

HOW TO HOP UP

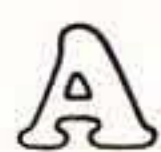
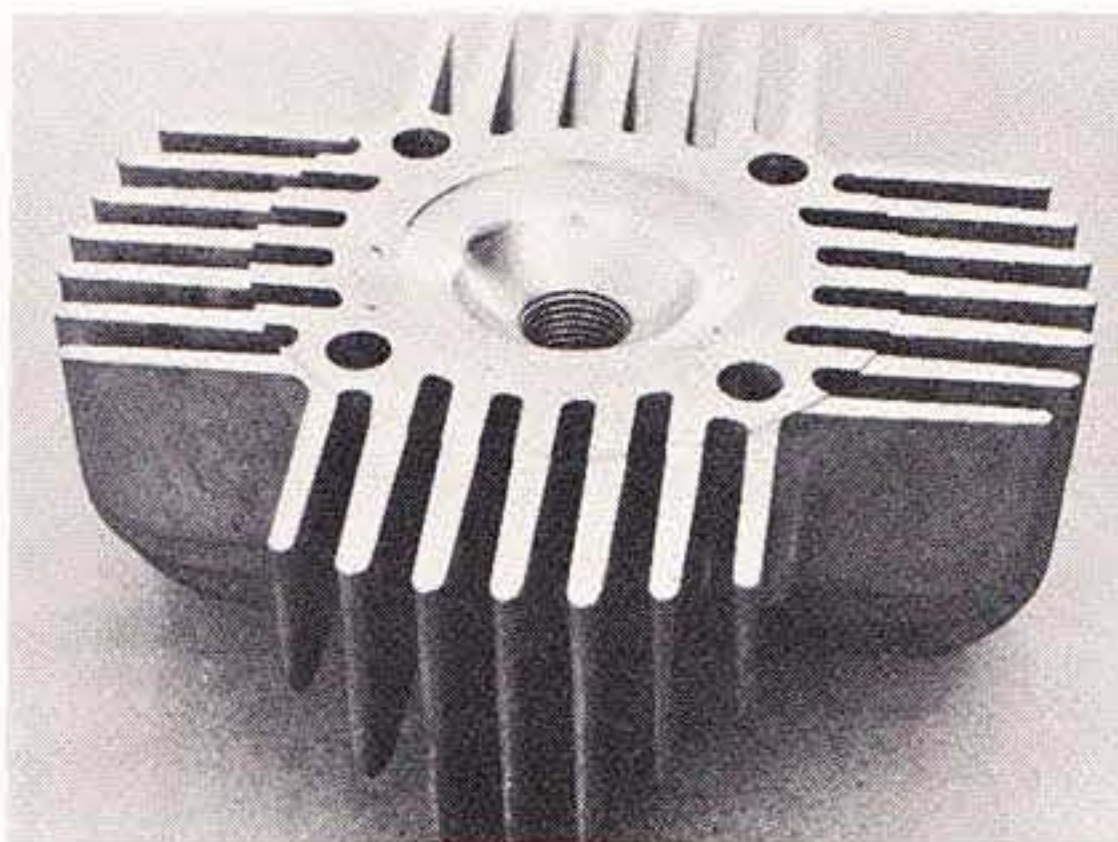


A YAMAHA MINI

I'll bet when Yamaha came out with scaled down motorbikes for kids they had no idea how popular the little bike would be. They were introduced around Christmas a year ago and the jewels are still as scarce as hen's teeth. Like Little League and Pop Warner football the Dads and kids have found a way to make a game of them, it's called "Mini-Racing."

Following the footsteps of all organized competition there are rules to keep the racing from getting too lopsided and within the confines of one's pocketbook. Bore, stroke, and carburetor size must remain box stock. The only chassis alterations are in the suspension and the wheels cannot be changed. But there are a few areas left wide open and we went to Chuck Smith's Torque Engineering to get the latest info.

GETTING MANY PONIES FROM THE MINI WITHOUT MAKING IT A MAXI

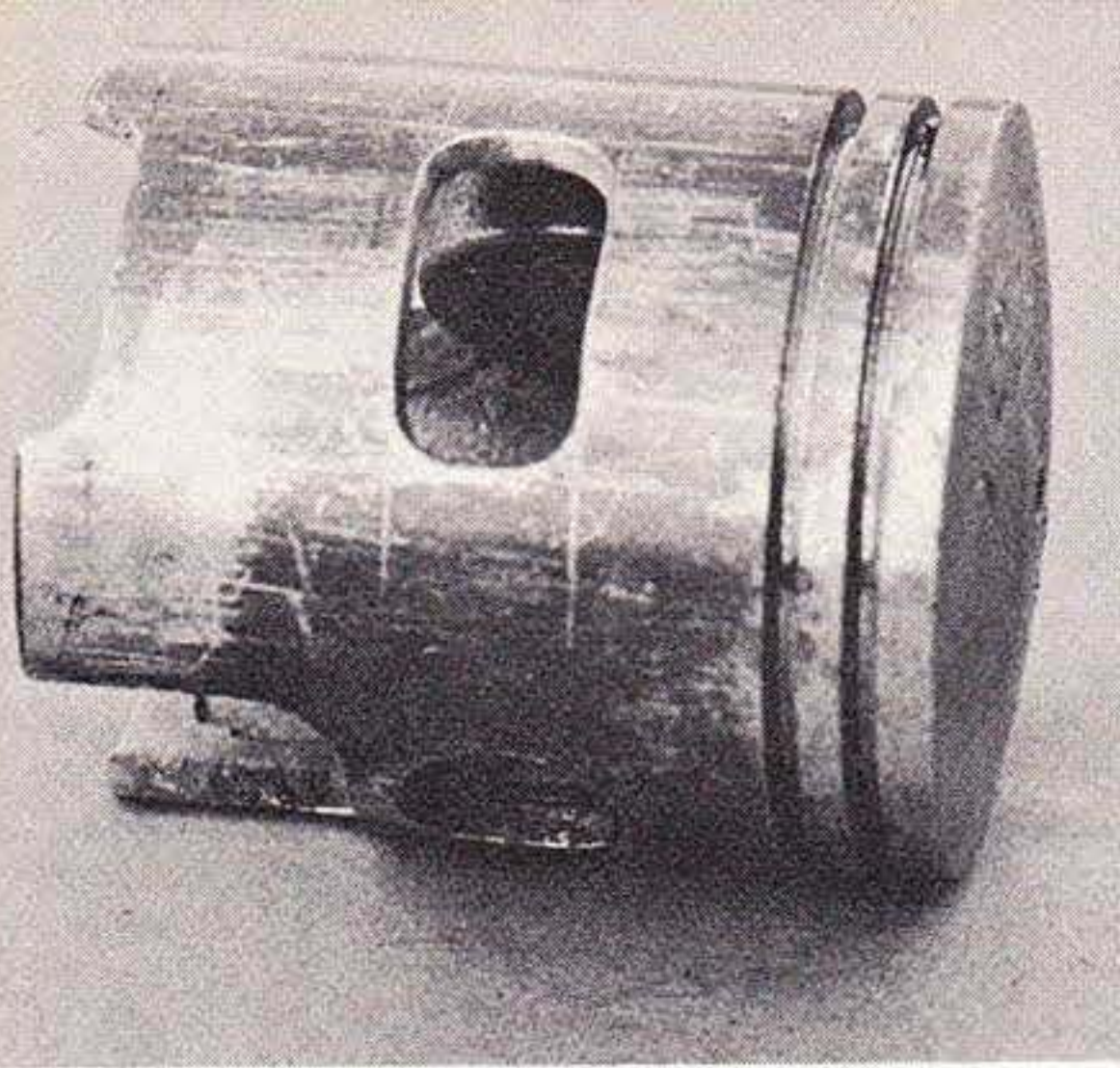


The standard cylinder head has been milled .080" and the combustion chamber remachined to maintain the squish band.

The modifications shown here are what makes these little scooters scoot. One can follow these procedures if he has a little previous experience in fiddling with two-strokes. To save space we omitted the removal of the head, cylinder, and piston because it is a relatively simple thing to do.

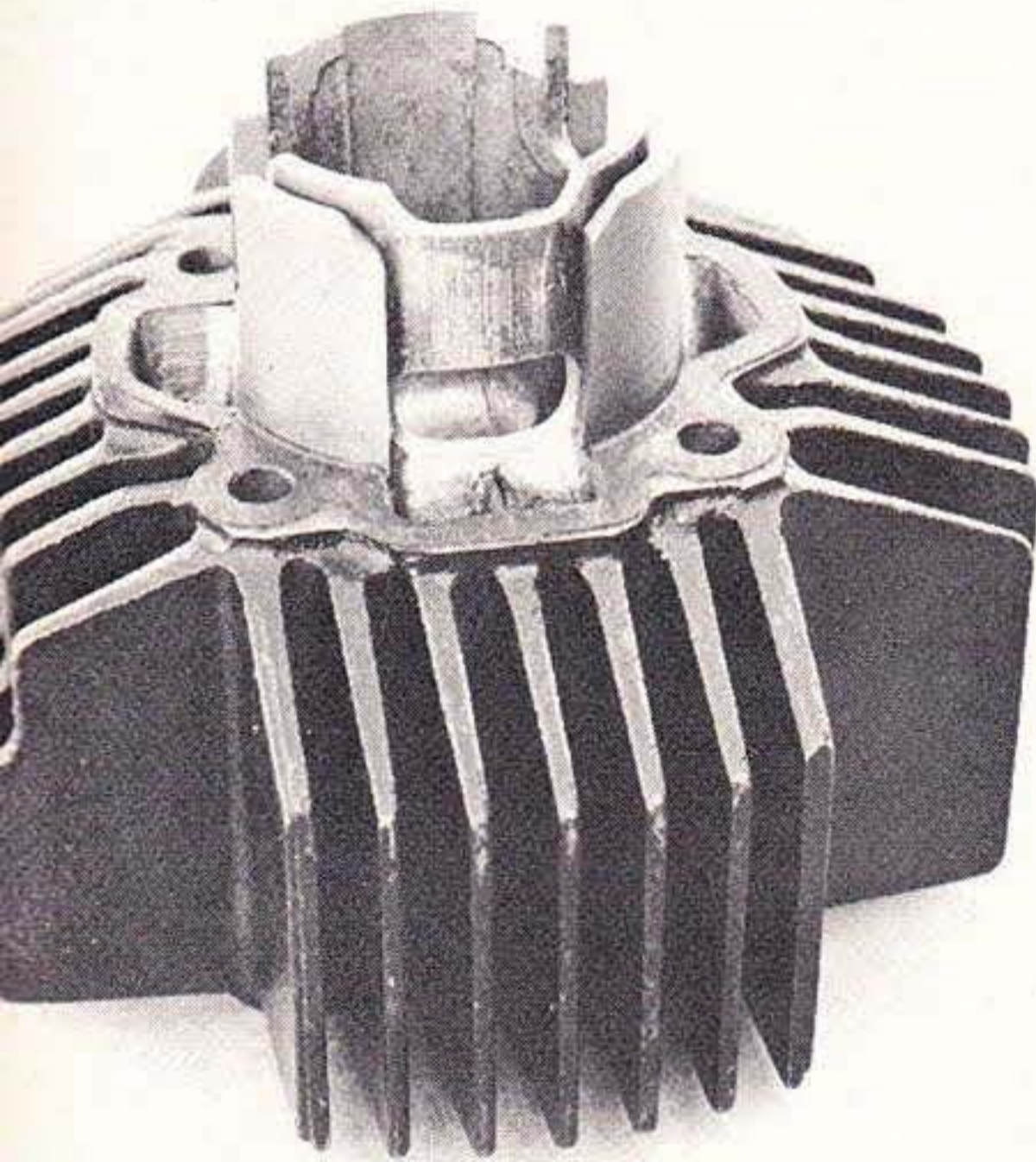
Basically we removed the oil injection pump and changed the rotary disc valve. We also added a window in the piston and modified the ports in the cylinder. These are things that not only require special tools, but talent too.

The diagram that accompanies this article shows the dimensions the cylinder and piston have been modified to. This, in conjunction with the Torque Engineering pipe, Fun'n Fast disc valve, and Proto Products air filter are the tried and true pieces that make the mini go.



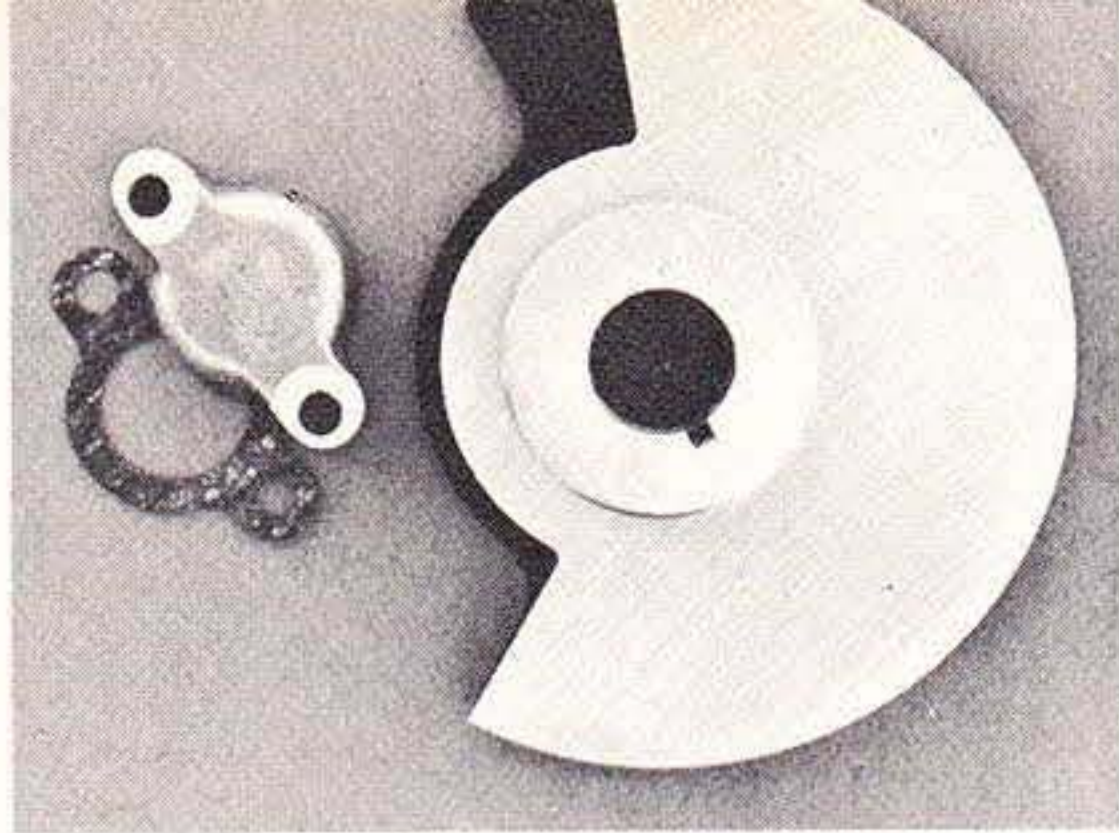
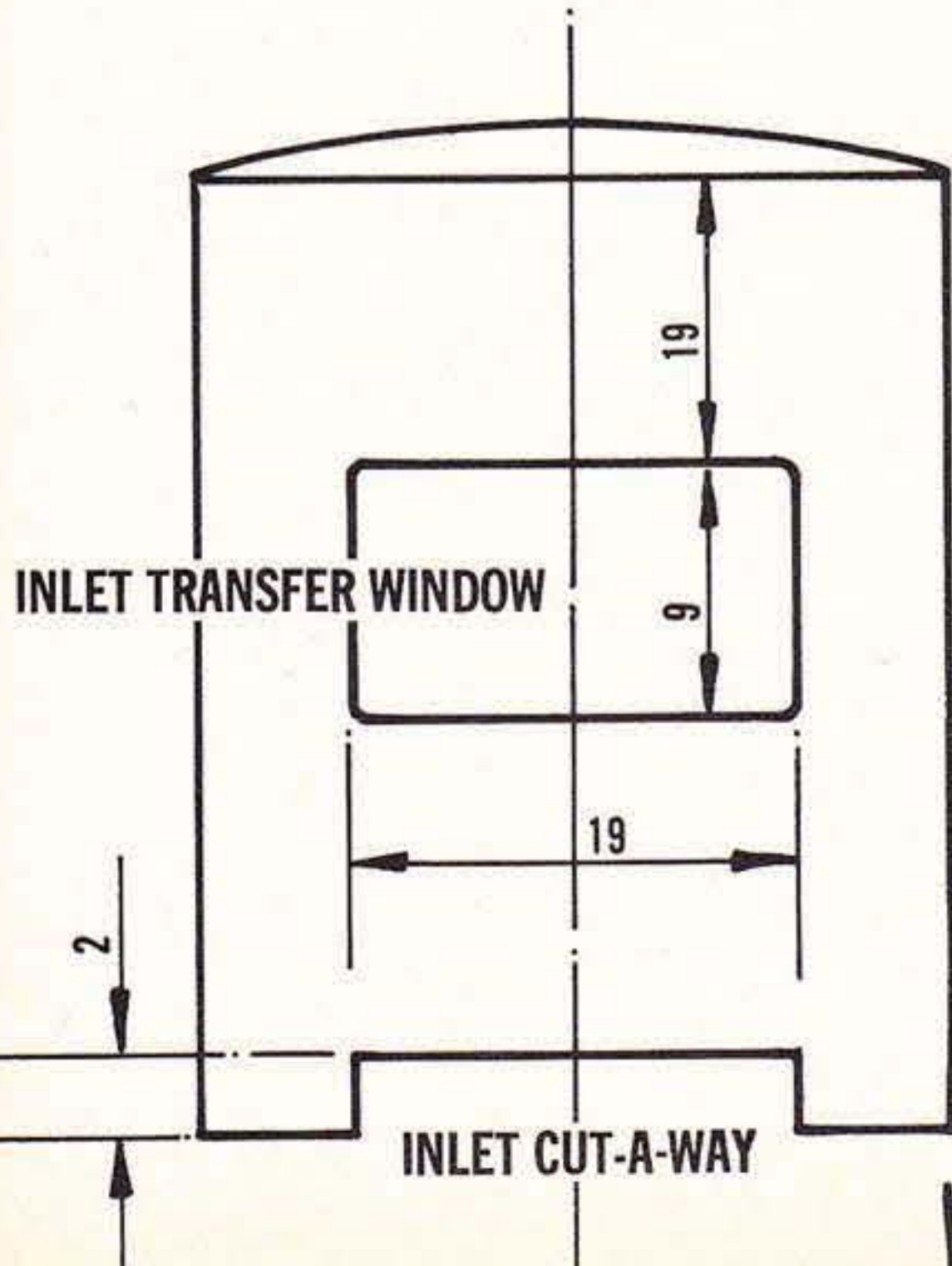
B

The highly modified piston, a notch on the skirt of the piston and the window were added to get more fuel into the cylinder.



C

This photo shows the window match-up of the third port in the cylinder and the piston. These piston modifications were finished by hand with a file.



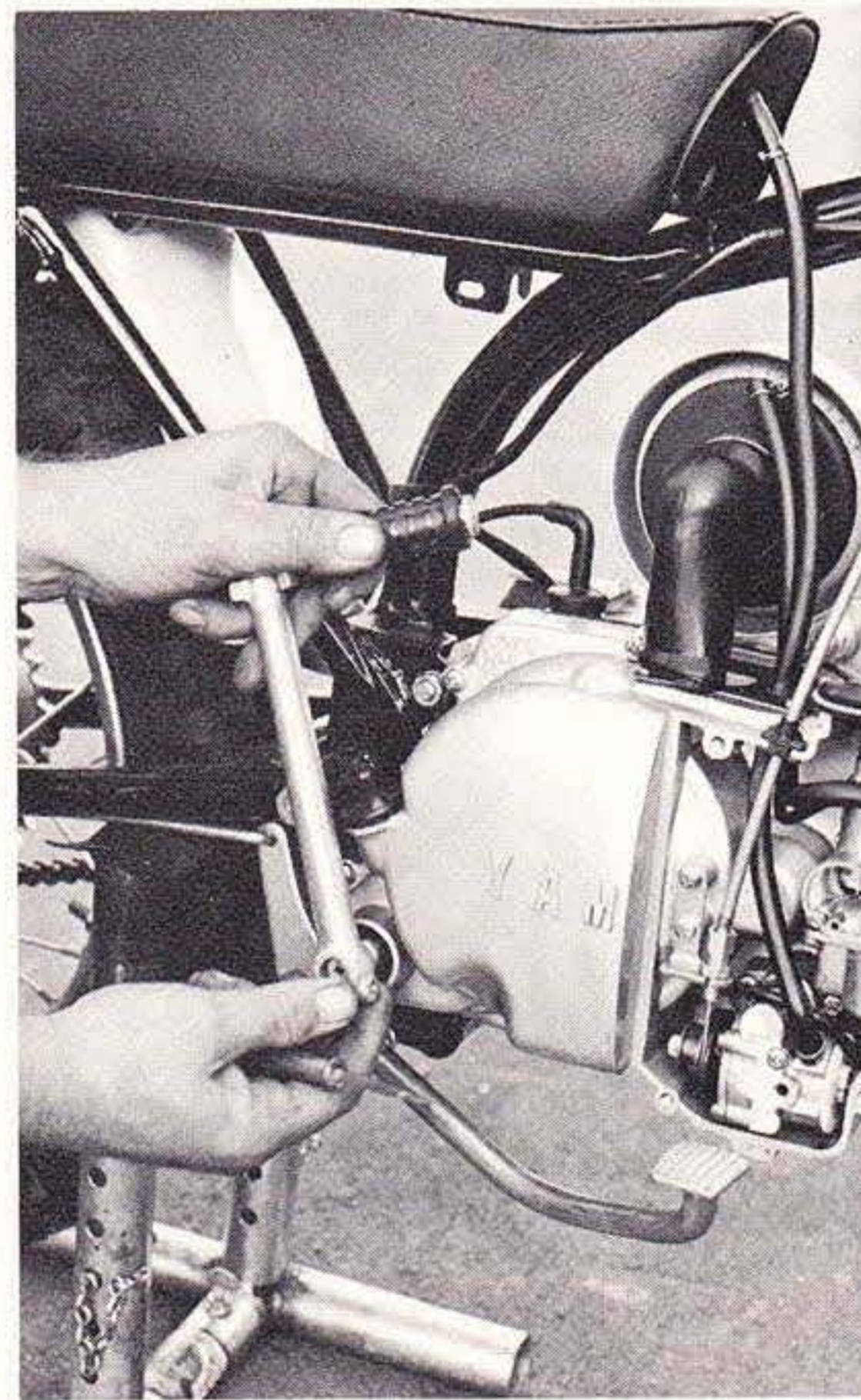
D

The Fun 'n Fast rotary disc has been placed on top of the stock (dark) disc. The alloy job has 12 degrees more inlet duration. The small casting and gasket goes in place of the oil pump.



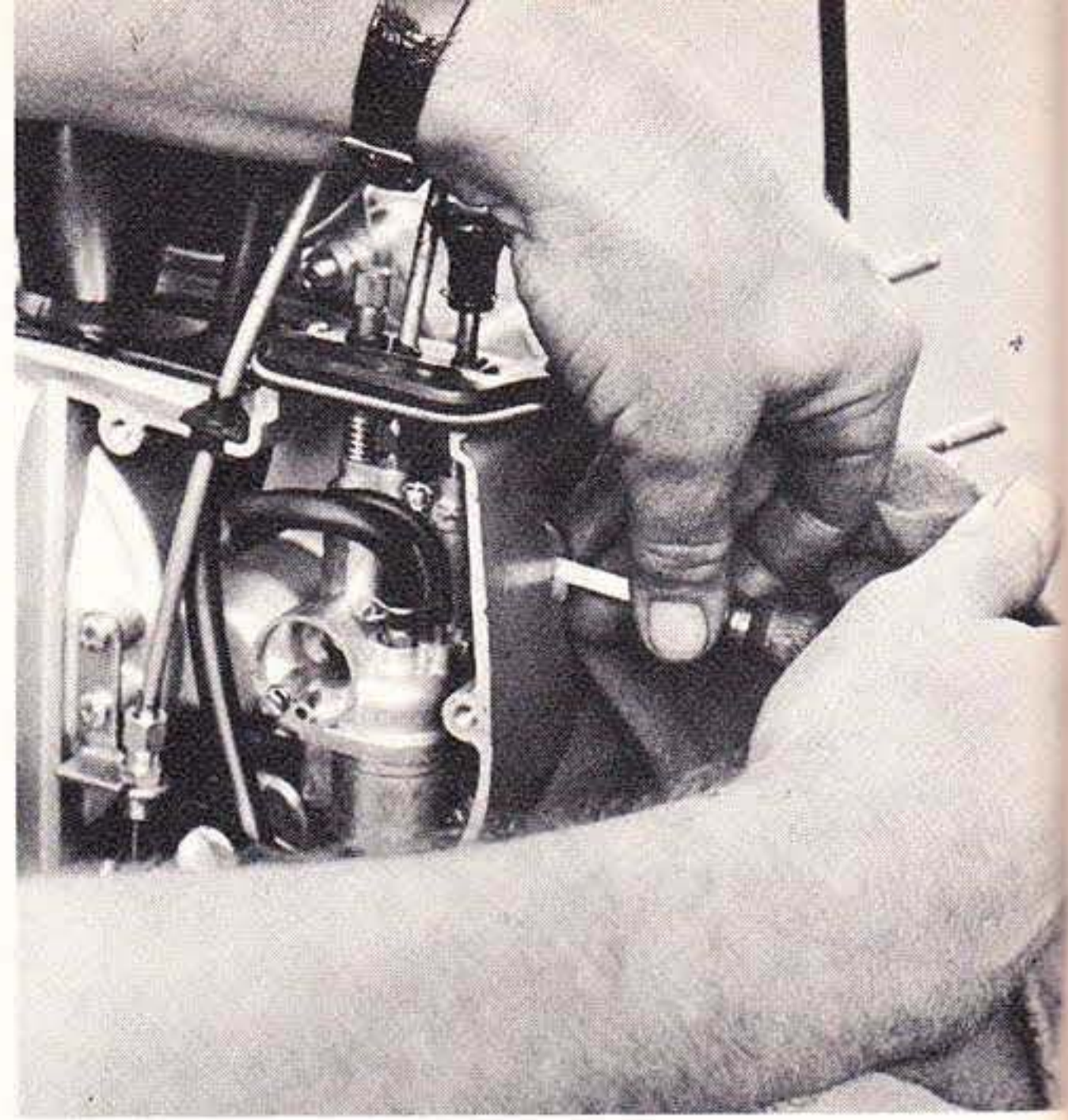
E

The head, barrel, and piston have already been removed, and a Torque Mini air filter installed. First remove the carburetor cover.



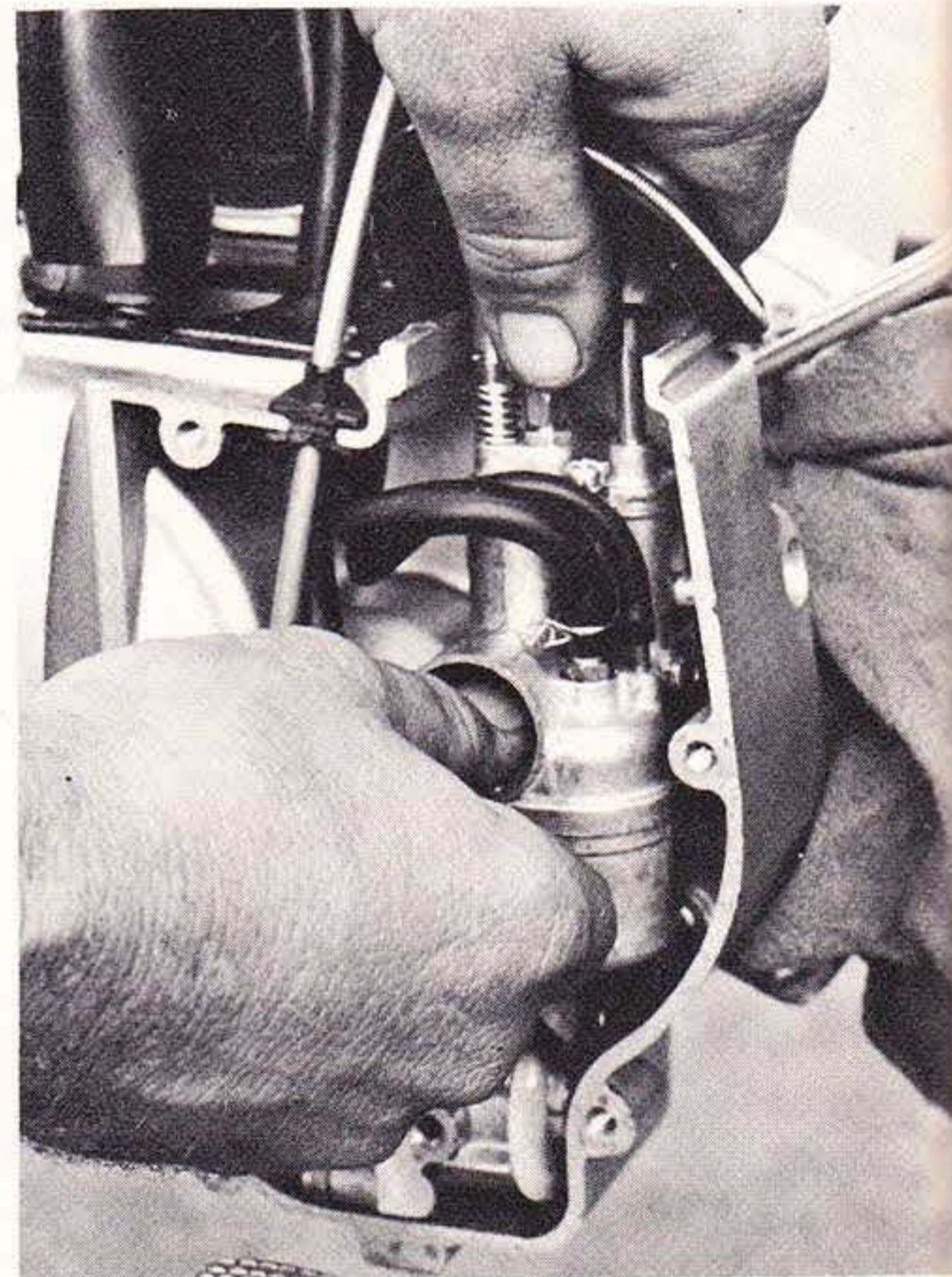
F

The kick starter lever comes off and the air filter base plate is removed.



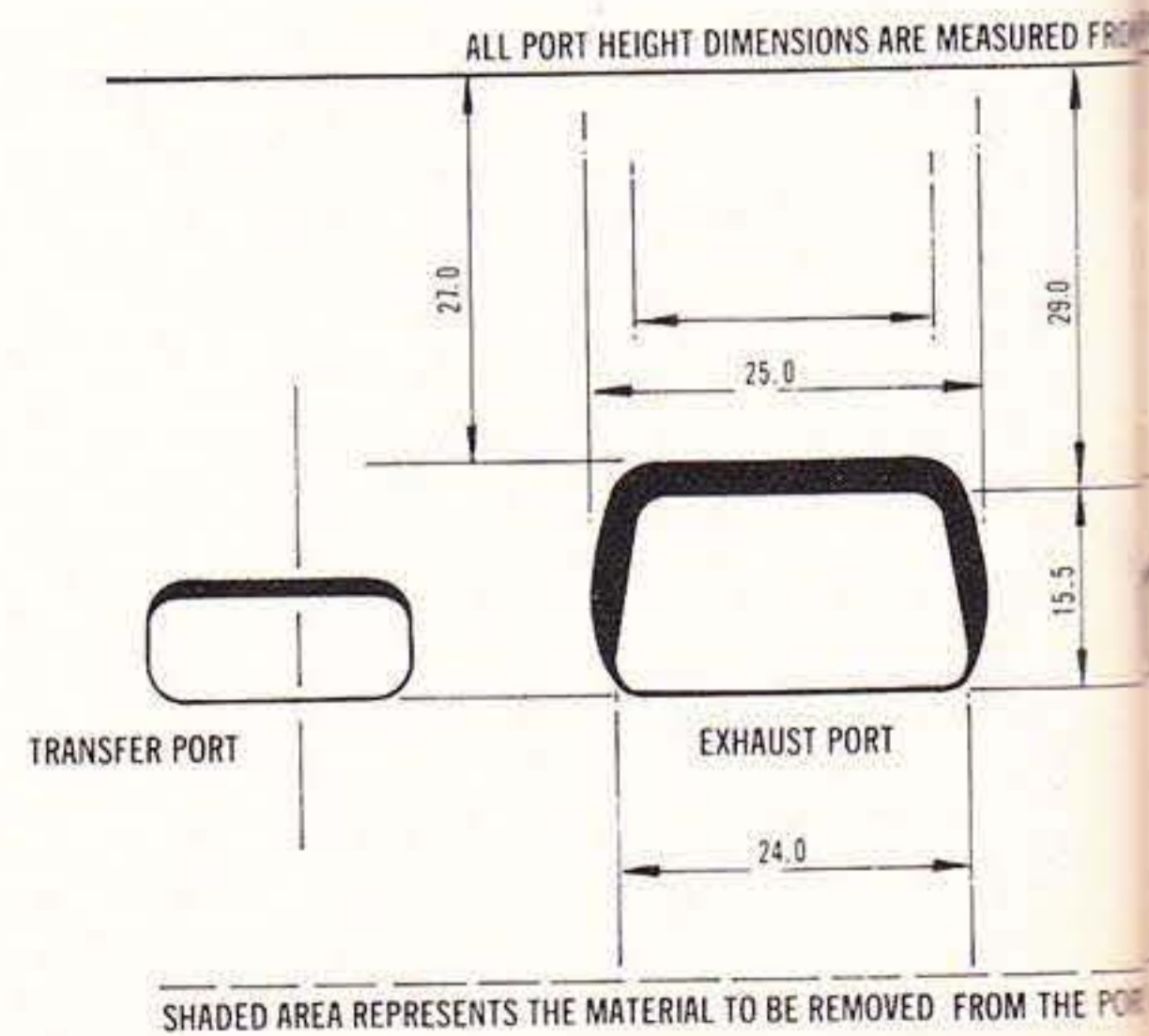
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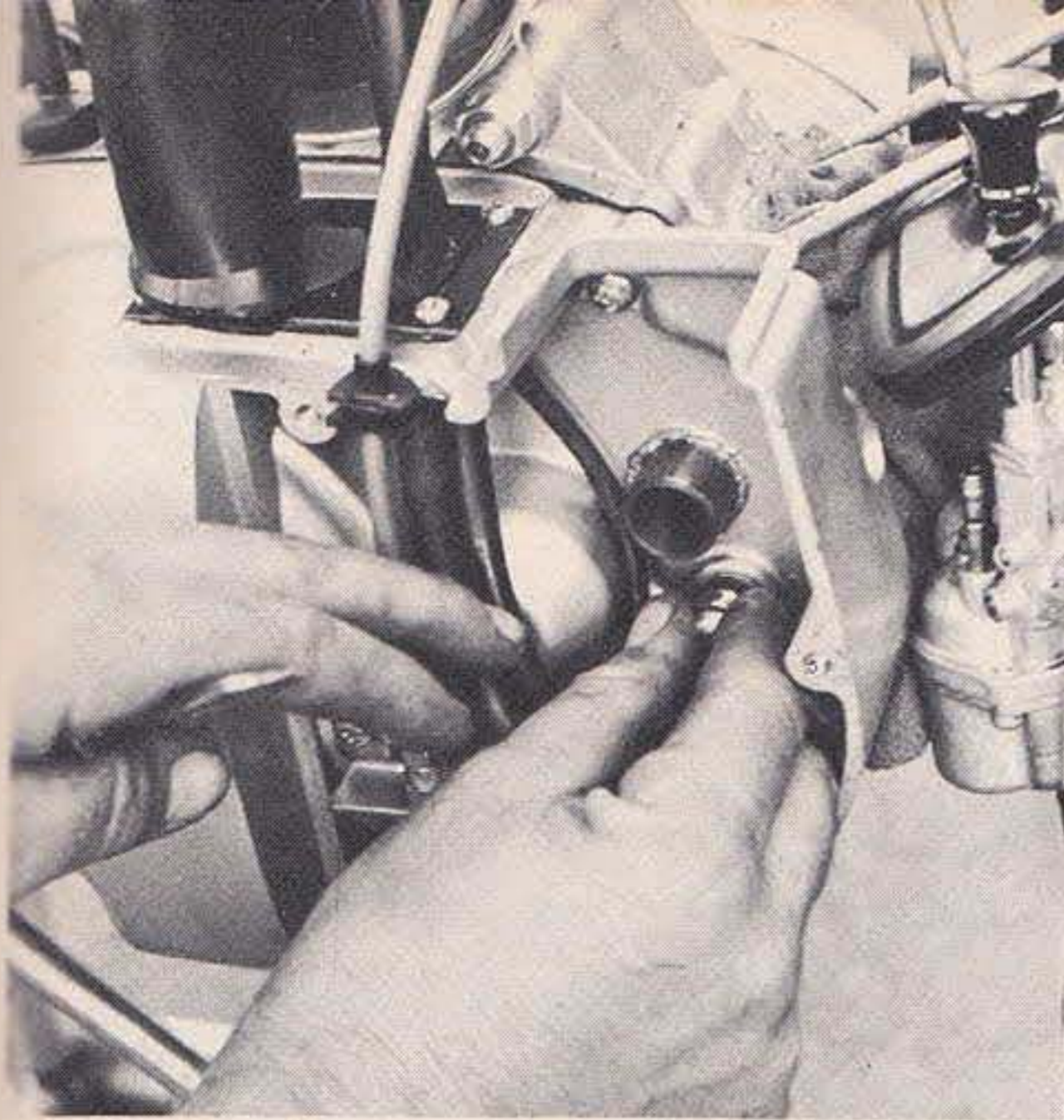
You've got to loosen this screw before the carburetor will come out.



H

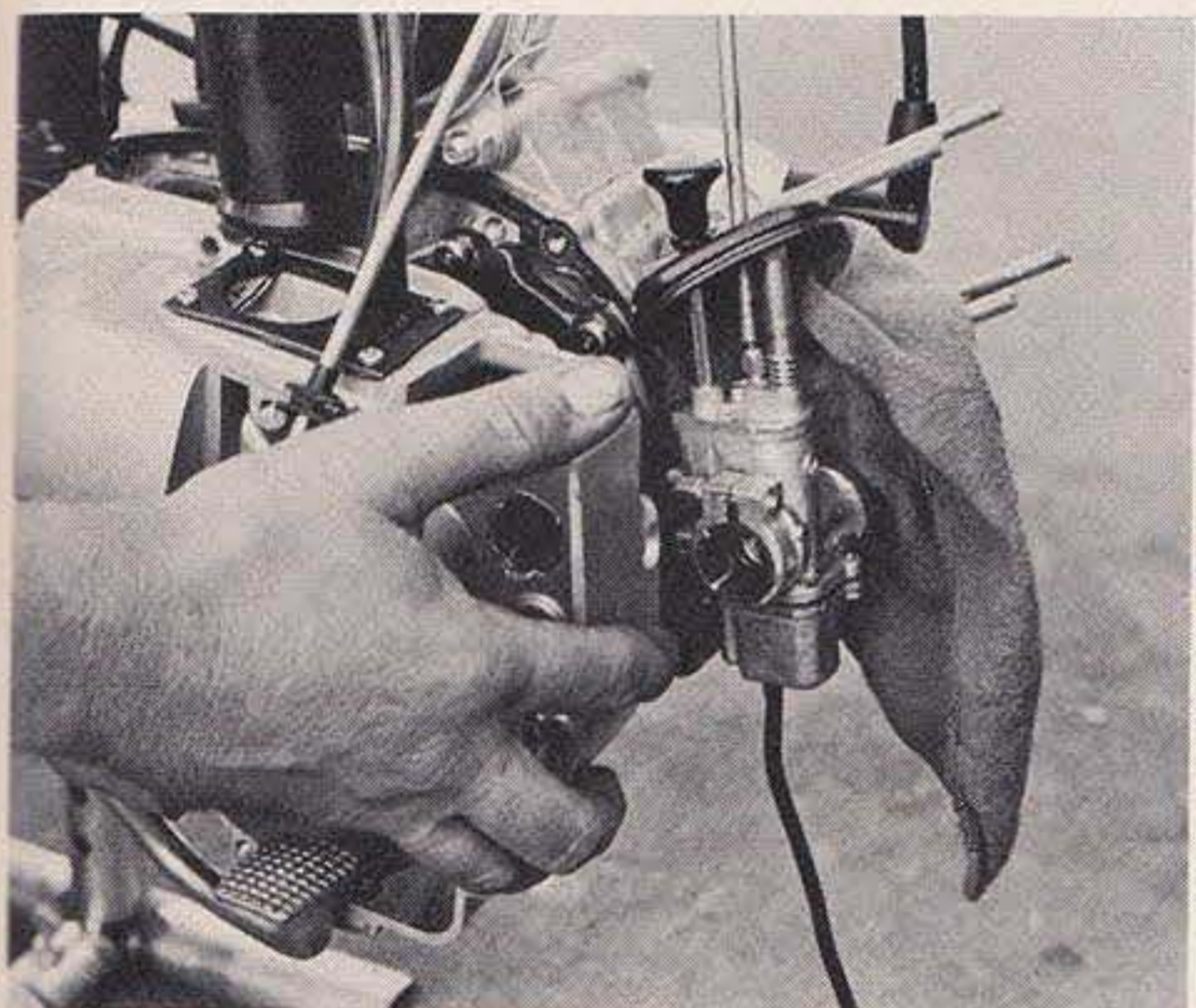
Sometimes it takes a lot of tugging and pulling and twisting before the darn thing slides off its spigot.





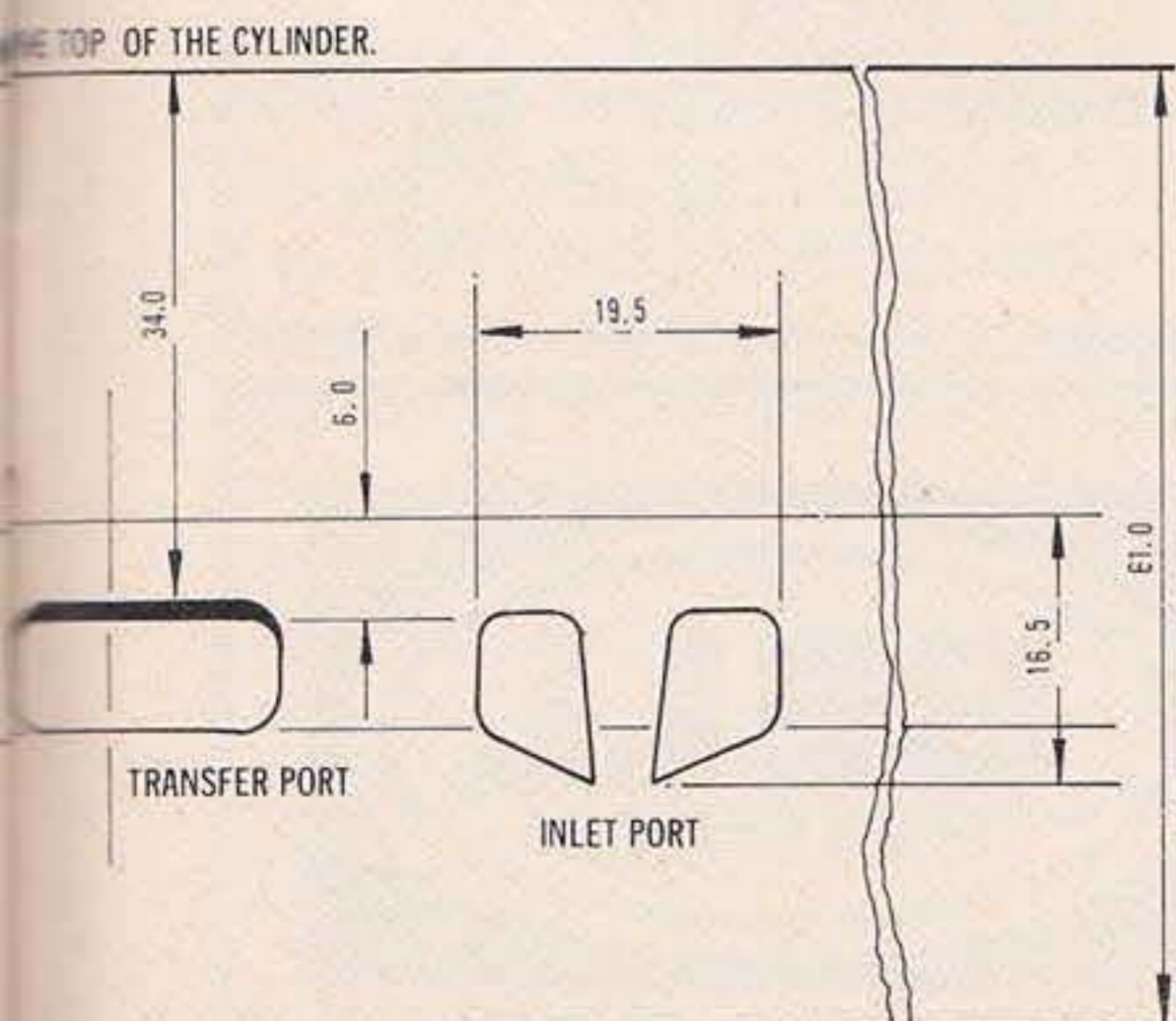
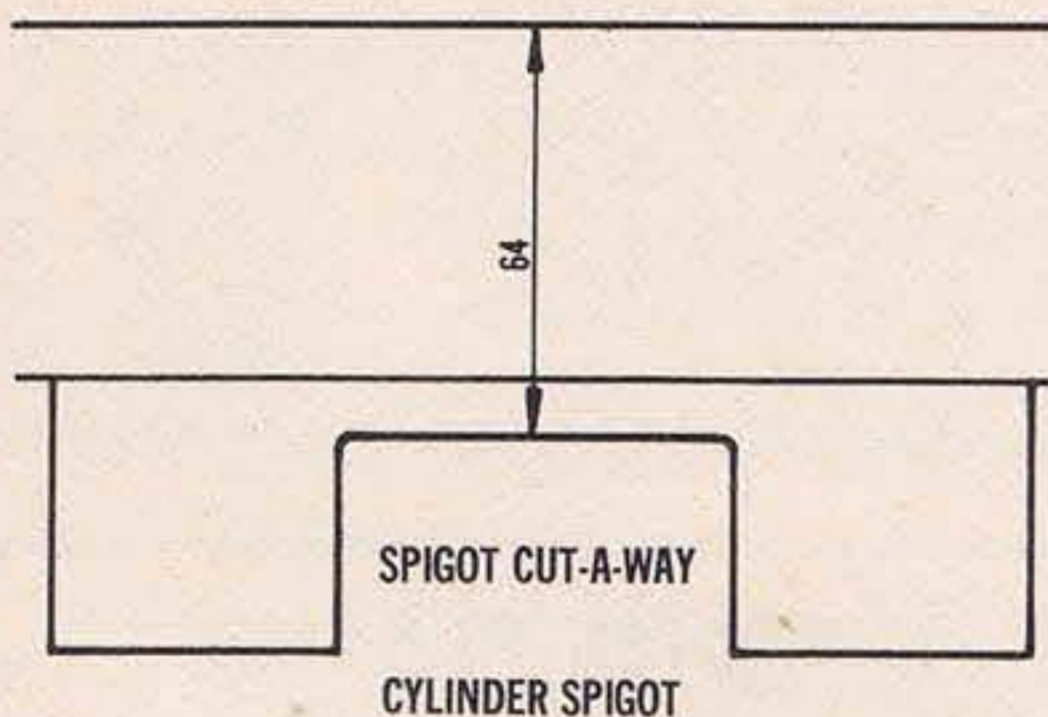
I

After the fuel lines are removed the carburetor will hang on its cables. Then remove this screw as shown.

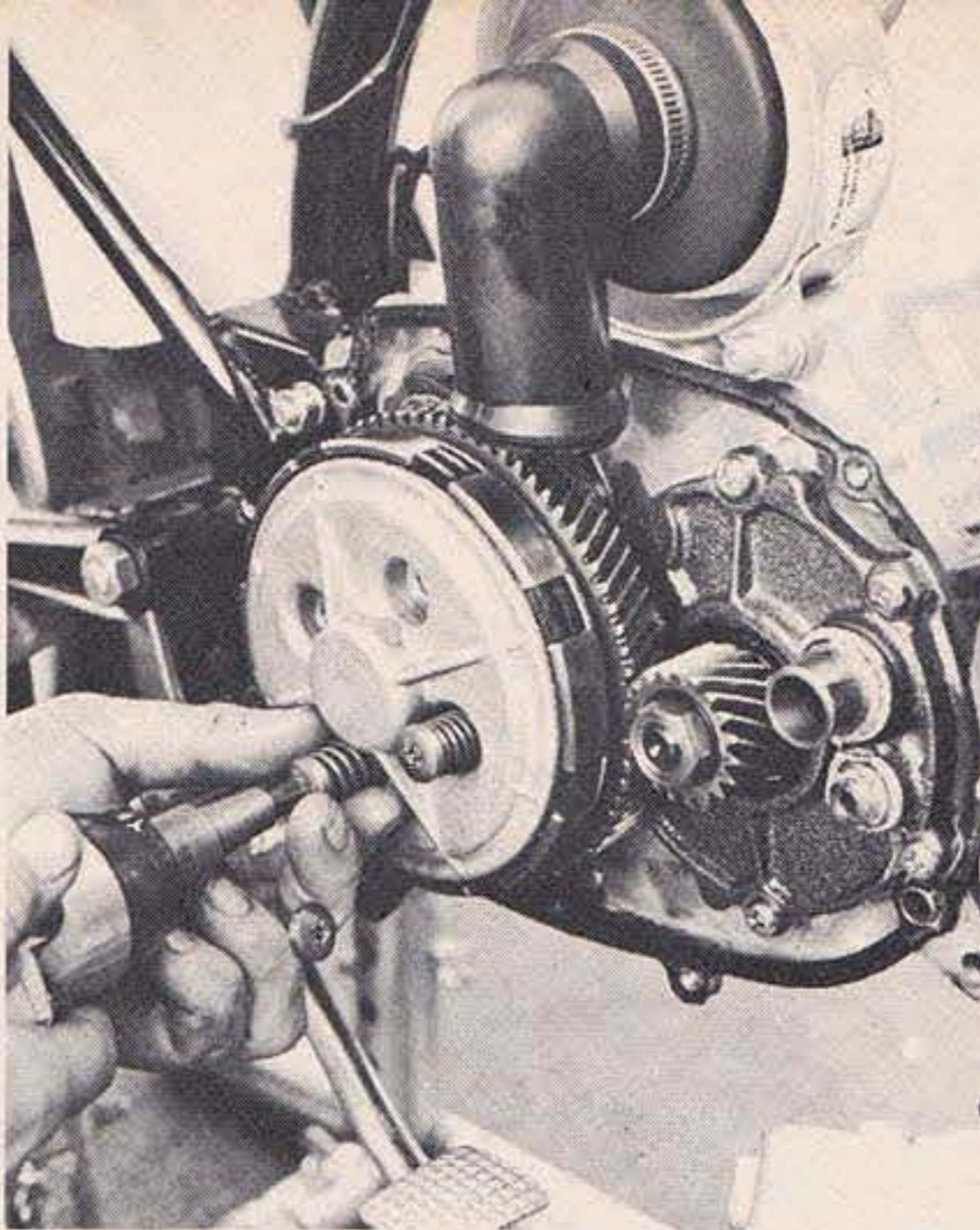


J

Remove the other screws from the outer case and it pulls off exposing the clutch and primary drive.

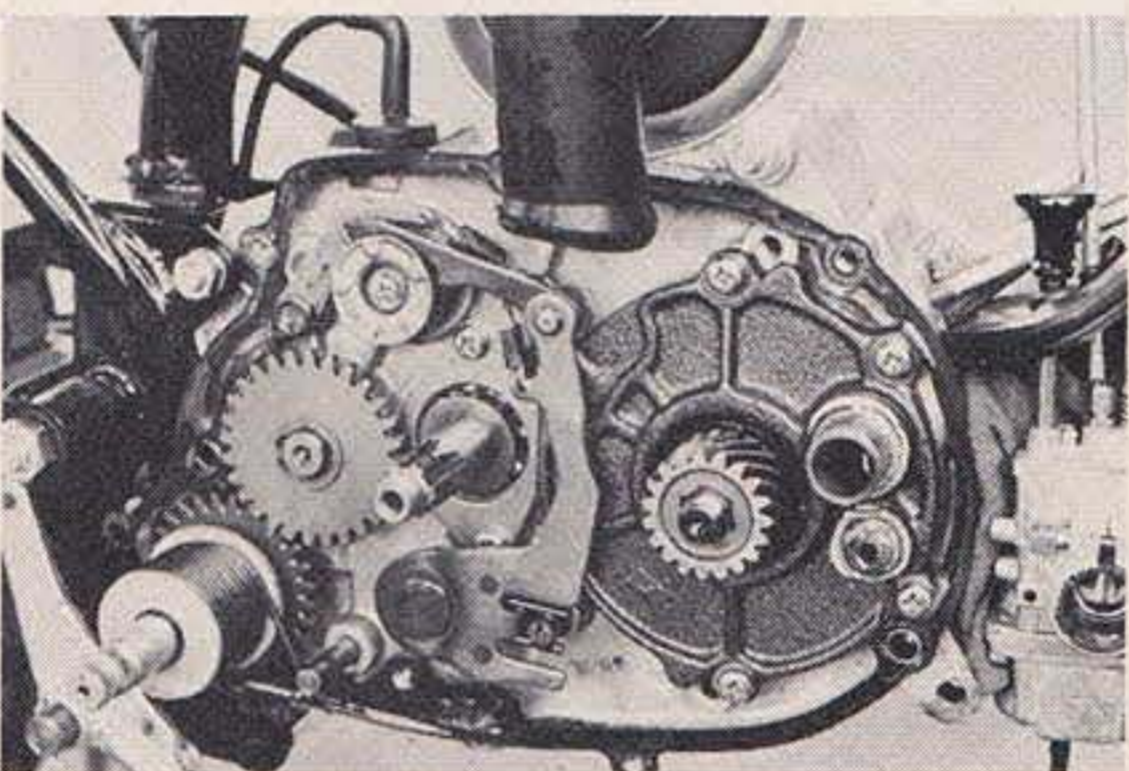


NOTE: ALL DIMENSIONS ARE IN MM.



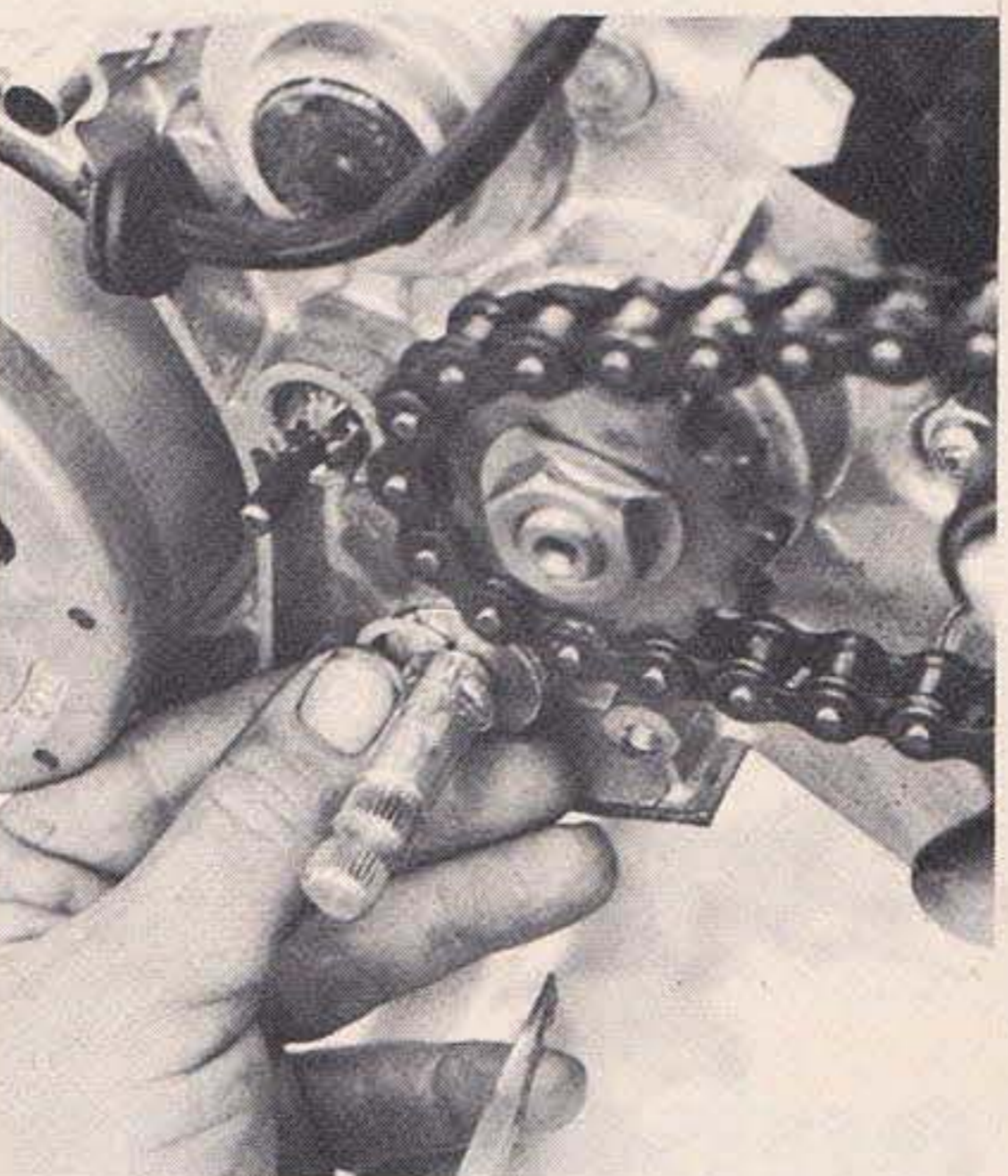
K

These four spring loaded screws hold the clutch in compression, they are next to come off. Then remove the clutch hub nut.



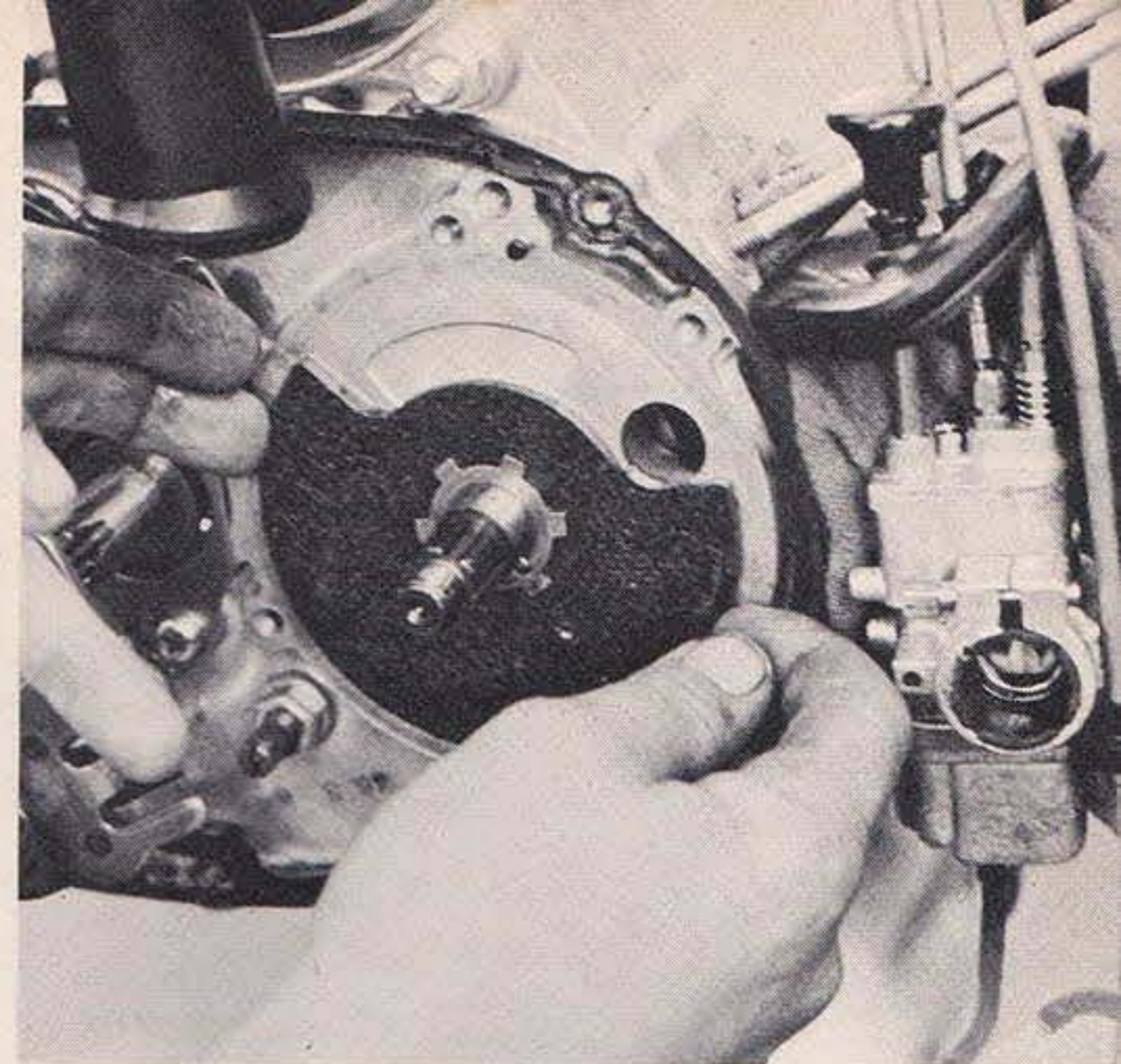
L

Both the clutch and crankshaft gear nuts are locked in place with tab washers. Remember to bend the tabs down before putting a wrench on them. The crankshaft gear comes off now.



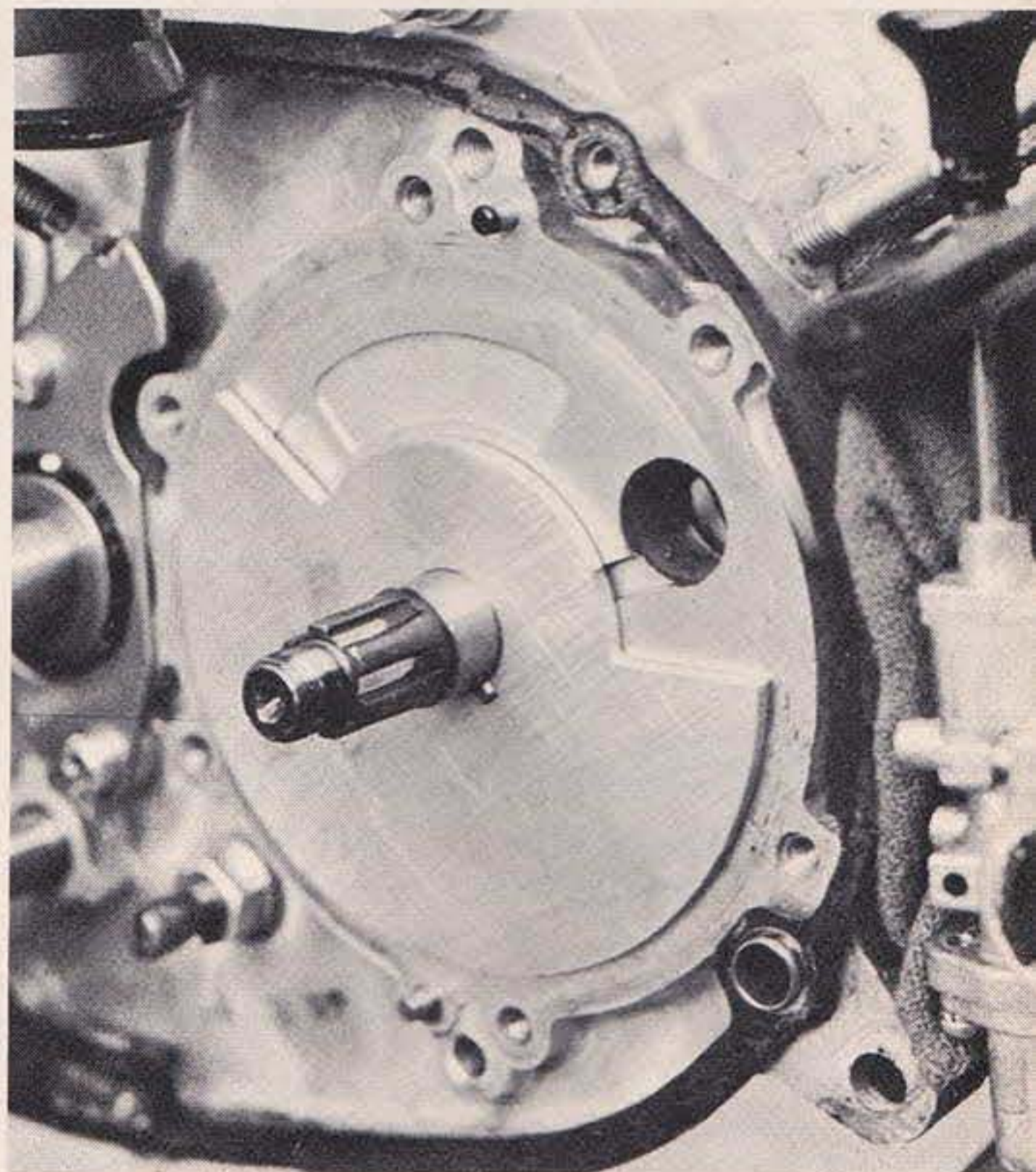
M

Go to the other side of the engine and remove the little circlip in the gear shift shaft.



N

The gear shift mechanism will slide out about an inch and rotate out of the way. Now you can remove the screws that hold the rotary valve cover in place. Remove the old rotary valve.



O

If you didn't lose the locating pin out of the crank the new rotary valve will slide right on and locate on it. Now just reverse the procedure and bolt the thing back together.

**HOP
UP**