

The suspension war wages on. And fortunately it does. The progress made with motorcycle suspension in the past five years eclipses the efforts of the five previous decades. Almost all the technology that has developed in long-travel suspension originates with dirt bikes—motocrossers, cross-country racers, enduro/ISDT bikes. Yet few, if any, current production forks are "right" as delivered. Of the current Japanese forks used on off-road bikes, Suzuki's RM-type are probably the best. The leading-axle forks used on the RM-series racers deliver long travel and excellent rigidity, but they don't work as well as they could. Their action is somewhat harsh and they are capable of delivering more travel.

Long-time dirt racer Al Baker has developed several fork kits that vastly improve the performance of most Japanese forks, including the RM-type. Baker has perfected his fork kits on the best dynamometer in existence—the race course. The fork kit which we tested was for the Suzuki RM250/370 (A or B models). The Baker kit is simple and includes new springs, damper rods and valving rings. Installation is easy as it merely involves removal of the sliders, springs and damper rods and installation of the kit parts. It only takes a couple of hours.

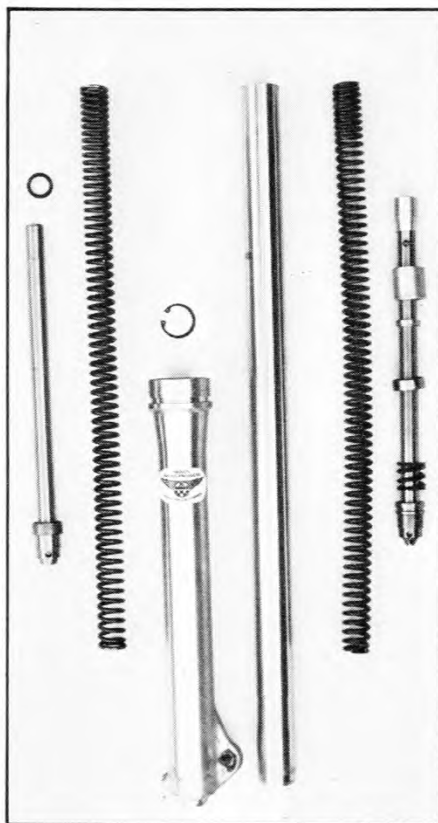
Functionally the Baker fork kit incorporates designs used by many fork manufacturers. The damper rod is the same length as the stock unit but does not include the usual topping spring. It is replaced by special orifices which control topping hydraulically. Elimination of the topping springs allows the fork sliders to extend one extra inch and affords a full nine inches of working travel as opposed to the stock eight. Since the fork was designed for a potential nine inches of travel (with the topping spring fully compressed), there is no problem with the sliders extending too far out on the stanchion and becoming structurally weak.

The improvement in damping characteristics is the kit's second, and most important, benefit. The stock RM fork is somewhat harsh on compression and slow to rebound. Thinner oil lets it bottom and thicker oil really stiffens the ride. The Baker kit was intentionally designed to offer less hydraulic restriction in the middle of the fork's travel range, where the majority of its movement occurs. The Baker damper rods are double-tapered with the center section of the tubes machined .020 inch smaller than the ends, thus producing a gradual taper running from the maximum diameter at each end of the

PRODUCT EVALUATION

Al Baker RM Suzuki Fork Kit

By Dale Boller
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Baker kit includes the new damper rod, spring and valving ring at far left of photograph. It retains stock stanchion and slider in center. Standard spring and damper rod are shown at right. Kit costs \$59.95 from dealers.

damper rod to the smaller center.

This double-taper allows oil to partially bypass the piston valve in the middle five inches of travel. The result is that the fork compresses readily and rebounds quickly in this working range. Rocks, stutler bumps and other small undulations give the rider less of a shocking jolt when the front wheel hits them. The ride is almost Cadillac-like. Since the ends of the damper rods retain stock dimensions there are minimal problems with bottoming or topping because of unrestricted oil flow. In certain conditions, however, there will be a slight topping clank. When climbing hills with the front end light so the fork is in the first inch of its travel, the anti-topping system can drain and allow the piston valve to top out. This topping clang occurs rarely and is neither bothersome nor damaging.

Included with Baker's fork kit are new hardened steel piston-valve rings to replace the standard aluminum items. The stock bottom-out valve cups and inner hydraulic rings are retained. New kit springs are made of top-grade wire stock and wound progressively rather than dual-rate as are the stock coils.

We have accumulated over 1200 practice and race miles on our

RM250B Suzuki with the Baker fork kit. The bike has been raced in the desert, Baja, Mammoth (California) motocross and the Riverside Off-Road World Championship. On Mexico's high-speed roads fork action was better than we expected and rider fatigue was reduced noticeably. Posh would be the best description for its performance there. At Mammoth's extra-rigorous motocross the fork action was too supple and allowed frequent bottoming. We installed Goki air caps and pressurized each fork leg 12 psi to stiffen the compression action. The pressurization eliminated both bottoming and mid-stroke sogginess.

For cross-country the use of air (or nitrogen) pressure varied with conditions and speed. The faster and rougher, the more the need for pressure. Trail and enduro-like conditions did not warrant the need for pressure. In the coolness of winter we used PJ-1 5-weight fork oil. In above 80-degree temperatures we favored Torco MTF (10-weight) fluid.

The simplicity and proven concepts built into the Al Baker fork kit let it enhance performance without jeopardizing durability. There is no question our kitted RM250B reduced fatigue and improved lap times. **M**