Suzuki PE175

IT DEBUTS IN THE HEART OF THE ENDURO MAINSTREAM

In bygone days (three years past in motorcycle chronology) European machinery dominated the terrain-and-time events—enduros and Qualifiers. A few modified DT or MX Yamahas and XL Honda specials could be seen on the trails, but rarely did anything but a Penton or Husky win. Then in 1976, after Honda's first attempt with the MRs, Japan got down to business with an enduro-ready and ISDT-bred off-roader called the Yamaha IT400. Suddenly there was an enduro bike (a real enduro bike) that didn't cost an arm and leg. Most of them never even saw the key-time clock of an organized event, but were gobbled-up by the rider who liked to cruise around on weekends at his own pace, not wanting the mediocre performance of dual-purpose bikes or the demands and price tag of a European mount. A year later Yamaha introduced their IT250 and IT175 models. Simultaneously Suzuki released the PE250.

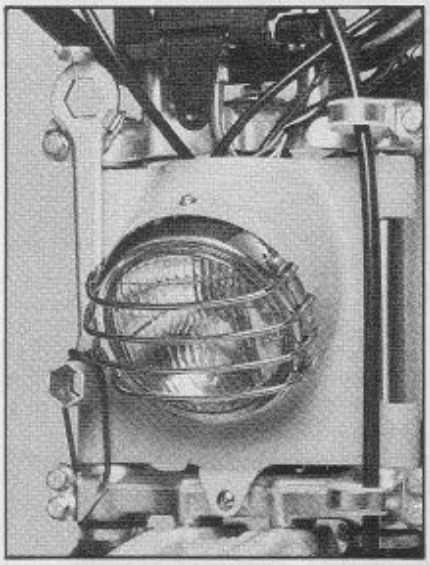
To directly compete with the IT175, and an exercise delving more into "race" than playbike, Suzuki's '78 line-up includes the PE175, so far the best bargain in enduro and Two-Day applications from the land of rice and saki.

Well before production of our test bike Suzuki's Enduro Team headed by John Morgan on the East coast ran prototype machines at the beginning of the '78 enduro season. In 16 starts aboard 175 and 250 machines they've had 16 finishes, and have performed well enough to earn 13 national point placings in those events. The 175, more than the 250, is considered by many to be a very serious effort by the Japanese to produce a bike that's competitive with the Europeans, but superior in design, price and dependability.

In this exclusive *Motorcyclist* test, we'll find that the PE175 is possibly the best mixture of two Suzuki worlds. Possessing lightness close to that of the RM125 with power rated just below the PE250, the engineers have come up with a combo of tractability, light weight, good handling and unlimited possibilities.

The frame of the PE175 is identical in geometry dimensions and materials to the RM frame with the addition of a rear loop to support the back fender. The 175 has lighter suspension springs than the PE250, but still achieves the same amount of wheel travel from its Kayaba suspension. While the RM-C model motocrosser utilizes an aluminum swingarm with full-floating rear brake, the PE retains the same swingarm as last year's RM, a steel unit not equipped with a floating brake system. Its rear shocks are gas charged DeCarbon models, but don't come with the RM's remote reservoirs. Overall cost, and the possibility of crunching the rear brake anchor arm in rock sections, kept the floating system and higher caliber shocks off the PE.

Externally the engine looks similar to the RM125, but closer inspection reveals that very few major parts, with the exception of the clutch unit, are interchangeable. The PE motor is designed specifically for enduro and woods riding and possesses different engine center cases, gearbox pieces and top-end dimensions. Suzuki uses a case-reed system on the motor along with six-port scavenging in the cylinder designed to improve intake efficiency throughout the range while reducing residual gases in the cylinder. A no-maintenance Pointless Electronic Ignition system (PEI) is set at a comparatively retarded setting in relationship to the RM. A built-in lighting coil drives the front and rear bulbs with an output of 50 watts at redline revs, but the system can be easily modified to accept brighter Baja-type lights.



Headlight with high/low beam element is protected by rock guards. Wrench on right is all that's required for wheel removal on both ends, and cable guides keep front brake cable from snagging at inopportune times.

DIRT TEST

The six-speed is shifted by parts found in the RM, but the PE is capable of much higher top speeds due to different gear ratios and greater engine power. It can slog through the woods at a turtle's pace or make-up time on fire roads at a high clip.

By utilizing a large flat washer in the center chamber of the upswept pipe, the PE produces much higher torque readings due to the utilization of this artificially produced back pressure. The silencer/spark-arrester mounts to the rear frame loop at the seat tab, and is centrally located by weight to greatly diminish the possibility of mounting tab breakage. The muffler is just quiet enough to pass enduro requirements, yet is still free flowing so as not to severely hamper horsepower by high restriction of exhaust flow.

The IRC tires on the 175 are similar to those found on the new 250, a knobby design with strong sidewalls that extend past the width of Takasago aluminum alloy rims. Similar to a Barum Rim Saver in shape, the PE tires grip well and are able to be ridden on a flat without slipping off the rim and thereby destroying themselves or the tube. Fewer punctures due to pinched tubes occur with this design as well. Lug nuts secure the beads, but we'd rather see rim spikes to facilitate fast tire changes.

A 3.2-gallon plastic gas tank mounts up front by a single bolt through the frame and in back by a quick-detachable rubber strap. Utilizing one petcock on the left side, the tank will hold enough fuel for an 80-mile jaunt. Testing in Japan found a fully-filled PE tank could survive a drop of 16 feet with no apparent damages. An RM fender mounts up front because of its greater width and ability to keep mud and water off the rider. Due to the rear taillight and frame loop, a different fender fits on the back, but it's just as wide as the RM piece. A compact non-street legal taillight is mounted flush to the rear fender, behind the frame loop.

Our taillight blew early in the test, apparently from an electrical surge. Since the rear bulb is wired through the headlight circuit, the low beam

PHOTOGRAPHY: RICH COX, MIKE LEVASHEFF

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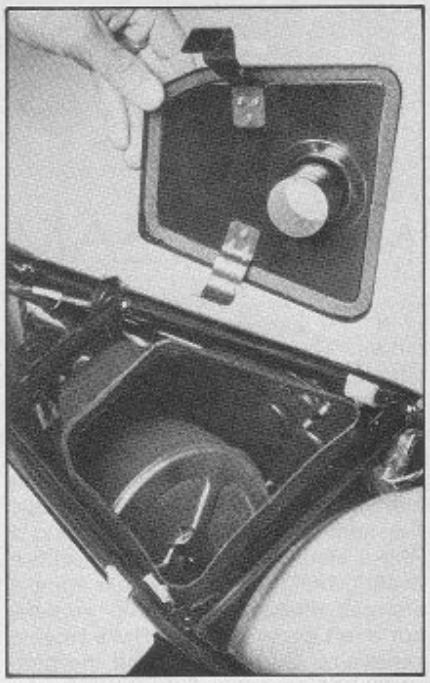
headlight filament also fried due to a surge from when the taillight blew. In order to rectify this problem, install a higher wattage bulb than stock in the rear taillight. This will usually absorb any errant electrical surge, and should keep all three filaments burning continuously.

Both a chain guide and a chain tensioner are used to take up the slack caused by almost 8 inches of rear wheel travel. The swingarm-mounted tensioner maintains uniform pressure on the No. 520 Daido chain (with master link) regardless of where the rear wheel is in its arc. Just behind the countershaft sprocket a guide prevents waving chain motion which usually occurs when the power jerks on-and-off or when the wheel bounces on rough terrain. Since the shift-shaft runs below the chain's path, a small plastic roller keeps it from being sawed in half.

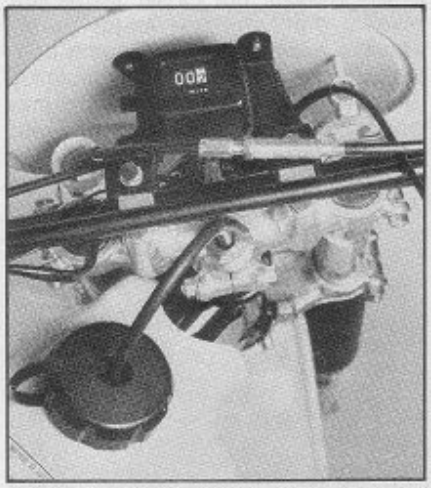
The PE is equipped with a backing plate on the rear wheel that incorporates a dust and water lip over the drum/backing-plate cover. This aids in keeping water from entering the rear brake shoes. Up front the new RM conical hub spins between PE leading-axle forks. While riding in water we experienced some brake fade, more so up front than in the protected rear unit. After both wheels have been submerged, it requires about four or five squeezes of the brakes to sufficiently return them to a good operating condition. When dry, both brakes possess plenty of stopping power and are very precise due to their progressive feel.

A bright yellow headlight made of high impact plastic works surprisingly well for its feeble 15-watt rating and features both high and low beam settings. The unit is guarded fairly well from rocks and tree branches by four metal bars across the lens face. Above the headlight a small numberplate doubles as a protector for the floating-mounted odometer. This superb instrument is a first in motorcycling and a godsend for enduro competitors who don't use a speedometer needle anyway and always have trouble reading its tiny trip meter. The Suzuki odometer sits isolated from harm behind the numberplate and it's the only thing a rider sees when he glances down to check mileage. Highly visable oversize numbers and the fact that the odometer begins moving immediately after each reset makes it the best stock enduro instrumentation on any bike.

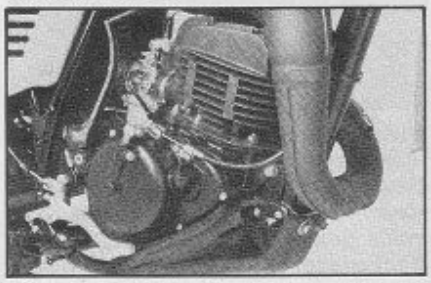
Although it's very similar to the RM in dimensions, the overall feel of the



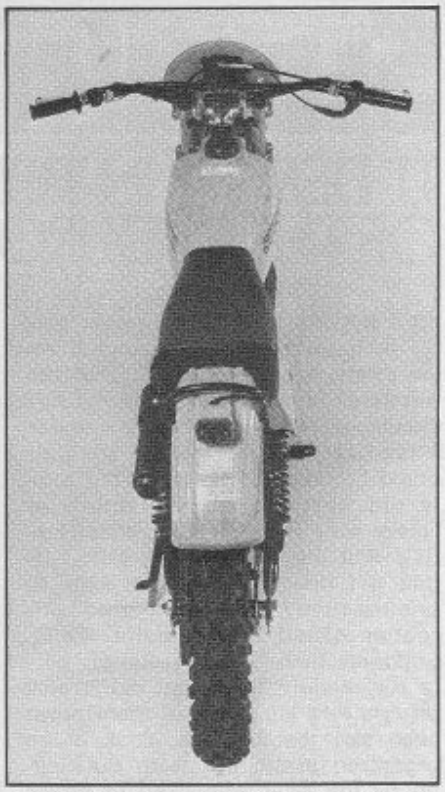
For riding in muddy events, this splash guard sits atop the air filter element. Soap and water is best cleaning method for the filter, which should be checked after each ride.



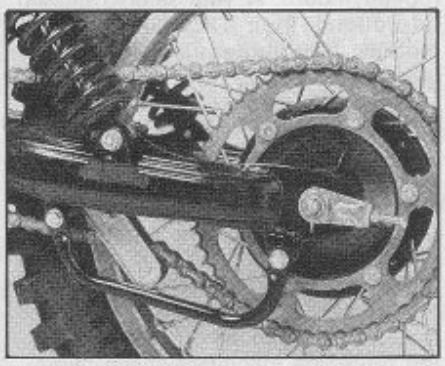
Easy to read large numerals of odometer are resettable by tenths. Nobody should have problem getting fuel into the PE's extra large gas tank filler hole.



Although it looks similar, the PE motor doesn't have much in common with RM dimensions. Rock guard keeps gears inside gearbox instead of spread about on trails, while the pipe is internally quieted through mesh screen and baffles.



Smooth design lines between sidepanels, seat and tank can be seen from this overhead view. It's easy to scramble around aboard the PE, a big help in tight woods.



Chain tensioner from the RM keeps slack pulled up, while the trick sprocket guard takes abuse from rocks without destroying hub. Six bolts hold the sprocket to the hub, and should be tightened after first two hours of riding.

Super long silencer/spark arrester keeps PE exhaust to a quiet whisper. The frame loop to support the fender is added to a stock RM frame for the PE, along with integral taillight, ribbed rear fender.

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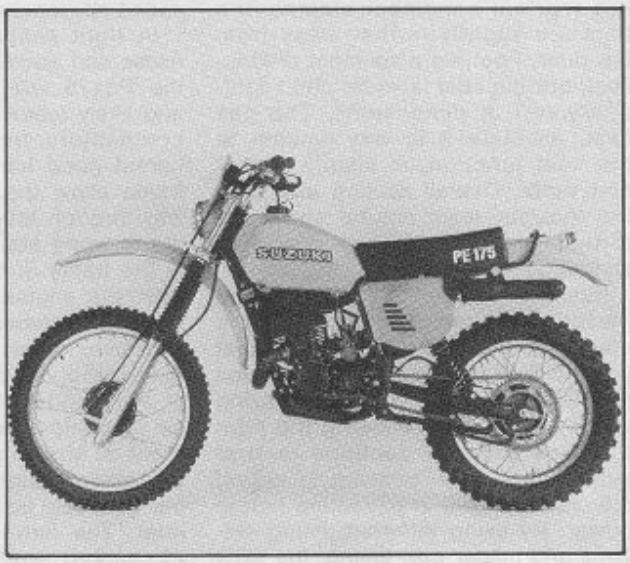

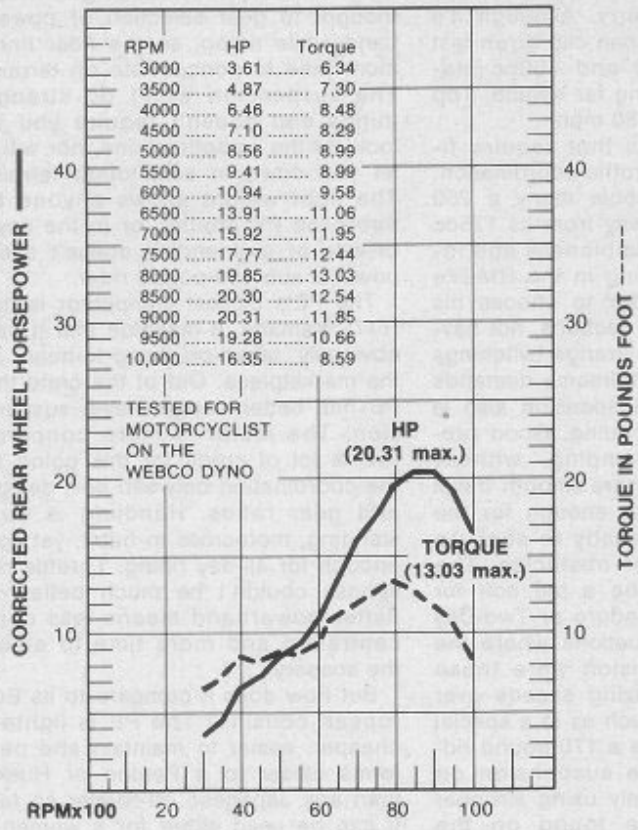

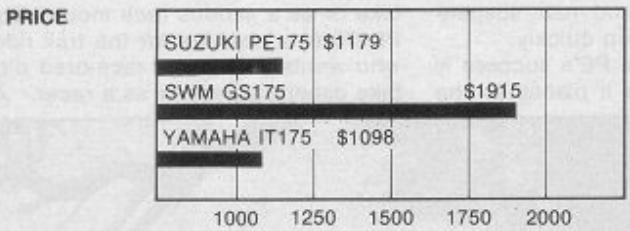

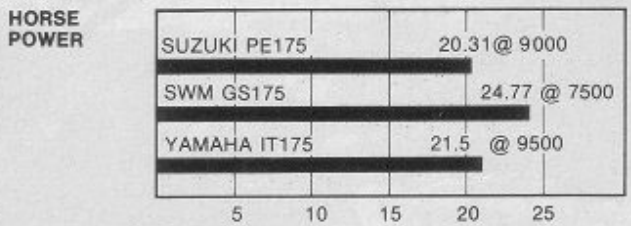

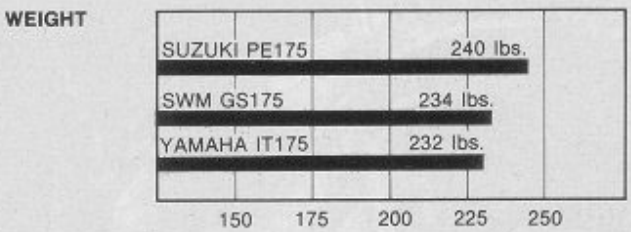

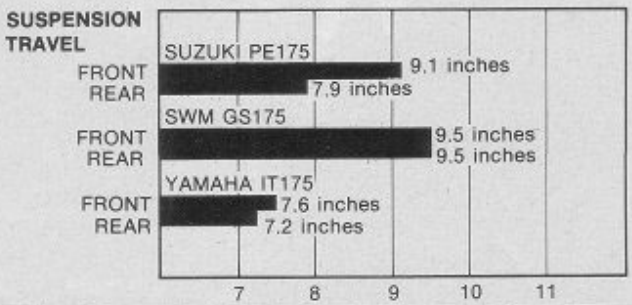

Suggested retail price	$1179
Warranty	None
Number of U.S. dealers	1600
Cost of shop manual	None

ENGINE

Type	Two-stroke case-reed single
Displacement	172cc
Bore x stroke	60 x 57mm
Compression	7.6:1
Carburetion	1, 32mm, Mikuni
Ignition	Suzuki electronic (PEI)
Lubrication	Premix; Suzuki CCI 20:1
Lighting output	50 watts @ redline
Battery	None

DRIVETRAIN

Primary transmission	Spur gear 4:1
Clutch	13 plates wet
Secondary transmission	⅝ x ¼ Daido chain 12/48

CHASSIS

Fork	Kayaba, 9.1-inch travel
Shocks	Kayaba, 7.9-inch travel
Front tire	3.00-21 IRC
Rear tire	4.10-18 IRC
Rake/trail	30°/5.12 in. (130mm)
Wheelbase	55.9 in. (1420mm)
Seat height	35 in. (889mm)
Ground clearance	11 in. (280mm)
Fuel capacity	3.2 gal. (12 liters)
Wet weight	240 lbs. (108kg)
Colors	Yellow
Instruments	Odometer resettable both ways by 10ths.

PERFORMANCE

Power to weight ratio, unladen	11.82 lbs./hp
Average fuel consumption	25 mpg
Touring range	Approximately 80 miles
Speed in gears @ power peak	1st 20.64; 2nd 28.81; 3rd 38.73; 4th 51.02; 5th 61.01; 6th 72.88

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PE is very different. Since it doesn't use rear-set handlebar clamps, the bars are slightly farther away from the rider. Footpeg placement is identical, but the seat is wider and slightly squarer in dimensions. The gas tank, although it is very smooth at the seat junction, is visibly higher and wider. Overall seating and control location feels natural and comfortable by today's tall dirt bike standards.

Riding the PE is often an effortless pleasure. Its main distinction from other enduro bikes is the fact that you do less work to get the same results from the PE. It's got amazing amounts of torque, allowing the rider to plonk through sections in first gear without even thinking of asking the clutch for aid in extracting horsepower. By using different timing settings and milder port timing, the PE's powerplant is very difficult to catch off guard—just roll the throttle on and pull your way out of mudholes or snake through gnarly uphill sections.

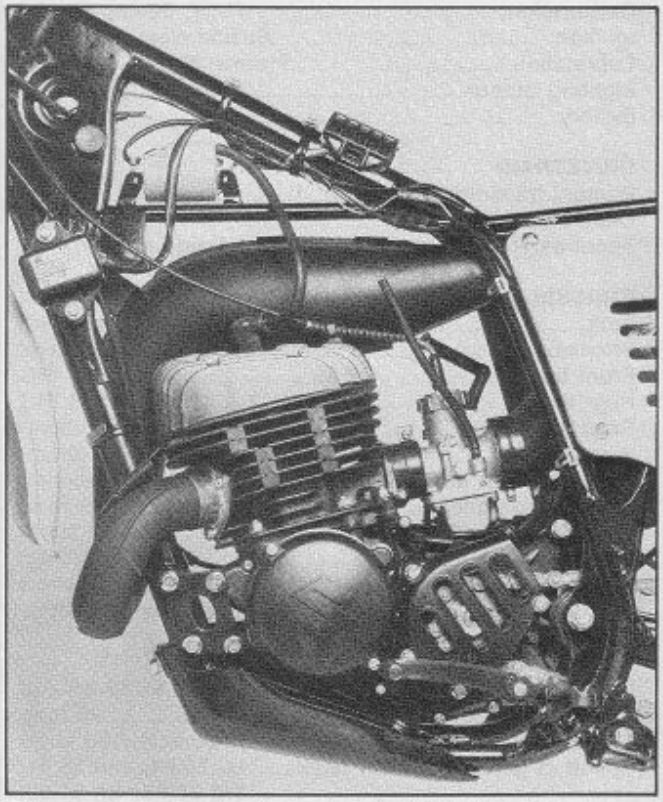
Second and third gears are closely spaced and designed for eastern enduros where 24 mph is often almost impossible to maintain. Fourth and fifth are normally staged and sixth gear is a flyer and well computed for those times when you've got to make up ground in a hurry. Although it's only a 175, the PE can clip down fast sections with 250 and 400cc machines without falling far behind. Top speed approaches 80 mph.

In tight sections that require finesse and good throttle coordination, the PE175 will gobble many a 250 and likely motor away from its 175cc competitors. Its nimbleness and inherent good handling in the RM-like frame allow the rider to choose his way through tough sections, not having to worry about strange twitchings in the frame or bothersome demands from the engine. Suspension also is spot-on for woods riding. Good progressive down damping, without quick rebound, delivers smooth travel at both ends—plush enough for the small bumps, yet ready to soak-up most of the bigger obstacles. The suspension might be a tad soft for the seriously fast enduro or Two-Day rider. The only situations where the PE lacked suspension were those which required blazing speeds over unknown terrain, such as in a special test. It's here where a 170-pound rider can bottom the suspension on both ends. By merely using stronger springs like those found on the PE250, both front and rear suspension can be beefed-up quickly.

The big key to the PE's success is the lack of demands it places on the owner. He doesn't need to give much thought to gear selection or powerband while riding, so the rider finds more time to concentrate on terrain. The suspension won't do strange things and doesn't require you to look for the smoothest line, nor will it let you down in semi-tough terrain. The light weight allows anyone to throw the PE around, or in the case of wife or girlfriend, it doesn't overpower a sub 150-pound rider.

The PE's closest competitor is the IT175 Yamaha, a machine that it has obviously taken-on head-to-head in the marketplace. Out of the crate the PE has better, longer-travel suspension. The motor is more cooperative—a lot of credit for this going to the coordination between port design and gear ratios. Handling is outstanding, motocross in habit, yet soft enough for all-day riding. Throttle response couldn't be much better. A flatter powerband means less concentration and more time to enjoy the scenery.

But how does it compare to its European cousins? The PE is lighter, cheaper, easier to maintain and performs closer to a Penton or Husky than any Japanese off-roader so far. It can be used either for a women's bike or as a serious race mount. The PE175 is a machine for the trail rider who wants to enjoy a race-bred dirtbike either casually or as a racer. *M*



The new 172cc motor is equipped with PEI ignition, case reed induction, a 32mm Mikuni carb and six speed gearbox. Well designed sprocket cover also doubles as a chain and case protector, keeping brush and mud from jamming 520 size chain.