

Motorcycling's Human Factor: Interviews Behind the Scenes
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Fast Forward on Yamaha's

**FUTURISTIC
FAZER**



1986 Yamaha FZX700S *FAZER*

This Earth-Bound Extra-Terrestrial
is Ready to Carry Cruisers and
Canyoneers to a New Frontier

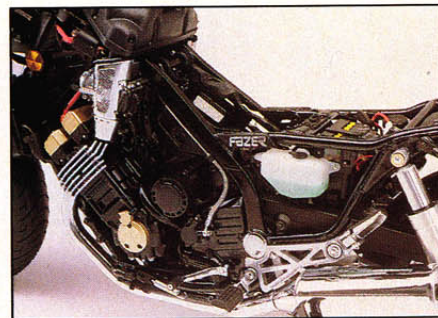
Given the task of developing a completely new genre for the 1986 American market, the motorcycle designers at Yamaha must have spent many a sleepless night before settling on the Fazer. No less than six categories of motorcycle already exist, and just about any "new" design can be neatly slipped into one of them. Try it with the new FZX700S, though, and you end up frustrated and in need of a new niche, proving that the men in Iwata, Japan, attained their assigned goal.

MARK TUTTLE JR.

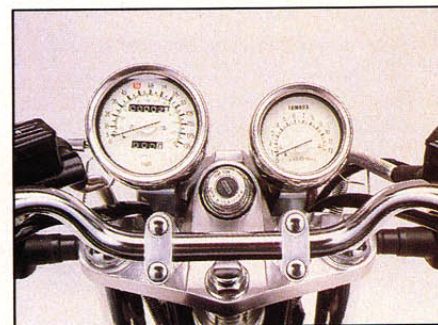




Indicator lights and coolant temperature gauge are housed in raised strip across top of airbox shelter.



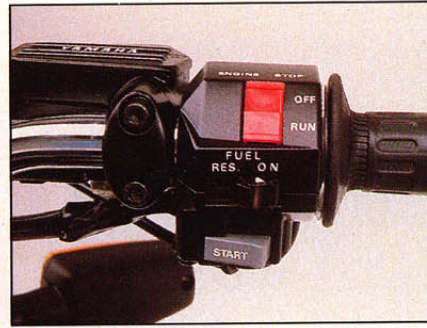
Gas tank sits behind and below airbox. Valve adjustment interval for Genesis engine is 26,600 miles.



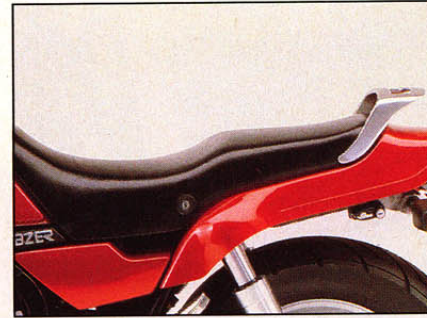
Handlebars are rubber-mounted for vibration isolation. Speedometer and tach are pretty and easy-to-read.

In creating the Fazer's own seventh category—Modern American Sport—Yamaha has drawn from a pair of its well-known trend setters: the V-Max and the FZ750. Only two years old but recognized as the great-granddaddy of the performance cruisers, the V-Max lent some heady styling licks. The pure-sports FZ750 donated its drivetrain in a nearly unmodified form. The pieces were then stirred into a high-tech designer's caldron that eventually cooked up the Fazer.

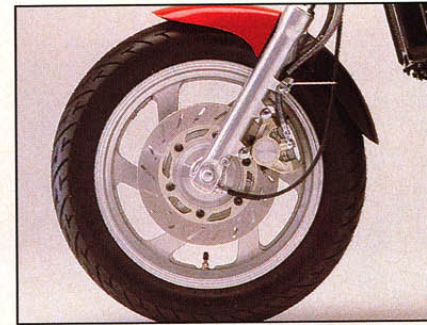
Sport machine styling that resides on or near the extreme fringe tends to repel riders who adhere to tradition, and the Fazer is certainly a 10/10ths fringe machine. Unless this stodgy clan can be swayed with performance, they're going to hide behind old faithful until the Fazer goes away. On the other hand, progressive styling attracts a larger group, those looking for something different, something original. Appeal to both groups, and the



Thumb switch for 3-gallon reserve is conveniently located on right handlebar beneath stop switch.



Helmet lock is directly under passenger grabrail. Seat and shocks please the eye but not the backside.



Dual-slotted discs are pinched by opposed-piston calipers. Wheels are machined and polished aluminum.

bike's a winner. A part by part dissection of the Fazer and its epithet, "Modern American Sport," shows why this category could prove to be a lucky number seven for Yamaha.

What's in a name? Working backwards, the word *Sport*, bringing up the rear of *Modern American*, is the easiest to understand. Based on the 20-valve, liquid-cooled, inline-four cylinder Genesis engine in the FZ750, the 698cc motor in the Fazer screams *sport* from every pore. The engine retains nearly everything that's good in the FZ750's, but gets a few minor changes and additions to better suit its purpose as an urban assault vehicle. Thanks to a shorter stroke, the Fazer has 51cc less displacement and sneaks in under the lingering import tariff. Softer rubber motor mounts at the rear of the engine reduce vibration a claimed 50 percent over the FZ750. Increased connecting rod length and pistons from the XJ700X Maxim X keep

its compression at 11.1:1, just a hair under the 11.2:1 FZ750 ratio. In addition, though cam timing is unchanged, all 12 intake valves have slightly less lift for better intake velocity at lower rpms.

Though it's several tablespoons down on displacement, the Fazer is also weight-loss leader. Since it is un-faired and carries less fuel than the 522-pound FZ750 (as reported in *Rider*, August, 1985), the Fazer tips the scales at 492 pounds wet, a surprising 30 pounds less. And that weight is well distributed. Once you incline a transverse, inline engine's cylinders forward 45 degrees, several good things can happen to the rest of your chassis layout. Downdraft carburetors and the airbox can be located above the cylinders instead of behind, giving them a straight shot at the intake ports for a better fuel charge. This also makes room for a gas tank behind and below the airbox, keeping the fuel's weight low and centered in the frame. Most of the cylinders' weight moves forward to keep the front wheel on the ground while maintaining a low center of gravity.

Light weight, a low center of gravity and a responsive, powerful engine are certainly essential building blocks for a sport machine, but what about the *Modern* part of the Fazer's nomenclature? Well, if you can't see the 1980s in the Fazer's design, you'd better defog your faceshield. The upside-down, deCarbon-type rear shocks have shrouds over their springs to give them a clean, laboratory appearance. Cast aluminum wheels with a hollow-center design are polished on both sides and have an aggressive, almost razorlike pattern. The gas tank sports an aircraft-type filler cap, and everything from the chromed, functional air scoops to the passenger grab rail has been detailed for a futuristic look. Like the Transformers of cartoon and toy fame, the Fazer looks like it could be taken apart and reassembled facing the other direction, without even taking it off the centerstand.

The *American* in the Fazer is a little less visible to the casual observer, except perhaps for its dual rear shocks and fat rear tire mounted on a 15-inch wheel. Throw a leg over, though, and the conformity is clear. This is a small, friendly motorcycle. The seat height is low and cruiserlike at 29.5 inches. Instead of clip-on bars and rearsets, the wide, high handlebars and well-placed footpegs seat the rider in a comfortable upright position instead of a crouch.

Taller riders will be disappointed. Due to the Fazer's sporting intention, the pegs had to be mounted high for ground clearance. This and the low seat height leaves very little leg room. If you have more in-seam than my 5-foot, 10-inch frame, flexible knees are a must. The same applies to the passenger footpegs. In addition, mounting anything but a tailpack on the curvaceous craziness that is the Fazer's



bodywork is a difficult job at best, and several passengers complained that on bumpy roads the front edge of the grabrail knifed into their backside. Those things considered, I decided to keep the Fazer within a day's ride of the office, instead of trying to take it on an extended tour.

My reluctance to head for points distant was exacerbated by a minor problem with our test bike's cooling system. The injection-molded plastic cap on the thermostat housing had a sporadic tendency to leak coolant, especially under severe operating conditions. Yamaha is aware of the problem, and the factory is taking steps to correct it. In the meantime, Yamaha's U.S.A. distributor has issued service bulletins to its dealers notifying them, so by the time this is in print the problem should be history.

Commuting and photo shoots give a tester good information about a bike's individual qualities, but it *still* takes a good long ride to really see how it works as a whole. My ride consisted of a day-long blast over and through some of my fa-

vorite hill and dale. Little Tujunga Canyon, Bouquet Canyon, Pine Mountain Road and Highway 33—the list goes on but it's not important. What matters is the impression left 270 miles later.

Once the key is turned and the starter engaged, the growl that emanates from the Fazer shortly afterward confirms its aggressive intentions. Blip the throttle and the free-revving engine responds without hesitation anywhere in its 11,000 rpm powerband. With its close-ratio, six-speed gearbox and outstanding low-end power, the Fazer *feels* quicker than the FZ750. A fast shift at redline to second is followed an instant later by another fast shift to third, blurring the scenery mere seconds after leaving a standstill. Though its light weight, agility and flashy appearance make it a good in-town troller or commuter, the ultra-responsive engine constantly tempts the rider to wick it up. At lower speeds this crispness can almost be a nuisance, since it exacerbates the small amount of gear lash present in the Fazer's transmission. Fortunately, Yamaha retained the

chain final drive of the FZ750 instead of using a shaft, which could contribute some gear lash of its own.

Although one could say that the Fazer is like the all-powerful V-Max in eyeball-jiggling acceleration ability, the difference between these two motorcycles is like night and day when it comes to cornering. An almost 60-inch wheelbase is long by sportbike standards. But the 16-inch front wheel, low center of gravity and wide handlebars of the Fazer give the steering a quick, low-effort feel. Aided by its style-conscious but sticky V-rated tires and a taut suspension, the Fazer is able to generate impressive cornering speeds without touching any metal to the pavement.

The fork is bare of anti-dive or any external adjustments save air, but set at minimum pressure it works very well. The only time the rider is jostled at all is crossing small repetitious bumps, when the rebound damping packs the fork down on its soft springs and stiffens it. A rear-offset aluminum fork brace prevents any lateral or torsional fork flex, though we did notice

The Fazer's styling and performance is the result of a synthesis between the Yamaha V-Max and the FZ750.



a touch of fore and aft movement under heavy braking. The rear shocks do a great job of looking good, but not much else. Overly stiff springs combined with heavy compression damping make them harsh when they're set on anything but the first of five preload positions. Once you get them moving, their lack of rebound damping becomes apparent. This could prove to be an annoyance later as well as now. In order to keep the bike's styling intact, the worn shocks will have to be replaced with the O.E.M. units, usually more costly than higher quality aftermarket samples.

This certainly won't be a problem with the brake components. Used in concert, the triple discs haul the Fazer down to zero mph with authoritative force. I found myself ignoring the rear brake except during very hard stops and letting the dual-slotted discs with opposed-piston calipers in front do most of the work. Feel at the lever is similar to the V-Max's—short travel combined with not high, but rather noticeable, lever effort. The single rear disc is ventilated rather than slotted, and came in handy several times during my day ride, most notably when I suddenly

discovered the road underwater on the Lockwood Valley loop.

Stopping to dry off, I noticed that the fuel warning light was glowing red. I had already traveled 118 miles on the 2.6-gallon main fuel supply, and seven miles later the fuel system had to be switched to its .8-gallon reserve. At an average of 47.6 mpg, this gives a conservative rider about 35 miles to find fuel, for a total range of about 160 miles for the 3.4 gallon tank. The reserve system Yamaha uses on several of its motorcycles is slick—a handlebar-mounted switch lets you click the electric fuel pump into reserve without taking your eyes off the road. The rest of the switches on the Fazer's handlebars are standard fare, and the easy-to-read speedometer and tachometer have white faces with black and red numbers. A light panel mounted widthwise on the front of the ersatz gas tank houses the coolant gauge and indicator lights. Though its glass is tinted and it looks high-tech, if you wear a full-face helmet you'll have to take your eyes off the road to monitor it.

The Fazer offers blistering street performance, in some circumstances enough to match or even beat the FZ750's, for \$1,100 less money. But with its tight seating accommodations, smallish fuel tank, bodywork that hates soft luggage and taut suspension, it shouldn't be run against proven sport-touring machines in a comfort and convenience race. The Fazer *does* have a special niche. If you can't handle the awesome power and price tag of the V-Max, and you don't like the narrow focus ergonomics of the FZ750, at \$3,499 the Fazer gives you a blend of both while making its own unique statement. □

1986 Yamaha Fazer

Retail Price:\$3,499
Warranty:12 mos., unlmtd. miles
Service Interval:600, then every 3,800 miles

Engine

Type:Transverse, inline 4 cyl.
Displacement:698cc
Bore & Stroke:68.0 × 48.0mm
Valve Train:DOHC, 5 valves per cyl.
Carburetion:Mikuni downdraft
BS34mm CV × 4
Lubrication System:Wet sump, 3.7 qt.
Ignition:Transistor controlled
No. of Gears:6
Final Drive:530 O-ring chain, 2.75 :1

Electrical

Charging Output:N/A
Battery:12V 14AH

Chassis

Frame:Square-section steel, double cradle
Suspension, front:Telescopic, adj. air press.

rear:Dual shocks, adj. spring preload
Brakes, front:Dual discs
rear:Single disc
Wheels, front:2.50 × 16 in.
rear:3.00 × 15 in.
Tires, front:110/90 V16
rear:140/90 V15
Wheelbase:59.8 in.
Seat Height:29.5 in.
Wet Weight:492 lbs.
Load Capacity:488 lbs.
GVWR:980 lbs.

Touring Performance

Fuel Capacity:3.4 gals.
Gals to Reserve:2.6
Average MPG:47.6
Range to Reserve:124 miles
RPM at 60 MPH:Indicated 4,400

Instruments

Speedometer, odometer, tripmeter, tachometer, water temp. gauge; indicator lights for turn signals, neutral, high beam; warning lights for low oil level, low fuel