

# SERVICE DEPT.

## TRAIL TUNING YOUR XR200R

Make your four-stroke more competitive in the 200cc enduro class and have more fun on the trails!

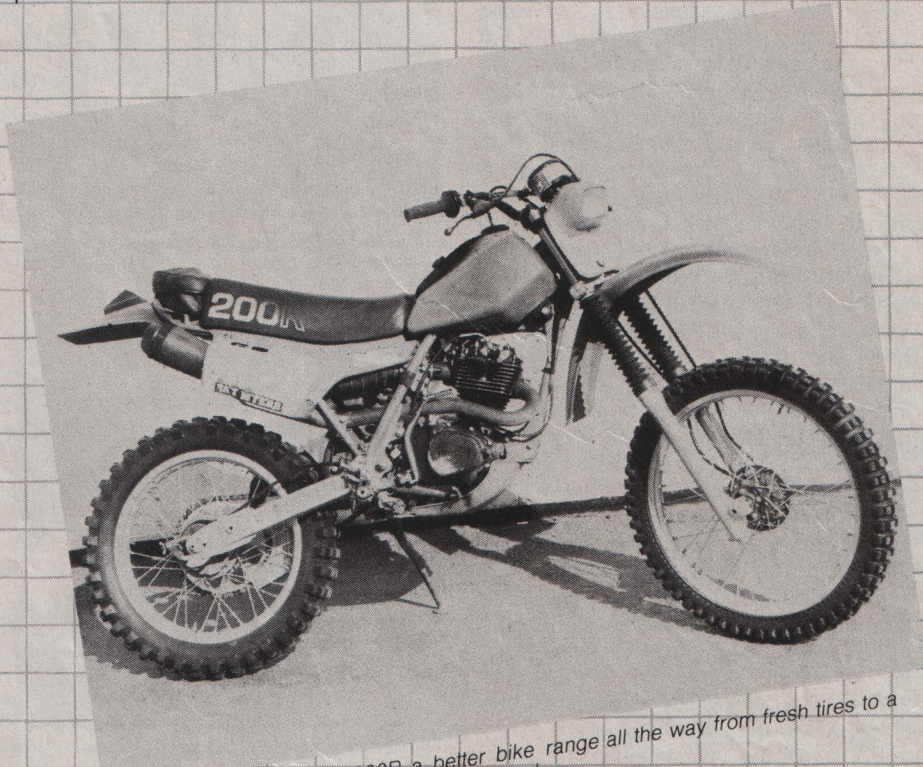
BY ROBERT SCHLEICHER

Cross-country racers, desert enduro competitors and ISDE hopefuls all scoff at the XR200R as being a bike that only *thinks* it can . . . Given the particular trail conditions that these three types of riders face, their opinions are correct. The XR200R simply gives away too much power in a class where nobody has enough. It might be possible to apply roadracing hop-up techniques to the XR200R to make it crank out the power of a two-stroke, but why bother? A road-race-tuned four-stroke has the same lack of torque and predictable throttle response that you expect in a two-stroke motocross bike. That's a machine you can buy ready-to-go from a dozen different manufacturers, so why try to make one from a four-stroke? What the four-stroke *does* offer, even in the pint-sized XR200R version, is an ability to find traction and deliver incredible miles per gallon that no two-stroke trail machine can match. What we'd all like to do is to discover how to extract at least some two-stroke-style power without destroying the ground grip or riding range. Those are the major reasons for buying four-strokes in the first place.

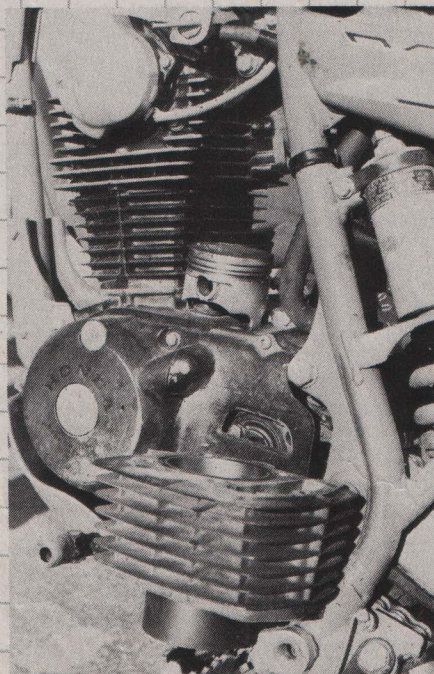
The XR200R is already an embarrassing machine. Embarrassing, that is, to the riders of faster and larger-displacement enduro bikes who are passed by XR200Rs on hills and in mud holes. The only machines that match the real world grunt of the XR200R are 400cc and larger two-strokes and other four-strokes. The dream of the XR200R owner is to avoid being passed on the level and on the more gentle uphills.

Gary Myers is one rider/builder who has found the answer. Gary runs Fay Myers Honda in Denver and he is more than willing to do to your Honda exactly what he did to his. Gary is an AMA A-class rider and he finished a most credible third overall in the Rocky Mountain Enduro Circuit last year—ahead of over a hundred other A riders. He's found the way to get more speed out of his XR200 without sacrificing either ground-grabbing traction or a long cruising range.

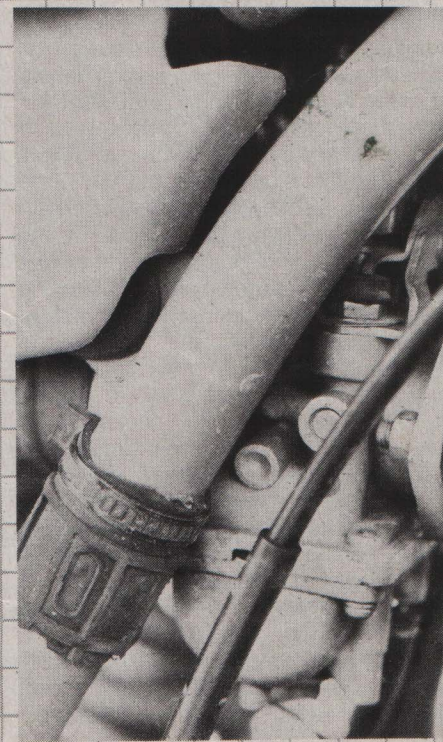
Most of Myers' tricks will work on a perfectly stock XR200R. Be aware of that before you hear that his machine has a



Changes to make the XR200R a better bike range all the way from fresh tires to a stroked and de-bored 199cc engine overhaul.



The 185 Honda cylinder barrel and piston (on footpeg) can be used in an engine with a Powerroll stroked crankshaft.



The stroked engine really needs a Powerroll exhaust pipe and special-spigot 26mm Mikuni carburetor to deliver full potential.

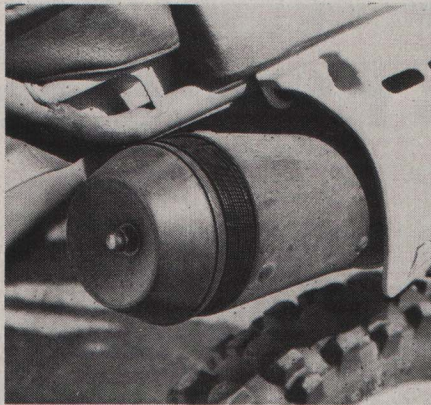


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Powroll crankshaft (to give it six millimeters more stroke), Powroll's 28mm Mikuni and exhaust pipe and a four-inch Supertrapp muffler. That combination gives the engine about a 218cc displacement—far too much for the 200cc class and less than half the power needed to work in the 250cc class. No, Gary does not ride the bike in AMA enduros with that displacement. He replaces the barrel with one from the 185cc Honda and a matching piston. That combination gives the bike 199cc of displacement. That does not bring us back to where we started with a 200cc-class engine; the longer stroke seems to work better with the small combustion chamber in that relatively outdated cylinder head. The stroked 199cc XR200R has far more speed and it lacks none of the low end grunt and ground grip of the stock machine. It is possible to install an oversized Powroll piston in an over-bored XR200R barrel to get 245cc of displacement, but that makes things even worse for the tiny combustion chamber—riders who have tried both seem to feel that 218cc is plenty and Gary feels that 199cc of displacement is just as good.

The extra performance from the 199cc Powroll-cranked engine does not come from the simple lengthening of the stock stroke. The new carburetor, exhaust and muffler also help. Those three will help a stock XR200R almost as much. They aren't worth the investment, Gary feels, unless the cylinder head's intake and exhaust ports are enlarged with the help of a flow bench (Powroll also offers that service). Gary did feel that the Powroll exhaust needed rewelding and reshaping to better fit the bike and to stay attached over the rocks in the Rockies. He also had to replace every jet in the new Mikuni carburetor for operation above 7,000 feet. Gary also bored a one-and-a-half-inch hole and two half-inch holes in the top of the stock airbox to allow more air inside. He epoxied-on pieces of matching plastic tube and added short lengths of rubber hose to extend the new holes to the top of the airbox for maximum waterproofing. The air filter is a K&N. The compression release just isn't necessary on any XR200R, so that is also removed.

The alternative to a stroked XR200R is to simply replace the piston with the maximum overbore piston from, again, the 185cc engine. The result of this swap is increased compression, but it won't work unless the intake and exhaust ports are enlarged (again, on a flow bench) with a four-inch Supertrapp muffler and a K&N air filter inside an airbox with more vent holes. The stock carburetor will work just fine if it is rejetted. You save the cost of the rebuilt Powroll crank, Mikuni carburetor, and (if you need to ride the 200 class)



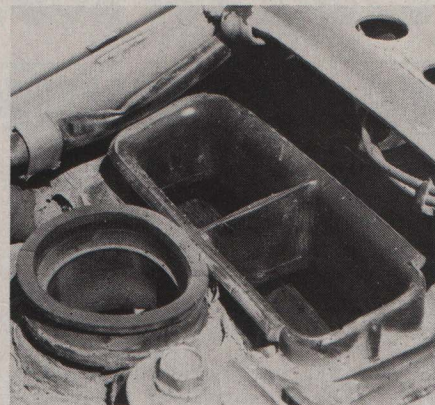
*A four-inch Supertrapp muffler is nearly as quiet as the stock Honda muffler, but also lighter and far less restrictive.*



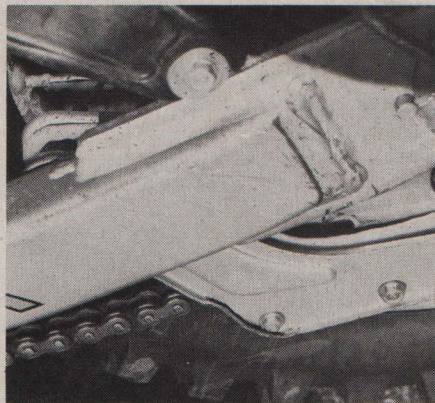
*The White Bros. braided stainless steel hose and rubber bump stop are added: Only a class A rider needs the stiffer XR250R spring.*

the 185 barrel as well as the labor of splitting and reworking the crankcases to fit the new crank. Do notice that no mention has been made of replacing the cam; that is the one change that, when added to the high compression and other hop-up tricks, could make the XR200R just a bit too much like a two-stroke. The modifications we've outlined add more to the bike's top speed without detracting noticeably from its low-end torque and traction.

There is surprisingly little that needs to be done to the XR200R's suspension, which is fortunate because it's difficult to make major changes. Gary Myers swears that the 1982 and 1983 XR200R's rear shock is as good as it comes if you take it apart and put it back together so it has no trapped air inside. He does install a White Brothers stainless steel hose and internal orifice leading to the remote reservoir, and he adds the White Bros. bump stop in place of the stock Honda part. The one change that only a desert racer or a Class A enduro rider might make to match Gary's machine is the substitution of the XR250R spring. He runs about two-thirds the factory-recommended amount of oil in the forks. Gary



*A 1/2-inch hose to the top center of the stock airbox and two 1/4-inch hoses to the front and rear provide more air intake.*



*Both sides of the rear chain guard are lined with 1/8-inch thick sheets of Teflon® to keep the chain on the rear sprocket.*

feels the machine needs more rake and trail as well as more ground clearance—he accomplishes all three goals by simply mounting a 3.50-18 Pirelli Pentacross rear tire. The tire is nearly two inches larger in diameter than the stock tire.

The other modifications Gary makes to the XR200R definitely fall in the category of fine-tuning. He had trouble with the rear chain whipping off the sprocket, so he added a layer of Teflon inside both vertical surfaces of the rear chain guard. The Teflon stops the whip that derails the chain. He uses the stock bars, but rotates them well forward so the grips are pointing skyward a few degrees at the extreme ends. He prefers an instant-on throttle action to keep the small engine in its powerband and, to that intent, he installs the one-quarter-turn throttle from the CR125 series Hondas. He runs an IRC Vulcanduro front tire. The IRC is a bit lighter and seems to give a front/rear traction balance that works. Like the other changes Gary's made, the tires make the machine easier to ride faster, without sacrificing the incredible low-end performance that lets XR200R owners ride up hills where 250cc enduro two-strokes are being pushed.

**DR**