





If you've decided that Enough is Enough, Honda has a great deal for you: the CB650, a new/old four cylinder that's a class Best Buy.

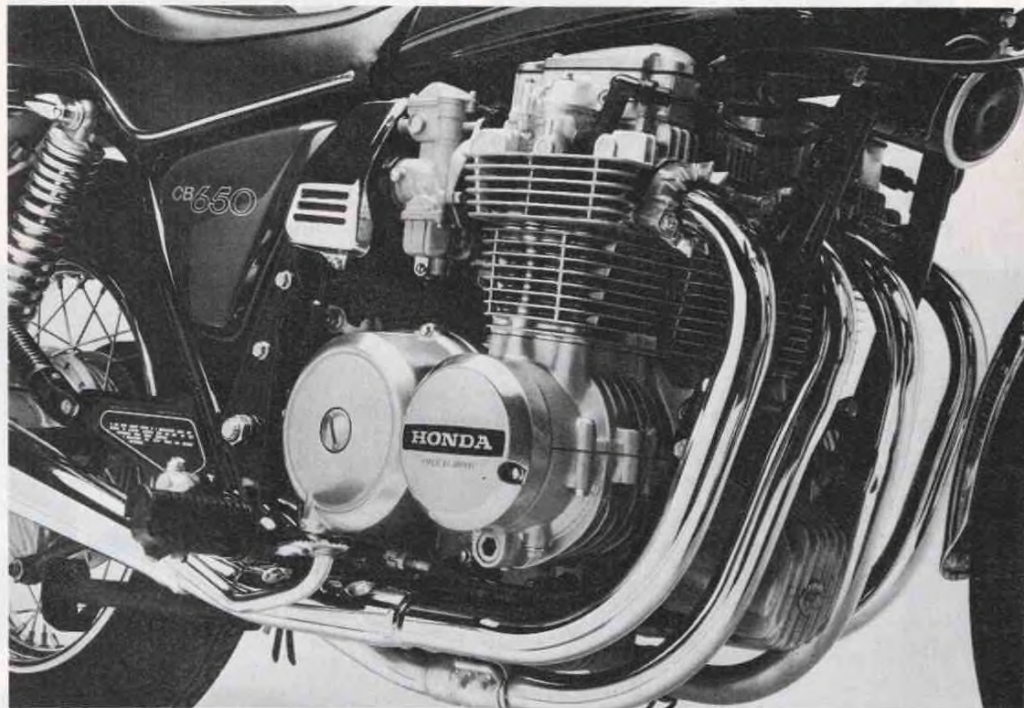
# HONDA CB650

● BIGGER IS BETTER. THE MORE, THE merrier. Ain't no substitute for cubes. These axioms and others like them epitomize what has been the American outlook for the past 200 years. The belief that Biggest Is Best has been reflected in many things American, in examples as diverse as the doctrine of Manifest Destiny and the Cadillac Eldorado.

But recently, American consumers have been jolted into realizing that there are limits to things, that non-renewable resources really are non-renewable. We actually might run out of oil, and even our talented and ingenious scientists can't stuff dinosaurs into the ground to make more. And so a new rallying cry can be heard coming from even the most staid of circles, an idea blessed with a considerable amount of sense: Enough Is Enough.

Exercising moderation in the selection of street motorcycles will inevitably lead to the 550/650 class. Smaller bikes like 250cc and 400cc twins make up the entry-level offerings and stress economy, low cost and light weight at some expense in terms of power and comfort. The 750cc and 1000cc-plus roadburners offer unsurpassed performance and dizzying sophistication, but these treats are wrapped in big, heavy packages tagged with big, heavy prices. All of the manufacturers realize this and promote their mid-sized bikes accordingly. Honda pulls the old one-upmanship trick in this respect, offering both the CX500 twin and the CB650, but the four-cylinder bike draws more attention from first-time buyers.

The CB650 draws more entry-level customers than the innovative but odd-appearing CX for one main reason: it's a UJM, a Universal Japanese Motorcycle. Today's first-time riders belong to the "Honda Generation"; thus their attraction to UJMs is only natural. Being a multi helps the 650's image—all "real" UJMs are multis (a vestige of the bigger is better philosophy)—but in truth the Honda looks like a UJM because it *is* one through and through. Its roots reach back to the 1971 CB500 Four, a bike which



PHOTOGRAPHY: DAVE HAWKINS, ROBIN RIGGS, JOHN STEIN

helped establish the original definition. The CB500 begat the CB550, and CB650s are now being produced from a modification of what was once the CB550 production line. This use of existing tooling helps to lower production costs of the latest model, creating a savings that in theory should be passed on to the customer.

Happily, with the CB650 this proposed cost reduction at the factory does flower into genuine savings in the showroom. When introduced last year, the CB650 came in one model only, priced at a low \$2448. This year the CB650 comes also in a Custom version with four-into-four pipes, longer fork tubes, pull-back handlebar and Comstar wheels, including a 16-inch rear in place of last year's 17-inch rear wheel.

Our standard-version test bike retails at \$2298, drastically below any competitor's 650cc four-cylinder bike. To cut costs in the 1980 standard bike Honda

has omitted the fine composite Comstars, which excludes the use of tubeless tires. This is one compromise we'd rather not see. But otherwise the CB650 is very complete. It's priced \$351 under the lowest-priced Kawasaki 650, and the XJ650 Yamaha, which debuted in *Cycle* last month, commands \$501 more. It was this startling price difference that prompted us to name the CB650 as one of the Ten Best Buys in *Cycle's 1980 Buyers Guide*. The CB650 can hold its own even in the price war against 500/-550 class bikes: the Suzuki 550 four is priced only \$159 less than the Honda, the Kawasaki 550 four's price tag is a mere \$119 lighter and the Honda CX500 V-twin shaft retails \$200 higher than its cousin the CB650.

This year's CB650 more than holds its own at the drag strip also; it can whip all its classmates except the new Yamaha XJ650 and last year's CB650. A run-off between the '79 Honda and the new



## HONDA CB650 TEST

Maxim would have been whisker close, with the Maxim's 12.98 best clocking just shaving the Honda's 12.99-second quarter-mile time. Our 1980 CB650 could muster only a 13.41-second run, substantially slower and especially surprising since sources at Honda assure us there have been no engine alterations between the two model years.

But dynamometer measurements support our track results: 1979's horsepower and torque peaks were 49.42 and 31.88 respectively; this year's version produced only 44.27 hp and 29.20 lbs-ft. The loss of 5.15 horsepower and 2.68 lbs-ft of torque easily explains why the newer 650 is slower; tracing where the power went is another matter.

Every individual motorcycle differs slightly from others of its model, but a 10.4 per cent drop in horsepower is unusually large. It may be that we hit upon the two extremes, the proverbial lemon and cherry, but even so the difference overruns the usual limits. Such reduction in power, however, shouldn't dissuade potential owners. With the exception of

the Maxim and the '79 CB650, the 1980 CB650 not only outpowers all other 550s and 650s but virtually all other production vehicles as well. To put things in their proper perspective, this year's 650 can outrun the Porsche Turbo, the world's quickest production automobile, in a standing-start 440-yard sprint.

The power to produce such impressive results comes from an engine that is not at all new or particularly innovative. A single overhead cam is driven by a Hy-Vo-type chain and actuates only two valves per cylinder. The head contains four small troughs providing a bath of oil for each set of cam lobes. This ensures proper lubrication for the top end until oil from the pump works its way up. Combustion-chamber shape is the traditional hemi-head type, and the domed pistons are contoured to aid breathing. The Honda's 9.0:1 compression ratio is about average for 1980 bikes, and the bike proved to be easy to live with, accepting all grades of fuel without pinging. The 59.8 x 55.8mm bore and stroke produce an actual displacement of just 627cc.

The slide-type Keihin carburetors have an oval throat shape which measures

26mm across at its widest point. They are accelerator-pump assisted and carburetor cleanly, mixing air and gas without the all-too-typical stumbles in the low end that plague so many of today's ultra-lean-jetted bikes. Signs of leanness do appear, however, during cold starting. Our CB650 was difficult to start even on the warmest mornings. Mounting the choke knob on the handlebar was a wise move since it takes so much fiddling around to find the correct setting for starting. Once the engine is finally running, the choke has to be left on for several minutes or miles; shutting it off too soon will just kill the engine.

Dropping the CB650 into gear for the first time in the morning invariably produces a solid clunk and a short lurch forward, but once the cold oil is out from between the plates, the clutch works admirably. Only a one- or two-finger effort is needed to disengage the multi-plate unit, and the friction point is exceptionally wide—nice for beginners. After a series of drag-strip launches the clutch began to heat up, as would be expected, but it survived over two-dozen starts without any lasting ill-effects.

Last year the CB650 simply ran away and hid from its 650cc classmates. But the 1980 Honda is slower, which makes hide-and-seek more difficult.



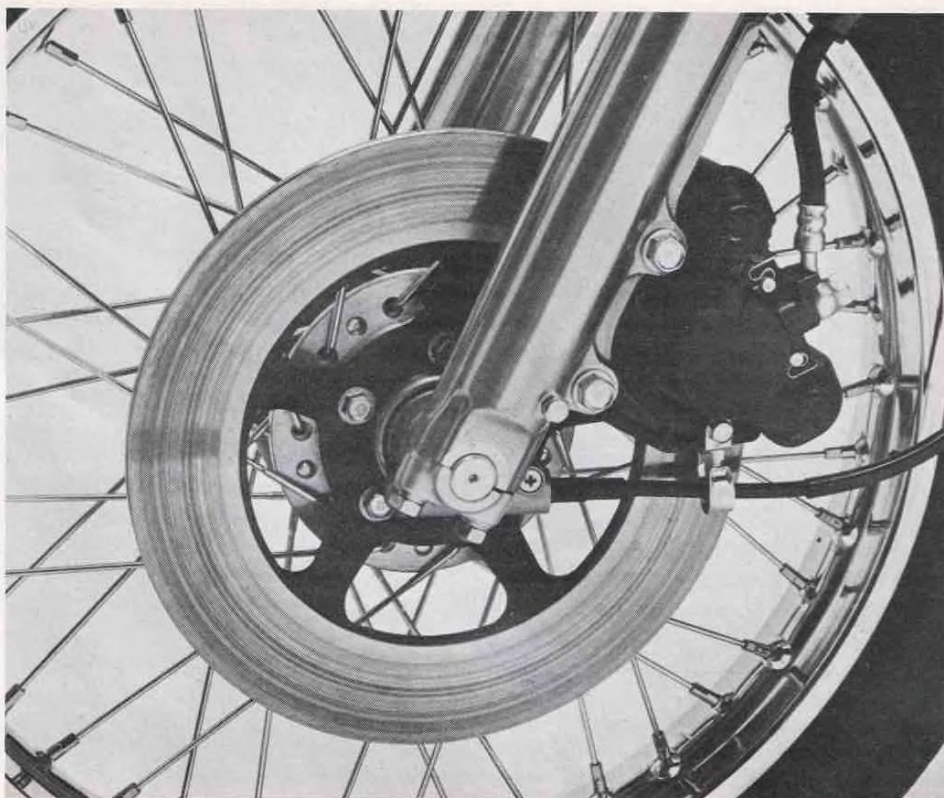


Smooth shifting is not the CB650's forte. Shift action is notchy, especially in the first two changes, and we occasionally missed shifts. Although the lever requires only a moderate amount of pressure to shift, changes must be made deliberately; an inattentive flick of the foot won't do.

It's important to master these shifting quirks if you plan to do much fast running through the hills because the engine's power characteristics demand that you really stir the gearbox. The CB holds enough power on tap for relatively easy solo freeway cruising; to cover ground quickly on winding stretches, however, its engine must be wrung out. Although the CB650 pulls well from 6000 rpm on, the definite powerband lies between 7500 rpm and redline at 9500. The powerplant likes to rev; in fact it demands that you spin it to get out of a corner in a hurry; grabbing a handful of throttle at too low an rpm level will give a lot of sound but not much fury. On a few occasions we could feel the rear end break loose, but that was most likely an effect of the just-adequate tire rather than from overwhelming power. Although the Dunlop F11 front tire and K87 rear skin are serviceable enough under average conditions, there is certainly stickier rubber available.

Handling capabilities on the backroads are commensurate to the CB650's power characteristics: it's not one of the world's best, but it is good enough to satisfy the majority of riders. Rake and trail figures, 26.8 degrees and 104mm (4.1 inches), along with a 57.5-inch wheelbase suggest that steering might be a tad on the quick side, and that's what it is. The Honda will track just as stably as you tell it to, but it reacts quickly to handlebar input and body English: if you want to pick it up and change lines, you'll find it more than ready to do so. It's not as twitchy as the Yamaha RDs, but neither can you squirm about on the seat without response from the bike. Of course, this light-handling bias helps greatly for riding around town, in parking lots and through other cramped quarters.

For non-demanding riders the CB650's suspension components are acceptable, but they're of the non-adjustable, old-school design. Under hard use handling suffers from the shocks' limp damping, and this combines with too-stiff springs to produce the classic Japanese over-sprung/under-damped syndrome which causes the bike to wobble slightly through fast sweepers. The classic treatment by canyon go-fasters is simple: chuck the stock shocks over the shoulder and bolt on aftermarket units. The fork works acceptably well in the twisties but will almost bottom under very hard braking and will bottom when going through gradual dips at high speeds. Much of the problem can be attributed to a lack of effective travel: actually there is only

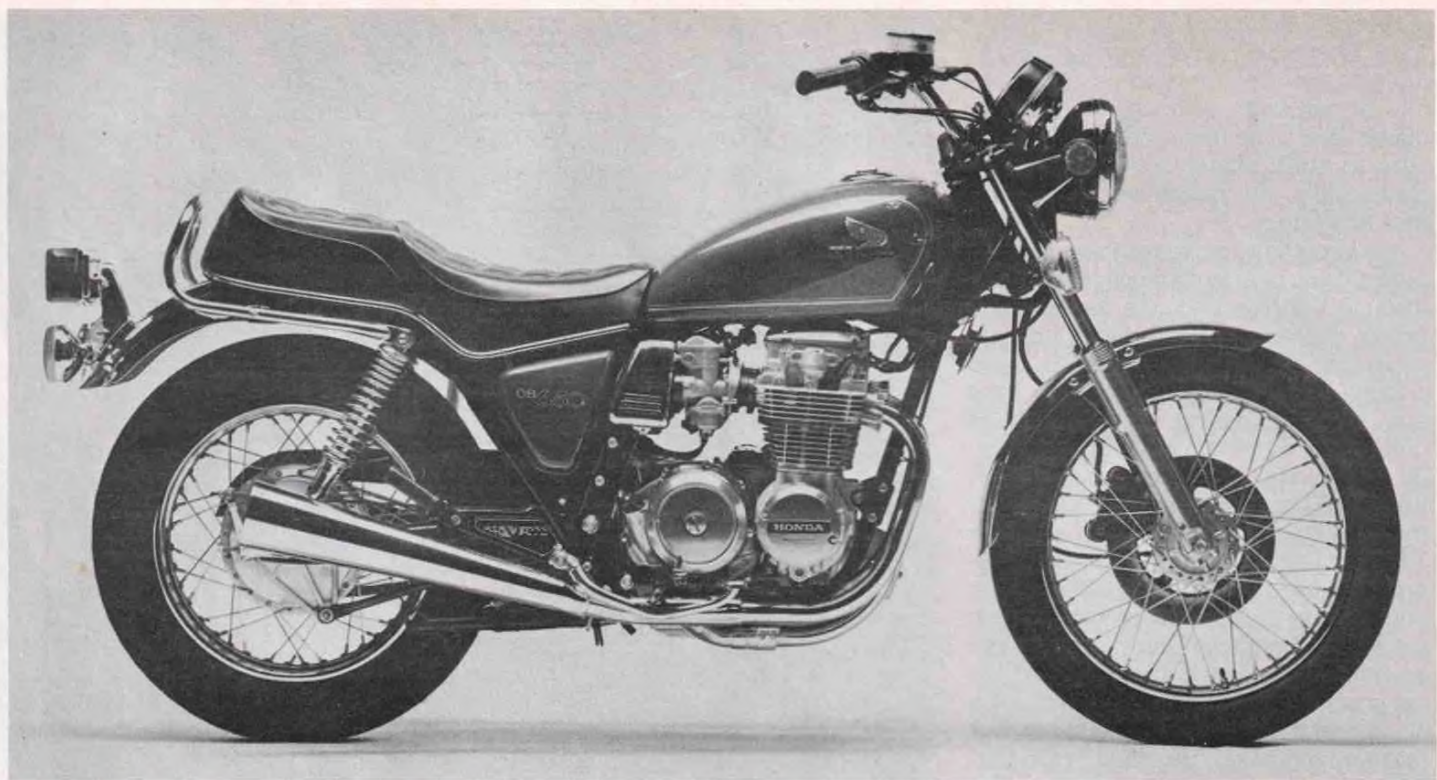


Single-disc front brake provides plenty of stopping power but requires a firm squeeze of the lever to do so.



Instruments on the CB650 reflect the Honda's basic competence; everything you need is there, without extras.





## HONDA CB650 TEST

closer to three usable inches of travel.

The front end strokes through a total of 5.3 inches, a measurement that's misleading. It seems sufficient; however, mismatched fork-spring rates drastically reduce usable travel. Springs rated at 28 lbs/inch for the first 2.3 inches of travel and 38 lbs/inch over the last three inches of movement are intended to provide a soft, supple ride which firms up with hard use. In actual practice, the weight of the bike and rider uses up the first two inches or so. That leaves only three inches at the secondary 38 lbs/inch spring rate to cope with all types of road and riding conditions. This not only limits effectiveness on backroads but on the interstate highways as well.

The fork seals are adequately stiction-free, ours having worked in well by the 1000-mile mark or so. However, the stiff secondary spring rate just isn't compliant enough: small seams and expansion joints give a choppy ride and larger bumps and holes transfer their jolts directly to the rider. Rear shock spring rates are equally stiff, yielding an overall ride which would be generously described as firm. As a result the CB650 can be ridden over long distances, but a number of bikes would be considerably more comfortable on the long haul.

This criticism of the suspension should not be taken as a condemnation of the CB650's ride and handling abilities; most potential buyers will find both to be just fine. But suspension technology has blossomed the past three years or so and older designs simply ride like older bikes. A bike recently considered a good handler now slips down into the acceptable

category. And though the new generation of bikes like the Yamaha XJ650 have wonderfully compliant rides, you must keep two points in mind: 1) they cost like new bikes, i.e., lots more, and 2) they are more difficult to ride quickly than the Honda 650 is. Serious go-fasters rarely leave suspension components stock anyway, so they will be fiddling with shocks, springs, oils and air caps. Even the larger, more expensive big bikes with adjustable suspenders need some dialing in, but of course they have greater capabilities to start with. Someday all motorcycles will come stock with good, adjustable components, and we look forward to that time.

We found the front brake to be very good in overall use. There is a nicely linear, progressive relationship between pressure at the lever and braking action, and the single-caliper setup has none of the spongy feel many disc brakes give. The brake heats up with hard downhill use, but just a bit more lever pressure compensates for the fade. One of our few complaints about the disc is the higher-than-average amount of pressure it requires at the lever. It's not an excessive amount, just a noticeable difference. We found also that under forceful braking the front tire will chatter, probably due to slight irregularities in the rotor, or possibly from the brake pads sublimating,





# HONDA CB650 TEST

causing repeated momentary losses of traction as layers of gas build up between the brake pads and the rotor.

The rear brake, a single-leading-shoe unit, performed adequately for our

needs. It's sensitive and provides good braking, but it's somewhat difficult to modulate accurately immediately before lock-up. It is, however, wider than many other rear drum brakes and resists heat-fade fairly well.

Ground clearance on the CB650

should satisfy all but the most immoderate. The pegs do touch rather easily, but that's because they're wide and equipped with Honda's usual warning tabs. This feature works well while carving around corners—the scraping peg can be used as a lean indicator. Other

Make and model ..... Honda CB650  
Price, suggested retail (as of 4/14/80) ..... \$2298

## PERFORMANCE

Standing start 1/4-mile ..... 13.41 @ 98.03  
Engine rpm @ 60 mph, top gear ..... 4791  
Average fuel consumption rate ..... 41.1 mpg (17.5 km/l)  
Cruising range, main/reserve ..... 111/37 mi.  
Load capacity (GVWR less curb weight) ..... 209.8 kg  
(462.5 lbs.)  
Maximum speed in gears @ engine redline ..... (1) 42.0,  
(2) 61.0, (3) 78.8, (4) 97.8, (5) 118.9

## ENGINE

Type ..... Four-stroke transverse four, air-cooled with  
one overhead camshaft, chain-driven  
Bore and stroke ..... 59.8 x 55.8mm (2.35 x 2.20 in.)  
Piston displacement ..... 627cc (38.2 cu. in.)  
Compression ratio ..... 9.0:1  
Carburetion ..... (4) Keihin 26mm slide-type with  
accelerator pump  
Exhaust system ..... Four into two  
Ignition ..... Battery-powered, inductive,  
magnetically triggered  
Air filtration ..... Paper element, disposable  
Oil filtration ..... Paper element, disposable  
Oil capacity ..... 3.5 liters (3.7 qts.)  
Bhp @ rpm ..... 44.27 @ 8500  
Torque @ rpm ..... 29.20 @ 7500

## TRANSMISSION

Type ..... Five-speed, constant-mesh, wet clutch  
Primary drive ..... Hy-Vo type chain, spur gears, 2.74:1  
Final drive ..... #530 DID chain, 2.50:1  
Gear ratios, overall ..... (1) 17.12 (2) 11.79 (3) 9.13  
(4) 7.36 (5) 6.05

## CHASSIS

Type ..... Twin downtube, full-cradle frame  
Suspension, front ..... Center axle, coil-spring fork  
with 135mm of travel  
rear ..... Swing arm with (2) dampers  
adjustable for pre-load with 91mm of travel  
Wheelbase ..... 1460mm (57.5 in.)  
Rake/trail ..... 26.8°/104mm (4.1 in.)  
Brake, front ..... Hydraulic, single-disc 275mm rotor  
(10.83 in.) with single-piston caliper  
rear ..... Rod-actuated drum 44 x 180mm  
(1.74 x 7.09 in.) with single-leading shoe  
Wheel, front ..... DID 19 x 1.85 steel rim  
rear ..... DID 17 x 2.50 steel rim  
Tire, front ..... 3.50 H 19 Dunlop Gold Seal F11  
rear ..... 4.50 H 17 Dunlop Gold Seal K87 Mark II  
Seat height ..... 765mm (30.1 in.)  
Ground clearance ..... 160mm (6.3 in.)  
Fuel capacity, main/reserve 10.0/3.5 liters (2.7/0.9 gal.)

Curb weight, full tank ..... 212.1 kg (467.5 lbs.)  
Test weight ..... 284.6 kg (627.6 lbs.)

## ELECTRICAL

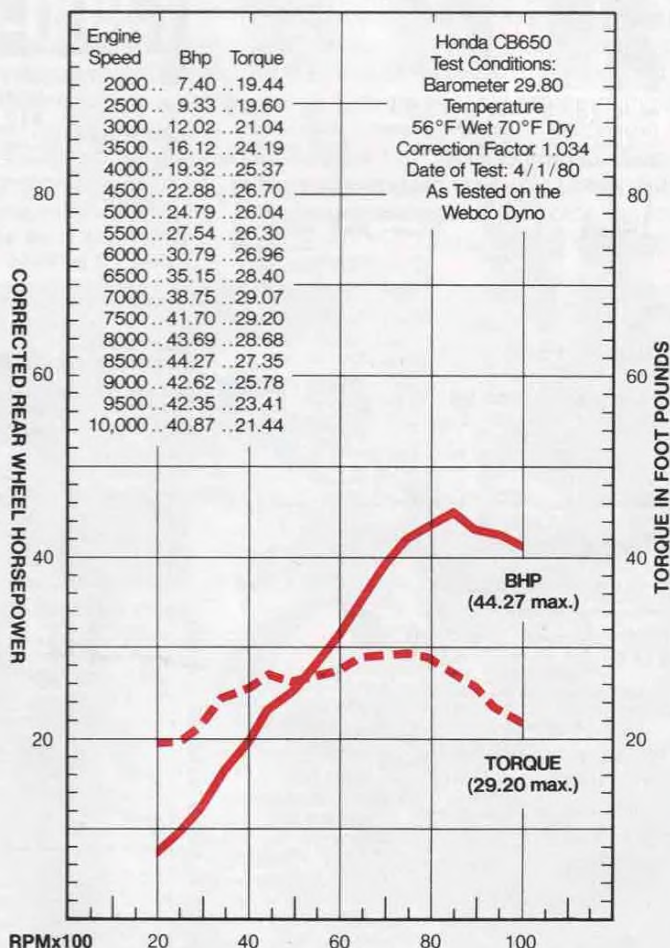
Power source ..... Three-phase alternator, 260 watts  
Charge control ..... Excess voltage shunt  
Headlight beams, high/low ..... 65/50 watts  
Tail/stop lights ..... 8/23 watts  
Battery ..... 12V 12AH

## INSTRUMENTS

Includes ..... Speedometer, odometer, tripmeter,  
tachometer with 9500 rpm redline. Indicators for  
low oil pressure, high beam, turn signals, neutral  
Speedometer error, 30 mph indicated, actual ..... 30.28  
60 mph indicated, actual ..... 59.96

## CUSTOMER SERVICE CONTACT

Customer Service Department  
American Honda Motor Co., Inc.  
100 W. Alondra Blvd.  
Gardena, California 90247  
(213) 321-8680





bits of hardware will also touch eventually: the brake pedal scrapes on the right side, the shift lever on the left. If you've worn the feeler buttons down and you're scraping these parts with regularity, you'd best perform some modifications for clearance as well as traction.

The Honda earns better-than-average comfort ratings, largely because it is styled as a traditional bike rather than a Special. The seating position suits riders measuring five-foot-10 and under; six-footers will feel somewhat cramped by a low-seat/high-peg combination. No one was particularly enamored of the firm, dual-level seat, an item shared by the 650 Custom. The step lies directly where taller riders want to sit and makes even shorter riders feel hemmed in. Also, the forward portion slopes downward slightly; it slopes less severely than the Yamaha XJ650's seat but is still mildly irritating because it slowly forces the operator forward. The handlebar fit all test-ers acceptably, although some thought it reached up and back a little too far.

be bettered easily; we just kept straying off the straight and wide pathways. The smallish 2.7-gallon main-tank capacity discourages extended trips; we could get only a little over 100 miles away before hitting reserve. Serious touring-types, who barely have the saddle warmed up in that span, won't be too happy with the Honda's range.

We found the CB650's electrics to be reliable and serviceable. A high-output 260-watt alternator keeps the 12-amp battery charged, and that's a major consideration since the 650 is another member of the electric-start-only ranks. In the transformation from 550 to 650, Honda went to lengths to tuck the alternator in as close as possible to aid cornering clearance, a touch that the hard-core canyon rowdies will appreciate.

The state-of-the-art pointless ignition system supplies sparks with a minimum of maintenance. Magnetic switching controls current to the coils instead of tried-and-true but attention-hungry breakers.

The headlight, a 65/50 watt unit, has a

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lined in the softest leather you ever felt. The solid leather sole has a fitted tap over the regular sole and is hand pegged to the underside of the arch. These boots represent all the hand crafted skills for which Frye has become famous. Sizes are 7-12 D (medium) and EE (wide). Price is \$86.95 plus \$3.00 postage and handling, and these boots are available for immediate delivery. These boots are made exclusively for us and we guarantee you will be satisfied or money back.



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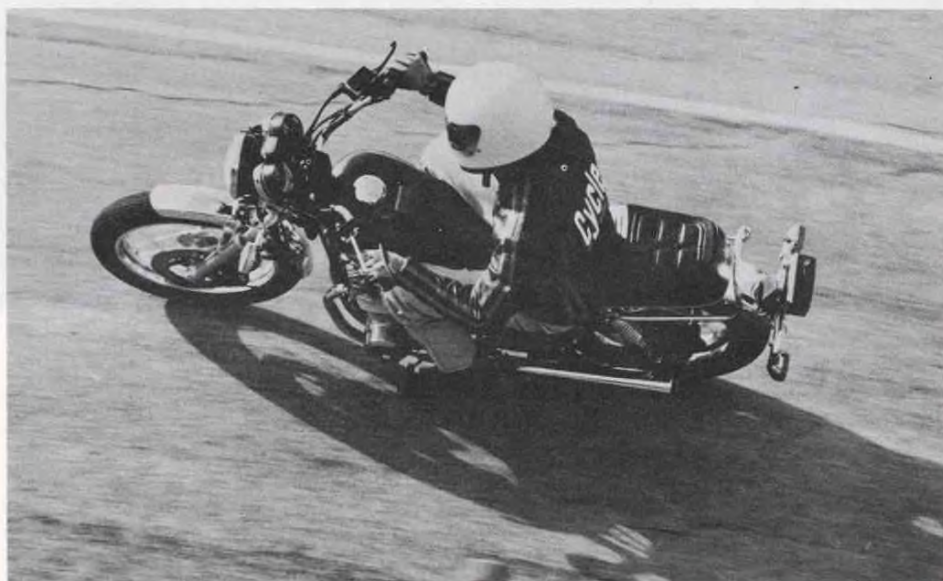
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Freeway cruising brings into focus traits not readily apparent in the heat of backroad thrashing. Engine vibration, quite acceptable at legal speed limits, increases steadily along with engine speed. Up to 5200 rpm, (65 mph in fifth gear) the CB650 runs smoothly; from 5200 to 6500 rpm an annoying tingle vibrates through the handlebar and pegs; after 6500 rpm the vibration gets serious, but since that equals 81 mph you should have other things on your mind at that point. We noticed these bad vibrations while working over the backroads, but with the rpm level constantly changing, they were only a small annoyance.

Because there's no need to keep the engine wound up so tight once on the interstate, mileage increases dramatically. Canyon riding dropped mileage to 37.8 mpg, not exactly a figure to brag about, and sedate touring milked 48.7 miles from each gallon, quite an improvement. Our 41.1 mpg overall figure could

higher rating than most other tungsten-filament sealed beams and shines both day and night. The lamp throws a wide beam, but its intensity isn't on par with quartz-halogen units. For most situations, however, it's just fine.

And so it is with the CB650 as a whole. It can do almost anything a rider could want and it does everything without excesses: in weight, power, styling or price. Some may condemn the Honda for offering little of anything; it's too small for comfortable two-up touring, it won't turn 12-second quarter-miles, it's bulkier than a 400 for quick errands, it gets worse mileage than some cars and it has wire-spoke wheels, for heaven's sake.

Sure, we agree with all these points, and we're certainly not ones to exercise moderation with motorcycles. But none of us lives in a vacuum, either; and when we look at the Honda CB650, we have to admit that, for all practical purposes, it really is Enough.