

10 BEST BUYS IN MOTORCYCLING

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\$1.25

In Canada
\$1.50



APRIL 1980

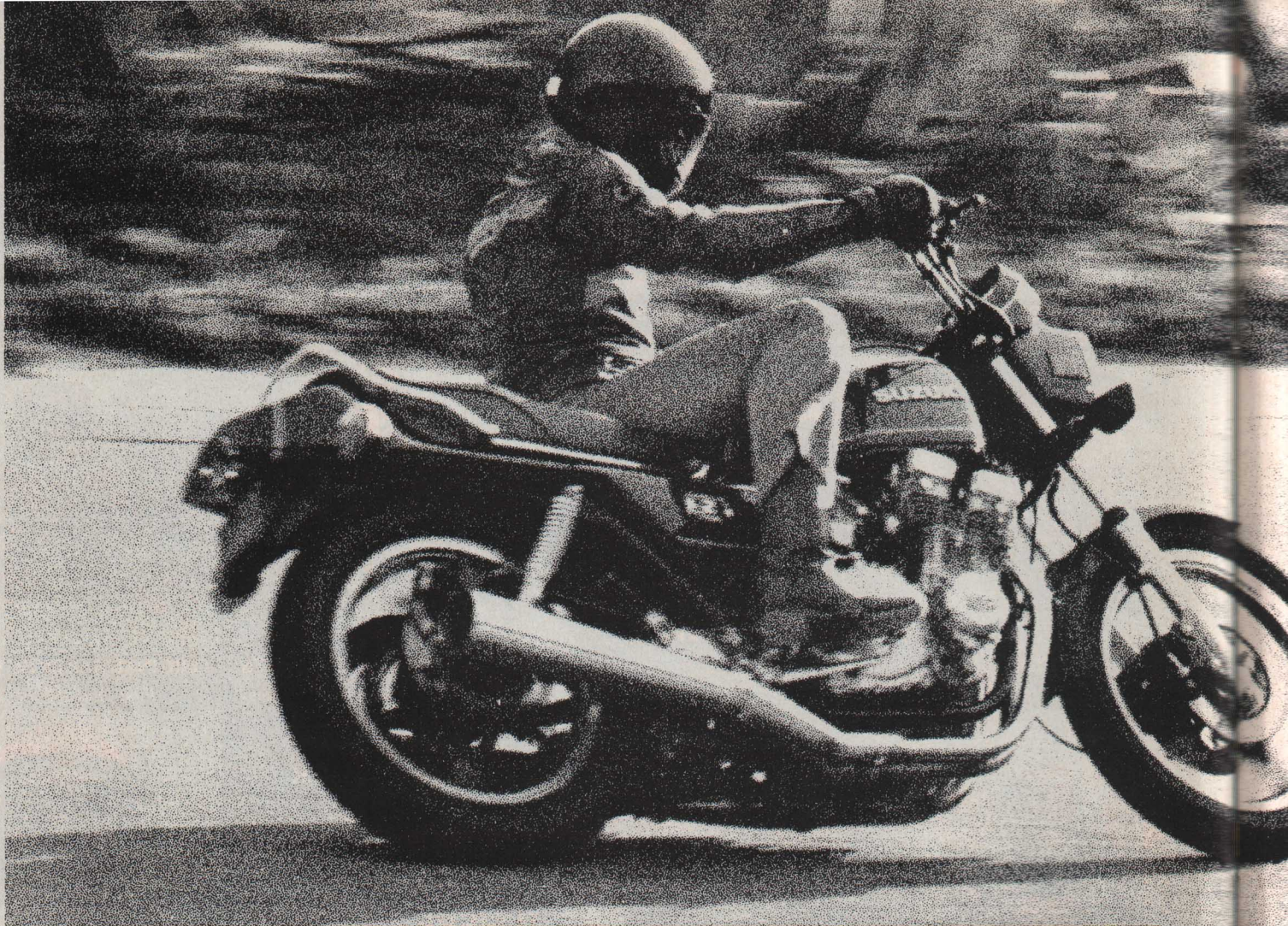
**NEW 16-VALVE
SUZUKI 750s:
Chopper & Charger**

**YAMAHA IT425
Endurocrosser**

**How To:
WHEEL
BEARINGS**



**Bimota/Suzuki Kit Bike
Prices On The '80 Models**





Suzuki's original GS750 lasted just three years. It was respected and feared by the competition. It was fast, handled well, toured well and held up terrifically. In no way had it begun to age, yet all of a sudden it has been replaced by a new, totally redesigned machine bearing the same designation. What is this new GS750? A stronger challenger to the swift, precise Honda CB750F? A slightly smaller version of the immensely powerful, ultra-trick Suzuki GS1100E?

At first glance the new 16-valve GS750E does appear to be a direct challenger to the Honda CB750, and it is. The GS shares not only the same displacement category but a similar DOHC, four-valve-per-cylinder, four-cylinder engine as well. The Suzuki's lines indicate the same sports/touring orientation as the Honda 750F and the two perform very similarly. Although there seems to be a Universal Japanese 750 developing here, there are significant differences between CB and GS.

It's also possible to view the GS750E as a down-sized version of the Suzuki GS1100E, the missile we test-flew last month in company with Honda's CBX six. Both the GS1100 and the GS750 are new from the ground up this year. They share virtually identical styling and the same basic engine design with one important exception. The 1100 has the roll-

er bearing crankshaft employed in most previous Suzukis, but this 750 is one of the first Suzukis to come with a plain-bearing crank. A closer look shows certain detail accouterments fitted to the 1100 which have been left off the GS750. The smaller four doesn't have the 1100's adjustable shock damping, aluminum swingarm, special warning light panel on the dash, self-canceling turnsignals or adjustable front fork. Although it has a leading-axle Kayaba fork like the 1100's, the GS750 has smaller fork tubes (35mm instead of 37mm), no rebound damping adjustment, no spring preload feature and isn't fitted with air caps. This mild cost-cutting program doesn't leave the bike looking or feeling stripped; it still boasts cast wheels, triple discs, digital gear indicator, a modern dash with a fuel gauge, dual-bulb taillight, rectangular H-4 headlight and electronic ignition. However, Suzuki whittled the price down to \$2799, \$900 less than the GS1100E, \$50 less than the Honda and only \$30 more than last year's eight-valve GS750.

Like the 1100 engine, the 747cc engine has Suzuki's patented Twin Swirl Combustion Chamber (TSCC) design. This system uses a flat-top piston (to prevent the piston crown from interfering with the flow of mixture gases), steep valve angles and a very shallow combustion chamber to keep the compression ratio high. The

SUZUKI GS750E

Abandoning a perfectly good eight-valve 750, Suzuki made a raft of changes and came up with a 16-valver with simplified maintenance, a new look and much less cornering clearance.

PHOTOGRAPHY: DALE BOLLER, ART FRIEDMAN, KEN VREEKE, JOHN GATES

combustion chamber is shaped to promote and accelerate the normal (to a four-valve combustion chamber) twin swirls of incoming mixture during intake and compression. This exposes the maximum possible amount of mixture to the centrally located spark plug, thereby permitting quick and thorough combustion. Suzuki claims that this increases power above the levels possible in other four-valve designs and sends less unburnt mixture out the exhaust.

We can't vouch for the thoroughness of combustion, but Suzuki's GS750 with its TSCC design demonstrated no particular power advantage over the Honda CB750F with its "Pentroof" four-valve combustion chambers. The 552-pound Suzuki turned a 12.51-second quarter-mile, while the 543-pound Honda went the distance in 12.46 seconds.

Like all other 1980 GS-series motorcycles and most other street bikes the GS750 has constant-velocity carburetors, in this case with 32mm venturis (6.0mm bigger than the slide-needle instruments used on the old GS750). CV carbs have become popular as a method of dealing with the EPA-mandated lean fuel mixtures. The CVs lessen the hesitation associated with lean mixtures during

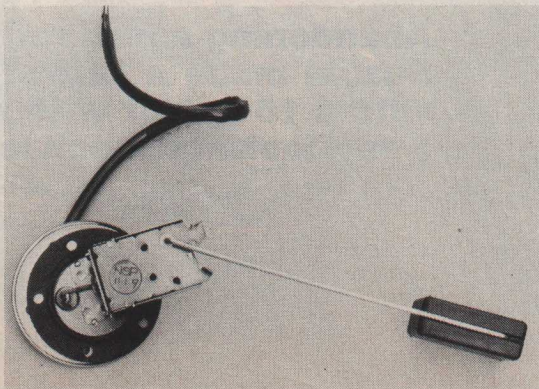
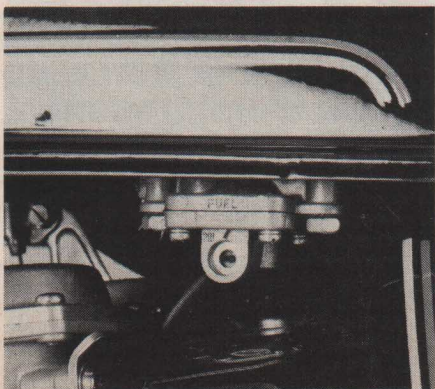
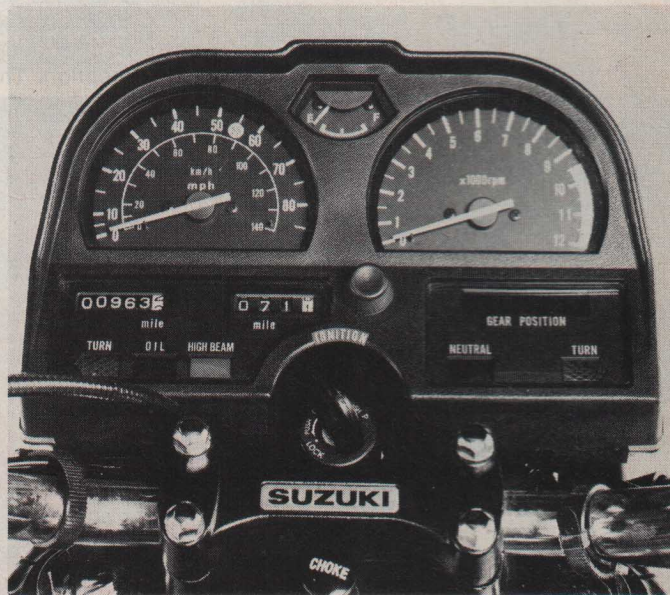
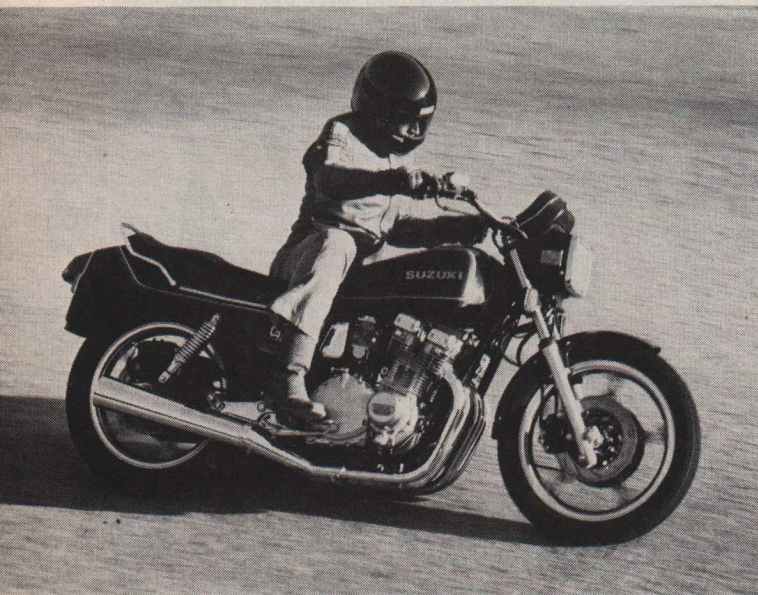
warm-up because the vacuum-operated throttle slides don't open until the engine is ready for more throttle. This also permits the use of larger carbs without sacrificing mid-range power and throttle response. There's just one problem with CV carburetors; they respond abruptly and make the bike lurch unless the throttle setting is changed smoothly and gradually. The GS750 is a little worse than average in this last respect. The uneven throttle response combined with a bit of drivetrain lash causes some awkwardness when opening the throttle in low-gear corners or in stop-and-go traffic. Some of the abruptness might be eliminated by using an accelerator pump as some other companies have, but that would also drop the GS750's mileage below our 41.3 mpg.

Something we noticed on the GS1100 which showed up again on the 750 was a weak spot in the powerband just off idle. The engine would bog if we tried to pull away from a stop with a minimum of throttle. We never actually stalled the bike, thanks to a light, progressive clutch. We adjusted for this flat spot by using just a little more throttle than normal in easy, slow starts. The GS750 pulled strongly through the

rest of its powerband and shifted positively but not especially smoothly. Neutral was occasionally elusive and required a careful touch to locate.

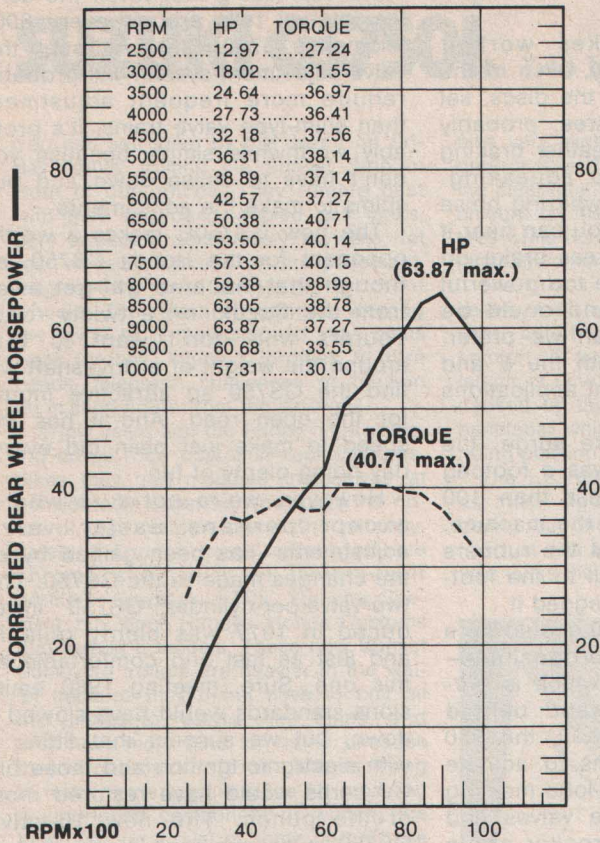
Plain-bearing crankshafts like the one used in the GS750 are one piece, unlike the roller-bearing cranks used in most other Suzukis which are assembled by pressing the shafts and flywheels together. The advantage of one-piece cranks (which are by far the more common type) is that they can't shift as roller cranks sometimes do under pressure, causing vibration. The GS750 was noticeably smoother than the GS1100, especially during acceleration and at high rpm. It may have nothing to do with crankshaft type, but this 750 was particularly smooth.

Smoothness is just one of the qualities which will endear the new GS750E to tourers. The riding position and handlebar shape are comfortable too. The only shortcoming is the slightly firm seat, which may gnaw at you a little before you've used up the tank's 200-mile range. The suspension is definitely touring oriented with generous wheel travel and cushy springing to give a plush ride under all conditions except with a passenger, when the shocks sometimes bottom. This year's new GS

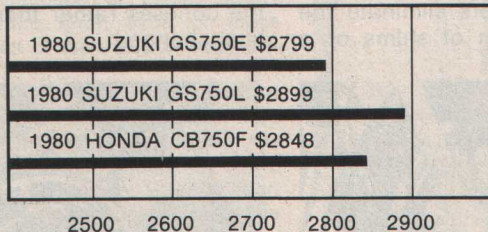


Like some other new Suzukis, the GS750 relies on its fuel gauge (above) to warn of low fuel levels. There is no longer a reserve system or even a petcock (far left). The fuel gauge gets its information from a sending unit (near left) inside the tank. As the float on the end of the long stalk changes position with fuel level, it changes the resistance in the electronic box at the other end of the stalk. The float doesn't start moving until a few quarts are used and bottoms out before the gas tank is completely drained of fuel.

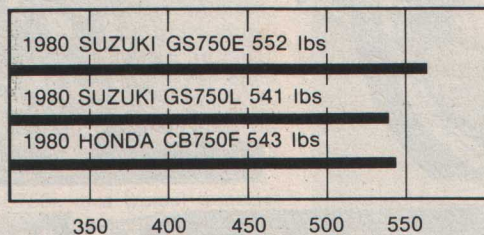
SUZUKI GS750E



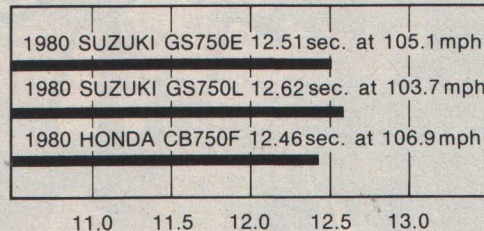
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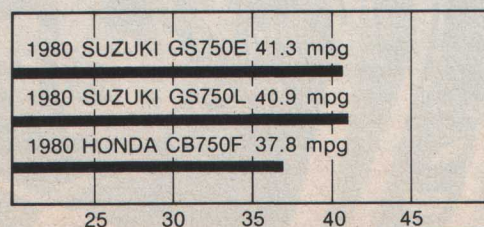
WET WEIGHT



QUARTER-MILE



AVERAGE FUEL CONSUMPTION



Suggested retail price.....\$2799
 Warranty.....12 month, unlimited miles
 Number of U.S. dealers.....1450
 Cost of shop manual.....None available

ENGINE

Type.....Four-stroke DOHC four
 Displacement.....747.3cc
 Bore x stroke.....67 x 53mm
 Compression.....9.4:1
 Carburetion.....4, 32mm Mikuni CV
 Ignition.....Transistorized pointless
 Lubrication.....Wet sump, trochoidal pump
 Lighting output.....230 watts
 Battery.....12V, 14AH

DRIVETRAIN

Primary transmission.....Helical gears, 2.162:1
 Clutch.....16 plates, wet
 Final drive..... $\frac{3}{4}$ x $\frac{3}{8}$ (No. 630) D.I.D. endless chain, 41/15,

CHASSIS

Fork.....35mm Kayaba, 5.9 in. travel
 Shocks.....Kayaba, 4.2 in. wheel travel
 Front tire.....3.25H19 Bridgestone Mag Mopus L303
 Rear tire.....4.00H18 Bridgestone Mag Mopus S714
 Rake/trail.....28° / 4.06 in. (103mm)
 Wheelbase.....60.2 in. (1530mm)
 Seat height.....32.0 in. (813mm)
 Ground clearance.....5.6 in. (142mm)
 Fuel capacity.....5.0 gal. (19 liters)
 Wet weight.....552 lbs. (250kg)
 GVWR.....1026 lbs. (465kg)
 Colors.....Silver, red
 Instruments.....Speedo, odometer, resettable

tripmeter, tach, fuel gauge, gear position indicator; indicator lights for left turnsignal, right turnsignal, low oil pressure, high beam, and neutral

PERFORMANCE

Power to weight ratio, unladen.....8.6 lbs./hp
 Fuel consumption.....36 to 44 mpg, 41.3 mpg average
 Average touring range.....206 miles
 Quarter-mile.....12.51 sec. at 105.1 mph
 Top gear 50-mph pass, terminal speed.....75.1 mph
 RPM at 60 mph in top gear.....4500
 Speed in gears at (redline).....(9500) 1st 47 mph;
 2nd 68 mph; 3rd 88 mph;
 4th 108 mph; 5th 126 mph
 Speedometer error.....30 mph, actual 29 mph
 60 mph, actual 58 mph

models seem to be even more softly sprung than earlier GS-series machines, already soft.

If your riding is oriented less to superhighways and more towards charging the corners on a favorite stretch of back-road chicanery, you may find the GS750's suspension too soft, especially at the rear. Although you may also wish for a bit more damping, the soft springing is more of a drawback because it allows you to use up all of the GS750's limited cornering clearance in a hurry. One tester grounded something just making an easy turn into a driveway with a passenger. When riding solo, bits of the underside are dragging long before the tires have begun to consider slipping.

That isn't to say that we liked the Bridgestones because we didn't. Actually, the front one was quite acceptable, but the rear one inspired no particular confidence on wet or dry pavement. In fact, the tires on the E model didn't stick or track quite as well as the IRCs on the GS750L we had for the accompanying impression. Most Suzuki street machines come with IRCs on some bikes of any particular model and Bridgestones on other examples of the same model. As we found out with our GS450s, the IRCs can improve steering and handling significantly. However, even with the

'Stones, the GS750 was stable and reasonably accurate.

The GS750's brakes worked strongly and predictably, even in the rain. The oval holes in the discs, set in rows of two and three, probably contribute to the wet-weather braking quality and help stop squeaking. They do make a slight whirring noise during braking, which you can hear if you listen for it. The rear brake on our E model was a little too powerful for the Bridgestone and could be locked a bit easier than we prefer. The rear brakes on both the E and the L surged during light applications at low speeds.

Aside from that brake surge, the only problem we had was a footpeg rubber which fell off less than 100 miles after we received the machine. The problem is just that the rubbers aren't attached very well to the footpegs. We never even dragged it.

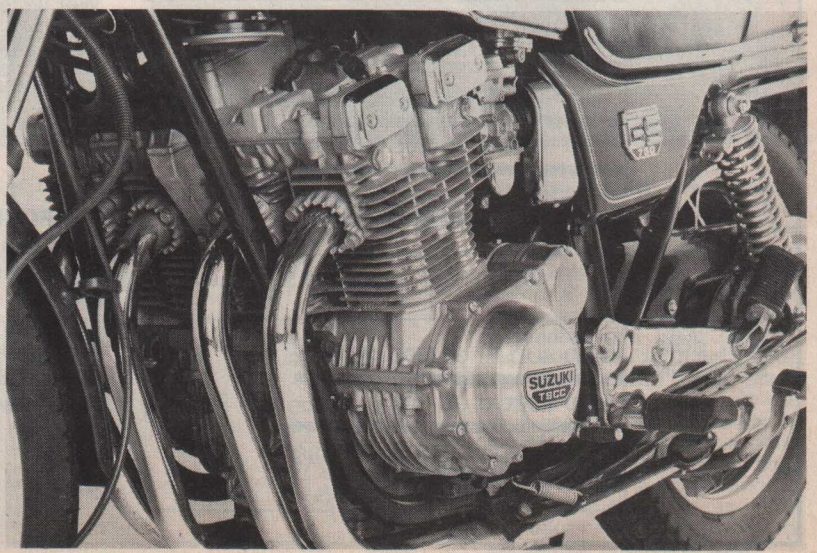
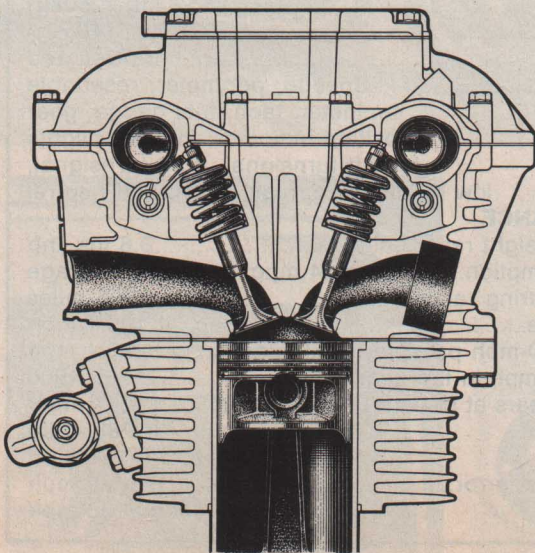
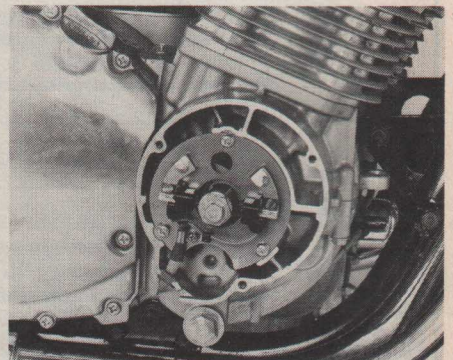
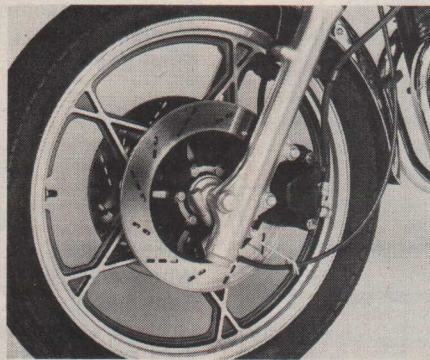
Maintaining the GS750 should be a fairly straightforward proposition—except for the battery, which is buried under the airbox and behind electrics. Like the GS1100, the 750 uses forked rocker arms to actuate the valves with the cam lobe meeting the rocker between the valves and the rocker shaft. The rocker arm's fingers contact the valve stems through threaded adjustable tappets. The threaded adjusters eliminate the need for a collection of shims or a

valve depressing tool when the service interval rolls around every 6000 kilometers (3750 miles). Although this valve-adjustment system will probably require more frequent adjustment than shim-type valve trains, it's probably worthwhile simply because you don't have to chase down and buy shims to make the adjustments.

The new GS750E makes a worthy opponent for the Honda CB750, although that machine will get away from the Suzuki on a twisty road. Tourers who don't want to tote around the weight of a driveshaft will find the GS750 an attractive mount for the open road. And it has the speed to make just plain old everyday riding plenty of fun.

However, we're not sure what—except perhaps easier valve adjustments—has been gained by all the changes made to the GS750. The two-valve-per-cylinder GS750 introduced in 1977 was plenty reliable and just as fast and comfortable as this one. Sure, meeting 1980 emissions standards would have slowed it down, but we suspect that fitting it with electronic ignition and those big CV carbs would have restored most of the punch. The new 16-valve GS750 is an exciting, likable motorcycle, although the added complication seems more like keeping up with the Joneses rather than purely practical change. **M**

Cast wheels (right) and electronic ignition (far right) are stock on all GS models now. The ignition (which includes a black box) can be fitted to some older models. Suzuki claims their TSCC cylinder-head design (below) boosts power, improves throttle response, reduces detonation, lets the valves run cooler, reduces valve weight (even more than a conventional four-valve head) and lowers valve gear mass center. It's easier to service even with more parts.



SUZUKI GS750L

Two hundred dollars worth of extra flash.

You can see them by the dozen on Friday nights, trolling the Sunset Strip in front of our offices. They rumble past with their tiny candy-applied gas tanks, bars swooping audaciously skyward, fat rear wheels crouched on the pavement, long-looking forks stretching for front wheels. The riders sit upright, viewing the world as if their stepped vinyl seats were thrones, blipping throttles to turn heads, telegraph challenges or beckon an inviting figure from the sidewalk.

A few years ago the Friday night cruising corps rode customs—real customs, bikes they had modified themselves at considerable expense. Nowadays the riders of real customs are in the minority. Lately the neon signs reflect off the chrome and polish of factory-built profilers—Kawasaki LTDs, Yamaha Specials, box-stock Harleys, Honda Customs and Suzuki L models. These new Sunset Boulevard trollers are heavier in the wallet because they didn't have to buy all the pieces to restyle their bikes, and they have more time for riding because they're not stuck in their garages trying to make some special piece fit, repairing a jury-rigged component or waiting the long-overdue arrival of some part. These riders of off-the-rack "customs" have made the motorcycle manufacturers rich by buying boatloads of these factory choppers—which fetch \$100 or more over the prices of their less swoopy sister models.

Suzuki was one of the last to start building their own ready-made soft-core choppers, but then they got into it at full throttle. Every standard model, from the GS450 twin to the mighty GS1100 four, now has an L-model counterpart. In the case of the GS1000, which now comes in chain-drive and shaft-drive versions, there are L models of both types. Suzuki's formula for styling the Ls is much more standardized than any other company's chopper-look approach. As a result, the Ls bear much more family resemblance than any other company's ready-made customs.

The new GS750L is a typical L-model conversion. It uses the same engine and basic chassis as the new GS750E and costs \$200 more. Most of the functional pieces are the same on both models. The L's drive train is changed by the substitution of a fat (130/90) 16-inch rear tire on a wide (2.75) cast wheel. To compensate for the smaller rear tire, Suzuki raised the gearing by dropping the rear wheel sprocket one tooth to 40 teeth. The only other change made to the power train components are shortened mufflers. With these changes, the L model is just a hair slower than the E. On the same day with the same rider, it ran a 12.62-second, 103.9-mph quarter-mile. In all other respects, its power-producing pieces acted just the same as the E's. However, with its smaller 4.0-gallon fuel tank, it has less range than the E.

The lower rear axle height tilts the

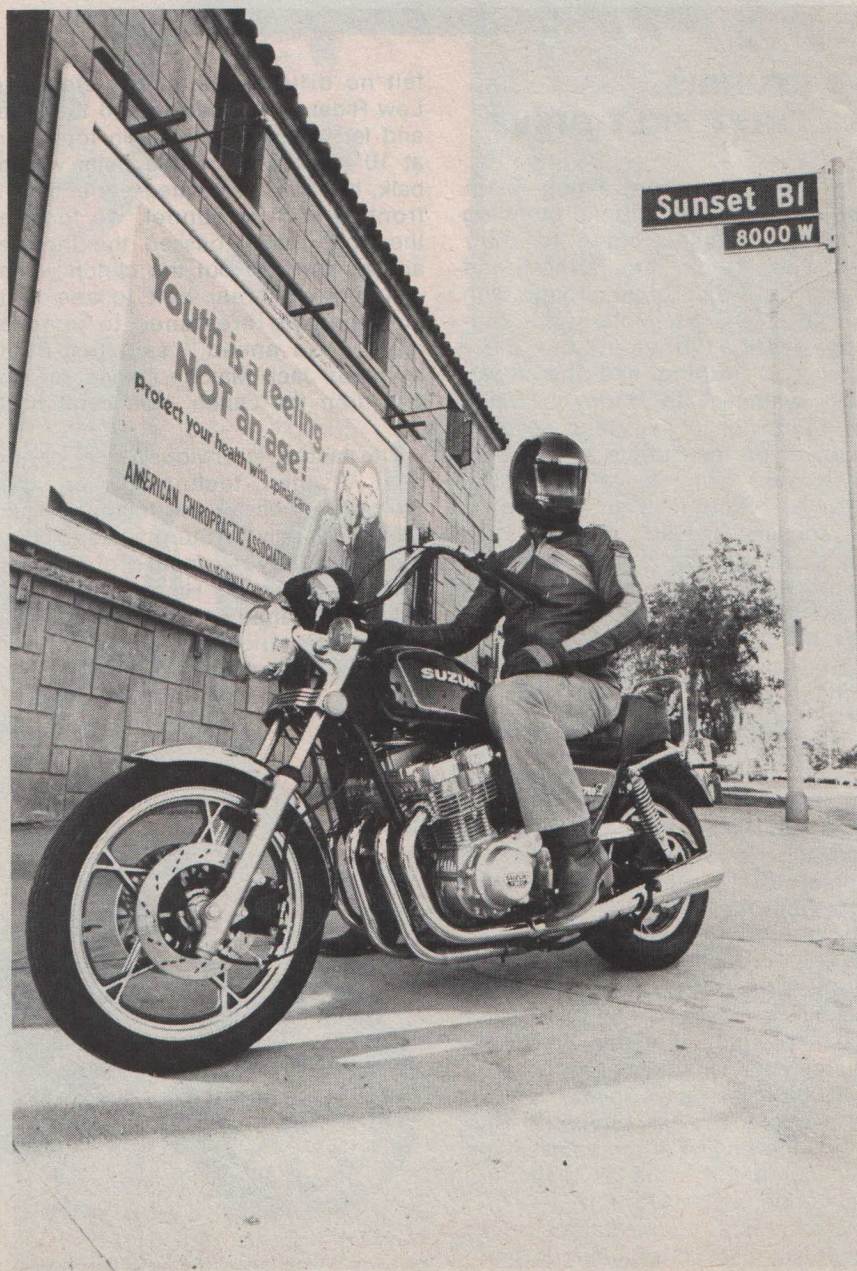
bike very slightly, giving it an extra degree of rake. The L also has less cornering clearance than the somewhat sparse amount on the E. We did prefer the L's tires while cornering. Handling is not significantly different otherwise.

The rider's portion of this year's seat seems a bit roomier than last year's L seat, but it was still too cramped for comfort if we rode the bike for any length of time. Part of the crowding was caused by the high, wide, pulled-back handlebar which forced a somewhat stiff riding position.

The L's round H-4 headlight puts out as much light as the E's rectangular beam, but the chopper's little taillight has just one bulb instead of two. The L also lacks the E's small storage compart-

ment. The instrument panel is different but has the same instruments including gear indicator and fuel gauge. The fuel gauge is necessary because, like the E and many other 1980 Suzukis, the 750L has no reserve fuel system. The rest of the changes are just styling—different turn signals (chrome instead of black), chrome fenders and chain guard, no tail section, different footpegs, etc. However, the L's dry weight is 7 pounds less than the E's. The difference grows to 11 pounds when they're both weighed wet.

From a purely functional standpoint, it's hard to justify the extra two bills you have to cough up to get a GS750L instead of an E. But if the L's style is what you're intent on ending up with, it would cost a lot more to do it yourself.



PHOTOGRAPHY: ART FRIEDMAN, JOHN GATES