

250 Trailout

YAMAHA IT & SUZUKI PE

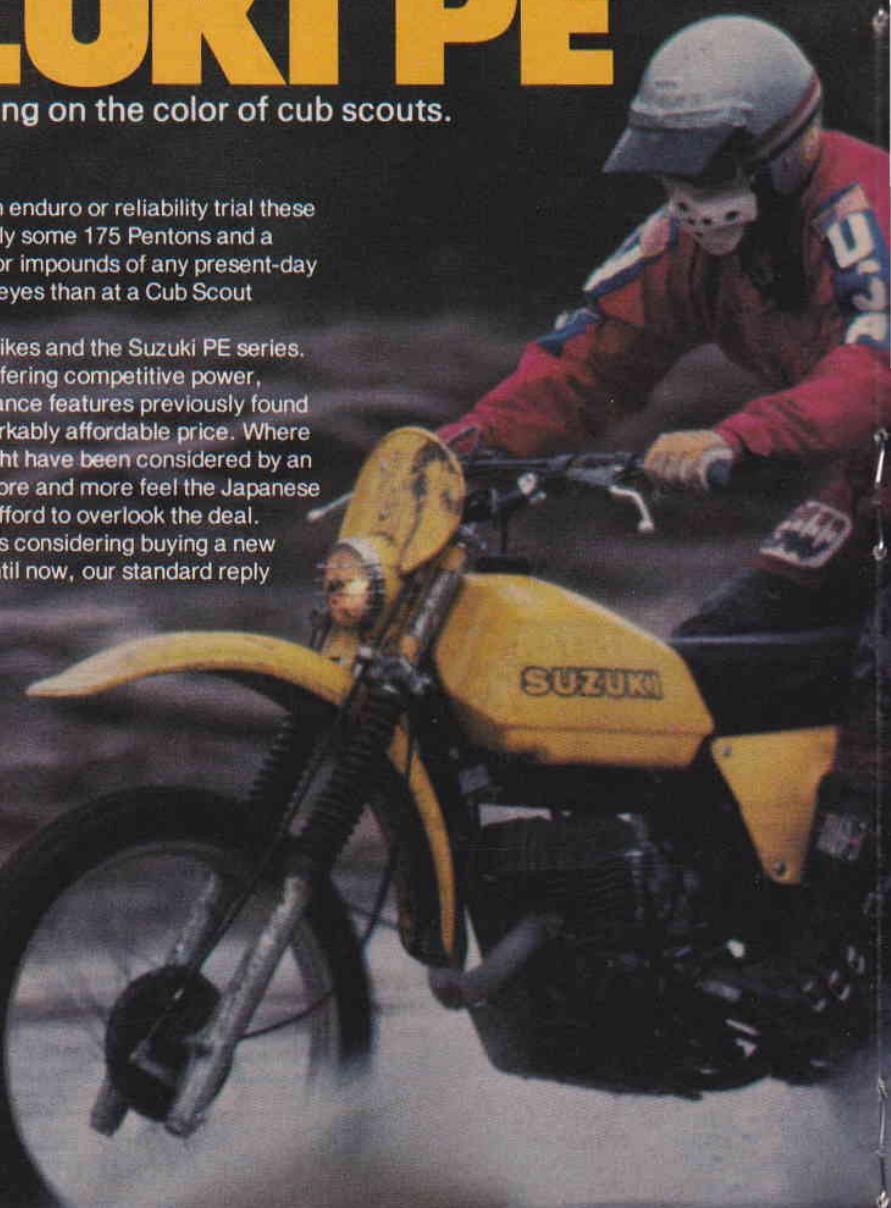
The reason why cross country is taking on the color of cub scouts.

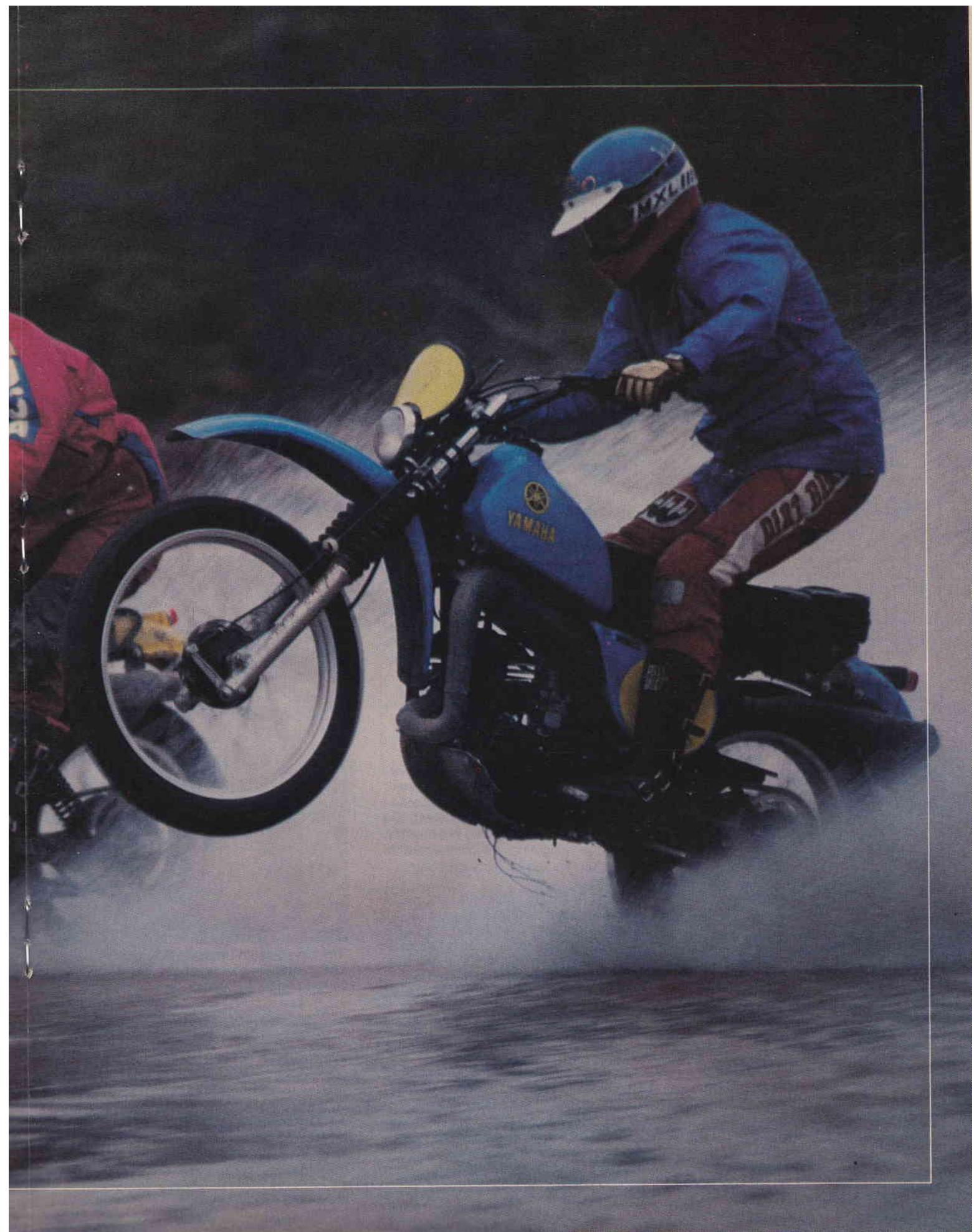
By the Staff of Dirt Bike

□ Blue and yellow. Just a few years ago, at any given enduro or reliability trial these would have been minority colors, representing possibly some 175 Pentons and a handful of Rokons. Scan through the starting lineups or impounds of any present-day event and more blue and yellow will pass before your eyes than at a Cub Scout convention.

The reason lies with the Yamaha line of IT enduro bikes and the Suzuki PE series. Both have taken the cross-country scene by storm, offering competitive power, handling and suspension, plus reliability and maintenance features previously found only on more expensive European bikes, all at a remarkably affordable price. Where once only the names of Penton, Husky or Bultaco might have been considered by an above-average or serious cross-country rider, now more and more feel the Japanese packages fill the bill well enough, and can no longer afford to overlook the deal.

In fact, the question we hear most when someone is considering buying a new bike is simply, "Which is better, the IT or the PE?" Until now, our standard reply





YAMAHA IT & SUZUKI PE

would have been something to the effect of, "Which color do you prefer?" But, as we learned in our recent 250 motocross shootout, mentally comparing two bikes tested separately can be deceiving. Thus we decided to bring the Yamaha and Suzuki together for a few rounds and find out once and for all the answer to that question.

Indeed, it was surprising.

Punch

Both the IT and PE 250s have very good power characteristics, which seem well suited not only to competition riders, but also to casual trail riders. As opposed to the semi-peaking of the Penton, Hercules and Can-Am, the two Japanese machines have broad, usable, traction-grabbing power. The IT and PE aren't as fast, but compensate admirably with low end, slow-speed abilities.

The IT possibly has a slightly broader powerband than the PE. This makes it excellent for moderate cruising as well as hillclimbing and other traction-sensitive situations. It has a burster type of power than the PE, coming on the pipe harder with more mid-range rocketry. PE power is gentler and more forgiving. You may feel that you aren't accelerating as fast with the PE because of the IT's relative pipeliness, but the bikes are quite close side by side. Our trials rider felt the PE had better low end response for inching around in tight places. It was often possible to lug the engine in second gear at low speeds to avoid first gear wheelspin. Our riders split over which bike had more on top.

Both bikes are hillclimbing fools, but the five-speed PE seems to require slightly more shifting.

Two problems with the PE are its gear ratios and its breathing capacity. The steps between third, fourth and fifth are slightly wider than we'd like. This, combined with the bike's air intake design, which seems to restrict the engine too much, makes a lot of shifting and some slipping of the clutch necessary in high-speed use, especially in sand. It also makes throttle control more critical when blitzing a large, steep hill.

Our PE was delivered to us with slightly rich jetting on top. We jetted down one stop, which helped, but didn't eliminate the tendencies entirely.

For 1978 Yamaha went with a six-speed gearbox in their IT. We feel Suzuki would do well to follow suit.



DB testers Chet Carman and Jim Connolly find quite a difference in cornering between the two 250 enduros.

Quick moves

The IT has bristled with easy repair/maintenance and reliability set-ups for some time. The PE is just catching up in this category.

Most obvious on the IT is the quick-change rear wheel that incorporates snail-type chain adjusters and an open axle slot in the swingarm. Simply loosen the axle nut and the entire rear assembly slips out.

Also of note are the Yamaha's folding shifter and rear brake levers, much less likely to bend when struck by a rock or other objects.

A forward-mounted chain tensioner combines with a rear-mounted guide, a chain shield and a nylon roller at the swingarm pivot to keep the chain in good shape. Another valuable stock feature is the rear frame loop-mounted tool bag.

Meanwhile, Suzuki has just redone their PE and added some interesting touches. The tank is now plastic to match the IT's and sits a bit lower. The front fender is wider, also like the IT's, and the taillight has been incorporated into the rear fender instead of being added on.

The headlight housing is now plastic and covers the entire area between the upper fork tubes, while the number plate has been redesigned and lowered.

The rear axle still slides out the side, but has lost its axle nut. The left side chain adjuster has been joined with the metal dust cap for simpler tire changing, and has gained internal threads, so that the axle screws directly into the adjuster. As before, there are separate tension nuts for the adjusters, eliminating the need to loosen the axle when adjusting the chain.

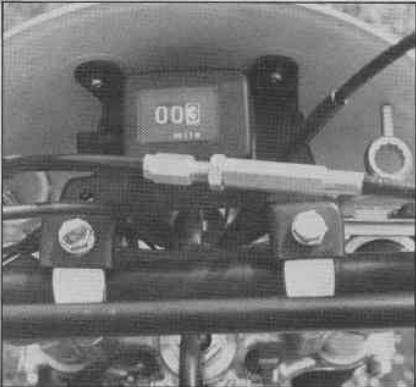
The speedo is gone, and in its place is a small box containing only a resettable odometer. The numbers are large and easily readable, up to 99.9



The new Suzuki bash plate is wider and protects the vital engine cases better.

miles. This is a nice touch and eliminates an unnecessary element.

The PE doesn't sport a tool bag or even a tool kit. What it does supply is a tool. A single, trick multi-purpose wrench that mounts in its own bracket on the upper right fork tube, and can be used to loosen all chain adjusting nuts, loosen and pull both the front and rear axles, and remove the spark plug. A combination tool like this would



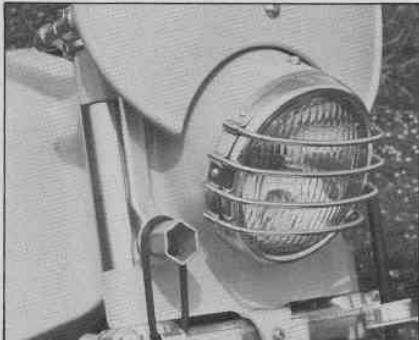
The speedo is gone from the PE, and in its place is this easily read, re-settable odometer.

previously have had to be self-fabricated. Such a multi-tool shows that Suzuki is becoming more aware of the needs of the cross country rider.

Agility and bounce

In the two previous categories, power and features, the two bikes remained as close as expected. It was in the handling and suspension that the largest and deciding differences were found.

The PE's biggest problem last year was its overly soft suspension, willing to bottom at a moment's notice. This year both ends have been stiffened up sufficiently to provide a much-improved ride. One of our lighter testers, in fact, felt the rear was now a little too stiff and slightly out of balance with the front. But our heavier riders were quite pleased.



The Suzuki's headlight area has been redesigned, utilizing a protective plastic housing, and a lower number plate. Note the accessibility of the combination tool.

The shocks have three preload adjustments, effected by positioning a clip in one of three slots on the upper part of the body. Unfortunately, the springs have to be compressed to do so.

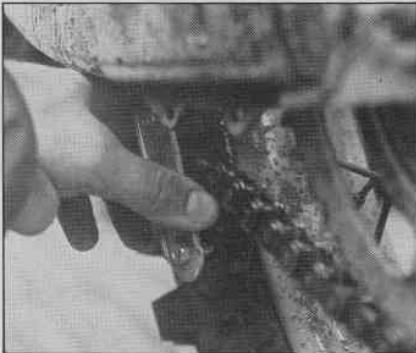
In addition to extra stiffness, the PE forks have also gained a bit more travel, closely resembling the RM-B forks of a couple of years ago.

The IT suspension, on the other hand, is still too soft for fast riding. Its bottoming definitely affects the ride. The suspension works at slow speeds or on small debris, but on heavy impacts the rear will bottom with a loud "clomp." One tester also complained of hydraulic lock in the forks, causing minor jolts to the arms before the travel was used up. Both ends definitely need more attention.

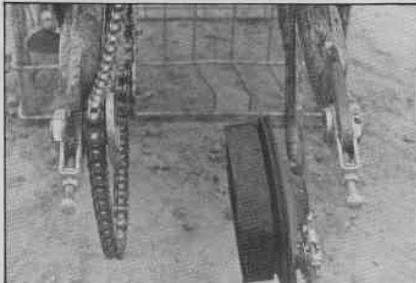


Stock and quite handy is the rear frame loop-mounted tool bag.

YAMAHA & SUZUKI



The PE features a new enclosed chain tensioner, but look for the lower rubber roller to go quickly. You'll be able to tell when it's gone by the racket the chain will make as it saws through the metal pin.



The new PE rear wheel setup includes a one-piece left chain adjuster/dust cover. That's one less loose part to juggle while you're slipping the wheel on and off. The axle threads directly into the left adjuster.

All of our testers without exception preferred the PE's turning and general handling over the IT's.

The PE steers well, is predictable in both turns and straights and offers a secure feeling to the rider. It still may not have the precision of a Penton or Maico, but it's not far off.

The stock IT feels less stable by comparison over bumpy ground. The front end wants to wash in a turn and is unpredictable at speed. Its greater rake is one reason for this uncertain feeling. It wants to wallow more in a sand wash, and once out of shape is less forgiving.

The PE feels slimmer and lighter, easier to maneuver, and more sensitive to body English. It feels much more like a motocross chassis with an enduro engine. By comparison, the IT feels bulkier, weightier; no doubt because of the high placement of the monoshock, the wider gas tank and the extra 17 pounds it carries.

Both are tall, though not excessively so. This can be a problem in slow,

MORE TRICKS...

We talked to the Suzuki and Yamaha ISDT/Enduro teams about how they set up their own bikes, threw some of our own observations into the pot, and now serve you with this generous helping.

Suzuki

Like so many production bikes of today, the PEs perform so well stock that no drastic changes have to be made for serious competition. The primary alteration to the stock package is still the replacement of the shocks. The Suzuki team opts for 14 1/4-inch Works Performance gas shocks with 80-pound springs on all their bikes. They do, however, trim the stock shock bushing to size and use it to replace the Works bushing.

The front is left mostly stock. The only changes are rider preferences such as replacing the stock 10W oil with Bel-Ray 10W fork oil or LT200 shock oil. Occasionally a rider will also increase the capacity by 5mm.

Last year the engines were all run stock, but this year a small amount of experimentation is going on, any benefits of which might be found in later production models. Ted Worrell, for instance, is currently trying some mild porting in his 250. In the Two-Days some of the bikes sport hybrid RM/PE transmissions, obviously to make them more competitive with KTM's and the like in the special tests. When the stock trans is used, the rear sprocket is increased two teeth to 54. The countershaft is kept at the stock 13 teeth.

Through some of our own experimentation, we found the stock air intake setup to be quite restricting, no doubt a victim of federal noise regulations. Simply removing the top of the air box produces a noticeable increase in engine performance. Naturally leaving the top off isn't the hot setup as far as water's concerned, so if your engine seems to have a case of asthma, you might try widening the stock air intake hole. We have also heard of riders who use Twin-Air filters in the Qualifiers, and remove the outer sock to increase their breathing capacity for the special tests.

For rubber, the Suzuki team uses Metzlers about 80-85 percent of the time, but also uses the stock IRCs, Hi-Points and, in muddy conditions, Dunlops.

For chain they have taken to the Duckworth HLX 525, which is self-lubricating. They feel it gives better cleaning action.

Other specifics include Sun rims, Malcolm Smith brake levers, Hi-Point folding shifters and Magura levers.

A forward-mounted chain tensioner using a skateboard wheel is used in addition to the stock unit.

For even simpler rear wheel maintenance, they turn down the rear axle 1/1000 of an inch to allow it to slip in and out easier. They also drill a hole through the right side spacer and thread a short cable through it, which is fixed to the swingarm. With this setup the spacer can't be misplaced and is always at hand for reassembling the rear wheel unit. If you find the new one-piece left chain adjuster/dust seal assembly is getting in the way when you're trying to get the rear wheel back on, take a hammer and knock off the dust shield.

Since the kickstand is attached to the frame rather than the swingarm, it's left to the mercy of any rocks when the shocks are bottomed. To prevent the little tit that secures the spring from being broken off in the middle of nowhere, as happened with our test bike, grind it off now, and drill a new hole through the kickstand in which to insert the spring. One more worry gone.

Suzuki Team Manager John Morgan mentioned that the kickstand is positioned to make a jack for wheel repair. With the bike laid on its left side, the kickstand can be positioned to have either the front or the rear wheel in the air.

To prevent losing your trick multi-tool or the rubber band that holds it on, twist the band into a figure eight and loop it over the tool and the holder. So you don't lose the band when the tool's in use, press the flange-like holder in toward the bike, so the rubber band can't come out.

Two items from the team bikes that went into production right after we got our test bike, and thus are not in the photos, are a grease fitting on the swingarm, and a bolt-on chain/sprocket guard that hangs off the left side of the swingarm.

Yamaha

If you read our IT175 set-up article in the May issue, you got the basics of how the Yamaha team bikes were set up last year. This year Yamaha has initiated a slightly new program which places the responsibility of preparing the bikes on the individual riders. Nevertheless, the basic set-ups remain the same.

The biggest single change, and a universal one among the riders, is a switch

to stock YZ250 suspension, front and rear. This is considered a must for the speeds that the riders must go to be competitive in the qualifiers. Chris Carter told us that various fork kits had been played with, along with other variations on the stock components, but that they had finally settled on stock as being the best.

Besides improved high-speed performance, the YZ suspension also provides badly needed ground clearance. Chris gets an additional 1½ inches simply by changing his suspension. Dane Leimbach claims nearly an extra two inches on his IT175.

Fork angle is another point of concern. While the stock 31½ degrees is considered good for fireroads, desert and other wide-open events, it tends to hamper the rider in tighter sections. A few riders have taken to reworking the frame slightly to pull the angle in to 29½ or 30½ degrees, depending on preference. It was mentioned that the production ITs will be coming with the reduced head angle next year.

Other riders obtain a satisfactory angle just by playing with suspension. A longer shock, for instance, pulls the front in a bit. For IT owners who are interested in monoshock mods: Terry Industries, P.O. Box 1321, Hesperia, California 92345; (714) 247-2646; White Brothers Cycle Specialties, 11611M Salinaz Drive, Garden Grove, California 92643; (714) 638-1653; Luft Shock Factory, 7831 Alabama Avenue #1, Canoga Park, California 91303; (213) 341-0448.

A couple of riders have also opted for YZ swingarms to go with their suspension. These alloy arms are not only stronger, but are slightly longer also. The YZ swingarm John Fero is using on his IT250, for instance, adds an extra 35mm.

The problem with a swingarm switch, though, is that they have to be converted to the quick-change setup.

The rider must lengthen his centerstand to match the added ground clearance provided by YZ suspension.

Engines are pretty much run stock. John Fero blueprints the cylinder on his 250 and runs the stock carb.

Dane Leimbach prefers a Lectron carb, because he feels it lets his bike run cleaner, fattens up the mid-range and gives about 20-percent better mileage. He replaced his stock 34mm Mikuni with a 36mm Lectron, and uses a 7-3 metering rod.

Most of the riders use Metzeler tires, though Dane prefers Hi-Point "Metzeler replicas."

Chain preferences vary between D.I.D TM grade, Regina GP and Duckworth HLX self-lubing. In muddy events, some riders will opt for Chaingang's O-Ring chain, but caution that it presents a distinct drag on the bike. Dane claims the 175s can't pull it at all.

Some riders also switch to Preston Petty fenders and headlights for their proven durability, though many retain the stock IT units.

Other goodies used by various riders include Magura levers, Phase II Twin Air filters, Hi-Point two-stage air filters, Preston Petty Barrel grips, Sun rims, D.I.D deep-groove rims (turned down on one side, and using Sun pins), a Gunnar Gasser (used by Carl Cranke), Hi-Point chrome moly handlebars and Super-Trapp silencers.

Chris has replaced his canvas tool bag with a leather one for added security.

Additional work done to the rear wheel setup includes removing the pins from the axle slots, chamfering the slots to accept the axle more readily when installing and welding the cam-type chain adjuster to the axle on the left side.

On the front axle they weld on a 22mm nut so they can use the same wrench for both axles. They also silver-solder the spacer directly to the axle.

If an accessory muffler isn't used, a second mount for the stock one should be rigged to the rear frame loop for needed extra support.

Steel cables are run between the foot levers to prevent them from being bent away from the bike.

A tip Dane offers for situations such as Qualifiers (where the lights must continue to work) is to wire the lights directly so they burn all the time. This keeps the filaments hot and soft, with less chance of getting brittle and breaking.

A couple of tricks, as Yamaha Team Manager Rubin Portillo notes, compromise reliability for ease of maintenance. One such is the removal of the pins from the axle slots. This is a calculated risk taken by riders who must be concerned with seconds when repairing their bikes along the trail. A setup such as this is not needed and cannot be recommended for the average rider.

Above all, Rubin feels that just knowing your bike's capabilities and limits is the greatest advantage of all.

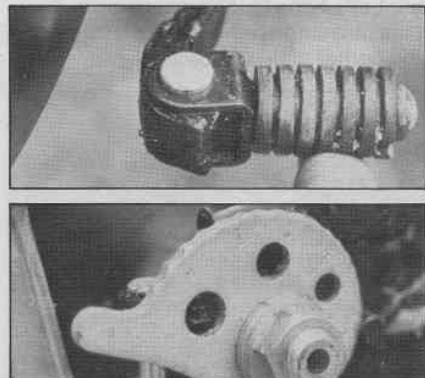
feet-down situations, but as one tester summed it up, "You gotta have the suspension in today's events." True enough.

In the brake department, the PE's rear stopper took a while to seat properly. At first it felt weak and unresponsive, but eventually it became a strong, progressive unit. The IT's rear still hasn't quite lost Yamaha's traditional grabby tendencies. Both front binders work very well.

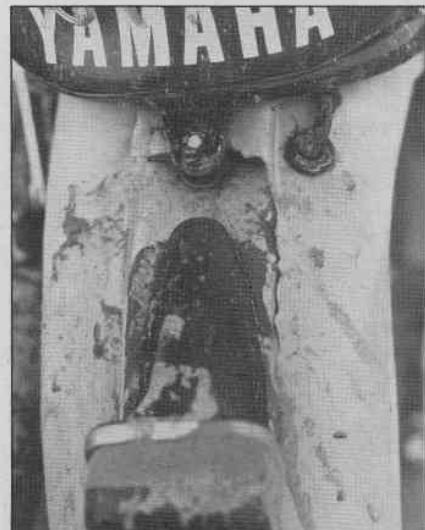
The final round

Due principally to the handling and suspension differences, every one of our testers chose the PE250 over the IT250. We really thought it was going to be a close battle, but it wasn't, and this left us a bit surprised.

The key, we feel, lies in the fact that



Nice touches on the IT include a folding shifter and brake lever, and the quick-change rear wheel setup, with snail-type adjusters.



One loop-out later: The IT's unbreakable plastic rear fender broke.

YAMAHA IT & SUZUKI PE

the IT is not a bad bike. On its own, it feels comfortable, with good power and reasonably good handling and suspension. A rider who rode only the Yamaha could adjust quite adequately by learning to expect and compensate for its unsureness, and would hardly notice its minuses after a while.

Only when one is jumping on and off of both the IT and the PE do the distinct differences become readily noticeable. While the IT is great for slower, more casual trail riding, with compromised performance at higher speeds, the PE seems well suited to both. One tester even went so far as to say that the PE was the best all-around trailbike he's ridden.

With the know-how and experience that Yamaha has, there's really no reason why the gap should be there at all. Let's hope that Yamaha has a pleasant surprise waiting for us around the corner. ■



	YAMAHA IT250E	SUZUKI PE250
PRICE:	\$1539	\$1539
ENGINE:	Air-cooled, two-stroke	Air-cooled, two-stroke
DISPLACEMENT:	246cc	247cc
BORE & STROKE:	70 x 64mm	67 x 70mm
COMPRESSION RATIO:	7.8:1	7.2:1
CARBURETION:	Mikuni VM36SC	Mikuni VM36SS
TRANSMISSION RATIOS:	1) 2.714 2) 2.067 3) 1.600 4) 1.261 5) 1.050 6) 0.917	2.666 1.750 1.200 0.913 0.692
FINAL DRIVE:	DK520TR chain	Daido 520 chain
-tooth countershaft	14	13
-tooth rear sprocket	46	52
AIR FILTRATION:	Oiled foam	Oiled foam
FUEL TANK CAPACITY:	3.2 gallons	3.2 gallons
STARTING:	Primary kick	Primary kick
TIRES:	Bridgestone F: 3.00 x 21, R: 4.50 x 18	IRC F: 3.00 x 21, R: 4.50 x 18
SILENCER:	Yes	Yes
SPARK ARRESTOR:	Yes	Yes
WARRANTY:	None	None
DIMENSIONS:		
Wheelbase:	143cm (56.3 inches)	145.5cm (57.3 inches)
Ground clearance:	24cm (9.4 inches)	28cm (11 inches)
Fork angle:	31½ degrees	30 degrees
Weight, ready for gas	269 pounds	252 pounds



THE WINNER IS ASKED TO PROVE ITSELF ONE MORE TIME.

Would we be so thoughtless as to neglect giving a prize to the winner of our 250 enduro trailout? Of course not.

The winner was awarded two days of sun and exercise in and about the desert town of California City. In other words, the PE250 was entered in the Cal City Two Day Reliability Trial. What more could it ask for?

We'll just say here that it finished both days intact, without a murmur of protest.

Here's a quick rundown of some of the changes or additions Rik made to the stock PE:

Works Performance gas shocks: The stock shocks aren't bad, but if you've got to be on them for two days . . .

Tsubaki 520 chain (with a length of D.I.D In reserve): The Tsubaki was brand-new at the start of the event. Initial stretching was expected and watched for. It was never noticed until 50 miles from the finish on Day Two, and even then it didn't necessitate adjusting. The chain went the entire two days (300 miles) without having to be adjusted once. Pretty impressive.

Hi-Point/Magura levers: They survived a couple of crashes that looked like lever-bending times for sure.

Advanced Cycle Products tire sealant: 12 ounces was inserted into each tire prior to the event. This warded off any would-be flats, in an event that had its share.

Husky Products score card holder.

Preston Petty Barrel grips.

Bel-Ray MC-1 oil, mixed at 50:1. ■