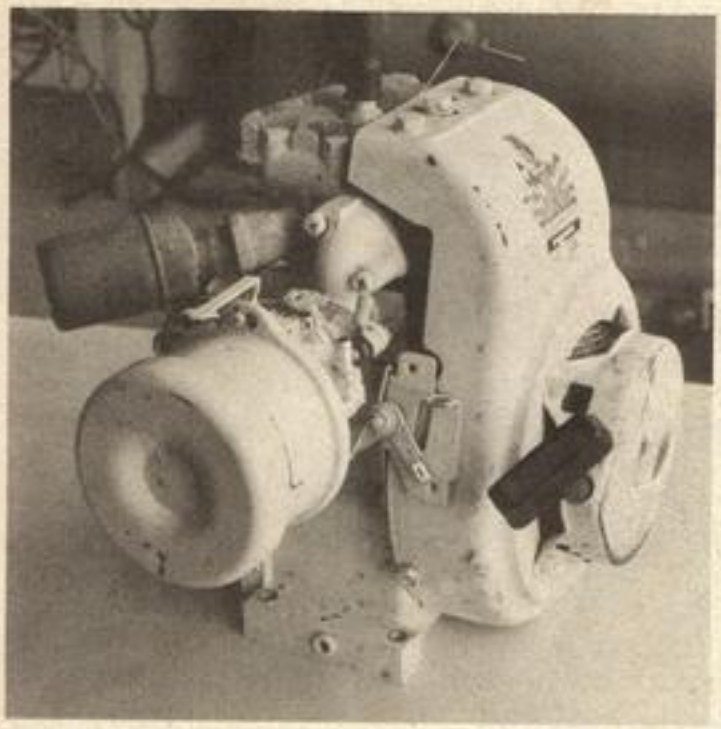
RON STEWART BREATHES NEW LIFE INTO THE OLD STANDBY

OLD TEKES NEVER DIE, THEY JUST KEEP GETTING STRONGER!



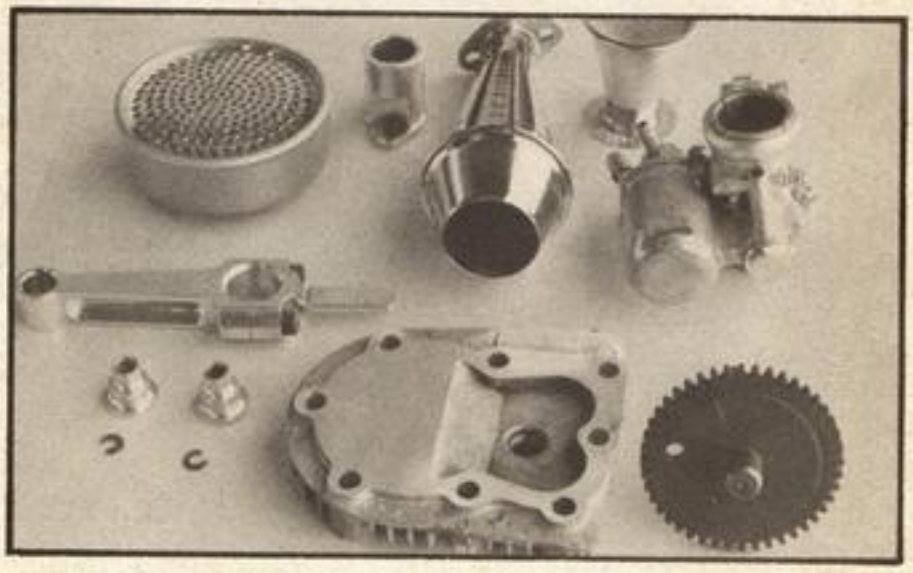
1. We started with a tired old Tecumseh of three horsepower and gave it to Ron Stewart to breathe some life into it.

By BRICK PRICE

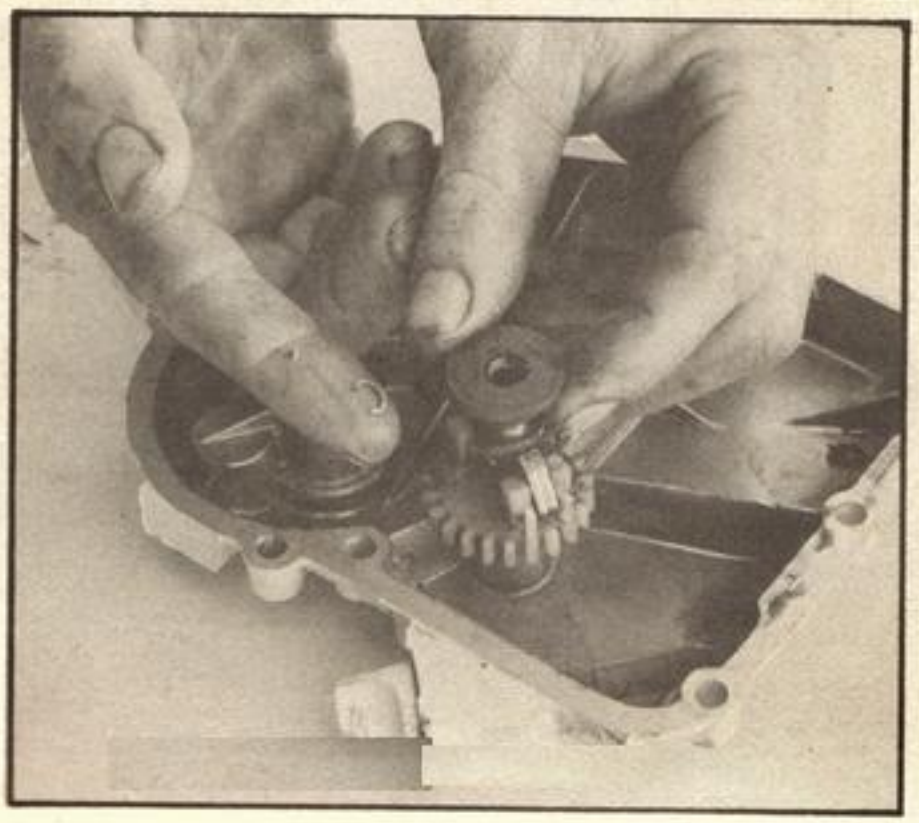
It never fails! Just when we get ready to kiss off an old engine someone comes along to save it. It happened with the Offenhauser at Indy and now it is the Tecumseh. The Teke has been the standard mill for minibikes since their inception and has reaped the benefits of the knowledge gained over the years. When we first heard that Ron could extract 15-plus horses out of a stock five-bhp engine we were a bit more than skeptical. However, since Ron's reputation as a speed tuner is well known we decided to look into the situation more closely.

The engine we will describe is known in racing circles as the Yellowjacket. The name is a result of the brilliant yellow paint used on all completed engines and the fact that each one packs a sting felt by the competitors. The engines are available in many stages ranging from mild to wild. Stage I is the most sensible for the guy who wants a little more power than stock but doesn't wish to race. This version includes porting, relieving of the valve seats, and a high compression head. A ¾-race cam is included in the deal which we think is the wisest choice for day-to-day use. The rings are gapped to racing tolerances and the cylinder is honed to prepare the engine for immediate use (or abuse). The governor is removed and the entire engine receives the Yellowjacket paint job.

Stage II is basically the same except that this version has more metal removed from the ports and the high compression head has been milled .030 in. The cam is considerably wilder than the stock cam and gives the



2. Clockwise from the top the parts are: air cleaner, custom intake manifold, megaphone, velocity stack, Dell 'Orto carburetor, Kenny Harman camshaft high compression head, collars, and the famous aluminum connecting rod with built-in splasher.

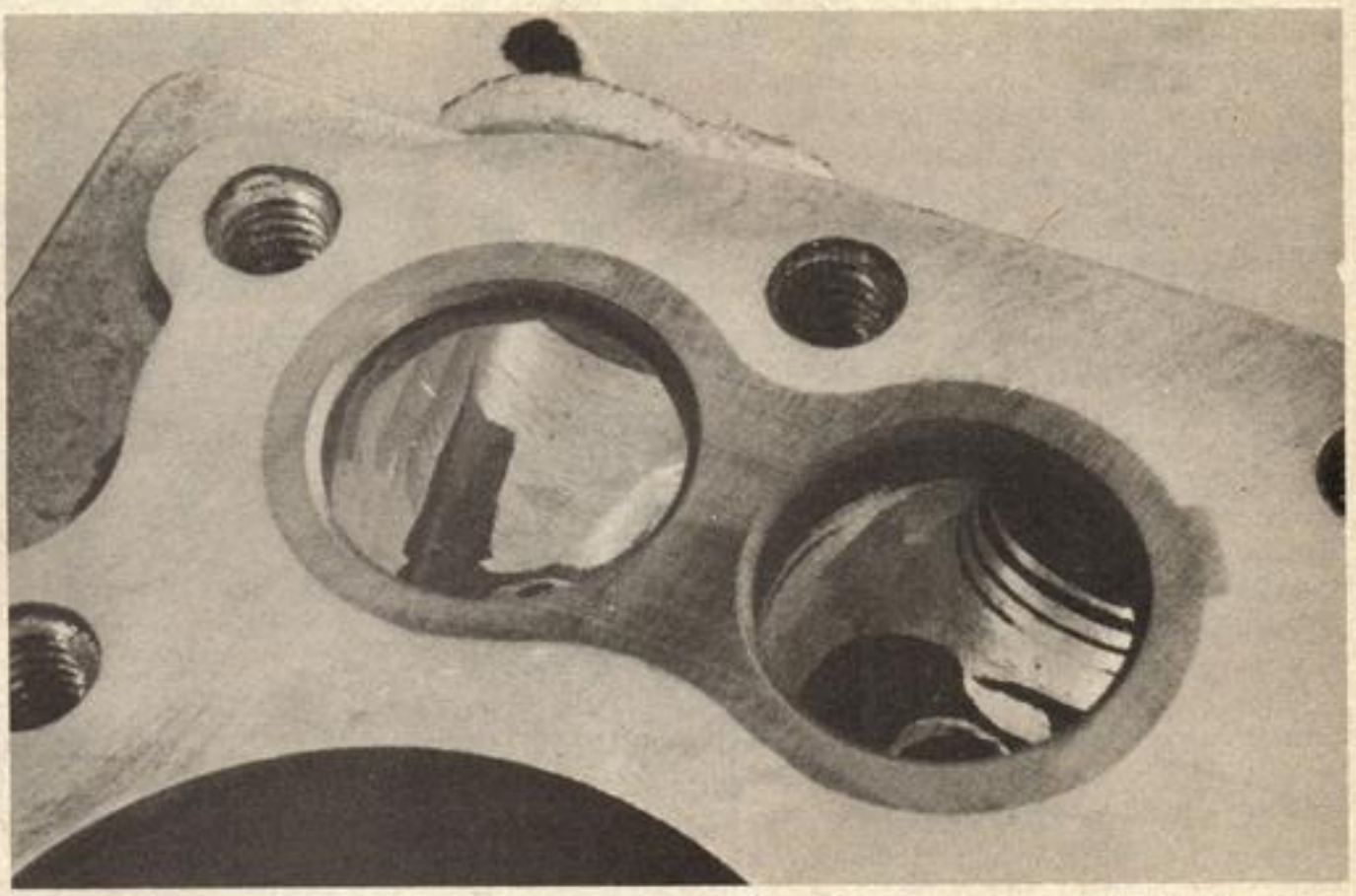


3. The first step in any hop-up on a Teke is to remove the governor. Ron warns that you must use a heavy-duty connecting rod on any engine without a governor.

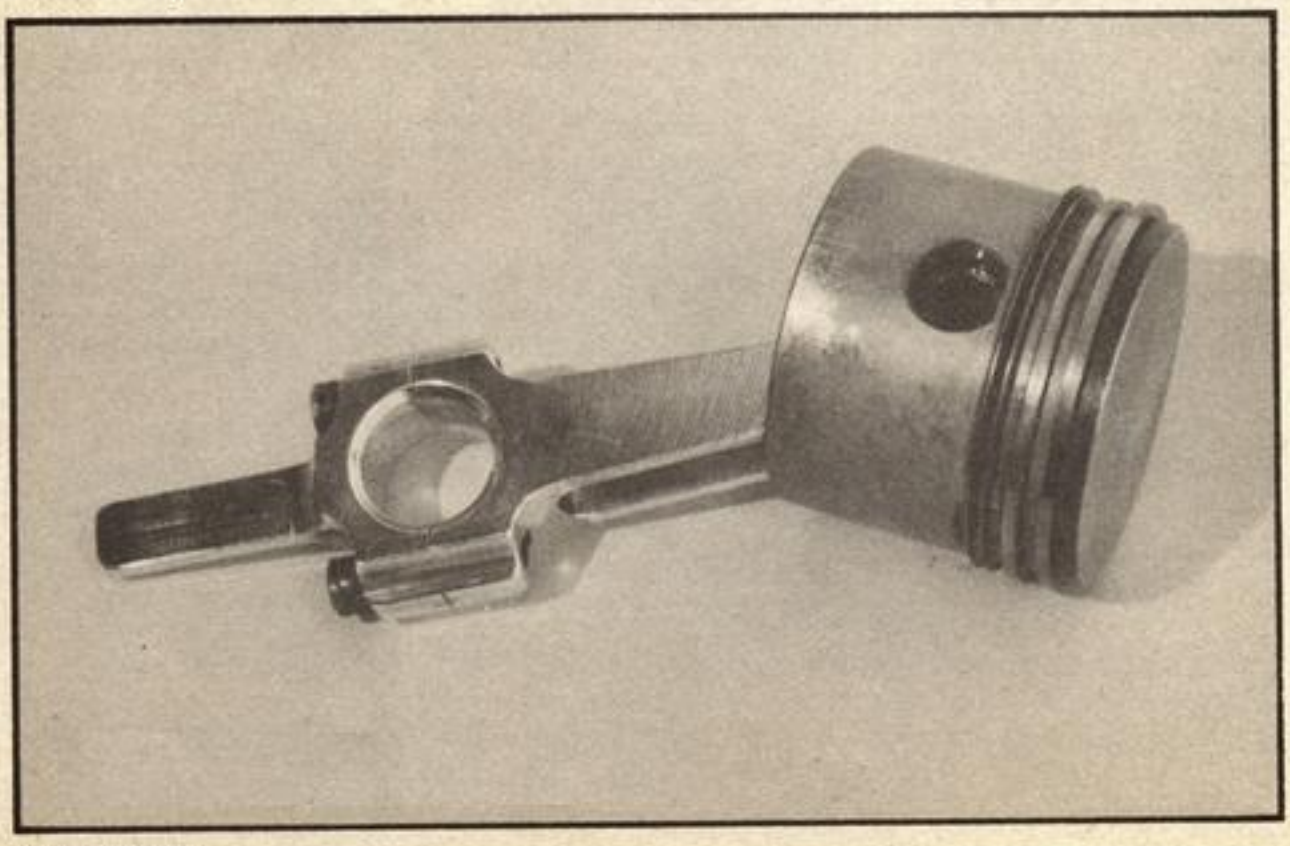
5. A steel-carbide tip and a hand grinder are used to remove excess material from the intake and exhaust ports.

4. Remove the valves and clean them up with a wire brush to remove any carbon deposits. They should be lapped in with compound to insure a good seat after they are cleaned.

6. The right way to do this job is to round off the sharp corners of the port. But be careful; if too much material is removed it can actually hinder the performance of the engine.

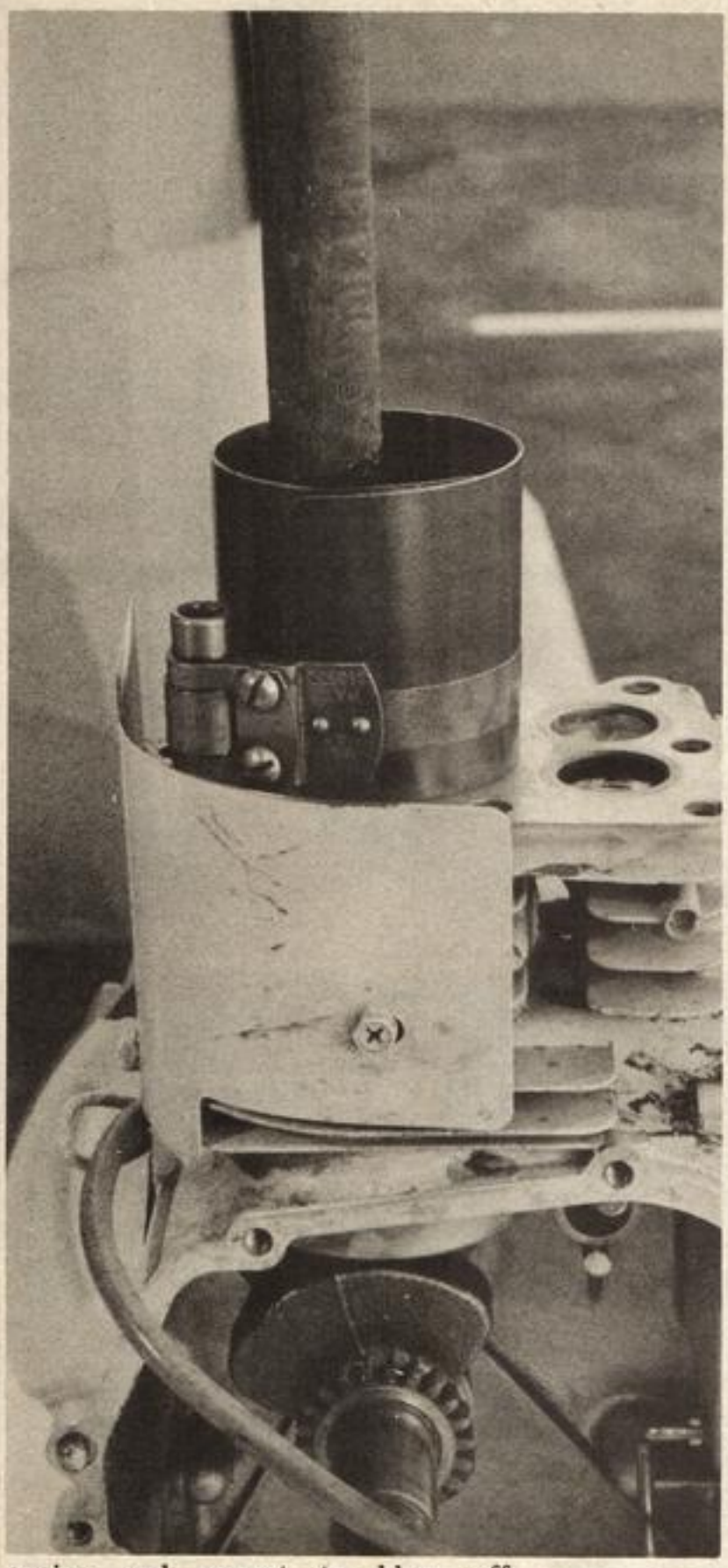


7. When installing the new connecting rod, be sure to use new wrist pin retainers and wrist pin if it shows signs of wear.

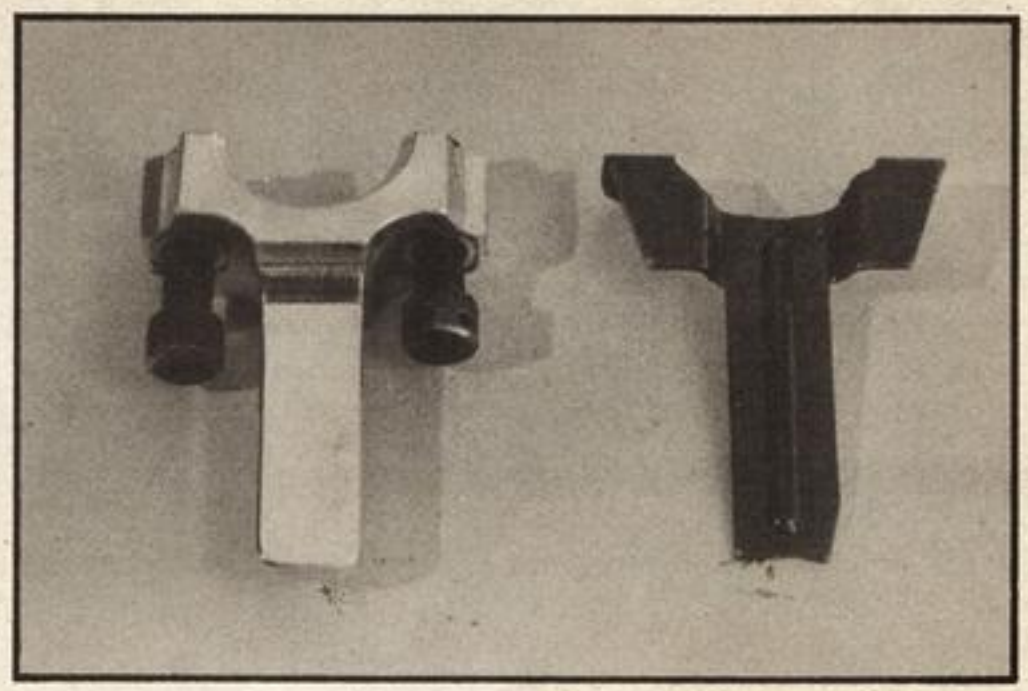


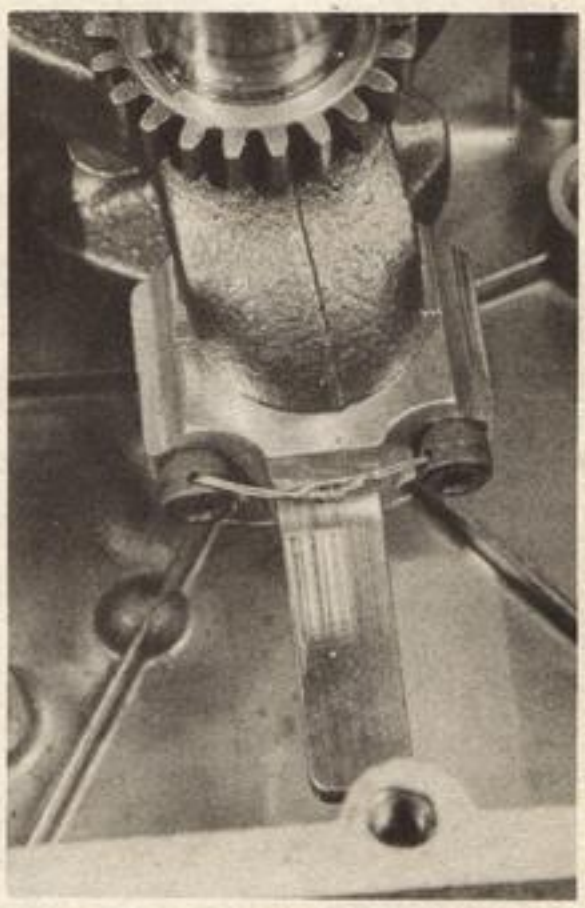
engine more power at a higher rpm. Unfortunately this power is gained at the expense of low-end torque. A Dell'Orto carb is the replacement for the stock carb to aid in feeding the now hungry engine.

At this point we suggest that the tentative Yellowjacket builder write to Ron and tell him what is needed in the way of an engine. List such things as rider weight, type of track and the budget. It is possible to get into trouble and spend more money than is actually needed for the type of riding you'll be doing. All of the components and modifications to these engines are designed to work together as a unit. For example, you can't go the Stage III route and expect a stock carburetor to feed an engine producing three times as much power. Nor can you bolt a large Lake carburetor on a stock



8. A piston ring compressor will speed the job of installing the rings but you can use a hose clamp and save some bucks. I've been using one of these for ages and it works just as well.



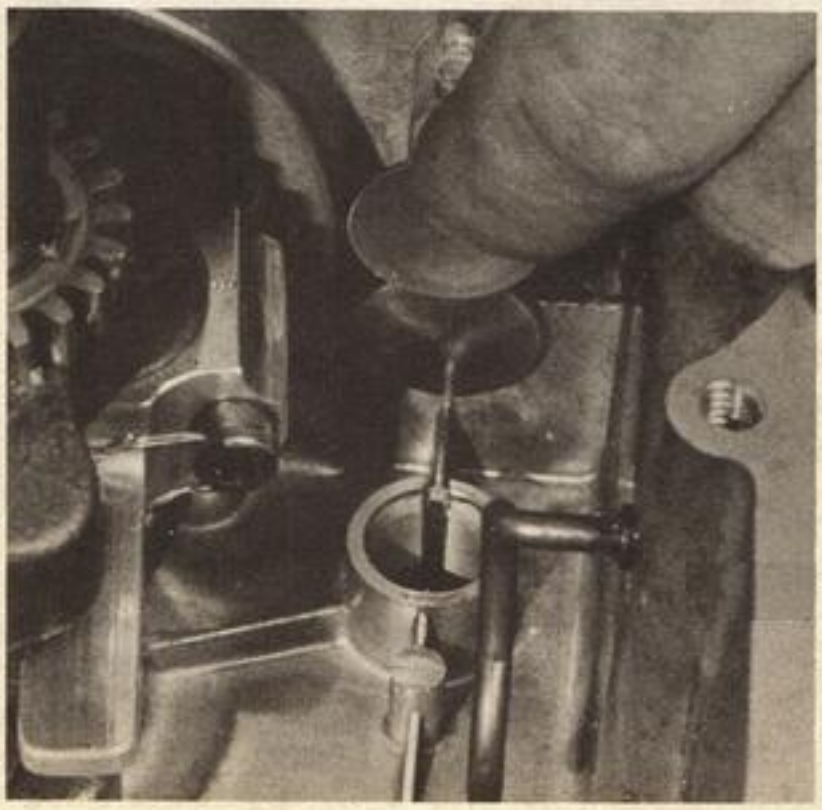


9. The oil splasher is part of the connecting rod in the kit.

10. Buy some safety wire at an automotive supply store and wire the connecting rod bolts together. Many of the Teke and Briggs & Stratton engines have blown because these bolts came loose.

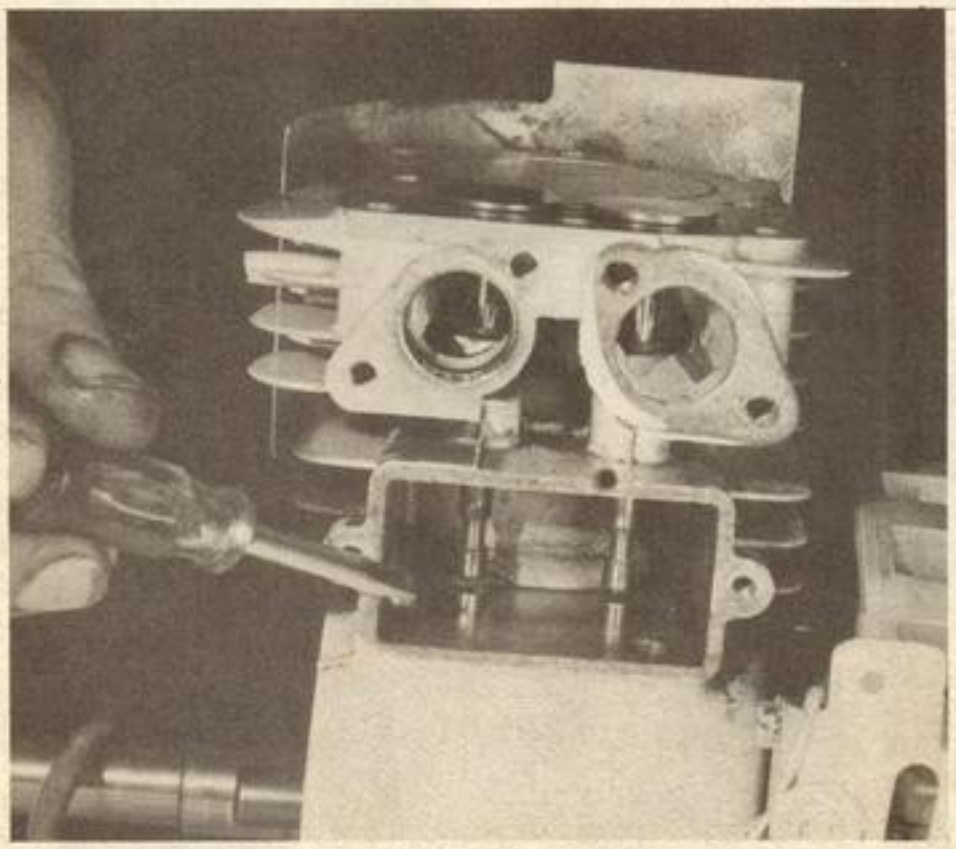
engine and expect to blow off Yamahas. In one instance you are starving the engine and in the other, force-feeding it too much fuel. By the same token it is senseless to install a wild cam without relieving the ports. Ron knows from experience which combinations are feasible. Oh yes! Don't remove the governor without installing a stronger rod. The high rpm and more power will snap a stock rod like an old twig.

Stage III is the *tour de force* in the Yellowjacket lineup of high performance engines. It is the ultimate for the racing enthusiast without sacrificing reliability. The head on this version has been milled .040-in. which increases compression 25 per cent over a stock engine regardless of the model. Kenny Harman developed the cam specifically for the Yellowjacket en-



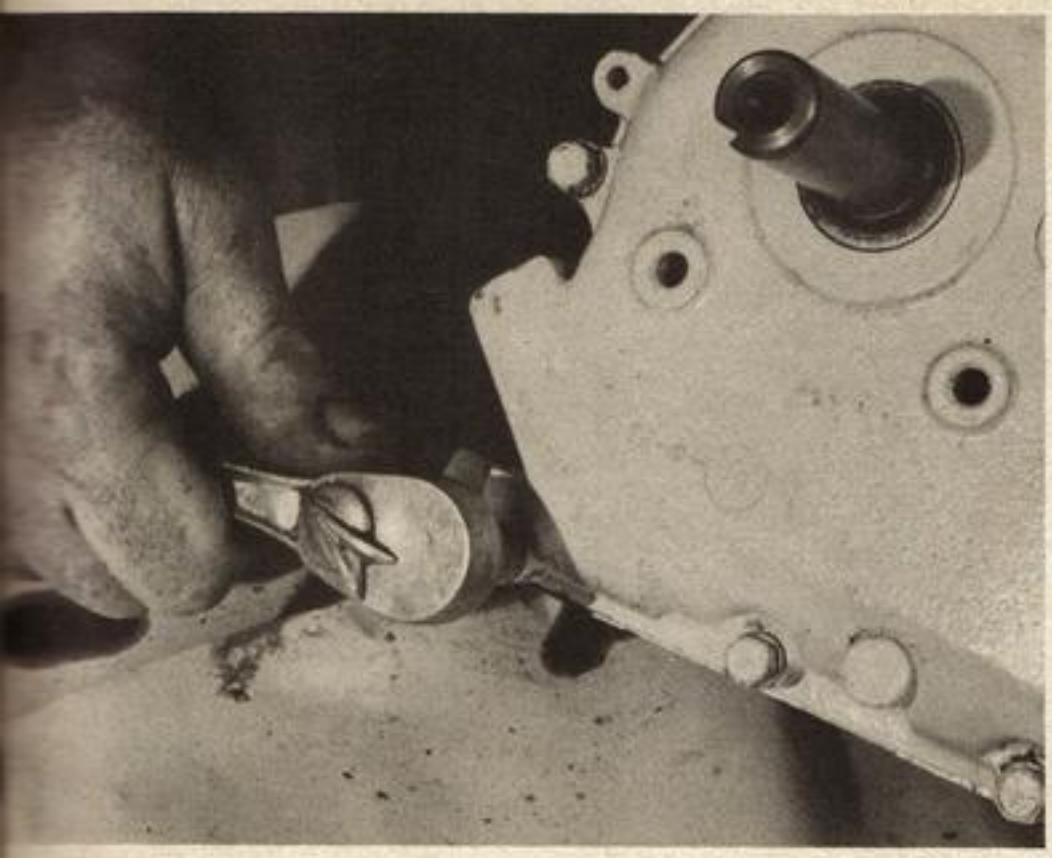
11. Install the pushrods in the engine prior to installing the cam.

12. There are registration marks on both gears to help you in aligning the cam. These appear as two straight marks. Juxtapose these marks.

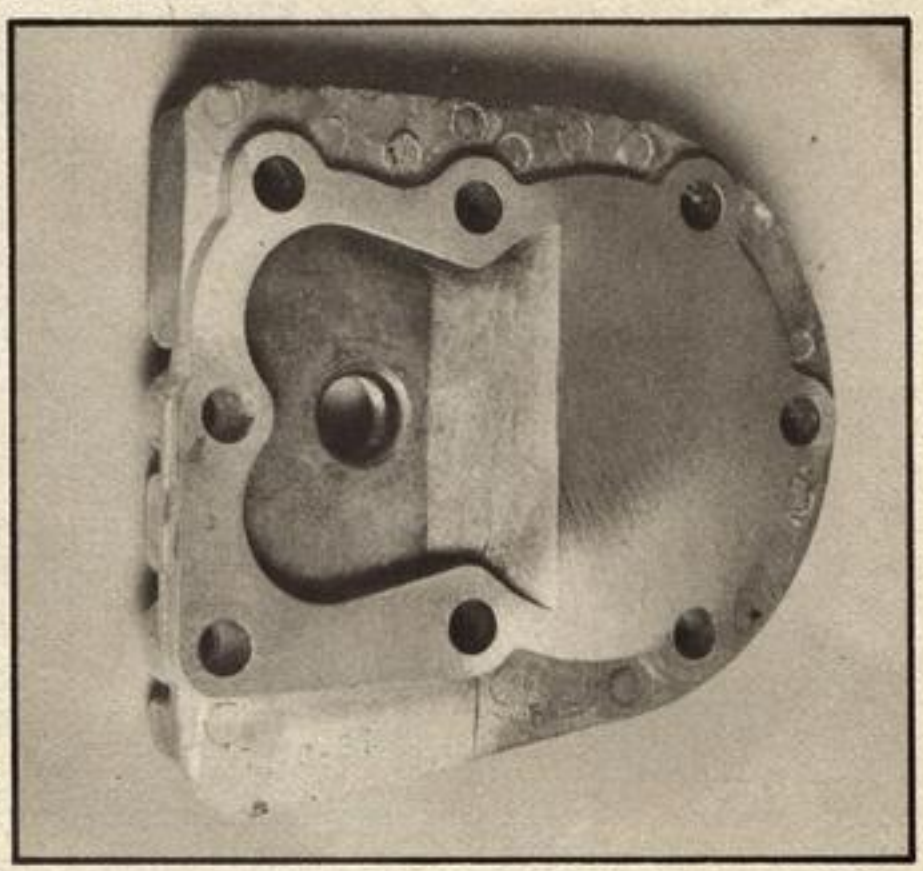


13. When the cam and valves are in place you should be able to notice excessive clearance between the valve stems and the pushrods. Measure this distance with a feeler gauge. In the next step this clearance will be eliminated with lengthened valve stems.

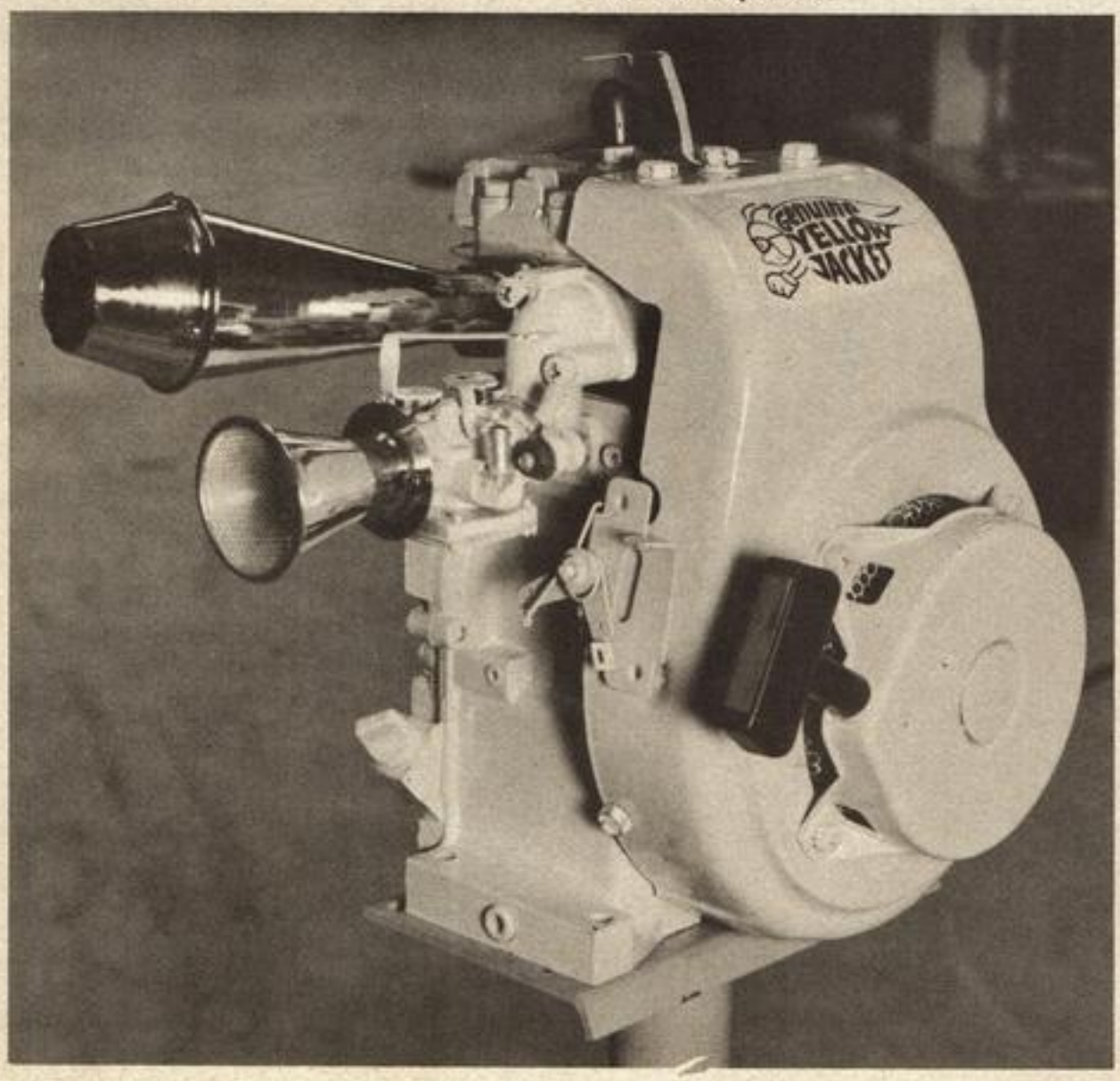
14. Weld a peak onto the valve and grind it down until the clearance between valve and pushrod is negligible.



15. Bolt together the engine just as if you were assembling a stock engine and paint it with heat resistant yellow paint.



16. The high compression head has been milled .040 in. for the best performance. Don't try to mill it any further or you'll sacrifice reliability as well as power.



17. The engine as you see it here is in its Stage I configuration. Stage II and III are simply the addition of a Dell'Orto or Lake carburetor. With the new engine in place you should be pleasantly surprised at the performance that you'll get.

gines. A no-cost option on this model is the fantastic Lake injector. The Lake is a very simple form of carburetion that can provide your engine with 40 per cent more fuel than a stock carb of equal dimensions. This carb/injector is unique in that it has only two moving parts, a single jet, no float bowl and it can be mounted in any position. There is very little that can go wrong with it and it should be good for a lifetime of riding.

The most important part of any of the engines is the connecting rod developed by Ron Stewart and Ron Slayton. The new rod is made of aluminum with an additional oil passageway to increase the longevity. A built-in oil splasher is included which is far superior to the standard pressed steel part. Ron recommends this rod for any engine run without a governor to prevent breakage and costly repairs.

The best bet for anyone wanting to own a Yellowjacket is to purchase one of the complete kits. This way you'll save more money and be sure that the work you're doing will be rewarded. Just to put things in prespective, a stock three-bhp Teke costs $69.95 new and in a crate.

Stage I	**complete engine**	**$151.50**
	kit	**$ 59.95**
Stage II	**complete**	**$172.50**
	kit	**$ 79.95**
Stage III	**complete**	**$225.00**
	kit	**$ 98.00**

The parts savings on the Stage III kit is $25.30! □