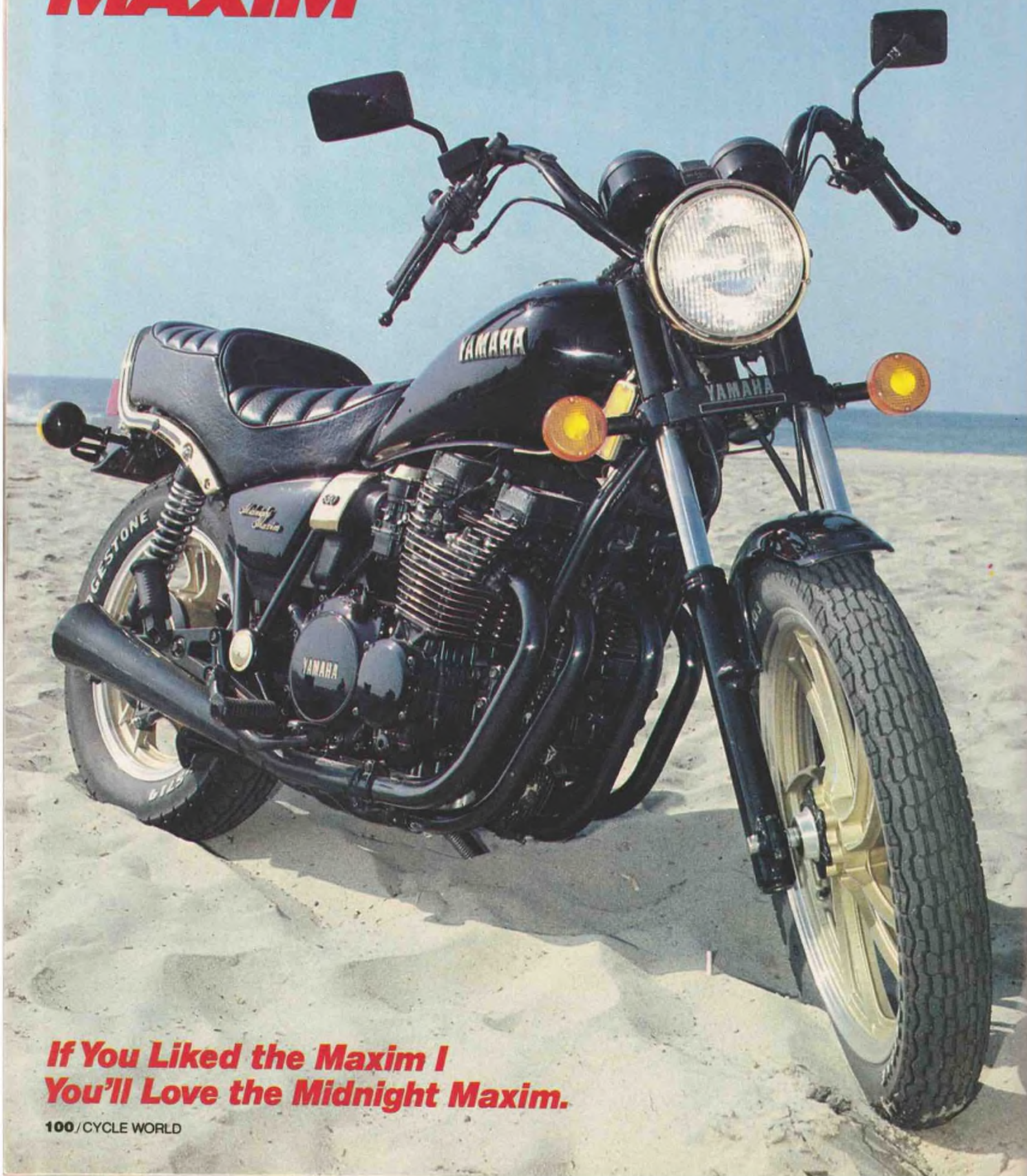


YAMAHA 650 MIDNIGHT MAXIM



***If You Liked the Maxim I
You'll Love the Midnight Maxim.***

■ We get all kinds of bikes to test; low profile commuter 350s, brightly colored dual purpose 500s and hot new 1100 street bikes. And because we are generally the first kids on the block to appear in public with brand new machines, the bikes we ride often attract attention. Other riders, gas station attendants, the guys at the cycle shop and other mechanically alert types are usually first to notice and make comment.



To the vast public, however, we go largely unnoticed. To the occupants of the traditional family station wagon; housewife, large dog, three kids and a bag of groceries, we remain nearly invisible. From the businessman, with his electric windows up, air on and eight-track going, we draw scarcely a sidelong glance. The man on the street pays us little or no heed, and the woman on the street isn't much better.

Not so with the Midnight Maxim. On our 100 mi. mileage loop, first day out, the bike attracted more attention than anything in recent memory. At a stoplight a middle-aged man in a suit and tie slid all the way across the bench seat of his Chrysler, rolled down the window and said, "What kind of a bike is that?" "A Yamaha 650," he learned. "A Midnight Maxim." He nodded approvingly and said, "That's a nice looking motorcycle."

Twice during the loop other motorcycles sped up from behind for a better look at the gold and black machine. One man rode a Gold Wing with a custom seat and a totally chromed engine, the other was astride a 1980 Maxim I. Both said, "I gotta have one." At a traffic signal in Laguna Beach a pedestrian got halfway across the street, faltered in his tracks and wandered over to look at the bike, asking questions until a green light and honking cars forced us to move on. The freeway was full of people who adjusted their cruising speeds to gawk at the bike. And so on. In the world of public attention, only streaking the Rose Bowl Parade or a convention of the D.A.R. will draw more notice.

What we have here is the low, dark and handsome Son of Midnight Special and blood brother to the XJ650 Maxim I. The Midnight version offers gold plating on the headlight rim, carb tops, airbox and grab rail, as well as two-tone gold and silver wheels. The cam cover is finished in a Harleysque black wrinkle finish, the engine cases are done in lustrous black enamel, and the handlebars and exhaust system are plated with black chrome. The finish is all deep and nicely done except on the frame, where our test bike had a number of heavy paint runs. In addition to all this gold and black dazzle, there are some

worthwhile improvements in function for 1981.

Our 1980 Maxim test bike had some clutch problems, a mild chatter and grab-biness that grew worse with hard riding and high temperatures until it became difficult to change gears during our tests at the drag strip. Yamaha improved the production runout tolerances on their clutch plates for this year, and to good effect. The judder is now gone and the bike survived a salvo of hard drag strip runs with no perceptible change in clutch feel or performance.

Also new is a revised clutch interlock system for starting. Formerly, the starter motor refused to spin with the clutch engaged, whether in gear or neutral. Now the starter works, clutch engaged, in neutral but not with the bike in gear. In other words, you can always start the Maxim single-handed except when you really shouldn't, i.e. when the bike is in gear and primed for a parking lot flopover. A good idea; an irritant removed and a genuine, helpful safety feature retained.

Other improvements gather under the heading of Comfort. Padding for the plush-looking stepped seat has grown by nearly half an inch while the density of the foam has been slightly reduced. The seat has also been repositioned farther aft to give the rider more back-stretching room. We found it now possible to spend a whole day in the saddle, for both passenger and rider, without bitter complaint or residual numbness, a definite improvement on last year's perch, which had a maximum dwell of about 1 hour. It remains a bit on the firm and narrow side, still no Suzuki GS1000 pleasure cushion, but not bad for a seat that offers the short of limb a mere 30 in. reach to ground.

Another feature that makes the seat more acceptable, indirectly, is a handlebar redesign. The bars retain their high-style swoop but with less exaggeration, moving the grip position forward to a less wrist twisting attitude. For all their Special flair, the grips' relationship to seat and rider is now almost within the bounds of normal roadster bars, though the upright angle still provides that old pistol grip sensation. Yamaha wanted to get more of the rider's weight resting on his arms and less at the pain center of the lower back, and they have mostly succeeded. The first thing we usually do with bucko type bars, after the photos have been taken, is cast them aside for a set of lower handlebars so we can put on high miles without nagging backache. But the Midnight bars, while still not our favorite fit, didn't demand this tiresome exchange of hardware.

The Midnight Maxim's engine, except for its great blackness, is unchanged from the 1980 Maxim's. It is a 653cc dohc Four, two valves per cylinder, fed by a bank of four 32mm Hitachi CV carbs. The cams are driven by a single-row roller chain, the

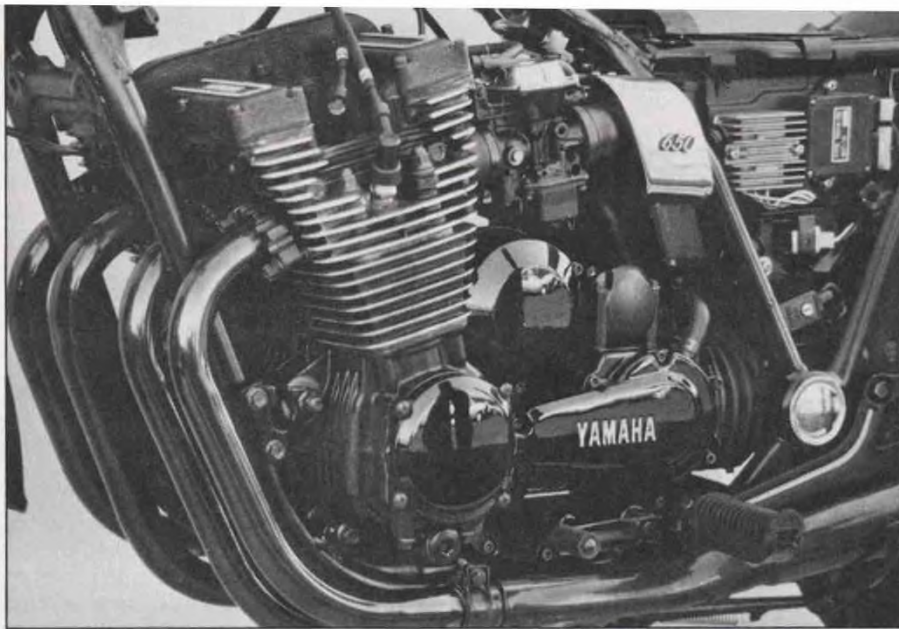
alternator by Hy-Vo chain, the transmission by straight-cut gear, and the rear wheel by shaft. The alternator is mounted above the gear case and behind the cylinders rather than at the end of the crank, to reduce engine width, and the starter motor is bolted, exposed and accessible, just behind the alternator. Ignition, triggered at the left side of the crankshaft, is electronic and breakerless.

Thanks to this tidy arrangement of pieces, the Yamaha's engine is exceptionally narrow for a 650 Four, only 17.6 in. wide, or about 2 in. narrower than even Kawasaki's compact KZ550 motor. Footpegs are close to the transmission cases and the exhaust pipes are tucked in next to the frame, all contributing to good cornering clearance. Soon after the left footpeg touches down the 650 will begin to grind away its centerstand and exhaust collector simultaneously, while on the right side it scrapes only the exhaust pipe. But this pavement contact occurs rarely during normal fast riding, and at sub-road racing speeds it takes almost a conscious effort to grind away the solid parts of the bike.

With shaft drive the Maxim has a slight lift and settle motion during hard on/off throttle movement, and backing off in a corner can lose you a small amount of ground clearance. This tendency for the shaft pinion to climb or descend its own ring gear is less pronounced than in many shaft drive bikes, however, and the main reminder you are on a shaftie is the pleasant mechanical punch at the rear tire during brisk upshifting. Yamaha has done a good job tightening up its gearbox and driveshaft tolerances, so drive train slop is minimal.

Steering is light and precise around town with good stability at higher speeds. On tight, twisting roads the low seating position and narrow motor make it easy to throw the bike around in rapid changes of direction. In order to arrive at a rake of 29° and 4.9 in. of trail with a leading axle fork, Yamaha has offset the triple clamps a few degrees, so that the fork angle is steeper than that of the steering head axis. Suspension, both front and rear provides good damping and progressive springing which make the ride comfortable over normal road irregularities but prevent excessive dive and rebound during hard braking and cornering. Because the Maxim has a relatively short wheelbase a small amount of hobby-horsing and harshness can be felt on stretches of repetitive, closely-spaced road bumps, or seams as are sometimes found on old concrete roads, but not enough to be bothersome.

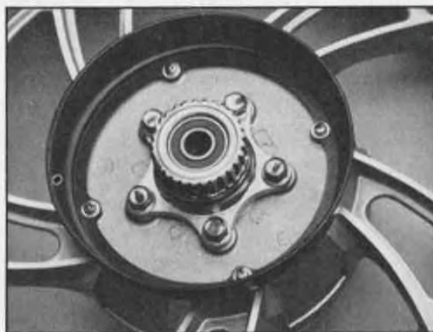
One trait we did find annoying, however, was a peculiar, gnawing engine vibration which is most noticeable between 4500 and 5000 rpm. Translated into fifth gear mph, that is exactly 60 to 65 mph, or about the speed most of us like to cruise (above the 55 drudgery limit, but not fast>



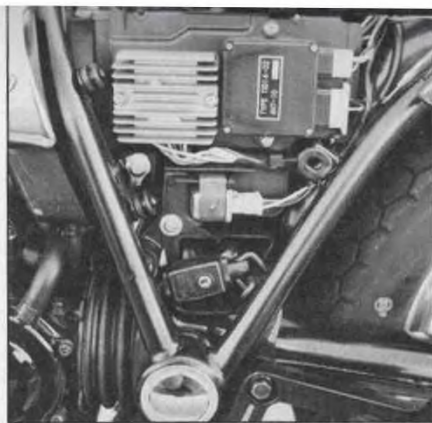
The Midnight Maxim's engine is unchanged from last year's Maxim I, except for the added glamor of a black and gold exterior.



The Maxim's shaft drive is strong, quiet, and operates with a minimum of slop.



Splined drive connection to rear hub makes wheel removal clean and simple.



Security lock and chain lives in small plastic tunnel beneath bike's electrics.



Shortened, less radical bars for 1981 make riding easier on back.

enough to cause oncoming squad cars to pull a 180 and pursue). The engine is glassy smooth right up to 4500 rpm and then a harsh mechanical buzz sets in and lasts for the next 500 rpm up the scale. Passengers, especially, complained of foot-numbing resonance coming through the pegs. Whether this is a period vibration from an engine imbalance or a motor mount problem we aren't sure, but it casts a small shadow on what is otherwise a marvelously smooth and responsive engine. Last year's Maxim I had no hint of this problem, so we hope it is just a peculiarity in the way our test bike was bolted together and not typical of the model run.

Another oddity, this time left over from 1980, is the tendency of the carbs to flood out and kill the engine any time you stop hard with the choke on. The engine doesn't take long to warm up, however, and the choke can be released soon after the bike is running. You just learn to stop very gently at your first two or three stop signs. The choke lever is a thumb operated model conveniently located (sounds like a shopping center) at the left handgrip. The handlebar controls are generally easy to use, once you get accustomed to reaching upward rather than inward with your thumbs when searching for the horn and switches. One test rider complained of

stabbing at empty space with his thumb while looking for the horn button. Instruments are well laid out and easy to read, and the quartz-halogen headlight puts out a good strong beam, ideal for those Midnight rides.

Maintenance on the Maxim is fairly minimal. The breakerless ignition stays in adjustment untouched, and there is no chain to lube, of course. The owner's manual suggests changing the oil in the final drive case once a year, or every 5000 mi. It has to be topped up with SAE 80 API GL-4 hypoid gear oil through an easy to reach filler plug. The front bevel gear is lubricated by the engine/transmission oil. The shaft drive makes rear wheel removal cleaner and easier than with a chain drive bike and there are no alignment settings to fiddle with when you slide the axle back in place. The rear wheel is attached to the final drive hub by a short splined stub, which can sometimes be a minor struggle to line up with the proper grooves when reinstalling the wheel; the result of a tightly machined fit.

The Midnight Maxim still has its own security chain folded into a small plastic tunnel under the left side cover; a handy item when you're locking up for the night, but a bit too time consuming to use in the day-to-day running of errands and on

quick trips to the store.

The engine on our 650 took a little more cranking at the starter button to fire up than did the '80 Maxim, hot or cold. But once lit it warms up quickly, as mentioned, and runs right. There are no flat spots, stumbles, coughs or hesitations once underway. The engine is delightfully dual natured, content to rumble along at a restful 3500 rpm in town, or suddenly have its throttles whacked open and shriek through the gears in a satisfying high-pitched rush of acceleration. And when the crankshaft spins at high velocity, the Midnight Maxim had one of the nicest exhaust notes ever to meet a state noise standard: a hyper, throaty sound that makes twisting the grip continual entertainment.

All that sound and fury would be meaningless, of course, if the engine didn't perform. Our Midnight bike turned a 12.84 sec. quarter mile at 101.80 mph, which is 0.07 sec. quicker and 1.3 mph slower than last year's Maxim, i.e. so close in performance you can't tell the difference. It is still the quickest 650 around, 0.45 sec. ahead of the last Honda 650 we tested and 0.35 quicker than the Kawasaki KZ650, and neither of those bikes is any slouch in performance. Braking, too, was on the same level as before; 131 ft. from 60 mph, an improvement of 2 ft. The brakes are still



excellent.


One performance figure that did change this year was the fuel mileage. Last year's XJ650 got 57 mpg on our standard mileage loop, but the Midnight Maxim dropped to 51 mpg. Fast, two-up riding on a weekend trip, mountain roads and heavy traffic included, dropped the Maxim to only 48 mpg. Wringing the bike out seems to produce no serious drop in economy. Unfortunately, the gas tank still holds only 3.4 gal., with about a gallon of that being reserve, so you start searching for the big gas station signs in the sky at 125 to 130 mi. after leaving your driveway. Not quite good enough for a good uninterrupted Sunday loop.

But then the gas tank, like the seat, handlebars and other components on the bike, was designed to look good first and work later. Which is not to say that function has been overlooked on the Midnight Maxim, particularly with the changes made to this year's model. We didn't care much for the seat/handlebar/tiny gas tank appearance group last year because those items compromised the rideability of what is essentially a very good motorcycle. This year the seat and handlebars are a little better; we were able to climb aboard for long test rides with much less foreboding, and with the comfort level raised a notch the



Maxim suddenly becomes a fun bike to ride.

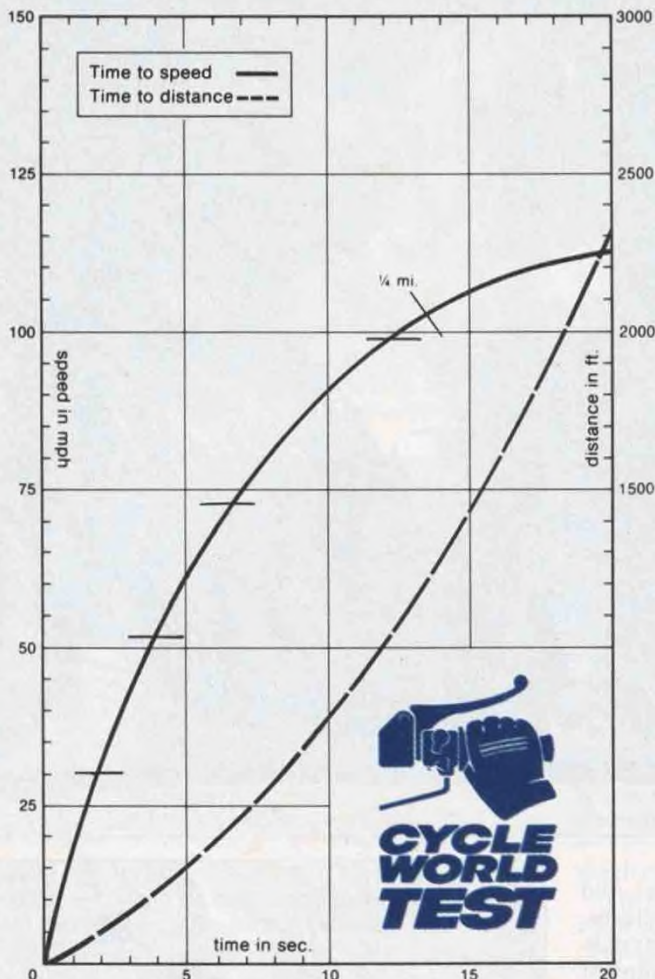
So if you can live with a smallish gas tank and a bit of buzz at road speed, and if big doses of flat, shiny and wrinkle black festooned with gold trim fill your emotive

bill, you are in luck. All that handsome trim comes laid on a bike that is tight and compact, very quick to move itself down the road, low and easy to handle, and, if one word might sum up the Midnight Maxim's character, jaunty. 

YAMAHA 650 MIDNIGHT MAXIM

SPECIFICATIONS

List price\$3099
 Enginedohc Four
 Bore x stroke .63.0 x 52.4mm
 Displacement653cc
 Compression ratio9.2:1
 Carburetion(4) 32mm
 Hitachi CV
 Air filterpaper element
 Ignitiontransistorized
 electronic
 Claimed power64 bhp
 Claimed torque38.3 lb.-
 ft. @ 7500 rpm
 Lubricationwet sump
 Oil capacity3.1 qt.
 Fuel capacity3.4 gal.
 Starterelectric
 Electrical power12 v AC
 Battery12 v 12 ah
 Headlight50/40w
 Primary
 drivestraight cut gear
 Clutchmulti-plate, wet
 Final driveshaft
 Gear ratios, overall: 1
 5th5.68
 4th6.52
 3rd8.06
 2nd10.48
 1st15.28
 Suspension:
 Fronttelescopic fork
 travel5.5 in.
 Rearswing arm.
 travel3.5 in.
 Tires:
 Front3.25 H-19 tubeless
 Rear ... 130/90-16 tubeless
 Brakes:
 Front11.75 in disc
 Rear7 in. drum
 Brake swept area ..129 sq. in.
 Brake loading (160-lb.
 rider)4.8 lb./sq. in.
 Wheelbase56.9 in.
 Rake/Trail29°/4.9 in.
 Handlebar width31 in.
 Seat height30 in.
 Seat width12 in.
 Footpeg height11.5 in.
 Ground clearance6 in.
 Test weight
 (w/half-tank fuel) ..466 lb.
 Weight bias, front/rear,
 percent46/54
 GVWR1025 lb.
 Load capacity559 lb.



PERFORMANCE

Standing 1/4-mile12.84 sec.
 @ 101.80 mph
 Top speed
 in 1/2-mile115 mph
 Fuel consumption51 mpg
 Range (to reserve tank) ..129
 mi.
 Acceleration:
 0-30 mph1.8 sec.
 0-40 mph2.7 sec.
 0-50 mph3.7 sec.
 0-60 mph4.8 sec.
 0-70 mph6.2 sec.
 0-80 mph7.5 sec.
 0-90 mph9.2 sec.
 0-100 mph11.6 sec.
 Top gear acceleration:
 40-60 mph4.8 sec.
 60-80 mph6.1 sec.
 Maximum speed in gears:
 1st45.3 mph
 2nd66.1 mph
 3rd85.9 mph
 4th106.2 mph
 5th121.9 mph
 Speedometer error:
 30 mph
 indicated28.8 mph
 60 mph
 indicated58.7 mph
 Braking distance:
 from 30 mph33 ft.
 from 60 mph131 ft.
 Engine speed
 at 60 mph4676

