

SENSATIONAL 750 SHOOTOUT: Yamaha OWO1 vs Honda RC30 vs Suzuki GSX-R vs Kawasaki ZX-7

CYCLE WORLD®

JUNE 1990

USA \$2.25

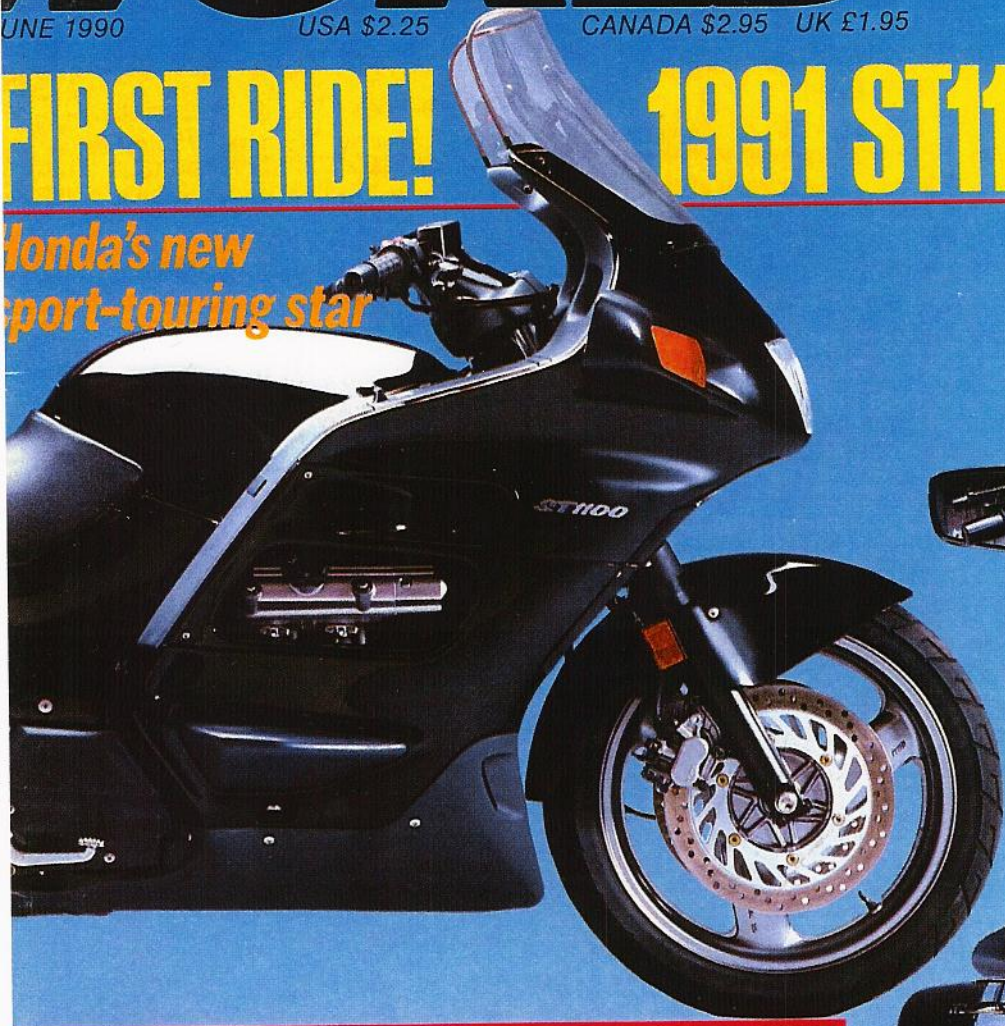
CANADA \$2.95 UK £1.95



FIRST RIDE!

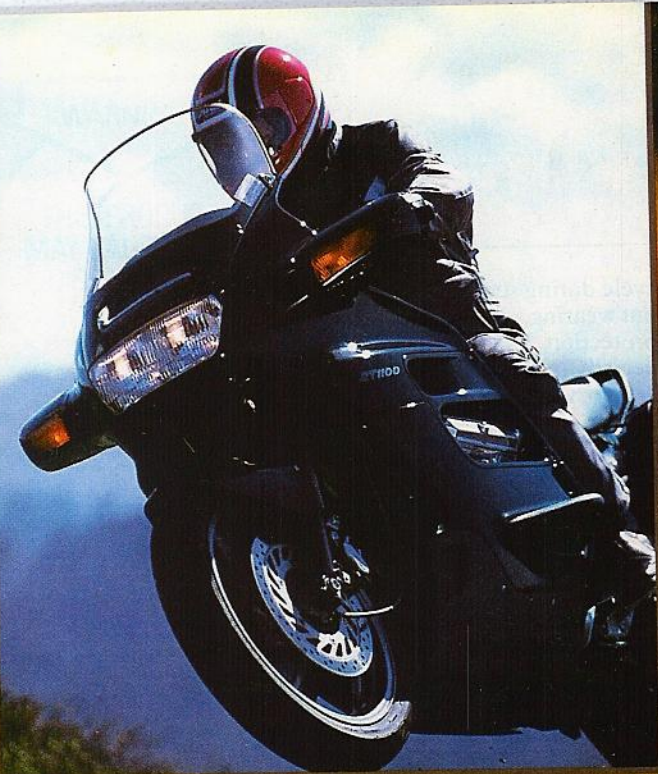
1991 ST1100 V-FOUR

Honda's new sport-touring star



PLUS: Secrets of the Daytona Superbikes





CYCLE WORLD TEST

HONDA ST1100

**MORE THAN
AN RC30
BUILT
FOR TWO,
MORE
THAN A
EURO-
WING**

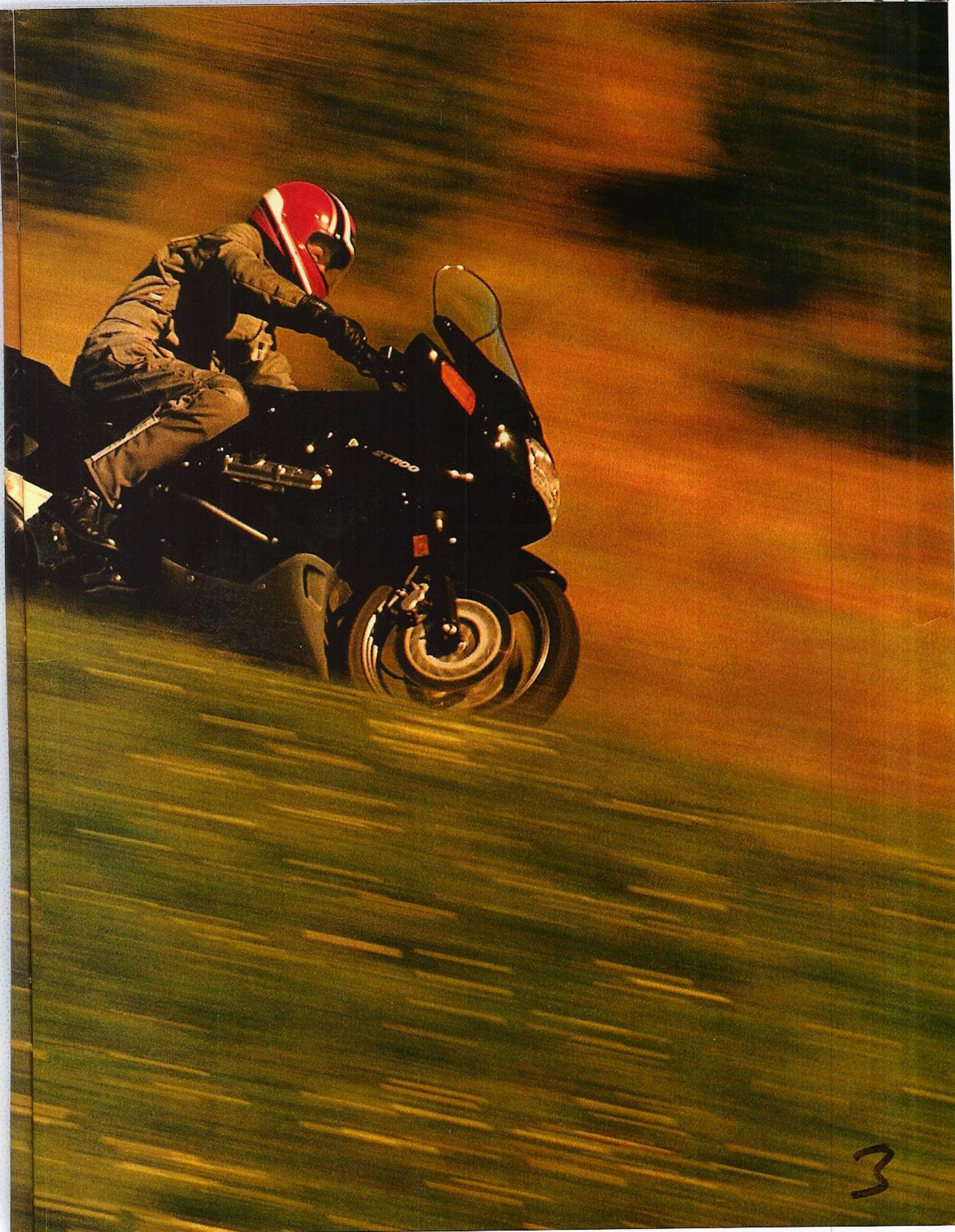
A 600-MILE DAY? NOTHING TO IT; AS EASY AS wolfing down chips and salsa at your favorite Mexican restaurant. Why, any self-respecting touring-bike rider could click off 600 miles of interstate super-slab and be done in time for an early supper. Things become more challenging, though, if the trip itinerary includes less-traveled paths, say the Pacific Coast Highway as it winds its way up the shorelines of northern California and Oregon through small fishing villages and past grazing sheep, the road folding back on itself like a dog nipping after its own tail.

All right, then, trade the Gold Wing in for something better suited to swervery; what the heck, go for broke and order up an RC30. Great idea, except that holding a semi-roadracing tuck for 600 miles can be a little tiring. A sore neck and aching wrists don't exactly promote sightseeing, and that was one of the reasons for taking the scenic route in the first place. It's also tough to stow more than a tooth brush and a clean pair of bikini briefs aboard an RC30, especially if you don't want to look like Jed, Granny and clan on their way to Beverly Hills, that is.

No, forget the Wing, nix the RC. What we need is a bike that handles, a bike that's comfortable, a bike with some carrying capacity. A bike like Honda's new ST1100.

PHOTOS BY DAVE BUSH

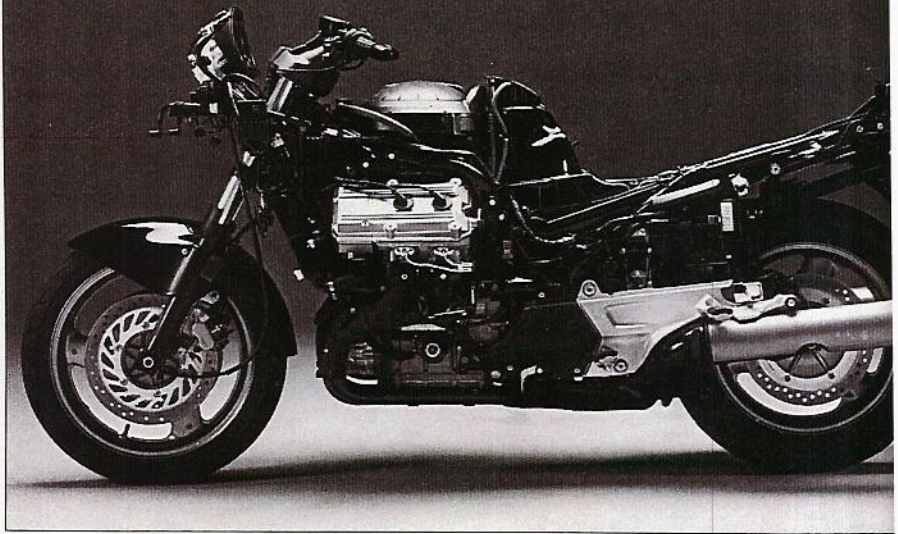
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HONDA ST1100

A couple of hours' work and the removal of about 50 fasteners reveals the ST's frame and engine. Fully clothed, it weighs 658 pounds, 100 pounds more than BMW's K100RS and 25 up on Kawasaki's Concours.



Sport-touring bikes have never really caught on in America. A small throng swears by BMW's RS series, and Kawasaki's Concours has a loyal following, though the bike sold poorly enough in 1987 and '88 that Kawasaki called for a one-year hiatus in production before cranking up the assembly lines again this year. In the past, there was Honda's CBX Six with a half-fairing and bowling-bag-sized panniers, a bike that proved as popular then as embassy duty in the Middle East is today.

Given sport-tourers less than warm embrace by the majority of U.S. riders, it shouldn't come as a shock that the ST is primarily a European motorcycle. In fact, the idea for the bike was conceived by Honda Germany, and the project continued as the first joint effort of Honda Japan

and Honda Europe. Sport-touring bikes make good sense in Europe, where a Gold Wing just feels clumsy and is barely fast enough on the autobahns to stay out of the bumpers of swift-running Mercs and Bimmers. And, yes, any 600cc-and-above sportbike is fast enough for the high-ways and handles well enough for the mountain passes Over There, but European necks and wrists aren't any less susceptible to cricks than ours, and, if anything, European riders heap more gear on bikes than we do.

So, Europeans get the ST1100 (and an additional moniker for the bike, "Pan-European"), and we in the U.S. are given another chance to take a sport-tourer to heart.

There's nothing earth-shattering about this new motorcycle's chassis. The ST's frame is made of mild steel, and >

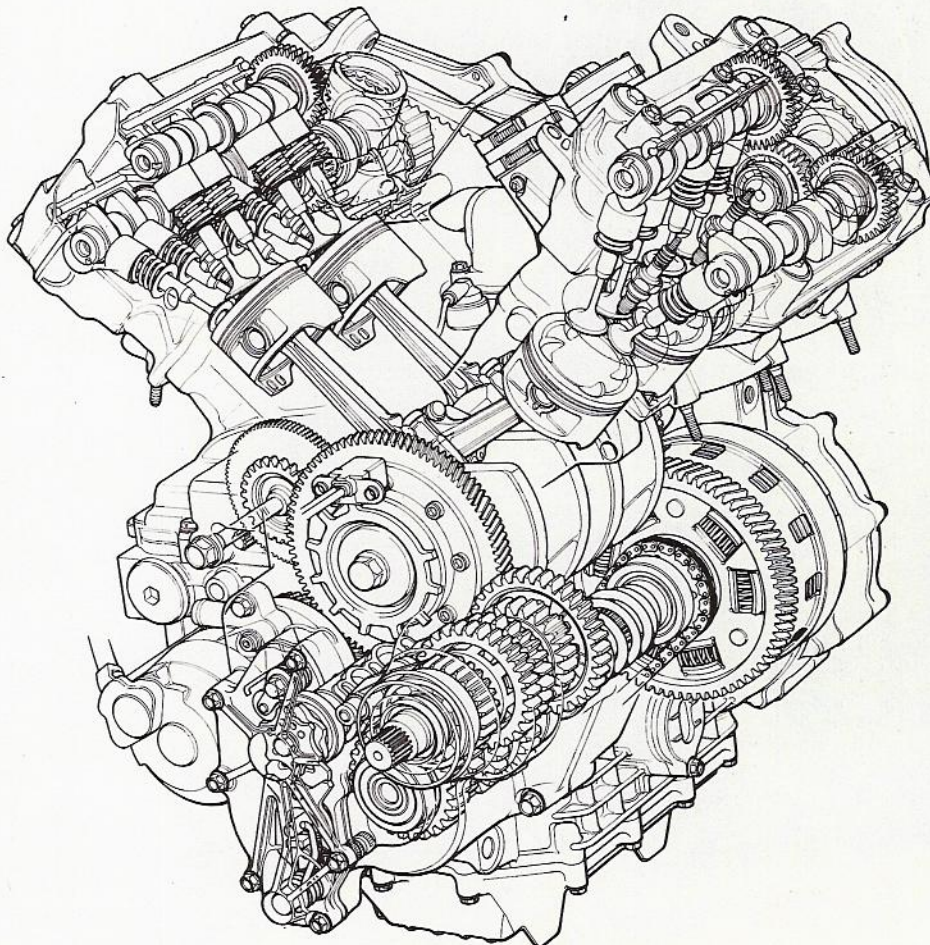
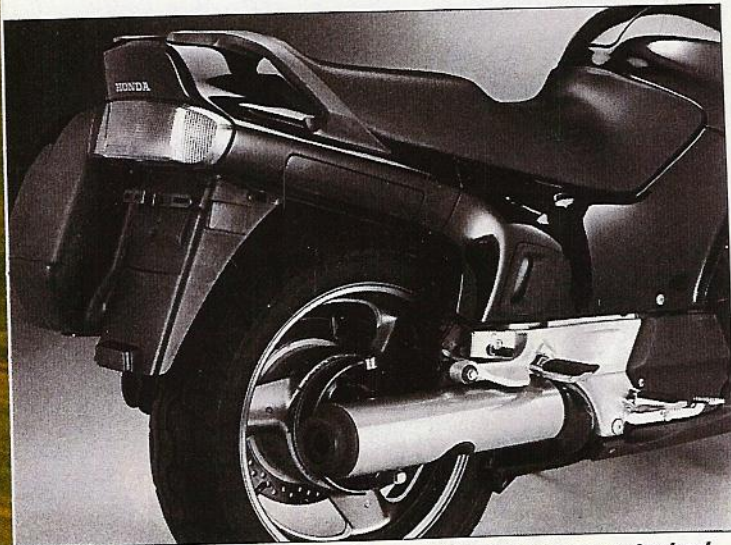


Diagram of the ST's dohc, four-valve-per-cylinder, longitudinal V-Four engine, shown from the right rear. Visible here are the camshafts, driven by center cogs that run off the timing belt at the front of the engine. Shim-under-bucket valve adjustment is required at 16,000-mile intervals. The crankshaft rides on three main bearings. Five-speed transmission is a "cassette-type" and can be removed without taking the engine apart. To help eliminate the sideways rocking motion that longitudinal-crankshaft engines display when the throttle is blipped at idle, the ST's clutch (at the right front) and generator (at the left rear) spin in the opposite direction of the crank. A primary damper, the spring of which is just visible behind the clutch and in front of the transmission, reduces noise and helps smooth out the engine's torque fluctuation under deceleration. Other dampers are used in the driveshaft and rear wheel. Not shown are the four carburetors, which are mounted in a vee formation between the cylinder banks.

HONDA ST1100

apart from tubes slightly larger in diameter than normal and some unusual curves around the engine, students of frame-making will find little else noteworthy here.

Likewise, no new ground is broken by the ST1100's suspension. The fork has 41mm stanchion tubes and is non-adjustable. A cartridge damper contained in the right fork leg and an anti-dive mechanism in the left at least keep the front suspension out of the Stone Age. Rear suspension is handled by a single shock, adjustable for spring preload and rebound damping. Like the system used by BMW, the Honda's shock is located on the right side of the bike and connects the swingarm and frame directly, without benefit of a rising-rate linkage system. As on BMWs, the ST's swingarm contains the bike's driveshaft, but it has two conventional arms rather than being single-sided as are the swingarms used on the German machines. The 1100 also makes do without the Paralever anti-chassis-

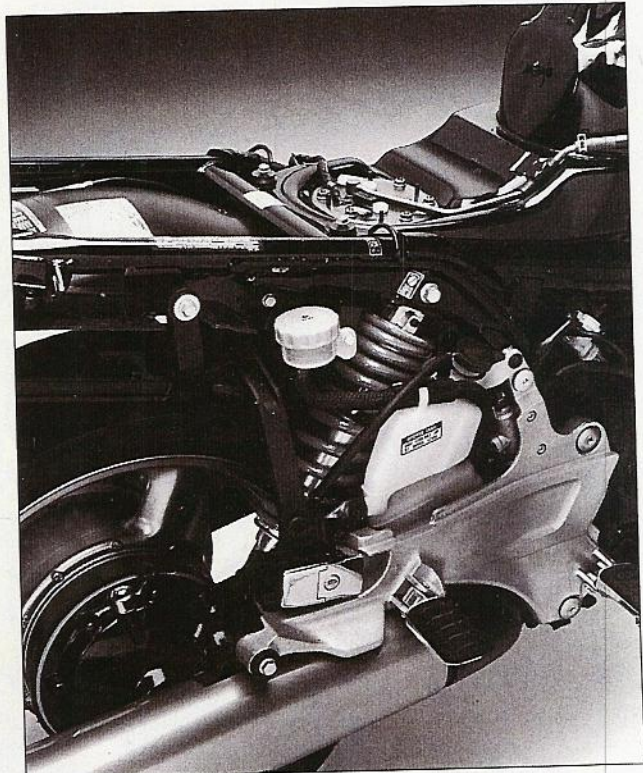


With a little practice, the saddlebags can be unlocked and removed in seconds. Spring-loaded panels swing down, concealing the luggage's mounting rails. When empty, the bags move around slightly but don't rattle.

jacking mechanism that is used to good effect on the R100GS and the new K1.

The bodywork that wraps around the ST1100's running gear shows that Honda learned from the criticisms that were leveled against the Kawasaki Concours' wavy, poorly fitting panels. The ST's multi-piece fairing fits together well, and the cockpit surfaces are nicely finished in a pebble-grain pattern. The bike's removable saddlebags, each of which will easily swallow a full-face helmet, are well integrated into the bike's lines.

Opinions on the ST's appearance varied wildly. Many observers, particularly non-motorcycle enthusiasts, were bowled over by the bike, using words like "beautiful," "refined" and "classy." The more involved in the sport a person was, the less enthusiastic his view of the ST tended to be. More than one rider referred to the bike as looking like a "Pacific Coast on hormones," and there was the Ninja 900 rider who trailed the ST for a few blocks before pulling alongside, pointing at the Honda and then wiggling his outstretched hand in the universal symbol of



Shock preload can be set after removing the right saddlebag, but to get to the damping screw (at the top of the shock) the side panel must be taken off. Fuel tank rests between frame rails and holds 7.4 gallons.

so-so-ness.

During our 2500 miles with the ST, any lukewarm feelings about its looks by test riders were nullified soon after the reviewer climbed aboard the bike and set off for the next gas stop. "Great engine," was the universal acclaim as soon as the helmet came off at the other end. And indeed it is.

The ST continues Honda's fascination with V-Four powerplants, but this time, there's a difference. Instead of the now-familiar across-the-frame disposition of the crankshaft as exhibited in Honda's Interceptor, Sabre and Magna series, the ST engine has been swung around 90 degrees so that its crank runs fore and aft, and its cylinder banks angle out to the sides. This is the same configuration as Moto Guzzi's Twins and Honda's own now-defunct CX500 and CX650 push-rod Twins. And, in fact, when the CX500 was introduced in 1978, there were rumors that two of the engines would be linked together to form a longitudinal V-Four.

Twelve years later, the 90-degree, liquid-cooled V-Four mostly hidden behind the ST's plastic panels shows some automotive influence, as well. With its car-like valve covers, complete with an oil-filler cap that might well have been lifted from a Civic or Accord, visible through the gilled side panels, it would be easy to believe that the engineers in the Honda's car division had as much to do with the engine's design as the bike guys did.

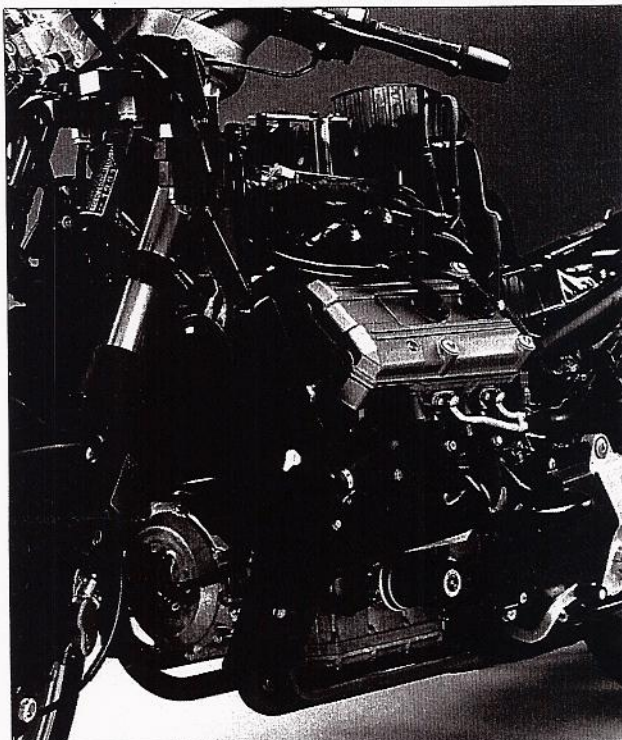
That theory is further supported by the ST's timing belt, a toothed rubber affair that winds its way over various cogs and pulleys at the front of the engine, just as many cars' timing belts do. But there's some new thinking going on here. Rather than loop the timing belt over a gear on the end of each cylinder assembly's two overhead camshafts, a

HONDA ST1100

configuration that adds height to an engine, Honda's engineers devised a set-up where the belt drives a gearset situated between and slightly below the cams. Thus, the ST uses belt-actuated, gear-driven camshafts.

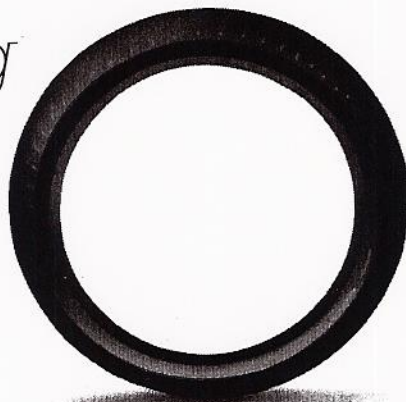
Of course, all of this engineering acumen, which has resulted in the application for 14 patents covering the engine, wouldn't be worth a warm cup of used 20w-40 if the motor didn't work out on the road, which it does. Thumb the engine into life and it quickly settles into a 1200-rpm idle, accompanied by a gear whine that's reminiscent of the noise made by BMW's three- and four-cylinder K-bikes. The whine is soon drowned out by the flat exhaust note of the V-Four. The ST has a 360-degree crankshaft, but unlike some earlier Honda V-Fours that used a 360-degree crank and had powerbands about as exciting as elevator music, the new engine has some personality. One rider likened the motor to BMW's 1000cc opposed-Twin, albeit one that had been eating its Wheaties and working out three times a week.

Performance-wise, the ST is no quicker or faster than its chief rivals, the K100RS and Concours. Where the Honda has an advantage is in its tall gearing. At 60 miles per hour, notching from fourth gear up to fifth drops the revs from 3700 to just over 3000, a Harley-like level that is 500 to 600 rpm lower than the competition. This long-leggedness is accompanied by almost-vibrationless running at the speeds that most American riders will encounter. Thanks for this go to the V-Four layout—inherently smoother than



Shown here are the forward-mounted, hydraulic clutch, the spin-on oil filter, the side protectors and the gearshift-lever, which takes a few funny bends before mating to the rear of the engine/transmission case.

Blow 'em away. Remember the first time you straddled your hyperbike? You knew it was a rocket on two wheels. And you couldn't wait to make it fly. Now it's like, no big deal. But it's still a stoke. For peg-scraping corners



an inline-Four—plus a counterbalancer and rubber-mounted handlebar and footpegs. Zing the tach to it's 8000-rpm redline and some quaking can be felt in the footpegs and seat, but the mirrors remain as clear as cable television no matter what rpm the engine is spinning.

The ST1100's suspension compliments the engine's big strides, soaking up most jolts before they can do any damage to the rider. We found that setting the rear shock to its fourth (of five) spring-preload position and screwing the damping adjuster one-half turn short of maximum matched the fork's action nicely and got rid of a weaving in fast corners that was evident with the shock on its softest settings. Still, some riders felt the lack of front-fork adjustability and the rear suspension's lack of a rising-rate linkage system hurt the bike in fast cornering, noting a vagueness in the front end and the inability of the shock to deal with sharp bumps at high speed. It can be argued that a \$9000 flagship sport-tourer (\$2200 more than the Concours, about \$3000 less than the yet-to-be-released 1990 K100RS) ought to come with more sophisticated suspension.


Be that as it may, it should be noted that the ST1100, a bike with comparatively lazy frame geometry, an 18-inch front wheel and a dry weight of 658 pounds, was ridden from Portland, Oregon, to Los Angeles in the company of the four 750cc sportbikes tested elsewhere in this issue. On unfamiliar roads, the ST, unsophisticated suspension and all, gave a good account of itself, dogging four of the best-handling motorcycles on Earth, only losing ground when the cornering elevated to wham-bam, knee-skimming velocities.

And the ST is blessed with comfort that no repli-racer



can match. Fairly wide, tubular handlebars rise three inches, allowing a sporting but comfortable stance. The stepped seat will allow about 250 miles of the bike's 300-mile range to be used without numbing the rider's derriere, at which point the fuel-reserve light is on and its time to look for gas anyway. Wind protection is excellent for riders 5 foot 10 and below, though taller riders complained of buffeting, especially at high speeds.

In the end, the ST will win friends not on any single virtue, but on the combination of its likable engine, its competent handling and its well-thought-out features. No, it's not a Gold Wing born in Europe. It's not an RC30 built for two, nor is it an Oriental BMW. Think of the ST1100 as the arrival, at last, of the Japanese sport-tourer. ☒



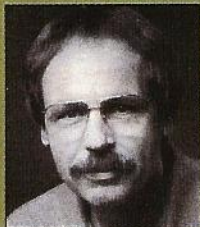
*to autostrada straights, Pirelli makes
your type of radial tire. For
information that would fill
a traffic court docket, call us
toll free. Or book it
on down to your
favorite dealer.*

CONTACT

PIRELLI

1-800-922-9699





A SPORT-TOURING MOTORCYCLE FITS my street-riding desires perfectly. I've enjoyed riding BMW's sport-tourers over the years, and I bought one of the first Kawasaki Concours.

So, Honda's new sport-touring model quickly grabbed my attention. And after riding the ST1100 for several hundred miles along the California and Oregon coasts, I'm even more excited: Its V-Four engine is smooth, powerful, responsive and flexible, and its suspension provides a plush ride while droning along at normal touring speeds, and does a respectable job of keeping the bike stable when the road sprouts curves.

The handlebar is just the right height, shape and reach for me, but the ST1100's otherwise nicely padded seat lets me slide forward into the back of the fuel tank under hard braking.

That glitch wouldn't stop me from buying an ST, but the bike's retail price of \$8998 would probably bring a gasp from my wife. I think after a couple of rides, she can be convinced.

—Ron Griewe, Senior Editor

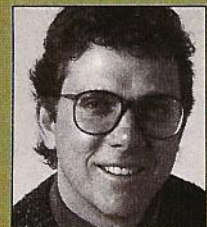


I'VE BEEN WAITING FOR SOMEONE TO come out with the ultimate sport-touring motorcycle for quite some time. I appreciate BMW's idiosyncratic machines, and Kawasaki's Concours was a great attempt, but I want something more refined. Something like Honda's new ST1100.

The ST's secret lies in its whopping 1085cc V-Four engine. This baby steams, especially in its low and mid range. I like the upright seating position and the wide handlebar that allows me to click off miles effortlessly, all the while being protected from the elements by the large windscreen and fairing. The detachable luggage is a bit small, but it's better than having to bungee and strap bags all over the bike.

Don't get me wrong, even a motorcycle as good as the ST is not my ultimate sport-touring machine. It's a bit too big and heavy for that. But it comes real close.

—Camron E. Bussard, Executive Editor



OFFICER BARDER OF THE OREGON State Troopers didn't have much to say about the ST1100's sophisticated, integrated appearance. I explained that the Honda had been bred for the autobahns of Germany, and that it had such a torquey, tall-g geared motor that I really had no choice but to run down his section of

U.S. 101 at 80 miles per hour, especially since road conditions were good and traffic was light. He wasn't buying any of it, and kindly invited me to contribute \$172 to the state's coffers.

Had Officer Barder been a little more lenient, I'd have told him how much I liked the ST. How I thought the ST was at least \$2000 better than Kawasaki's Concours. How it's preferable to the BMW sport-tourers I've ridden. I'd even have told him that as impressive as it is, the ST is in need of a few options. I'd like to see a flatter seat offered. A radio/cassette player would be nice. Maybe a cruise control.

And definitely a radar detector.

—David Edwards, Editor

HONDA ST1100

SPECIFICATIONS

GENERAL

| | |
|------------|---|
| List price | \$8998 |
| Importer | American Honda Motor Corp. 100 W. Alondra Blvd. Gardena, CA 90247 |

| | |
|------------------------|--------------|
| Customer service phone | 213/532-9811 |
|------------------------|--------------|

| | |
|----------|----------------------|
| Warranty | 36 mo./unlimited mi. |
|----------|----------------------|

ENGINE & DRIVETRAIN

| | |
|--------|-----------------------------------|
| Engine | liquid-cooled, four-stroke V-Four |
|--------|-----------------------------------|

| | |
|---------------|---------------|
| Bore x stroke | 73.0 x 64.8mm |
|---------------|---------------|

| | |
|--------------|--------|
| Displacement | 1085cc |
|--------------|--------|

| | |
|-------------------|--------|
| Compression ratio | 10.0:1 |
|-------------------|--------|

| | |
|---------------|----|
| Claimed power | na |
|---------------|----|

| | |
|----------------|----|
| Claimed torque | na |
|----------------|----|

| | |
|-------------|--|
| Valve train | dohc, four valves per cylinder, shim adjusters |
|-------------|--|

| | |
|----------------------------|------------|
| Valve adjustment intervals | 16,000 mi. |
|----------------------------|------------|

| | |
|-------------|-------------------|
| Carburetion | (4) 31.6mm Keihin |
|-------------|-------------------|

| | |
|--------------|---------|
| Oil capacity | 3.8 qt. |
|--------------|---------|

| | |
|------------------|------|
| Electrical power | 420w |
|------------------|------|

| | |
|---------|-----------|
| Battery | 12v, 12ah |
|---------|-----------|

CHASSIS

| | |
|------------|---------|
| Weight: | |
| Tank empty | 658 lb. |
| Tank full | 702 lb. |

| | |
|---------------|----------|
| Fuel capacity | 7.4 gal. |
|---------------|----------|

| | |
|-----------|----------|
| Wheelbase | 60.9 in. |
|-----------|----------|

| | |
|------------|---------------|
| Rake/trail | 27.5°/4.0 in. |
|------------|---------------|

| | |
|-------------|----------|
| Seat height | 31.7 in. |
|-------------|----------|

| | |
|------------------|---------|
| Ground clearance | 6.0 in. |
|------------------|---------|

| | |
|------|----------|
| GVWR | 1078 lb. |
|------|----------|

| | |
|---------------------------|---------|
| Load capacity (tank full) | 376 lb. |
|---------------------------|---------|

SUSPENSION/TIRES

| | |
|----------------------|---------|
| Front suspension: | |
| Manufacturer | Showa |
| Tube diameter | 41mm |
| Claimed wheel travel | 5.9 in. |
| Adjustments | none |

| | |
|----------------------|---------------------------------|
| Rear suspension: | |
| Manufacturer | Showa |
| Type | single shock |
| Claimed wheel travel | 4.7 in. |
| Adjustments | rebound damping, spring preload |

| | |
|--------|----------------------------|
| Tires: | |
| Front | 110/80 V18 Dunlop K505F |
| Rear | 160/70 V17 Dunlop K505 |

PERFORMANCE

| | |
|-------------------|----------------------------|
| Time to distance: | |
| ¼ mi. | 11.91 sec. @ 111.94 mph |

| | |
|---------------------|-----|
| Time to speed, sec. | |
| 0-30 mph | 1.3 |
| 0-60 mph | 3.5 |
| 0-90 mph | 7.1 |
| 0-100 mph | 9.0 |

| | |
|------------------------------|-----|
| Top gear time to speed, sec. | |
| 40-60 mph | 4.7 |
| 60-80 mph | 5.2 |

| | |
|--------------------|---------|
| Measured top speed | 130 mph |
|--------------------|---------|

| | |
|------------------------|----------|
| Engine speed at 60 mph | 3124 rpm |
|------------------------|----------|

FUEL MILEAGE

| | |
|-------------------------|--------------|
| High/low/avg. | 48/36/42 mpg |
| Avg. range inc. reserve | 311 mi. |

BRAKING DISTANCE

| | |
|-------------|---------|
| from 30 mph | 29 ft. |
| from 60 mph | 138 ft. |

SPEEDOMETER ERROR

| | |
|------------------|--------|
| 30 mph indicated | 28 mph |
| 60 mph indicated | 57 mph |

