A LOT MORE LOW END FOR ONLY A HAND FULL OF PENNIES

by John M. Larsen

"You want to see what some low end feels like? . . . Try it," he said, handing us the gold flecked helmet. You run into a lot of interesting situations writing for a cycle magazine, as someone is always offering you a go-around with their latest creation. A lot of these offers are just as well declined, as it isn't too often that somebody really comes up with something that works. We decided to give this a go, however, as the guy making the offer was Herb Uhl, just back from the Six Days Trials, and he wouldn't waste your time unless he thought he had something.

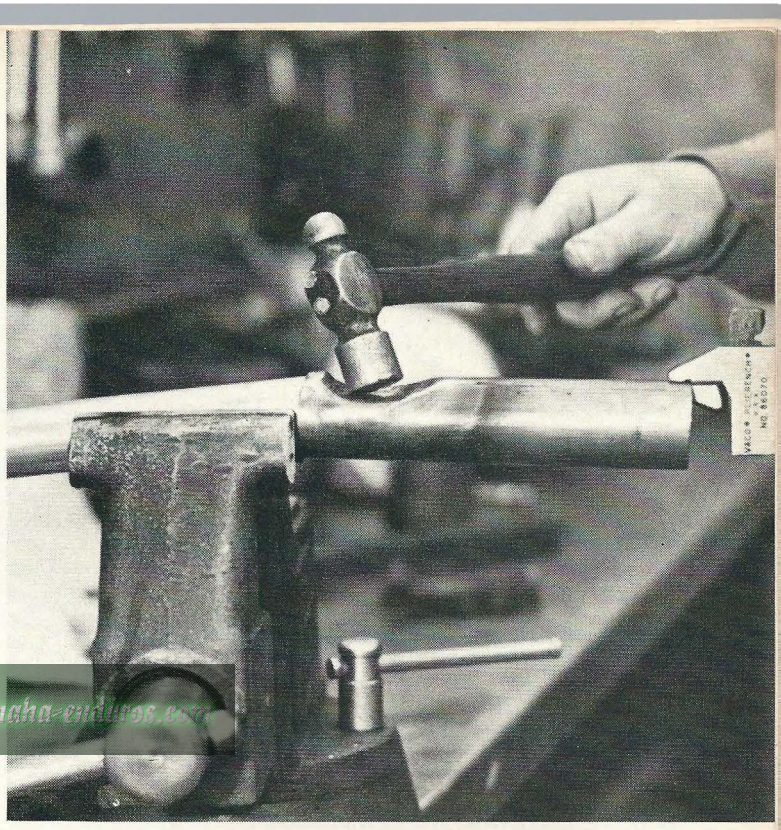
The bike looked just like another Sachs Cross Country model with the exception of the stinger on the expansion chamber.

Ten minutes later we were off the machine, looking carefully at the engine because the way it pulled through the low and mid-range made it hard to believe there wasn't at least a reed valve on the mill. The Cross Country definitely had much better pulling power compared to any other we had ridden. As far as that goes, it had a lot better low end torque than the Sachs Enduro machine.

The idea of using a restrictor in the stinger of an expansion chamber is not necessarily a new one. Both Bultaco and CZ have turned out models with this innovation, but Herb and tuner Aaron Jeppson have found the way to add this feature to any machine that is equipped with an expansion chamber. This feature pays off in spades for the owner of the smaller two-stroke bike where they may be handicapped by a very narrow power band. This low end type of power is right for moto cross or cross country style events. If you are running a road racer type of machine, stick with the smaller diameter stinger, as it will give the greatest top end. This is not to say that the restrictor stinger holds you back, as it was no problem to pick up the front wheel of this Sachs in second or third gear. In practice, you will find that you can get there a lot quicker with the broader power band that eliminates a bunch of shifting.

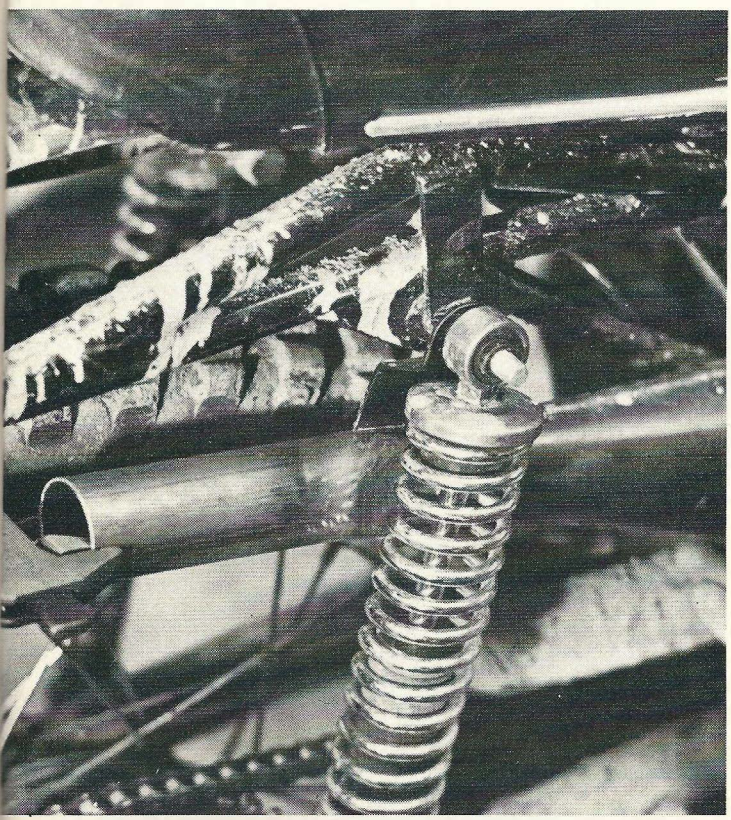
The formula for setting this new stinger up is as follows: You will want the stinger to be five and a half inches long, and one end a half inch inside diameter. The restrictor is fashioned from a mild steel, inch and a half washer as shown above. The washer should be welded in place one and a half inches from the end of the stinger. This in theory creates a seven inch stinger, when the effective length of five and a half inches are added to the inch and a half set back in the stinger pipe. If your machine has a smaller than inch and a half stinger on it now, it means that you will have to add the necessary length of pipe to the stinger to make up for the length of smaller cone. The fine tuning on this stinger can be done by taking a file along when you try it out, and begin to increase the hole size in the center of the washer. The power will increase suddenly when the hole size is right.

You can also use a sliding section of stinger pipe to tune, as the stinger can be tuned in by either changing the hole size or by changing the length between the washer and the cone. The nice thing about this is that the cost of the modification is small, the piece of inch and a half tube selling for about fifty cents and the washer for about a nickel. The rest can be done with a rented welder or by a shop that does welding. The great thing about this is that the cost is small and the fact that if you don't like it, you can weld your stock stinger back in place. Most formulas that are used to improve the low end of a machine are expensive and for the large part irrevocable, such as a cylinder port job. Once your cylinder has been ported, the only way to put it back is to replace either the cylinder or the liner. If you haven't tried a machine with a lot of low end torque, we feel you should, because that is the thing that most riders are looking for. With the low cost and simple tuning involved with this modification, we should even say that you can't afford not to give it a try.



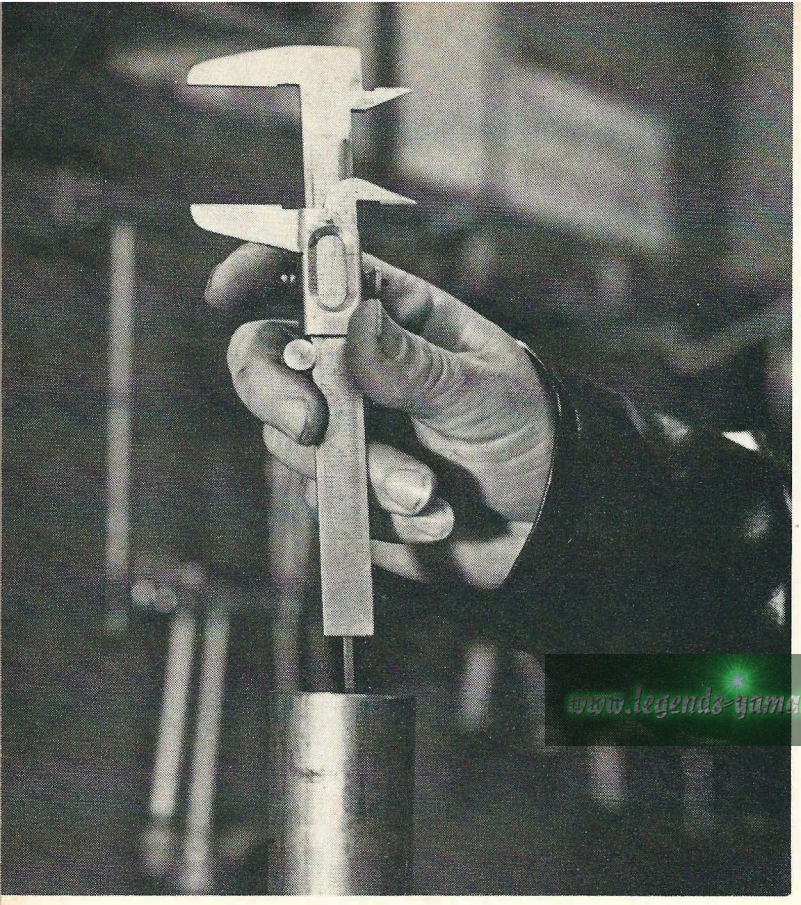
1 *Cut the stock stinger off at the point where the cone will be large enough to mate up to the inch and half new stinger. Note the length of the piece of cone which is attached to the stinger. This length must be added to five and a half inches to give you the correct new stinger length.*

2 *Cut the new stinger to the correct length. On some machines such as the Sachs, MX, the stinger will have to be shaped around the shock. Most bikes will not need any shaping to have the stinger fit right in.*



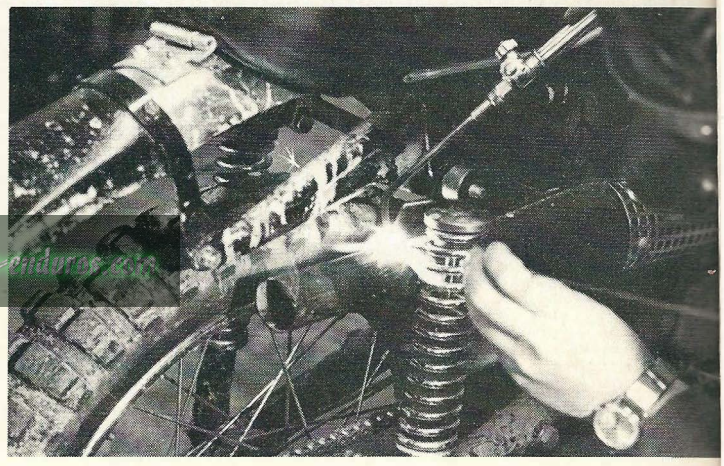
3 *To get the right fit on the pipe, the new part should be put in place on the machine.*

4 *The thing that makes this stinger work is the restrictor washer that fits inside the stinger.*

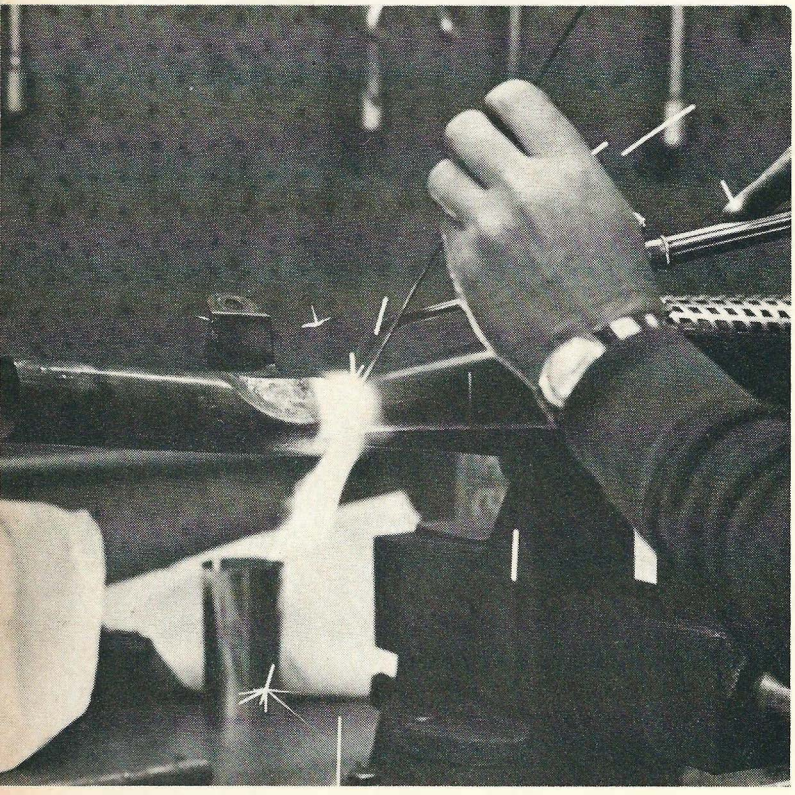


5 *The washer should be welded in place one and a half inches in from the end. A handy way to hold it in place for welding is to put a smaller diameter pipe in a vise so it will come up under the washer —*

6 *And hold it in position so it can be brazed in location.*



7 *The finished stinger can be tacked into the right position*



8 *— and then finish off the machine where you can get good access all around the weld area.*

9 *A coat of paint on the finished modification makes a neat and useful addition to the cycle.*