

Most everyone agreed the PE175C and N were nice bikes. Slow, but nice. Forget such gentle words when you talk about the 175T. It's motocross sharp—and ready to cut through to the heart of the competition.

SUZUKI PE175T

● YOU ALMOST HIT A TREE AS HE GOES BY. You didn't catch the name on his jersey, but that doesn't matter. It's Smith or Cichocki or Fredette or Burleson or Penton. He's a National-level enduro rider, and he's just passed where there isn't room to pass, revving his bike to its limit and shifting smoothly.

You laugh at the notion that lightweight enduro bikes need only strong low-end and mid-range power to be competitive. That 175 rider who just went by may be in one of the lower gears, but he hasn't backed off the throttle more than momentarily in five minutes. From turn to turn he's using all the acceleration and high-rpm power his bike offers, and he still may not zero this section. That Double-A enduro rider looks like a National-level motocrosser, and that's why his bike—and each of today's best enduro bikes—has so much in common with state-of-the-art motocross machinery.

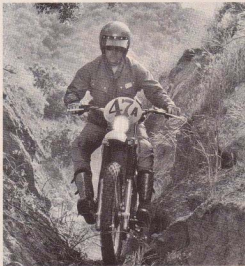
As a matter of practice, the Japanese

manufacturers have been giving us motocross-like enduro bikes for several years, but until now there's been a problem with that approach. In a nutshell, the hang-up was that the manufacturers commonly assembled their enduro bikes out of their previous year's motocross machinery. Cross-country motorcycles, consequently, were traditionally at least a year behind the times. They had eight inches of suspension travel when the motocross bikes had 10; all-steel suspension springing when the motocrossers were air-assisted; 25 horsepower when the motocrossers had 30.

That's all changing—especially in the 175 class. We're currently watching at least four companies frenetically work to produce the best lightweight enduro bike. Suzuki, Kawasaki, Yamaha and Can-Am have all made major efforts in this one market, completely updating their 1980 175s. Luckily, the R&D people in each of these companies have learned precisely

which subtleties separate an enduro bike from a motocrosser, so we're much ahead of the days when a cross-country bike was simply last year's motocrosser with a large-capacity fuel tank and lights tacked on. Today's best enduro bikes are based on this year's motocrossers, but they also incorporate all the little trick items to make them suitable for plowing through mud trenches and fording rivers.

In 1978, Suzuki took the mix-and-match approach to build the first PE175. The company went to the RM125 A-, B- and C-model parts bins, did some modifying and assembled the Pure Enduro. In that particular case, the method worked pretty well. However, for cost considerations Suzuki used some sub-par chassis and suspension components on the 175, such as the lightweight tubular swing arm and short-travel shocks. And for environmental reasons Suzuki heavily muffled the engine and de-tuned it in other ways. In fact, though the 175 had much better



PHOTOGRAPHY: DAVE HAWKINS, JOHN STEW, ROBB REGE



SUZUKI PE175 TEST

low-end and mid-range power than the 125, the one-eighth-liter machine produced over four horsepower more than the PE at each bike's peak.

This year both the PE and the RM are products of the most advanced two-stroke technology Suzuki has to offer, and their performance figures are now more in line with their displacements. The enduro bike produces a maximum of 22.38 horsepower at 9000 rpm, which is 0.89 more than the RM-T develops at its 11,000 rpm peak. Suzuki has sacrificed very little to gain the additional high-rpm power. Up to 4500 rpm the 1980 PE develops about one-half horsepower more than the 1978 PE. The 1980 bike is down

about one horsepower compared to the older PE through the mid-range (except at 6000, where it's down 1.8 horsepower). But that's more than balanced by the 4.56-peak-horsepower advantage the 1980 bike holds over its ancestor.

Its respectable horsepower figures place the PE at the front of 1980's enduro bikes in terms of engine performance. The Kawasaki 175 is representative of the PE's competition. From 2500 to 6500 the Suzuki and the Kawasaki produce nearly the same amount of horsepower, each developing within 0.68 horsepower of the other. From 7000 to each bike's peak the PE pulls steadily away from the KDX, gaining a one-horsepower advantage at 7000, about two at 7500 and over three from 8000 rpm on up. You'll really appreciate

the Suzuki's extra power in the fast moto-cross-like sections of an enduro where most people lose minutes.

The PE's low-end power is certainly acceptable when you're just out play riding or motoring through the less demanding sections of an enduro and aren't revving the 175 to its limit. It carburets cleanly and builds power smoothly. When you get yourself in a tight spot—like on an uphill switchback or a rock-strewn off-camber hill—you can chug the 175 along at a steady speed or dial on the throttle without worrying about the engine bogging. The PE's low-end power doesn't have the rear wheel digging trenches, but it's sufficient to keep you out of trouble, and you always have the option of quickly downshifting.

Suzuki has modified the engine signifi-





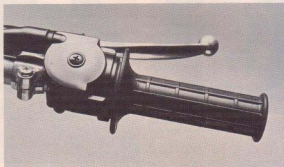
Following the lead of Team Suzuki, the factory has updated the engine and extracted 22.38 bhp.



Although the bar, seat and pegs position you comfortably most of the time, the seat's too short, and you may find your backside being pounded by the rear fender loop when you're sitting back.



Detail and refinements include an improved multi-purpose wrench and air-assisted front suspension.



A circle-pull throttle keeps cable from snagging bushes. Woods riders may want to trim the 33-inch bars.

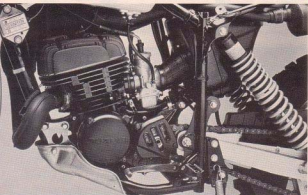
SUZUKI PE175 TEST

icantly to gain the increased performance. The T-model uses bridged intake and exhaust ports and six transfers, just as the PE-C did, but the factory has altered the number and layout of the cylinder's transfer passages. The 1978 cylinder had four transfer passages—a pair per side—originating at the base of the cylinder and leading from the crankcase to the cylinder wall. Each pair of tunnels led to a pair of transfer ports (located in the side of the cylinder wall) and each

rear transfer divided and led to a "boost" port, located above the intake port. The 1980 PE has two additional transfer passages originating at the cylinder base between the side transfer passages and the case-reed induction passage. These two new transfer passages lead to the two "boost" ports, so that the side-rear transfer passages no longer divide their charge to feed the "boost" ports. According to factory spokesmen, Suzuki's R&D people hoped that this new design would allow the crankcase charge to be more precisely aimed into the combustion chamber than before. We can't verify

the effectiveness of this one change because Suzuki has modified the engine in many other ways, but no one can deny that all the refinements taken together increase performance remarkably well.

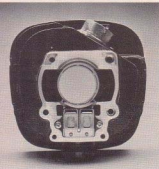
Suzuki altered the PE-T's port timing by raising the T-model's exhaust port 0.5mm. If Suzuki had not made other changes to the powerplant, that single modification would have lowered the 175's trapped compression ratio a little and raised the engine's power peak slightly. However, Suzuki decreased the combustion chamber's capacity from 19.8 to 17.9cc so that the 175 maintains its 7.6:1 compression ratio. Further, they modified much more than the cylinder porting, and all the updates combine to maintain the 9000 rpm ceiling. Specifically, Suzuki replaced the C-model's 32mm carburetor with a 34mm unit, modified the two-petal case-reed-valve assembly to match the larger carb and



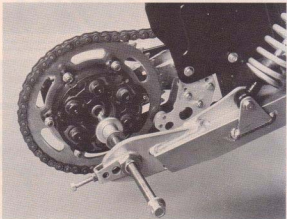
"All-new" means a hot cylinder, larger carb, modified airbox, MX frame, bolt-on sidestand plate and RM pegs.



PE-T's 2.8-gallon tank replaces the N's 3.2-gallon tank and slops gas from your navel to your knees.



Two new transfer tunnels—between the case-reed valve and the side transfers—feed the boost ports.



The best stock quick-change setup we've seen: chain adjusters and sprocket stay in place; axle, one-piece spacer and wheel come off. There's no axle nut to fiddle with—the left-side adjuster incorporates the nut.

added a new exhaust pipe and muffler.

Though the factory updated last year's N-model little from the original PE, they did modify the engine in one significant way: they expanded the crank flywheels' diameter from 52 to 56mm. That's a substantial amount, and the T-model uses that large crank assembly. The bulkier flywheels store more inertia and, as a result, the 175 revs more slowly than the 1978 machine. The original, mildly tuned 175 didn't need more flywheel inertia, but this year's more widely tuned PE benefits from the increased crank mass.

During high-speed slides on fireroads

or two-track lanes, you can be confident the 175 won't gain a couple thousand rpm suddenly and sling you sideways. Also, when you're bouncing over roots or rocks and the rear wheel is losing traction frequently, the engine's inertia helps keep the wheel moving and the engine from stalling—especially when you've chopped the throttle. The only drawback to the heavy crank mass is that it's constantly necessary to feather the clutch out of corners. That is, if you want to get anywhere fast.

The 1978 PE's primary-gear, six-speed-gearbox and final-drive ratios

were well matched, and except for a change in its fourth gear, the PE-T uses the C-model's ratios. If you rev the 175 to its peak in first gear, you'll be hustling along at about 20 miles per hour, and that's fast enough to get from corner to corner on very tight trails without having to waste time shifting to second and back to first. Second through fourth are closely spaced ratios. This year the PE's fourth gear was lowered just slightly—from a 1.25:1 to a 1.30:1 ratio—so the 175 pulls a little better in that gear when you're going uphill or through sand. Fifth is the PE's most practical high-speed gear; you

SUZUKI RS175T/250T

● As Gordon Jennings has eloquently remarked, Donks should avoid riding Donk bikes. What he means, of course, is that beginning or novice riders (such as those non-dirt riders on our own staff whom we affectionately call Donks) are the ones most in need of first-rate machinery. An expert rider can work around a bike's lousy suspension or intractable power. A beginner has trouble compensating for those same deficiencies in a motorcycle, and may not even realize that a good "expert's" enduro bike has sensational low-end torque and progressively sprung, smoothly damped suspension, both of which go a long way toward bringing smiles into a novice's life.

Why, then, do factories offer less than state-of-the-art equipment, if in

fact technologically sophisticated dirt bikes are easier for everyone to ride? "Cost" is the obvious answer: most factory spokesmen give high-quality components and designs cost a lot of money, which means, predictably, that the best bikes are generally the most expensive bikes. You understand the problem when you realize that most novices (who would benefit from the good machinery) are not yet committed enough to the sport to buy the top-of-the-line models.

Suzuki has tried to break out of this dilemma with the introduction of the RS175 and RS250. They assembled these two machines out of one- and two-year-old PE-, RM-, DR- and DS-model parts. Spokesmen say the RSs are serious playbikes, located in the

marketing scheme somewhere between the fun-time DS machines and the PE/RM racers. By using previous-model race-bike components, Suzuki has tried to build motorcycles which are technically advanced yet can be priced low. They've succeeded in doing something slightly different: they've produced a couple of dirt bikes which are technologically outdated in comparison to their PE counterparts, not much cheaper and not as much fun to ride.

The RS175 employs an RM125 frame and an RM100N/T swing arm. Chassis dimensions and geometry (55.9-inch wheelbase, 34.5-inch seat height, 29.2-degree rake) are typical of C- and N-model PE/RMs, and the RS has handling characteristics reminis-

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SUZUKI PE175 TEST

can drop off the power peak in fifth and still have a chance of getting back up to speed without downshifting or feathering the clutch. Sixth is purely and simply a hang-it-out gear for making up time on level fireroads—level because the 175 doesn't pull its road-racing gear uphill.

The 175-T handles much better than previous PEs. If you look for one vastly

improved design feature or part responsible for the change, you're not going to find it. Every part of the chassis has been refined—but not in any radical way. All of the modifications together, though, make the Suzuki perform significantly different and better than the older 175s. The T-model uses a new RM-style chrome-moly frame, but its geometry and chassis dimensions do not differ greatly from last year's enduro bike. It has a minutely steeper head angle (29.9 degrees in-

With its fairly short wheelbase and smooth powerband, the PE wheelies controllably and effortlessly. That's especially nice when you're riding over whoops and want to keep the front end light.

stead of 30.0) and incrementally less trail (down to 128 from 130mm).

Suzuki modified the 175 in a couple of ways to increase chassis rigidity. They enlarged the steering stem, and they replaced last year's smallish box-section mid-steel swing arm with a larger, extruded-aluminum unit. As a side effect, the new swing arm produces a longer wheelbase, up to 56.3 from 55.9 inches.

This year's PE steers more precisely than the PE-C or N at low or high speed. Along tight forest trails you can guide the PE by body English or by the handlebar, and it will respond equally well. At higher speeds the 175 is stable and reacts neutrally to steering inputs, even in sand where many bikes have an incipient wobble.

Thanks to its fairly short wheelbase the PE can be whipped around fallen logs and boulders pretty easily. If your local enduro courses are mazes of scrub pine,

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SUZUKI RS175T/250T

cent of those bikes. The RS175 steers sluggishly, though with the proper body English it can be made to turn quickly on a tight trail. It doesn't offer exceptional high-speed or fireroad-sliding stability. It handles best over low- to medium-speed, hasty trails, where you can sling the light (225-pound) bike around quickly and easily.

The 175's suspension units resemble those found on previous PEs and RMs, but they are in fact manufactured specifically for the RS. The fork uses coil-spring and 36mm fork tubes (with walls slightly thicker than the PE's). Kayaba shocks with dual-rate springs suspend the rear. Front and rear bottom often over rough ground, and the damping is too light to be truly effective.

Suzuki has detuned a PE175C/N engine in several ways for use in the RS. They've replaced the PE's 32mm carburetor with a 30mm unit, lowered the cylinder's exhaust port 1.5 millimeters (which lowers the power peak), lowered the compression ratio, and retarded the ignition timing. The RS uses the PE's transfer and intake porting, exhaust muffling, crankshaft assembly, flywheel magneto and six-speed gearbox. Not surprisingly, the RS produces the same type of power the PE does (it revs slowly and hits no sudden power

peaks), but it develops much less power at any given rpm. For Sunday trail riding, the 175 powerplant is strong enough for anything from impromptu hill climbing to fireroad cruising—if it's done on a modest scale.

Though the RS250 is also a hybrid, most of its components are nabbed from the PE250C/N's parts shelves. It uses a PE frame, swing arm and shocks, and a DR400 fork and front and rear hubs. The 263-pound RS handles pretty well in most types of terrain. It offers neutral steering response and so can be maneuvered precisely along tight trails, and it's fairly stable at high speed and over whoops. Both the fork and the shocks need better damping and progressive springing to provide a comfortable ride and to avoid frequent and rather harsh bottoming.

Early PE250s were less than awe-some power-wise, and it seems pointless to detune a PE250 engine for use in the RS. That is, however, exactly what Suzuki has done by dropping the compression ratio, lowering the exhaust port, muffling more heavily the exhaust and retarding the ignition timing. Despite those modifications, the RS250 performs respectably well on the trail. It has good low-end and mid-range power, it revs quickly and strongly and,

with its six-speed gearbox, it's fine for high-speed cross-country jaunts.

Neither the RS175 nor the RS250 is in the same league with the PE175 or 250. That is not a precise or completely fair comparison because Suzuki offers the RSs as playbikes—not enduro bikes. However, as we've pointed out, the PEs are better machines for beginners to learn on, regardless of the fact that they are enduro bikes. Besides having more compliant suspension and engines with better low-end and mid-range power, the PEs have several much-appreciated detail items which make trail riding more enjoyable. These include larger fuel tanks (the RS175 and 250 use pitifully small RM motocross tanks, holding 1.6 and 2.2 gallons), quick-change rear wheels, combination tools, skid plates, tuckaway throttles and odometers.

The RS175 costs \$1199 and the RS250 \$1499. For that amount you'll get perfectly acceptable trail bikes, and if Suzuki did not manufacture two very fine enduro machines, we'd end right there. But the PE175 and 250 can be had for \$180 and \$260 more, respectively, than the RSs. You won't go wrong with the RS175 or 250, but for just a bit more money you'll go a lot closer to right with the PEs. *

Suzuki PE175 *Continued from page 48*

travel it feels as if the rear suspension is stiff and non-compliant.

Suzuki completely redesigned the 175's rear-wheel assembly in an effort to produce a truly quick-change rear wheel. They succeeded. After acquainting yourself with the removal procedure, you can dismount and remount the wheel in one minute flat. Add to that time whatever it takes for you to change a tire and you'll have the actual time it takes to fix a flat. The PE's setup is the best stock arrangement we've seen.

It's really a pleasure to see such intense competition among manufacturers in any single market. And anyone who has ridden lightweight enduro bikes can tell you that the factories are going head-to-head in a very attractive class. One-seventy-fives are powerful enough to al-



low their riders to go for the overall win in any local enduro. In fact, some AA riders won a few Nationals overall last year on 175s. And—being 20 to 30 pounds lighter than the typical 250—a good lightweight is easier to ride fast on tight courses. Best of all, 175s are generally much less expensive than 250s. For example, the PE175 (\$1379) is \$440 less than Suzuki's 250.

If you're thinking about buying a lightweight enduro bike for competition, the PE is an excellent choice. When it's time for you to hustle through the rough sections like a motocrosser to keep on time, the Suzuki is equal to the job. It could use better rear suspension to be on a par with its rivals in that respect, but in every other way the Suzuki PE175T is definitely at the front of its class.

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