
SUZUKI

THE SUZUKI PEs

SUZUKI PE400T

Got A 37-Inch Inseam? Boy Have We Got a Bike For You!

Most enduro bikes have roots in their motocross counterparts. A company takes one of their berm blasters, shortens the suspension a bit, corks up the exhaust system, straps on a headlight and Blammo—Instant Woods Weapon. It might sound like a quick and dirty way of building an enduro, but most of the time it works. If the designers make the right changes during the conversion, the result can be a really remarkable enduro bike.

When Suzuki set out to build a serious open-class enduro machine, they tried a little different approach. True, the new PE400 borrows most of its pieces from the RM motocrossers and the smaller PE250 (which is also based on the RMs). There's certainly nothing new about that concept. What is different from the norm is the unlikely assortment of pieces they chose for the engine.

If you expected to see a slightly re-worked RM400 engine lurking under the PE's diminutive 2.8-gallon gas tank, you're in for a surprise. The 397cc PE engine has nothing in common with the 417cc motocross mill. This new open-classer is really a big-bore RM/PE 250. The stroke is the same at 70mm, and the cases are essentially the same too. Cramming 397cc worth of power into a 250-sized package took a good deal of shoe-horning. The PE's cylinder bore is enormous. It would likely take an ant the better part of an afternoon to find his way from one side of the 85mm-wide piston to the other. By comparison, the larger displacement RM has a 5mm smaller bore. The PE400 has a different crankshaft than both the RM/PE250, though the outer diameter on both units is the same. The new crank has a different balance factor to cope with the heavier piston and more flywheel inertia to add a measure of predictability to the short-stroke engine. The big bike's power is fed through the 250's clutch, but two extra plates have been added to handle the additional strain. Like the RM250, the PE400 has a five-speed gearbox, but that's where the similarity ends. The all-new transmission has burlier gears and different ratios to better complement the PE's power. Both the clutch and the gearbox proved durable during the test.

Suzuki had a couple of reasons for employing this mix-and-match motor approach. First, it provided primary kickstarting (a feature not present on the current RM400). Incorporating that in the design would require an expensive and extensive rework of the RM400 lower end. But the main objective was to build a 400 that made the most power without exceeding certain noise limits Suzuki had set. Testing showed that the longer-stroke 417cc motocross engine required more restrictive muffling to keep the noise below the maximum allowable amount. The short-stroker, on the other hand, ran quieter and needed less power-stealing muffling. So Suzuki went where the horsepower was.

Since the motor has most of the same external dimensions as the PE250's, the Suzuki engineers went ahead and bolted it into a PE250 chassis. Dimensionally, the 400 and 250 are the same in every respect. The only disparity is the additional nine pounds of engine weight that the 400 carries. At 268 pounds fully gassed, the PE400 is three pounds lighter than the Kawasaki KDX but two pounds heavier than the Yamaha IT425. The Can-Am 400 Qualifier undercuts the whole bunch with its 259-pound weight. The PE's Kayaba suspension components keep the Suzuki in the hunt among the other open-classers too. The air/spring leading-axle fork strokes 9.8 inches; only the Can-Am's 10.6-inch travel Marzocchi unit has significantly more. The PE's 10.1-inch rear-wheel travel puts it right up among the big guns in the class too. The drawback to having wheel travel of near motocross proportions is the detrimental effect on seat height. The PE's saddle is 37.25 inches above ground level, which can make the bike feel very awkward during slow going. Only the KDX400 sits higher.

Like the smaller 1980 PEs, the 400 has a quickly removable rear wheel. A lot of worthwhile engineering effort went into the design. Using the easy-access multi-purpose wrench stored alongside the bike's headlight, you remove the rear axle after laying the bike on its left side. Simply slip out one spacer and then you can lift the

PHOTOGRAPHY: RICH COX, KEN VREEKE, JEFF KARR, DALE BOLLER, PAT BROLLIER

wheel away without fooling with the chain or rear brake. It takes the hassle out of wheel removal.

The new quick-change layout is pretty straightforward. Both the drum brake and sprocket and carrier make up a sub-assembly which is secured to the left side of the aluminum swingarm with a large hollow bolt. It is threaded inside to accept the threaded end of the axle. There is another similar unthreaded bolt on the right side of the swingarm. When loosened, these bolts allow for conventional-style chain adjustment. The sprocket/brake assembly and the hollow axle locating bolts need not be disturbed while removing or installing the wheel. The wheel hub itself contains nothing but bearings and rubber cush-drive blocks. The rubber blocks stay in place and have six steel-sleeved holes which mate with corresponding cylindrical projections on the back of the brake drum. Re-installation involves engaging the wheel hub to the brake drum/sprocket carrier, sliding in the one long spacer on the right side of the wheel, and then installing and tightening the axle. It's the slickest set-up we've seen and will be invaluable to hard-core enduro competitors.

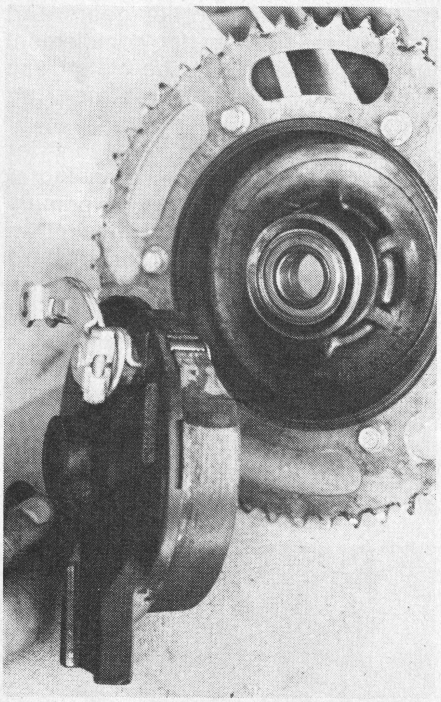
The PEs have non-floating rear brakes and long brake cables that cross over to the left-side backing plate. It's a long and convoluted path, but the brake power and feel was quite acceptable on all three bikes. The 400's rear binder would often chatter just before locking up, but with practice we learned how to keep it under control most of the time. A good full-floating rear brake would be superior, but it would add more weight and complexity to the PE's sprocket/brake assembly. We'd just as soon put up with a little chattering as cough up the extra money for a full floater. That's not to say that the bike is particularly expensive. At $1899 it is at the lower end of the big-bore enduro spectrum.

So is the front brake. It worked reasonably well when new, but it was all downhill from there. Both of the brakes take a long time to dry out and function properly after a stream dousing, but the front unit was permanently affected. It always had enough power to lock the wheel if the lever was given a hearty squeeze, but there was so little feel that it was next to impossible to use it as hard as traction allowed. On twisty stop-and-go trails it was easy to overshoot the turns and barrel into the bushes. The PE250 is fitted with the same brake, yet it functioned adequately.

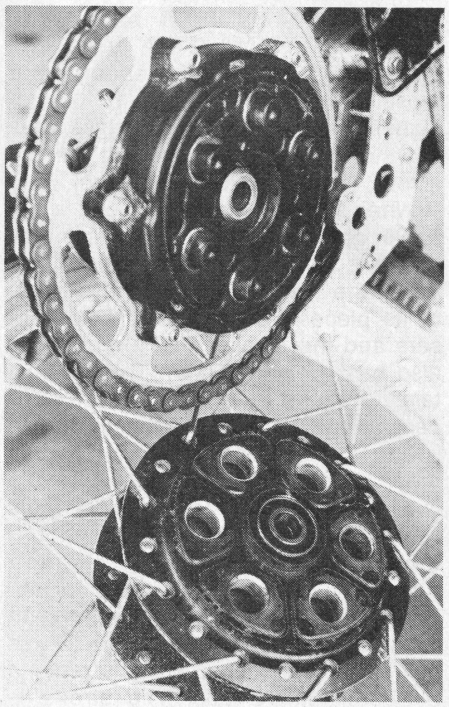
Those tight trails also made another one of the bike's quirks painfully obvious. The 37-inch-plus seat height is simply too high for most riders. Dabbing your foot to stay on course is chancy since you sometimes can't reach the ground to get solid footing. You do get some help at low speeds in the form of light, responsive handling.

The PE's motor works nicely too. It has enough clean-pulling low-end power and flywheel to keep the 5.10-18 Dunlop churning even at near special-test speeds. As the revs pick up the power builds controllably. The Suzuki can't equal the big Yamaha horsepower-wise, but it can get the job done off the road.

Externally the 400 is just about a deadringer for the 250. The chassis is the same.



The brake works well dry, but fades instantly in water. The brake cable stretches quickly, requiring frequent adjustment.



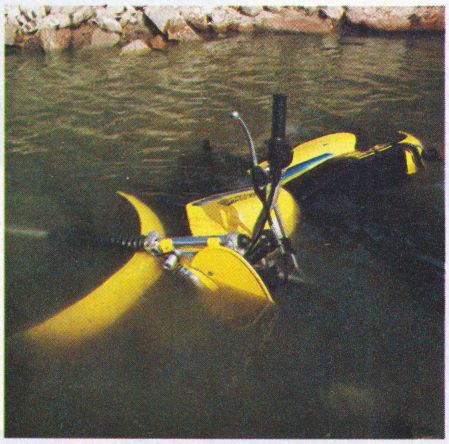
These six lugs on the backside of the brake drum engage the hub's cush drive. Power and braking are fed through them.

At the faster speeds the engine easily generates, the PE's overall handling is comparable to the Yamaha's and better than the Kawasaki KDX's. The PE's suspension is somewhat softly sprung, so it delivers a pretty cushy ride most of the time. Both ends have just a bit more compression damping than would be ideal, but are fine for most riders. With stock suspension settings the fork bottoms more noticeably than the shocks, but a change in the fork oil level could even things out.

The PE is a comfortable machine to ride if you can live with the tall-

ness. You'll find a decent seat and a spacious riding position. The controls work easily and accurately. Nothing of any consequence broke or wore out during the course of our three days of woods and fireroad testing.

The PE400 is indeed an unusual concoction. It's essentially a big-bore hot-rod PE250—which really isn't all that bad. It's not the fastest or the best handling open-class enduro, but it is nearly the cheapest. Suzuki's enduro team has already proven that the bike can win with the right rider aboard. The PE is a good buy for your enduro dollar. *M*



Splash . . . Whoops! . . . Gurgle gurgle, glub glub. Another semi-competent rider is felled with the help of the PE400's stratospheric seat height. The bike can be hard to keep upright in tight stuff.

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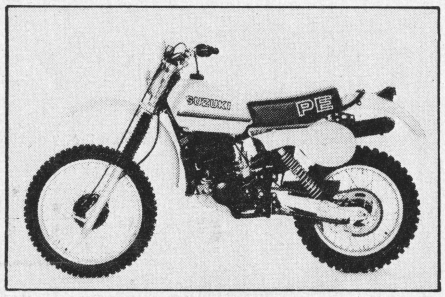
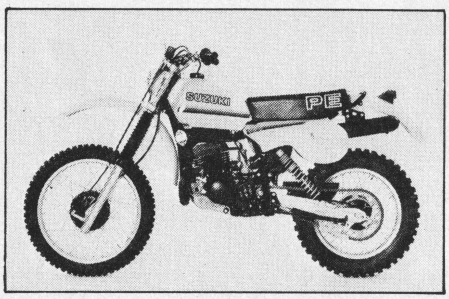
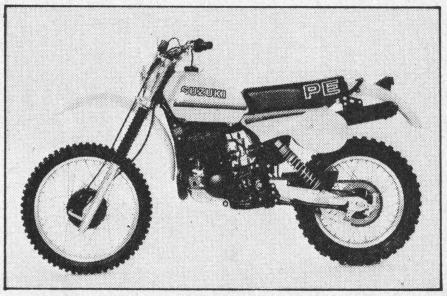


SUZUKI PE175T



SUZUKI PE250T



SUZUKI PE400T

TEST BIKE	SUZUKI PE175T	SUZUKI PE250T	SUZUKI PE400T
Suggested retail price	$1379	$1759	$1899
Warranty	None	None	None
Number of U.S. dealers	1450	1450	1450
Cost of shop manual	Included	Included	Included
ENGINE			
Type	Two-stroke case-reed single	Two-stroke case-reed single	Two-stroke case-reed single
Displacement	172cc	246cc	397cc
Bore x stroke	62 x 57mm	67 x 70mm	85 x 70mm
Compression	7.6:1	7.7:1	7.3:1
Carburetion	1, 34mm Mikuni slide needle	1,36mm Mikuni slide needle	1, 36mm Mikuni slide needle
Ignition	PEI (pointless)	PEI (pointless)	PEI (pointless)
Lubrication	Premix	Premix	Premix
Air filter	Oiled foam	Oiled foam	Oiled foam
Battery	None	None	None
DRIVETRAIN			
Primary transmission	Straight-cut gear, 2.761:1	Straight-cut gear, 2.727:1	Straight-cut gear, 2.280:1
Clutch	13 plates, wet	9 plates, wet	11 plates, wet
Final drive	⅝x¼ (No. 520) D.I.D., 48/12	⅝ x ¼ (No. 520), 52/13	⅝ x ¼ (No. 520) D.I.D., 46/15
CHASSIS			
Fork	36mm Kayaba, 9.84 in. travel	36mm Kayaba, 9.84 in. travel	36mm Kayaba, 9.8 in. travel
Shocks	Kayaba gas/oil, 9.7 in. travel	Kayaba gas/oil, 10.1 in. travel	Kayaba gas/oil, 10.1 in. travel
Front tire	3.00-21 Bridgestone MX M19	3.00-21 Bridgestone MX M19	3.00-21 Dunlop Sports K290
Rear tire	4.00-18 Bridgestone MX M20	5.10-18 Bridgestone MX M20	5.10-18 Dunlop Sports K290
Rake/trail	29.9°/5.04 in. (128mm)	29.5°/4.92 in. (125mm)	29.5°/4.92 in. (125mm)
Wheelbase	56.3 in. (1430mm)	56.9 in. (1445mm)	56.9 in. (1445mm)
Seat height	36.0 in. (914mm)	37.25 in. (946mm)	37.25 in. (946mm)
Ground clearance	12.2 in. (310mm)	12.5 in. (317mm)	12.5 in. (317mm)
Fuel capacity	2.8 gal. (10.6 liters)	2.8 gal. (10.6 liters)	2.8 gal. (10.6 liters)
Wet weight	241 lbs. (109kg)	259 lbs. (117kg)	268 lbs. (121kg)
Colors	Yellow	Yellow	Yellow
Instruments	Tripmeter resettable by tenths	Tripmeter resettable by tenths	Tripmeter resettable by tenths
PERFORMANCE			
Power to weight ratio	10.8 lbs./hp	9.16 lbs./hp	7.82 lbs./hp
Mileage & approx. range	20 mpg average, 56 miles	25 mpg average, 70 miles	16.9 mpg average, 47 miles
RPM at 60 mph in top gear	7603	6413	5485
Speed in gears at (redline)	(9000) 1st 20.1 mph; 2nd 28.0 mph; 3rd 37.7 mph; 4th 47.8 mph; 5th 59.4 mph; 6th 71.0 mph	(8000) 1st 23.8 mph 2nd 32.5 mph; 3rd 42.1 mph; 4th 51.9 mph; 5th 62.9 mph; 6th 74.8 mph	(7000) 1st 29.0 mph; 2nd 38.3 mph; 3rd 49.0 mph; 4th 62.6 mph; 5th 76.5 mph