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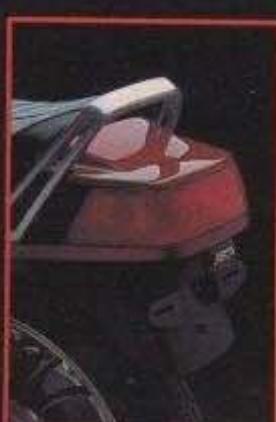
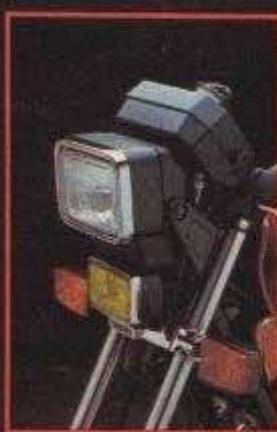
YAMAHA XJ750 SECA

THE FUTURE IS NOW

If you appreciate technological treats, you'll love the 750 Seca.

Yamaha is out to be No. 1. That's all you need to know to understand the company's advertising media blitz and unbelievable investment in new models and technology designed to wean the rider—every rider—away from every other motorcycle company. If you can't find a motorcycle you want in the Yamaha lineup for 1981, odds are you won't be able to find one anywhere.

The selection of street bikes alone is mind-boggling. One cylinder or two, or three or four. Chain drive or shaft drive. Inline or V-twin. Two-stroke or four-stroke. Out of all that mass of bikes many



XJ750 SECA

are new for 1981. The 550 Seca four. The RD350 two-stroke twin. The Virago and XV920 V-twins.

And the most stunningly beautiful, gadget-ridden, futuristic motorcycle ever offered for sale to a shell-shocked public, the XJ750 Seca.

If you get the impression that we were impressed by the Seca, you're right. It's impressive, all right—impressive in its appearance, in its performance, in its comfort and in its technology. Yamaha has certainly proved that it takes a back seat to nobody when it comes to engineering.

The company's first crack at a 750 four-stroke four to go head-to-head with the other manufacturers is an example in many ways of how things will be through the Eighties. The list of features goes on endlessly—shaft drive, computerized function monitor panel, anti-dive brakes, curved spoke wheels, the wildest shape since Craig Vetter's Hurricane BSAs and Triumphs of the late Sixties and even a yellow auxiliary headlight so there's no mistaking what you see coming up from behind in your mirrors.

The bike isn't just an amalgam of concepts pitched together without thought for how they'd all work together. It's light, incredibly so when you consider the weight of the drive shaft assembly. At 218 kg dry, the bike is 12 kg lighter than a Honda CB750F and 15 lighter than a Suzuki. Only the trim Kawasaki undercuts it, coming in at a svelte 210 kilos.

It's also compact. At 1,445 mm, its wheelbase is shorter than the Suzuki's 1,520 or the Honda's 1,525. Again, the Kawasaki is the smallest at 1,420 mm. The compactness translates into height, or lack thereof. The Seca is by far the lowest of the four 750s at the seat, making it easy for riders as short as 170 cm to get both feet flat on the ground at a stop.

It's narrow, too. As is the case with the 650 Maxim four and 550 Seca four, the alternator has been removed from its customary location at the end of the crank and relocated on a jackshaft to the rear, which makes the Yamaha narrower across the crankcases than the other 750s. Internal paring and shaving even narrowed the cylinder block to the point that the cylinder is nearly three cm narrower than that of a GS750 Suzuki.

The narrowness pays dividends in terms of appearance and ground clearance. The smaller engine gives the stylists more freedom to design the looks of the vehicle around it; the narrower cases mean the engine can sit lower in the frame to lower the center of gravity and lean over farther without coming into contact with the pavement.

The appearance reinforces the unity of purpose and behavior of the Seca. The bodywork, so obviously inspired by Craig Vetter's Hurricane design for BSA/Triumph, sweeps in an integrated path from tank to tailpiece.

The tank is radically sculptured, with a deep cutaway at the rear for the rider's knees. It makes riding the bike more comfortable, and by no accident of design also exposes more of the machine to the rider. The Seca is designed to be looked at as much as it is to work. That it's pleasing to the eye is undeniable, from the strange smooth handlebar enclosures that hide wires and cables to the Porsche-like wrap-around rear light.

The finish is good, too. Paint is excellent, better than the usual from Yamaha in the past few years. The color is rich and lustrous and looks deep enough to swim in. Chrome is up to the same high standard, and the burnished aluminum pieces such as the rear muffler/footpeg brackets and passenger grab rail provide a muted contrast.

There are a number of details that testify to the thought that went into the Seca, such as a hinged seat, hallelujah. Sadly, it's an increasingly rare commodity. For access to the air filter, electrical connections or the small compartment in the tail section the seat is excellent.

Another pleasing detail is that the compartment in the tail section is useful for more than tools. There's a short chromed security chain with the Seca, much like the one of the 650 Maxim. It lives in a small compartment above the left footpeg and locks on to a lug on the frame when it's in place. However, you'd have to be an expert in yoga techniques to get the thing out, especially if it's dark and you can't see what you're doing.

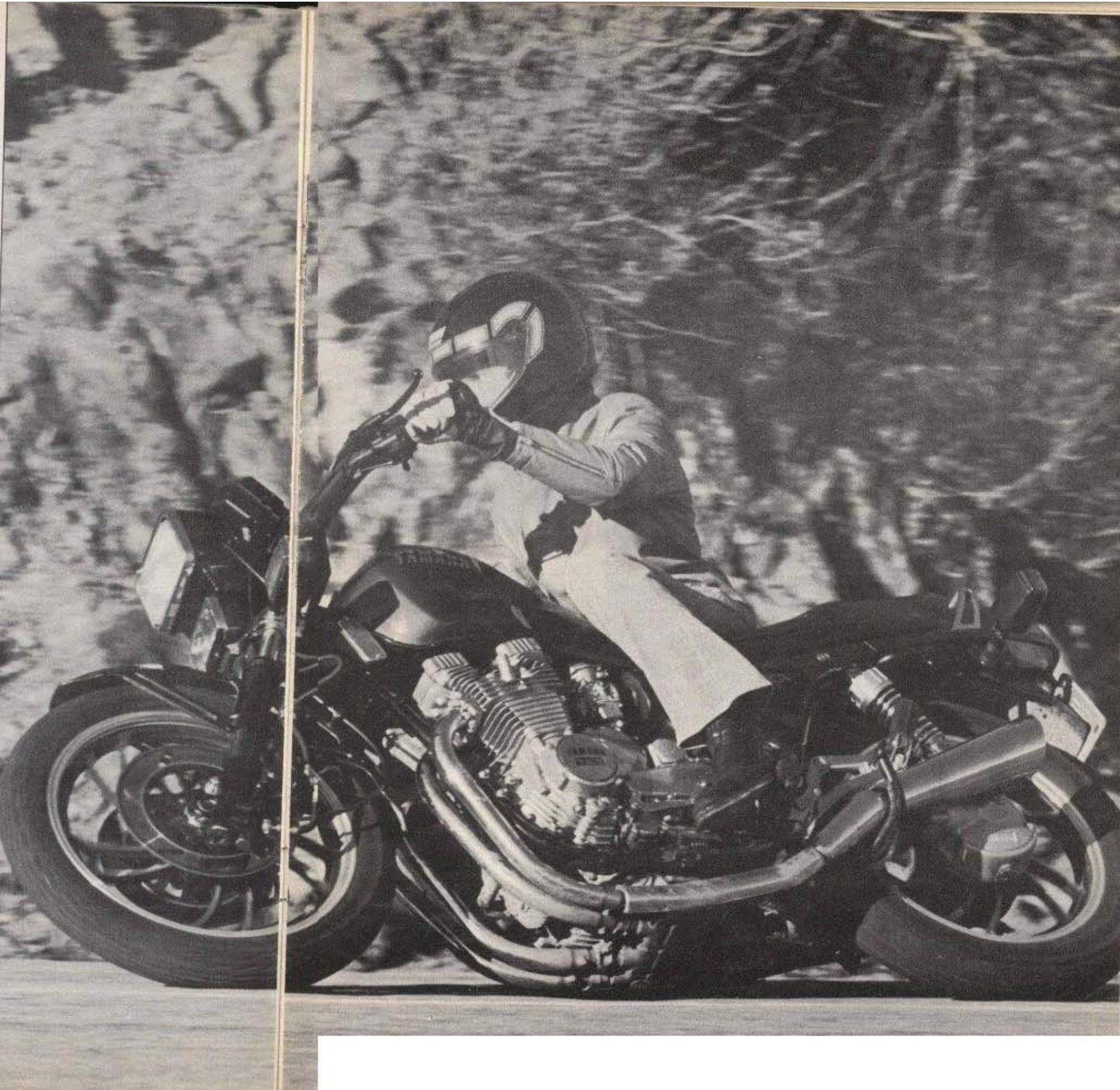
Reinserting it isn't much better; it takes so long that a course in transcendental meditation might be recommended to save your patience. We just stuffed the chain in with the tool bag.

Controls are a bit different from the standard Yamaha fare, but work just as well. The automatic turn signal switch has a different shape that seems neither better nor worse than the usual one. There's an on-off switch near the kill switch for the yellow fog lamp, which is mounted below the headlight. It doesn't add much illumination to the already-brilliant 60/55 watt quartz-halogen headlight, but it does make the Seca unmistakable in anyone's mirrors.

We didn't much like the mirrors. As on the 550 Seca, they're squarish and rimmed with black plastic. Stylish, perhaps, but the field of view is limited compared to a round convex mirror, as is the amount of adjustment possible.

Speaking of being different, no one, but

You can wear away the muffler clamps and header pipes if you like to ride like that.



The stiff chassis, tunable suspension and accurate steering are complemented by the anti-dive brakes. Reduced dive creates improved clearance.

XJ750 SECA

no one believes the Seca's instrument panel when they first see it. Mounted up front is a computerized console that continuously monitors sidestand location, brake, oil and battery fluid levels, conditions of headlight and taillight and level of fuel. Liquid crystal displays light up for each function if something goes wrong, and a large red light begins flashing to notify the rider.

Each time the bike is started, within two seconds the microcomputer starts to cycle through the checklist, and each function's LCD goes out as the system decides that things are as they should be. In addition, at any time while riding the rider can push a check button and the system will cycle through, searching for problems.

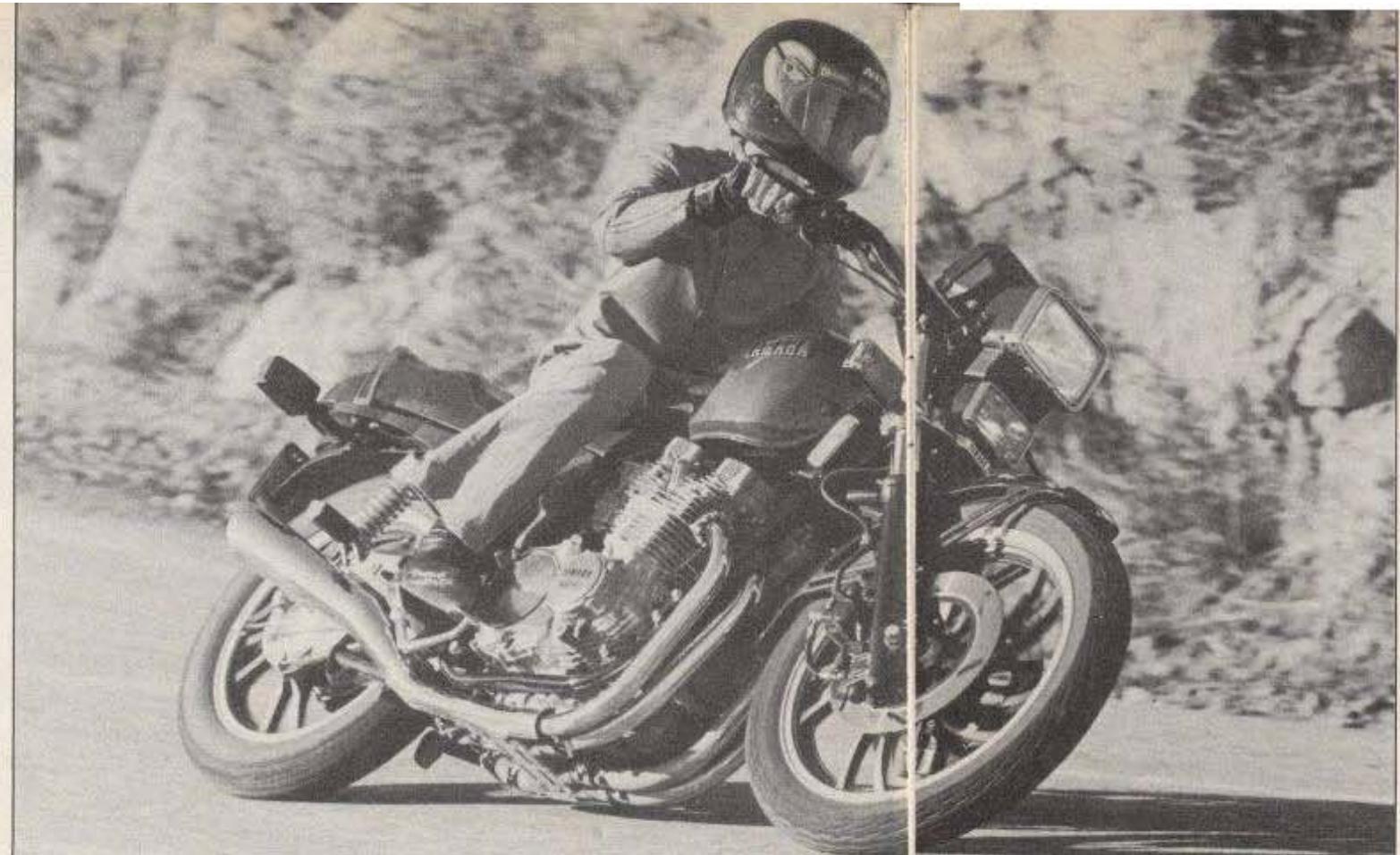
We don't recommend doing this very often while riding, entertaining as it is. Each LCD stays lit for 0.7 seconds, which means that watching the whole display takes your eyes off the road for nearly five seconds. Not a good idea.

We're a little dubious about the thing. It is fun to play with, but the owner's manual is filled with imprecations about not getting it wet, not bumping it hard and such-like. Don't try playing with your lighting system, either, because the sensors will respond most unpleasantly to any changes in current flow by frying themselves or possibly the microcomputer itself.

For blowing away onlookers, though, there hasn't been anything to touch the Seca's panel since the first CBX arrived.

The choke is actuated by a lever under the left grip, again like that of the 650 Maxim. It's within easy reach of your thumb and can be operated without fuss while riding. The motor warms up quickly and the bike can be ridden on partial choke when cold, a bonus if you don't like to sit waiting while things get up to temperature.

Part of the Seca's willingness to operate cleanly right from starting is likely due to the YICS system, also used on the 550 Seca and described in our March issue. YICS stands for Yamaha Induction Control System, and is a series of passages drilled and cast into the head that allows whatever cylinder is sucking mixture to draw from all four carburetors.



a top gear roll-on. Not by much, but by enough that we know it's no fluke.

The lighter weight and slightly lower gearing are no doubt responsible. Still, the Seca didn't feel that fast, and we were surprised when we, er, raced the two head-to-head in a straight line.

The Seca doesn't seem to have quite as much bottom end as the Suzuki motor, but is certainly a match in the mid range and top end. Yamaha's first 750 street four pulls cleanly and crisply from any rpm above four grand, and the relative lack of bottom end certainly is no handicap in the stop light GPs. The Yamaha not only looks lean and mean, but has the performance to back up the appearance.

Filling the tank is a pain, though. There's an unusually deep filler neck, so that getting every possible drop of fuel in the tank is extremely difficult without much fiddling and squirting of fuel. Invariably you'll spill some.

Neither bike is a match for the Kawasaki KZ750 in the fuel efficiency race, though. The KZ got 19.9 km/L in our test in August of 1980. Both are better than the CB750F tested in the December issue, which came up a bit short at 16.5.

All the time it's being so docile and efficient, the Seca's engine is pumping out one Godawful amount of horsepower. Yamaha claims 76 hp at 9,000 rpm and 6.3 kg-m of torque at 7,500. We believe it. The Suzuki, the 750 horsepower king, produces 79 hp and 6.4 kg-m of torque, and the Yamaha walks away from it every time in

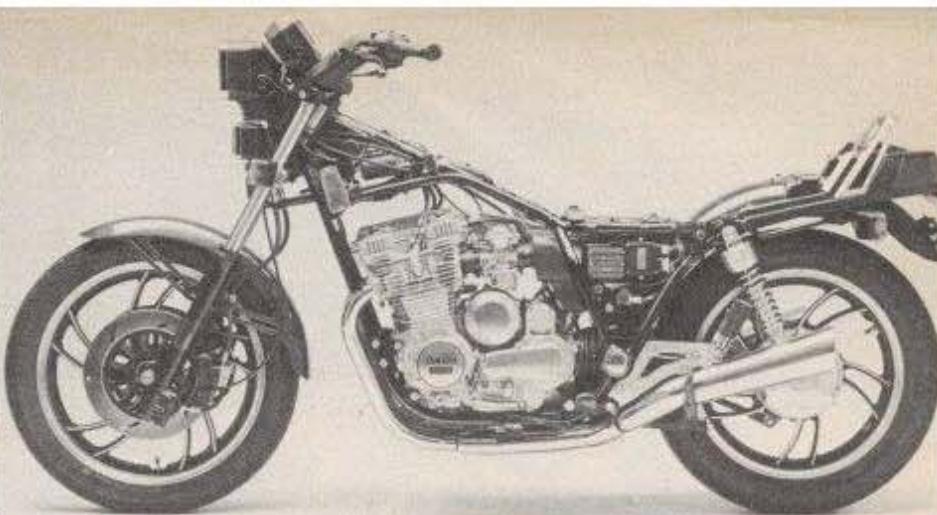
the oil can't move the fork doesn't either. Presto, no forward pitching motion under braking.

There's a force limit built into the system, so if the bike hits heavy bumps while the valve is closed it'll momentarily release and allow the fork to work to absorb the road surface in the usual manner. This nullifies the danger inherent in trying to negotiate rough pavement with a locked-up front end.

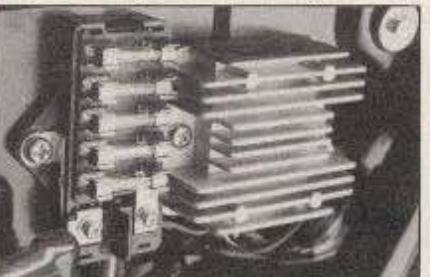
It works like a dream. Light applications of the brake feel no different than on any other bike, but hit the lever hard and the front end doesn't dive at all. It's disconcerting the first couple of times but you soon get used to it. It has two big advantages. The first is that by preventing fork dive much more ground clearance is maintained up front when you're braking and cornering at the same time.

The second is that by limiting forward weight transfer the system lets you make much better use of the rear brake. It's a drum—thank you, Yamaha: we still insist a good drum is better for most rear street brake applications—and works flawlessly. It has a nice feel and is easy to modulate short of locking up no matter how hard you're stopping.

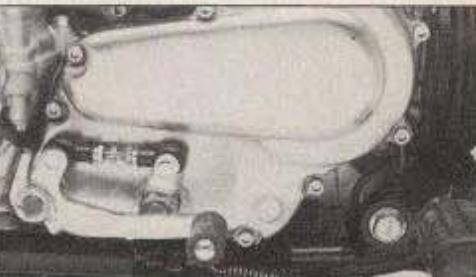
The only fault we found with the brakes was that they weren't especially good in the rain. The front discs seemed like a throw-back to the bad old days of applying some brake, then waiting until the pads wiped the disc dry, then frantically trying to modulate brake pressure to



Frame is very compact. Design is straightforward, using a full double-cradle loop for the engine. Triangulation at steering head strengthens a critical area.



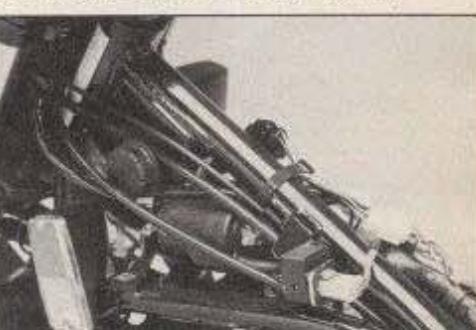
Electrical system has useful provision of a separate accessory power take-off.



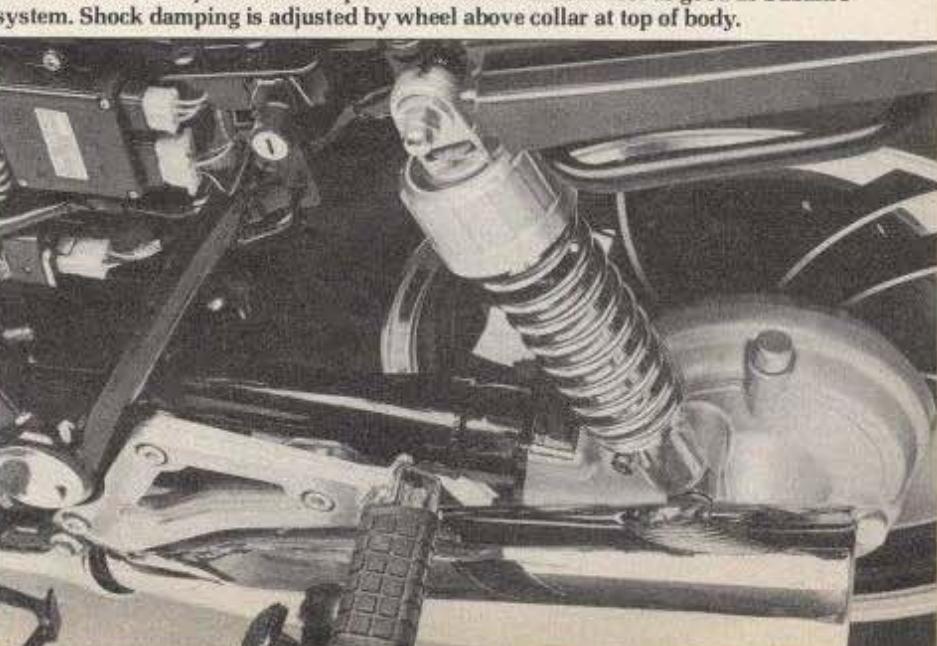
Monkey-motion shift system required by rear-set pegs works without problems.

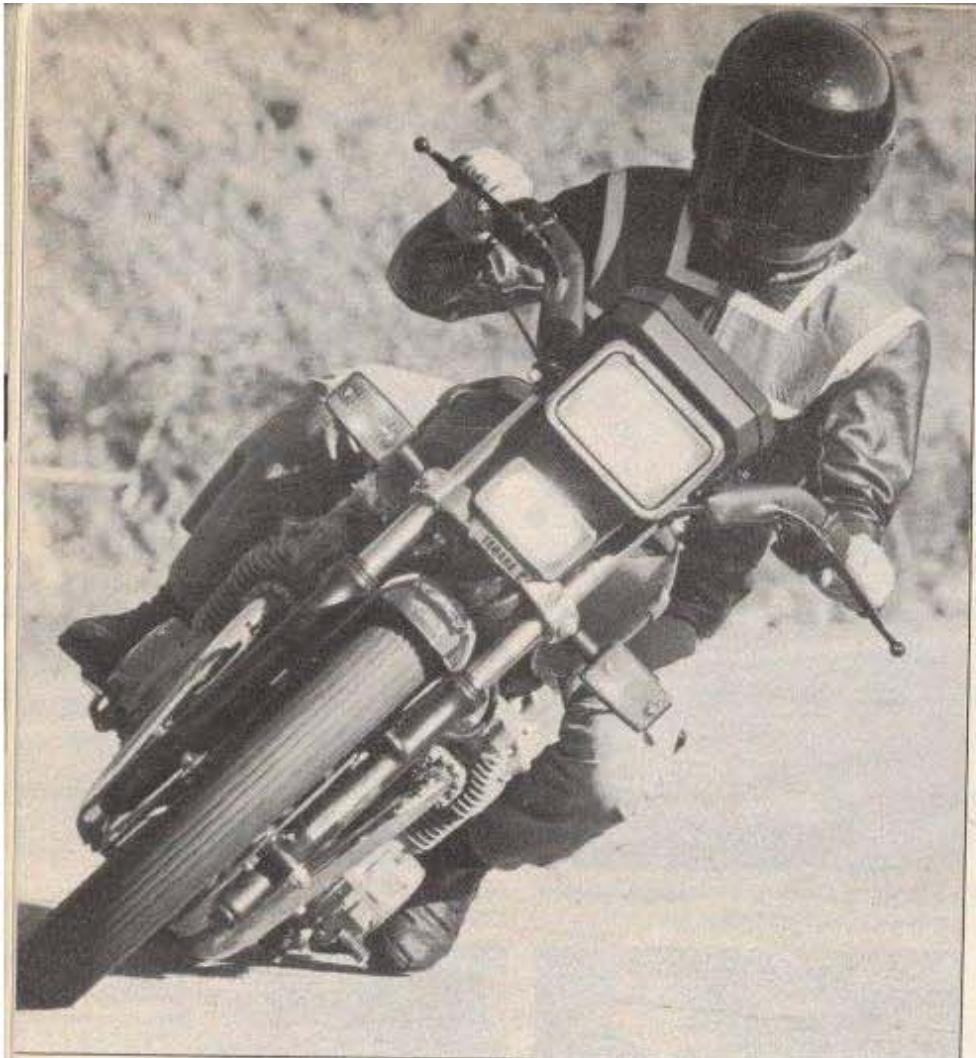


We found storage recess too tight for chain, stored it under seat instead.



Steering head holds a maze of electric gear from coils to fuel level sender.





XJ750 SECA

avoid lockup. Boo, hiss. It made the drum brake at the rear even more popular with testers who rode the bike in the wet.

No complaints in the dry. The Seca will stop hard enough to detach retinas without getting out of control.

One oddity of the Seca's braking system is that the master cylinder for the front disc is tucked up under the tank as BMW's were a few years ago. In that case it was claimed to be for crash protection, but here it's just styling—it would interfere with the plastic mitten that encloses the handlebar.

All the suspension adjustment systems work well and have a discernible effect on the behavior of the motorcycle. The front air caps aren't linked, unfortunately, but the valves are mounted sideways rather than on top of the tube. This brings them out away from the handlebar, making measuring or changing air pressure much easier.

The anti-dive characteristics can be changed by popping a rubber dust cover at the bottom of each fork leg and using a screwdriver to turn a screw to one of four positions. You can feel the difference in the anti-dive in each spot.

Head-on shot shows how narrow the Seca engine really is. Fog lamp is there more for show than extra illumination. There is no power shortage.

unattainable dream. The chassis is stiff and strong and doesn't flex, the shaft drive doesn't jack the rear up and down to an excessive degree and the bike goes exactly where you point it.

It doesn't have quite the ground clearance of the Suzuki 750, but it's close. Unless you plan some serious street racing you'll never notice the difference. The Bridgestone tires are excellent, right in the same league as the IRCs we liked so much on the Suzuki. It's possible to drag the header pipes on both sides without losing traction, and there's still a half-centimetre of tread left.

The tires work well in the rain, too. Only the most fanatical go-faster will feel compelled to change the rubber, and we think it'll be more for image than for function.

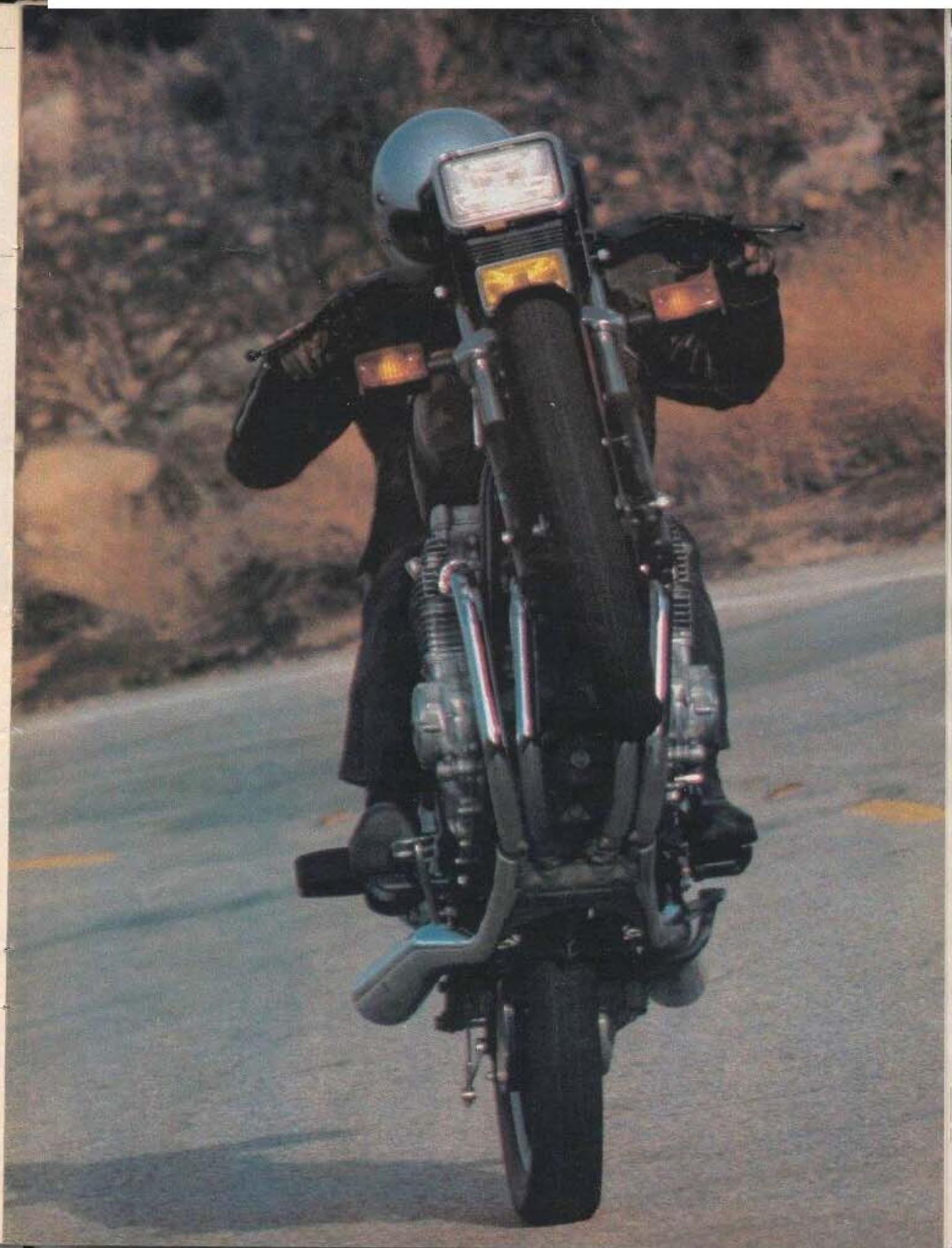
The machine feels light and nimble. Throwing it back and forth through a series of curves is less work than on other big bikes because of the low weight. The 28-degree steering head angle is the same as the Suzuki's, and not as extreme as the Honda's 27.5 or the Kawasaki's 27. It seemed to work well, as the bike was easy to steer yet didn't get light at high speed.

The Seca seems every bit the equal of the GS750 in high-speed sweepers. The GS in turn is every bit as good as the other big Suzukis. The conclusion of this syllogism is that the Seca is one hell of a good high-speed handler. It feels rock steady at speeds that would curl a highway patrolman's hair and still responds well to steering or braking inputs. Fun, and safe fun.

Riding long distances with the Seca might not be as enjoyable. The seat is fairly comfortable as it is, but the padding isn't very thick and the stylish swoopy shape means that the rider can't move around.

On the plus side, the relationship between the bar, seat and pegs is excellent. The bar is a bit lower and narrower than most, while the pegs are a bit farther back. It adds up to a riding position somewhere between American and European-standard, biased a bit toward American upright. It's comfortable, but we think the seat would get to be a pain after a few hours.

Passenger accommodation is unexpectedly good. Unexpectedly because upswept narrow seats are seldom the way to make a pillion rider happy. But the neat cast aluminum grab rail is in the right



spot, and that helps a lot. Again, the padding is probably a little thin for a long ride, but for most people the footpeg location will be a worse problem.

The upswept exhaust pipes force the pegs up high, so a passenger finds his legs bent quite sharply. It's no big thing on short rides, but we seriously doubt the Seca will find much popularity as a two-up tourer.

The pipes emit a lovely noise up near redline. It's about the only noise the motorcycle makes other than that from the better-than-average twin horns. Mechanical noise is extremely low, air intake seems well-muffled and until the engine is really hauling there isn't much noise from the pipes, either. The advances in exhaust system technology over the past few years are staggering, and the Seca's is a good example.



The Seca is a good example of modern thinking and technology in almost every way, in fact. There's nothing else quite like it, and it's difficult to categorize. Yamaha is advertising the Seca as a sport machine. It's justifiable; the thing is fast enough to fry the reflexes of any but a top racer in most circumstances.

Still... The shaft drive, while convenient, clean and all that, does add weight

to the machine. It's already extremely light, but imagine a chain drive version. Also, the shaft prevents changing gear ratios, so easy with chain and sprockets. We thought the Seca was geared too low; spinning at 5,000rpm at highway speeds is silly for a motor with as much grunt as this one has. Think how much better fuel consumption could be, or imagine the incremental improvement in the already-good handling without the weight and wind-up effect of the shaft.

No, the Seca doesn't fit precisely into the conventional sport bike mould at all. But it works. It's blindingly fast, comfortable, convenient and gorgeous. And it has enough techno-trickery to satisfy any gadget-hungry child of the Eighties.

The Seca stands alone among modern 750s, and it's a worthwhile addition to the class. We're delighted to see it there. □

SPECIFICATIONS

Yamaha Seca XJ750

MODEL 1981 Yamaha XJ750RH
 TEST DISTANCE 891 km
 PRICE \$3,899

ENGINE

TYPE	Four-cylinder four-stroke with chain-driven DOHC, two valves per cylinder
DISPLACEMENT	748 cc
BORE AND STROKE	65 x 56.4 mm
COMPRESSION RATIO	9.2:1
HORSEPOWER	76 at 9,000 rpm (claimed)
TORQUE	6.3 kg-m at 7,500 rpm (claimed)
CARBURETION	Four Hitachi HSC32
STARTER	Electric only
OIL CAPACITY	3.5 litres, wet-sump

ELECTRICAL

IGNITION TYPE Transistorized breakerless
GENERATOR OUTPUT 270 watts at 5,000 rpm
BATTERY CAPACITY 12 volts, 14 amp-hours
HEADLIGHT 60/55 watts

TRANSMISSION

TYPE	Five-speed constant mesh, wet clutch
PRIMARY DRIVE	Gear, 1.672:1
INTERNAL RATIOS	(1) 2.187, (2) 1.5, (3) 1.153, (4) 0.933, (5) 0.812
FINAL DRIVE	Shaft, 4.1795:1

CALCULATED DATA

WEIGHT/POWER RATIO 2.86 kg/hp
SPECIFIC OUTPUT 102 hp/L



PISTON SPEED AT REDLINE	17.8 m/sec at 9,500 rpm
RPM AT 100 KM/H	4,703 rpm
MAXIMUM SPEEDS IN GEARS ..	(1) 74.9, (2) 109.3, (3) 142.2, (4) 175.7, (5) 201.9 km/h

FUEL.

CAPACITY 19 litres including reserve
RESERVE CAPACITY 4.1 litres
CONSUMPTION 17 km/L (5.88 L/100 km)
RANGE Total 323 km, reserve 70 km

CHASSIS

CHASSIS	
WHEELBASE	1,445 mm
RAKE/TRAIL	28 degrees/114 mm
SUSPENSION	Telescopic front fork with air assist and anti-dive braking feature, 36 mm diameter fork tubes and 150 mm travel, rear swingarm with dual spring/dampers, five-way preload and four-way damping adjustment with 96 mm travel

BRAKES Double front slotted discs 298 mm diameter, s/s rear drum 200 x 40 mm

TIRES Bridgestone tubeless, 3.25H19 L 303 front
and 120/90H18 S 716 rear

DRY WEIGHT 218 kg

LOAD CAPACITY 236 kg

HANDLEBAR WIDTH 762 mm

SEAT HEIGHT 736 mm (with 61 kg rider)

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M2H 3B4 (416) 498-1911