SUZUKI PE175

A Lightweight Six-Speed Enduro That is Already Winning

CYCLE WORLD TEST

■ We tested the first Suzuki PE250 in December 1976. We took it to Baja California and ran it for two days and one night, until we logged 1000 miles. We were impressed with the new PE and predicted both smaller and larger displacement models. The smaller 175cc model is here.

The wait has been worth it.

The new 175 may be the best small bore enduro bike presently available to the general public.

It would be only a little bit wrong to say Suzuki produced the PE175 off the parts shelf. Like its big brother and its rival, the Yamaha IT175, the smaller PE is a mixture, or maybe a descendant, of the motocross bikes: same basic frame and suspension, with revisions for lower speed and rougher ground, same basic engine as the 125 RM but increased in cc's and tuned for more torque and less power within a wider rev band, and the same good gearbox with ratios juggled for engine and chassis and rider demands.

It has a sleek, uncluttered, business-like look. All necessary enduro items are furnished, but the fat has been left off. The odometer is a fine example. Right, odometer—not speedometer. Most riders find the standard speedo becomes mostly blur in enduro conditions and because the speed needle takes all the dial, the odo, that more useful gadget that measures how far you've traveled, is usually small.

Suzuki did the logical thing and replaced the speedometer with a giant odo only. The numbers are twice normal size and can be read while bouncing over rough ground. The reset knob is equally large, can be worked with gloved hand and clicks the dial forward and backward by 10ths. As a clincher, the odo is tucked away behind the front number plate, for protection.

There is a flaw. The odometer only reads up to 99.9 miles. Some enduro loops—or point-to-point sections—are longer than 100 miles. Further, many enduro sanctioning groups post cumulative mileage at speed changes even when the event is broken up into several loops or sections. For that reason, riders often keep time on a cumulative mileage basis. In a long, close event, the 20 or 30 seconds a PE175 rider might have to spend converting what the odo says into cumulative mileage could mean the difference between winning and losing.

A 5-in-1 combination wrench rides behind the right side of the front number plate. It slides into a bracket attached to the top triple clamp and a rubber band holds it in place. This mounting looks too simple and we were sure it would fall off, but it didn't. The big end of the wrench fits the rear axle, the 12mm box end fits the wheel adjuster, pipe bracket bolts, chain tensioner protector, handlebar clamps and triple clamps. A steel pin jutting from the 12mm box is used to pull the axles. At the >

Action photos by Len Vucci and Jim Hansen


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The 175 has a strong, well designed frame.

Steel skid plate protects well. Mounting bolts are recessed and trans oil may be changed without removal of plate. Kickstand spring is vulnerable to damage in rocky terrain.

First class cable guides and heavy cables are standard. Forks aren't air adjustable.

Nice plastic air box with foam air cleaner and metal cover with too-sharp edges.

Front forks are plush and have 9 in. of travel. Heavy duty clamps keep the cables out of the wheel. Rim saver tires are good.

opposite end is a spark plug wrench and a box end that fits the front axle. Enduro riders have been building combination tools like this for years. Now the PE has one stock. (Although this one tool will fit many parts, the serious enduro rider will still carry others.)

The new PE's 3-gallon gas tank is plastic and has been designed to keep the fuel as low as possible. It is fairly narrow for such a large tank and not much of it extends above the frame's backbone. To keep the weight low, the tank's bottom is staggered; the left side is lower than the right. The right hand bottom is stepped, to allow clearance for the pipe and also give maximum tank volume. The single petcock is located on the low side and has the lever pointed inward so brush and knees won't shut it off. At the top is a large filler hole with a plastic cap and attached safety strap. The strap prevents dropping the cap and the generously sized filler hole makes it easy to see the fuel level while filling. This seems like the right approach to large tank design and helps make the 175 feel even lighter than its 228 lb.

Other color-impregnated plastic parts are the side number plates, headlight housing and fenders. The large front fender is the same fine design used on the latest Suzuki RMs and does an excellent job of protecting the operator.

The rear fender is wide and long, has an integral taillight, and a flat-ribbed area between the seat back and rear frame loop. This flat spot makes it easy to attach a leather tool bag or spare tube. Both fenders have molded-in stiffening ribs, to keep them from bending and rubbing the tires when packed with mud.

The suspension is the same as the PE250, with rates adjusted for weight. The front forks are leading-axle jobs that allow over 9 in. of plush travel. Rubber gaiters keep mud out of the seals and help protect the stanchion tubes.

The rear features gas-charged KYB shocks in a cantilevered position. They have dual-rate springs and let the rear wheel move a distance almost equal to the front. They don't have remote reservoirs and aren't rebuildable. The bodies get cooling air through vents in the number plates, though, and no fade was noted during many hours of hard work. Spring rates are perfect for play riders of all weights and for intermediate riders up to 150 lbs. The "A" enduro men can easily swap shocks or springs from the accessory people or the PE250.

This fine suspension is connected to a solid single downtube frame much like an RM. It has a large backbone tube triangulated and gusseted at the steering head. Two small tubes go under the engine and curve up and forward where they attach to the backbone tube. The seat rail tubes connect close to the backbone and continue back to become the rear frame loop. A curved tube is hung below this seat rail tube and has another tube that ties its middle to the main frame at the swing arm pivot. The swing arm is a steel, rectangular box design that Suzuki has used successfully on their production motocrossers.

Although the drive sprocket sits close to the swing arm pivot, a spring-loaded chain tensioner is still employed. To help protect the tensioner and rear sprocket, a bolt-on tubular steel guard is furnished—a nice touch appreciated in rocky areas.

The bike is delivered with side stand and brackets for a centerstand. Casual riders prefer the former and serious enduro entrants like the latter, for ease in changing tires quickly on the trail, so a centerstand is an option.

Tires are IRC rim-saver knobbies. Extended sidewalls protect the rims from rock-caused dents and from damage when the bike must be ridden on a flat, an important bonus for qualifier-type racers. The IRC tires gripped well in dirt and across rocks. Shoulderless aluminum rims are laced to strong hubs.

Spark arrester/silencer is quiet. Rear fender has flat spot on top for mounting a tool bag or carrying a spare tube.

Bolted on guard protects the chain tensioner and sprocket.

Braking was good, but not quite great. The rear unit has a nice lip to block water and dust from the drum, and while it isn't completely waterproof it did seem to reduce loss of brake power immediately after water crossings. Brake torque is taken by the swing arm, unlike the full-floating system on the newest RMs. Didn't seem to matter, though, as the suspension keeps the back wheel on the ground even with brake torque working against it. The front brake, housed in a nifty conical hub, also gets wet and also dries quickly with a couple applications.

The generous air cleaner lives in a large air box, serviced via a lid on the top. The lid didn't make friends with us—its sharp edges gave one of our men a gashed finger while poking around for the filter.

At first glance the PE175 engine seems to be an enlarged RM125. Not so. More a result of the same design crew working on both projects. The clutch interchanges but cases, barrel and so forth are timed and sized for mid-range power and good pull through the rev range. Pointless ignition is fitted and the lighting coil has enough output to handle the stock lights and/or a modified system for night work.

The gearbox also has RM parts, mostly in the shift mechanism, but the ratios are carefully spaced. The first two are for crawling through the underbrush, then there's a choice of two for blasting, well, sort of, out of turns, and then there are two for fire roads and flat-out stuff. All are correct for the job, and the high top gears give the 175 a maximum speed of 70 or better, assuming the ground is hard. Closer gear spreads would improve drag potential, and lower gearing on the top would let the little motor pull 5th and 6th in soft dirt or sand, but overall the ratios are well suited to the engine. The compact little engine has an exceptionally wide, smooth powerband and the clutch always completely engages and disengages smoothly. The high crossover pipe terminates in a forestry service-approved spark arrester. Quiet, unobtrusive, and legal.

A small headlight nests in the plastic housing. It is surprisingly bright and has a high and low beam. A token rock guard for the glass lens will only stop objects larger than ⅝-in. A heavy wire mesh screen would be better.

The little PE comes with a good wraparound steel skid plate. It has one hole in the bottom so transmission oil changes may be easily performed, and two more holes in the right front to allow the owner to check front motor mount bolt tightness. The bottom attaching bolts are located in depressions so they won't hang up when the plate is skidding over a large rock or fallen tree. Neat.

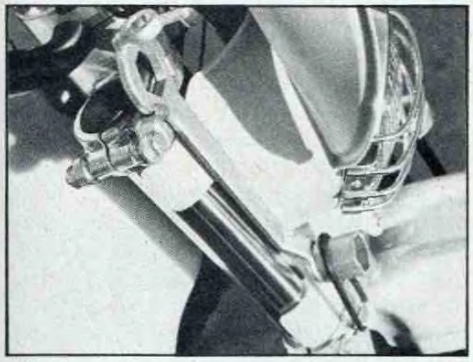
One thing that will eventually cause problems is the location of the side stand spring. Suzuki places their return springs under the stand, which gives a nice uncluttered look but . . . eventually a rock will surely shear the spring peg and let the stand flop. Very annoying when in the heat of competition. Better they put it on the top, where it's ugly but safe.

Except for that small thing, detailing is complete. The throttle cable has a heavy, formed-rubber housing that slides onto the throttle and routes the cable out of harm's way. The front brake cable moves through nice nylon cable guides like the late Yamahas have been using, and a heavy duty cable clamp holds the odometer and front brake cable in place on the fork slider. Both hand levers have formed covers that allow quick access and give good protection to the pivots. And the drive chain is a D.I.D. 520 TR, just like the RMs use. We have found the D.I.D. TR chain an excellent choice, giving a long, trouble-free life.

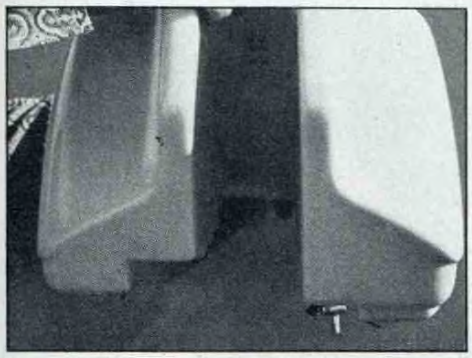
Riding the PE is pure delight. It has a solid, light feel that permits the rider to play for hours without fatigue. Both front and rear suspension components are matched and set up for comfort as well as >

Throttle cable is routed back out of the way of tree limbs and brush.

Odometer with large numerals is protected by number plate.



Five-in-one wrench saves weight and is easy to get to.



Large plastic gas tank carries the fuel low on the bike. Note staggered bottom.

SUZUKI PE175

SPECIFICATIONS

List price	$1179
Suspension, front	telescopic fork
Suspension, rear	swing arm
Tire, front	3.00-21
Tire, rear	4.10-18
Engine	two-stroke Single
Bore x stroke	62 x 57mm
Piston displacement	172cc
Compression ratio	7.6:1
Claimed power	na
Claimed torque	na
Carburetion	32mm Mikuni
Ignition	CDI
Lubrication system	premix
Oil capacity (transmission)	1.7 pt.
Fuel capacity	3.2 gal.
Recommended fuel	premium
Starting system	primary kick
Air filtration	oiled foam

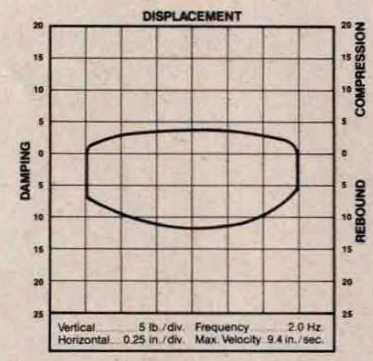
POWER TRANSMISSION

Clutch	multi-disc, wet
Primary drive	straight-cut gear
Final drive	# 520 chain
Gear Ratios, overall:1	
6th	9.66
5th	11.54
4th	13.81
3rd	18.19
2nd	24.45
1st	34.13

DIMENSIONS

Wheelbase	55.9 in.
Seat height	35.5 in.
Seat width	7.5 in.
Handlebar width	34.0 in.
Footpeg height	14.0 in.
Ground clearance	11.3 in.
Front fork rake angle	30.0 deg.
Trail	5.1 in.
Curb weight (w/half-tank fuel)	228
Weight bias, front/rear, percent	46.5/53.5

FRONT FORKS

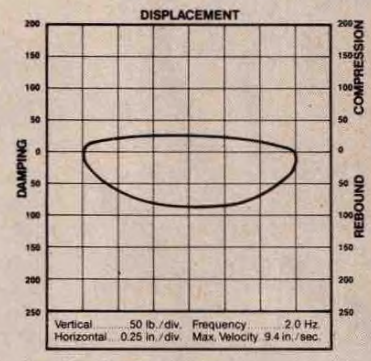


Kayaba leading-axle fork

Fork travel	8.9 in.
Engagement	6.1 in.
Stanchion tube diameter	36 mm
Spring rate	16/25 lb./in.
Compression damping force	3 lb.
Rebound damping force	12 lb.
Static seal friction	7 lb.

Forks on the 175 are the same as those on the C-series RMs, but have one inch less travel and one inch more engagement. Damping rates are about half that of the RM, while the dual-rate spring is slightly stiffer. This combination is perfect and, enhanced by low seal friction, produces a soft, compliant fork which is ideal for the bike.

REAR SHOCKS



Kayaba DeCarbon shock

Shock length	15.0 in.
Shock travel	4.7 in.
Wheel travel	9.0 in.
Spring rate	55/123 lb./in.
Compression damping force	30 lb.
Rebound damping force	83 lb.

The rear end of the small PE offers a plush ride with excellent control. Relatively soft spring and damping rates allow full use of the generous amount of travel, yet bottoming rarely occurs. Those over 150 lb. in weight and/or very aggressive riders may wish to increase spring rate by 10 lb./in. or so; the majority will like the suspension as is.

control.

Power delivery is smooth but even so, to go fast requires the rider to wind the engine and stir the gear box constantly. This characteristic isn't one of poor design, but standard practice on any small engine asked to propel a full sized adult at racing speeds. Mid and low range power is good for its size and it can play mountain goat all day without loading up or complaining, but total power output doesn't seem as good as a Yamaha IT175.

The PE175 is a hard bike to fault. It feels a bit high at first, a function of the long suspension travel, but that impression is forgotten as soon as the bike is in motion. The 175 is light and feels lighter. There appear to be only a few, differences between the PE and its closest competitor (the IT175), yet the PE steers with more precision and is as stable at top speed. Suspension control is so close in both bikes that picking one as better than the other will depend on the rider's individual taste and experience.

The PE175 doesn't have the finely honed precision of, for example, the Hercules. Doesn't quite have a specialty like the woods-perfect Alpina.

Nor does it make the demands of the high-priced jobs. A 16-year-old novice can ride all day behind his dad, the four-stroke slowpoke, and enjoy himself while the PE doesn't foul plugs or topple over. And the Suzuki enduro team can—just did—finish first and second overall in a national enduro, riding PE175s.

So, Small-bore fans looking for an excuse to buy a new bike, or for just the right mount for wife, daughter, son, etc., are advised to check out the PE175.

Detail photos by Ron Griewe