

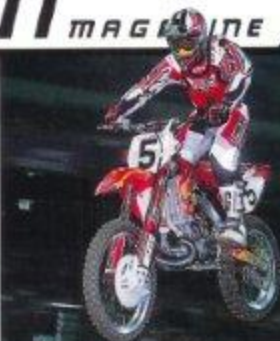
3 Hottest Four-Strokes Ever!

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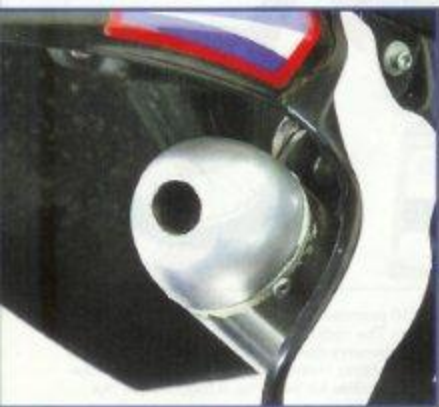
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RACE TEST

HAS THE TM 250 BEAT

The Italians keep their focus



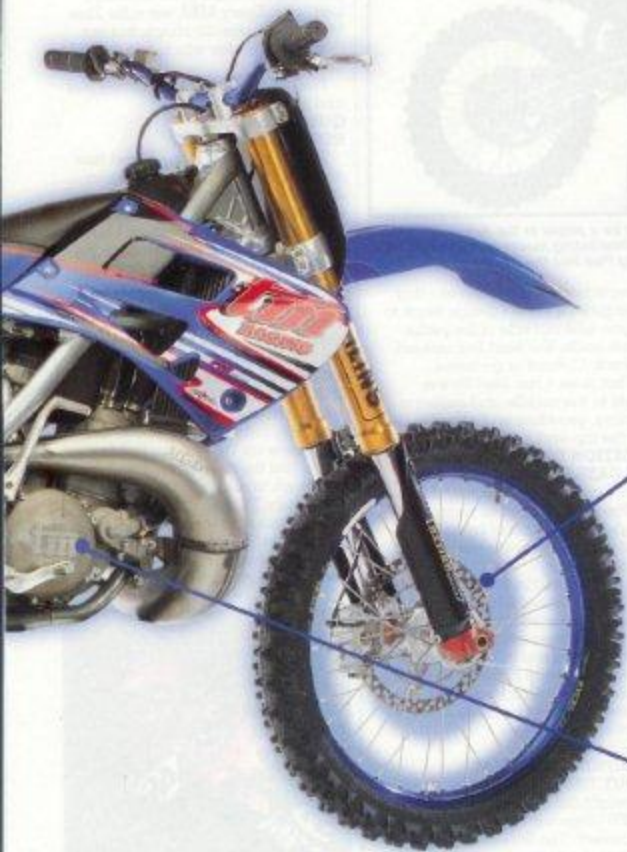
Gripeshot: When the FIM banned stingars, every manufacturer came up with their own take on the safest end cap. TM's looks like a cannon ball.



Sensitize: Every MXA test rider complained about the modulation of the rear brake—there wasn't any.



THE CASE-REED CURSE?



Applaud: TM finally found a way to fix its atrocious Paioli forks. It drop-kicked them. The decision to switch to Ohlins forks was radical, but much appreciated. These forks work.



Sand cast: TM's claim to fame is kart engines, where rpm is king. Although the case-reed engine's horsepower output isn't impressive, the fill is.

TM 250



On your six: If TM played its cards right, it could be a player in the American market. It has unique features, quality suspension, interesting power and striking looks. All it needs is a few tweaks to turn the Big Five into the Big Six.

QUESTION ONE: IS THE TM 250 ENGINE FAST?

Yes. TM has been using case-reed induction on their engines since Day One. The Italian engineers like the performance envelope that almost-direct induction produces. When the TM 250 comes on, it has plenty of punch.

QUESTION TWO: WHAT IS CASE-REED INDUCTION LIKE?

Unlike a conventional reed-induction engine, a case-reed carburetor is aimed directly to the lower-end. Engine designers have traditionally steered clear of case-reed induction on 250 engines because of the difficulty in getting strong low-end power from the shortened intake circuit. However, case-reed engines are renowned for their ability to produce beaucoup high-rpm power (that's why most 125 engines are case-reed design).

TM, bless their hearts, wasn't worried about the mid-and-up profile of case-reed induction. That is exactly what they were after. So, unlike Honda did with its case-reed CR250, TM didn't try to jury-rig the intake tract, reed cage or crankcase volume to fool the case-reed into thinking it was a conventional piston-pore reed. Where the Honda has a relatively broad, but flat, powerband, the 2002 TM 250 banks in the middle and produces power in much the same way that Mr. Case Reed intended.

QUESTION THREE: HOW GOOD IS THE TM 250 ENGINE?

There are two caveats to TM's powerband: (1) It doesn't have a lot of low-end grunt. The short intake tract requires high rpm before it reaches harmonic resonance. (2) The spread of

power is hampered by the fact that the engine's inherent design leans to the gun-and-run side of the performance scale. You can't loaf around the track. Commit or go home.

What does it run like? Power builds in the middle and makes a snarling, growling and effective rush into the top-end.

QUESTION FOUR: HAS TM BEAT THE CASE-REED CURSE?

No. Largely because they didn't try. The Italians think of motorcycles as a high speed game of bocci ball. Their engine design is purpose-built for racing.

To be honest, the MXA wrecking crew didn't expect it to be as fast as it was. We expected less—not necessarily less horsepower, since TM has a well earned rep in karting for producing beaucoup ponies—but a less usable powerband. It's a good engine—different by design, but effective nonetheless.

We'd race it.

QUESTION FIVE: WHAT ABOUT THE JETTING?

Straight out of the Italian crate, the TM 250 Cross ran fine. But, there is one caveat. The Italian engine requires the highest octane gasoline you can afford to feed it. That means straight out of the tanker 92 octane or a 50:50 mix of discount 92 with 100-octane race gas.

Here is what we ran in our bike for SoCal's sea-level tracks:

- Mainjet: 175 (180 stock)
- Pilot jet: 50 (48 stock)
- Needles: See notes
- Slides: 7.0
- Air screw: 1.5 turns
- Clip: 3rd

QUESTION SIX: HOW GOOD IS THE HYDRAULIC CLUTCH?

Hydraulic clutches are a very good idea, but just as with cable clutches, there are good ones and bad ones. Every MXA test rider likes Magura's hydraulic clutch, but not Grimeca's. Guess which one the TM uses?

The TM's Grimeca has a gritty feel and pop-gun-like action.

QUESTION SEVEN: HOW DOES IT SHIFT?

Fair-to-middlin'. It's no secret that mid-and-up engines put a tremendous load on gearboxes. They rocket out of every turn with every bearing wound tight. The rider doesn't have the luxury of a big shift window. He has to shift at the peak. To catch every gear, every time, at every race, you have to be deliberate, avoid over-revving the engine and, unfortunately, bank the throttle off a tad before nudging the shift lever.

QUESTION EIGHT: WHAT DO WE THINK OF THE FORKS?

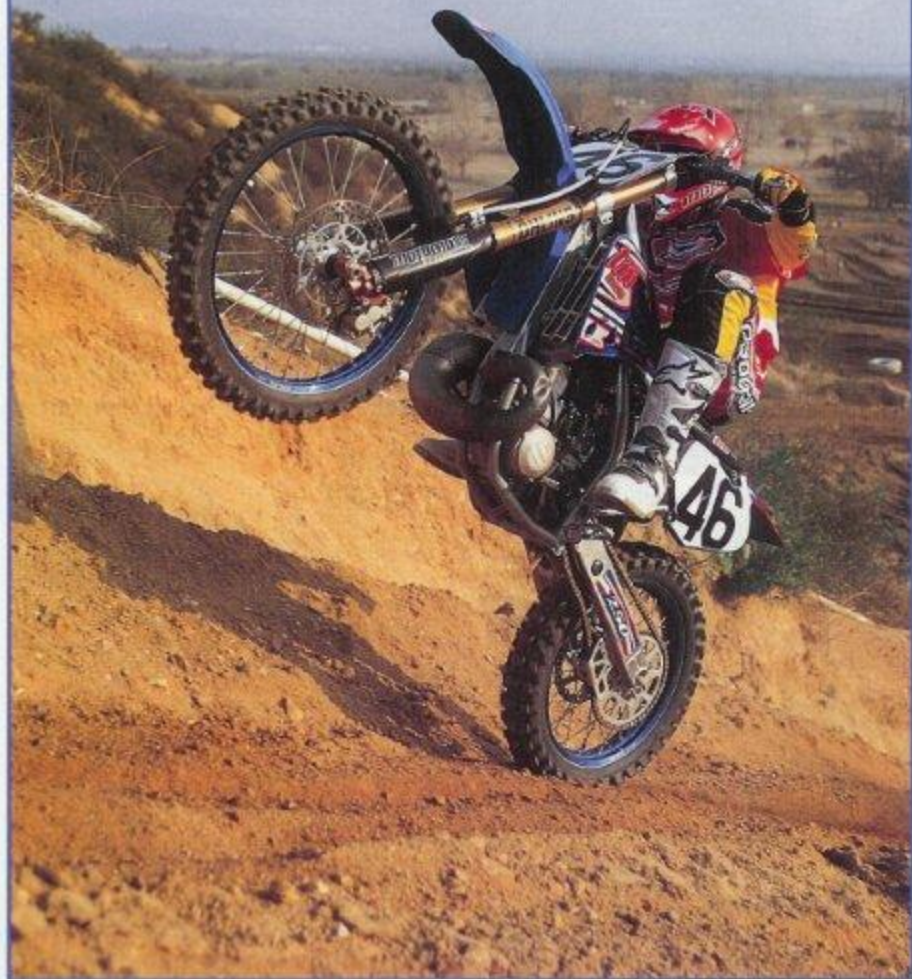
Make no mistake about it, we hate the Patell forks that have been standard issue on TM's for the last few years. Just the sight of the Patelli logo is enough to ruin a day's riding. Thankfully, TM has drop-kicked the Italian forks in favor of true-to-life Swedish-bull Ohlins forks.

No complaints. For the first time in years, a TM rider has the opportuni-



Common Market: Every MXA test rider hates Italian handling. We prefer steep to slack, agile to sluggish and over-steer to under-steer. To its credit, TM is the least Italian-handling of all the European brands.

TM 250



Footloose: To get full use of TM's mid-and-up powerband, you have to hammer the engine. It makes its best power when shifted at peak rpm. A savvy TM 250 racer rides it like a big 125.

TM 250

ty to feel what it's like to ride a bike without double-vision.

QUESTION NINE: WHAT ABOUT THE REAR SUSPENSION?

The Ohlins trend is carried out all the way to the rear shock. The Swedish-built Ohlins rear shock, unlike Kayaba and Showa shocks, is very sensitive to clicker changes. What you might accomplish on an RM with four clicks, the Ohlins achieves in one. That means that overabundance in problem solving can contribute to a whole new set of problems. A savvy tuner will make small changes on the Ohlins 25-click range.

QUESTION TEN: HOW DOES THE TM 250 HANDLE?

This is the best-turning Italian bike made—which can be interpreted as a left-handed compliment. But most MXA test riders were impressed with the TM's on-track manners. While not a match for an RM250 in the tight stuff, the TM 250 can stay on its chosen line. Thanks to forks that actually work, the 2002 TM 250 has been given a new lease on life.

The TM 250 is as sharp as an Italian bike gets.

QUESTION 11: WHAT DID WE HATE?

The hate list:

(1) **Black gas tank:** Add TM to the list of black-gas-tank bikes (Honda, Kawasaki, KTM and YZR). What's so bad about black gas tanks? You

can't tell when they are full of gas until your boots are damp.

(2) **Rear brake pedal:** It is lovely, but we didn't like its positioning.

(3) **Rear brake:** Although it has a lot of pedal movement, it comes on with all the subtlety of a hand grenade. Very touchy. Very irritating.

(4) **Rear sprocket bolts:** We don't hate the rear sprocket bolts, we are just amazed by how many there are. Ten bolts to hold on a sprocket seems like overkill.

(5) **Hydraulic clutch:** Given our druthers, we'd rather have a Magna hydraulic clutch.

(6) **Ergonomics:** The TM has a roomy look to it, but the bars felt too low and the footpegs too high. It felt natural when standing and unnatural when sitting.



Silver oval: The Italian frame is innovative. Its semi-perimeter design uses ovalized chromoly tubes to cocoon the case-reef engine. It looks trick, but is on the heavy side.

QUESTION 12: WHAT DID WE LIKE?

The like list:

(1) **Handlebars:** Over-size aluminum Reikon bars. Very sweet.

(2) **Perimeter frame:** Apart from Kawasaki, TM is the only other manufacturer to jump on the perimeter-frame wagon. TM's twist is to use ovalized steel tubing. It's unusual looking.

(3) **Plastic:** Yes, Virginia, the rear fender is off of a KX, but the rest of the plastic is homegrown TM.

(4) **Front brake:** When you combine a Nissin master cylinder, Brembo front caliper and an oversized 270mm front rotor, you get the best front brake in the business. You won't find a works bike with better front brakes than the TM.



(5) **Rims:** TM spec blue anodized Takasago Excel rims. We could live without the blue, but the Excels are a good choice.

QUESTION 13: WHAT DO WE REALLY THINK?

When the world goes all-four-stroke all-the-time, you can bet that TM will still be producing two-strokes. Engine design is the bread-and-butter of the karting company. When the Italian engineers originally designed this 250cc case-reef engine, they were intent on milking the mid-and-up attributes of the engine layout. Their motives were pure and goals unlettered, and as a result the TM 250 has a solid, explosive and well-defined powerband.

The case-reef power curve is best suited to hard chargers, but the rest of the package (save for the rear brake) is a viable alternative to the Big Five. This is the first TM 250 that the MXA wrecking crew would consider racing on a full-time basis. **U**



Fucker power: By combining a Nissin master cylinder, Brembo caliper and 270mm front rotor, TM has built the most powerful front brake in the biz. It's as good as any works bike brake.



Swedish massage: There is something inherently cool about a bike that comes with a super expensive, aftermarket Ohlins shock as original equipment.