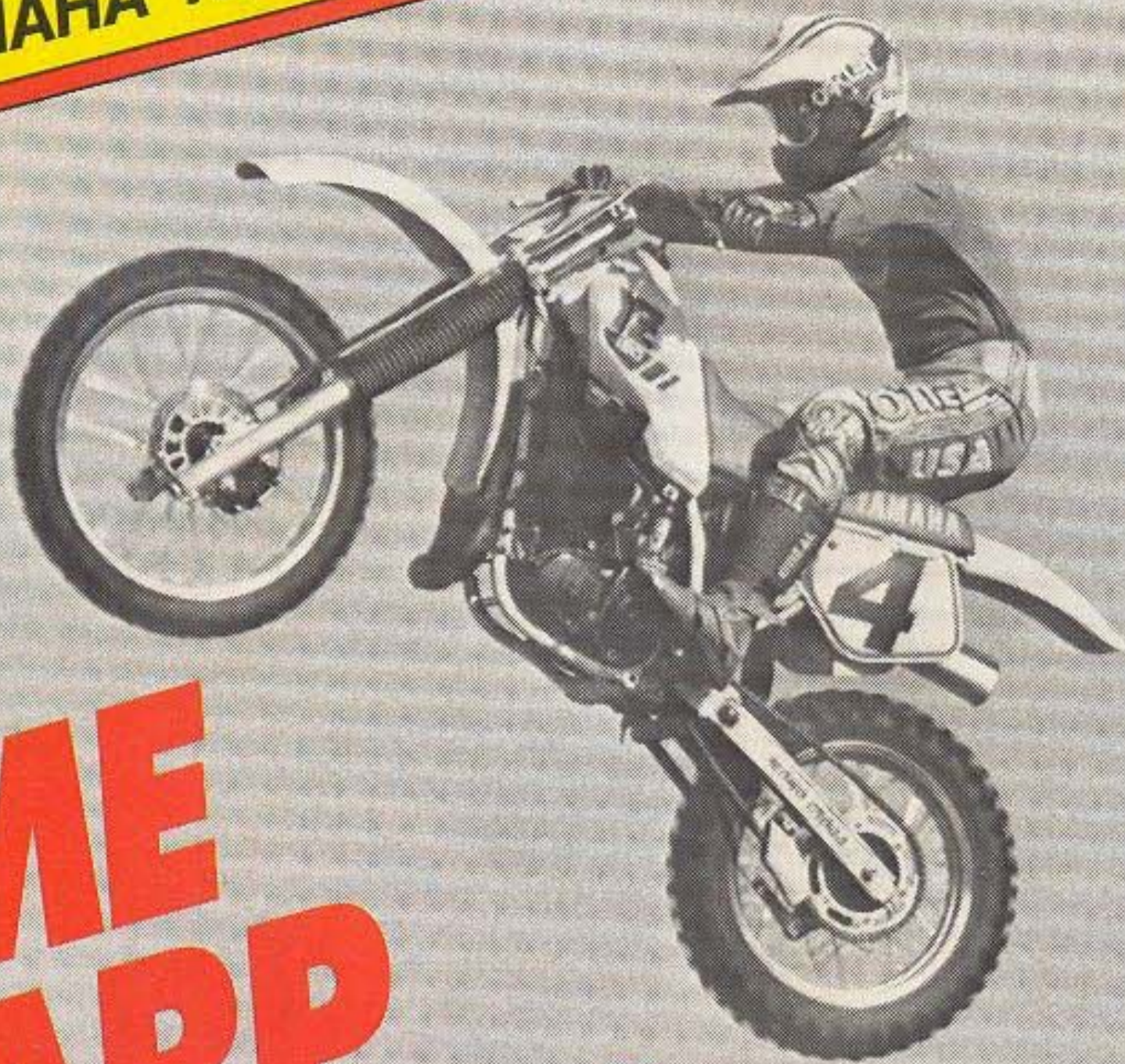






1988 YAMAHA YZ490U



# TIME WARP TRACTOR

Living with high-tech suspension  
& a stone-age motor

By the Staff of DIRT BIKE

At the Motocross des Nations, no other machine drew more attention than the Yamaha YZM500s of Finland's Kurt Ljungvist and Sweden's Leif Persson. American and Canadian fans went absolutely ape over the aluminum-framed, liquid-cooled works bikes, and the more hard-core pitsiders almost came to blows over which was better, the trick YZM500 or the same old

YZ490. Persson crashed heavily in the first moto and didn't start his second mode. Ljungvist briefly led the first moto and then the deep Unadilla mud caused a DNF in his final race. The bickering stopped instantly; maybe the air-cooled machine isn't so bad, after all.

Do Open class bikes really need liquid cooling? Yamaha doesn't think so, at least not for 1988. So, instead of the high-tech, high-dollar YZM, Open class pilots get the air-cooled YZ490 with cartridge forks and a few other changes, all for less than they would pay for a 250cc motocrosser. For \$2999 the YZ490 pilot gets a reliable, easy-to-work-on, ultra-versatile dirt bike that can

*Jumps are now something to be laughed at. The KYB cartridge forks and BASS-less Ohlins-type piggyback shock soak up monster hits without a whimper while giving a smooth ride over small stuff. A neutral feel and narrow midsection made Mike Larson's 25-foot-high leap a blast.*

win a hare scrambles, hillclimb, desert race or local motocross right out of the crate. And, if motocross Nationals are your goal, the machine can be made competitive (see the sidebar on Jim Holley's '87 YZ490), as the '88 is unchanged in the motor department. For now, let's dive into the 1988 YZ490U.

## WHAT'S NEW WITH THE "U"?

- Cartridge Kayaba forks replace the grim units of last year. Damping is speed—rather than position—sensitive and improved internal finish and seals reduce stiction. The state-of-the-art forks more than compensate for the \$50 price increase over the YZ490T.
- A BASS-less shock features a bleed screw rather than a blow-off valve in the compression-damping system for more precise control. Rebound and compression damping are adjustable.
- Although last year's front brake was excellent, Yamaha wanted more power, so the disc diameter was increased by 10mm for a total of 230mm.
- Everyone hated last year's handlebars, so the 490U got new units that resemble the bend of Renthal number 692 "Broc Bend" bars. Grips are softer for more comfort.
- Larger footpegs offer better grip and don't foul with mud as easily as previous efforts.
- Silver rims are the rage this year, so the big YZ got the "Hi-ho" treatment. Internally and externally, the motor is unchanged.

## RIDING THE BEAST

**ENGINE:** Starting is almost criminally easy; simply give it a half-hearted boot, and roost. If you can't pull the holeshot from a dead-engine start, you've got serious problems. Vibration will turn your hands to putty on a long ride unless you ride very relaxed, and engine noise is amplified by the cylinder fins. Our test unit ran a tad lean as delivered, so we lowered the needle clip one notch. It started blubbering and quit ping-pong in the mid-range under heavy loads. Most tuners modify the head (see sidebar) to alleviate this problem and to bring the mill to life.

Power is best described as torque. It comes on from idle, hits steadily in the mid-range, and then signs off on the top end. It doesn't bark like the KX, CR or KTM, but it does pull like an adrenalin-crazed elephant. Short-shifting will get you to the next turn in a hurry, but rowing the five-speed gearbox







takes some effort. It lacks the feel of the Honda tranny, but clutch action and pull are excellent.

**SUSPENSION:** Damping and spring rate are spot-on in the KYB forks. They isolate the pilot from small bumps and refuse to bottom on death leaps and G-outs. The rear shock is more compliant over small stuff than the BASS units of old, but the rear tended to bottom too easily. A stiffer spring will make the Yamaha pure magic.

**HANDLING:** A more balanced suspension package makes the big Yammie rock-solid in most situations; whoop fields that

would spell doom for the 490T pilot are laughed at by the 490U rider. Gnarly terrain and monster jumps are soaked up without a twitch, and the bike rails out of loamy turns instead of slewing sideways. In mud or hard-pack, the bike occasionally likes to go sideways and scare the rider. Although it won't be diving under the CR500 in turns, the YZ490 will carve an inside line, rail a berm or square off corners with abandon. A narrow layout, tractable mill and supple suspension give the machine decent turning manners while retaining rock-solid straight-line stability.

## JIM HOLLEY'S YZ490T

• Since the YZ490U motor is unchanged over the 490T, we tested Jim Holley's '87 National contender to get a grip on the full potential of the air-cooled wonder. While the average rider could get away with head modifications, the top-flight motocrosser might want even more snap for clearing the doubles. Let's take a close look at Gentleman Jim's machine, since all modifications, aside from suspension, will directly carry over to the '88 YZ490.

### BRINGING IT TO LIFE

- First and foremost, the big YZ needs headwork. Al, Jim's dad, remachines the head to give a different squish angle and tighter squish band. In the process, compression is slightly lowered. This mod brings the mill to life and eases the jetting hassles of the stocker (blubber or ping with no in-between).
- Porting for more top end is accomplished through raising the exhaust a tad and opening up the transfers and intake. Some low end and mid-range is lost, but the revs gained on top are worth it.
- Yamaha kit pipe is used, but these factory units are getting hard to find. (**Editor's note:** If you go to an aftermarket pipe, it would be wise to use that company's porting and headwork package, as well.) The stock silencer is shortened 100mm.
- Standard reeds and the 40mm Mikuni are retained. Jetting is #480 to 490 main, #45 pilot, Q-6 needle jet (standard), and the stock needle with the clip on the middle or second groove. Jim uses Yamalube R mixed at 40-to-1 with an NGK B9EGV or B8EGV gapped at .025 inch.
- Ignition timing varies between 1.9 and 2.1 degrees BTDC. Advance to 1.9 for more revs (be sure to use racing fuel) and retard to 2.1 for more torque.

### BITS AND PIECES

- Milo Smith, Jim's mechanic, polishes the clutch arm and cam for smoother operation. The stock clutch plates last about three National races.
- Gearing is usually 14/50; stock is 14/48.

◀ Whereas the stock motor blubbers and then pings as it tractors out of a turn, Jim Holley's National YZ490 barks out of corners with authority. It hits hard off the bottom and snaps as a crisp big-bore should.



**Dings in the lower fork legs can wreak havoc on damping, so plastic protection is a good idea. Holley uses two more teeth on the rear sprocket for more bark, and he varies ignition timing slightly from track to track.**

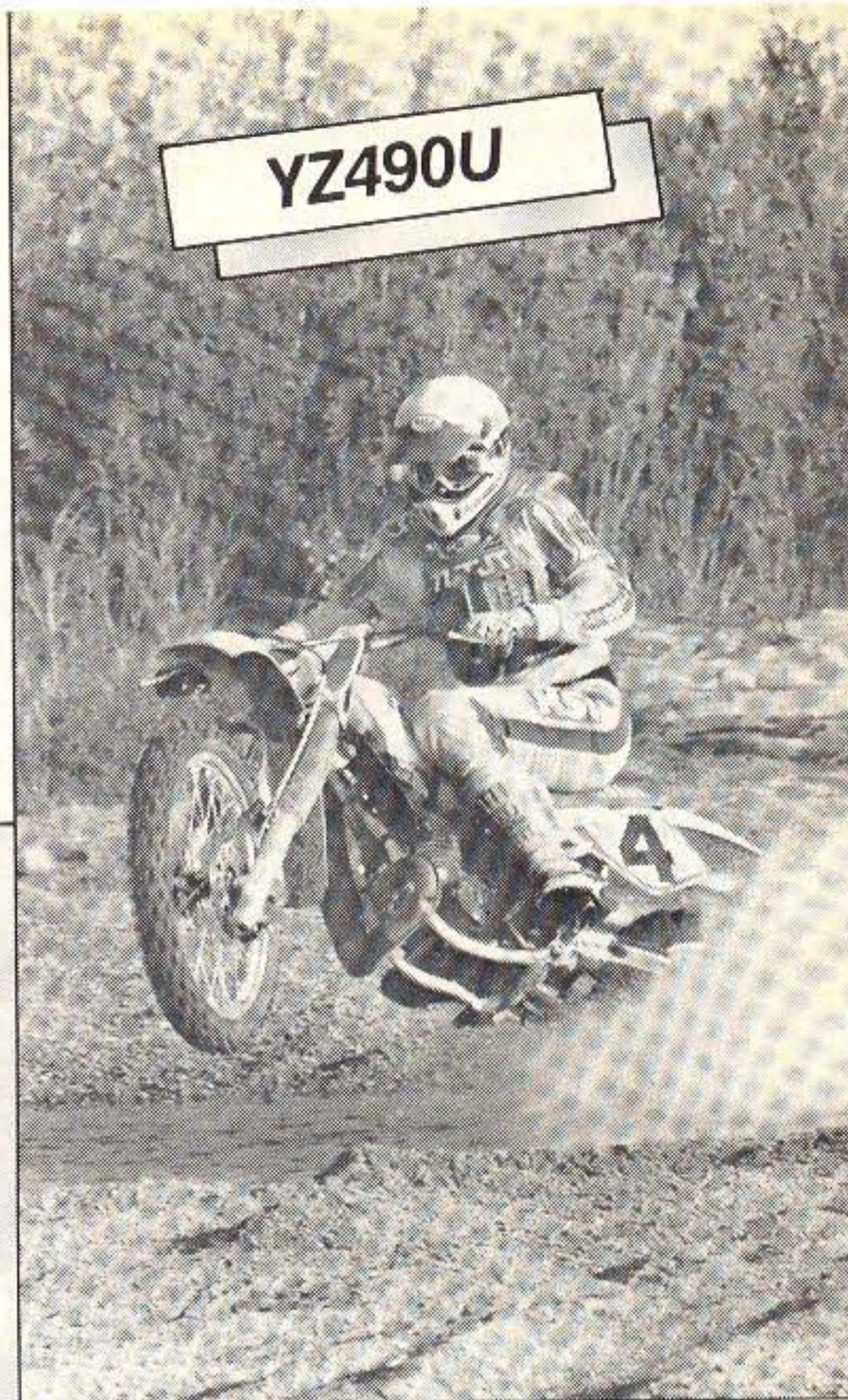
SideWinder sprockets and RK chain are used.

- Showa's cartridge forks were modified to accept rebound adjusters, and 21-pound springs (stock) are used. PJ1 five-weight oil is added until it's 110mm from the top of the collapsed tubes.
- An Ohlins shock is used with the 5.9-kilo spring. Jim prefers neutral settings.
- Jim's practice bikes have stock wheel assemblies, and race machines are fitted with works magnesium hubs. Excel rims are used, fore and aft.
- Jim prefers the Answer "Jim Holley Bend" bars (over the '87 units) with an O'Neal crossbar pad. Bar width is cut to 32 inches, and Gold Belt Tacki Grips replace the stockers. Jim also prefers a shortie brake lever.
- Plasticwerks disc guards protect the front brake and fork tubes. Dings in the lower legs can affect damping quality, so get some guards.
- Titanium axle bolts, side-case screws and clamp screws shave ounces off the bike.
- Holley uses Dunlop tires front and rear and, of course, type depends on track conditions.

### RIDING THE ROCKET

Whereas the stocker would tractor out of turns, Holley's machine snaps out of corners like a very strong 250. Plus, it revs out to an insane top end. The machine is much faster yet easier to ride. Aside from the works magnesium and titanium pieces, Holley's hauler is a low-budget mauler, but maintenance schedules are increased. It gets a fresh bore every four or five Nationals.

YZ490U



**Mr. Do-It-All:** Yamaha's YZ490 is designed with the general playrider/racer in mind; the air-cooled machines are competitive in the desert, woods, hillclimbs and motocross. For '88, Yamaha brought the suspension up to standard and left the motor alone.



**Cruise control:** Holley's dad reworked the head to provide a tighter squish band and better (parallel to the piston dome) angle. This single mod brings the motor to life.

These mods can rocket you to the front of the pack at the Nationals, but you can get more out of your YZ490 with head mods, jetting changes and careful attention to detail. Then you'll be roosting the radiators on those high-tech, more-expensive machines! •



**YZ490U**



**YAMAHA YZ490U**

Engine type . . . Single-cylinder, air-cooled, reed-valved two-stroke  
 Displacement . . . . . 487cc  
 Bore and stroke . . . . . 87mmx82mm  
 Carburetion . . . . . 40mm Mikuni  
 Fuel tank capacity . . . . . 2.6 gals. (9.9L)  
 Lubrication . . . . . Pre-mix  
 Gearing, front/rear . . . . . 14/48  
 Ignition . . . . . CDI  
 Silencer/spark arrester . . . . . Yes/no  
 Wheelbase . . . . . 58.1 in. (1475mm)  
 Ground clearance . . . . . 13.2 in. (335mm)  
 Seat height . . . . . 37.4 in. (950mm)  
 Claimed weight, dry . . . . . 226 lbs. (102 kg)  
 Intended use . . . . . Closed-course competition

Tire size and type:  
 Front . . . . . 80/100-21 Bridgestone 51M (M23)  
 Rear . . . . . 110/100-18 Bridgestone 64M (M22)  
 Suspension:  
 Front KYB telescopic, cartridge internals, adj. comp., 12 in. (305mm)  
 Rear . . . Monocross, Yamaha piggyback reservoir, adj. comp./reb., 12.6 in. (320mm)  
 Country of Origin . . . . . Japan  
 Suggested retail price . . . . . \$2999

Distributor/Manufacturer:  
 Yamaha Motor Corp.  
 6555 Katella Ave.  
 Cypress, CA 90630

**BRAKES:** Locking the front brake is a one-finger affair. Stopping power and feel are first-rate up front. Out back, the drum does a decent job of stopping, but brake-sliding around turns in the woods will quickly heat the rear to the point of extreme sensitivity. Can you say "toggle switch"? The drum simply doesn't hold a candle to a disc, and the brake anchor arm hangs down way too low for the average off-roader.

**ERGONOMICS:** Moving around on the 490 is a cinch; the seat/tank juncture is very narrow, and footpeg placement eases standing or sliding forward for corners. The new handlebars actually fit human beings for a change; no complaints here. With improved bars and suspension, the big YZ is much more enjoyable to ride, even though the vibration is still with us.

**THE BOTTOM LINE**

For all but hard-core motocrossers, the YZ490U is the ultimate do-it-all machine. It has great suspension, tractorlike power, good brakes and solid handling manners. It's easy to ride and work on and as reliable as a claw hammer. Stone stock, the bike will deliver ear-to-ear smiles on trail rides and loads of off-road trophies, and with minor modifications it'll run with the big boys at MX Nationals. Who needs a YZM500? We'll take the '88 YZ490, any day. □

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