

# Harley vs. Yamaha: Duel On American Dirt

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SPECIAL  
EDITION

## CYCLE GUIDE

**SPECIAL EDITION:**  
Suspension Buyer's Guide

**CYCLE GUIDE TESTS**  
Yamaha's Slick Seca 550  
And Race-Ready IT465

**CBX vs. R100RS**

Can upstart techno-dazzle  
Beat a heritage of refinement?



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**QUOTE:**

"We'll run even up with any company from any country in the world. But not on fixed rules, which is what we have for '82. That's selling the country down the river—and we've been sold, damn it!"

—Pg. 58

**ON THE COVER:**

CBX and R100RS, the two finest sport tourers that lots of money can buy, pose for Baron Wolman's Nikon in the world's most elaborate photo studio.

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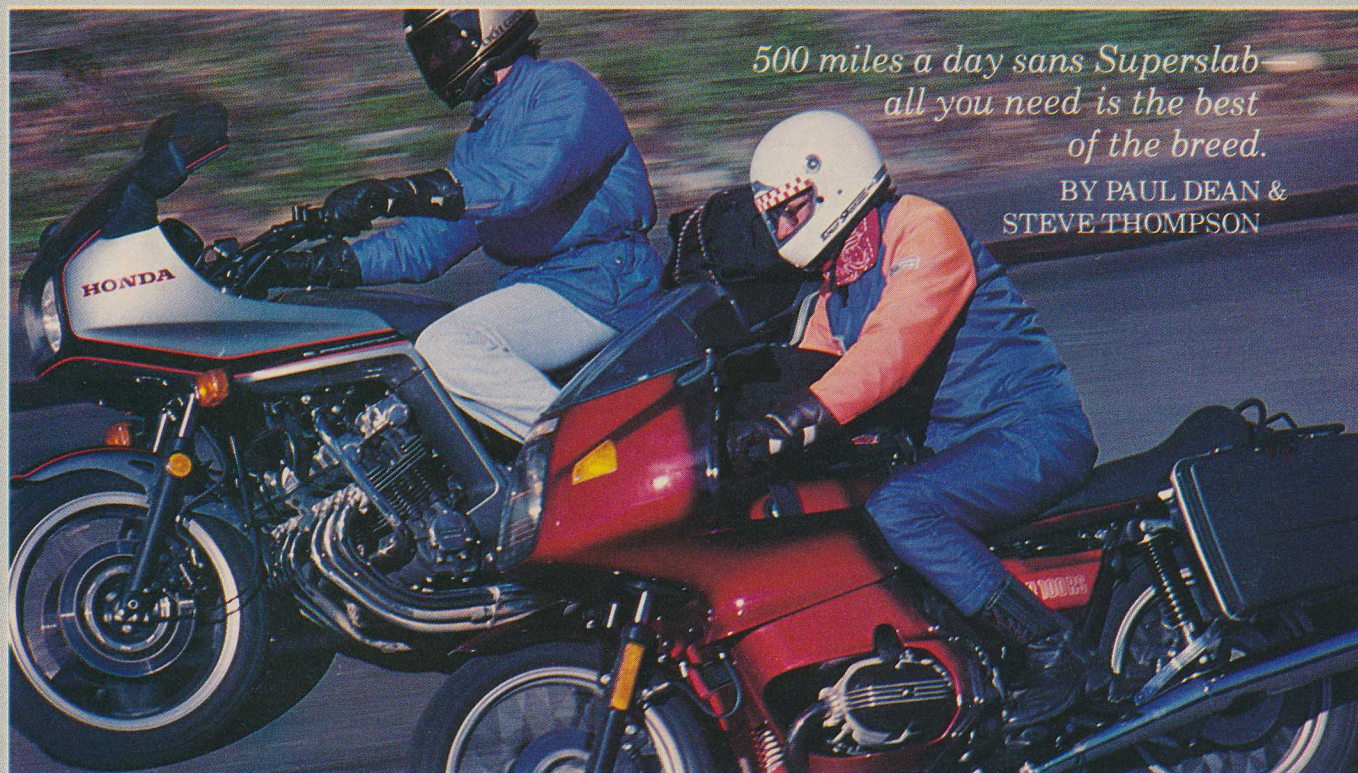
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**SPORT-TOURING COMPARISON:**

# BMW R100RS vs. Honda CBX Supersport



*500 miles a day sans Superlab—  
all you need is the best  
of the breed.*

BY PAUL DEAN &  
STEVE THOMPSON

PHOTOGRAPHY © 1981 TOM RILES

Someone once said that the difference between Touring and Sport Touring is butterflies: When you're Touring, you look *at* the butterflies. But when you're Sport Touring, you look *through* them—because they're splattered all over your windshield.

The problem with this one-liner is simple: It supposes that the main difference between the two methods of getting between Points A and B is the speed with which it's done. And speed, while important to underlining the "sport" in Sport Touring, is only part of the definition.

Other equally important qualities of the pastime are embodied in the machines faced off in this comparison test. Who can ogle the arrogant lines of the BMW R100RS and not feel, instantly, the impact of complete refinement? Or who can fail to spot, in the swoopy, spaceship-styled Honda CBX Supersport, the high-strung power of a marquee thoroughbred? It's a double-moot point; not many folks can re-

sist either. Both machines look and feel expensive—the BMW in a muted Old Money way, the CBX in the overstated manner of the highest of Hi-Tech. If these two motorcycles were watches, the BMW would be a solid gold Rolex President and the CBX would be a platinum Seiko.

But they're not watches, they're Sport Tourers. In our minds, the cream of a tiresomely small crop. One of them is best at delivering the ingredients of the Ultimate Sport Tour. And our goal was to find out which, by doing our own sport tour, 2300 miles worth. A week on the road, bags filled with only enough to sustain life at the waypoints, and a pocketful of credit cards for necessities. Another way to think of sport touring is as credit-card touring. Without the carrying capacity of a Honda Interstate, you leave for parts unknown stripped to the bare bones, carrying only plastic Clout in your wallet.

You also leave without an itinerary—

and the mental baggage it brings. We never knew, at day's end, where we'd be the next evening. All we knew was that in getting there we'd treat Interstate highways as The Enemy. Which, in this test, they were; how could we find a winning sport tourer if we stuck to roads where the only sport would be counting mile-markers?

And there *is* a winner. One of these motorcycles will go as fast as stylishly as you can stand, every day, for as long as you can twist its wick. We started out with firm ideas about which would do it best—Dean looked at the silver splendor of the CBX and instantly stamped his name on it, while I plumped for the quiet elegance of the blazing-red Beemer—and we came back with equally firm ideas about which actually did it best.

Which one was that? Well, it's a long story—but I'll give you one clue: Breeding, as always, will tell.

—Steve Thompson

Continued

# BMW R100RS

*For Sale: Genius and beauty. Serious inquiries only.*

Support touring is to me a matter of keeping a fine sense of judgment between the conflicting demands of speed and scenery. That's why I really didn't have any choice in this BMW-Honda faceoff: The BMW R100RS was *the* selection.

Call the reason a sense of breeding, if you wish to graft a horsey term onto the motorcycle world, or maybe just an aura of class, but the R100RS convinced me it had it in spades when I first saw it five years ago. Canyon racing, dragracing, supermarket runs—I knew the thing wasn't very good at any of those, but when Dean and I plunged into a European touring mode, this motorcycle snapped into focus as though seen through finest Zeiss ground glass. The fairing alone elevates the RS above the rest of the bike world, and is a kind of visual metaphor for the rest of the machine. Painstak-

ingly developed by BMW in the remorseless mathematics of the wind tunnel, its complex shape is still unmatched by anything on the road—in either function or form.

Touch 100 mph behind this cockpit and you'll know why that little fluted canard wraps around the midpoint of the fairing, or why the air cooler is sealed on its edges. The air behind it is undisturbed by the ton-up numbers, as is the rider, while the downforce aids in gluing it all to the ground. Moreover, the Lava-Red paint that graces the new RS seems to glow hypnotically; you always find a new shade to catch your eye, a new luster to delight it. Finished inside in matte black, the fairing weighs about 20 pounds and sports only two instruments on its "dashboard"—a quartz clock and a voltmeter. No pockets, no gimmicks, not even a Can-Caddy. This, says the RS fairing, is a serious motorcycle, for the serious job of sport touring.

The absence of gimmickry and the presence of such a remarkable fairing shows you that the BMW folks understand, *really* understand, what sport touring is all about. Follow the logic and you'll see why, starting with that 20-pound fairing.

It's light and simple because a sporting tour is done on twisty, unpredictable

roads. Gimmicks add weight, usually up high, where it affects transition response—and good transitions from left lean to right lean can make the difference between a fast, pleasant ride or an aching body... perhaps worse if the rider has overshot an unknown corner. In that case, the added weight of goodies on the dash could mean the difference between wrestling it around on your side of the road or confronting the grille of a station wagon on the other.

The rest of the bike follows the pattern. No engine configuration known to man is better at aiding the low *cg* desired in a flick-left-flick-right bike than the opposed twin. When BMW's familiar-but-aged design grew to its current 980cc, the mass of those cylinders became a design problem; so BMW this year lopped three pounds off of each jug by doing away with the cast-iron liners and coating the bores with its Nikasil alloy-hardening process—which, in addition to saving weight, also allows faster break-in, cooler running and, according to BMW, lower oil consumption.

Inboard from the cylinders, subtle changes reflect more understanding of the special mission of this and maybe all BMWs. While the notchy transmission has remained untouched, the clutch re-

*Continued*

# Honda CBX Supersport

*Re-thought and re-aimed at Munich's finest.*

In the two-and-a-half years that there's been a CBX, I've maintained this... this gut-wrenching love/hate relationship with it. Which is to be expected, I guess, since on the one hand I'm a hopeless hardware junkie who finds the intricacies of Honda's 24-valve DOHC Six utterly fascinating. At the same time, I'm outraged by the CBX simply because it hasn't justified its complexity by delivering superior high performance. There are faster, better-handling and more-comfortable motorcycles that are simpler and cost less. Like I said, classic love/hate fodder.

That was, of course, before the *new* CBX, the Supersport, the completely rethought sport-touring flashbike you see here. Because what Honda has more or less done with this motorcycle is to jack up the entire model designation and drive a new concept under it. (See "CBX: New destination for an old flagship," pg. 60.) And the

very instant I laid eyes on one for the first time, I felt that the CBX had at last found a segment of motorcycling in which it could rule supreme. *That*, I said to myself with 20/20 hindsight, is precisely what the bike should have been in the first place: a damn-the-torpedoes sport tourer targeted to give the high-falutin' BMW R100RS some long-overdue competition. It seemed likely, in fact, that the hallowed Beemer

would end up eating dust behind the CBX, Japan's first all-out sport tourer.

God knows, the Supersport appeared to have sufficient credentials to pull off such an ambitious feat. Wind-tunnel-designed full sport fairing; Pro-Link rising-rate rear suspension that, along with some other chassis refinements, promised to de-quirk the CBX's handling; bold, integrated styling as modern as Luke Skywalker's X-





© 1981 STEVE THOMPSON

Wing fighter; smallish, high-style detachable saddlebags; and, of course, brute, asphalt-gobbling horsepower that the chuffa-chuffa BMW couldn't even begin to match. In my mind, that seemed an exciting alternative—maybe the only *real* alternative—to BMW's conservative approach to sport touring.

Not that I'm anti-BMW. It's just that as functional and time-proven as Doktor Beemer's opposed-twin wunderbike might still be, BMW-ness had begun, for me, at least, to get *old*. I'm a typical American in that I get bored with most playthings once the new wears off; and I'm also a typical motorcyclist in that I lust after bikes that can accelerate with enough force to squash my eyeballs. So, since every BeeEm I'd

been on in recent years felt both relatively slow and just about like every other one I'd ridden, the Supersport appealed to me in a big way. It promised me newfound sport-touring exhilaration through the magic of space-age styling, contemporary technology and warp-nine performance.

It took all of about 30 seconds near our test CBX for my bubble to spring a leak, if not burst. I sat on it, rocked it from side to side, then got off and groaned it up onto its centerstand. Jeez, it felt incredibly *big!* And that impression was soon confirmed on CYCLE GUIDE's certified scales to the tune of 646 pounds—not exactly the stuff of which legendary handling is made.

I also discovered, before the CBX ever turned a wheel on our ride, that you can't

stuff much cargo into its small and irregularly shaped saddlebags. And when my Eclipse tank bag was parked atop the 6.1-gallon fuel supply, the swept-back semi-European handlebars were limited to just a few degrees of steering movement. So to avoid having a Scenicruiser-class turning radius on this behemobike, I just bungied the bag onto the back of the seat. So much of ideal sport-riding weight distribution and easy roadmap access.

What's more, the CBX's ludicrous blister-pack toolkit, standard fare on Japanese bikes, falls far short of the BMW's in every way. It consists of an inexpensive vinyl bag that's *just* big enough to house a low-buck and incomplete tool assortment that must be crammed into a small, non-

*Continued*

## BMW R100RS

ceived special attention, both to ease its operation and to lighten it. The former comes by way of a redesigned throw-out arm and added support for the clutch pushrod, and the latter by shaving a whopping seven pounds off the clutch's weight. The factory claims a 30-percent reduction in actuation effort and better throttle response, and, while human hands may not be able to quantify it, the effort *is* reduced and the changed flywheel effect instantly noticeable; rev this Beemer and it evidences none of the previous bike's hesitancy in altering rpm.

The EPA hasn't made it easy. In 1980, BMW met the rigorous emissions regs with an air-suction system (something like Kawasaki's) to inject air into the exhaust ports on demand. Key to the theory were reed valves in the airbox, and last year's experience showed the system to be basically sound, with the occasional exception of a popping in the exhaust pipes caused by too-small reeds. Hence a retrofit for '80 and bigger reeds in '81, and the addition of electronic ignition and a second crossover pipe in the exhaust system, which the factory says merits comparison to a Honda-



© 1981 BARON WOLMAN

style "power chamber."

Concern for weight also drove the engineers to redesign the rear-axle housing. They die-cast the new one smaller, and with more webbing and an integral filler neck. Small changes, admittedly, much like the switch this year from a pinched-in driveshaft tube to a fully circular one for greater strength (the old one was dented to clear the tire). Such refinements have kept

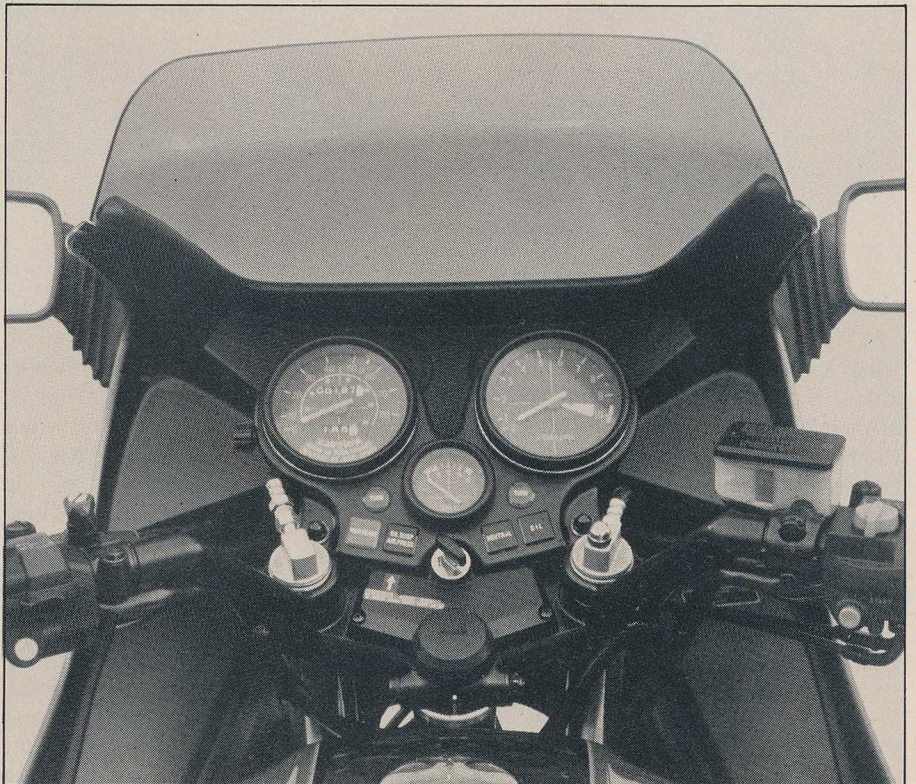
the bike to 492 pounds, even with its EPA- and DOT-mandated equipment.

This weight class, of course, usually belongs to the Japanese 550s and 750s. But while some might see that as an achievement, those who don't subscribe to BMW mythology will point to the machine's leisurely (13.4-second), sub-100mph quarter-mile runs and sneer that it's hardly surprising, given the performance, that it

## HONDA CBX

removable toolbox (behind the left sidecover) that's *just* big enough to contain the kit. Any additional tools must be either stuffed into your luggage or carried in the two little storage compartments in the fairing. I know that tools are a big deal only if you have to do some unplanned maintenance (chain adjustment, flat-tire repair, etc.) while on the road; but since real sport touring is done on secondary routes and remote back roads, a complete, expandable and easy-to-use toolkit—like the BMW's—is an invaluable asset.

Still, after a full day of either chasing or leading Thompson's BMW through Highway One's smooth coastline twisties, I felt good about the CBX. Indeed, Pro-Link *had* improved the handling in fast corners, especially with the pressures in the rear air shock (28 to 60 psi) and front air fork (7 to 13 psi) near the high end of the recommendation scale, and with the shock's three-position damping-adjustment knob pulled all the way out to its firmest setting. There sometimes was the slightest hint of a twitch in high-speed sweepers, but otherwise the CBX was as steady through the turns as a battleship in drydock. Not only



**Stylish ABS plastic fairing mounts too far forward for maximum protection**

*Parting the sea of air too early causes an ill wind to blow your way.*

weighs like a 550, since it *runs* like one.

If BMW were trying to build a better Honda, there might be validity to that. But it's time that Americans realized that BMW builds very specialized machinery. It's capable of many roles, of course, but this RS is a machine honed and tuned to do one job better than anything else in the world. In search of ever-new markets to conquer, the Japanese are now feeling out that world—witness the CBX Supersport. But, conservative that I am in matters motorcycle, I gambled and clung to the RS when we had to choose, even though I'd never toured on it.

In practical terms, the gamble really wasn't, of course, because while Dean had to make do with his convoluted CBX saddlebags, for instance, the variety available to me with the RS was staggering—a virtue of model longevity. I opted for Krauser Starlets instead of the traditional BMW Motobags, because the Starlets are almost 25 percent smaller than the others. To make up for the volume, I added a BagMan tank bag, chosen not only because it was a new addition to the market but also because a glance told us it was shaped perfectly for a BMW's somewhat narrow gas tank.

Thus outfitted, it took no effort at all for

me to see \$7500 of value in the R100RS, knowing the kind of roads we were about to go up against. But silhouetted against the massive flanks of Dean's silver CBX, all airiness and simplicity contrasted against the awesome architecture of his weapon, I must admit to a brief pang of doubt.

We had a week to test the pangs. A week of riding one bike all day, then switching to the other. A week of aiming for where the Superslab wasn't, for going where the whim took us. Living out of saddlebags like motorcycle nomads, using plastic cards to make up for our limited gear. No place on sleek vehicles like these for tents or stoves or freeze-dried peas. The object here is to savor speed and sun, roads and The View,

and cap it off relaxing in the best bath of the best room of a five-star hotel at day's end.

At day's end of the first day, it was blindingly clear to me that the Honda would have to be supernatural to beat the RS at the game. Consider the kind of riding and you'll see why: The rules of sport touring call for a pace between, at one end, WFO win-or-die and, at the other, Vertical Riding. In practical terms, on an unfamiliar but enticing two-lane, dry and sparsely travelled road, that means riding on your side of the road, using sooner-than-racing-level braking points, apexing the turn with trailing throttle if it's blind, and leaving enough options in lean angle to go inside or outside of a sudden danger, like sheep, sheep drop-

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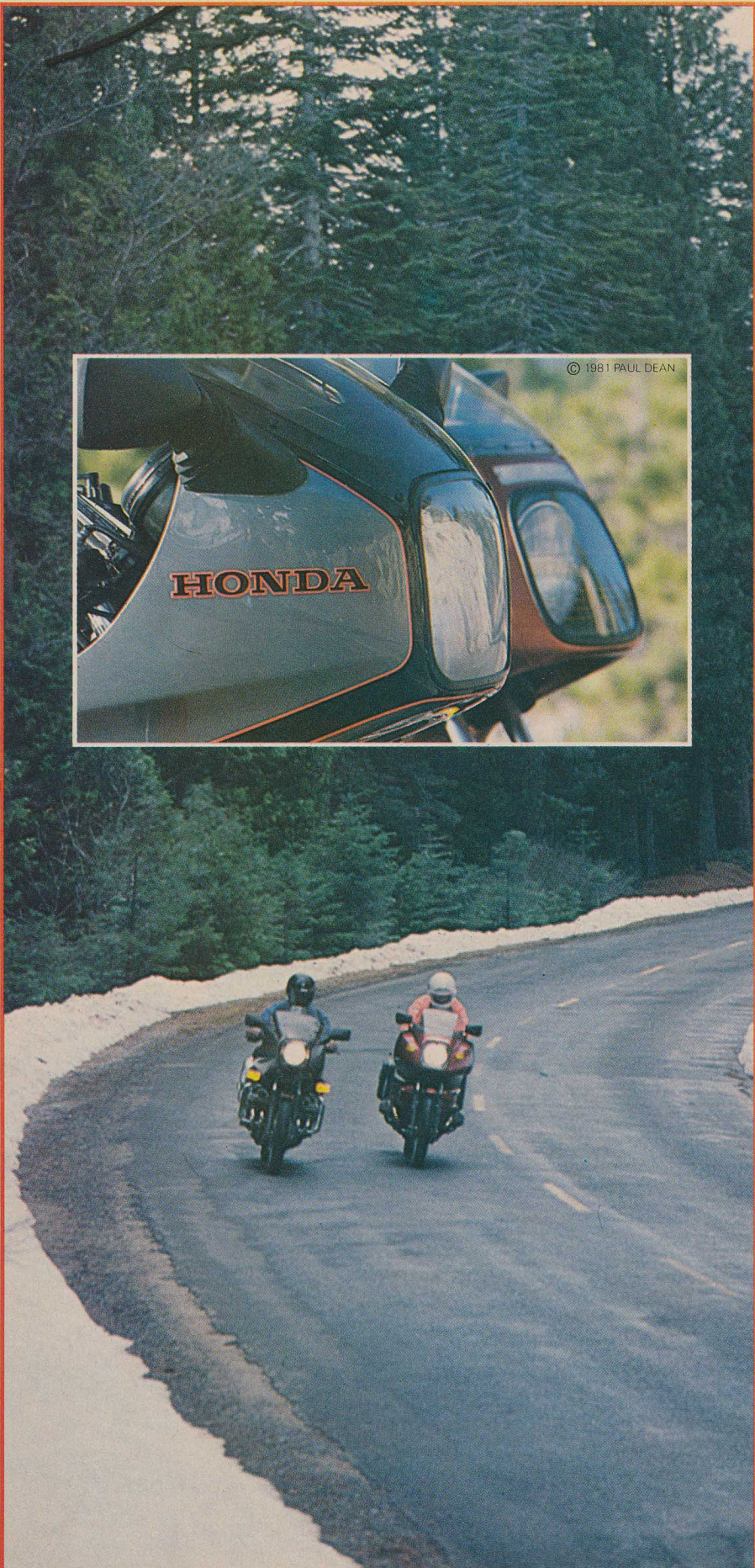
that, the undercarriage bits have been tucked in so tidily that absurd lean angles were possible before the sparks started to fly. And with a nearly 50-percent advantage in horsepower, the Honda was able to run away from the R100RS on the straights as though the BMW were chained to a post.

I was convinced at this early stage in our ride that the Honda would emerge the winner. But not for long. We turned off of the smoothness and consistency of Highway One's corners and headed into the Coast Range. The roads soon got bumpier and slipperier. The turns got tighter and less predictable. The straights got fewer and shorter. The weather turned, if you'll pardon the expression, to shit: rain, sleet, snow and mud, with a double order of cold on the side. And as I alternately rode both bikes through all of that, most of the points I thought had gone in favor of the CBX began, one by one, to swing toward the BMW's side of the scorecard.

Like, for instance, the Honda's fairing. Wind-tunnel-designed it might have been, but its top half is mounted too far forward to offer much rider protection. Too, there's no shielding for the rider's hands, plus there's a gaping hole around the front fork

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## BMW R100RS

pings or a startled country collie chasing the sheep. Thus, what you need in a motorcycle is one that not only doesn't wobble under changes of throttle setting, but also one which doesn't try to stand up when you grab a handful of double-disc. Further, you need a relationship between throttle response, riding position, brake sensitivity and power delivery that minimizes the effort you have to expend on making the bike do what you want, since most of your attention damn well better be on the corner. A good Grand Touring machine does not require its rider to perform roadracer athletics to extract its optimum performance, for such acrobatics will wear the poor guy out in a hundred miles of twisties, let alone five hundred a day.

The Honda CBX did not meet any of my requirements. It squirted from one corner to another in a wonderful adrenaline rush, demanded frequent gearbox-stirring to match road and engine speeds as required, wobbled fiercely at high speeds in sweepers and at medium speed in hairpins, had a one-position seat and plain wore me out every time I rode it. It was fast, flashy and ill-suited to the job.

## HONDA CBX

that isn't sealed with rubber boots as on the RS. So even though the fairing knifes through the air with apparent efficiency, the parted airstream comes back together too soon to miss the rider. Except for the Honda's superior coverage for the feet and lower legs, then, the RS's cockpit is far warmer, drier and less turbulent. Considering how much any full fairing costs in terms of added weight and price, the CBX's 25-pound ABS plastic unit doesn't offer much functional payback.

Then there's the question of fairing location as it applies to handling. Honda, you see, has been a proponent of "mass centralization" (Honda-speak for the placement of as much of a bike's mass as possible as close as possible to its center of gravity, which is, naturally, near the center of the motorcycle) for several years. Yet the CBX's fairing seems to have been positioned unusually far forward—mass decentralization, as it were.

In all fairness, I honestly don't know if the CBX would have handled better with the fairing moved rearward; but I do know that when the pavement became undulating, the bike tended to waver and wallow.



Ah, but the BMW. Its story was different. *It* was the promise fulfilled. For mile after mile of back roads, I could rush from one turn to another without seeming effort. Spending most of any trip in third or fourth gear, rolling off slightly under braking, swooping gracefully into the bend, rolling on again, the thunder of the Boxermotor echoing off the grass or rock or pine wall on the inside. Ironically, the crouched riding position proved a blessing, despite my fears that the broken bone in my right hand, which had never healed properly after a racing accident in 1976, would cause me untold agonies without the rush of wind on my chest to lift the weight. Reason: First, with the flat seat, the clip-on-style handlebar gave me a variety of riding positions, including chin-on-tank-bag, with the result that even on the Interstates, it was possible to move around enough to eliminate pain points.

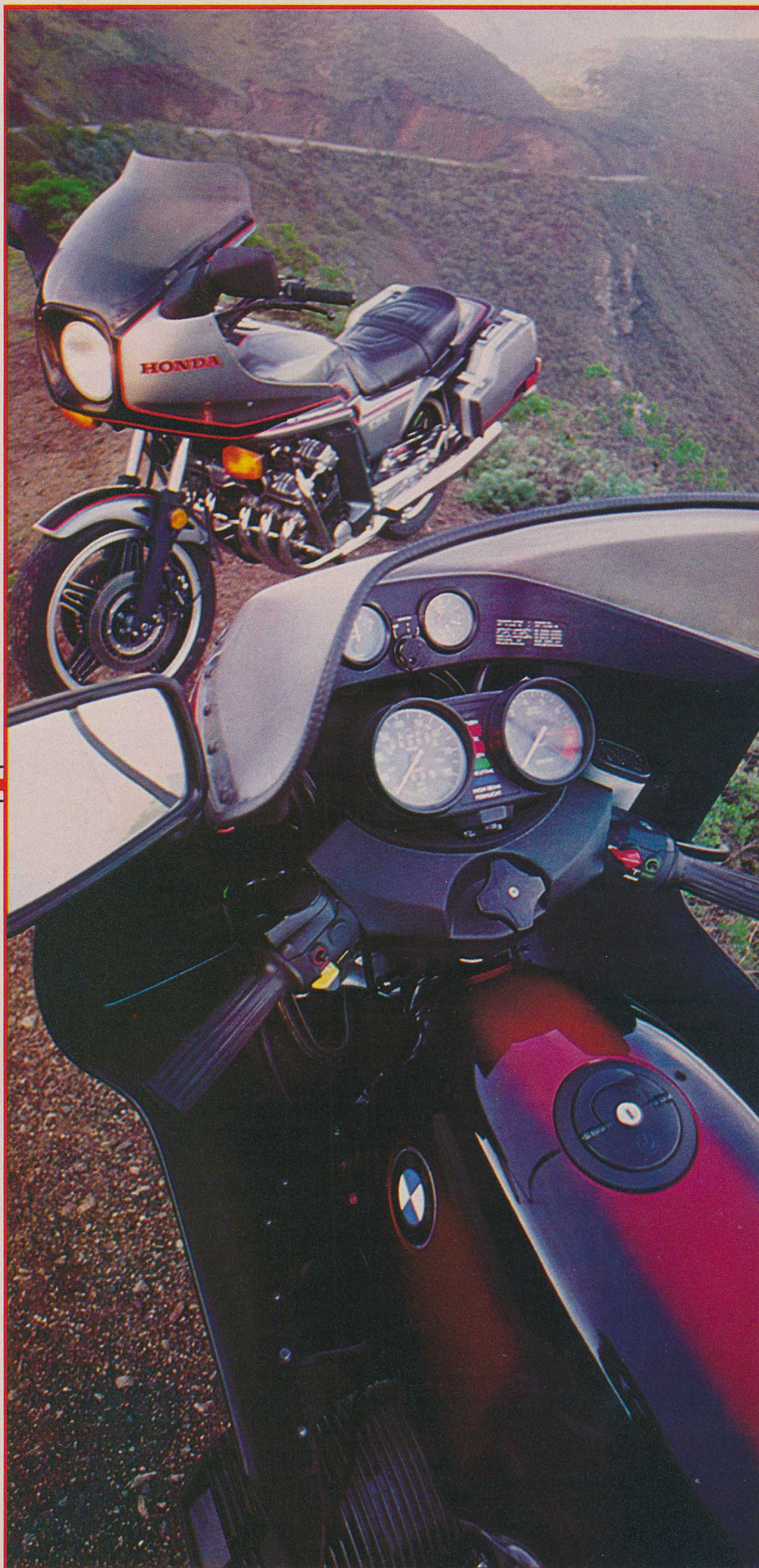
Further, although the suspension of the RS is hardly cutting-edge stuff for 1981, the improved fork (made for instead of by BMW this year, with more nylon bushings to eliminate clanking and smooth the 6.3 inches of travel) simply ate the terrain like a vacuum cleaner, delivering a smooth, graceful ride with no surprises. At very

*Continued*

And I *had* to wonder just how much the fairing had to do with it. Honda's engineers certainly deserve a pat on the back for crafting a bike with exceptionally good handling traits considering that they had a 646-pound hulk to work with. But Father Physics can be fooled only for so long, and once anything upsets the CBX—whether it's pavement, the wind, abruptly snapping the throttle closed or flicking through a set of switchbacks—when it's at or above eight-tenths hard-turning mode, it reacts with enough of a disconcerting wallow to make you slow down. The R100RS, too, can be a bit imprecise under those same conditions, but with 150 fewer pounds of mass to deal with, the rider isn't as intimidated.

The lesson you soon learn with the CBX is not to try and do things too abruptly when you're riding fast. And even when you're rounding slow turns with a bit of aggression, you notice the effects of the CBX's weight, its lengthy wheelbase (61 inches minimum, up two inches from last year) and its slowish steering geometry (29½-degree head angle, up two degrees for 1981). You just sort of lumber around tight turns rather than zip through them. Not that the BeeEm is particularly grace-

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PHOTOGRAPHY © 1981 BAPON WOLMAN

## BMW R100RS

high speed, some hunting was present, but we're speaking here of racetrack velocities, and like dragracing, super-market runs or canyon blitzes, that's not the RS mission profile.

The week taught me that the bike was flawed, in some areas quite seriously. Some things I had expected were gone, for instance—the snake-dance wiggling in rain grooves—but compensating were irritants like a sidestand that grounded continually until we dragged it enough to wear it half off and bend it out of harm's way, matched by a centerstand whose design required a lot of muscle to use, either going up or down. And yes, those 65 ponies did go away fast up at 8000 feet in the Sierras.

But. But in trade for that I got a 2300-mile average of 44 mpg (the Honda managed only 32.3 mpg), and the knowledge, every time I zeroed in on a series of twisties, that I'd emerge smiling at the other end. Moreover, its amenities were so splendid (ever see a BMW tool kit? It's tucked inside a removable plastic tray that's sealed by a rubber top and contains a vast array of goodies. Or try the little glovebox that lives under the tailcone fairing, which

actually will swallow two sets of winter gloves? Or how about the tire pump nestled by the lefthand subframe rail? The list goes on and on.) and the weather protection of the fairing so good (with the exception of the cylinder scoops, which might as well be water-venturis to soak your feet), I knew I could arrive at sunset smiling after 500 miles of twisties, day after day, rain, shine, snow or puncture.

This motorcycle is about control. Its designers presuppose that you have self-control to use it within its profile, and they build into it enough control for you to hammer it right up to that point. Because of that, it's hard for a lot of people to understand, let alone match, with its \$7500 (with saddlebags) pricetag.

For me there's no problem. The R100RS defines sport touring, as far as I'm concerned. The fact that it's also about the classiest device ever built only adds luster to its appeal. Its performance alone makes it the winner of this test for me, but its virtual aristocracy puts it so far out front that even a CBX that really handled couldn't touch it. And for that unique combination of genius and beauty, the price is immaterial. —Steve Thompson



## HONDA CBX

ful in hairpins, either; but its problem is that the narrow handlebar doesn't allow much leverage at low speeds, and that's a much easier handicap for the rider to overcome than is the size of the CBX.

There's also a difference in the ease in which these bikes will bank over into a turn while being heavily braked. The Honda, with its enormous weight and comparatively high center of gravity, forcefully resists being tilted over when the brakes are hard at work. The low-cg BMW, on the other hand, corners almost as easily with the brakes on as with them off. And while that's generally not all-important while cruising at normal rates, it can be crucial when you overcook a corner at a healthy sport-tour pace and have to scrub off a lot of speed while actually turning. Chalk up one more point for the BMW.

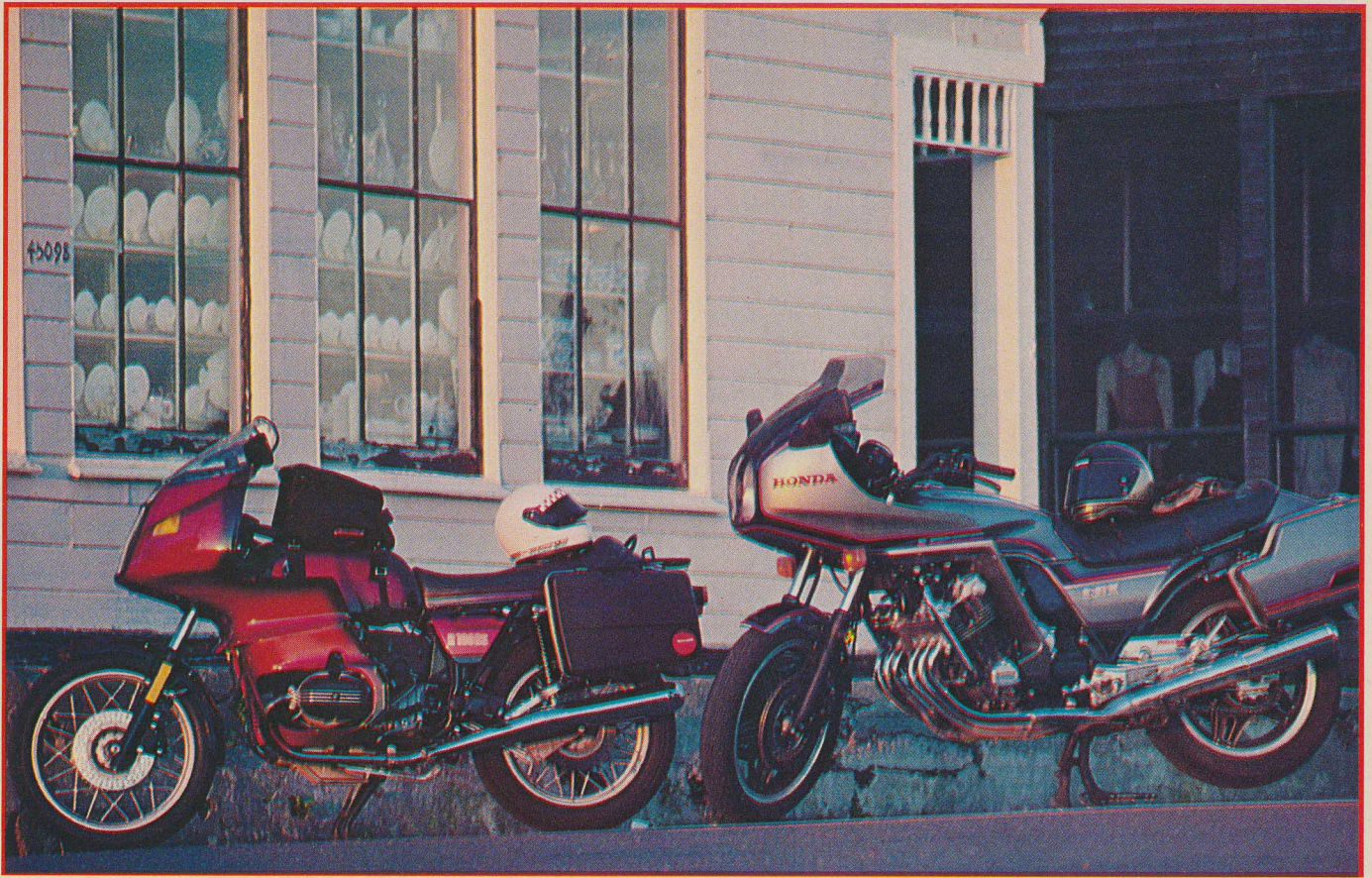
You can make that two points if you compare the comfort quotients of both bikes. Personally, I despise the tightness I get between my shoulder blades after about three hours on the R100RS, but at least I can squirm around and concoct enough alternative temporary riding positions to relieve the agony. Not so on the



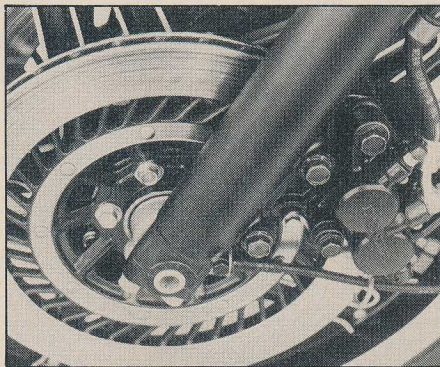
Honda. It's just dandy for the first hour or two, what with all of its controls and contact points in precisely the right place for me. But numbutt sets in soon after, and you quickly find that there are no alternative places to park your sore buns. When you scoot back a few inches, for instance, the slickness and forward slope of the stylish seat just make you slide right up to where you were before.

Thank God, then, that the Honda's suspension can be tuned for a much more

plush ride than the Beemer's. The BeeEm is limited to the usual shock-spring preload adjustment, thus the middle-of-the-road tuning of its suspension will never let the ride be as cushy as on the Honda when its air-and-damping adjustments are on full soft. In fact, for those times when fast cornering is not a priority and you have to drone over the bumpety-bump of a concrete-slab highway, the Honda's fork and shock can be regulated to put you into Seventh Heaven.



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**Two massive ventilated front discs**

*Air in the system can help braking.*

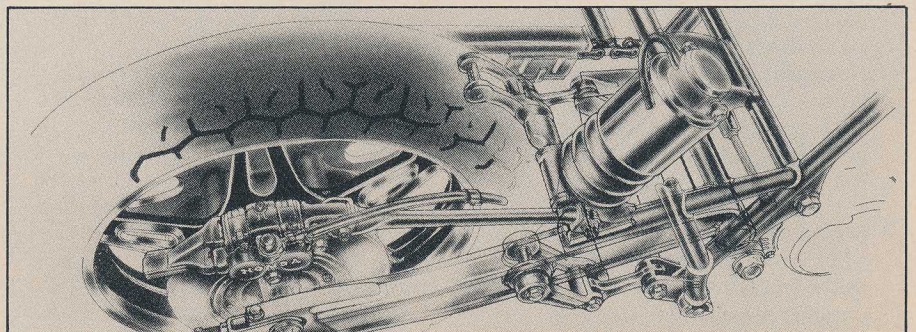
its own game. It's just that the Honda approaches sport touring from an entirely different angle than the BMW. And in the end, it does the job almost as well. But when you tally what it does better than the RS (accelerates, rides and costs \$2000 less) and weigh that against what the Beemer does better (sport-tour handling, overall comfort, fairing protection, fuel mileage, cargo capacity, toolkit), the imbalance rocks the scales toward the R100RS.

Class? Well, like beauty, that's pretty much in the eye of the beholder, so I'll leave that one to you. And I'll admit that for general all-around riding, the CBX in-

terests me much more. Just as I'll concede that for blitzing around in some never-ending flatness, like in the Midwest, for example, the high-powered Honda would be a more logical choice. And I'm even willing to be convinced that if your idea of sport touring is to go like a bat out of hell along the straights leading up to a corner, then tippy-toe around that bend with great trepidation before blasting WFO down the next straight, maybe the CBX is your ticket to the good times. But if you see sport touring as *we* see it—and rode it—make no mistake: The BMW is still The King.  
—Paul Dean

Still, even though the Honda won that suspension confrontation, as well as the battle of horsepower hill, in the end it lost The Big One, the over-the-road sport-touring war. I had been dead-wrong: The CBX did not and could not leave the BMW languishing in its dust.

Which is not to imply, incidentally, that the CBX is in any way a sport-touring motorcycle without merit. On the contrary, it's an extremely competent and exciting machine that's far better suited to the task than its predecessors. That's why it came remarkably close to outdoing the BMW at



**Honda's air-spring shock has only an indirect link with the aluminum swingarm**

*Multiple links and joints give rise to a progressive-rate suspension.*

# CBX: New Destination For An Old Flagship

• Some critics are bound to claim that Honda's top brass cast the troubled CBX into a sport-touring role simply because "they had to do *something* with it." But once you're cognizant of the vast re-engineering that went into the Supersport, you're not likely to think of it as a last-ditch effort to save the Six. Just about every part of the bike either is all-new or has been carefully re-seasoned according to R&D's special recipe for sport touring.

Honda's engine wizards, for example, have cranked the bhp output of the 1047cc double-cammer back up almost to its 1979 hyperbike level after it was dramatically reduced last year. That's why, despite weighing almost 90 pounds more than the 1980 model, the Supersport is just a heartbeat slower through the quarter mile.

Surprisingly, though, it didn't take much trickery to relocate those lost horses, while at the same time meeting even stiffer EPA emissions strangulations than in '79. New cams with greater lift and duration are part of the reason, but Honda is adamant that the bulk of the power boost is due to the CBX's first-ever exhaust-system crossover pipe. But according to Honda's tech spokesmen, not just *any* crossover was acceptable to R&D's exhaust specialists, who experimented at great length with the pipe's exact size and location.

There are a few smaller changes to the engine that have, naturally, had lesser effects. One is that the six 28mm Keihin CV carbs now are mounted with four degrees less forward inclination to yield more consistent idling characteristics. Another is the switch back to a dual-stage electronic spark advancer (similar to that used in '79) that renders an ignition curve more congruous with the new power curve. There also are dimensional differences in the piston rings, and the clutch now uses coil-spring shock dampers instead of rubber.

That's not much in the way of engine re-design, really, but R&D got the chance to strut its techno-stuff in the chassis. Its proudest achievement is the Pro-Link single-shock rear suspension, a spin-off of the motocross concept debuted by Honda earlier this year. But aside from obviously having less wheel travel, this rising-rate suspension differs from the dirt version in that it uses an air-adjustable assist for its straight-rate coil spring. That gives the rebuildable shock itself a progressive rate which is further amplified at the rear wheel by the progressive action of the linkage on the lower shock mount.

Additionally, since seat height is more of a concern for street riders than dirt doers,

the bottom linkage was configured to hang down below the aluminum swingarm, thus allowing a properly long shock to fit below a reasonably low seat. That simply wouldn't do on a motocrosser, which needs maximum vertical ground clearance; but on a street bike it's *cornering* clearance that's important, so the low-slung linkage causes no problems in that area.

Having a high-tech rear suspension warranted considerable chassis improvements elsewhere, including: two degrees more steering head angle and a two-inch-longer wheelbase; larger-diameter fork tubes (39mm vs. 35mm); wider wheel rims (2.50 vs. 2.15 inches up front, 2.75 vs. 2.50 at the rear, but with the same-size tires as last year); a wider fork-tube span to accommodate the front tire's spread-out sidewalls; and wheel hubs borrowed from Honda's CB900 series—the front from the CB900C and the rear from the CB900F.

Honda also borrowed some brake technology from the automotive field and equipped the CBX with a pair of ventilated disc rotors at the front wheel. Their purpose is to dissipate the heat of braking more rapidly; and they, along with the unventilated single rear disc, are pinched by Honda's exclusive new twin-piston calipers that improve stopping by positioning more puck surface closer to the outside edge of the disc, where it has a greater mechanical advantage on the wheel.

Honda's concern, obviously, was to give this 646-pound (plus payload) speedster adequate whoa-power for sporty riding. But the CBX acquired some of that extra heft because of those massive brake rotors and the bigger fork, as well as the added frame reinforcement needed to deal with the concentrated chassis stresses that accompany Pro-Link. Then credit over 25 pounds to the supersleek ABS plastic fairing and its attendant bracketry, and rack up 20 more for the detachable saddlebags and their high-quality hardware. Tack on a few pounds for the engine guards, and suddenly it's not too hard to figure out where all the extra weight came from.

It's also not hard to admire the way the Supersport looks, despite its massiveness. Like Honda's CX500 Turbo, the CBX has a wonderfully integrated look, as though it had been orchestrated by a single stylist rather than compromised by committee. The result is that even those who don't care for sport tourers in general, and huge motorcycles in particular, usually have to admit that *this* CBX, at least, is one of the most stunning machines they've ever seen.

—Paul Dean

# Honda CBX

**IMPORTER:** American Honda Motor Company, Inc.  
100 W. Alondra Boulevard  
Gardena, California 90247

**CATEGORY:** sport touring

**SUGGESTED RETAIL PRICE:** \$5600 (approx)

## ENGINE

Type ..... four-stroke transverse vertical six  
Valve arrangement ..... double overhead camshafts,  
four valves per cylinder  
Bore and stroke ..... 64.5mm x 53.4mm  
Displacement ..... 1046.9cc  
Compression ratio ..... 9.3:1  
Carburetion ..... six 28mm Keihin constant-velocity,  
with one accel. pump  
Air filter ..... paper element  
Lubrication ..... wet sump  
Starting system ..... electric only  
Ignition ..... battery / triple electronic pickups / triple coils  
Charging system ..... 12-volt; alternator, voltage regulator, rectifier

## DRIVETRAIN

Clutch ..... wet, multi-plate  
Crankshaft-to-jackshaft ..... Hy-vo chain; 1,000:1 ratio  
Jackshaft-to-transmission ..... straight-cut gears; 2.269:1 ratio  
Final drive ..... #630 chain ( 3/4-in. pitch, 3/8-in. width);  
18/42, 2,333:1 ratio

Gear	Internal gear ratio	Overall gear ratio	MPH per 1000 RPM
I	2.44	12.91	6.1
II	1.75	9.26	8.5
III	1.39	7.36	10.6
IV	1.20	6.35	12.3
V	1.04	5.49	14.3

## SUSPENSION/WHEEL TRAVEL

Front ..... air / spring, 39mm stanchion tube diameter / 6.6 in. (168mm)  
Rear ..... air / spring Pro-Link, 3-way adjustable rebound damping / 5.5 in. (140 mm)

## BRAKES

Front ..... dual single-action hydraulic calipers, 11.6-in. (295mm) discs  
Rear ..... single-action hydraulic caliper, 11.6-in. (295mm) disc

## TIRES

Front ..... 3.50V19 Dunlop Gold Seal F11  
Rear ..... 130/90V18 Dunlop Gold Seal K127

## DIMENSIONS AND CAPACITIES

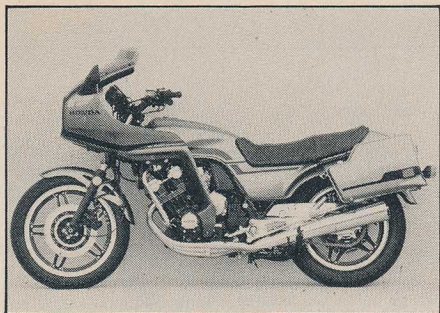
Weight ..... 646 lbs. (293kg)  
Weight distribution ..... 47.1% front, 52.9% rear  
Gross vehicle weight rating (GVWR) ..... 1050 lbs. (476kg)  
Wheelbase ..... 61.0 to 62.0 in. (1549 to 1575mm)  
Seat height ..... 32.0 in. (813mm)  
Handlebar width ..... 29.8 in. (757mm)  
Footpeg height ..... 13.3 in. (338mm)  
Ground clearance ..... 6.0 in. (152mm), at exhaust crossover  
Steering head angle ..... 29.5 degrees from vertical  
Front wheel trail ..... 4.7 in. (120mm)  
Frame ..... tubular mild steel, no front downtubes  
Oil capacity ..... 5.8 qt. (5.5/)  
Fuel tank ..... steel, 6.1 gal. (23.3/), including 1.3 gal. (4.8/)  
Instrumentation ..... speedometer, odometer, tripmeter resettable to zero, tachometer, voltmeter

## PERFORMANCE

Fuel consumption ..... 23 to 40 mpg (9.8 to 17.0 km/l)  
Range, maximum ..... 140 to 244 miles (225 to 393km)  
Range, reserve only ..... 29 to 50 miles (47 to 81km)  
Speedometer error, 30 mph indicated ..... 31 mph actual  
Speedometer error, 60 mph indicated ..... 59 mph actual  
Best 1/4-mile acceleration ..... 12.008 sec., 113.92 mph (183 kph)  
Top speed (calculated) ..... 136 mph (218 kph)  
Stopping distance from 30 mph ..... 36 ft. (11m)  
Stopping distance from 60 mph ..... 130 ft. (40m)

**WARRANTY:** 6 months / 6000 miles

**AVAILABLE COLOR:** silver with black



**HONDA CBX**



**BMW R100RS**

# BMW R100RS

**IMPORTER:** BMW of North America, Inc.  
Walnut and Hudson Streets  
Norwood, New Jersey 07648

**CATEGORY:** Sport touring

**SUGGESTED RETAIL PRICE:** \$7275 (as tested)

**ENGINE**

Type ..... four-stroke horizontally-opposed twin  
Valve arrangement ..... pushrod-operated overhead valves  
Bore and stroke ..... 94.0mm x 70.6mm  
Displacement ..... 979.9cc  
Compression ratio ..... 8.2:1  
Carburetion ..... two 40mm Bing constant-velocity  
Air filter ..... disposable paper element  
Lubrication ..... wet sump  
Starting system ..... electric only  
Ignition ..... transistorized breakerless, single coil  
Charging system ..... 12-volt; alternator, voltage regulator, rectifier

**DRIVETRAIN**

Primary drive ..... helical gears; 1,500:1 ratio  
Clutch ..... dry, single-plate  
Driveshaft-to-rear wheel ..... helical gears; 2,910:1 ratio

Gear	Internal gear ratio	Overall gear ratio	MPH per 1000 RPM
I	2.93	12.78	6.0
II	1.91	8.34	9.1
III	1.38	6.02	12.7
IV	1.11	4.85	15.7
V	1.00	4.37	17.4

**SUSPENSION/WHEEL TRAVEL**

Front ..... 36mm stanchion tube  
diameter / 6.8 in. (173 mm)  
Rear ..... 3-way adjustable spring preload  
/ 5.3 in. (135 mm)

**BRAKES**

Front ..... dual double-action hydraulic calipers,  
10.2-in. (260mm) disc  
Rear ..... double-action hydraulic caliper,  
10.2-in. (260mm) disc

**TIRES**

Front ..... 3.25H19 Continental RB2  
Rear ..... 4.00H18 Continental K112A

**DIMENSIONS AND CAPACITIES**

Weight (as tested) ..... 492 lbs. (223kg)  
Weight distribution (as tested) ..... 45.9% front, 54.1% rear  
Gross vehicle weight rating (GVWR) ..... 881 lbs. (400 kg)  
Wheelbase ..... 58.5 in. (1486mm)  
Seat height ..... 32.0 in. (813mm)  
Handlebar width ..... 22.5 in. (572mm)  
Footpeg height ..... 12.3 in. (312mm)  
Ground clearance ..... 5.0 in. (127mm), at sidestand  
Steering head angle ..... 27.5 degrees from vertical  
Front wheel trail ..... 3.74 in. (95mm)  
Frame ..... tubular mild steel, double front downtubes  
Oil capacity ..... 2.4 qt. (2.3l)  
Fuel tank ..... steel, 6.3 gal. (23.8l),  
including 1.1 gal. (4.0l) reserve  
Instrumentation ..... speedometer, odometer, tripmeter resettable  
to zero, tachometer, voltmeter, clock

**PERFORMANCE**

Fuel consumption ..... 34 to 52 mpg (14 to 25 km/l)  
Range, maximum ..... 214 to 328 miles (344 to 528km)  
Range, reserve only ..... 37 to 57 miles (60 to 92km)  
Speedometer error, 30 mph indicated ..... 31 mph actual  
Speedometer error, 60 mph indicated ..... 59 mph actual  
Best 1/4-mile acceleration ..... 13.483 sec., 98.36 mph (158kph)  
Top speed (calculated) ..... 127 mph (204 kph)  
Stopping distance from 30 mph ..... 35 ft. (11m)  
Stopping distance from 60 mph ..... 145 ft. (44m)

**WARRANTY:** one year unlimited mileage

**COLORS:** Polaris Graphite metallic, Lava Red metallic

