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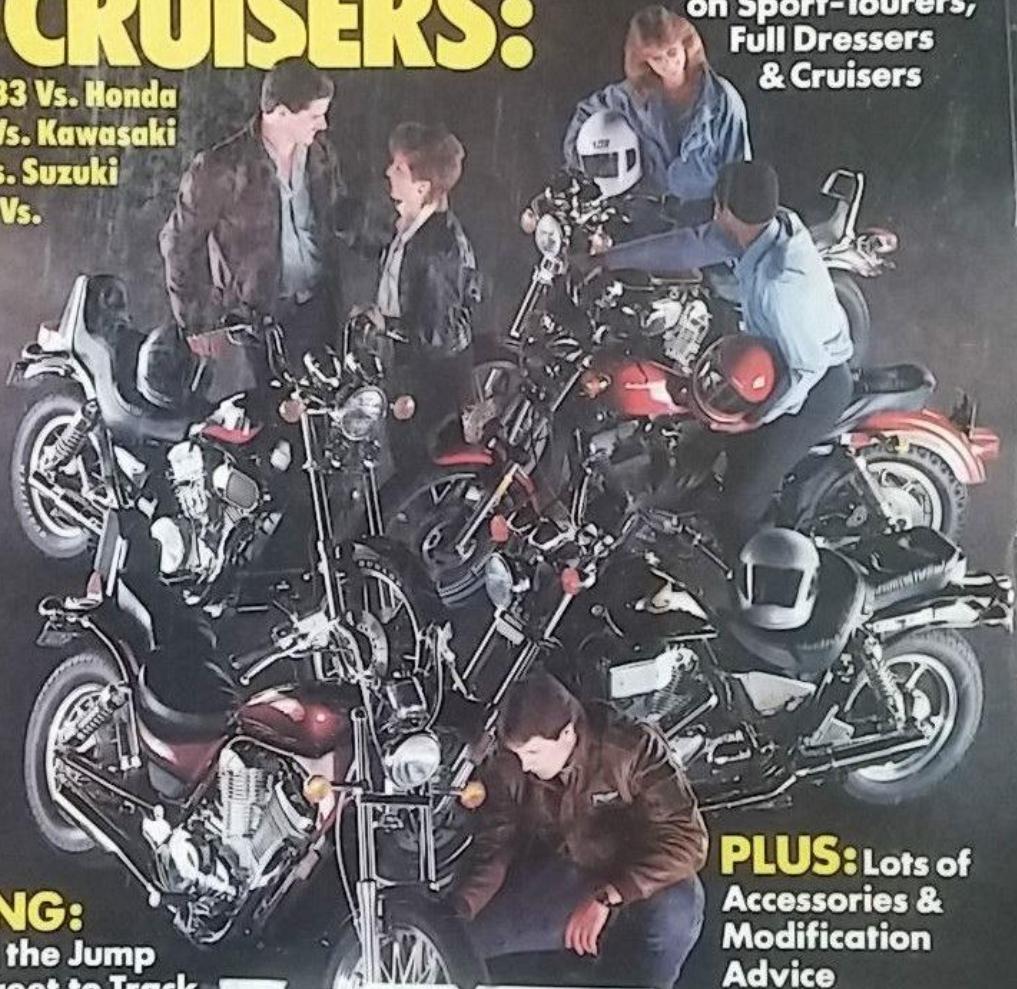
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Cult status – Yamaha's SR500 is one of the few Japanese motorcycles to achieve it. The owner of a clean SR can park beside a Norton Commando at Alice's Restaurant or the Rock Store [California] and be welcomed into a conversation about getting parts or riding past newer, more powerful bikes on a twisty road. (Of course, neither party will mention that he was going downhill at the time.) The SR500 is still popular with those who appreciate its low weight, good

handling and simplicity. Many enthusiasts have more than one – the second acting as a parts department.

I was one of those who welcomed the SR, but did not buy one until early 1984. True to my personality, I have modified it in many ways and have done enough fiddling to have learned how to make my SR work better than it did. In this brief article, I want to share with you some of what I have learned.

Engine

A stock SR500 engine makes about 30 horsepower and can be brought up to 35 or so without spending a lot of time or money. More important than the power gain is the more responsive, smoother and cooler-running engine that results from making a few changes to the breathing components.

Intake and Exhaust

The stock airbox is actually very good, with a large intake horn and a carefully shaped tube leading to the carburettor.

The stock filter, though, is terrible and should be replaced with one from K&N. The K&N requires you to increase the main jet three sizes (up to 330 for the 34mm carb, and 290 for the 32). There is no substantial gain from removing the airbox unless you are planning extensive engine work.

The stock mufflers, especially the late ones with the chamber on the side, work well; don't expect to get more power with another one unless it is irresponsibly loud. The restriction in the SR's exhaust is in the header pipe, not the muffler. For some reason, Yamaha fits a header pipe with a two-inch outside diameter, but an inside diameter of only one and one-eighth inch – too small. The power gains offered by some after-market exhausts come from a larger header pipe and not the loud muffler.

As an advocate of quiet exhausts, I tried to get several manufacturers to supply an inch-and-three-quarter replacement header pipe to mate to Yamaha's rather good muffler. Kerker agreed to do this, and the pipe mounted on my bike in the lead photo is the Kerker prototype. The effect of this larger pipe is rather dramatic when combined with the K&N filter and carb modifications. My SR makes substantially more peak power with even greater gains in the mid-rpm range, where it is most needed. Some of the full-throttle snatching that is typical of the SR between 2000 and 3000 rpm is lessened as well.

Carb Mods

The SR's head doesn't breathe well enough to justify a large carburettor. I tried both the 32mm carb that was stock with my '81 and the earlier 34. There was no noticeable power difference, but the 32, because of its internal shape, works better at part throttle.

The K&N filter's low restriction has a severe effect on the stock-carb tuning. The restrictive stock filter acts as a built-in choke, and the carb was tuned to run with quite a pressure drop built into the system. Most who have tried to correct the stock jetting to accommodate either the K&N replacement or a larger filter that entirely replaces the airbox have been frustrated because raising the needle or replacing the idle jet doesn't help very much. It is necessary to modify the stock slide to tune it for the less-restrictive K&N.

The stock throttle-slide cutaway is 4.5 – large for a muffled engine. It needs to be about 3.5 for the K&N and Kerker header pipe. I have found that 0.05 inch removed from the bottom of the slide corrects the stock carb's tuning. This material removal lowers the slide and corrects the

severe hesitation just off idle. You can do this with a sharp file and, if you are reasonably careful, can save the price of an after-market carb you really don't need.

In addition to the slide modification and the larger main jet, you need to raise the needle 1mm and maybe go down a needle jet or two. If you have an early SR, you can simply move the needle clip down one position from stock. The later carb does not have notches in the needle, and you have to thin the plastic spacer on top of the needle to raise its position. A file does the job, but be careful not to take off more than 1mm.

The needle jet rests on top of the main-jet stand and can be gotten out by removing the stand. Most SRs come with a [P-8 needle jet](#), which may be too rich at part throttle. Mikuni makes both P-6s and P-4s which are leaner. After you have run your motorcycle with the other modifications for a while, you might try one of these smaller jets to improve the mileage.

The stock accelerator pump is fine, and I don't recommend fiddling with it.

Clutch

The stock clutch is good enough, but a Barnett is better. The Barnett improves shifting because it disengages more completely than the stocker. Both handle the increased power, but the Barnett does it with more grace.

Heat

The SR runs hot – not the oil, the combustion chamber. It isn't a very good one, and short of entirely reshaping it, there isn't much you can do. I recommend a straight-grade oil because of its superior film strength and higher heat stability over multigrades. I use Kendal GT-1 50-weight and recommend it because of its reputation with people such as tuner C.R. Axtel and cam designer Jim Dour.

As you will note in the photo, my SR has a Lockhart oil cooler. It doesn't need it. I put the cooler on before I installed a temp gauge. Even with the cooler taped up, I have never seen the oil get over 205 degrees Fahrenheit (96°C).

Front Fork

Under-sprung, under-damped, lots of seal friction and some flexing – just the usual stuff.

Install a set of Progressive Suspension fork springs, a set of 1976 Yamaha IT400 seals and pour in enough 20-weight Kal-Gard fork oil to bring it within 5.7 inches of the top of the fork tubes with the springs out and the fork completely bottomed.

Also, fit a Weigl Telefix fork brace. The Weigl is best because it can be easily fitted without introducing binding to the fork assembly. Testing done at BUB Enterprises established that a fork brace that clamps to the top of the fork sliders is more rigid than one that bolts to the fender mounts. Maybe that's why the factories do it that way.

Rear Suspension

I have been using a set of dampers from Progressive Suspension and like them just fine. I use 13-inchers to gain a bit of clearance and wheel travel. The center stand barely works, but I prefer the 85-120 inch/pound progressive springs for my 220 pounds (100 kg).

The stock swingarm pivot consists of a set of needle bearings riding on a hardened sleeve. Needles are not the best way to support a swingarm, and the sleeve the needles run on is

poorly finished and not hard enough. Although I haven't finished the job, I have a solution to this bearing-wear problem. I bought a set of bronze swingarm bushings from White Bros. and a new sleeve from Yamaha. My intention is to have the sleeve polished and hard-chromed (Excello Plating will do this). I will then fit the bushings instead of the needles in the swingarm and ream them to fit the chromed sleeve.

Brakes

The Yamaha brake pads fitted to the SR500 are pretty good, but Ferodo 2453-compound pads reduce lever pressure and can be used harder without fading. Also, they don't gall (chafe) the stock rotor as much.

The SR's brake rotor(s) gall easily, reducing the brake's effectiveness. [Spec II](#) drills rotors, and the improvement in performance and appearance is well worth the expenditure. The drilled rotors do not gall; in fact, they will polish out even with the stock pads. If you do nothing else for your SR's brakes, do this.

Brooks Cycle sells a single Teflon line to replace your stock pair. You may order either of two lengths, one for the stock handlebars or the flatter K&N No. 004 bars I use.

A drilled rotor rubbed by Ferodos that are actuated through a Teflon brake hose gives you confidence in your SR500's brakes. You will have no more fading during long descents. Mushiness disappears, and the brake feels crisp and predictable.

Tyres

The light SR needs tyres that work when cold. I have settled on Dunlop K391s as my favourites for this bike. I use a K391R, 100/90-19 on the front and a K391S 120/80-18 at the rear. The Dunlops work when cold and give a road feel that entirely suits the fundamental character of the SR500. I am sure that Pirelli Phantom +1s would do as well, but I simply haven't had the opportunity to try them.

My SR500 is light and handles well enough for any riding I do. It doesn't have a surplus of power, but it has enough. I can have guys on big sport bikes praying for a long straight when we are sharing a downhill canyon road. It is simple, reliable and attractive.

Perhaps when gasoline becomes dear enough to make the SR's 60 mpg look better, or after the insurance companies get through pricing superbikes off the road, we will see the big single reach the level of popularity it has in Japan and Europe. In the meantime, you can find a good, used SR500 for a few hundred dollars and, with some fairly inexpensive attention, have yourself a fine motorcycle that is great fun to ride.