

cycle guide

**Yamaha 1100 Special:
Fly low, go fast,
look good**

**EXCLUSIVE!
YAMAHA
YZ400F**



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**NEW HARDWARE: Honda's Star-Spangled CB650,
Yamaha's Woodwise IT175, Honda's CB125 Bookbagger
and JD Engineering's "Works" YZ400E**



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ON THE COVER:
Yamaha's YZ400F demonstrating its 20-
percent increase in power for Richard
George's Nikon.

QUOTE:
"The Yamaha YZ400F is so close to the
best that only the best will know the dif-
ference."
—Page 37

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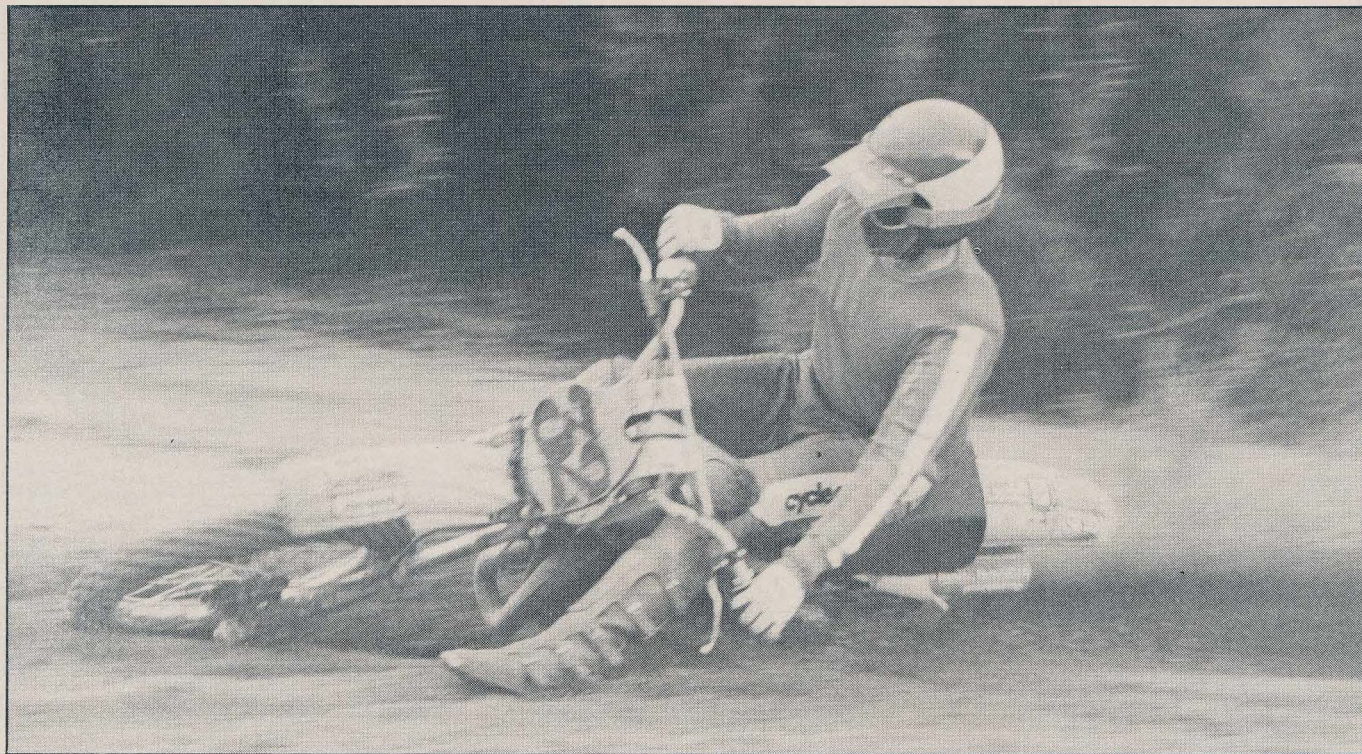
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IMPROVING THE BREED:

PHOTOGRAPHY: LEN WEED



JD/Yamaha YZ400E

• Motocross machinery has a technological half-life that barely exceeds the blink of an eye. When you head for the racetrack with a state-of-the-art motocrosser, it's liable to be obsolete by the time you get there.

Racing the most competitive machine you can afford, then, means one of two things: trading motorcycles every few months or staying abreast of all the latest accessories so you can continually update the bike you already own. The latter method is somewhat limited, since there always are unalterable flaws in a basic design that don't go away with time. But it still is the most practical choice for the average rider simply because, with a little discretion, it's generally the cheapest route. If you choose your accessories wisely, you can even build a better motocrosser than most of the ones you can buy.

Jim Webb, owner of JD Engineering in Palmdale, California, is banking on that fact and on the belief that motocross

BY PAUL DEAN

An economical alternative to throwing your year-old 400 monoshocker in the trash.

riders are never satisfied with their bikes, not even the brand-new, factory-trick models. That's why he's in the business of manufacturing and distributing motocross-oriented accessories. And to display and develop his wares, Webb often sets up a bike with a full complement of equipment he either makes or distributes, then sends it out with one of his sponsored riders to compete on the local circuits.

The bike not only serves as a field laboratory, it functions as sort of a rolling showroom, but one with a built-in truth-in-advertising factor. It's pretty tough to sell motocross accessories that don't perform well and look good on a racetrack.

When Webb learned that we were testing the very first 1979 Yamaha YZ400F to be released to the press, he immediately offered us the use of a 1978 YZ400E he had equipped for Alan Decker, one of his JD-sponsored riders. Webb was well aware of the extensive improvements the factory had incorporated in the '79 400, but that was the very reason he asked us to compare it to his bike. He wanted us to see for ourselves that a flawed, fair-to-middling motocrosser like the YZ400E could, with the proper choice of accessories, be made competitive with a standout machine like the YZ400F.

In modifying the 400E, Webb used only parts or services which are available to anyone through his company. He also tried to keep everything as simple as pos-

sible so that anyone with a 12mm wrench and an idea of which end the handlebars go on could do the work himself. Webb dealt with the 400E's comparatively pipey engine in a rather simplistic manner, for instance, but he got the desired results. He merely cleaned up and matched the stock ports (not absolutely necessary, but something he prefers to do), bolted on a 38mm EI carburetor and inserted an eight-petal reed valve block of his own design in place of the standard six-petal unit. An aluminum-bodied Mark Porter silencer and a JD two-stage foam air filter element capped off the engine-associated modifications.

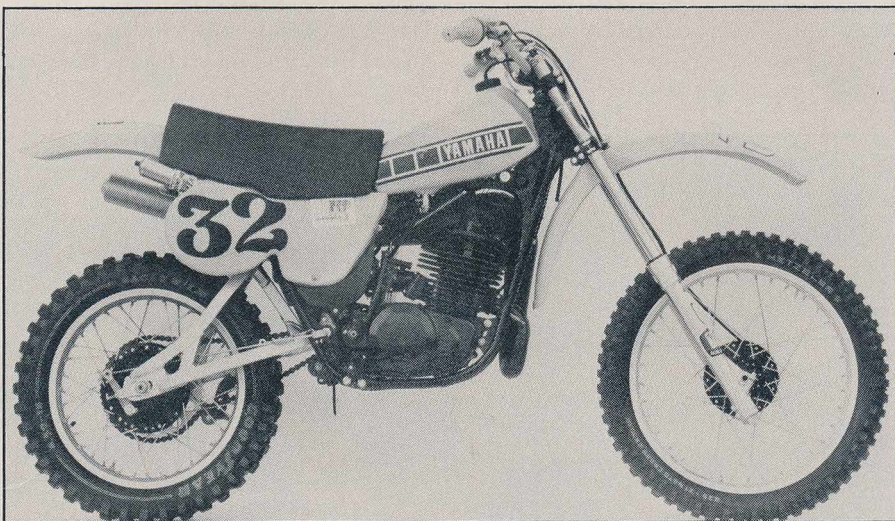
Those few relatively minor changes shouldn't make much difference, but they do. The engine is faster, smoother and more tractable than a stock YZ400E, and during two separate days of riding the bike I could detect no trace of peakiness or flat spots.

Webb credits the EI carb for the bulk of this improvement. He feels the instru-

ment's willingness to carburete more cleanly than the stock 38mm Mikuni at all load and throttle settings does away with the engine's tendency to unexpectedly break traction. (Although Webb installed a standard-series EI carb on Decker's 400, he's now using the EI "Blue Magnum," which is the same basic unit with an additional air-bleed circuit leading into the needle jet for better fuel atomization.)

Cleaning up the ports and using the eight-petal reed raises the maximum rev limit by a few hundred rpm, and the silencer changes the exhaust system's resonant characteristics just enough to aid in smoothing out the power flow. The modified E-model engine is still not quite as fast or responsive in the midrange as the YZ400F, nor will it rev as high. Nonetheless, the JD-tweaked version is a respectable match for the F and a vast improvement over the stock E.

Webb delved into the suspension more deeply than he did the engine. He ex-



tended the front fork travel from 10 to 12 inches with Terry Kit extended damper rods, then topped off the tubes with a pair of Luft's clever new Dial-A-Ride air caps. Each cap has a big knob on top that when turned, changes the preload on the fork springs. The knobs have detented stops at half-turn intervals and can provide a full inch of preload variation.

At the rear, Webb modified the monoshock unit for more travel by removing the big aluminum top-out spacer from the shock's interior. At the same time he relaxed the damping rates and added a Luft remote reservoir at the right rear of the frame. The resultant travel at the rear wheel is 12 inches, two inches more than stock, and the monoshock's oil capacity was increased by moving the DeCarbon piston from the shock body into the reservoir. A few of JD's other odds and ends were added to the 400, like chromoly handlebars, a WhirlPool throttle, softer grips, FIM number plates and a set of special JD chain tensioner rollers that are Teflon-coated and, according to Webb, never need lubrication. But these items were installed more for general upgrading purposes than to cure any problems peculiar to the YZ400E.

On the track, Webb's suspension tricks carry out their appointed duties to near perfection. Both ends of the bike are so luxuriously plush and efficient that the

JD YZ400E *Continued*

only standard suspension pieces which work as well are on the new Husky CR motocrossers. Virtually no punishment can sneak past the fork to jar the rider's hands and arms, and unlike even the new 400F, the rear end never kicks up during braking on sharp ripples. Also, the rear wheel hooks up with what seems like 100 percent greater efficiency, helping make the JD Yamaha just about as tractable as the YZ400F.

Judging the combined effects of Webb's modifications brought us to a split decision. Granted, the JD bike has longer and considerably better suspension, more fork adjustability and *almost* as much power and tractability as the new YZ400F. But the minus side of the ledger is far from empty. When the modified YZ got its suspension-travel increase, the entire motorcycle was raised accordingly, placing the center of gravity and the seat height much higher than on the new YZ400F. And none of Webb's alterations did anything to make the heavy E-model any lighter. Furthermore, the JD bike is still saddled with the E's slow steering geometry and non-floating rear brake. And although the lengthened suspension's up-and-down behavior is impeccable, removing two inches of tube/slider overlap from the fork allows the front end to be notice-

Price Tags

• As always, it boils down to the bottom line: What will it cost? This list of JD accessories answers that question and will allow you to duplicate the Jim Webb/Alan Decker machine—provided you already have the YZ400E. Address inquiries on products for the YZ400E and other motocrossers to Jim Webb at JD Engineering, 40411 12th St. West, Palmdale, California 93550.

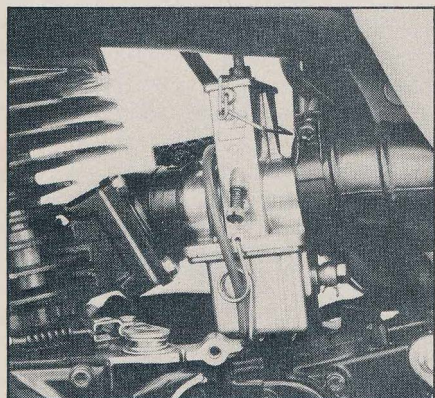
Terry 12"-travel fork kit	\$59.95
Luft Dial-A-Ride air caps	59.50
Luft monoshock reservoir	89.95
Rework your monoshock	60.00
Port your cylinder	110.00
E1 standard carburetor	89.95
E1 "Blue Magnum" carburetor	115.00
JD 8-petal reed valve	69.95
Mark Porter silencer	35.00
Answer Products handlebar	19.95
JD handgrips	3.95
Whirlpool throttle	18.95
Cable for Whirlpool	5.95
JD front number plate	3.95
JD FIM-style side number plates (pair)	18.95
JD two-stage foam air filter element	8.95
JD chain roller/rubbing block kit	16.95

ably tweaky and steer rather imprecisely in mud, sand and deep ruts.

In the end, the JD Yamaha did not emerge as a better overall motorcycle than the YZ400F, but in all fairness, we never expected it would. We knew at the outset that such a transformation would

be unlikely. The JD bike *did*, however, prove Webb's original point, which was that the proper choice of accessories could put the YZ400E in the same performance class with the YZ400F and all the other leading big-bore motocrossers. If you already own a YZ400E, you could duplicate the really important parts of the JD motorcycle for under \$500, and that's a couple of paychecks cheaper than the trade-in differential between your clapped-out YZ400E and that new YZ400F the local Yamaha dealer has sitting in his showroom. The bolt-on method might not give you the absolute best motocrosser money could buy, but at least you'll have a bike capable of something it couldn't do before, which is to race competitively in the Open Class.

Heikki Mikkola, Rick Burgett and riders of that level have no reason to fear a JD-built YZ400E, and no one knows that better than Jim Webb himself. But with the marked improvements his modifications effected on an over-the-hill YZ400E, one can't help but wonder what a few of those same tricks might do to the sophisticated YZ400F. Mikkola and Burgett wouldn't run from it in the pits; and I'd bet that with a rider of their caliber aboard, they wouldn't run away from it on the track, either. ●



38mm EI carb, the American alternative

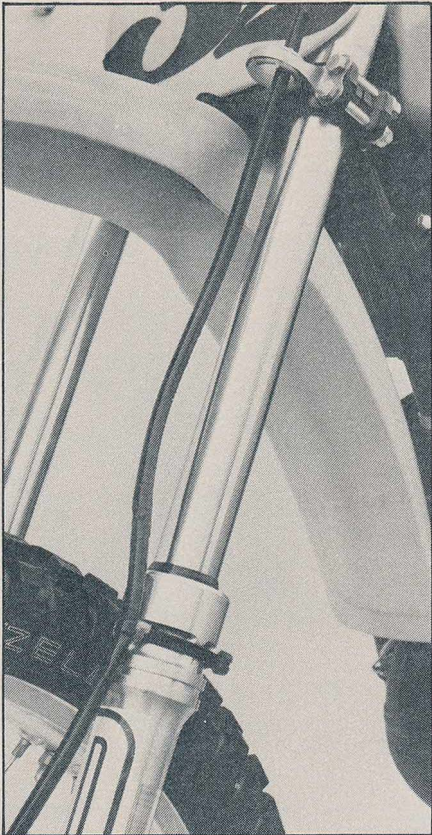
For smoother power and more of it.



Dial-A-Ride air fork caps

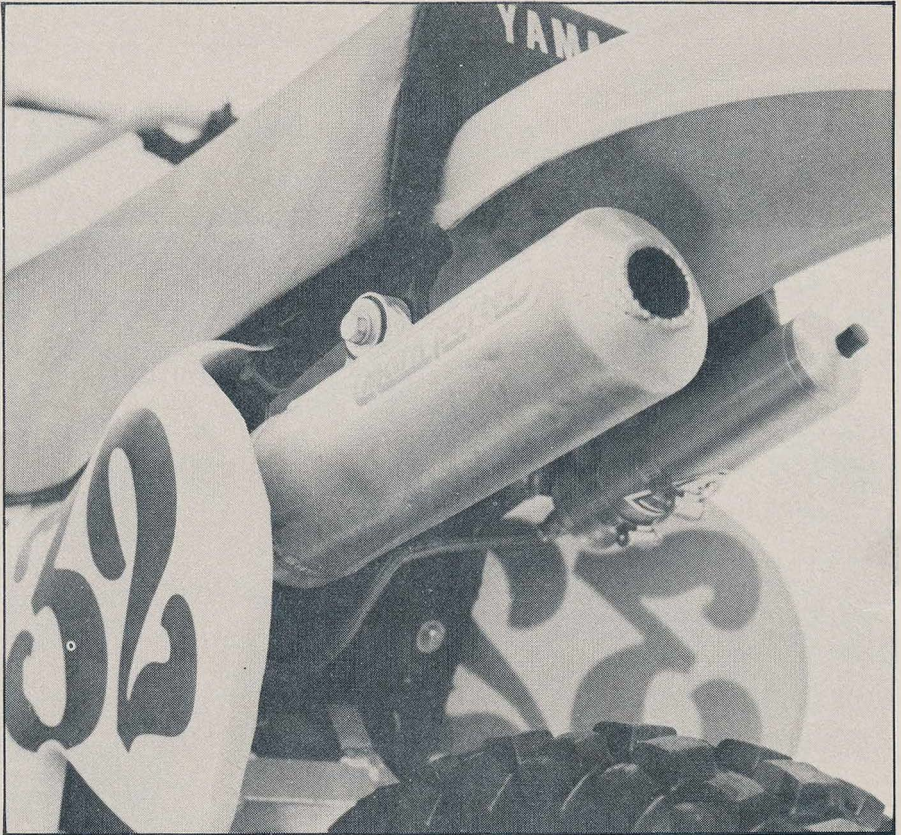
Turn the channel to the best preload.





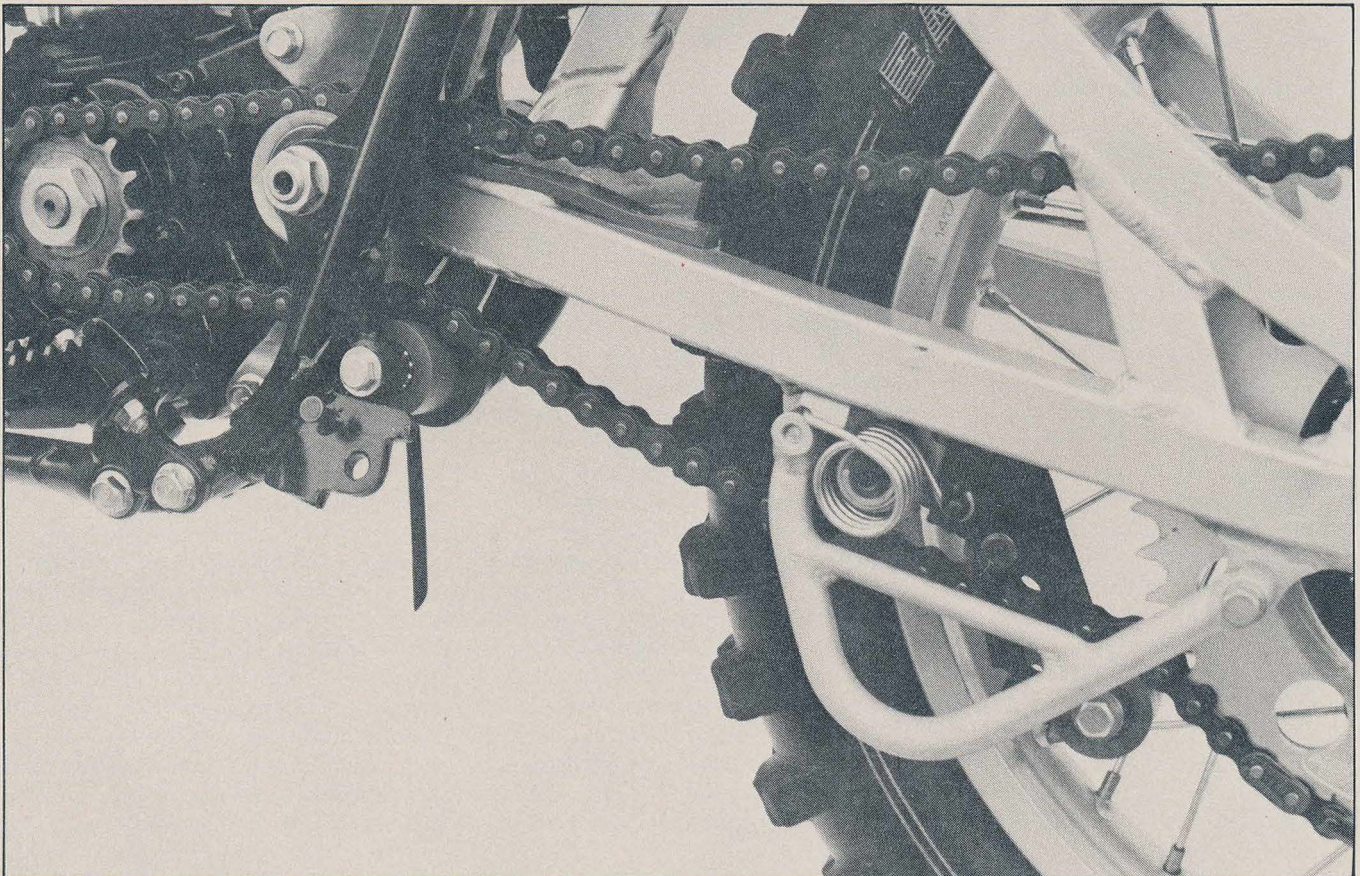
The Terry Kit two-inch travel stretch

Suddenly, all bumps seem 20% smaller.



Mark Porter aluminum silencer (left), Luft monoshock reservoir (right)

The rear-mounted artillery is poised for a barrage of performance improvement.



JD Engineering's chain tensioner kit, starring Teflon-coated ball-bearings and races

The trio of roller wheels supposedly never needs lubing, and a nylon strip keeps the swingarm from being cut in two.