

Cycle

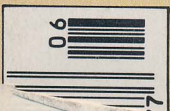
**Honda's New
500 Roadster**

**Multi-Million-Dollar
Daytona Spendathon**

JUNE 1982 • \$1.25

Kawasaki GPz750 **Purebred Sports Bike Supreme**

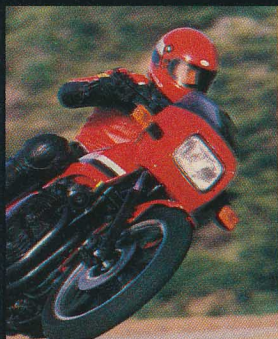
Giant Comparison
Enduro-Bike Winners & Losers



620144 BAC 18040093 741C APR83
M E BLACK
1804 OAK DR
EDMOND
OK 73034
06



pg. 58



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This Month's Cover: See here. Zápudb, we said to the AD, we want this GPz750 to pop off the cover. No problem, he replied, we'll put this jump-out square-lens on Robin Riggs' card-board camera, and it'll be dramatic. It was. So is the bike: best 750 sports bike in red or any other color. The test begins on page 30.

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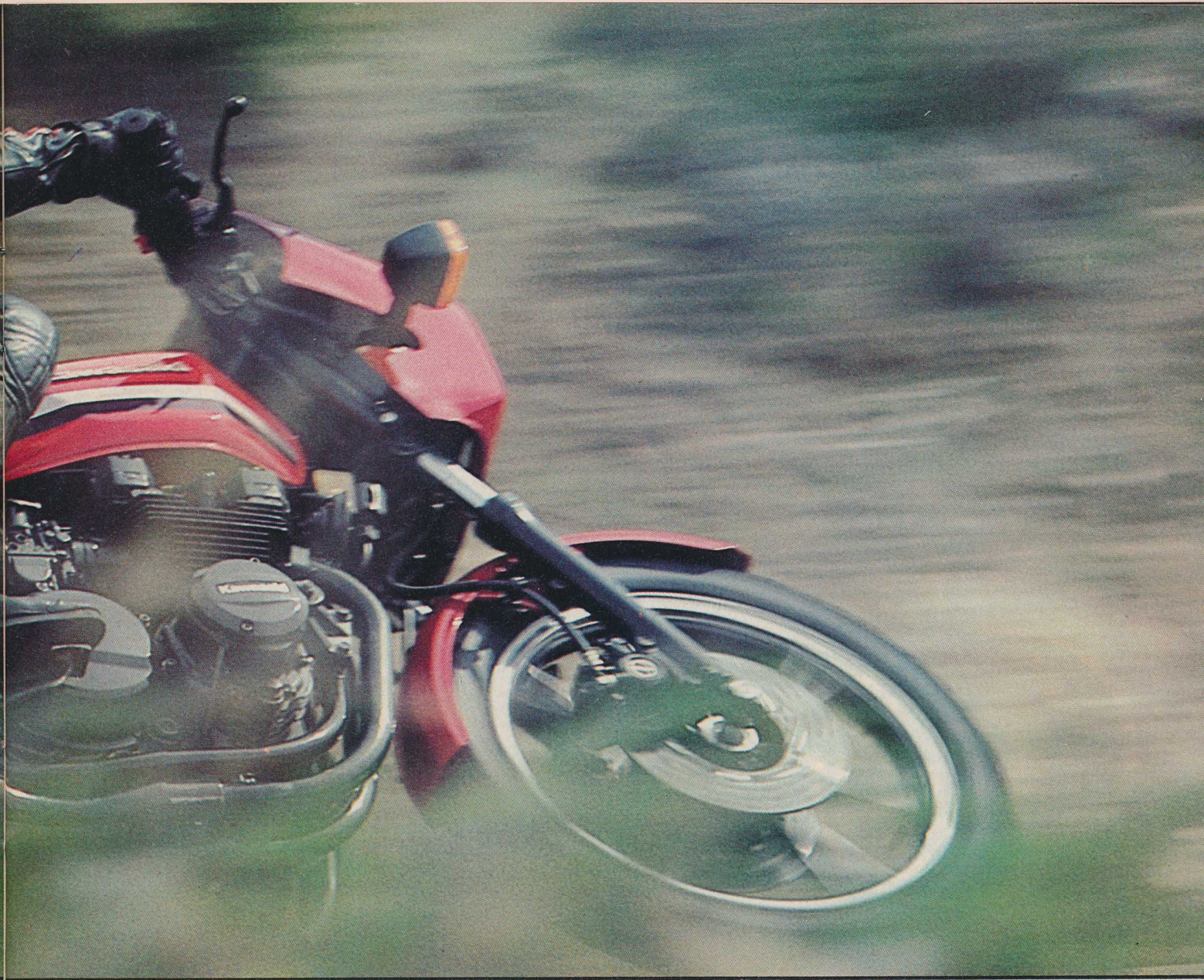
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KAWASAKI GPz750

Kawasaki's new GPz raises the standard by which all 750 sports bikes must be judged. Not only is it the supreme backroad charger, but this red flier can also take you on a long day's journey that won't end in bone-sore exhaustion.

PHOTOGRAPHY: ROBIN RIGGS



● JUST WHEN YOU THOUGHT THE air-cooled, in-line four-cylinder concept might be a dead issue in motorcycling, or at least a dated one, along comes the Kawasaki GPz750—alive, red and hot to the touch. What's more, this GPz belongs to a displacement class that at one time seemed moribund, though later developments would prove reports of its early demise greatly exaggerated.

In the early- to mid-1970s the 750cc displacement class was where things were *happening*. Mass-produced four-cylinder engines and disc brakes were sure evidence of progress, and 12-second quarter-mile times became commonplace. This flourish didn't last forever. The 1000cc and 1100cc heavyweights moved into the techno-limelight

with air-assisted suspensions, adjustable damping, and engines with horsepower for 11-second quarter-miles. Fairly recently, the spotlight has returned to the 750 class: all-new engines, anti-dive forks, increasingly sophisticated suspension of both the single-shock and twin-shock variety. Seven-fifties, once seemingly ponderous, went on diets; the best of the lot now feel light and agile and responsive compared with their large-displacement brethren. Forward thinking is back in vogue in the 750 class.

Performance is the spoken language at Kawasaki. That's always been true of the 750 series; it's double ditto with the GPz series. Kawasaki is interested in end results, and getting there in the most direct, straight-line route possible. Thus,

the engineers developed a muscular 750 from an existing 650. The KZ750E series has occupied an easily identified place in the 750 class, but it wasn't due to size, appearance, electronics, or four-valve technology. The KZ750 attraction was obvious: the bike was light, agile and it had enough engine performance to make it the quickest 750.

More than a stylized, hopped-up E-model, Kawasaki's GPz750R-1 is an amplification and refinement of the basic 750. Kawasaki engineers thought, looked and listened before they built the R-1. The benefits of this approach are clear. One need only attend a club-level road race anywhere in the country to witness the smaller GPz bikes' complete dominance of 550 Box Stock. And Ka-



The GPz excels as a sports bike and it's superb for general use—comfortable and smooth enough to serve you well from canyon to Interstate.

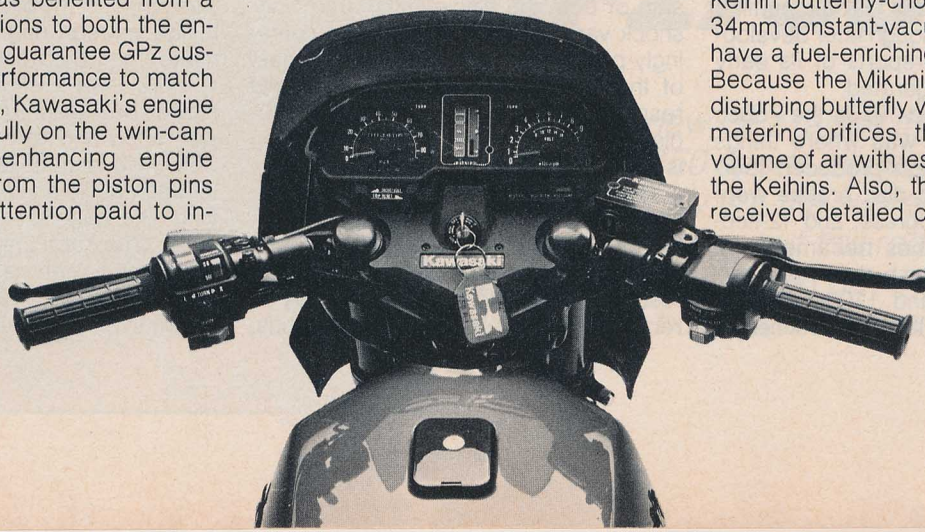
KAWASAKI GPz750

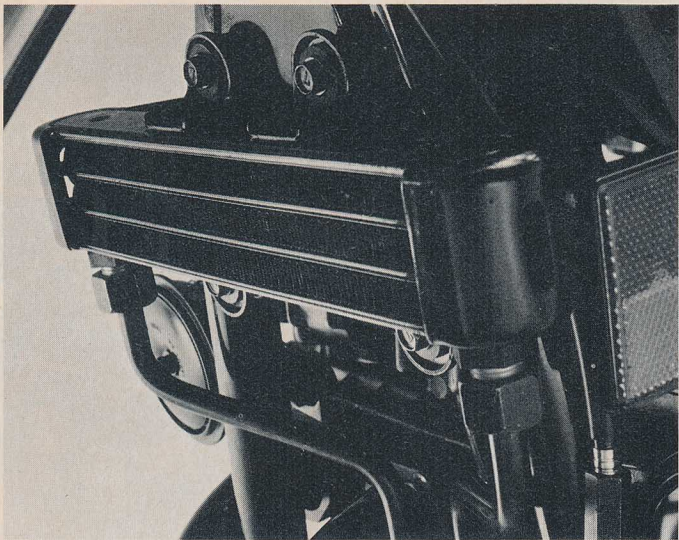
Kawasaki's handle on the 750 class may turn into a stranglehold this year. The GPz formula works; the proof is in the running, on the street and on the track.

The 750cc R-1 has benefited from a number of modifications to both the engine and chassis. To guarantee GPz customers racetrack performance to match the racetrack styling, Kawasaki's engine group worked carefully on the twin-cam four. The power-enhancing engine changes proceed from the piston pins up, with detailed attention paid to in-

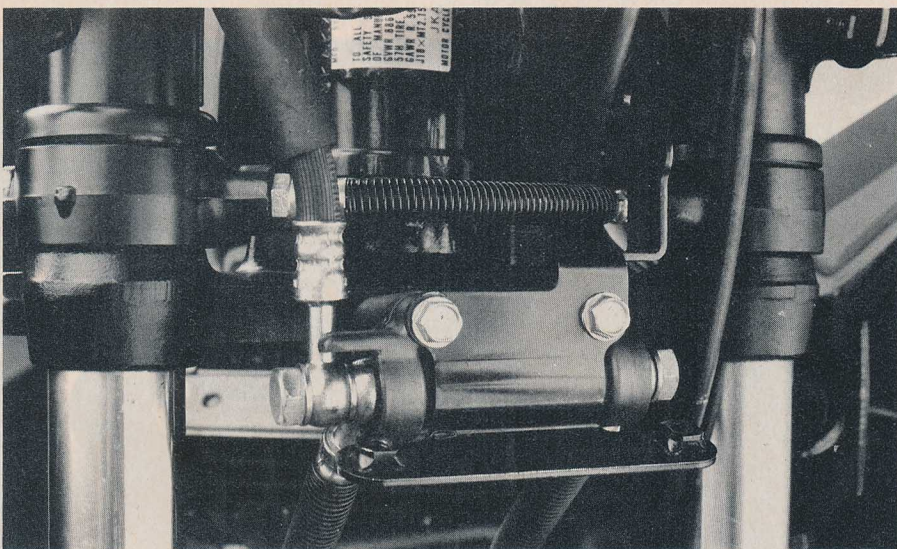
creasing the quality and quantity of fresh and spent combustion gases.

First, there's news on the intake side. Kawasaki replaced the disposable paper air filter with a less restrictive oiled foam unit, and the 34mm constant-vacuum Keihin butterfly-choke carburetors with 34mm constant-vacuum Mikuni units that have a fuel-enriching circuit-type choke. Because the Mikunis don't have a flow-disturbing butterfly valve upstream of the metering orifices, they move a greater volume of air with less turbulence than do the Keihins. Also, the intake ports have received detailed clean-up work along

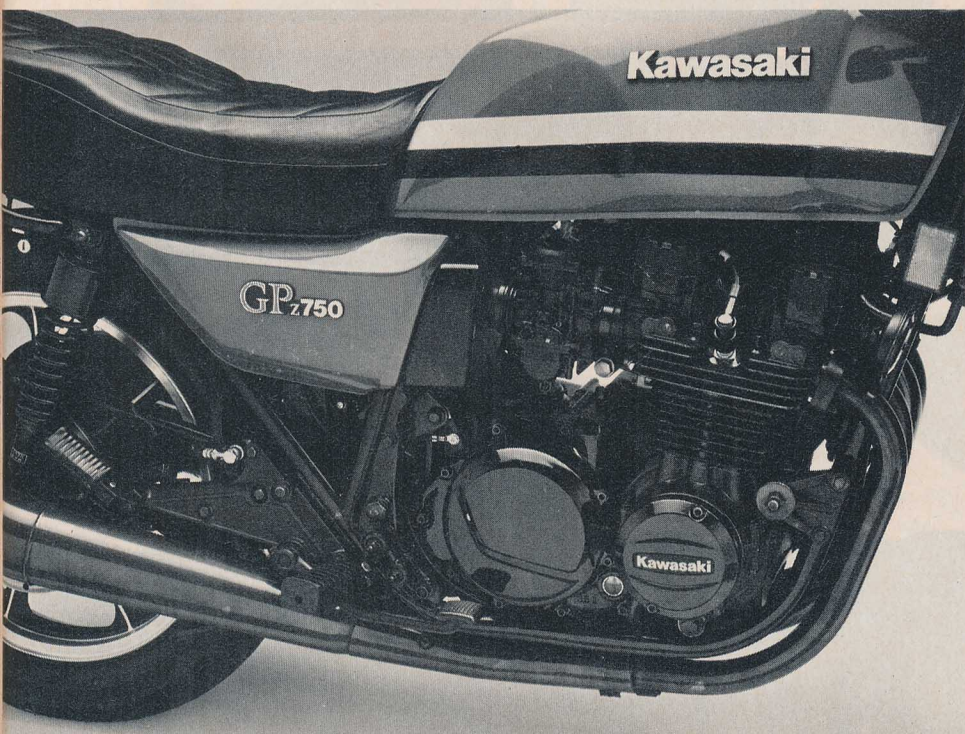




An oil cooler is standard; rubber mounts protect against vibration damage.



The air fork now has an interconnecting air hose between the two legs, making pressure adjustments easier.



much of their length. In fact, the smooth ports look as though they stopped at someone's flow bench en route to final assembly. With no ridges or burrs, the ports give the intake charge a smooth shot at the combustion chamber, and there's been a fair amount of shaping and blending in the valve seat area and in the ports' roofs downstream from the valve guides. Dazzling handiwork should not obscure the fact that getting the right shapes, whether done by hand or in the basic casting, is of far greater import than making the wall surfaces shiny.

Combustion chamber shape has become an important area of research because a clean and thorough combustion produces two things—low emissions *and* good power. For some time engineers have understood that agitating the incoming air/fuel charge at exactly the right time and place can work wonders. One method is to create a swirling effect in the fresh intake charge in the combustion chamber; when the charge is ignited at the right time, the result is fast, clean and thorough combustion. Different manufacturers have employed different approaches to arrive at the same result. Honda has its Pentroof four-valve chamber; Suzuki uses a contour they call TSCC, or Twin Swirl Combustion Chamber; Yamaha induces an air/fuel swirl in the chamber via YICS (Yamaha Induction Control System), which stirs up the incoming air/fuel mix by routing a small portion of the intake charge down the tiny cylinder-head passage that exits just upstream of the intake valve.

The Kawasaki approach is less elaborate and perhaps more subtle. Kawasaki redesigned and improved the 750's combustion chamber by giving it a better squish area and a redesigned valve-seat area. Although the combustion chamber appears to have lost volume, it is almost identical to that of the E-3, give or take a tenth of a cubic centimeter. Compression is up though; the new high-dome piston raises the R-1's compression ratio 0.5 over the E-3's, to 9.5:1.

Cam-timing figures remain unchanged, but a new cam profile opens the valve to its maximum lift sooner, effectively increasing the time that a greater area is opened to allow the charge past the valve. It's likewise important to get the intake valve off its seat quickly: during intake the greatest volume of air passes through the valve opening when the valve is in the process of opening and closing and therefore at partial lift figures.

To move this greater, cleaner, faster velocity charge out of the engine, Kawasaki fitted new black chrome mufflers to the GPz. Their greater interior capacity aids exhaust gas evacuation while keeping noise down.

Greater power output has led Kawasaki engineers to strengthen the lower

KAWASAKI GPz750

end of the engine in various areas. They've drilled oilways in the big end of the GPz connecting rods to direct pressure-fed oil toward the piston bottoms, aiding both piston cooling and wrist-pin lubrication. In addition, they've fitted an oil cooler. Larger bearings on the transmission's drive and output shafts spread the loads and reduce stress concentration.

The chassis has its share of modifications. Expert riders could use short, quick-handling bikes like the KZ750E to their advantage without being disturbed by their instantaneous response; others couldn't. While designing the GPz chassis, engineers quietly went about modulating the response-sensitivity characteristic of the E-type. By no means did Kawasaki overcorrect and produce an unresponsive straight-line locomotive. The GPz will carve as precise a path as the rider directs, but, unlike the old E-model, the GPz does not require a watchmaker's touch. Expert riders won't mind the change, and those with the touch of clockmakers and blacksmiths will appreciate the mellowed responsiveness.

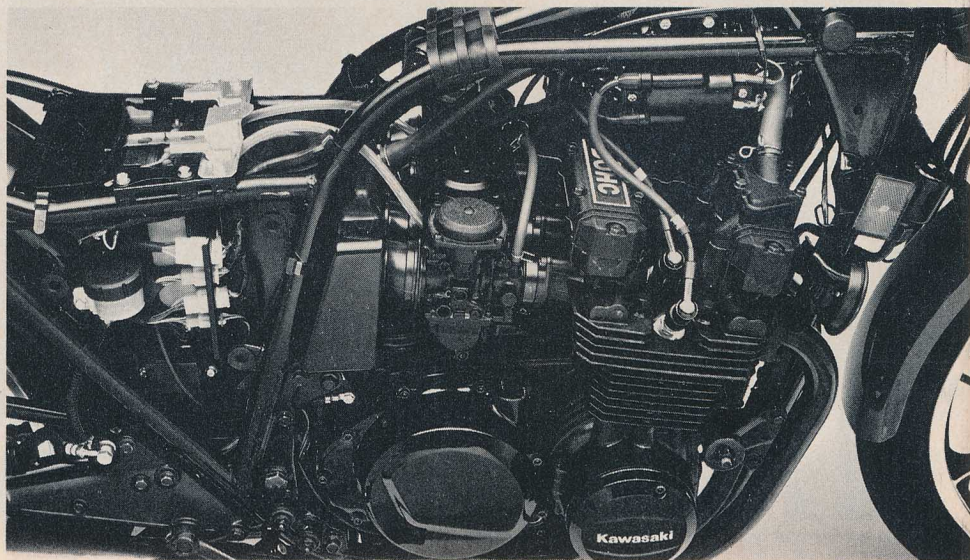
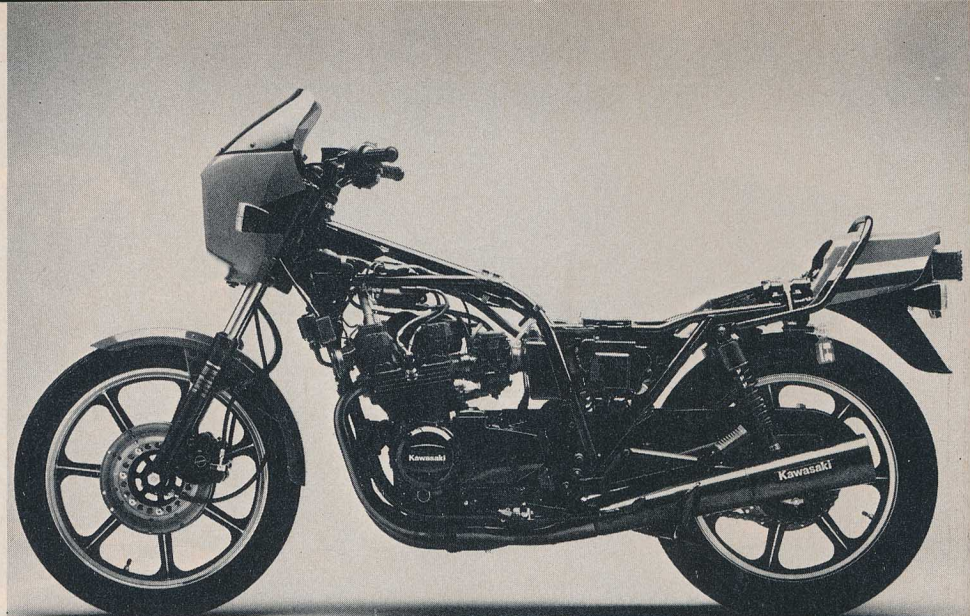
The R-1's steering geometry is the same as the E-type's. The cooled-out responsiveness results from a longer wheelbase, courtesy of a lengthened swing arm. The wheelbase grew from 55.9 inches to 57.5 inches—still much shorter than the average 750; both Honda's and Suzuki's 750s measure around 60 inches.

Extra swing-arm length provides the GPz with an additional 0.6 inch of rear-wheel travel. Shock adjustability has gone from five to seven preload choices, and the spring rate is slightly higher.

Kawasaki subtly changed the fork, too. It shares a spring rate increase with the rear end, and the new springs are progressively wound. The improved air fork feature has a long-awaited interconnecting air hose between the two legs, making pressure adjustments easier.

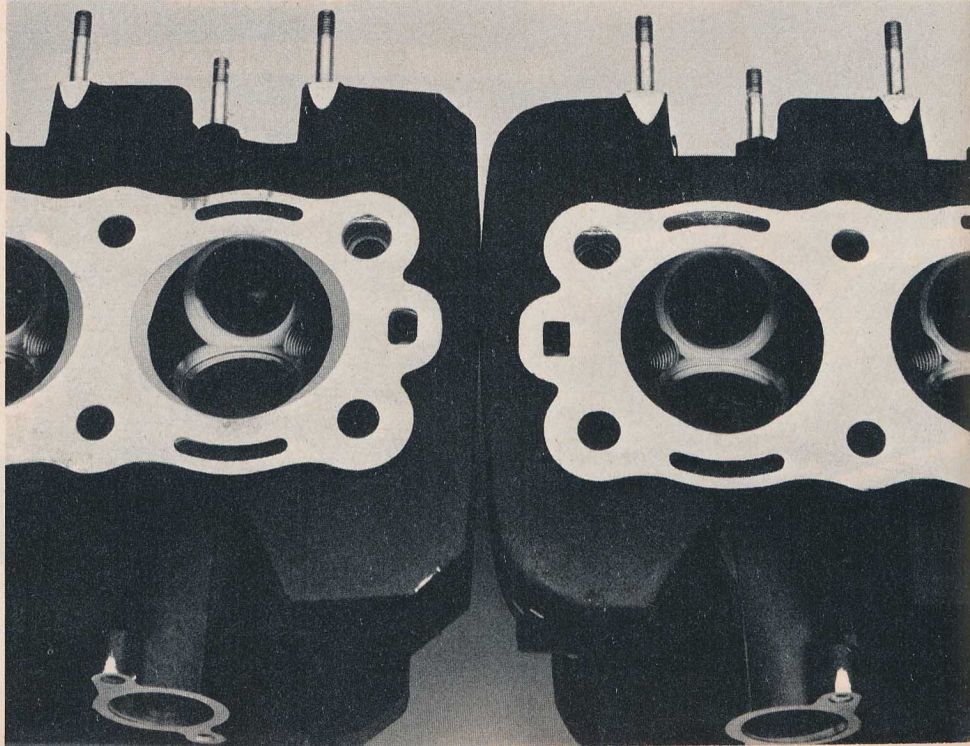
New tapered roller bearings carry the steering head, replacing the old non-captured ball bearings. Ball bearings can't withstand as great a load as tapered rollers which have more bearing surface: they are more difficult to service and more likely to flatspot than the tapered rollers, which offer multiple lines of bearing surfaces rather than a series of tiny points. This bearing change will provide more consistent steering precision over a much longer time.

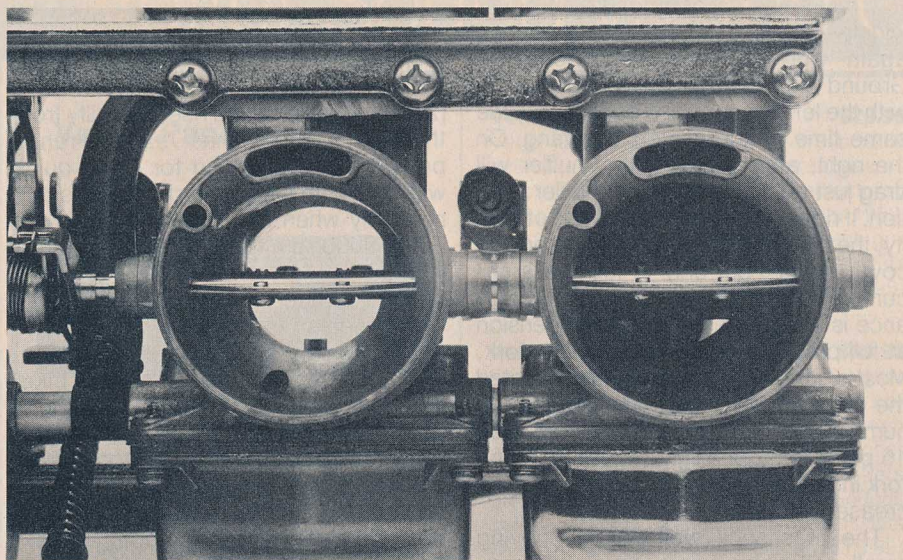
Riding comfort has been substantially improved during the GPz's design period. The E-type handlebar, too wide and too far back for *Cycle* staffers, is now lower and narrower; it's the multi-piece-type used on the Uni-Trak GPz550. The footpegs, now set farther back, do much to extend comfortable in-the-saddle time,



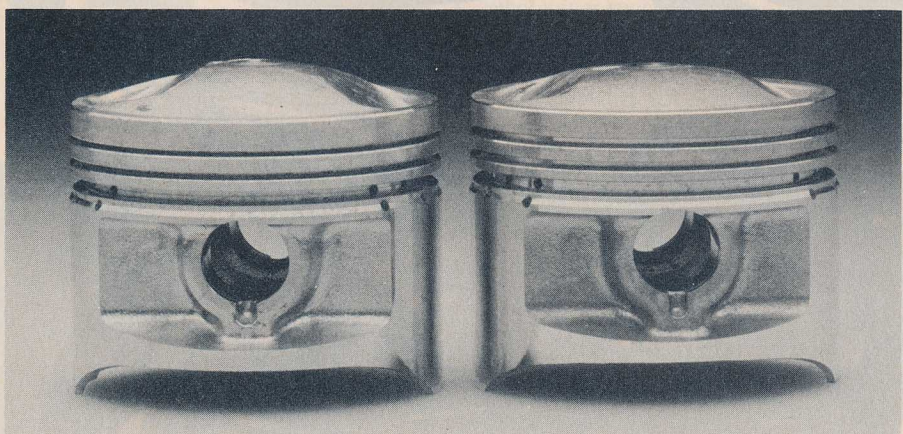
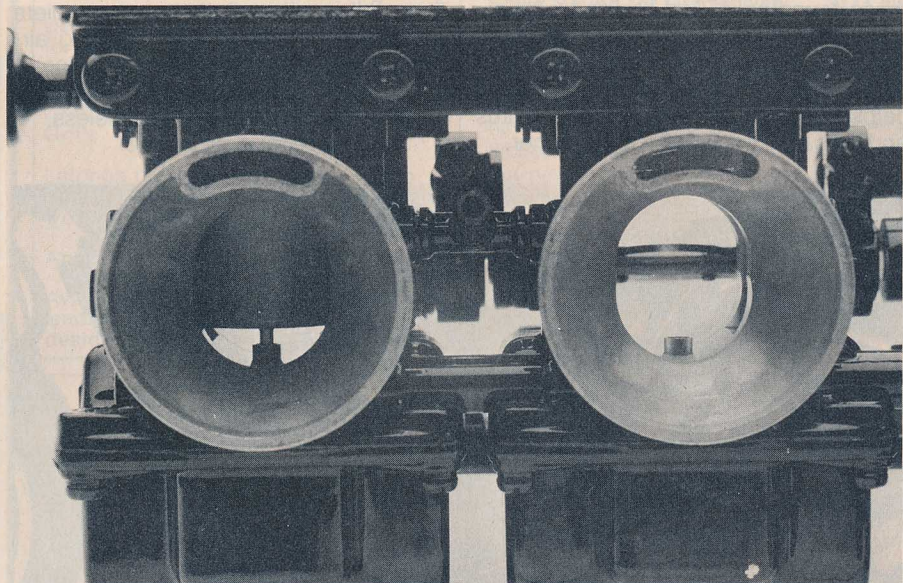
Several subtle refinements in the carbs and cams, along with intake-tract detailing, enhance power output.

Kawasaki improved the 750's combustion chamber by giving it a redesigned squish area and valve-seat area.





The GPz uses 34mm Mikuni CV carburetors (bottom) in place of the KZ750's Keihin CV units because the Mikunis don't have a choke butterfly to disturb airflow; instead, they use a fuel-enriching circuit-type "choke" system.

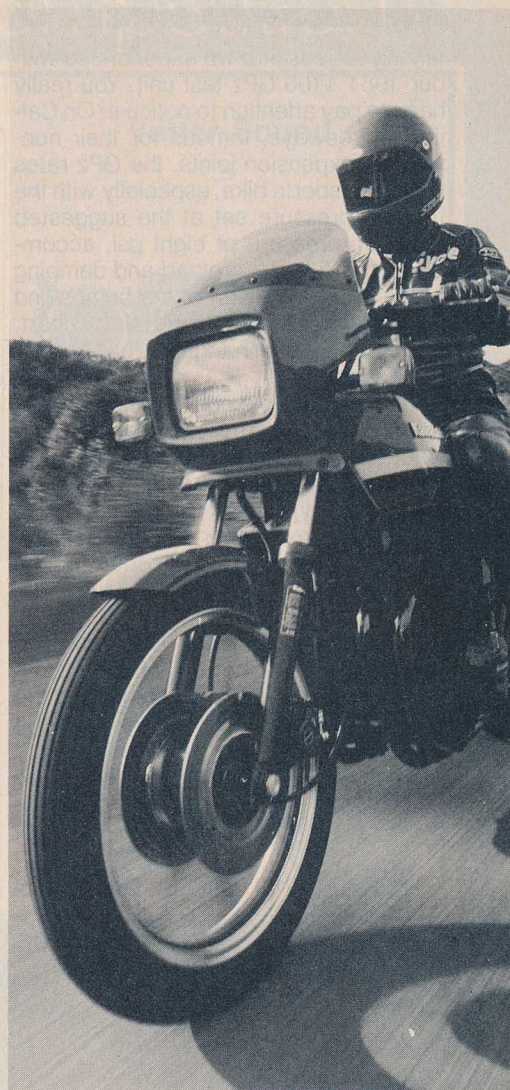


The GPz's piston (left) has a taller dome than the KZ's, which raises the compression ratio to 9.5 from 9.0:1.

and the slightly wider seat offers good backside support and lacks the KZ's space-intruding step. All staffers rated the overall seating position excellent; it's one of the best, upstaged only by that of the 1981 Suzuki GS-series.

Better engine isolation has reduced vibration. The E-type chassis mounted

the engine in four places—in the front and rear at the top and bottom of the crankcase. The GPz chassis uses rubber mounts at the top front attachment points but doesn't have the lower front mounts. In order to maintain chassis integrity and rigidity lost by not bolting the engine solidly into the frame, Kawasaki's frame de-



signers added a tube where the lower front engine mount formerly was, tying the lower downtubes together.

Many bikes have rough and smooth spots up and down the engine's rev range. The GPz doesn't: vibration simply increases in direct proportion to the rpm level. The well-muted vibration never becomes annoying. Although you may notice buzzing in the footpegs, it is barely perceptible unless the rider wears light shoes. The GPz, though very smooth for a 750cc in-line four, is no match for the smoothness of Honda's new 750cc V-four. And neither is any other transverse-four we've tried.

The GPz was a delight to ride anywhere, any time. The smooth engine carburets cleanly and provides vast amounts of power. The GPz feels *fast*, and its drag-strip times show that it is.

The GPz became the quickest 750 quarter-mile *Cycle* has tested, though by a bare .01 second. The Kawasaki produced a 12.22-second effort at the drag strip, just bettering the 12.23-second run produced by Honda's new Sabre (see *Cycle*, May 1982).

The GPz's refined intown manners show only a trace of the turn-in at low

KAWASAKI GPz750

turning speeds that we experienced with our 1981 1100 GPz test unit. You really have to pay attention to notice it. On California freeways, famous for their non-yielding expansion joints, the GPz rates well for a sports bike, especially with the fork air pressure set at the suggested minimum pressure of eight psi, accompanied by full-soft preload and damping at the rear. The worst of the bumps find their way through, but for the most part, the suspension handles road irregularities very well.

In its intended element—twisting backroads—the GPz really shines. Its long wheelbase lends a certain confidence to the rider by giving the motorcycle a steady feel. Initiating a change of direction requires more effort with the R-1 than the KZ750, but the GPz requires less tending once it's committed to a turn. That is, of course, if the rider does *his* part.

The GPz steers neutrally and offers no protest when the throttle is turned on or off mid-turn. In long, sweeping turns, the rider can control exit lines easily with the throttle. Simply turn the gas up fairly early, and, as the turn opens, the GPz will slowly right itself, arcing smoothly toward the edge of the road as it pulls out of the corner.

When the riding becomes earnest, the

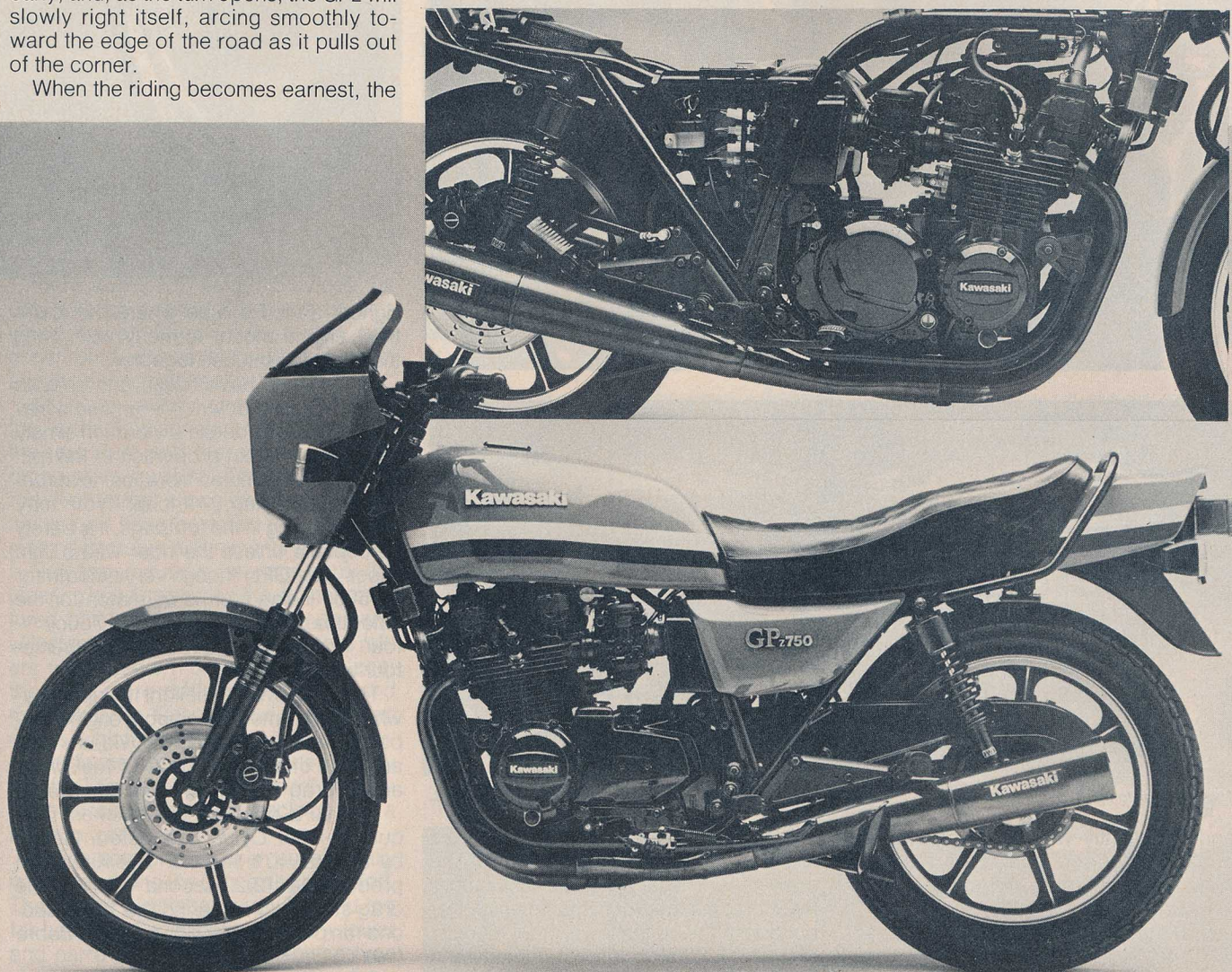
R-1 maintains its composure. It never wiggles, and will surprise you again and again with its unflinching behavior. Ground clearance is remarkably good, with the left peg touching down about the same time as the centerstand tang. On the right, after the peg, the muffler will drag just past the headpipe-muffler junction. If ridden well past these limits of sanity, the bike will touch the left-side engine cover down—but only in full-stress circumstances. Naturally, ground clearance is the greatest with the suspension at full preload and lots of air in the fork. Most of the time, however, we selected the fifth spring preload position and the number-four damping position, and used 16 psi in the fork. Higher pressure in the fork increased ground clearance, but decreased comfort.

The tires stick well despite having small and narrow rims. Kawasaki supplies the GPz with rims no larger than those found on 450cc commuter bikes, and there is no doubt that more rubber on the road equals more grip. Having a softer compound than the tires on the KZ helps the R-1's traction, but wider rims and tires could only improve it further.

The four-cylinder engine does nothing to make high-spirited riding difficult. The engine builds power in a smooth, linear fashion. Power is good at low revs (2000–4000 rpm) and rises steadily from there. This engine has *real* mid-range power, the useful kind for going quick with minimum fuss. Speed increases dramatically when the revs are kept in the 7000–9000-rpm range. Driveline snatch is minimal for a chain-drive primary power transfer, especially compared with Honda's F-series 750.

The GPz750R-1 is an exceptional motorcycle—not just as a sports bike, though it excels as that. The GPz750 is comfortable in all realms of motorcycling. This time Kawasaki's people really did their homework. As a 750, the GPz is the quickest thing in its class, equal to the best in handling, very smooth and extremely comfortable. If you think about it, why shouldn't the GPz be all these things? It is, after all, the most complete and thoroughly developed sporting air-cooled transverse four-cylinder motorcycle available. As such, the GPz750 is rolling proof that good ideas are timeless. ●

(Specifications, page 38)



Cycle TEST SPECIFICATIONS

Make and modelKawasaki KZ750R-1 GPz
 Price, suggested retail (as of 3/31/82)\$3348

Fuel capacity 5.2/0.5 gal. (19.7/2.0 l)
 Curb weight, full tank521.0 lbs (236.3 kg)
 Test weight 671.0 lbs. (304.4 kg)

PERFORMANCE

Standing start ¼ mile 12.22 sec. @ 107.27 mph
 Engine rpm @ 60 mph, top gear 4629
 Average fuel consumption rate 45.7 mpg (19.4 km/l)
 Cruising range, main/reserve 237/23 mi. (381/37 km)
 Load capacity (GVWR less curb weight) . 365 lbs. (166 kg)
 Maximum speed in gears @ engine redline . . . (1) 52 (2) 74
 (3) 95 (4) 117 (5) 133

ELECTRICAL

Power source Three-phase AC generator
 Charge control Solid-state regulator/rectifier
 Headlight beams, high/low 60/55 watts
 Tail/stoplights (2) 8/27 watts
 Battery 12V 12AH

ENGINE

Type Four-stroke, transverse four;
 air-cooled with two chain-driven overhead
 camshafts; two valves per cylinder
 Bore and stroke 66.0 x 54.0mm (2.60 x 2.13 in.)
 Piston displacement 738cc (45.0 cu. in.)
 Compression ratio 9.5:1
 Carburetion (4) Mikuni 34mm constant-vacuum
 Exhaust system Four-into-two
 Ignition Battery-powered, inductive,
 magnetically triggered
 Air filtration Paper element, disposable
 Oil filtration Paper element, disposable
 Oil capacity 3.7 qts. (3.5 l)
 Bhp @ rpm 65.05 @ 9500
 Torque @ rpm 41.64 @ 7500

INSTRUMENTS

Includes . . . Speedometer, odometer, tripmeter, voltmeter,
 tachometer with 10,000-rpm redline and fuel
 gauge. Indicators for low fuel, oil level, battery level,
 side stand, headlight, high beam and turn signals
 Speedometer error, 30 mph indicated, actual 29.79
 60 mph indicated, actual 59.84

CUSTOMER SERVICE CONTACT

Kawasaki Motors Corp.
 3630 Garry Street
 Santa Ana, CA 92704
 (714) 540-1600

TRANSMISSION

Type Five-speed, constant-mesh, wet-clutch
 Primary drive Hy-Vo chain and straight-cut gear;
 27/23 x 63/29 sprockets; 2.55
 Final drive #630 chain, 13/33 sprockets; 2.54
 Gear ratios (transmission) (1) 35/15, 2.33
 (2) 31/19, 1.63 (3) 28/22, 1.27
 (4) 26/25, 1.04 (5) 21/24, 0.88
 Gear ratios (overall) (1) 15.09 (2) 10.56 (3) 8.23
 (4) 6.74 (5) 5.70

CHASSIS

Type Double-downtube, full-cradle frame;
 tubular steel swing arm
 Suspension, front Center-axle air-assisted fork with
 36mm tubes and 5.9 in. (150mm) of travel
 rear (2) shock absorbers, adjustable
 for spring preload and rebound damping,
 producing 4.4 in. (112mm) of rear wheel travel
 Wheelbase 57.5 in. (1460mm)
 Rake/trail 27.0° / 4.2 in. (107mm)
 Brake, front Hydraulic, dual-disc with single-
 piston calipers
 rear Rod-actuated, single-leading-shoe drum
 Wheel, front Cast, 1.85 x 19
 rear Cast, 2.15 x 18
 Tire, front 100/90 x 19 Dunlop F8 Mark II
 rear 120/90 x 18 Dunlop K427
 Seat height 32.3 in. (820mm)
 Ground clearance 5.5 in. (140mm)

