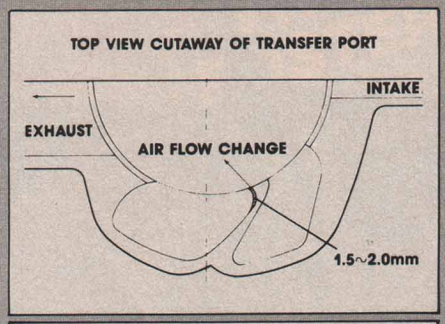
YAMAHA WRENCH REPORT

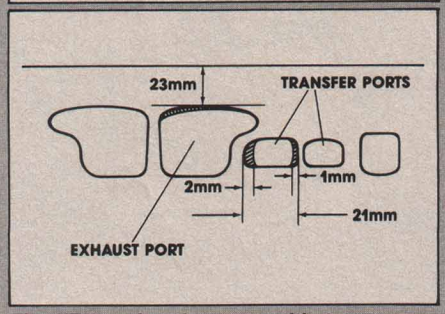
Inside facts from the R&D department

By the Staff of DB

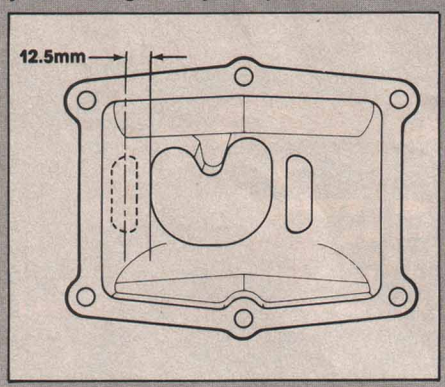
Yamaha offers its dealers and riders a little package during the year that deals with performance modifications. It's called the *Competition Support Wrench Report*. In these *Wrench Reports* they tell how to improve the performance of the bikes. All of the modifications have been tried and tested by the Yamaha support people, so you know you're not getting into a hit-or-miss world of mad grinders. These various jetting and porting mods will make your bike faster.

Some of them require welding, others porting. What we're saying is this: You might have to have the work done by a reputable mechanic or dealer. The good news is that the groundwork and testing have already been done. All you have to do is show up with these specifications and pay for the labor.

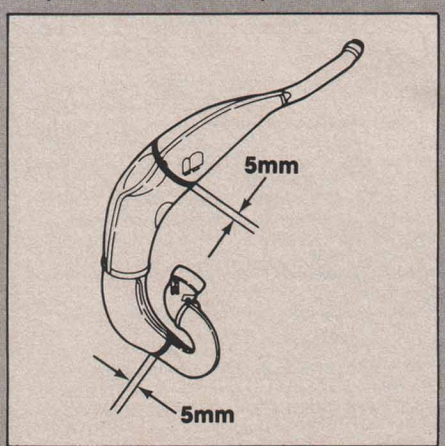




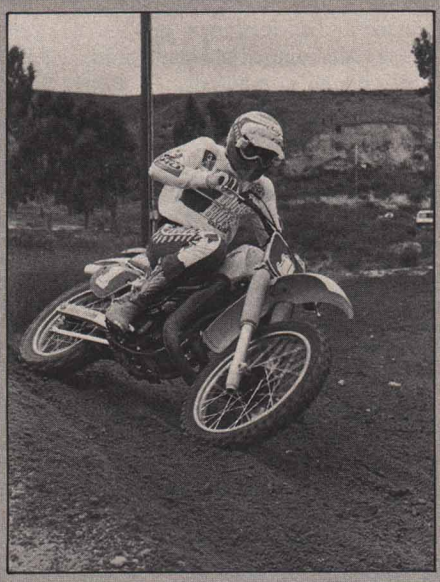
The YZ80 gains the most with some creative grinding. These diagrams show the exact specifications used by Yamaha on the port changes. Most of the work is done on the exhaust port and the transfers. Remember, if you don't know what you're doing, take your cylinder to a pro.

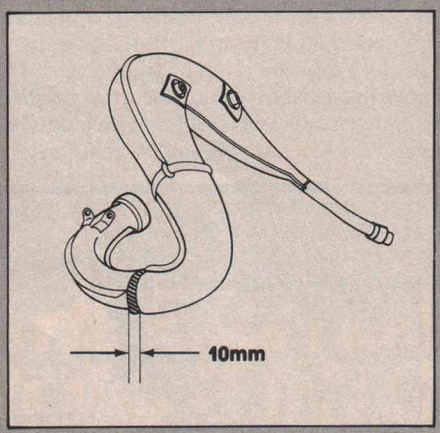


Add another hole to the intake port. This should duplicate the hole in the right side of the intake port that leads to the subport. The size of the hole is 10mm. Follow the photo for the exact specs.

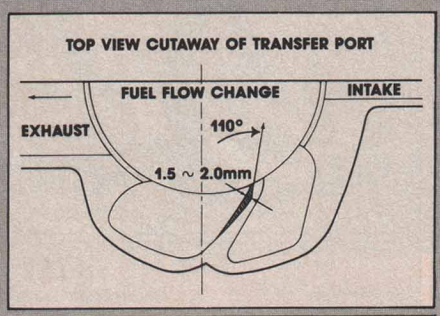


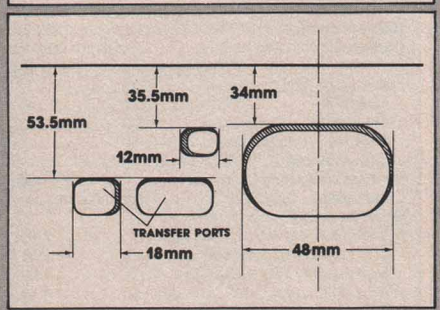
Two cuts in the 250 pipe are necessary. The headpipe is shortened and the chamber body gets the saw treatment, too. Gains should be felt from the mid-range through the top end.



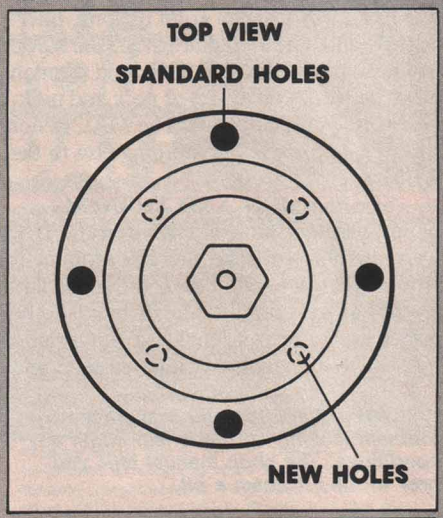


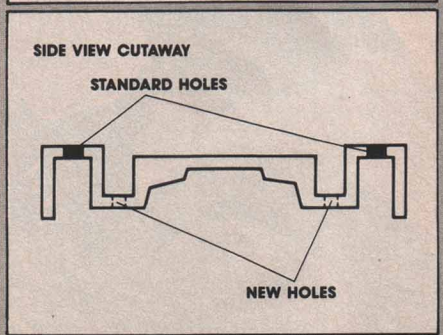
Shortening the 80's headpipe will give an increase to the top-end performance of the bike.





Porting, machining and pipe cutting turn the 250 into a killer. On the cylinder, grind away the shaded portions shown in the illustration. Once they're ground, these areas must be smooth and continuous, with no abrupt changes in shape or contour.





Jetting and carb work is all Yamaha gives us in an effort to liven up the anemic 125. Drilling some extra holes in the main jet baffle is a start. Check the illustration for the exact locations of the new holes.

We're going to deal with the 1984 YZ lineup. All of the diagrams come straight from Yamaha, so unless you've got more savvy than the R&D department, follow them!

YZ80L

CYLINDER BODY—Use a hand grinder or porting tool and smooth away any rough edges along the intake manifold. Pay special attention to the exhaust port, making sure the edges of the port, as well as the other surfaces around the cylinder, are smooth.

CYLINDER—Again, using a hand grinder or porting tool, remove the material from the exhaust port and the transfer port to the listed specifications. Check the illustration for the exact requirements.

EXHAUST PIPE—For an increase in top-end performance, shorten the headpipe 10mm. Remove the pipe from the bike and cut the 10mm section at the illustrated point. Then put the pipe back on the machine and tack-weld the pipe together. Next, remove the pipe and complete the weld.

IGNITION TIMING—Make sure you use the standard timing: 0.62mm BTDC.

AIRBOX—Cut two 1.5-inch holes on the left side of the airbox for increased airflow volume. Check the photo for the exact location.

JETTING—On the average, the stock jetting works just fine. However, some conditions may require additional fine-tuning of the carb.

YZ125L

This YZ needs the most help, yet ironically there's very little hop-up info. We know that by bolting on the '83 cylinder, head and pipe, you'll notice significant gains. It's also very costly. The *Wrench Report* deals only with the timing and jetting of the bike.

TIMING—Set the ignition timing to 1.24mm BTDC. (The standard setting is 1.88 BTDC.)

JETTING—

STANDARD		MODIFIED
360	Main jet	360
P-2	Needle jet	P-8
2.0	Cutaway	2.0
50	Pilot jet	50
2	Air screw (turns out)	1¾
24mm	Float height	24mm

MAIN JET BAFFLE MODIFICATION—Bore four 1.3mm holes in the main jet baffle as shown in the photo. Their location is along the inside ring, at the midpoint of the standard holes. Use a .052-inch drill bit.

YZ250L

CYLINDER—Grind away the port material shown in the shaded sections of the illustration. Be sure to match the specs. Once they're completed, the ports must be smooth and continuous, with no abrupt changes in shape.

Next, match the Power Valve to the cylinder. This is done with the Power Valve in its most advanced state. Check the seams between the valve and the cylinder. If the seams don't match, grind material off the cylinder or the valve until they do match.

Using a hand grinder, make a 10mm hole in the left side of the intake port. Check the photo carefully! This should duplicate the hole in the right side of the intake port.

CYLINDER HEAD—Machine 0.3mm from the cylinder head gasket surface.

EXHAUST PIPE—To increase midrange and top-end performance, shorten the headpipe 5mm. Then, further shorten the main chamber area another 5mm. Check the illustrations for the exact location.

AIRBOX—Cut three 1.6-inch holes in the top of the airbox and three 1.5-inch holes on the left side to increase the airflow volume.

YZ490L

JETTING—

STANDARD		MODIFIED
Q-8	Needle jet	Q-4
50	Pilot jet	35
1	Air screw (turns out)	1¾
2.5	Slide cutaway	3.0
440	Main jet	440

Proper jetting will make for easier starting and performance gains on the 490. □