

KTM 400 MX

IF YOU'RE SERIOUS ABOUT MOTOCROSS,
THIS IS AS SERIOUS AS YOU CAN GET.

Just in case you were wondering, KTM stands for Kronreif (a former owner), Trunkenpolz (the family that still runs the company) and Mattighofen, the name of the small Austrian town where the factory is located. Although they don't have the impact in the United States that the Japanese now enjoy, KTM is very popular in Europe, currently holding a seven-time European En-

duro Championship, and a two-time World Motocross Championship (1974/1977—250 class) with the distinction of taking the 1-2-3 spots in the 250cc class last year. In Europe KTM basks in a large and prestigious position among world-wide motorcycle manufacturers.

Our latest contact with the land of flower-box windows and lush green farmlands comes with this 400 MC-5,





their largest motocrosser. The 1978 model is not only cosmetically new, but has also enjoyed extensive internal upgrading and improvement. KTM is very high on pride in assembly—to the point that everytime two pieces are bolted together an accompanying slip is signed by the worker—so praise or complaint can go directly to the source.

The 1978 400 has enjoyed some mechanical fine tuning, starting with the motor internals. The top end got attention first, starting with a shorter rod and a bore increase of one millimeter. This freed-up enough room so that the lower-end bearings and rod could be beefed-up to add reliability to the already hefty bottom-end construction. Inside the cylinder an additional boost port (bringing the total to three) above the intake has been added, along with a new pipe configuration and an improved version of the Bing 54/2, 38mm center-float carburetor.

Transmission updates include the change of third-through-fifth gear-construction to a stronger forged-type manufacturing instead of the former billet method. Last year's fiber clutch plates have been replaced with bronze friction plates and steel slide plates so the clutch is easier on both the gearbox and the chain drive system, with a side bonus of longer life for all three. Both inner and outer cases are magnesium, and due to a new forward footpeg position, the left

outer case configuration has changed to allow ample shifter and kick-starter clearance. This year's engine will fit in last year's frame, but a visa-versa swap isn't possible.

The super-strong chrome-moly frame is finished in bright red. Its head angle has been decreased half a degree while the swingarm has been elongated $\frac{3}{4}$ inches resulting in a slightly longer wheelbase. Under the seat the frame is an inch narrower and the shocks have increased their angle by having the top mount moved up and the bottom mount pushed forward. The chrome-moly swingarm pivots happily on high quality needle bearings while the steering head swivels on time-proven tapered Timken bearings.

Both tank petcocks have been moved forward and away from interference with the rider's knee, while the inside of the tank has been coated with a layer of resin to eliminate any chips from working their way into the Bing carburetor. Although the KTM has a new configuration side panel design, we suspect that next year the Austrian mount will come with even longer oval plates due to the new FIM regulations on number plate visibility (see photos from Carlsbad GP last issue for examples).

KTM's hubs, a re-run from previous versions, have never been called flimsy, nor have we heard complaints about the Sun rims or heavy-duty spokes. Rarely do you see a KTM rider use a spoke wrench—most Six-Day riders don't even bother to carry one after the initial-bedding period. Internally the brake shoes have excellent quality and action (stoppable on a 10mm washer after break-in) and you'd be hard pressed to find a stronger overall wheel design.

A new seat debuts on the MC-5, one that could be described as a good imitation of a redwood board. Don't let it worry you—we never had a sore rear at day's end.

Up front the old 9-inch travel 35mm Marzocchi forks have been replaced with stronger 38mm diameter legs with 10.4 inches of travel. Debuting with the new forks are new pull-back style handlebar clamps that now allow unlimited up-and-down fork adjustment to alter ride height and geometry. Holding the fender off the tire in back are gas-Bilstein shocks with dual-rate springs. Old favorites include the six-speed gearbox, Motoplat CDI ignition, Metzeler tires, Magura throttle and levers, magnesium hubs and backing plates, good plastic fenders, an alloy brake pedal and an informative manual.

That's your basic KTM 400 MC-5—it's a proven workhorse winner comprised of the best-quality, and thus high-priced, components. But it needs some fine tuning. Like a new violin, the KTM is pretty to look at, but requires some down home fiddling before it's tuned for a berm-cornered raceway. We did some digging after our initial 20 hours on the MC-5 and got the right info from the proper sources (KTM personnel, factory riders and unbiased privateers) on what works, what needs tinkering, and what you have to replace to put it at the top of the all-time list of good-handling pro-motocrossers.

First let's start with the forks. In virgin state they're too stiff, the fork seals leak almost immediately and their spring-rate/damping combination doesn't seem to harmonize at less than very fast speeds across rough terrain. For motocross racing we suggest that you get the new Hi-



**DIRT
TEST**

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Point air fork kit. It consists of softer springs, air caps, non-leaking double-lip seals, new damper rods and simple instructions. For \$60.90 your forearms will be a lot less sore at the end of the day.

Once you tune the front you'll realize that the gas Bilsteins are also over-damped and over-sprung. Possible replacements include Olins, which have special KTM damping internals (A-23 designation) and should be fitted with the black and blue springs. Works Performance Products' new Supercross shocks were developed on a KTM and therefore Works can provide exacting information on spring and damping rates you need for the desired result.

As you'd expect the 400 has its customary arm-stretching mountain-displacing power. Lots of 400 riders leave the bike in third when the masses click down to second, then scoot forward on the tank and motor-away while roosting a dump-truck's worth on the back runners. But there have been complaints that the bike seems either too pipey or excessively rich. If so, consider re-jetting to the following KTM-suggested specs:

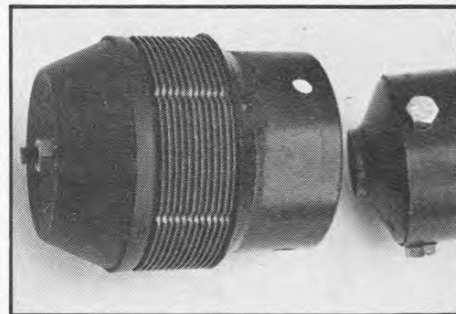
No. 185 main jet
No. 282 needle jet
No. 4 K-2 needle
No. 230 slide
No. 45 or No. 50 pilot jet
No. 4 vaporizer (with its holes properly lined-up with the corresponding hole in the venturi—you should be able to see daylight by looking through both pieces).



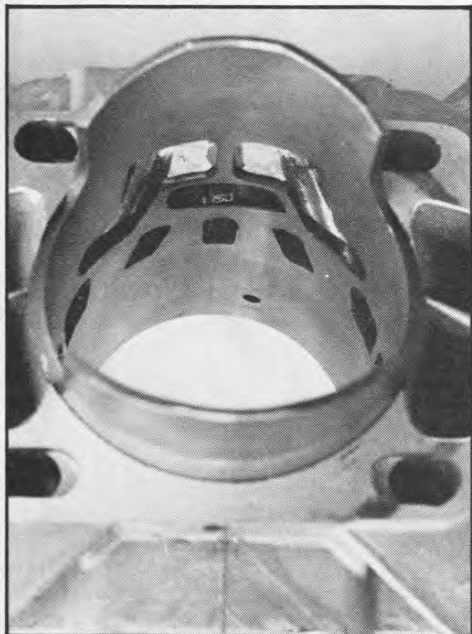
To adjust the air screw, work it until the motor idles down fast, then back off $\frac{1}{8}$ of a turn. Start with the needle in the mid-position, but plan on going leaner. If it's still a tad pipey or doesn't have that velvet-smooth powerband you'd expect, remove the packing from the silencer and start re-stuffing. You'll notice that there is a bend approximately 6 inches from the end of the pipe where quite often the stuffing gets bunched-up at the factory level, therefore increasing back pressure and adding to the hump in the powerband. By re-jetting and re-packing the pipe you should have a more cooperative and better working motor.

Also, you might find for the first time on any KTM that you're missing shifts, or the bike seems to be dropping into neutrals on its own. This is because you've probably got the wrong shift lever. KTM went to a

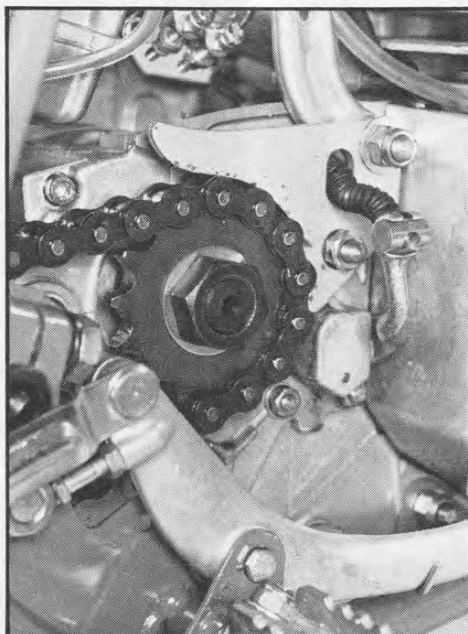
folding shifter this year, but moved the footpegs forward. Later it was found that the shifter was too short and somewhat hard to use, thus the numerous neutrals. If the lever isn't just a few hairs shorter than the circle scribed on the outer case, you've got the bum shifter, and will have to replace it.



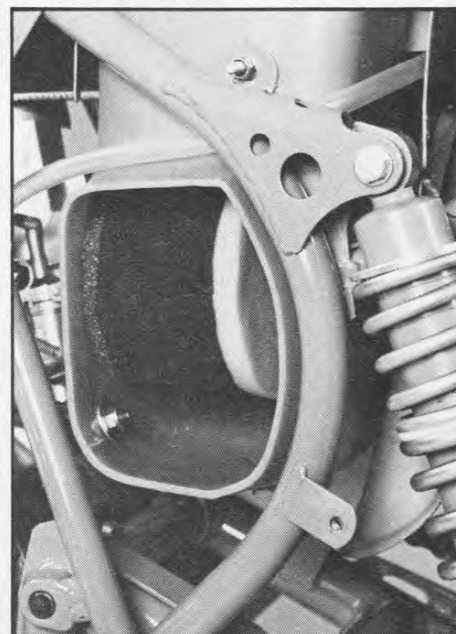
The \$18 spark arrester goes with a Petty lighting kit, VDO, 3.5 gallon tank and skid plate at \$132 for enduros.



Three boost ports give the 359cc motor an added kick. More port work borders on insanity—isn't necessary.

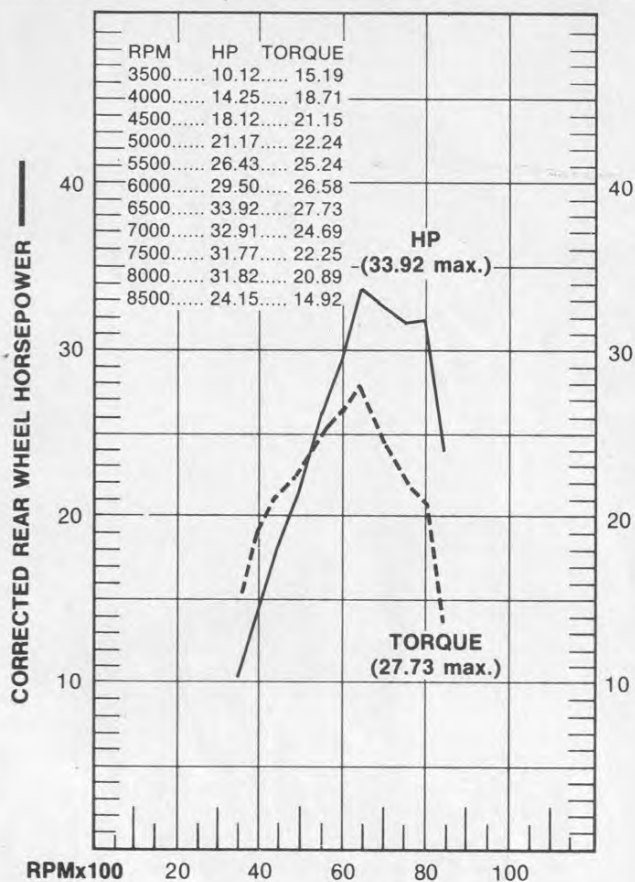


A built-in case saver protects mag cases. Clutch arm needs lube but rarely packs up. Brake pedal is trick.



A Twin-Air filter resides in a Houdini-like box. Getting it out can be a real feat. Hi-Point unit works better.

KTM 400 MC-5



PRICE

KTM 400 MC	\$2150
CAN-AM 370 MX-4	\$1899
HUSKY CR390	\$1995

WET WEIGHT

KTM 400 MC	247 lbs.
CAN-AM 370 MX-4	240 lbs.
HUSKY CR390	239 lbs.

HORSEPOWER

KTM 400 MC	34 hp @ 6500 rpm
CAN-AM 370 MX-4	38 hp @ 7000 rpm
HUSKY CR390	34 hp @ 6500 rpm

SUSPENSION

FRONT	KTM 400 MC	9.4 in.
REAR	KTM 400 MC	9.4 in.
FRONT	CAN-AM 370 MX-4	9.8 in.
REAR	CAN-AM 370 MX-4	9.8 in.
FRONT	HUSKY CR390	9.5 in.
REAR	HUSKY CR390	10 in.

Suggested retail price.....	\$2150
Warranty.....	None
Number of U.S. dealers.....	485
Cost of shop manual.....	\$3.00

ENGINE

Type.....	Two-stroke single
Displacement.....	359cc
Bore x stroke.....	82 x 68mm
Compression.....	12:1
Carburetion.....	1, 38mm, Bing
Ignition.....	CDI
Lubrication.....	Premix; 20-25:1
Battery.....	None

DRIVETRAIN

Primary transmission.....	Spur gear 2.76:1
Clutch.....	15 plates wet
Secondary transmission.....	5/8 x 3/8 Regina chain 14/52

CHASSIS

Fork.....	Marzocchi, 10.4-inch travel
Shocks.....	Bilstein gas, 9.4-inch travel
Front tire.....	3.00-21 Metzeler
Rear tire.....	4.50-18 Metzeler
Rake/trail.....	28.5°/4.5 in. (114.3mm)
Wheelbase.....	57.5 in. (1460mm)
Seat height.....	37 in. (939.8mm)
Ground clearance.....	12.5 in. (317mm)
Fuel capacity.....	2.4 gal. (9 liters)
Wet weight.....	247 lbs. (112 kg)
Colors.....	White
Instruments.....	None

PERFORMANCE

Power to weight ratio, unladen.....	7.3 lbs./hp
Speed in gears @ redline.....	1st 21.56 mph;
	2nd 31.13 mph; 3rd 41.67 mph;
	4th 53.29 mph; 5th 63.00 mph;
	6th 74.00 mph.

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Getting down to particulars, have someone do a simple match (not port) on the cylinder and liner, and if the gas cap leaks, replace the cork washer with a rubber one. Welding four little bumps on the ends of the footpegs reduces the slippery-ness and changing the gearing to either a 15/52 or a 14/50 will give you a faster trail speed (75+ mph) without hurting corner-to-corner acceleration capabilities. Some riders have found that slop can pack-up inside the stock air box due to both improper drainage and restricted internal design. A Hi-Point airbox (\$46.95) breathes better, drains sufficiently and comes with a dual-element sewn-together filter which can be changed about six times easier and faster than stock. By following these tips your 400 KTM will be exactly what the big pros have, both for mo-

tocross or enduro applications.

By now you're probably wondering why you should have to put even more money into an already expensive motorcycle. Every motorcycle, specifically motocross models, need fine tuning. Japanese and European mounts alike can't be taken out of the box and raced with total success on the competition level a KTM purchaser intends to face. For a pro-motocross racer who plans on making house payments by bashing berms, the KTM is an excellent "starter" kit. It steers great, stops well, has gobs of power and rarely breaks. After performing the tune-up tips mentioned here, it won't be responsible for him finishing second. It will also be the highest-quality and best performing playbike in five counties. The KTM 400 is tailored towards the experienced rider who takes his racing seriously, either to build-up his career or continue his good placings. An income producer it most certainly can be—and a steady income at that. **M**



Off The Record...

Unless you're an enthusiastic racer (one who can substantiate the expensive practice of trading-up each year), purchasing a new motocrosser is no laughing matter, especially these days when prices are rising sky high. Therefore you've got to look at a bike as a long-term investment. You'll want one that's progressive in design so as not to be totally outdated in six months, durable enough to withstand several seasons of punishing service without constantly ravaging the pocketbook and one possessing an established name so it's worth more than a few pennies come re-sale time. One way to insure a wise investment is to first look for quality. And while I don't agree that a bike's price tag generally reflects its inherent quality or worthiness, the KTM 400 is an exception in my book; after examining this latest 400 closely, riding it extensively and considering the Penton/KTM past history, I believe the buyer is getting exactly what he's paying for.

Such expensive items as the latest magnesium-legged Marzocchi forks, Metzeler tires (the best money can buy), magnesium inner and outer engine cases, magnesium hubs and backing plates, a painstakingly-lightened chromemoly frame, Magura levers and a folding shift lever are just a few items not found on machines with lesser price tags. The engine is a standard of excellence and durability; tales of KTM engines going upwards of 8000 miles without being touched aren't uncommon.

Now I didn't say it's the best motocrosser money can buy; there are suspension problems that could keep it out of the winner's circle as a stocker. But

for the average rider (one who we've found uses it as a playbike 50 percent of the time anyway) who's looking for a quality-built racer, which will last and perform, the KTM is well worth its inflated price tag.—Rich Cox

The KTM's cost puts it in a price bracket that will scare-off the average rider before he has a chance to sample its precise cornering and incredible speed. If you're not an expert rider, chances are slim that KTM's \$2150 rock-slinger is for you. Unless you attack the course at a rapid pace; slamming into berms and landing hard off the jumps, the suspension isn't forgiving. Stiff fork springs jolt the rider's arms over small bumps and ridges while the rear end hops due to heavy springing and damping. I was surprised to find that for \$2150 certain things just didn't get enough attention. The kick starter was too high. The lack of a rear frame loop or lifting-spot means the sharp edges of the rear fender and upper-shock mounting plates tear at your hands whenever you lift the bike. Looping the KTM would surely put an end to the seat and fender, since our seat/fender junction cracked during normal lifting. Also the Marzocchi forks had a large cavity in the lower leg due to poor casting and inadequate quality control.

There are no perfect motorcycles, but when one gets very close, how much will we have to pay? —Ken Vreeke

I favor European mounts, partly, I think, because of the tradition involved, the pride in craftsmanship and the family heritage that controls the final product. I cheer for the underdog, which unfortu-

nately KTM is becoming because of the stiff competition the Japanese are doling out with their new offerings. For me there is a soft spot for the KTM—I'm even prone to lapsing into the proper European pronunciation of Kaw (like a bird call or Bronx cab-driver's version of "car") Tee (as found betwix coffee and milk) and Emm (as in the Aunt to Dorothy of Oz). I can even be seen standing next to the bike, starting it with my right foot, snicking it into gear with same, and swinging my leg over the saddle a la Tom Mix while letting the clutch out—a factory worker did that while I was there—and I've been imitating that classy style ever since.

I get frustrated by the cobby finish, occasional "oops" in quality control that shouldn't be there, stiff suspension, the weak rear fender on our test bike that suffered a short and quick life. I've always wanted to own a KTM—but I could only afford Japanese mounts, which I've found to be just as competitive and in many cases more advanced. But the convenience and price of something like a McDonald's restaurant doesn't mean you should permanently forsake eating roast duck in a tuxedo. I'm the type who would rather ride those cobblestone streets in the Mercedes than the Ford Granada and would much rather crawl under an "eiderdown" (a great European feather blanket) than an electric blanket.

I know that the KTM guys can once again leap ahead of the Japanese, but if it's not done soon, that leap will require more of a boost than they may be capable of producing. They seem to be teetering between a pure fan-supported existence or one supported by a true performance advantage. Whatever happens it had better be quick—loyalties move quickly and often without favoritism based upon past performance.—Brad Zimmerman