

Roadburners

Motorcycling grew up on roads, and as roadways changed, motorcycles adapted. Very early motorcycles in the United States were light and spindly. When rain dissolved dusty roads into mucky bogs, a pioneer motorcyclist could at least drag his mount through the pasty mud. Later, the hardtop roads of the twenties and thirties allowed American motorcycles to become larger and heavier. Thanks to hard-surfacing, the motorcyclist no longer had to portage his machine after a downpour.

Today roads still subtly shape motorcycles. Roadburners are the most powerful, sophisticated, and expensive machines available to the general motorcycling public. All these heavy, pavement-bound vehicles can gobble up mile after mile.

The term "roadburner" reaches across a broad spectrum. At one pole there are long-distance touring machines. They transport riders (and passengers) in great luxury; their domain is broad highways with gentle curves. Touring is wide-eyed motorcycling. The journey—what is seen, and done, and sensed along the way—is the thing; both the motorcycle and the road are tools for this larger experience.

Other roadburners form the spectrum's center. Grand-touring motorcycles can cover long distances at high average speeds over roads both straight and winding. Such machines must handle as precisely on twisting asphalt as on wide, concrete interstates. Strong engines and stout brakes are requisite. Road holding can't be sacrificed for luxurious comfort, yet the grand touring machine must not exhaust the rider.

At the spectrum's far end, pure sporting roadsters—including café racers—provide high intensity/short duration motorcycling. The primary consideration is the machine's ability to hurtle along straight or snaky roads at terrific speeds. Comfort counts for little. Luxury means nothing; stark function is everything. The gods are power, handling, and braking. There's no wide-screen journey; the total experience takes place between the road, machine, and rider.

The only thing that roadburners share is the road itself. A touring bike and a café racer are quite different motorcycling experiences.





Honda GL-1000

The Gold Wing Honda is a two-wheeler with a four-wheeled soul. The GL-1000 surely must be the most automotive motorcycle ever produced. The water-cooled, 1-litre boxer engine does not shout out *motorcycle*; massive and complex, the aluminum giant goes about its business with quiet, unruffled efficiency. The engine never calls attention to itself. Hidden inside its water-jacketing, the engine seems compartmentalized. It's just as remote from the rider as a luxury car's engine is distant from the steering wheel. The rider meets the powerful four-cylinder only at the controls and instrument facia.

Smoothness, silence, and weight count heavily in any luxury rating, and the Honda GL-1000 scores easily. This magnificent touring con-

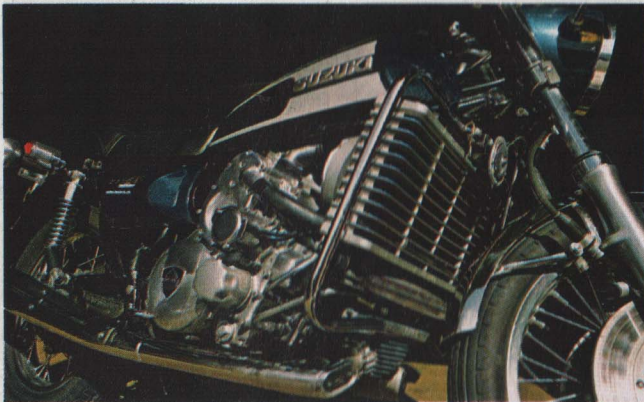
veyance is the smoothest-running motorcycle in the world. Vibration won't fatigue the rider; nor will the ripples and pocks of interstate highways numb the senses and pound the body. The Gold Wing insulates the rider from every harshness of motorcycling.

Luxury often means weight, and at 650 pounds, the GL-1000 is a lot of motorcycle. The Honda has a heavy drive shaft in order to eliminate the inconveniences of chain drive. Honda also employs a counter-rotating balancer to cancel out almost all the torque reaction long associated with boxer engines.

The generous proportions and ample size of the GL-1000 give the rider an opportunity to carry all necessary luggage—and still leave room for a passenger. And if there's anything better than a time and space machine for one, it's such a device for two.

Built expressly for long-distance touring, the giant Honda, with its water-cooled, opposed engine, looks like nothing else.

The instrument pod's face-cover opens when the ignition key is switched on. No bike has more warning lights than the RE5.



Suzuki RE5 Rotary

Motorcyclists are tradition-bound creatures, perhaps because motorcycles only slowly escape time-locked conventions. Truly revolutionary motorcycles are difficult to create; after all, the ways of packaging an engine into an effective two-wheeled vehicle are limited. In the past decade, engines have made the most remarkable advances with the proliferation of two- and four-stroke multis, and the emergence of modern V-twins. Suzuki carried powerplant innovation outside the mainstream with the debut of their Wankel-system, rotary-engined motorcycle.

The RE5 is strikingly novel. At first the engine bay looks shockingly alien; the lines of the single-rotor, water-cooled Wankel form an unfamiliar pattern. Soon one's eye picks out some standard components—carburetor, ignition-breaker blister, oil filter—in new places.

At idle the RE5 sounds neither like a four-stroke nor two-stroke engine, but something in between. On the road, with the exhaust noise



drumming out the dual mufflers, the rider can enjoy the machine's nearly total absence of vibration. The most unforgettable characteristic is the almost hydraulic quality of the RE's power. It's quite unlike the quality of power produced by standard reciprocating engines, which, no matter how smooth and sub-divided into small cylinders, still deliver power with an impulse-character.

Suzuki's rotary qualifies as the most complex engine ever to power a standard production motorcycle. The lubrication, ignition, and carburetion systems perform far more intricate tasks than their counterparts in reciprocating engines. Furthermore, construction tolerances are considerably more precise and tighter than in conventional engines. The rotary engine is no place for shady-tree mechanics to stage exploratory operations.

The Suzuki probably will not create a rotary-engine revolution. But most new motorcycles soon find their advocates inside the sport; so if nothing else, Suzuki's masterful engineering exercise will allow motorcycling to develop its first real rotary partisans.



MV Agusta 750S America

Two camshafts, four cylinders, a five-speed gearbox, and a six-thousand-dollar pricetag—the MV Agusta 750S America carries an impressive set of numbers. The 750's pedigree traces directly back to the company's grand prix road racers; faithful to racing practices, MV lavishes time and resources on the construction of the motorcycle. Some other roadburners have double overhead camshaft engines, but the valves are driven by chains. The 788cc engine, however, as a derivative of a racing engine, runs the camshafts more precisely with a drive-train of spur-cut gears. It's outrageously expensive, yet that's the way MV Agusta does things.

Both compact and massive, the 750 America belies its 560-pound wet weight. The engine cases are actually narrower than those of the Honda CB-400 Four. Inside the Italian engine vault spins a vast assortment of gears. An electric starter snaps the engine to life, and a great thrash rises from the cylinderhead, wherein the valve train operates. The exhaust note, barely modulated by four megaphone-shaped mufflers, overwhelms all space surrounding the motorcycle. Others might call it racket; motorcyclists (and the MV factory) insist it's pure music.

On the road the 750S sheds its bulky feeling. The motorcycle meets the rider at every juncture of the senses. The hand- and foot-controls have finely honed movements; the fabulous close-ratio gearbox shifts with the best lever-action in motorcycling.

Fast, expensive, and exclusive, 750S America models are built slowly, by hand, one by one. At the outside 200 machines will reach American shores each year. So most enthusiasts will meet the 750S in the library of last refuge: a perfect daydream trimmed in sound and speed.

The 788cc engine pulls strongly from 2,000 rpm to 9,000 rpm. Power reaches the rear wheel via a drive shaft.



Suzuki GT-750 LeMans

Before the introduction of Suzuki's liquid-cooled GT-750 LeMans, radiators were devices only for exotic road-racing motorcycles. Common production two-strokes made do with air cooling. Indeed, one virtue of two-stroke engines, as their adherents fondly pointed out, was basic simplicity. But stone-axe two-stroke engineering ended in the mid-1960's with direct oil injection and seizure-resistant pistons and cylinder liners.

Suzuki's LeMans represents the current culmination of two-stroke technology as applied to a basic touring motorcycle. Heart of this long-distance runner is a liquid-cooled, three-cylinder, two-stroke engine. The cooling system permits the Suzuki to maintain very close running tolerances, reduce engine noise, lower gasoline consumption, and raise engine efficiency.

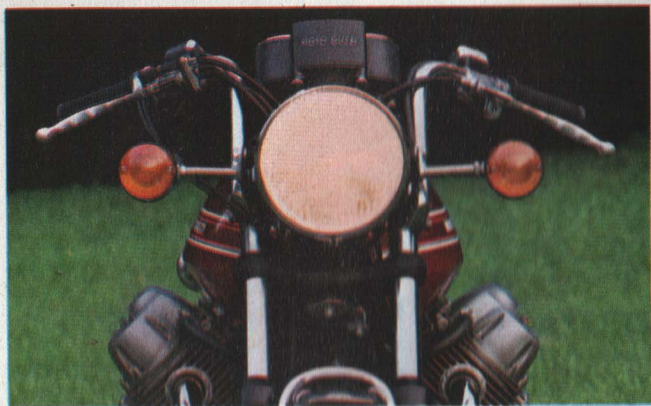
Suzuki has tuned the GT-750 engine with the touring rider in mind. The triple will slog forward with tractor-like willingness with the tachometer waving in its lower reaches. The power continues, sharply building toward its peak at 7,000 rpm. Its strong engine enables the GT-750 to haul big loads, including a sidecar. There's no worrying when pulling up a grade, because the liquid-cooled engine stays even-temperated and tireless. Downhill, the outstanding double-disc brake provides stop-action halts if necessary. Otherwise, the superb brake offers an extra measure of security to those riders who pack heavy loads.

The 550-pound bike earns few honors as a backroad demon-racer. But the rider—proceeding at a normal rate—will stay comfortable in the generous saddle, cushioned by the soft suspension which intercepts and smothers bumps along the way. The miles roll under the liquid-cooled Suzuki and disappear effortlessly over a receding horizon.

So the GT-750 has a peculiar kind of sorcery: an enthusiast settles behind the bars and he begins at once to think of places far distant.

Water cooling gives the GT-750 a distinctive, almost startling, appearance. The bike meets every test for a long-distance runner.





Moto Guzzi Sport

The Moto Guzzi Sport holds the middle ground. The machine fits perfectly into the grand touring category, exactly halfway between luxurious touring motorcycles (like the Suzuki GT-750) and pure sporting mounts (such as the Ducati 750 Desmo).

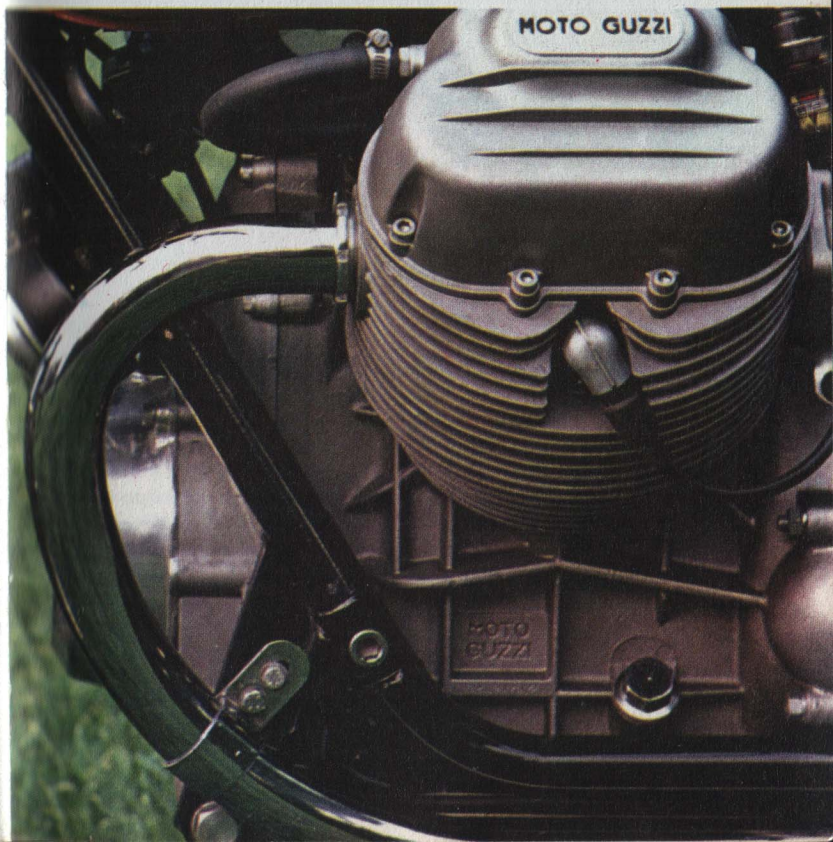
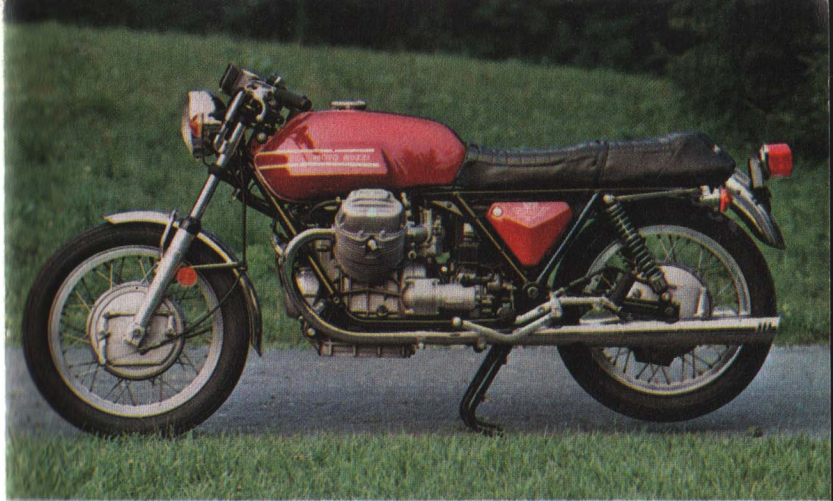
Moto Guzzi owners contend that their machines have achieved the perfect compromise. The Italian V-twin can cope with winding roads far better than straight tourers. Like touring bikes, the Guzzi remains comfortable for long hauls. Moreover, the shaft-driven Latin has a good record for reliability and fiddle-free maintenance. The Guzzi's long-distance capabilities separate it from café racers and most other super-performance bikes. Certainly the Guzzi Sport lacks the tautness in cornering and the raw horsepower of pure sporting roadsters, yet this V-twin can't be outclassed on a winding road unless the company is motoring very hard indeed.

The Italian twin has excellent all-round performance; in that respect, the Italian bike resembles the Kawasaki Z-1. The Sport handles better than the 903, but lacks the refinement and immense horsepower of the dazzling Japanese twin-cam four.

Guzzi's 90-degree pushrod twin has developed from an original 700cc to a present 750cc. The stablemate of the 750cc Sport, the 850-T, is intended for touring only. Despite its small engine, the Guzzi Sport has not been booted out of the high-performance club and relegated to the minor leagues.

34 There will always be a Guzzi in the roadburner class—the company's experience and Italian preferences guarantee it.

Graceful and flowing, the original Sport (with drum brake instead of discs) is more handsome than later models with contrived styling.





Triumph Trident 750

The Trident, though the flagship of the Triumph line, lurked for years in the shadow of the Triumph 650/750 vertical twin. So strong and pervasive was the influence of the twin, the three-cylinder superbike only achieved full recognition after the reorganized company dropped production of the popular vertical twin.

Hard economic facts explained the triple's survival and the twin's demise. The three-cylinder model could be profitably developed and further refined. The old twin had simply reached its final stage, and had no real future.

Though first released in 1969, and face-lifted shortly thereafter, the **36** Triumph Trident continued fundamentally unchanged until 1975. A

five-speed transmission proved to be the best addition to the motorcycle in its first five years.

In 1975 the Trident underwent a dramatic overhaul. The basic silhouette of the machine changed. The all-new Trident picked up a stripped profile similar to the BSA Rocket Three, the Trident's original stablemate, which was dropped in 1972. The forward cant of the new Trident engine, à la the Rocket Three, permitted Triumph to incorporate an electric starter. A new rear disc brake complemented the disc stopper up front.

Fresh, bold styling gave the new Trident a kind of jaunty confidence which the old bike always lacked. The three-cylinder roadster may finally receive its due. Insiders always knew the old triple was an excellent motorcycle. Now, in its revitalized form, everyone will know. **37**

Left-side shifting, as required by United States federal standards, has been incorporated in the stylish new Trident.

BMW R90S

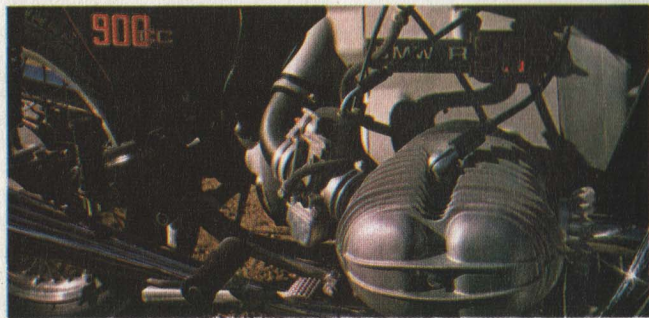
Leader of the BMW line, the R90S is the most expensive motorcycle generally available. Only limited-edition motorcycles (Laverda 1000, Ducati 750 Desmo. and MV Agusta 750SS) are more costly. BMW enthusiasts accept the hefty \$3,800 pricetag for a Teutonic version of substance, luxury, and performance.

The R90S delivers. The machine bespeaks substance everywhere. The engine castings are ruggedly handsome; the paint, flawless. BMW chrome has a deep luster, the result of careful polishing, precise application, and thorough buffing. Attention to detail makes the R90S the best-finished motorcycle in the world.

The workmanship so evident in BMW construction finds a match in its luxury on the highway. Beyond the normal complement of instruments, the R90S's fascia (inside the fairing) contains an electric clock. There's no ungentlemanly chain; a virtually maintenance-free shaft drive carries power to the rear wheel. The long-stroke front suspension devours all bumps before the disturbances reach the rider or passenger. BMW has tuned the suspension to maximize comfort; though high-speed handling suffers a bit, only hard-riding devotees of twisting roads would fault BMW's calibration.

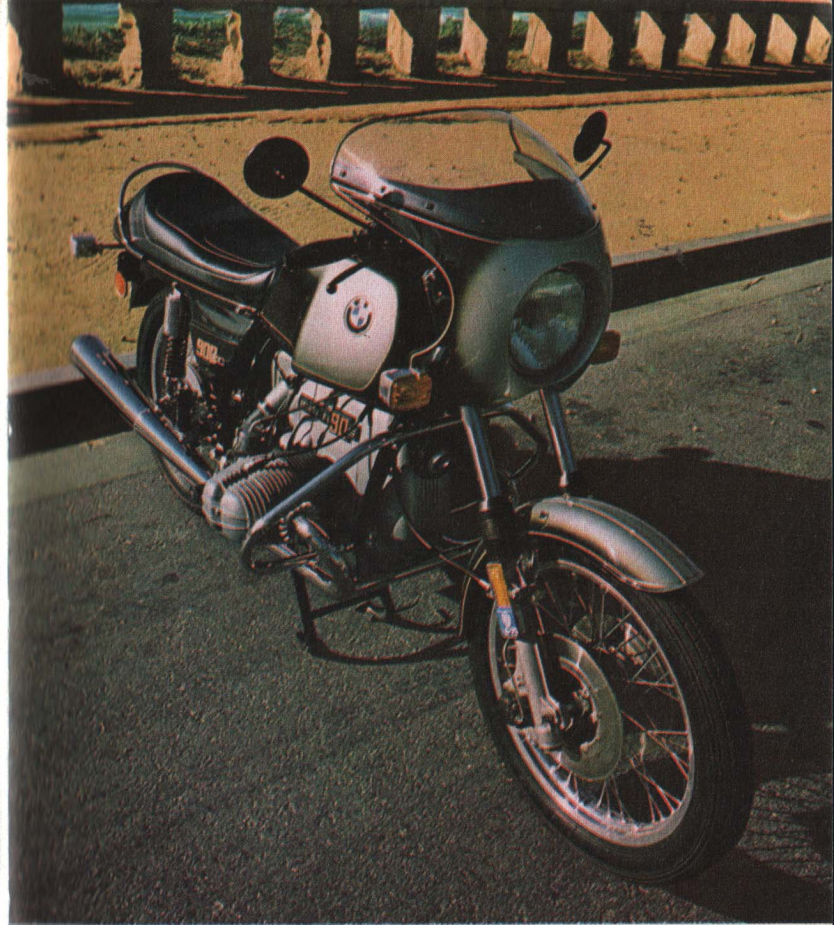
The engine's silence and smoothness belie its performance. The horizontally opposed twin breathes through monster 38mm carburetors, easily spins to 7,200 rpm, and drives nearly 500 pounds of motorcycle beyond 120 mph. The R90S hardly dawdles up its acceleration curve. From a standstill, 100 mph comes up in less than 13 seconds. Yet the most impressive part of R90S performance is its tremendous torque; even in top gear, cracking the throttle open produces an astonishing surge forward.

No wonder BMW enthusiasts insist that \$4,000 still buys a lot in today's world.



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Eight inches of front fork travel keep bumps away from the rider; at highway speeds, the twin runs with mellow smoothness.





Norton 850 John Player Special

The Norton 850 John Player Special runs in the shadow of a long tradition. The engine's lineage can be traced directly back to the late 1940's. Today, big-displacement vertical twins are out of fashion in a motorcycle world filled with triples and fours. No one save Norton still makes engine and gearbox separate. With four speeds, the Norton has one fewer than the norm of the seventies.

Yet the Norton has grown old with style and grace. The motorcycle's brilliant Isolastic system mounts the engine, gearbox, and swinging arm in a sub-frame. Thanks to rubber bushings between the sub-frame and main structure, the terrific vibrations from the big twin are isolated from the rider. Though it judders below 2,500 rpm, the bike becomes remarkably smooth above that engine speed.

If its engineering is dated, the Norton still does not want for style. The standard Commando Roadster and Commando Interstate are two of the

best-looking motorcycles anywhere. The new John Player Special is named after Norton's factory road-racing bikes which are sponsored by the John Player Tobacco Company. Quick to pick up on new styling trends, Norton has rendered the JPS in café-racer idiom.

Café racers, which mock road-racing bikes, set comfort and convenience aside so that form may follow function everywhere. What's the function? Fast riding on winding roads! A good café racer should have substantial power, excellent brakes, first-line tires and suspension, and lightweight running stock. Other race-track trappings may include large gas tanks, solo saddles, clip-on bars, and fairings.

The Player Norton meets these tests: 48 horsepower at the rear wheel, 475 pounds wet, Lockheed front disc brake, solid British handling, great Dunlop TT100 tires, gas tank shroud, solo seat, clip-ons, and three-quarters fairing. The dual headlamps add a distinctive touch.

Old the Norton may be, but this speedy veteran certainly comes dressed in elegant, modish fashions.

Norton's 850cc vertical twin has been buried by a three-quarters fairing and a full-tank cowling.

Kawasaki Z-1

When Kawasaki introduced the Z-1 late in 1972, the motorcycle caused a sensation. It represented the state of Japanese art in high-performance sporting roadsters. The passing years have not dulled its appeal.

The engine is simply magnificent. The 903cc unit has chain-driven, double overhead camshafts, four 28mm carburetors, a mild 8.5:1 compression ratio, a robust roller-bearing crankshaft, and a 9,000-rpm redline. The Z-1 engine has an excellent record for reliability—and an awesome reputation for power. It's well deserved: the Kawasaki produces a genuine 80-plus horsepower at the rear wheel.

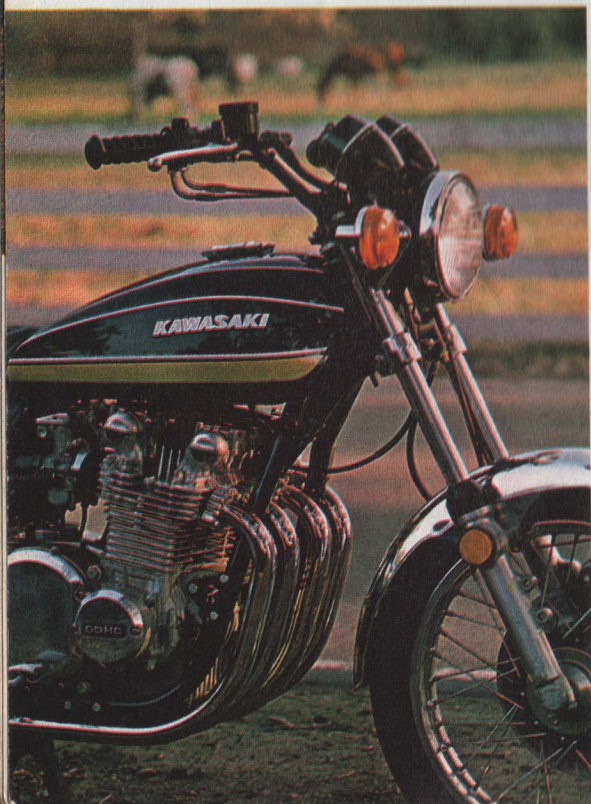
More than anything else, the engine makes the Z-1 what it is. The twin-cam, four-cylinder powerplant will send the Kawasaki heavyweight through the standing quarter-mile inside 12.4 seconds. No other roadburner can whip a good Z-1 on the drag strip. And the 903cc motorcycle has a top speed well beyond 130 mph, and that figure

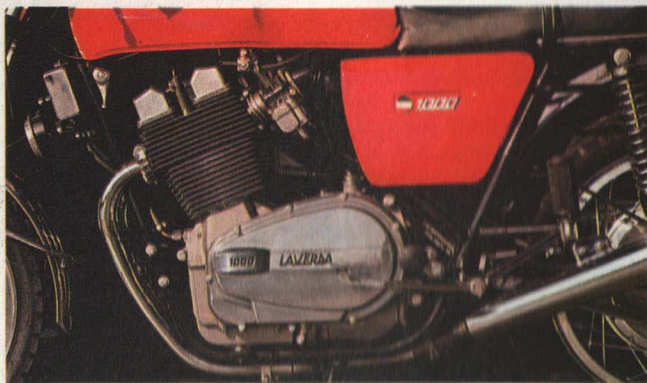
Though the Z-1 does many things well, the most important part of the motorcycle is its super-power 903cc twin-cam engine.

guarantees that few street-going vehicles will humiliate a Z-1, police cars excepted!

To dwell on brute performance does the Kawasaki an injustice. It does many things very well. Despite its 540-pound weight, the Z-1's disc brake can quickly erase speed, and the bike steers surprisingly well. The engine runs smoothly, without a trace of evil temperament. The Kawasaki, like any other refined, civil Japanese motorcycle, blurbles into life at the touch of its starter button. The bike possesses all those features for rider convenience, from indicator-warning lights to helmet holders.

Under 5,000 rpm, one might mistake the Z-1 for just another well-engineered-and-executed Japanese motorcycle—nice for short trips, pleasant on winding roads, and enjoyable on long interstate treks. But above 5,000 rpm, with the giant engine howling toward its 9,000-rpm bloodline, no rider will ever forget he's aboard motorcycledom's quickest and fastest production roadster.





Laverda 1000

Despite all the trappings of refinement and civility, the beast, aggressive and strong, still roars inside some motorcycles. The Italian Laverda 1000 makes the point perfectly. Consider a few of the motorcycle's credentials for civility: lovely Nippon Seiki instruments (not Italian-issue pointers); Japanese hand-switch controls (the world's best); Bosch electrical components (complete with pointless ignition). These items might suggest a plush touring machine, Italian/International style.

What a shock the real Laverda 1000 would be! The double overhead camshaft engine dominates the motorcycle. Physically, the bike seems small, for the saddle is low and the engine massive. The claim of 80 horsepower can be no sly puffery; the 520-pound motorcycle has tremendous acceleration. Yet its surge lacks spiteful suddenness. The three-cylinder engine has such wide power (from idle-to-8,000 rpm) that the bike launches forward with velvet quickness.

Laverda contains its monster engine inside a stout and rigid frame. The first-class suspension components and the frame make the Laverda a memorable roadholder on winding roads. Laverda has set up the suspension for fast work on twisting venues, and in such places the huge Italian multi can proceed with fantastic swiftness.

The beast does not love underachievers. The clutch lever demands a strong hand; so does the twistgrip. Around town the Laverda feels bulky and heavy. The stiff suspension will punish the timid soul with a harsh ride at slow speeds. After ten minutes in the saddle, a jarred novice would conclude the 1000 was something less than its civil appearance promised. Only an expert motorcyclist would want this one-litre lion.

44 _And only an expert could appreciate its excellence.

Extraordinarily narrow, the engine squeezes into a very small space; yet it still overwhelms the bike.



Ducati 750 Desmo Super Sport

Building a new V-twin hardly seemed progressive in the early 1970's. The mainstream of modern motorcycle design all flowed toward in-line transverse multi-cylinder engines. Multis became popular because these engines were both smooth and powerful. True, three- and four-cylinder engines were often wide and heavy, but silky power outweighed all other considerations. Nevertheless, Ducati built a V-twin.

The Italian 90-degree V-twin has perfect primary balance; consequently Ducati 750 engines—in touring or sports versions—are all but vibration-free. Easily the smoothest twin in the world, the Ducati 750 is even more placid than the 750 Honda or 900 Kawasaki four-cylinder bikes. Mounted longitudinally, the Ducati unit has no periodic quaking like Moto Guzzi's twin or BMW's boxer engine.

Though its layout requires a long wheelbase (61 inches), the Ducati can be much narrower and considerably lighter than a multi of equal displacement. The Ducati Super Sport weighs just over 450 pounds. That makes the 750 twin lighter than a 550cc Suzuki two-stroke!

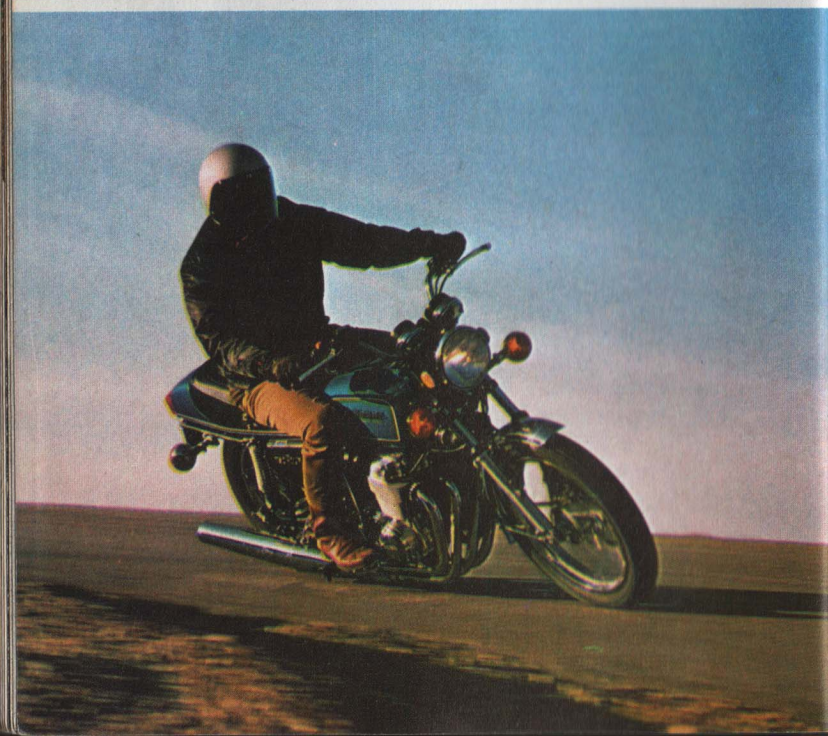
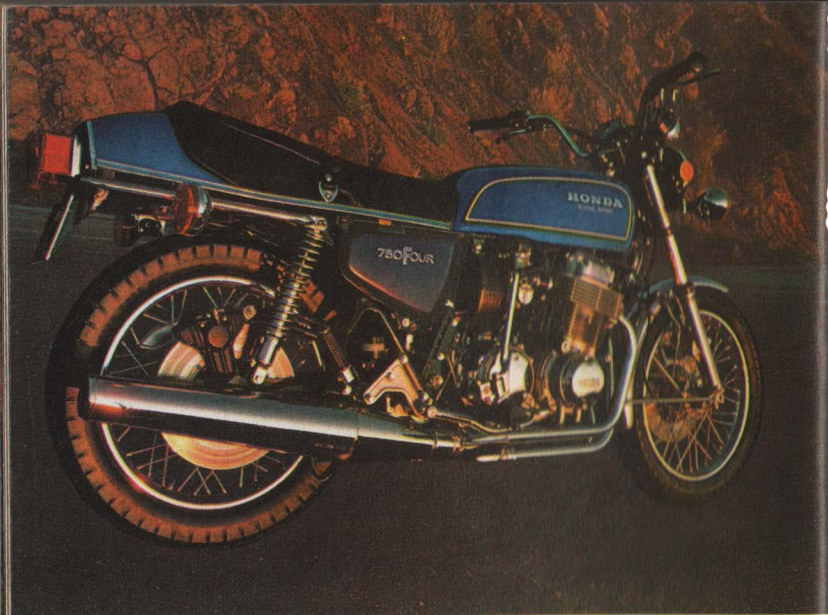
No twin can overpower a similarly-tuned multi of equal size. Yet Ducati's GT-750 (a grand-touring bike) and the 750 Sport (a café-racer model) give little horsepower away to multis. The 750 Super Sport, with desmodromic valve actuation (valves are both opened and closed mechanically), can outgun other sporting bikes. Ducati engines may make slightly less horsepower than equivalent multis, but they still perform brilliantly, thanks to a favorable power-to-weight ratio.

Other features beyond its power-to-weight ratio and valve system mark the 750 SS as a pure sporting motorcycle. Nothing can touch the Ducati for handling; its fantastic stability and sureness around corners makes it the fastest-cornering production machine available.

Ducatis have few "convenience" features. Finishing and detailing rate fair-to-poor for expensive motorcycles. As a well-rounded motorcycle for the everyday enthusiast, the Ducati 750 SS is a disaster. As a pure sporting motorcycle, it's a masterpiece.

*Desmo is a lean and Spartan motorcycle.
The engine will rev beyond 9,000 rpm, where
it roars with blood-boiling ferocity.*





Honda CB-750 Super Sport

Face lifting, a Detroit concept, has its practitioners in the motorcycle world. Reckless metal-surgery can be dangerous. Should inspiration fail, a golden coach can be transformed into a yellow pumpkin. Nothing in motorcycling has been such a golden carriage as Honda's CB-750; understandably Honda has never radically altered the bike. After all, the CB-750 has had the widest buyer appeal of any roadburner. Consequently, like the standard 750, Honda built its new CB-750 Super Sport for the broadest possible audience.

The Super Sport Honda supplements, but does not supersede, the familiar standard version of the 750 Honda. The sporty 750 offers subdued, almost compromised, café-racer styling. Undiluted café racers are monoposto machines; but the Honda Super Sport, like the BMW R90S, has a two-up seat with tail section. By Honda standards, a mono-saddle would have seriously diminished the bike's appeal. And while the sporting set might have raved over low bars, most customers would likely opt for higher, more comfortable bars. Hence, the Super Sport has high bars.

Yet the go-fasters have not been entirely ignored. Hard riders will welcome the new rear-wheel disc brake. The Super Sport also features a four-into-one exhaust system which is lighter than the standard 750 four-muffler plumbing. The Super Sport's single silencer throttles the exhaust to a whisper-level without suffocating engine performance.

Clever touches abound. The Super Sport has a recessed gas cap, hidden from view by a key-lock door. And the ignition-key/fork-lock switch between the instruments allows the rider to turn off the engine and lock the front fork in one motion.

Despite the face lift, and all the new equipment, the best thing about the Super Sport is something "old": the basic 750 Honda engine—stronger than ever and still smooth and reliable.

The Super Sport, with far more power than the standard 750 Honda, remains stable and predictable approaching its cornering limit.