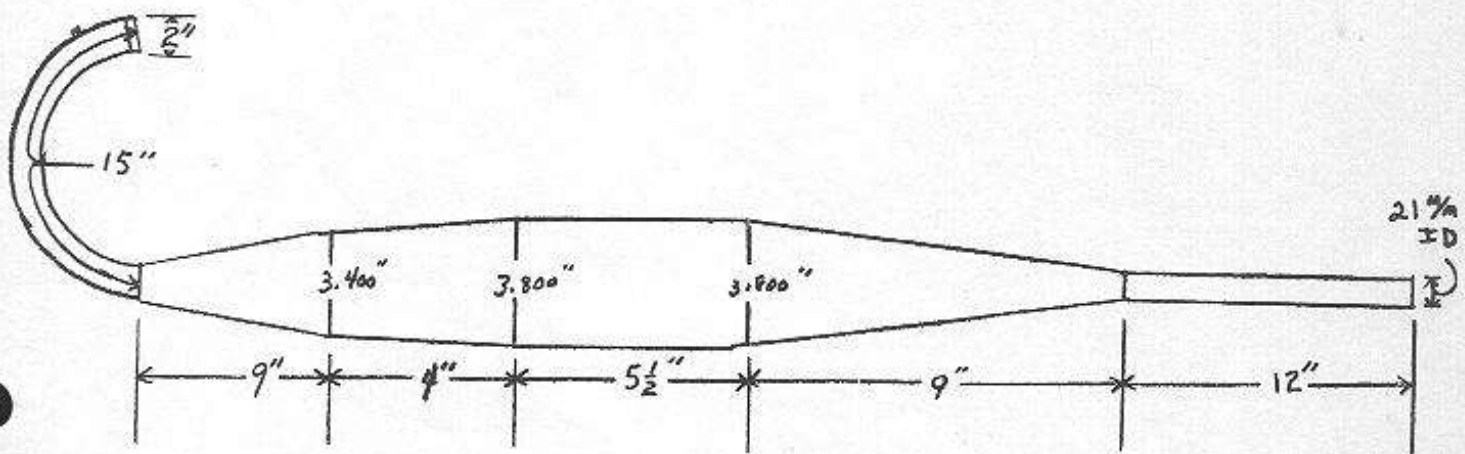
Finished product should look like Photo 14.



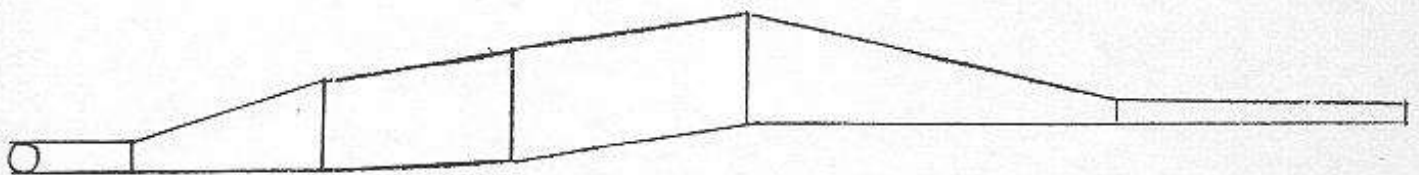
238 SPECIAL LOW TT CHAMBER

This is the same chamber used on the 238 Special which won the North/South Scrambles. The 1969 greenstreak has this chamber except it comes as a high pipe. The convert you must obtain a 6" radius 2" pipe 15" long. Most muffler shops can bend this as required. Also the stinger must be changed to the below diameter and length. The high pipe version is available by ordering part No. F21411 - 1410.

ALL DIMENSIONS ARE IN INCHES



TOP VIEW



NOTE

In the event that you wish to retain your present high pipe, the low pipe described in this bulletin can be obtained from:

S & S Manufacturing
2970 Daylight Way
San Jose, California 95112

Retail Price - \$34.95
Dealer Inquiries Invited

(408) 225-2373