

# SHOOTOUT! THE HOT 125s CLASH

# DIRT BIKE

AUGUST 1982 • \$1.75 UK90p

**KAWASAKI  
KDX250:  
MXer with  
lights**

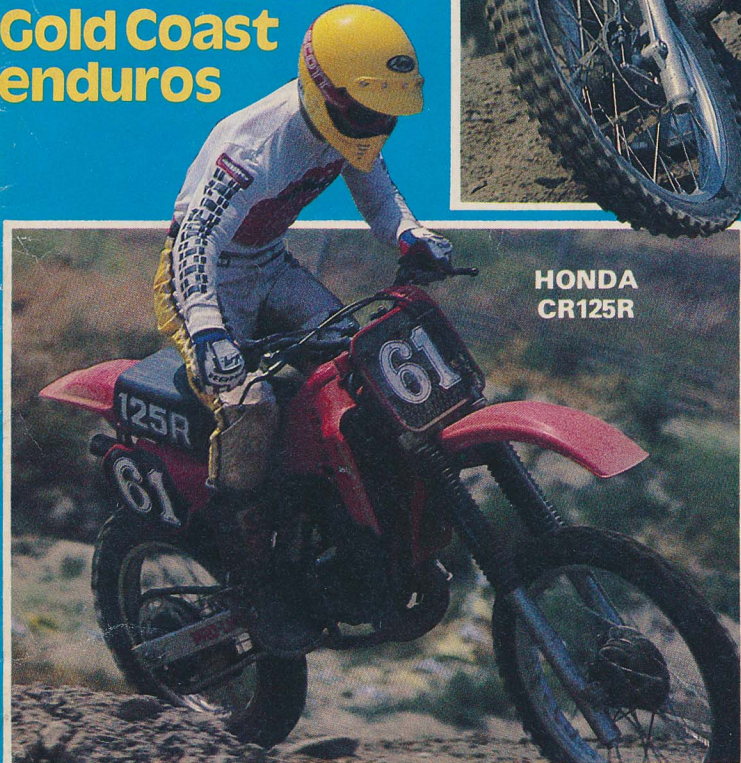


SUZUKI  
RM125Z

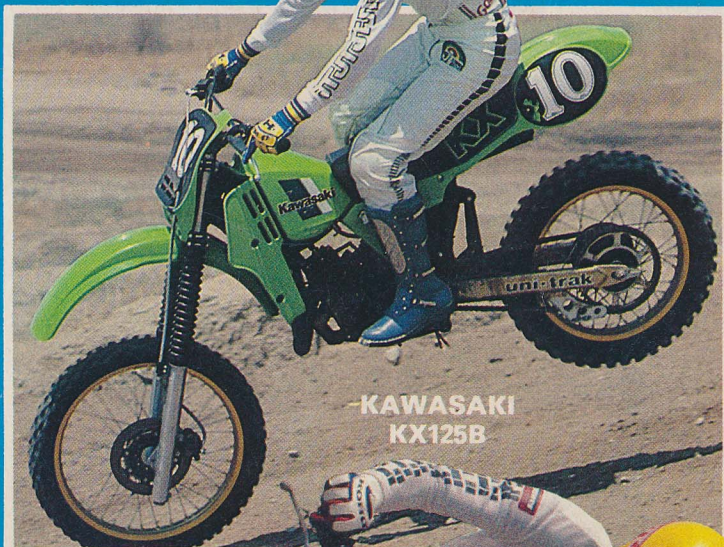
**YAMAHA  
YZ490J:  
Mammoth  
motocrosser**

**SUPER SONIC:  
Building a two-  
stage rocket**

**TRIPLE HEADER:  
Gold Coast  
enduros**

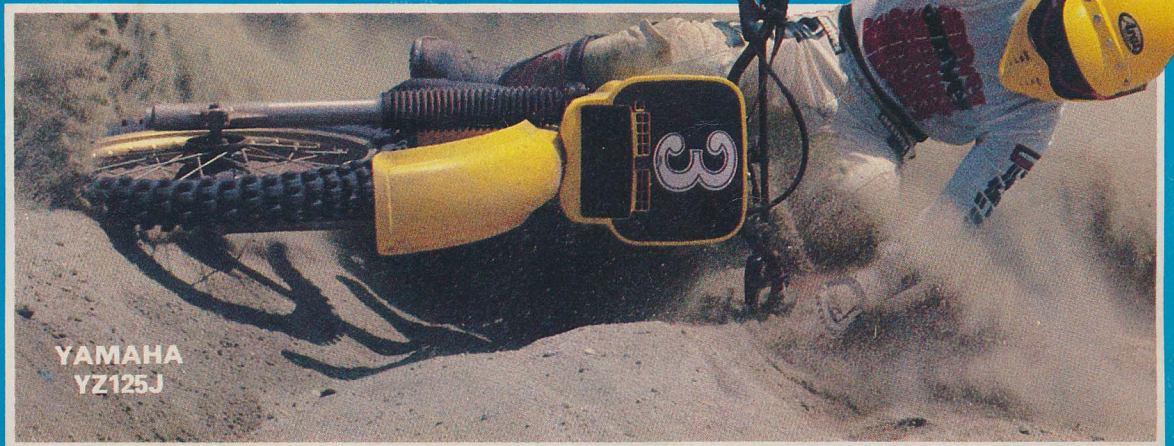


HONDA  
CR125R



KAWASAKI  
KX125B

**YZ100J:  
Sole  
survivor**



YAMAHA  
YZ125J



# DIRT BIKE

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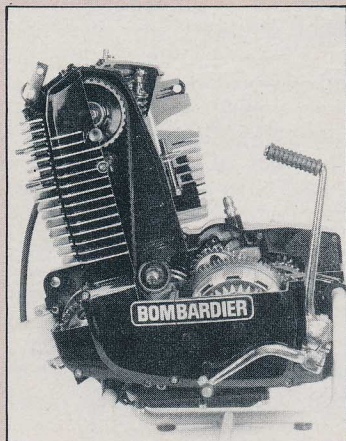
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Full travel fun

On the Cover: *DB* testing crew caught in the act of evaluating the Big Four 125s. For the final verdict, see page 38. Photos by Tom Webb and Paul Clipper; color separation by Valley Film.

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125 SHOOTOUT



PROJECT CAN-AM



KAWASAKI KDX250



SUPERCROSS



In an effort to compete with the European Maico and KTM missiles, Yamaha completely updated, changed, reworked and pumped up its open class YZ. The YZ now has the distinction of being the largest of the major motocrossers—a 490. With the increase in displacement Yamaha removed one of the gears, making it a four-speed. The chassis hosts new 43mm forks and Yamaha's answer to the rising-rate rear end, the Mono-X.

At most local tracks, the open class is composed of at least half Yamahas. The YZ is very popular. Why? It's convenient, easy to work on, parts can be found almost anywhere, and the bike holds up. Pricewise, YZs are about \$300 or \$400 less than the European mounts.

#### FOLLOW THE PACK

Enlarging the YZ to a 490 didn't require anything major: a new pipe, a

plished by a linkage setup that mechanically controls the rise.

With the rear suspension changes comes a swingarm that no longer looks antiquated, because of the lack of arms and links. The unit is one piece and connects to the shock by aluminum arms that ride on needle bearings and come stock with zerk fittings. Rebound damping changes are made at the rear of the shock. There are 25 settings. Compression is controlled by a knob up under the tank; it too has a large range of 20 settings.

#### TAKE TWO ASPIRIN AND CALL ME IN THE MORNING . . .

Considering the long suspension, Yamaha has built the bike so the seat height is comfortable for most riders over five feet nine inches. It's only 37½ inches tall. Very low compared to some other brands. Footpeg position, bars, and levers are all

deluxe. No problems here.

Misery starts when attempting to kick over the 490. At least eight to ten kicks are required to get the YZ to fire. Once it's warmed up figure on four minimum. The amount of muscle needed to kick it through is basically a pain.

Once you're underway, the bike feels rich. Any time the throttle is pinned and you let it rev, the motor rasps and spits, yearning to be shifted into the next gear. Any attempts to jet this out of the bike only leaned it to the point of destruction. It's not the jetting. The bike has to be ridden in a manner that's unconventional for a 490; you must short shift. This means you spend the entire time thinking about when to shift. If you wait too long, any smoothness the engine has to offer disappears and is replaced by a howling clash that makes the machine unrideable.

## IT'S NOT THE SIZE THAT COUNTS

*More than just a gear short . . .*

*By the Staff of Dirt Bike*

different bore, same carb with altered jetting and mildly changed porting. YEIS was added, a strange silencer and little else.

By dropping one gear, Yamaha strengthened the remaining four. Some riders were breaking gearboxes on the 465s. First gear on the 490 is fractionally lower than last year's second gear. Fourth is fractionally higher than the previous fifth. Yamaha felt that by doing this and combining it with the bigger motor the rider would actually have an advantage over the five-speed 465.

#### FREEZE FRAME

As has been the case in the past, Yamaha has the best stock forks on the market—just under 12 inches of travel, 43mm in diameter and new style aluminum lower legs. The forks just plain work. Add to this a complete line of optional springs and the YZ can be dialed in to the rider's needs with minimal fuss.

The back half of the bike is all new. It's also very adjustable, with both compression and rebound damping clickers to suit the rider on various terrains. Also, a complete line of springs is available. Called the Mono-X, the action is progressive, or has a rising rate. This is accom-

***Accelerating out of turns was best done by short-shifting. Lap times improved if the rider used the mid-range to pull him from turn to turn.***



## YAMAHA YZ490J

This is not good. Fast lap times are only accomplished one way: shift early and use the mid-range of the bike to pull you from turn to turn.

Another point quickly becomes apparent: the bike is geared too high. In stock form, it has 14 teeth front and 44 rear. For some reason, you're always between gears. It seems you have to shift going off of a jump or you don't have the right gear for the turns. There is an easy cure; install a 46-tooth rear sprocket. This makes the bike more manageable and easier to ride.

Now that the gearing is correct for motocross, the shortcomings of the four-speed become even more apparent. Any attempts at trailriding in tight situations are grim. The bike just doesn't have a low enough first gear to comfortably cope with any terrain. Ride a high-speed Grand Prix or a desert race, and you have to gear up. This virtually eliminates the possibility of going through tight sections with any style at all. There is no happy medium; the bike is built only for motocross.

### ADJUST AND TURN

The way the bike's suspension is delivered off the showroom floor should be about right for the majority of riders. Up front, the forks require no air but do have valves that let the rider bleed any buildup that occurs. Standard oil level is six inches from the top of the tubes, 7.5 weight. Riders who weigh 150 or 160 pounds and are juniors or intermediates shouldn't find any fault with their action.

For experts or heavier riders, a switch to the optional heavy spring is a must. Also, the oil level must be changed to 164mm (six and one half inches) from the top of the tubes. With the heavier spring and the stock oil level, the forks are too harsh. Although a half inch less oil seems

like a small amount, it's critical for smooth action.

Just about the same goes for the rear of the bike. Stock is good for most, but experts will require the heavier spring. We ended up with the rear spring preload set a 340mm, or 13-3/8 inches. Damping settings remained close to stock, six clicks on the compression, nine on the rebound.

Where we can hardly find fault with the front of the bike, the rear is another story. Sure, the new Mono-X is better than last year's. Yes, it is more adjustable. The problem is that it doesn't work as well as any of the competition. In comparing it to a Suzuki, Honda, Maico, or a KTM, the Yamaha is dead last. This isn't to say that it's bad; Yamaha just hasn't made the progress that the rest of the field has.

Even so, the bike has no quirks or annoying faults on a motocross track. It will turn and stick whether the terrain is soft and loamy or hard and slippery. The rake is 28.5 degrees, pretty generous by most standards. This is apparent at high



speeds—no headshake or strangeness confronts the rider.

#### BITS AND PIECES

The YZ seat/tank setup is deluxe. It allows the rider to slide forward easily, making for a smooth transition. Since the tank holds 2.6 gallons of fuel, it's a leg spreader. Not cumbersome; just a little wide when the rider is all the way forward.

Shifting is a real toe jerker. Big-time tough. It requires about twice as much energy to shift than most bikes. Also, a correct nudge is critical, or missed shifts become a problem. You can't just slam it in gear like a Maico. No way. We changed the gear oil and threw in some Kal-Gard 4-Plus. This helped smooth things a little.

Front and rear brakes are just about an overkill. They work much like a light switch, on or off. The front is strong enough to capsize the rider if he isn't careful. Too much pressure on the rear brake and the motor locks up and stalls. After awhile you get used to them and

may even like them, but it takes some time.

Cable, levers, guides, brackets, and chain are zoot. Although the bars are comfy, one little getoff and it's ugly time.

With one gallon of petrol, the YZ tips the scales at over 250 pounds. After riding the bike for half an hour, it feels like it weighs 290. This affects the rider even more, since much of the weight is carried high.

#### A SHOT IN THE DARK . . .

Why is it that after spending many hours riding, testing and racing the YZ we have a sour taste about the bike? Sure it's fast. But it's not a *smooth* fast; it doesn't rip the rider like an open bike should. Basically, it doesn't feel like an open bike.

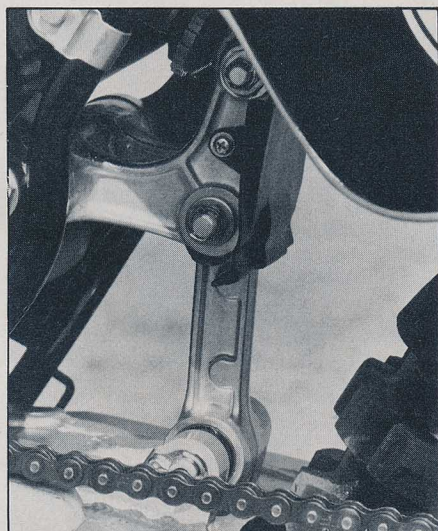
Why are riders winning on them? Easy. The bike doesn't work that badly. Ridden correctly, you could win. It's just not as much fun as a big-bore bike should be. Add to that the four-speed gearbox and the package just doesn't jell. It isn't complete; it's just convenient. □



Although the YZ is heavy, air flight is neutral. The bike does what you want it to; no quirks or flinches.



The seat/tank junction is deluxe. It allows the rider to slide forward easily. YEIS induction is new, as is the larger 490 motor.



All the links on the Mono-X ride on needle bearings. They have accessible zerk fittings for maintenance. Damping is adjustable for both rebound and compression.

## YAMAHA YZ490J

ENGINE TYPE	Air-cooled, 2-stroke, reed valve
BORE AND STROKE	87mm x 82mm
DISPLACEMENT	487cc
CARBURETION	38mm Mikuni
FACTORY RECOMMENDED JETTING:	
MAIN JET	#440
NEEDLE JET	Q-8
JET NEEDLE	6F16-3
PILOT JET	.50
SLIDE NUMBER	3.0
RECOMMENDED GASOLINE	Premium
FUEL TANK CAPACITY	2.6 gal.
FUEL TANK MATERIAL	Plastic
LUBRICATION	Pre-mix, 24:1 Yamalube R
RECOMMENDED OIL	Yamalube R
OIL CAPACITY	800 cc's (.85 qt.)
AIR FILTRATION	Foam type
CLUTCH TYPE	Wet, multi-disc
TRANSMISSION	4-speed
GEAR BOX RATIOS:	
1	1.750
2	1.315
3	1.045
4	0.833
GEARING, FRONT/REAR	14/44
IGNITION	CDI
PRIMARY KICK SYSTEM?	Yes
RECOMMENDED SPARK PLUG	Champion N-3
SILENCER/SPARK ARRESTER/QUALITY	Yes/no/good
EXHAUST SYSTEM	Up-pipe, left side
FRAME, TYPE	Double downtube, chromoly
WHEELBASE	1500mm (59.1 in.)
GROUND CLEARANCE	320mm (12.6 in.)

SEAT HEIGHT	950mm (37.4 in.)
STEERING HEAD ANGLE (RAKE)	28.5°
TRAIL	120mm (4.72 in.)
WEIGHT WITH ONE GALLON GAS	249 lbs.
RIM MATERIAL	Aluminum alloy
TIRE SIZE AND TYPE:	
FRONT	3.00 x 21 IRC
REAR	140/90 x 18 IRC
SUSPENSION, TYPE AND TRAVEL:	
FRONT	KYB leading axle; 300mm (11.8 in.)
REAR	Monocross; 320mm (12.6 in.)
INTENDED USE	Motocross
COUNTRY OF ORIGIN	Japan
RETAIL PRICE, APPROX.	\$2349
DISTRIBUTOR:	
Yamaha Motor Corporation 6555 Katella Avenue Cypress, California 90630	
PARTS PRICES, HIGH WEAR ITEMS:	
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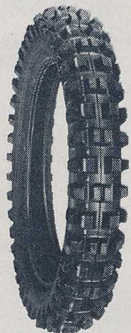
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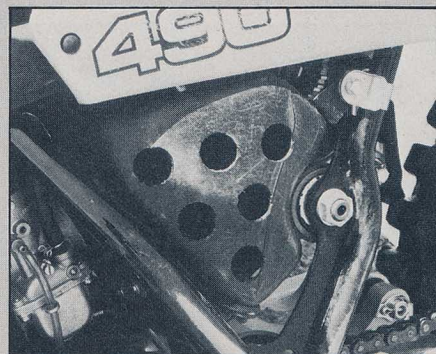
## YAMAHA YZ490J



## LIFE WITH THE YZ

By Tom Webb

• Lots of people buy YZs. For these folks there are a few simple tricks that make life much more tolerable. First off, the airbox is one of the factors that helps stifle the YZ's power. It simply doesn't get enough air. We drilled several large holes in the left side of the airbox to help overcome this deficiency. No jetting changes are required with this modification. The only possible trouble would be waterproofing it for wet climates. It would be a good idea to install these trick little Pro-Vents, available from Pro-Vent, (206) 435-2780. Since they have louvers in them, water is deflected from entering the airbox.



**Adding holes to the airbox helped the motor breathe, making it more controllable.**

Another change we made was to add 20mm to the header pipe of the bike—but what an astounding change in the power characteristics. Low-end punch is enhanced, along with a more controllable mid-range. Combine this with an airbox that breathes, and the bike starts to feel more like a big-bore machine.

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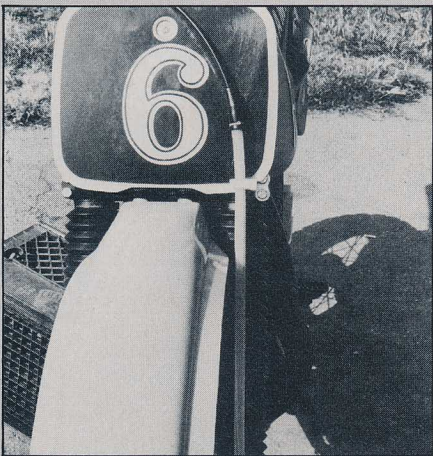
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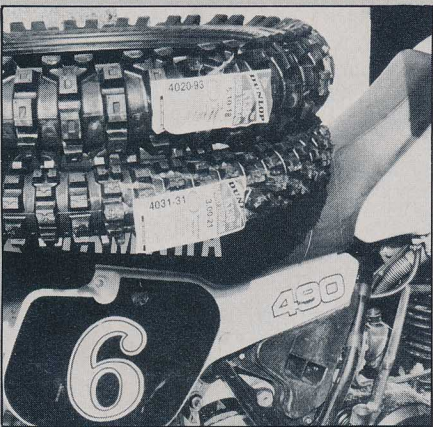
By adding 20mm to the header pipe, low-end and mid-range performances are greatly improved.

The front brake cable is a flimsy affair, though a quick and easy remedy is available. Install a 100% Cable erector and end any possible grief.



To keep the front brake cable from flapping around, a 100% Cable erector was installed. No more trouble.

Although the stock IRC rubber is good for awhile, we opted for Dunlops, a K-139 front and the new K-138 rear. They hold up well and provide excellent traction under most situations.



Once we wore out the stock rubber it was replaced with Dunlops, front and rear. The front is a K-139 and the rear is a new K-138. Both work well.

With these additions and modifications the 490 was livable and actually became a strong, competitive machine. Now if we could only figure out a way to shed 15 or so pounds and add a fifth gear. •

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