

COMPARISON TEST

■ Having a choice of models when shopping for a new motorcycle is really nice. And 250cc enduro riders are blessed and cursed with more choices than any other group. Honda, Yamaha, Suzuki, Kawasaki, KTM, Maico, Can-Am and Husqvarna all make 250cc enduro machines. Add perhaps four less common brands and one readily sees the problem faced by a person in the market for a new machine. Are the expensive bikes worth the extra money? Which is best for woods enduros? How about desert enduros? What about a combination of uses? Which gets the best fuel mileage, has the best brakes, turns best, has the quietest exhaust, climbs hills best, furnishes the best engine protection, has the best suspension and goes the fastest? What about problems like the effect of water crossings on brakes and wheel removal/replacement times? Do the bikes need major modifications before being truly enduro ready? Does the buyer need Dick Burleson's ability to ride certain models? Should an A rider choose a different machine than a C rider or vice versa? Fair questions.

A comparison of all the available enduro bikes was planned and distributors contacted. All were told the rules: The bikes would be broken in, jetted if needed, then tested for five days by eight riders. Rider levels would be; four A level, two B's, and two C's. Testing sites would be a variety of desert enduro terrain and tight mountain trails with elevations from 3000 to 8500 ft. Additionally, special tests would be conducted for raw performance figures. All testing would be done with the bikes in stock condition including gearing unless the bike is normally delivered with an assortment of gearing and a change was deemed necessary.

Kawasaki, Maico, Suzuki, KTM, Yamaha, Husqvarna and Can-Am agreed to the test proposal. Honda refused. Honda would only supply a bike if we wanted to do a four-stroke comparison. We've all seen the ads claiming the XR250 as an all-out enduro racer. Honda has even paid contingency money to local enduro winners and advertised the winners. But they wanted no part of an enduro comparison, claiming the XR is a play bike. We are familiar with the XR250 and don't believe it would have done poorly but Honda knows the machine best. We scratched one C rider and continued. >



**Enduro Testing Seven 250s.
On the Sixth Day, There
was a Winner.**



**CAN-AM QUALIFIER
HUSQVARNA WR
KAWASAKI KDX
KTM ENDURO
MAICO ENDURO
SUZUKI PE
YAMAHA IT**



THE BIKES

CAN-AM QUALIFIER

The Can-Am is the only bike in our test group with rotary valve induction. The valve on the left side of the engine gets fuel via a duct system so the small 32 mm Bing carburetor can be placed behind the cylinder. Bore is 72 mm and stroke is 61 mm. Primary drive is straight-cut gear and primary kick starting is furnished. A six-speed transmission is standard. Ignition is by a Bosch CDI with lighting coil.

The normal large backbone Can-Am frame is chrome-moly steel and triangulation is everywhere. The front wheel is much like past models, the rear has an all-new hub, with the brake moved to the same side as the sprocket and activated by a cable. Suspension chores are handled by 9.8 in. travel Marzocchi forks and 9.6 inches of rear wheel travel is controlled by gas charged Girling shocks. The front fender is a Petty, the rest of the plastic is made by Can-Am. Side panels are rear-set and the rear fender gives good protection. A 2.6 gal. plastic tank is standard with a 3.5 gal. tank optional. Our bike was equipped with the large one, and with an optional \$69 speedometer. Other enduro touches are a quiet spark arrester/silencer, folding shift lever, Magura hand levers, two-speed throttle and enduro-legal lighting.

HUSQVARNA WR

Husqvarna's WR is based on the CR motocross models but modified for woods use. First, the suspension is shortened to 9.5 in. of travel so the rider can touch the ground easily. The forks have 35mm stanchion tubes, rather small by today's standards, but adequate for the travel furnished. Shocks are Ohlin reservoir jobs that sell for around \$300. A stock CR frame is employed but the swing arm is an inch shorter than the CR's. The shorter swing arm and suspension make the WR more nimble through woods. Brakes and wheels are shared with the CR but the CR full-floating rear backing plate has been dropped in favor of a less protrusive non-floater. Other differences are a 3 gal. fuel

tank, VDO speedo, spark arrester/silencer, different brake pedal and Motoplat CDI ignition with a heavy flywheel.

The engine's bore and stroke are slightly oversquare, like the CR, and a 38 mm Mikuni feeds fuel through an intake-mounted reed valve. Primary drive is by straight-cut gears but the engine lacks primary kick starting. Six transmission speeds are standard and the tool kit contains two extra countershaft sprockets, one smaller, one larger. The WR has one of the most easily maintained air filters made. It can be removed in a few seconds without tools. The right side cover quickly

snaps out to expose the unit, simplifying dry-outs after deep water crossings. The only thing missing is a water drain for the airbox. Controls are first rate—Magura straight pull throttle and hand levers and a folding shift lever.

KAWASAKI KDX

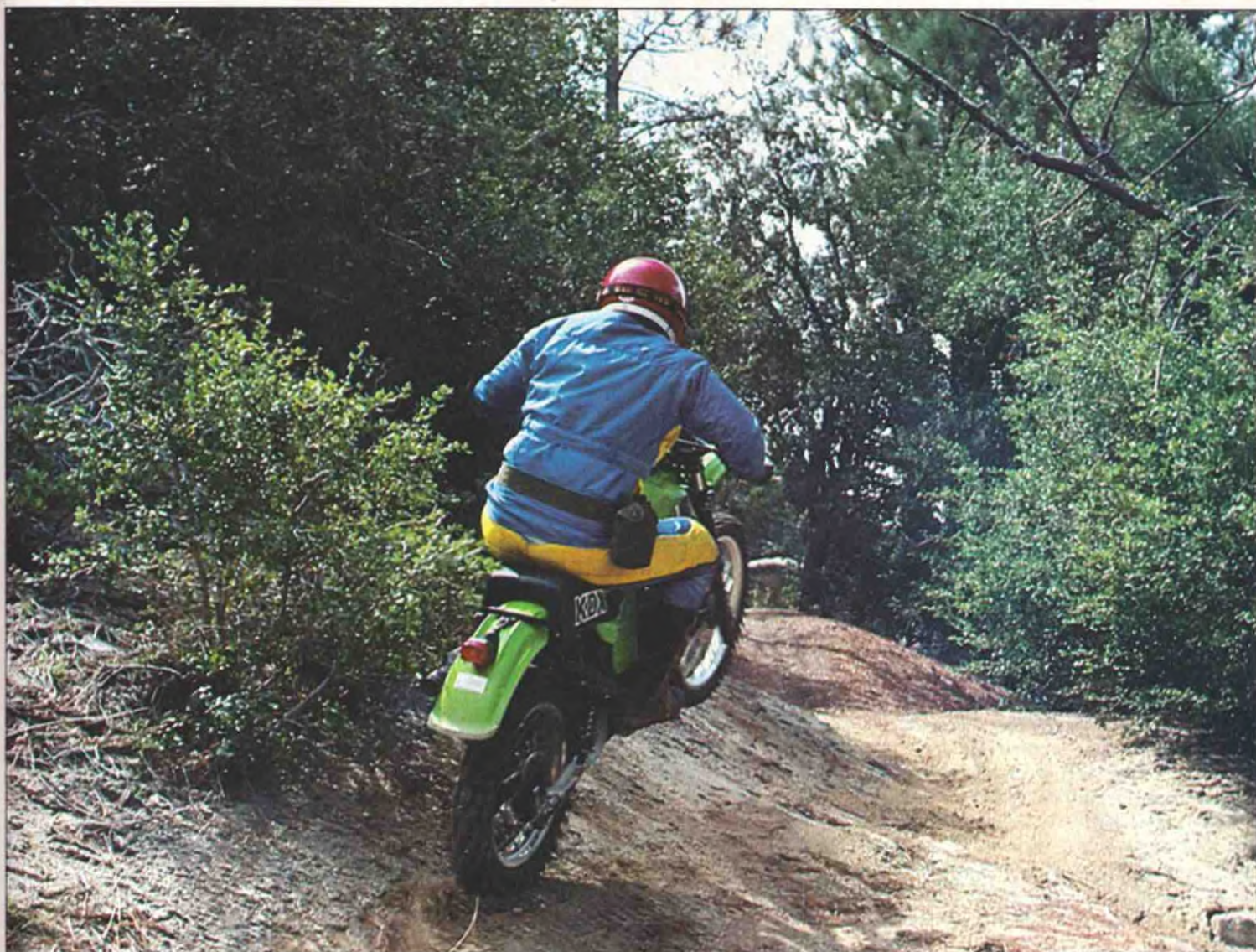
Kawasaki's KDX isn't a modified motocrosser. Instead the bike was designed to be an enduro machine. The frame isn't shared with anything but the 400 KDX. Wheels, hubs and other parts are the same as Kawasaki motocrossers. The forks have 38-mm stanchion tubes and give 10.2 in.



Can-Am Qualifier



Husqvarna WR



of travel. The rear wheel moves 9.1 in. Shocks are from KYB and mount to the aluminum swing arm in a semi-vertical position.

The KDX engine is derived from last year's motocrosser but the porting and power output have been tamed and the power band broadened. A 36 mm Mikuni feeds fuel through a multi-petal reed valve that mounts between the carb and piston. Straight-cut primary gears and primary kick starting are used. Five perfectly spaced speeds proved plenty on our test bike. The KDX sits tall due to the plush seat, nice on long rides, but the height

causes tip-overs on tight trail conditions. Fenders, side plates, skid plate and tank are plastic. Enduro gear includes a neat odometer with total mileage right side and resettable odometer left side; spark arrester/silencer, folding shift lever and enduro lighting.

KTM ENDURO

KTM's approach to building a competitive enduro bike is adding a kit to an existing motocross bike. Thus, dealers only have to stock MX models and enduro kits. The kit consists of a VDO speedo drive unit and cable, Petty light/num-

berplate, rear fender and taillight, bolt-on rear fender loop, spark arrester, stop light switch and wiring loom.

The KTM engine is a highly finned, oversquare design with a 71 × 62mm bore and stroke. A 36mm Bing carburetor pumps fuel into a piston port engine that has tremendous midrange power. The transmission is a six-speed with a ratio for almost any terrain. Primary drive is via straight-cut gear but primary kick starting is absent. Suspension is motocross designed and stiff, like Europeans prefer. The forks are Marzocchis with 11.8 in. of travel. At the rear, remote reservoir Bil's-



Kawasaki KDX



KTM Enduro

teins control the beautiful aluminum swing arm through 11.4 in. of travel. The KTM has the most unusual frame of the test group. The main backbone is made up of several small tubes; some starting and ending at the steering head after circling the engine, some starting at the steering head and terminating at other points on the frame. Gusseting is generous and all gusseting resembles Swiss cheese with every available spot drilled for lightness. All of the KTM's components are first rate right down to the Metzeler tires.

MAICO ENDURO

The Maico enduro is basically last year's motocrosser in disguise. Same chrome-moly frame, same 11.0 in. wheel travel, same engine, same brakes. Mostly, things have been added to the MX to make it enduro worthy. A VDO speedo, large rear fender and taillight, 3 gal. gas tank, front light and numberplate, center stand, horn, and Bosch CDI ignition turn the MX into an enduro.

The engine uses a double row primary drive chain and has primary kick starting. The bore and stroke measure 67 x 70mm, departing from the short stroke designs of its competition. A 36mm Bing carburetor monitors fuel and the piston skirt controls port timing without benefit of reed or rotary valves. The shift lever is a folding design and hand controls are by Magura, including the straight pull throttle. Tires are Metzeler. The Maico is the only bike in the test group with a rear frame loop that's usable for a grab handle. Like the KDX, the Maico E uses a five-speed transmission.

As a hint of results to come, this year's Maico Enduro is not, repeat not, last year's Enduro. The 1979 model was a motocrosser tamed a bit, while the 1980 is a motocrosser with motocross gearing and suspension, which isn't always the best thing to have in the woods.

SUZUKI PE

The '80 Suzuki PE is a serious enduro mount. The frame is designed like the RM motocrosser and the swing arm is aluminum. Forks are 38mm units with 9.8 in. of travel and the KYB shocks provide 10.0



in. of rear wheel travel. The long stroke engine (67 x 70mm) has a case reed like the RM's and primary kick starting is standard. The transmission is a slick six-speed and primary drive is by straight-cut gear. The front wheel is identical to the one used on RM motocrossers and contains a large front brake. The rear brake is operated by a large cable but *feel* is good. Both brakes are unaffected by water, working as well wet as dry.

Many enduro extras are standard on the PE. The rear wheel is the most notable. It can be removed by the clumsiest person in less than 20 sec. And the stock

six-day wrench is all that is needed to perform wheel removal at either end. Plastic components are color impregnated and the 2.8 gal. fuel tank has a large filler hole. Footpegs are cleated and have heavy duty return springs but for some reason the shift lever doesn't fold. And the kick lever finally has a ribbed end but the lever is too short and the peg hits the instep of the kicker. But all in all, the PE is well designed.

YAMAHA IT

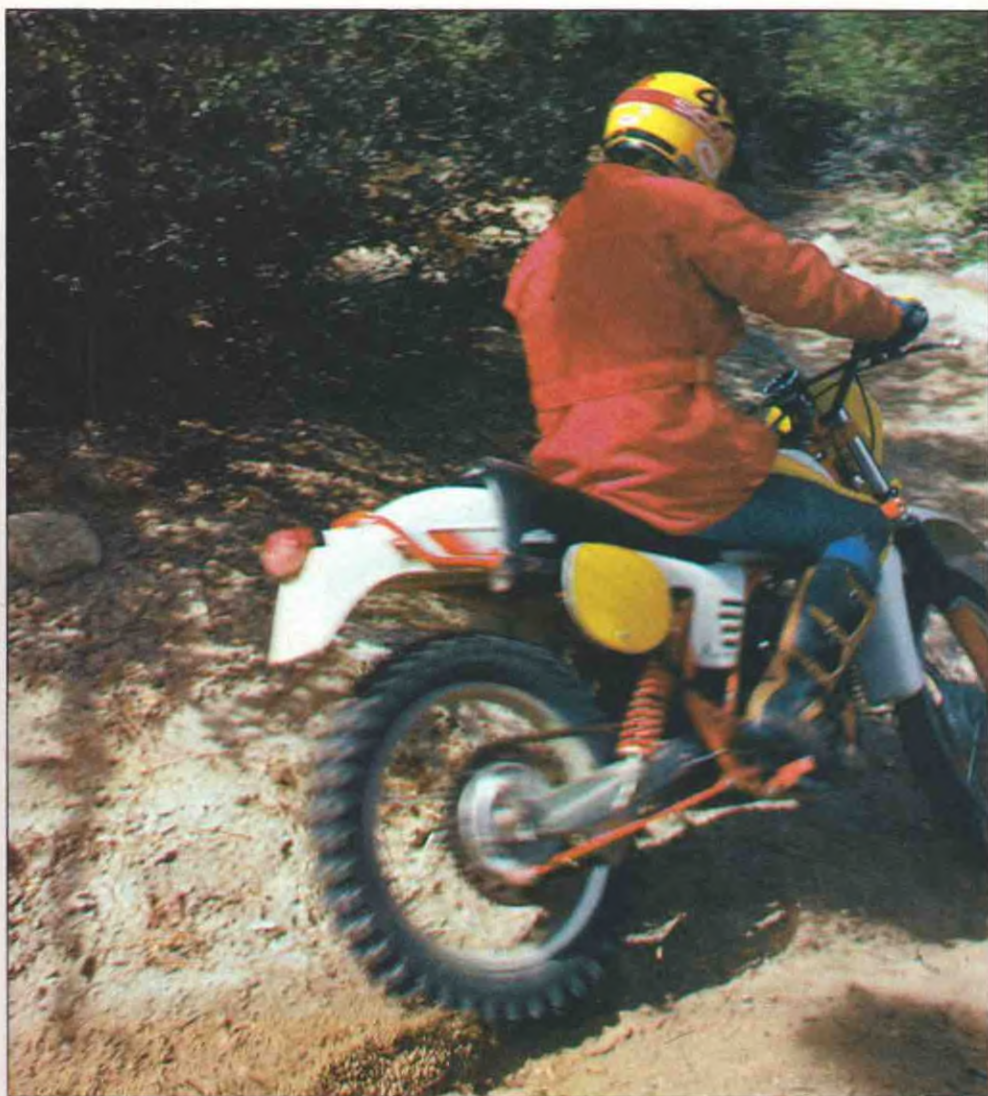
The '80 IT is much like the '79. It has the same frame and monoshock rear sus-



Maico Enduro



Suzuki PE



pension, same wheels and same forks. Forks are 38mm stanchion tube KYB's that provide 9.6 in. of travel. The rear wheel moves 8.7 in. The frame is mild steel and has a large tunnel backbone that contains the monoshock unit. Damping is adjustable through a hole in the frame just under the right front of the 3 gal. plastic tank but spring preload requires removal. We had to increase the preload 0.5 in. to keep the unit from bottoming on every small bump. The adjuster nuts are large and Yamaha supplies a tool to fit it in the tool kit. In fact we removed the complete shock for preload adjustment using only

the Yamaha tool kit. The kit is stored in a tool bag mounted on the rear fender. The bag looks flimsy but held up fine during our test. Yamaha is the only bike that supplies a tool bag with the bike. The 80 mph speedo has Yamaha's exclusive quick reset function, a nice feature when the odometer reads 56 and it's time to reset. Our test bike didn't perform nearly as well as the '79 we tested last year. Carburetor jetting seemed completely off. We tried changing the needle height and main jets, but we suspect the delivered needle jet is completely wrong. The IT lacked low and top end, and mid-range was brief.



Yamaha IT

THE TESTS

After weighing and measuring, we took two bikes at a time to the high desert for an easy 50-60 mile break-in. Minor jetting changes were made as needed and constant checks were made on spokes and nuts and bolts. After break-in, the bikes were washed, air cleaners cleaned, spokes tightened, gas tanks filled, odos reset and tire pressures set at 12 psi front and rear.

The first two days of actual testing took place in the mountains. Elevations ranged from 4500 ft. desert foothills to 8500 ft. mountain peaks. Tight switchback trails, (foot trails converted by the US Forestry for motorcycle use), creeks swollen from spring thaws, fireroads, double-rut jeep trails, steep uphill, and steeper downhill, added dimension to the testing. Riders switched bikes often enough that each got to ride every bike several times through varied conditions. Favorites starting developing after the first half day. The KDX, PE and Can-Am were quickly taken at each rider change. The road race geared Maico, tall-seated KTM and poor power-band IT were the least in demand. The Husky was middle of the road, no one minded riding it if the first three favorites were taken and all preferred it to the Maico, KTM and IT.

We learned about wet brakes from crossing the deep creeks. The PE brakes >

BEST STEERING PRECISION

First	Kawasaki KDX
Second	Maico Enduro
Third	Can-Am Qualifier
Fourth	KTM Enduro
Fifth	Suzuki PE
Sixth	Husqvarna WR
Seventh	Yamaha IT

BEST SEAT

First	Kawasaki KDX
Second	Can-Am Qualifier
Third	Maico Enduro
Fourth	Yamaha IT
Fifth	Husqvarna WR
Sixth	Suzuki PE
Seventh	KTM

BEST TIRES

First (tie)	KTM Enduro Maico Enduro
Second	Can-Am Qualifier
Third	Kawasaki KDX
Fourth (tie)	Suzuki PE Yamaha IT
Fifth	Husqvarna WR

are virtually unaffected by water. At the other end of the scale, the Husky loses its brakes in shallow water and they take miles to return to normal. Other preferences started showing also; all the testers found the reed valve and rotary valve engines much nicer and easier to ride than the piston port motors of the Maico and KTM. In general the bikes that did things easily were preferred by all level riders. The hard pulling Maico and KTM clutch levers become work when negotiating trails and the lack of primary kick starting on the KTM and Husky are inconvenient.

After the two days of mountain testing, the bikes got a day of maintenance. Spokes were tightened, chains adjusted, air filters cleaned, transmission oil changed and the bikes completely checked over. Although spokes had been checked and tightened several times by now, they were loose again on the Can-Am, Husky, Maico and PE. The Husky had the easiest air filter to service, the PE was the hardest. The screw that holds the PE filter in place is a minor hassle to align. The rest of the machines were okay on filter maintenance. All but the Husky required tools for filter maintenance. The Husky also won easiest to change oil awards; the drain is easy to reach and the filler hole is large. The IT has a very small filler hole and proved hardest to fill. The rest were okay. Chain adjustment is easy on the KDX, Maico, PE, Can-Am and Husky, a little more difficult on the IT and hardest on the KTM.

The next two days of testing took place in the desert. We went to an area that has been used for numerous desert enduros before. All types of desert terrain are in the area; rock trails, rock hills, open flatland, fast open trails, tight sand washes, 75 mph sand washes, sandy double-rut roads and



rock roads. The weather cooperated with snow, rain and hail both days.

The Husky started running badly before the end of the first day of desert testing and we finally traced the problem to a carboned-up spark arrester. The screen is small and restrictive and will need cleaning often. We just pitched it instead. The

engine ran much better without it. To everyone's surprise, the bikes that proved best in the mountains also worked best in desert terrain. Day Two in the desert was devoted mostly to special tests.

The first special test was a 150 ft. timed drag race combined with a sound test. Each bike was ridden through the drag/

BEST FRONT BRAKE (dry)

First	Kawasaki KDX
Second	Suzuki PE
Third	Yamaha IT
Fourth	Maico Enduro
Fifth	KTM
Sixth	Can-Am Qualifier
Seventh	Husqvarna WR

BEST REAR BRAKE (dry)

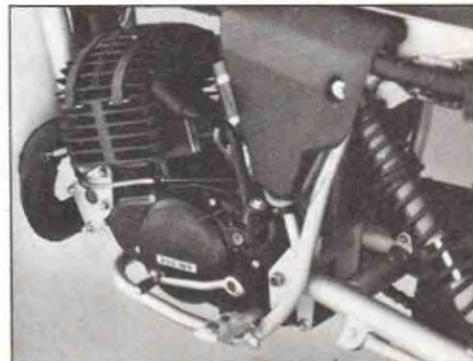
First (tie)	Yamaha IT Kawasaki KDX
Second	Suzuki PE
Third	Maico Enduro
Fourth	KTM
Fifth	Can-Am Qualifier
Sixth	Husqvarna WR

BRAKES (wet)

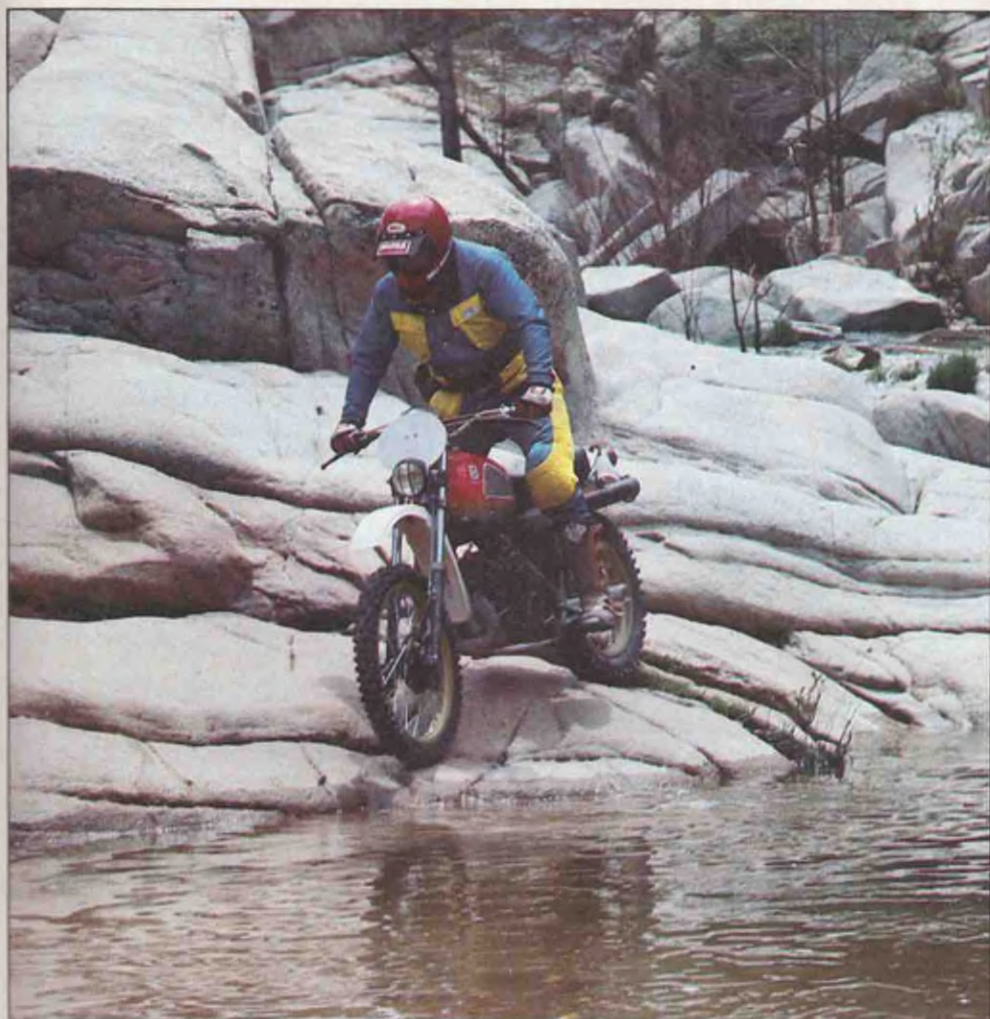
		comments
First	Suzuki PE	Neither affected by water
Second	Kawasaki KDX	Rear unaffected, front loses half but dries fast.
Third (tie)	KTM Enduro Yamaha IT	Fronts unaffected, rears lost half but dried quickly.
Fourth	Can-Am Qualifier	Front loses half and dries slowly, lost rear completely, took long time to dry.
Fifth	Maico Enduro	Both go away completely, take long time to dry.
Sixth	Husky WR	Both go away at sight of water and take miles to dry —much slower drying time than worst of other bikes.



Can-Am Qualifier



Husqvarna WR



sound test area four times. One rider did all of the riding to stabilize results. The slowest of the four runs was then discarded and the three fastest averaged. All of the sound tests were averaged. The PE surprised everyone by being the fastest, with the Maico coming in second. The time difference between 3rd and 7th was

small. In fact, so small as to be of little consequence. The Can-Am was the quietest with an average reading of 82 db(A). The PE followed closely with an 84. The Maico and KTM are the loudest at 90 db(A) and the Husky, Yamaha and KDX finish in the middle. Most runs were fairly consistent and none of the bikes

were loud enough to cause pain or annoy the riders. Only the Can-Am is noticeably quieter than the rest.

Next the bikes were run wide open down a dirt road. The road is fairly flat with a mixture of sand and rock. The surface is loose and higher speeds might have been obtained on a harder surface. Again, one rider did all of the speed runs. Both hands were on the bars, both feet on the pegs and the rider in a slight crouch. Each bike was run past the radar gun until we were satisfied the bike had reached top speed. The fastest speed obtained by each is used in the chart. The Maico road raced to 86 mph followed by the Kawasaki at 80 and the Can-Am at 78. The Husky was the slowest, 71, while missing slightly.

A nasty shale rock hillclimb followed. It poured rain during the hillclimb test adding wet rock to the difficulty factor. Each rider got two attempts at the hill using a 50 ft. run. Then bikes were traded until all of the riders had attempted the hill on every bike. Next we moved to the base of the hill and made a 90° left turn before trying to climb the hill. The C rider didn't attempt the hill without a run since he didn't make it over the top with all of the bikes using the 50 ft. run. With the run, he cleared the top with the Can-Am, KDX and Husky. One of the B riders

GAS MILEAGE (all riders averaged)

		mpg
First	Can-Am Qualifier	27
Second	Suzuki PE	25
Third (tie)	Kawasaki KDX Husqvarna WR	22
Fourth (tie)	Maico Enduro KTM Enduro	20
Fifth	Yamaha IT	18



Kawasaki KDX



Maico Enduro



KTM Enduro



Yamaha IT



Suzuki PE

All our test bikes had two-stroke engines. Most had folding shift levers and good footpegs.

WHEEL REMOVAL

Wheel removal and replacement times are important on serious enduro bikes so we took a day to find out which was fastest and easiest. One rider changed all the wheels. Since removal in the woods or desert normally require laying the bike on its side, that's the way we did it—except for the Maico. The Maico has a center stand so we changed wheels on it while on the stand. The changes were done on a concrete driveway for simplicity. Times could be longer with parts scattered around on dirt. The wheels were removed and replaced once for familiarization before timing began. Stock tool kits were used for the job to see if the kits had the right tools supplied. A couple of bikes didn't have end wrenches in the tool kit, but had other tools. The Husky comes with an assortment of countershaft sprockets, flywheel puller and other shop tools, but doesn't have end wrenches. The KDX comes with an air gauge and plug wrench, but no hand tools. We used tools from other tool kits on these bikes. The rider chosen for the wheel removal and replacement work is a normal rider with limited mechanical knowledge. An experienced and seasoned A rider could probably cut most of the times in half. A stop watch was used to time the operation and the time began after the changer had assembled the required tools and had them next to the bike, with the machine on the stand.

The PE is by far the easiest and fastest. The figures in the chart aren't mistakes, the PE rear can be removed and replaced in under 1 min. by the clumsiest of riders. With practice, it can be removed and replaced in under 30 sec. Our changer took 52 sec. In fact, the PE rear wheel is so easy to remove we found ourselves demonstrating the operation! The Yamaha rear wheel is removed quicker by forgetting about the slide out feature and just pulling the axle like normal bikes. It is difficult to slide the axle and wheel assembly out the back without removing the chain's master link so we pulled the axle, leaving the chain

couldn't climb the hill on the Maico with a run. All of the riders had trouble climbing the hill on the IT, due to its poor powerband but the most trouble was experienced by all riders on the tall-geared Maico, although most made it with a run by abusing the clutch. Without a run, tire wear and quality made itself known. The KDX suffered from the completely worn out Goodyears. The KTM's tires were in good shape but the stiff suspension caused it to bounce from rock to rock requiring constant rider corrections. The Husky suffered from rear end stiffness and a light front end although the engine pulled smoothly from low revs. The Maico

WHEEL REMOVAL/REPLACEMENT TIME				
			Min:sec.	Tools Required
First	Suzuki PE	Front	1:43	PE 6-day wrench or 17mm (6-day supplied)
		Rear	0:52	PE 6-day wrench or 17mm
Second	Yamaha IT	Front	2:26	22mm wrench (supplied)
		Rear	2:15	22mm wrench
Third	Kawasaki KDX	Front	1:47	22 mm wrench (no end wrenches supplied)
		Rear	3:37	22 mm
Fourth	Husqvarna WR	Front	4:35	5 mm allen wrench (supplied)
		Rear	5:16	24 mm wrench (no end wrenches supplied) 24 & 17 mm wrenches
Fifth	Can-Am Qualifier	Front	4:28	10 mm wrench (supplied)
		Rear	5:24	24 & 13 mm wrenches
Sixth	KTM Enduro	Front	6:02	6 mm allen wrench & KTM 6-day wrench (supplied)
		Rear	6:31	24 mm or KTM 6-day wrench
Seventh	Maico Enduro	Front	6:31	10 & 22 mm wrenches (supplied)
		Rear	6:28	13, 17 & 24 mm wrenches



unbroken. (All rear wheels were removed without breaking the chain, normally faster and leaving fewer pieces to lose). Some of the wheels were a real bitch to remove, and worse to install. The Husky, Can-Am, and especially the KTM and Maico, were terrible. Several wrenches were needed and too many parts needed removal and holding. The front wheel on the Maico is a genuine *¢ %#@+*¢. The bike falls forward off the center stand as soon as the front wheel is removed and requires ballast for the rear in the form of rocks or another person. And the speedo drive is composed of a washer, spacer, stamped drive and drive housing—all loose. We resorted to greasing the pieces in an attempt to hold them in place. Of course, you won't have grease along in the woods, so good luck.

cleared the top without a run by only three A riders. The gearing is best described as ridiculous. With proper enduro gearing it would have done much better throughout the testing. The IT was a bear on the rock hill. Low end power was absent, so was top-end power, and midrange power was brief. Add sudden clutch engagement and a rock hill becomes a nightmare. The Can-Am went over the hill from every position with every rider. It will idle up the steepest hill in 2nd when the other bikes give up in 1st!

Gas mileage was monitored during the test and the results are derived from the total miles each bike covered (ridden by

all rider levels) in a combination of mountain and desert terrain. The Can-Am won with 27 mpg, the IT was last with 18 mpg.

Day Five found us back in the mountains trying to drown the engines in deep water. All of the machines are amazingly waterproof and all drown if the water is deep enough. Restarting the bikes after submerging required removing the spark plug, turning the bike upside down and pumping the water from the crankcase with the kick start lever, replacing the plug, kicking and then going through the complete process again. None required air cleaner removal although the filter boxes had to be drained.



RIDER NOTES

Finally, the riding was over. Seven cold, wet riders gathered back at the trucks and filled out dozens of pages with the knowledge gained from hundreds of miles of hard riding.

Somehow, when the riding was over, seven riders of different ages, different experience, owning different brands of dirt bikes, all made similar comments about the bikes. If the brakes worked well, they worked well for an A rider or a C rider. Broad power bands, easy shifting, precise steering, compliant suspension, good horsepower and easy-working controls were appreciated by everyone. The comments weren't eloquent. They were pithy. Sometimes caustic. They were:

Can-Am—Engine has slight vibration. Long shift throw, many riders missed shifts. Lever moves easily but the long throw and lack of feel caused problems. Excellent power and gear ratios. Suspension is smooth and comfortable. Slides like a four-stroke on fire roads. Excellent seat. Clutch pulls hard. Rear brake chatters when used hard on bumpy ground.

KTM—Excellent mid-range power but doesn't pull from low revs like reed engines. Clutch pull hard. Lack of primary kick starting a nuisance. Seat narrow and hard. Neutral steering. Solid feel to the bike. Suspension good but too stiff for enduro speeds. Rear brake lacks feel and

DRAGS

150ft. from dead stop, 1st gear starts

		time (sec.)
First	Suzuki PE	3.88
Second	Maico Enduro	3.97
Third	Kawasaki KDX	4.01
Fourth	Yamaha IT	4.14
Fifth	Husqvarna WR	4.15
Sixth	Can-Am Qualifier	4.16
Seventh	KTM Enduro	4.17

All the test bikes had good forks but the KDX, Maico and Can-Am units were preferred by the testers.



Can-Am Qualifier

TOP SPEED

radar gun

		mph
First	Maico Enduro	86
Second	Kawasaki KDX	80
Third	Can-Am Qualifier	78
Fourth	KTM Enduro	77
Fifth	Suzuki PE	76
Sixth	Yamaha IT	74
Seventh	Husqvarna WR	(missing) 71



Maico Enduro



Kawasaki KDX

BEST FORKS

First	Kawasaki KDX
Second	(tie) Maico Enduro Can-Am Qualifier KTM Enduro
Third	Yamaha IT
Fourth	Suzuki PE
Fifth	Husqvarna WR

BEST SHOCKS

First	Maico Enduro
Second	Can-Am Qualifier
Third	Kawasaki KDX
Fourth	KTM Enduro
Fifth	Suzuki PE
Sixth	Yamaha IT
Seventh	Husqvarna WR

BEST SUSPENSION PACKAGE

First	Maico Enduro
Second	Can-Am Qualifier
Third	Kawasaki KDX
Fourth	Suzuki PE
Fifth	KTM Enduro
Sixth	Yamaha IT
Seventh	Husqvarna WR



locks easily. Kick starter gets caught in shock reservoir hose when returning. Nice detailing. Good pegs and foot controls. Bike has narrow feel. Kick stand 3 in. too short.

PE—Feels tall to some riders. Good power

and powerband. Light and responsive. Good brakes. Forks fair, shocks poor. Seat wide but hard. Front tire skates. Good transmission ratios. Good shifting. Steering precision fairly good but strange. Excellent footpegs. Kick start lever too short.

KDX—Touchy rear brake. Excellent forks. Everything works like it was honed to perfection.—smooth and easy. Smooth, wide powerband. All riders felt comfortable and thought they could go fastest on the KDX. Shocks too stiff for first couple



KTM Enduro



Suzuki PE



Husqvarna WR



Yamaha IT



SOUND TEST		db(A)
First	Can-Am Qualifier	82
Second	Suzuki PE	84
Third	Husqvarna WR	87
Fourth (tie)	Kawasaki KDX Yamaha IT	88
Fifth (tie)	KTM Enduro Maico Enduro	90

hundred miles. Grips small in diameter. Tires above average but wore out rapidly. Starts easily. Brake pedal slippery. Best seat. Easiest bike to ride.

IT—Poor powerband. Steers well, slides well. Good forks. Back bottoms easily. (we added a half inch preload but it still caused problems) Very hard to start, many kicks required. Good seat. Catchy shifting until broken in.

Husky—Worst brakes. Engine vibrates. Doesn't run as cleanly as other reed engines. Best shifting. Feels down on power. Shocks stiff but bottom. Forks okay. Steers well on trails that don't have rocks. Rocks make the bike jump around. Footpegs low—feet drag on ground when suspension bottoms. Rear brake pedal slippery. Bike has primitive feel. Easy clutch pull but grabby when hot. No primary-kick starting. Low seat height. A dull motorcycle.

Maico—Overall gearing ridiculous. Poor low end power. Hard to ride. Narrow and solid feeling. Good front brake. Excellent suspension. Good seat. Clutch pull hard. Steers well, slides well. Steers out of ruts easily. Center stand requires level spot to use—some liked it, some hated it. Smooth engine.

HOW THEY HELD UP

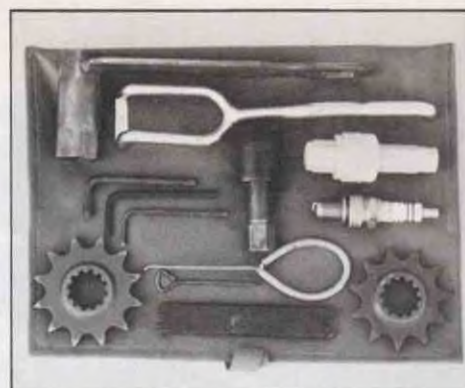
After hundreds of miles of hard use, the bikes were ready for repairs. Amazingly, none of the enduro bikes had quit running or needed to be towed back to the truck. They all started and ran well enough even after five solid days of riding. All the bikes ran through rivers we had expected would drown some of the bikes. Only when we hit waist-level deep water did the bikes drown and then they were moderately easy to get running again. Good electronic ignitions are one reason and general attention to waterproofing is also evident.

As far as parts needing replacement, the list is short:

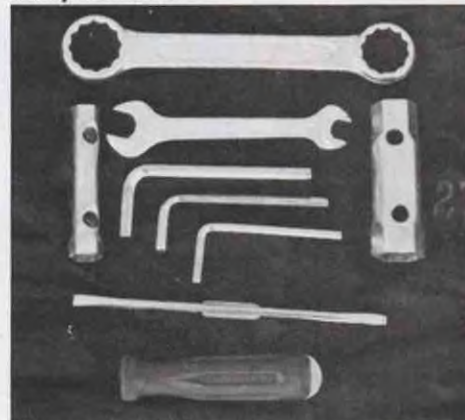
Husky—One rubber strap gone from head. Vent tube for transmission gone. Left side plastic panel deformed from pipe heat.

KTM—Front brake cable flexed apart from inadequate routing loops—only lasted one hour. Kick stand spring fell off—start lever hits spring if kicked while stand is down. Sprocket cover packed with mud.

Maico—Front brake cable wasted from inadequate routing rings. Speedo cable



Husqvarna WR



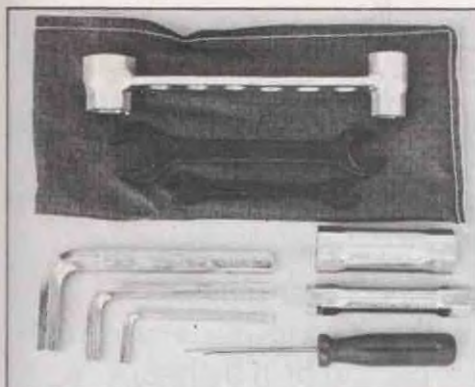
Can-Am Qualifier

OFF-ROAD MACHINE DATA PANEL

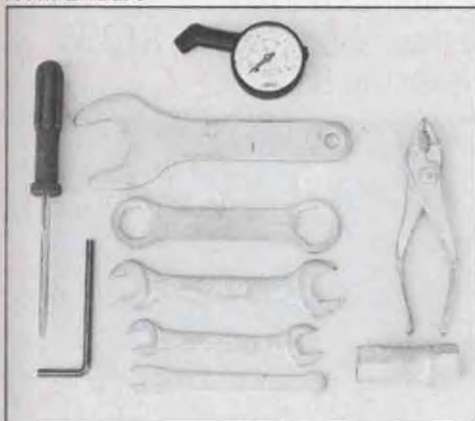
SPECIFICATIONS	Can-Am Qualifier	Husqvarna WR	Kawasaki KDX	KTM Enduro	Maico Enduro	Suzuki PE	Yamaha IT
List price	\$2068*	\$2295	\$1795	\$2534*	\$2164	\$1759	\$1798
Fork travel	9.8 in.	9.5 in.	10.2 in.	11.8 in.	11.0 in.	9.8 in.	9.6 in.
Fork stanchion tube diameter	35mm	35mm	38mm	38mm	38mm	38mm	38mm
Rear wheel travel	9.6 in.	9.5 in.	9.1 in.	11.4 in.	11.0 in.	10.1 in.	8.7 in.
Front tire	3.00-21 Dunlop	3.00-21 Barum	3.00-21 Goodyear	3.00-21 Metzeler	3.00-21 Metzeler	3.00-21 Bridgestone	3.00-21 IRC
Rear tire	5.00-18 Dunlop	4.50-17 Trelleborg	4.75-18 Goodyear	4.50-18 Metzeler	4.50-18 Metzeler	5.10-18 Bridgestone	5.10-18 IRC
Engine	two-stroke Single						
Bore x stroke	72 x 61mm	69.5 x 64.5mm	70 x 64.9mm	71 x 62mm	67 x 70mm	67 x 70mm	70 x 64mm
Piston displacement	248cc	245cc	249cc	246cc	247cc	246cc	246cc
Compression ratio	12.5:1	13.5:1	7.6:1	na	12.1	7.7:1	7.9:1
Carburetion	32mm Bing	38mm Mikuni	36mm Mikuni	36mm Bing	36mm Bing	36mm Mikuni	36mm Mikuni
Ignition	CDI						
Lubrication system	premix						
Primary drive	straight-cut gear	straight-cut gear	straight-cut gear	straight-cut gear	double-row chain	straight-cut gear	helical gear
Gear ratios, overall: 1							
6th	7.41	7.30		9.07		8.26	8.41
5th	8.89	8.60	7.93	10.64	7.45	9.83	10.00
4th	10.63	10.30	10.17	12.58	9.30	11.91	12.02
3rd	13.64	12.80	13.62	16.21	12.30	14.70	15.02
2nd	18.73	16.80	19.01	21.54	16.20	19.04	19.24
1st	27.60	23.20	28.53	31.09	22.20	25.93	25.64
Oil capacity	2 pt.	2 pt.	2 pt.	1 pt.	1.1 pt.	1.7 pt.	1.8 pt.
Fuel capacity	3.5 gal.	3.0 gal.	2.8 gal.	2.7 gal.	3.0 gal.	2.8 gal.	3.2 gal.
Fuel tank material	plastic	steel	plastic	plastic	aluminum	plastic	plastic

*Base price
\$1999
Speedo \$69

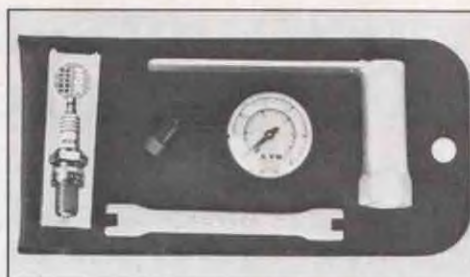
*Base price
\$2354
Enduro kit \$180



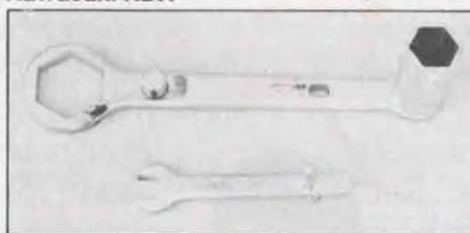
KTM Enduro



Yamaha IT



Kawasaki KDX



Suzuki PE



Malco Enduro

Tool kits vary from poor to excellent. The Kawasaki KDX has the poorest kit. The IT has a good selection of wrenches but steel quality is poor. The PE has a combination six-way wrench that performs many trail side jobs including wheel removal. The Can-Am has a box-ended six-way wrench and a small selection of other useful tools. The KTM has a neat four ended six-way wrench, end wrenches, allen wrenches, sockets and a screwdriver. The Malco comes with five double-ended wrenches, allen wrenches, heavy duty pliers, socket wrenches, tire tools and two screw drivers. The Husky kit includes countershaft sprockets, spoke and allen wrenches, a plug wrench and useful shop tools like a spring removal tool, flywheel puller, and a dual purpose holding tool.

OFF-ROAD MACHINE DATA PANEL

SPECIFICATIONS	Can-Am Qualifier	Husqvarna WR	Kawasaki KDX	KTM Enduro	Malco Enduro	Suzuki PE	Yamaha IT
Swing arm material	chrome-moly steel	chrome-moly steel	aluminum	aluminum	chrome-moly steel	aluminum	steel
Starter	primary kick	kick	primary kick	kick	primary kick	primary kick	primary kick
Air filtration	oiled foam / K&N	oiled foam	K&N	oiled foam	oiled foam	oiled foam	oiled foam
Frame material	chrome-moly steel	chrome-moly steel	chrome-moly steel	chrome-moly steel	chrome-moly steel	chrome-moly steel	steel
Wheelbase	57.2 in.	56.4 in.	57.8 in.	58.3 in.	56.8 in.	57.5 in.	56.9 in.
Seat height	37.4 in.	35.5 in.	37.5 in.	38.0 in.	35.9 in.	37.8 in.	36.0 in.
Seat width	5.8 in.	6.2 in.	6.0 in.	5.3 in.	6.1 in.	6.5 in.	5.3 in.
Seat length	23.0 in.	21.0 in.	21.5 in.	22.1 in.	24.0 in.	21.2 in.	20.1 in.
Seat front to steering stem center	13.2 in.	15.5 in.	15.6 in.	14.5 in.	14.5 in.	13.8 in.	14.5 in.
Handlebar width	33.5 in.	33.6 in.	33.0 in.	32.6 in.	32.5 in.	32.0 in.	34.0 in.
Footpeg height	15.1 in.	14.5 in.	15.4 in.	16.7 in.	15.3 in.	16.5 in.	15.0 in.
Footpeg to seat top	22.3 in.	21.7 in.	22.4 in.	21.5 in.	21.1 in.	21.5 in.	22.0 in.
Footpeg to shift lever center	5.2 in.	5.7 in.	5.8 in.	5.1 in.	6.0 in.	6.0 in.	6.0 in.
Footpeg to brake pedal center	5.5 in.	5.0 in.	5.0 in.	5.5 in.	5.5 in.	5.2 in.	5.0 in.
Swing arm length	21.1 in.	19.1 in.	21.7 in.	20.3 in.	20.2 in.	21.2 in.	17.8 in.
Swing arm pivot to drive sprocket center	3.1 in.	3.7 in.	3.0 in.	3.6 in.	2.4 in.	3.0 in.	4.5 in.
Gas tank filler hole size	1.8 in.	1.5 in.	2.0 in.	1.9 in.	1.5 in.	2.1 in.	2.0 in.
Ground clearance	11.0 in.	11.1 in.	11.9 in.	14.0 in.	12.0 in.	12.6 in.	11.5 in.
Fork rake angle	30°	29.5°	28°	28°	28°	29.5°	29.5°
Trail	na	na	4.7 in.	na	na	na	4.8 in.
Test weight w / half tank fuel	246 lb.	253 lb.	252 lb.	250 lb.	247 lb.	255 lb.	258 lb.
Weight bias, front / rear percent	46 / 54	45.8 / 54.2	46.8 / 53.2	45.6 / 54.4	46.2 / 53.8	45.8 / 54.2	44.5 / 55.5

SHALE ROCK HILL CLIMB

		notes
First	Can-Am Qualifier	All seven riders voted the Can-Am as No. 1 for hill climbs. It will climb hills in 2nd gear that others barely make in low
Second	Kawasaki KDX	Only the Can-Am engine pulls better. Tires were worn badly and affected overall results.
Third	Suzuki PE	Really steep hills get harder due to tall 1st gear ratio and front wheel lift.
Fourth	Husky WR	The Husky's light front end and stiff shocks cause poor lines. Engine is tractable but suspension makes rock climbs tricky.
Fifth	KTM Enduro	The KTM engine has good midrange but C and B riders had trouble due to lack of reed valve. Stiff suspension also caused poor lines due to bouncing
Sixth	Maico Enduro	Only the best A riders could top the hill after the 90° turn, then constant clutch slipping was required. An Enduro bike geared for 86 mph is ridiculous.
Seventh	Yamaha IT	The IT's powerband makes rock hills almost impossible. Low-end is almost non-existent and the sudden clutch engagement causes wheelspin and loss of control.

housing broken from drive unit turning—broke first day. Rubber kick lever cover missing.

KDX—Tank decals falling off—started removing themselves before we rode it. Tires bald. Nothing else wrong.

Can-Am—Timing plug missing from mag cover. One fork boot torn. Speedo cable housing shot from poor routing.

PE—Speedo cable has unhooked itself from top unit three times so far and it's off again, otherwise nothing wrong with bike. **IT**—Both fork air cap rubbers missing. Quarter panel decals falling off, otherwise good condition.

It's not something that could be fixed with new parts, but the Maico, Husky and Suzuki all had enough condensation on the speedo/odo windows to make it hard to see. The other bikes all had clear windows.

Poorly routed front brake cables made riding the KTM difficult from the start and eventually destroyed the cables on the Can-Am and Maico, also. The Can-Am and Maico cables bend tightly to reach the righthand side-mounted brake arms, while the KTM's enduro kit interferes with brake cable routing.

The KTM installer routed the cable in front of the Petty light/numberplate as per the kit's instruction but the first bump let the cable loop over the plate and speedo, holding the front brake on and almost causing a nasty crash at 60 mph. The kit should come with a longer cable and extra guides. When the front brake cable flexes with fork movement, the brake lever gives terrible feedback and the tightness of the lever varies with the amount of bend in the cable housing. Inexcusable. The owner shouldn't be required to buy cable

guides and re-engineer the front brake cable routing before he can ride the bike safely. The Husky, KDX, PE, and IT have excellent routing and caused no problems during the test.

Kickstands were another sore spot on some of the bikes. What could be simpler than designing a good kickstand? The KDX, IT and PE had good side stands. The Maico has a centerstand. Some liked the centerstand, some didn't. No one liked it when trying to use it on unlevel ground. The sidestands on the Husky and Can-Am are too long. The Husky stand is also next to impossible to operate by foot. It tucks up out of the way nicely but unfolding it from behind the axle adjusters is a pain. The KTM has a sidestand best described as unacceptable. It is at least 3 in. too short.

WHICH BIKE IS BEST?

Besides commenting about the motorcycles, the riders picked their favorite bikes for mountain, desert and combined use. Individual features were ranked, the results shown in the accompanying charts. Like the comments about the bikes, the preferences were generally uniform. The bikes that worked easiest, that had easy clutch pulls, easy and positive shifting, compliant suspension, tractable engines and the least fussy personalities were placed at the top of the list by all riders.

However, the A-level riders were better able to cope with the more difficult to ride bikes, the ones with the narrow powerband. Just because the best riders could torture the clutches of some bikes enough for the bikes to climb a hill doesn't mean that's the way a motorcycle should be built. None of the riders could find a reason to buy a difficult to ride bike when there are bikes available without these problems. Features like quick change wheels, premium tires, primary kickstarting, folding levers, good brakes and waterproof engines are nice, but just having one or two features won't make it. And some of the bikes were especially difficult to live with.

Price wasn't a consideration in picking the best bikes. In fact, the riders weren't told the prices of the motorcycles during the test.

The price and reputation of suspension components had nothing to do with the rider's choices when it came time to pick the best forks and the best shocks, either. Rider control and comfort became the deciding factor. The best example of this is the last place listing of the Ohlins on the Husky. Ohlins cost around \$300 and the units on Husky's ORs and CRs work beautifully. The units on the WR are harsh when going slow and bottom when going fast. Since most aftermarket shocks are delivered to the motorcycle manufacturer with spring and damping rates of the

BEST ENGINE, POWER AND POWERBAND

First	Can-Am Qualifier
Second	Kawasaki KDX
Third	Suzuki PE
Fourth	Husqvarna WR
Fifth	KTM
Sixth	Maico Enduro
Seventh	Yamaha IT

BEST SHIFTING

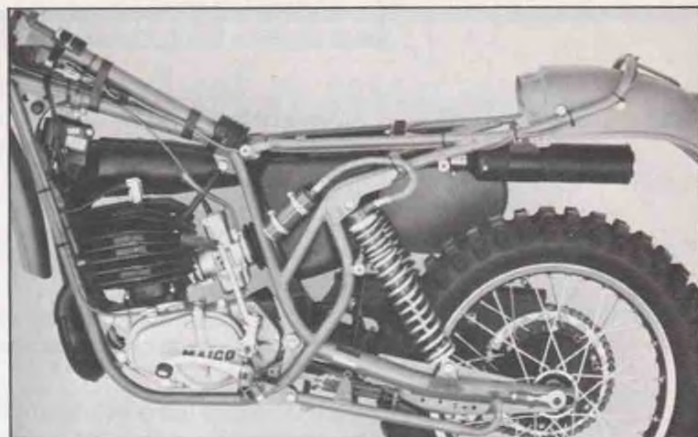
First	Husqvarna WR
Second	Suzuki PE
Third	(tie) Kawasaki KDX KTM Enduro
Fourth	Yamaha IT
Fifth	Maico Enduro
Sixth	Can-Am Qualifier

ENGINE PROTECTION (skid plate, etc.)

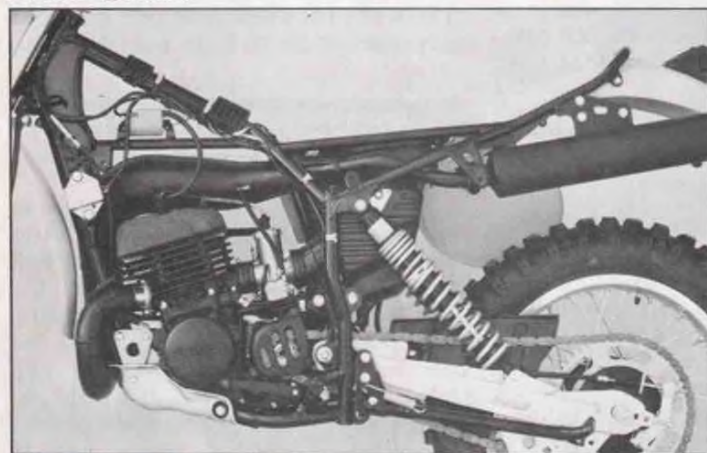
		comments
First	(tie) Yamaha IT Kawasaki KDX	aluminum skid plate plastic skid plate
Second	Suzuki PE	aluminum skid plate (doesn't completely cover mag and clutch covers)
Third	Can-Am	skid plate (doesn't protect past frame rails)
Fourth	Husqvarna	frame center rail (no side engine protection)
Fifth	KTM/Maico	no engine protection



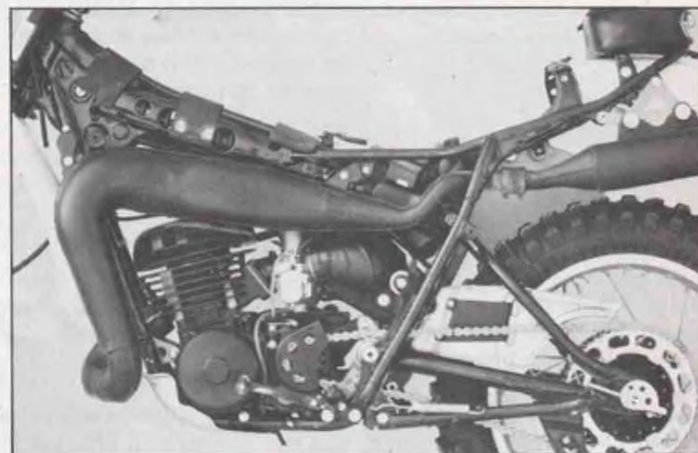
Can-Am Qualifier



Maico Enduro



Suzuki PE



Yamaha IT

manufacturer's choosing, we have to conclude some one at Husqvarna made a poor choice on damping and spring rates. Yes, the Ohlins are rebuildable and internal damping rates are tuneable by changing valving, but the buyer of an expensive bike, with expensive shocks, shouldn't have to do R and D work.

Sure, we could have lowered the final gearing on the Maico, and we could have shortened the kick stands on the Husky and Can-Am, and we could have changed the spring and damping rate on the

Husky's shocks, could have had White Bros. modify the IT shock and spent days completely rejetting it, replaced the PE shocks with Works Performance units, installed Metzeler or Pirelli tires on the IT, PE, Can-Am, Husky and KDX. You can see how quickly things could get out of hand. What modifications are fair? That's the reason all of the bikes were tested in stock condition. With modifications, all of the bikes would be better and any of them could win in the hands of the right rider.

Evaluated as stock motorcycles, some

work better than others and the bike that worked the worst was the Yamaha. The engine ran so poorly that it couldn't be ridden where the other bikes could and riding it at even the moderate pace it could hold required too much effort and skill.

Next up the list was the Maico. It, too, had such a narrow powerband that combined with the absurdly high gearing it was impossible to ride it some places. In rough sections the best riders were forced to ride the Maico because less experienced riders couldn't brutalize the clutch and



Yamaha IT



Can-Am Qualifier



Suzuki PE



KTM Enduro



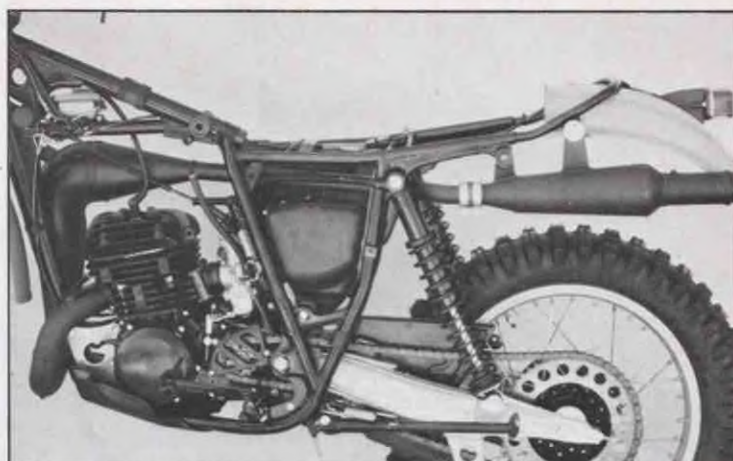
Maico Enduro



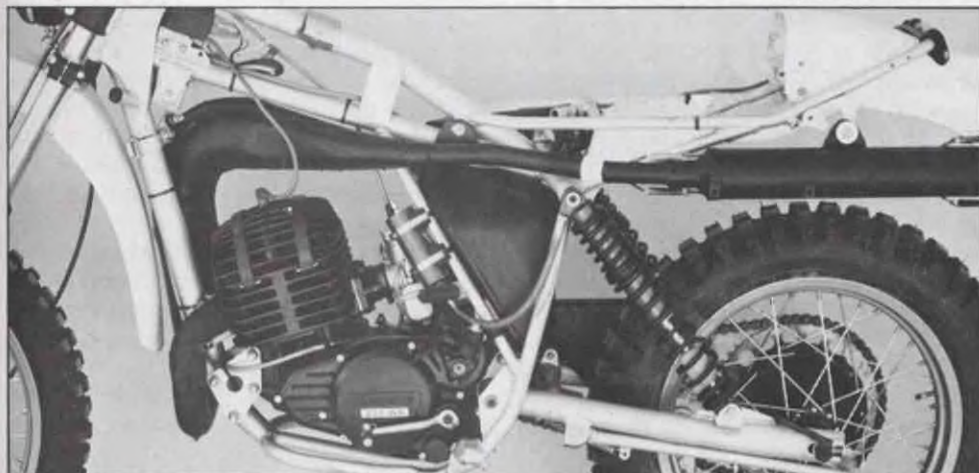
Kawasaki KDX



KTM Enduro



Kawasaki KDX



Husqvarna WR

ride fast enough to keep the Maico from loading up and dying. A shame, too, because the Maico offers exceptional steering and is a joy to ride fast where terrain allows.

The KTM is just too specialized, its motocross suspension being inappropriate for enduro use. At least it had a wider powerband than the other piston-port engined bike, the Maico. But that solid chassis and excellent detailing couldn't make up for the hard clutch and poor front brake and overly stiff suspension.



Husqvarna WR

The Can-Am, Maico, IT, Husky and KTM have speedometer/odometer combinations. The Suzuki, and Kawasaki have odometer only units.

BEST MOUNTAIN ENDURO BIKE

First	Kawasaki KDX
Second	Can-Am Qualifier
Third	Suzuki PE
Fourth	Husqvarna WR
Fifth	KTM Enduro
Sixth	Maico Enduro
Seventh	Yamaha IT

BEST DESERT ENDURO BIKE

First	Kawasaki KDX
Second	(tie) Can-Am Qualifier Suzuki PE
Third	(tie) Husqvarna WR KTM Enduro
Fourth	Maico Enduro
Fifth	Yamaha IT

BEST ENDURO BIKE FOR COMBINATION USE

First	Kawasaki KDX
Second	Can-Am Qualifier
Third	Suzuki PE
Fourth	Husqvarna WR
Fifth	KTM Enduro
Sixth	Maico Enduro
Seventh	Yamaha IT

All the bikes have strong frames although they all differ in design. The PE, KDX and KTM have aluminum swing arms.

Fourth place goes to the Husky, not because it's a better bike than the KTM or Maico, but because it's easier to ride. It doesn't have any especially good features, but it also doesn't have any outstanding bad features. In this group it could be considered the most ordinary of the motorcycles and that's why it was voted in the middle.

Third place goes to the Suzuki PE, but it's a close contest between the Suzuki and Can-Am for second. The Suzuki is an excellent stock bike with a tremendous engine-transmission package. It only loses out to the Can-Am for second because its steering precision and suspension package isn't quite as good.

The second place Can-Am has several shortcomings, the brake cable and hard clutch pull and it occasionally missed shifts. But it had the most incredible engine. It would idle up hills in 3rd that other bikes had to banzai in 1st. Yet it had peak power to keep up with the fastest bikes on fast trails. All that and it uses the least gas and makes the least noise.

That leaves the Kawasaki. It wasn't easy picking a rather strange looking green motorcycle that never existed before this year as the best 250 enduro bike available. Before the test began no one thought the Kawasaki would win or be anything more than an also ran. Somehow it just doesn't look right. Yet every rider on the test, marking down his choices on a piece of paper, picked the Kawasaki as the best bike for mountain, desert or combined uses.

Between riding stints on the KDX riders began to doubt how excellent the Kawasaki was, yet the next time they rode the Kawasaki they immediately went faster, easier without having to compensate for anything. It steers precisely, has the power to run 80 mph, has an amazingly broad powerband and all the while it is the easiest bike to ride with almost effortless control.

No doubt about it, Kawasaki's the one. ☐