

# Kawasaki Z250 Scorpion

The new Z250 dreamed up by the Kawasaki design team must be giving their competitors a few super nightmares. Looks performance and comprehensive equipment and specifications should make this bike a real winner. Here, we try to find fault with this new 4-stroke 250 twin.



The initial impression from this machine was one of great sophistication. It certainly looked extremely neat, even without the compactness of some other 250s. Instantly noticeable was the attractive angular look to the tank, side panels and the rear tail hump. Kawasaki call the tail hump a 'fairing' but as this tail hump is unlikely to have a noticeable effect in terms of the aerodynamic stability of the machine, it must be a flight of marketing fancy.

The new twin is very good looking in a restrained and subtle manner, al-

**Stable at high speed, the bike handled well on all types of road from country lanes to high-speed motorway**

though cosmetics have not been allowed to spoil the functional aspects of the machine. This allows the practical aspects of the bike's character to shine through. The triangulated rear sub-frame is clearly seen, for instance, and the drilled brake discs make an instant impression of quality.

On their newest machine, Kawasaki have included numerous features from

the rest of their range. The disc brakes with their sintered pad material are one of the best features. They really are extremely good. In wet weather, there is a slight reduction of their overall effectiveness, but they can be relied upon, which is more than can be said for a lot of their competitors' braking systems.

But what is at the heart of this bike? An investigation of the specifications reveals an apparently quite ordinary machine. The engine is a single overhead cam, two valve per cylinder, four stroke twin. The pistons are arranged on an 180° crankshaft and there is no recourse to balancer shafts. There is a high compression ratio of 9.5:1 and the engine is moderately oversquare with a bore of 55 mm and a stroke of 52.4 mm.

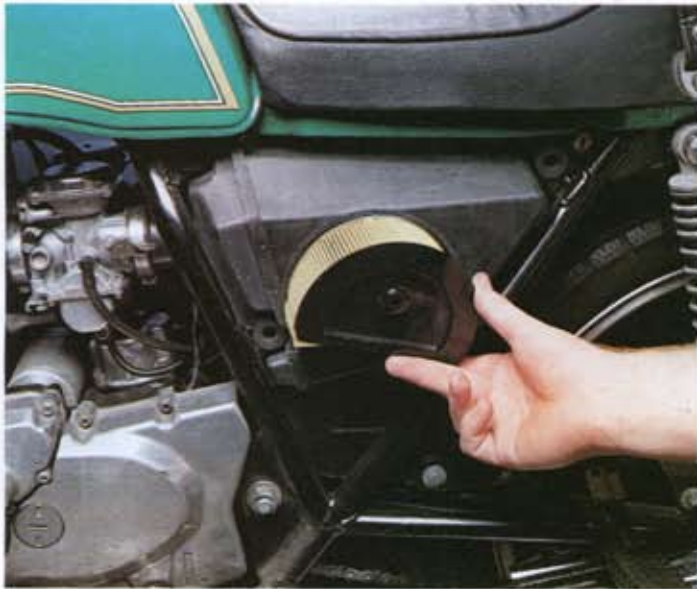
A great point is made of the fact that the bike has a 'cross flow head'. But there are no 4-stroke exceptions to this in modern motorcycle design. So there is no point in Kawasaki blowing the cross flow trumpet. What is interesting is that Kawasaki's solution to the problem of efficient breathing at high engine speeds involves the use of only two large valves per cylinder, instead of more complicated three or four valve systems. If Kawasaki get the same results with a simpler design, they deserve due praise, as complication for its own sake is something to be avoided at all costs.

So it seems that Kawasaki have a very straightforward machine. However, this apparent simplicity should not mislead. It requires far greater skill to produce a simple and elegant design, than it does to improve by adding complexity.

Testing the Z250 proved quite a revelation. For its size it proved to be a remarkable machine. So 'How fast does it go, Mister?'

## On the road

There is no kickstart, so Kawasaki must be very confident that the electrics are going to be reliable over very long periods. There is no reason why this should not be the case these days as electrical system reliability is good. How many people who have a bike with an electric starter ever use the kickstart? During the course of the test, nothing untoward spoiled the first time fire-ups in the morning. The only unfortunate point was the choke lever, which was inconveniently mounted on the left carburettor, a long fiddly reach away from the rider's hand, which was



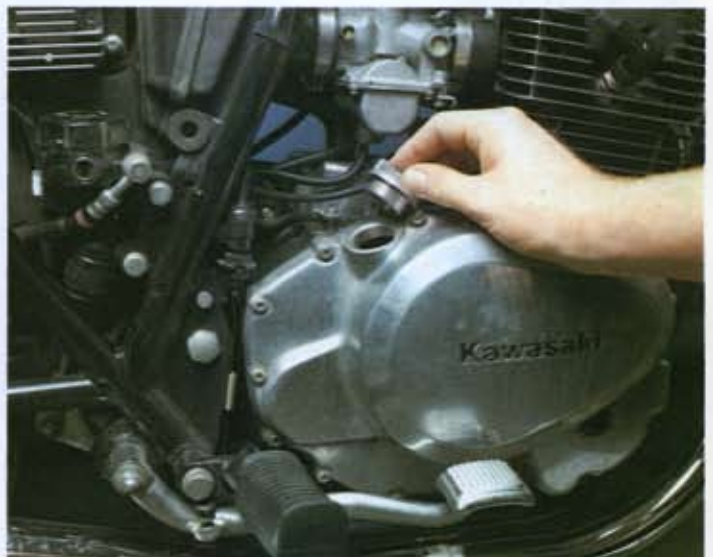
Maintenance is easy on this bike; the air filter is concealed beneath the plastic left side panel



The underseat area is typical of the good design of this bike. Everything appears to be secure and well made



The rear of the seat conceals the very useful little hump under which is a space for the stowing of small items



Topping up the oil level or filling at oil change time is by means of the plug on the right of the engine



It is unlikely that the carburettor settings will need to be altered. If they do, always adjust with the engine warm



Nestling in among the stiff (though poorly welded) frame members are bike electrics and the rear brake cylinder



Adjustment of the idle speed is performed simply with the adjuster knob visible between the two carbs



As usual, spring pre-load adjustment is done by C-spanner on the base of the shock absorber



For timing checks, the marks are visible through the window in the cover. Turn the crankshaft by this bolt



Oil level checking is easy thanks to the window on the right of the engine case. Check with the bike level

awkward when riding through traffic when full control was needed.

The bike was very quick to warm up and, very soon after starting, willingly accepted full throttle and peak revs. It was so free revving and smooth that it was possible to reach the 10,500 rpm red line all too easily. If the rev counter was not watched, or the engine note not regarded, the only thing to tell the rider that the bike was over the limit was the slight rattling noise from the top end as the valves began to bounce.

Unusually, the Z250 gives the maximum performance without being intractable. Because of this there have been some compromises, but, on the whole, the bike comes off very well. Although low engine speed power development is modest, what is available is smooth; high engine speed power arrives, in a much greater quantity, but a similar manner. By normal standards, torque development is average and it only seems slight when compared to top end power. The only time that the bot-

tom end torque was found wanting was when moving through traffic. If the bike was slowed down by a temporary block and then was required to pull away sharply through a gap in the traffic in a high gear, the lack of torque was noticeable. This was especially so, as two downward gear changes were frequently required in order to raise the revs high enough to reach the maximum power area.

Going up through the revs showed a slight hesitation at about 6,500 rpm, which seemed to herald the start of the power. From there onwards, the bike accelerated with a smooth, almost turbine-like, feel. With sensible use of the six-speed gearbox, it was possible to make the bike take off quicker than most machines of its size.

This is one bike where it can be argued that six gears are really necessary. Normally the test team groans every time another bike with a proliferation of gears is tested. But on this machine, the six speeds were not only

needed to get the best of the performance, but were a pleasure to use as the change was slick, positive and easy. After all, the average bike these days has five gears and it is only the rider's fault if he or she gets lost in the box.

At 10,000 rpm the bike is delivering its maximum power and at this speed it howls along with a bold exhaust note. This is most noticeable at high revs in a low gear, of course, where the engine noise is not blown away by wind. On this bike, if it is used to anything like its full potential, the engine note is not heard, at least by the rider, as the bike goes too fast for any noise to intrude on the rider's consciousness.

We found that on the test track, it was possible to cruise at 136 km/h (85mph) all day long if necessary. This was an impressive feat for such a small bike. To maintain speeds of that nature indefinitely on a mere 250 is just marvellous, especially as the machine has the handling to match. If the rider wanted, it was also possible to take the

bike a bit faster. The best speed we attained was 152 km/h (95mph). But this was not difficult to repeat under most ordinary circumstances and by no means was it a special 'bike tester's' top speed. Any rider could be reasonably sure of getting the bike to that speed. Unfortunately, the bike will not cruise that fast as an incline will put it off. But even so, that does not detract from the fact that the bike will cruise at any speed the rider wants at up to about 144 km/h (90mph) where the law allows.

At high speed, the bike is almost perfectly stable. There was no deviation from a straight line and, surprisingly, although the bike felt quite light both at the front end and in general, there was none of the twitchiness sometimes felt on a lightweight. This impressive stability was carried over into the way it went round corners.

One of the test team, an erstwhile Kawasaki 200 rider who has now graduated to a Triumph Trident, was very impressed. He only stopped leaning the bike even further into bends when his girlfriend pillion strongly complained. A combination of excellent original equipment tyres and the stiff frame gave this bike excellent stability, while the soft, long-travel but well damped front forks and the adjustable rear shock absorbers prevented any unpleasant hopping, lurching, wallowing, pitching or barrelling on even relatively poorly maintained bends. It was equally at home on long, fast curves, quick direction changes, or slow, acute bends.

There was one nasty moment when the 250 slid over a wet shiny manhole cover while cranked over on a wet bend, but the tyre eventually gripped and the bike tester lived to ride another day.

Already mentioned is the excellent braking system. At the time of writing, it seems that Kawasaki is the only



**The right handlebar end is well put together. Especially good is the securely screwed hydraulic reservoir**

manufacturer to have attained satisfactory all weather braking.

Another thing that impressed all who rode the bike was the comprehensiveness of the equipment. The general impression was that the machine had been very carefully thought out. Clever design points constantly made their presence felt, from the large comfortable seat to the excellence of the riding position which was a good compromise between the sort of position required for long-distance high-speed touring and a comfortable controllable around town position.

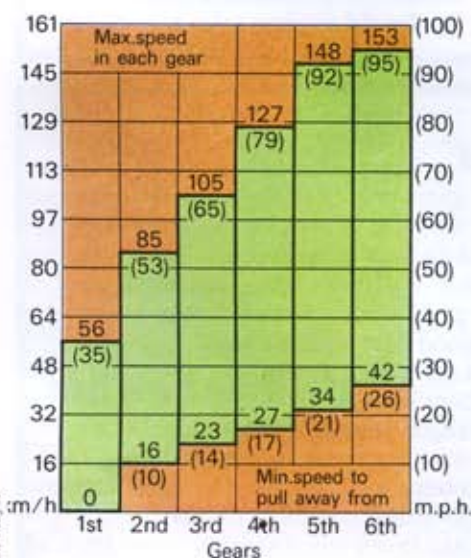
There was also no getting away from the fact that the bike is very good looking. These are not the looks that grow on the rider; rather, the bike is instantly attractive, with looks that will keep, thanks to reasonable paintwork and an acceptable amount of chrome on the shiny parts. All but the side crankcase panels of the engine are painted matt black. This a sensible move, because the engine benefits from the cooling of the matt black while the rider's boots and general wear do not remove the black from the alloy panels where they are most likely to be rubbed.

## In the workshop

The Kawasaki is really quite straightforward when it comes to maintenance time. Conventional contact breaker points should in no way inhibit the home mechanic from tinkering with the timing. The points gap is set in the normal manner: the gap should be between 0.3–0.4 mm (0.012–0.016 in.) If the gap is not correct, the base screws of the contact breaker points are loosened and the gap corrected with a screwdriver on the pry points. The adjustment is made and the gap checked when the points gap is at its widest. This is attained by turning the crankshaft with a 14 mm spanner. Removing the plate to gain access to the crankshaft nut also reveals the timing marks. On this bike, the left set of the points is timed when the F<sub>1</sub> mark is aligned with the little mark on the crankcase. The right set of points is aligned when the F<sub>2</sub> mark is aligned with the pointer. At both these two points, the relevant set of points should be just opening. This can be tested with either a test meter set to measure ohms across the set of points or by a light bulb with a battery connected across the points. In the case of the meter, the resistance will just begin to rise as the points open; with the simple light bulb circuit, the bulb will begin to flicker as the points open.

With the points gap set and the timing set on a meter or bulb, it is a very good idea to check the timing for ultimate accuracy with a strobe light. In this case, the timing marks are in their normal places at tickover but above 3,200 rpm the pointer should be between the two advanced timing marks.

**The Z250 is very good looking. Pin stripes really makes a difference. The bike is outstanding in its field**



## Technical data

### Engine

Type: 4-stroke 180° parallel twin  
 Bore: 55 mm  
 Stroke: 52.4 mm  
 Capacity: 248 cc  
 Compression ratio: 9.5:1  
 Carburation: Keihin VB22  
 Lubrication: Wet sump

### Transmission

Gearbox: 6-speed constant mesh  
 Clutch: Wet multi-plate  
 Final drive: Chain  
 Overall drive ratios  
 1st: 22.6:1  
 2nd: 14.9:1  
 3rd: 12.3:1  
 4th: 10.1:1  
 5th: 8.71:1  
 6th: 7.75:1

### Frame

Type: Full cradle with single down tube and triangulated rear sub-frame  
 Front suspension: Hydraulically damped telescopic forks  
 Rear suspension: Sprung pre-load adjustable shock absorbers on swinging fork

Overall length: 2,015 mm (79.3in.)

Overall width: 740 mm (29.1in.)

Wheelbase: 1,340 mm (52.8in.)

Seat height: 775 mm (30.5in.)

Dry weight: 153 kg (337 lbs)

Kerb weight: 175 kg (385 lbs)

Front brake: Drilled hydraulic disc

Rear brake: Drilled hydraulic disc

Front tyre size: 3.50S-184PR

Rear tyre size: 3.50S-184PR

### Electrical

Ignition: Contact breaker points battery and ignition coil

Charging system: Crankshaft alternator with regulator

Battery: 12 volt 10 AH

Headlight: 50/40 watt

### Capacities

Fuel tank: 13.6 litres (3 Imp.gal)

Oil tank: 1.8 litres (3.2 Imp.pt)

Front fork oil: 146-154 cc

All other tasks are relatively simple and by and large the bike should prove no trouble to the DIY biker.

## Summary

This is the best 250 we have tested so far. The only hole to be picked in it is that it has a comparatively high price. But this should not stop the rider from very seriously thinking about buying it, especially one who is thinking of staying with a bike in the 250 capacity class. The Z250 will do so much we can find only praise.

## Service data

Plug type: NGK DR8ES, ND X 24 ESR-U  
 Plug gap: 0.7-0.8 mm (0.028-0.032in.)  
 Contact breaker gap: 0.3-0.4 mm (0.012-0.016 in.)  
 Timing: 40° BTDC fully advanced (above 3,200 rpm)  
 Idle rpm: 1,100-1,200 rpm  
 Valve clearance (engine cold)  
 Inlet: 0.17-0.22 mm (0.007-0.009 in.)  
 Exhaust: 0.21-0.26 mm (0.008-0.010 in.)  
 Engine oil: SAE 10W/40  
 Fork oil: SAE 5W/20  
 Brake fluid: Shell Super Heavy Duty, Castrol Disc Brake Fluid  
 Tyre pressures

Front solo: 1.75 kg/cm<sup>2</sup> (25 psi)  
 Front dual: 1.75 kg/cm<sup>2</sup> (25 psi)  
 Rear solo: 2.0 kg/cm<sup>2</sup> (28 psi)  
 Rear dual: 2.5 kg/cm<sup>2</sup> (36 psi)

## Performance

Top speed attained: 152 km/h  
 Maximum power at 10,000 rpm  
 Maximum torque at 8,500 rpm  
 0-60 mph (0-96 km/h): 7.2 seconds

## Fuel consumption

Best: 21.4 km/l (60.4mpg)  
 Worst: 15.0 km/l (42.5mpg)  
 Average: 18.5 km/l (52.4mpg)  
 Oil consumption: Negligible

After the initial running-in service follow the recommended intervals

### Every 300 km (200 miles)

Lubricate the final drive chain

### Every 800 km (500 miles)

Adjust the final drive chain  
 Check the brake fluid level  
 Check the battery electrolyte level

### Every 5,000 km (3,000 miles)

Check the brake adjustment  
 Check the brake wear  
 Check and adjust the clutch  
 Check and adjust the carburettors  
 Check and adjust the throttle cables  
 Check and adjust the steering play  
 Check the drive chain for wear  
 Inspect and clean the front forks  
 Check the rear shock absorbers  
 Clean and gap the spark plugs  
 Adjust the camshaft chain

Check and adjust the contact breaker points and the timing

Check the valve clearances

Clean the air filter

Check and clean the fuel system

Check the tyres for wear

Change the engine oil

Perform a general lubrication

### Every 10,000 km (6,000 miles)

Change the brake fluid  
 Tighten all nuts, bolts and fasteners  
 Replace the air filter  
 Change the oil filter  
 Change the front fork oil  
 Lubricate the automatic advance/retard mechanism  
 Lubricate the swinging arm

### Every 20,000 km (12,000 miles)

Grease the wheel bearings  
 Grease the speedometer gear housing  
 Grease the steering stem bearings

## Handling characteristics

(marks out of ten)

In slow town traffic	7	Could do with more torque
Manoeuvrability in traffic	7	Good
Braking in the dry	9	Very good
Braking in the wet	9	Still good with sintered pads
High-speed cornering	8	Good for a bike its size
Rough road cornering	8	Excellent suspension
High-speed motorways	8	Keeps up the speed well for a bike of its size
Country cruising	8	Great fun
Two-up touring	8	Can do it well