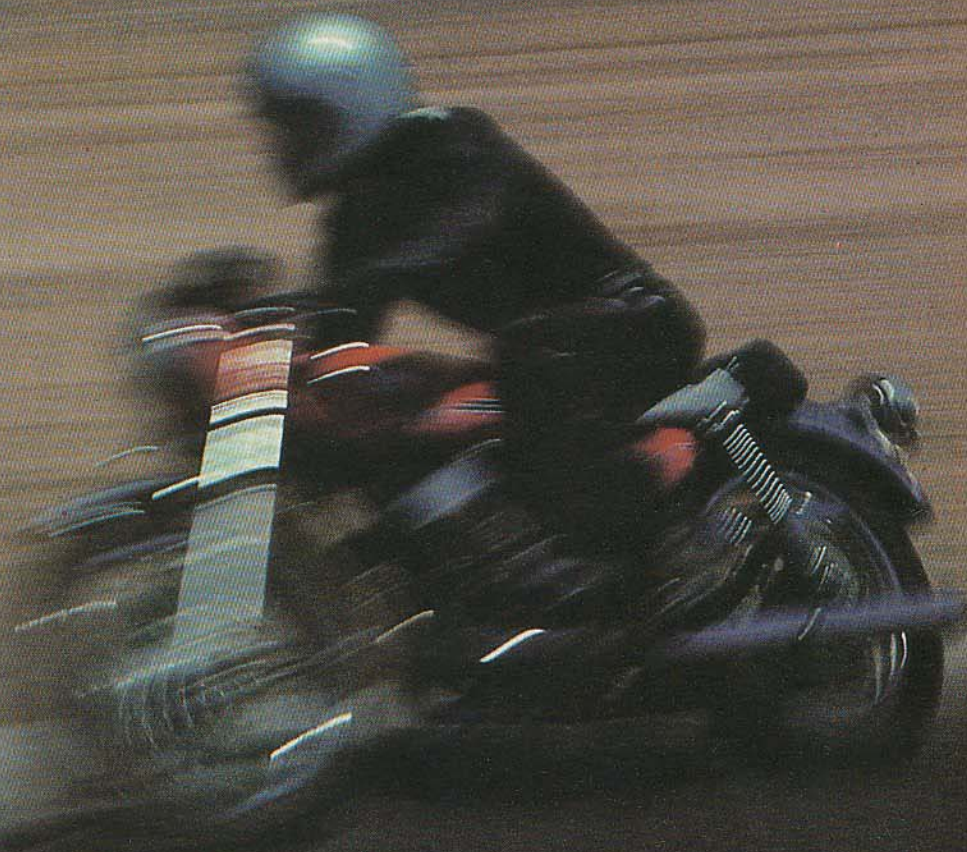


big bike road test

INSTANT CLASSIC

YAMAHA'S RD 350 B

39 VERY FAST HORSES FOR UNDER A GRAND



BY P.S.W.

Today's motorcycle market in America is getting awfully depressing.

Seems as though things are getting way too specialized. Most of the new bikes that are available are strictly One Function Machines.

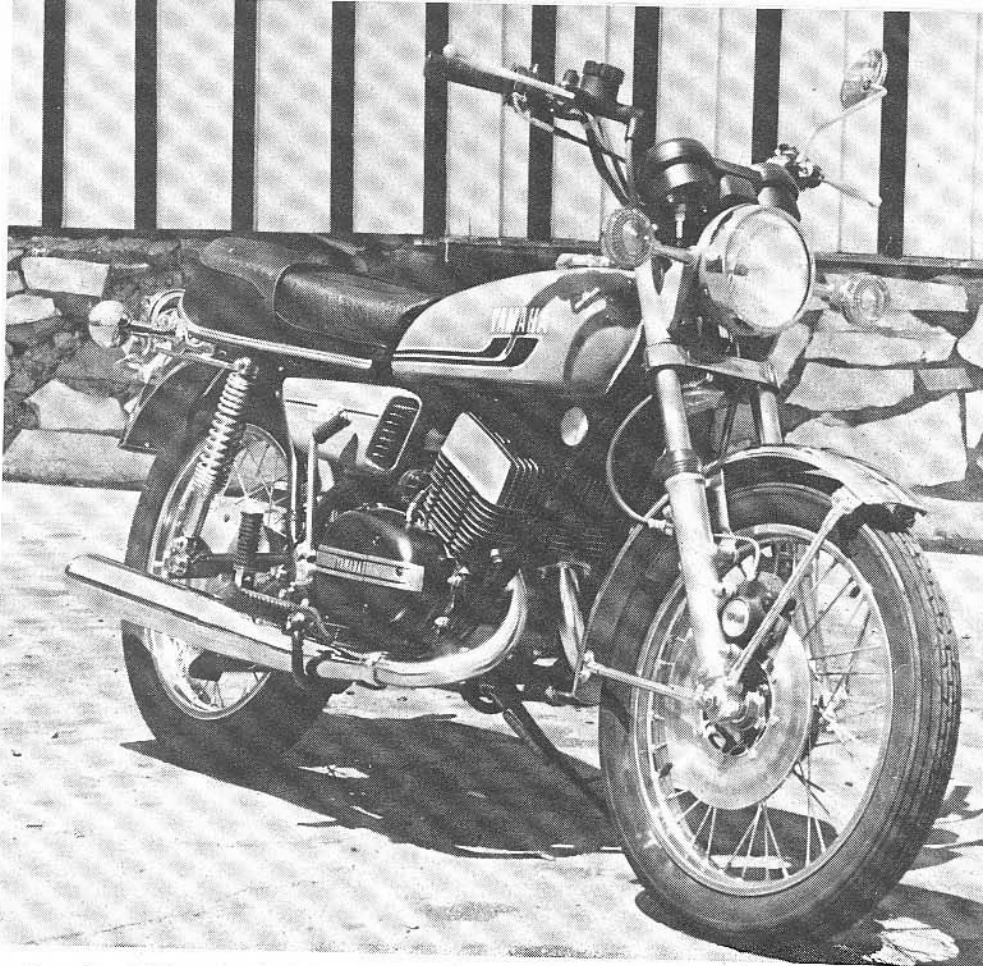
Touring bikes are specialized to the point where some simply aren't suited for around-town use. Take the Honda GL1000, for example. The bike weighs in at some 600 pounds and is of mammoth proportions. While it's quite content to cruise the open road all day, riding to the corner market can prove to be a real ordeal. The bike takes at least ten minutes to warm up, and is very ill-tempered when cold. By the time it's ready to be ridden, you could have walked there and back. Twice.

Trying to stuff this giant into a sharp curve is a bit of a disappointment as well. A quarter of the way through the maneuver, pegs, side-stand, centerstand and exhaust pipes start to scrape violently. Take the 1000 through a long sweeper and the entire unit starts to wallow around like an aging water buffalo. There's just too much machine there to be flicked through mountain passes and turns.

... So you have a very specialized bike. Designed solely for touring in a straight line.

An over-specialized market.

Now take a look at the commuter market. A good case is the Kawasaki KZ400 Commuter Special. The way it comes from the factory, it has simply *one* function: to commute at reasonable speeds in the city. And some light freeway duty. Try to tour on it, and you are rudely awakened to the fact that the KZ is very firmly set in its mold labeled "commuter." On the highway — even at 55 mph — the detuned KZ engine is straining and trying very hard to catch its breath. With its restrictive exhaust and intake tract, revs come slow and hard. At freeway speeds engine temperature is quite high. Vibration is a problem, too. The standard suspension on the 400 is all wrong for touring and the bike bounces around as though it was running hard at Indian Dunes. The



seat and seating position are hardly suited to long-distance riding.

The Commuter Special performs just as poorly when you try to do any serious cornering. The center of gravity on this heavy four-stroke is so high that when bent into a turn, one gets the distinct feeling that the bike wants to roll over. Which it does from time to time. Both front and rear suspension are badly matched for this type of use.

Another one-purpose bike.

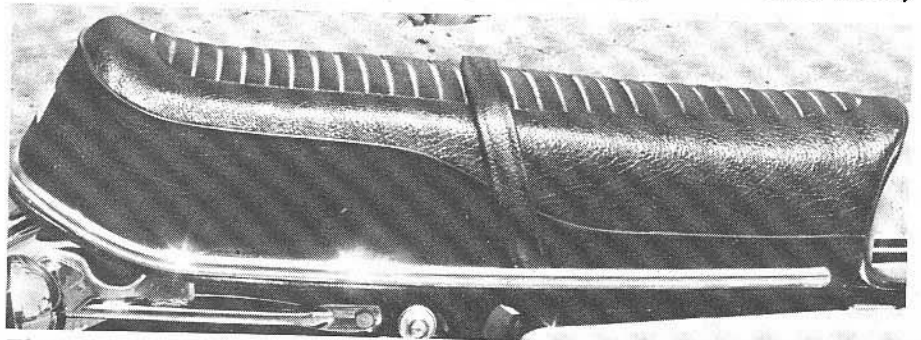
Then there're the specialized bikes that are meant to handle like crazy. One such machine that fits into this singular form is the Ducati Vee Twin. The machine has some of the finest suspension features to be had anywhere, and the rewards are many when hauling through the

canyons or around a racetrack.

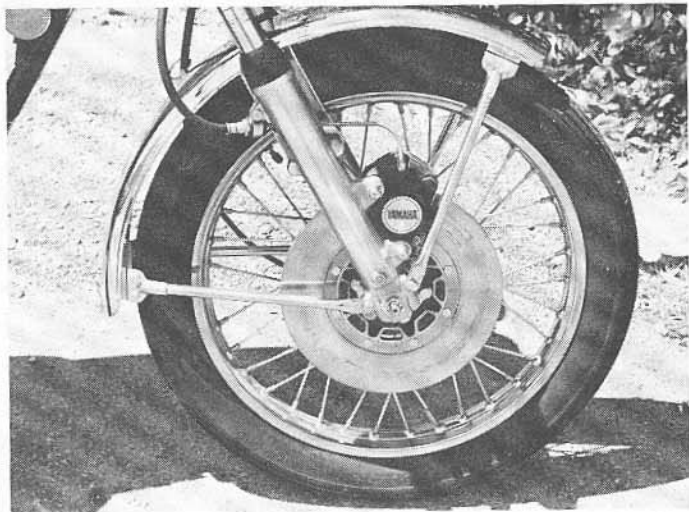
But try to jaunt around town in stop-and-go traffic and you're out of luck on the Ducati. Clutch operation is stiff, and within a dozen red lights your wrist is turning an unusual shade of blue. Touring, for the most part, is out too. The Duc's seat is super-stiff, seating position is bad and vibration levels are excessive.

Single Function. That's all.

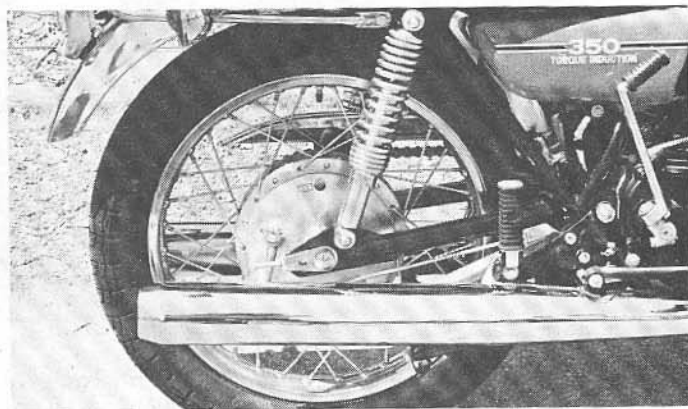
For all intents and purposes the rider who's into several different types of riding has few places to turn. Some guys with varied interests have (if they're lucky) several different bikes for several different functions. Sitting in their garage is a Moto Guzzi for touring, set up with fairing, crash bar, bags, tote box, radio and 50 pounds of other sundry



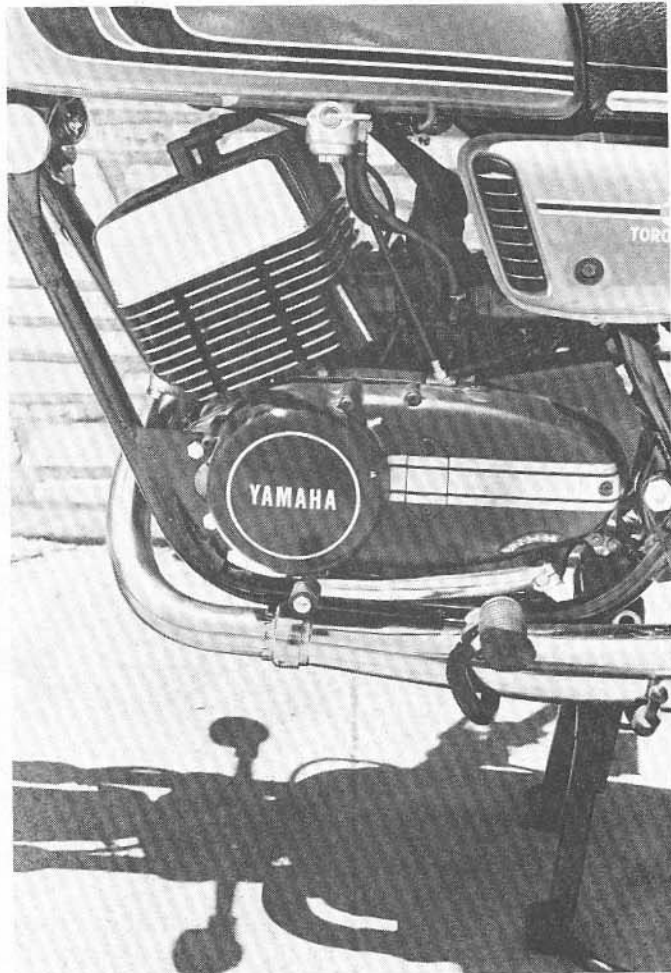
The seat for '75 is surprisingly comfortable, even though it looks a lot like a rock. . .



One of the finest disc brakes in the industry . . .



The standard shocks on the Yammie leave something to be desired, but it's still the best handling bike around. Exhaust note seems to get quieter every year.



This innocent looking engine is among the fastest and most reliable in the world. Close to 40 horses come right from the factory.

equipment. For commuting around town they have a Honda CB100 stuffed in the corner, and for serious cafe action there's an MV Agusta waiting to go. This, naturally, is probably the type of man who also has a \$75,000 house on the coast and two Ferraris sitting in the driveway.

So finding a multi-purpose street machine is pretty tough. You can always try to modify a stocker to the point where it will perform many different functions, but unless you spend a real bundle, it'll probably do several things *half* well.

There are, though, some bikes that can do all of the aforementioned things. The most accepted mount for multi-purpose riding is the BMW. All of the Bee Ems will rove the highways for hours, days, weeks at a time — in good comfort. They will also out-handle many machines in their respective classes with some of the best suspension in the business. On top of all that, the BMW will be quite content as a commuter, too. Running down to the corner for a

loaf of bread is no problem, and maneuverability in city traffic is more than acceptable. Just watch out for the cylinder heads.

Great! A Solution to the Specialization Syndrome!

. . . for only \$3500.

. . . Which is fine if you have the money to spend. But what happens when you've got a tight budget and want a new bike that'll do it all?

Buy the Ultimate Middleweight Machine: The Yamaha RD350 Twin.

For the price of ONE BMW you can get THREE (count 'em — *three*) Yamaha RD350s . . . with about four or five hundred dollars left over! The RD is still one of the most outrageous bargains in the industry, going out the door for a grand — or less.

So what do you get for that thousand dollars?

First of all, you get a long, colorful history.

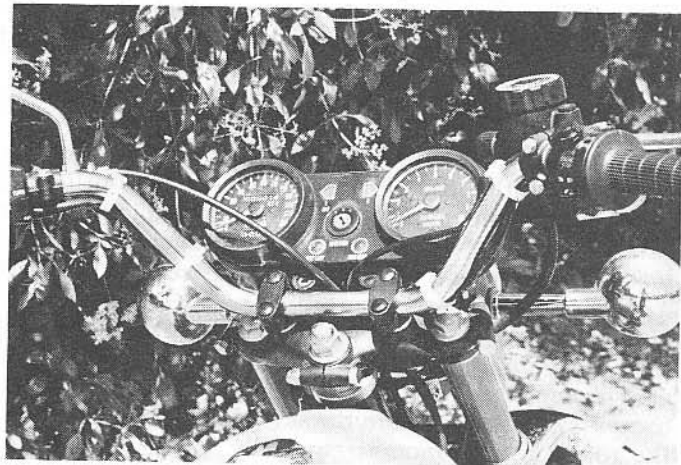
This history starts a number of years back on the world's road racing tracks. When a legend was

born — the TR3 Yamaha road racer. The most shocking Grand Prix machine to come along in years. This two-stroke, twin-cylinder 350 lightweight was the terror of the racing circuit. Even though it was only a 350, it was running in the Open class, blowing off the 500s and 750s that had ruled the track in the past. The TR3 brought Team Yamaha to the top of the racing world very, very fast. Race authorities were tempted to disqualify the TR3 from the Open class, since it could out-accelerate, out-handle, and out-stop all of the big bikes at the time. They never did find an appropriate loophole, and the little screamers kept winning.

During all this pandemonium on the tracks, another legend was welling up on the streets — The Yamaha R-5. This was the 350 street sibling of the TR3. Even though the R-5 was somewhat detuned for street use, it still had all of the basic traits of the racing machine. Many of the frame dimensions were identical to



Headlamp illumination was good, but flasher units look as though they were meant for a truck.



Instrumentation comes complete with idiot lights, and is legible at all speeds.



The RD's tank has remained unchanged for several years, except for paint and the gas cap. This year it's bright orange with a flip-up cap.

the racer's, so it was the best handling unit on the streets. The powerplant was basically the same as the racer's — except for some of the porting specs, etc. — so it was absolutely the fastest thing to be found anyplace on the street. A lot of big-bore owners got very nasty when these little 350s would turn them into midgets. And the thing sold for next to nothing and was also as reliable and simple as could be.

... And the legend kept growing ... with the introduction of the TZ350 Road Racer. This unit was much like the TR3, but was even faster and better handling. It was also water-cooled and had better brakes. The TZ is the little yellow thing that is winning around the world today ... the same mount that has carried Kenny Roberts to victory after victory.

In the wake of the TZ, another legend on the street was born: The RD350. Faster — yes. Better handling — yes. The RD is also a bike that wins countless victories in

production racing — basically stock with internal hop-ups — it's still beating 750s, 850s and on up.

For the last couple of years the RD has remained pretty much the same. Yamaha obviously knows a good thing when they make it. Paint changes each year and that's about it.

Multi-purpose?

Let's take a look at what the RD can do:

As a commuter, it's one of the best mounts to be had. The power, naturally, is more than enough for hopping around town and getting up on the freeway. Since the RD powerplant is ultra-simple and well proven for reliability, it is well suited to the needs of the commuter. The man who uses an RD for day-to-day transportation won't have to worry about being able to get there and back — the twin cylinder engine *always* starts right away, and needs very little in the way of routine attention. Just put in gas and oil and keep on commutin'. Gasoline

mileage (for a high-performance machine) is quite good, which makes it economical to operate.

Due to the outstanding frame geometry, the bike is quick and nimble handling in city traffic. Since the overall proportions of the 350 are quite small, slipping through small openings in traffic is a cinch — just point the wheel where you want to be, and suddenly you're there.

Also, the RD's exhaust system is quiet enough so as not to bother even a Sierra Club member. The system isn't overly restrictive, either, which means that the engine is always operating under favorable conditions and is less likely to load up and foul the plugs. In general, the bike is more than content to be ridden as a commuter even though it is a serious high-performance unit.

Secondly, the bike holds its own well as a medium-range touring machine — yes, *touring* machine. While almost any other small bike in its class would be unsuited for open road use, the RD can adapt quite

easily. Only a small gearing change (countershaft sprocket) is needed to make the RD completely road-worthy. With about 40 horsepower on tap, and with a six-speed gearbox, cruising all day at 60-70 mph poses little hassle for the bike.

It's not too uncommon to see these little Yammies on the highway loaded down with a touring fairing, a pair of saddlebags, a crash bar, tote box and so on. Even with all these accessories, the 350s keep on cruisin' merrily while Electra Glide owners swear loudly from the side of the road. Fuel economy (especially with the gearing change) is quite good on the highway, as is the oil mileage. The seating position and placement of the bars is very comfortable, and easy enough to live

with for a couple hundred miles at a stretch. About the time your butt gets a little sore, it's almost time to refuel, so things work out fine.

So we have a bike that makes a super commuter and a medium-range touring mount. To round out the picture of this multi-function machine, let's take a look at its two strongest features: handling and speed.

The Yamaha RD350, in case you didn't know it, is *the best handling production motorcycle in the world*. Period. The RD's handling traits are direct hand-me-downs from the TZ350. The frame is a super-strong lightweight unit, of the double downtube variety. The main backbone of the frame is all tubular steel, rather than the cheaper sheetmetal

spine arrangement. The tubular construction is better than the pressed steel design simply because of the rigid qualities of the tubular item. The steering head is set at a rather conservative angle of 27½ degrees, and is fitted with dual bearings and races and a friction/oil steering damper. The triple clamps are cast pieces, the lower being of steel and the upper of lightweight alloy. The triple clamps are fitted with what are possibly the finest forks in the world. The lower fork sliders are of conventional design and are cast from a mixture of several lightweight alloys. Yamaha has found exactly the right combination of correct spring rate and hydraulic damping rate, which

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SPECIFICATIONS

Model & Year 1975 Yamaha RD350B

ENGINE

Price Approx. \$1000 West Coast
 Engine Type Two-stroke, two-cylinder, piston valve
 Displacement 347cc
 Bore & Stroke 2.520 x 2.126 inches x 2
 Claimed BHP Horsepower at RPM 39 at 8000
 Claimed Torque at RPM ft./lbs. 28 at 7000
 Compression Ratio 6.6:1
 Carburetion Two Mikuni slide valve, 28mm
 Ignition Battery/coil
 Electrical System Generator/coil
 Starting System Primary kick
 Air Filter Washable foam element
 Recommended Fuel Unleaded or low-lead
 Lubrication Method Autolube injection

PERFORMANCE

Weather Conditions 60-70 degrees
 Quarter Mile E.T. 14.13 seconds
 Gas Mileage 30-50 mpg (average)
 Touring Range 110+ miles
 Braking at 40 MPH:
 Front Only 57 feet
 Rear Only 138 feet
 Both Front and Rear 51 feet

CHASSIS

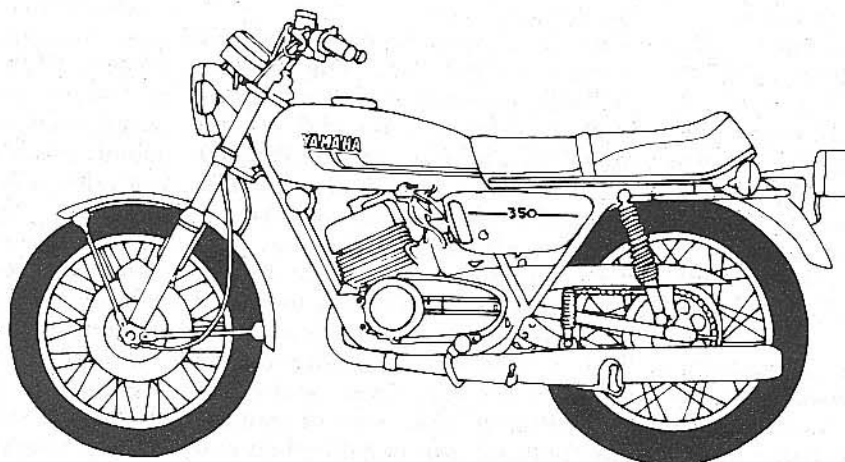
Color Portuguese Orange
 Frame Tubular, double cradle
 Forks Telescopic/oil dampened
 Rear Suspension Swingarm/five-way shocks
 Front Tire 3.00x18
 Rear Tire 3.50x18
 Brakes:
 Front Single hydraulic disc
 Rear Single leading shoe
 Curb Weight (claimed) 310 pounds
 Steering Head Angle 27 degrees
 Fork Trail 4 inches

CAPACITIES

Fuel 3.2 (U.S.) gallons
 Engine Oil 2.1 (U.S.) quarts
 Gearbox Oil 1500cc
 Forks 140cc each

DRIVETRAIN

Clutch Wet, multi-plate
 Transmission Six-speed, full synchro
 Ratio 2.571, 1.777, 1.318, 1.040, 0.888, 0.785



results in a very responsive road-following design with good feel when cornering and braking. (The front disc, by the way, is one of the finest units in the industry.)

The swingarm at the rear is a heavy tubular unit with steel gussets supporting the rear forward section. The unit, which rides on heavy-duty bushings, forms a very rigid cornerstone for the rear suspension. Conventional Japanese shocks are mounted, and they are pretty fair items — for about 500 miles; then it's time to mount a pair of S&Ws. The shock mounting points are also in a rather conservative angle, with no trick forward mounting points.

The entire combination is a really fantastic handling package. The bike can be shot through 110 mph sweepers, cranked way over, without the slightest sign of wobbling or wanting to let go. Stuffed into a series of tight "esses," the RD bends them straight in short order. Tackling weekend canyons, while not really a sane practice, is an experience of sheer joy . . . RDs will usually outperform their riders, and can be very forgiving when it comes to correcting slight rider drawbacks.

But handling isn't the only thing legends are made of . . .

There's power. Raw, blood-curdling, screaming power. And speed. In both departments the RD is an absolute monster — in the guise of a little, mild-mannered street machine.

Packed into that little 325-pound machine are nearly 40 very strong horses. That much power in one little bike is a lot like having about 3000 horsepower in your family sedan. Quarter-mile times for a healthy RD run about 14.13 seconds. Keep in mind that this is only a 350!

The powerplant that supplies all this speed is a milestone in simplicity and reliability. The gearbox is a six-speed unit — constantly meshed — which is much like those found on Yamaha's other road machines. The trans has long had a reputation for being totally bulletproof, able to survive even the worst conditions beautifully.

The crank assembly rides on two heavy-duty main bearings, and like the tranny is ultra-strong. The barrels are cast alloy pieces, fitted with steel liners. The porting specs

on the RD are fairly radical — at least for a street bike, and because of that, gas economy isn't really all it could be — but what do ya want? Good mileage or power?

To help keep the mill streetable, and to give it more torque off the line, the barrels are fitted with reed cages just ahead of the carbs. These consist of 12 stainless steel reed guides and a set of semi-rigid fiber reeds. Nearly every year, Yamaha plays around with these reeds which they've cleverly coined "Torque Induction," trying to get a little more grunt at low revs.

The barrels are fitted with two 28mm Mikuni Piston Valve carbs. These units have proven to be efficient and reliable over the years. Ignition system is as ordinary as can be — dual points, dual coils, and that's it. The system as a whole seems to work well enough, but the standard coils reportedly go south once in a while.

The end result is a very, very quick bike with good throttle response all through the rev range, and a fair amount of torque on tap for low-speed situations.

For '75, the RD350 is both an impressive and disappointing package. The impressive points are obvious — power, handling, rideability, longevity and low cost.

The disappointing traits of the RD can hardly be blamed on Yamaha. These sour spots are all caused by Federal regulations. The machine itself is the Ultimate Middleweight. The state-of-the-art example of what a motorcycle should be — and be able to do. Sadly though, it's all hidden under a dense blanket of Federal rules, regulations, limitations and red tape.

Before the bike could be sold in this country it had to undergo a few changes and meet new regs. Looking the bike over gives one a hopeless feeling of conformity. The bike sports four humongous blinkers that have a spread similar to the wing span of an overgrown gull. The flasher units themselves, while not especially ugly *alone*, look as though they were meant for a machine three times the size of the Yamaha.

The underside of the flip-up seat is plastered with a thousand labels telling the rider what to check and when to do it. More stickers point out routing of the battery breather hose, and others tell of correct tire

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YAMAHA 350

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pressures.

The brakes — both front and rear — have little inspection viewing windows and wear-indicator flags. The instrument panel is cluttered with warning lights. One such light glows bright red to tell you that your brake lamp is working, and flashes spasmodically should the bulb burn out.

Indeed.

The handlebar switches are covered with painted-on lettering that describes the function of each switch in great detail. On the left side case is a cast-in diagram of the different gear positions, with numbers and arrows and the whole ball of wax. And . . . horror of horrors . . . the right side case has a cast-in label next to the kick pedal that spells out k-i-c-k-s-t-a-r-t-e-r. Gaaaagh.

If you're not into Federal add-ons and other foofaraw, you'll have to spend a couple of days stripping off all such garbage . . .

. . . And underneath, you'll find one hell of a beautiful motorcycle. You'll also have something else: A Classic. The last of the RD350s. Yup — 1975 is most probably going to be the last year for the Yamaha 350 twin. Sure, they'll still be sellin' 'em in '76, but they'll just be part of a huge surplus of '75s. A surplus that was intentionally created by Yamaha Motors when they found out about the Ultimate Government Rip-off — the strict new emission standards for two-stroke motorcycles. While other manufacturers may find loopholes or detune their two-stroke line, Yamaha obviously saw the futility in detuning a bike like the RD.

. . . So production on '75s is rumored to have doubled — maybe even tripled, so as to sell a number of this dying species in '76 without having the Feds swoop down.

Meanwhile Yamaha is busy with work on their new four-stroke models and their economy automotive YLCS (Yamaha Lean Combustion System) engines.

. . . It looks as though the 350 twin is going out for good.

But you can *still* spend a grand and get: a racer, a commuter, a touring bike, a reliability machine and . . .

. . . A Classic.

Sigh.