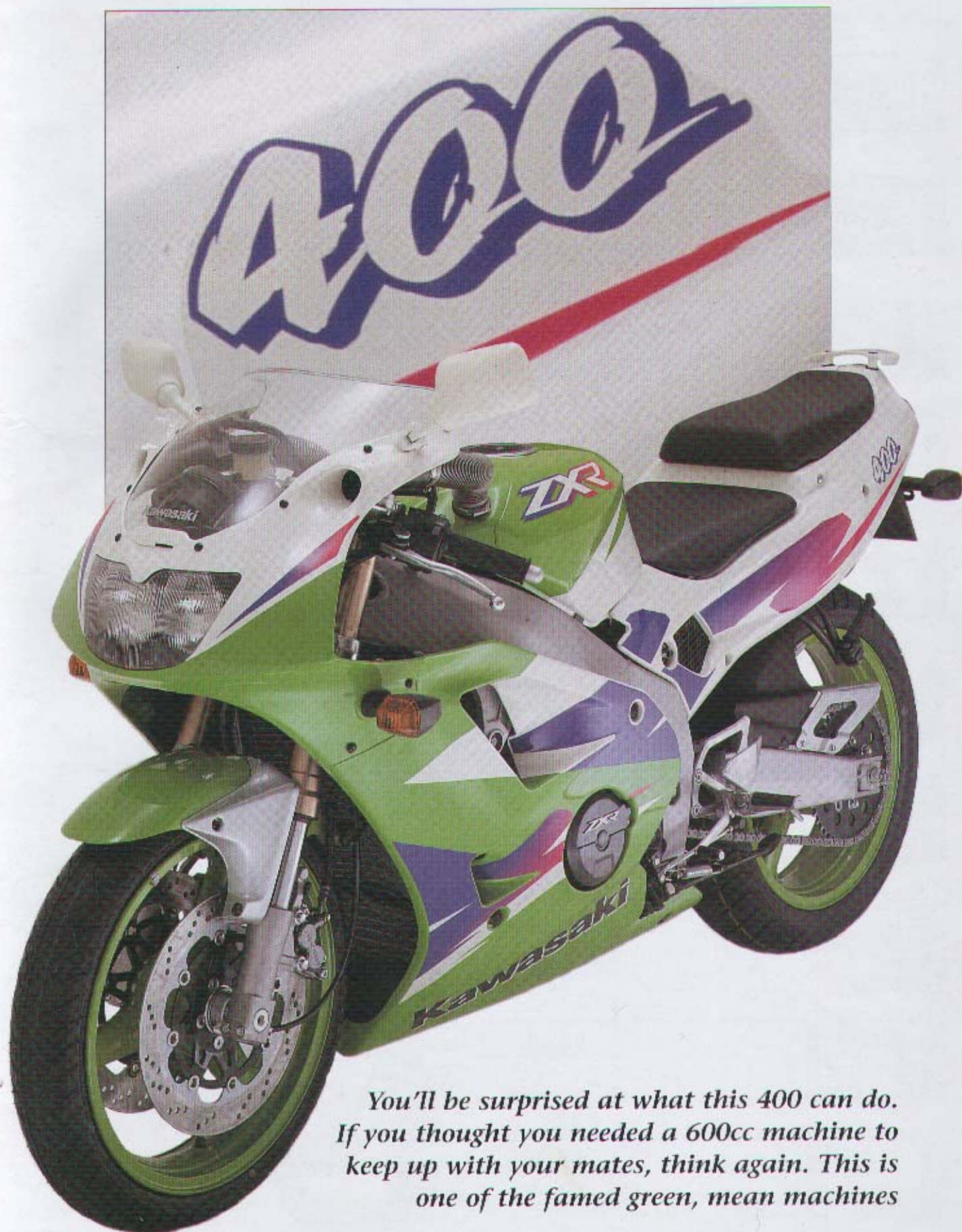


Kawasaki**ZXR400 INTRODUCTION**

You'll be surprised at what this 400 can do. If you thought you needed a 600cc machine to keep up with your mates, think again. This is one of the famed green, mean machines

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STUDIO

You won't mistake it for anything other than a Kawasaki

SECTION 3



TO THE LIMIT

With a top speed of more than 140 mph we have some real fun

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RUNNING & RIDING

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You should be able to find one, but make sure it hasn't been thrashed

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Just what is fair to put the 400 up against?

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Figures for you to peruse over and help you make up your mind

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CHASSIS

Is it still up to date after almost a decade?

SECTION 10



ENGINE

It's a nice little powerplant and an interesting one

SECTION 11



TUNING

How many decide they need more power from their 400?

THIS 400cc bike has been around almost a decade and you would have thought other manufacturers would have looked at it and decided to put out a 400 to beat it, or at least match it.

Because this is undeniably a nice little sports bike (and not so much of the little either).

Once again Kawasaki got it right first time around because, would you believe it, since its introduction in 1991 it has had cosmetic changes only? That's saying something. Especially in the fast-moving (no pun intended) bike world where machines are constantly updated to keep up with trends.

Park it against any new sports bike in the street and it's a fair bet that any passer-by (and some bikers) wouldn't believe you if you told them that the sharp-looking lime green and white or metallic ebony bike was designed and built before the ones sitting next to it were even a twinkle in a designer's eye.

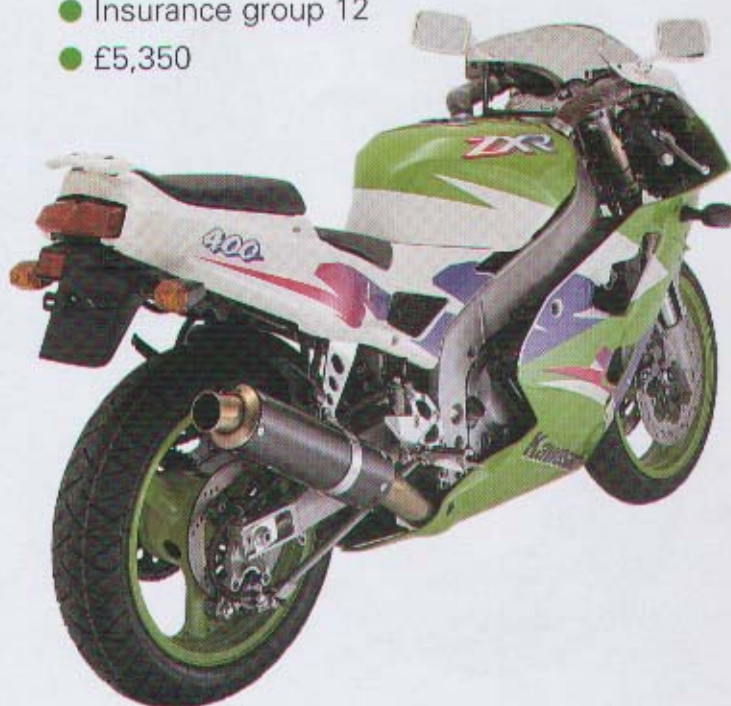
It is a bike which provokes some fairly strong opinions though and the *Essential Superbike* office is no different to anywhere else in that respect.

There were those who loved it on sight and remained in love with it after a spin and those who didn't even fancy going for a spin, but, when forced to, claimed it to be mightily uncomfortable.

One thing in its favour from those who didn't enjoy the ride however, is that they all, 100 per cent of them, loved the sporty look. It also provoked a lengthy discussion about why there aren't more 400s around. ■

Kawasaki ZXR400 AT A GLANCE

- Introduced 1991
- 398cc in-line four
- 65 bhp @ 13,000 rpm (claimed)
- 142 mph top speed (claimed)
- Insurance group 12
- £5,350



Kawasaki

ZXR400

KAWASAKI
File 1
Section 2



Head on this looks really, really nice. In the full race fairing you can see the air ducts and twin hoses which run through the fuel tank

Wheels

The 17" three spoke cast wheels are nothing unusual, but look good

Fuel tank

It holds 16 litres, about right for a sports bike, and is perfectly moulded for most riders to fit snugly into the bike when in the inevitable crouched, racing position

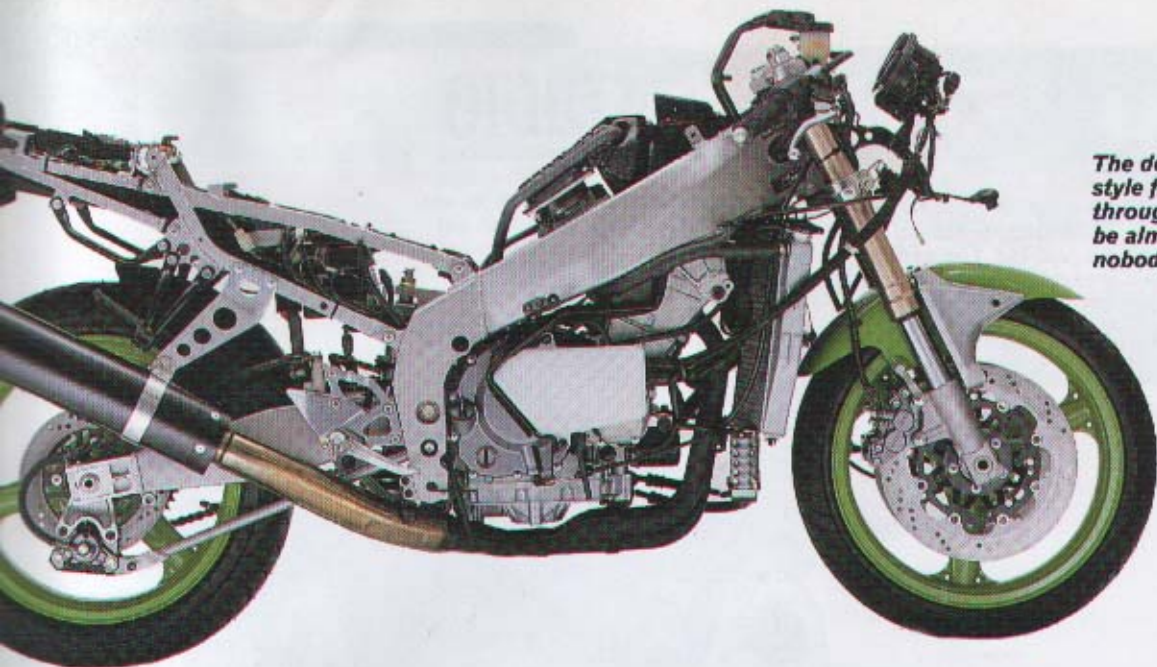


Engine

At the heart of the ZXR sits a 398cc 16 valve in-line four with water cooling and a bore and stroke of 57mm x 39mm. There's plenty of performance to be had from this motor which gives a top speed of just over 140 mph. With a 14,500 rpm redline this engine packs as much punch as many 600s

Wheelbase

The wheelbase is 1400mm, with the chain drive for a fairly



The double cradle, perimeter style frame is clearly visible through the bodywork. It may be almost a decade old but nobody would guess it

Seat

The two-piece race pad style seat is built for speed not comfort, but the rider will be pleasantly surprised at just how comfortable it is. Not so the pillion! And there aren't many riders who won't be able to touch the ground as it sits at just 760mm



Wheelbase

The wheelbase of 1,385mm combined with the dry weight of 159 kg makes for a fairly manoeuvrable bike

Kawasaki ZXR400 STUDIO



Up until 1995 the Kawasaki sported ZXR400 on its tail piece; nowadays it's just 400. The earlier version looked better – Kawasaki should have stuck with it

Bodywork

Kawasaki is renowned nowadays for its excellent finish on most of its bikes and the ZXR doesn't let it down. The two paint schemes available nowadays only serve to accentuate the sporty style of the bike. The lime green/white is typical Kawasaki and would be picked out from a crowd as such immediately, while the ebony/metallic eventide looks superb. The green version does however give the bike a 'fast' look

Forks

The front end is fitted with 41mm upside down telescopic forks and can be adjusted for rebound damping plus preload

ZXR400

Kawasaki likes to call this the 'pocket rocket' and for once this isn't just manufacturer's blurb. Take the logo off and many would be fooled into thinking this is a 600cc sports bike, although once they sat on it they'd soon notice the difference with the low seat height and dry weight of only 159 kg. A pity there aren't more like the Kawasaki around

Bars

The low, racing bars are situated in a position as to force the rider into a racing crouch that's how much this will want to

Tyres

At the front the ZXR has a 120/60 x 17, the rear the rubber

Even looking down and through the fairing through the inevitable crouched position the ZXR has a racey look with the clean dials and the air hoses running through the fuel tank. It's hard not to be impressed



Bars

The low, racing style bars are situated in such a position as to force the rider into a racing crouch. But that's how most who buy this will want to ride it



Tyres

At the front the ZXR is fitted with a 120/60 x 17 tyre while at the rear the rubber is 160 x 17



Exhaust

The four into one exhaust has just the one alloy end can exiting on the right. Very nice and very efficient

Kawasaki ZXR400 TO THE LIMIT

KAW
Sect



Nothing better
to get rid of a
hangover

REV IT UP

KEVIN ASH goes back to being a juvenile delinquent as he gets his hands on the ZXR400

WANNA have some fun? Then do as I did and get out early on a bright sunny Sunday morning when there's not much traffic around and rev that 400 all the way!! Nothing better than to get rid of the hangover from the night before which you'll have soon forgotten once this 'pocket rocket' has got hold of you.

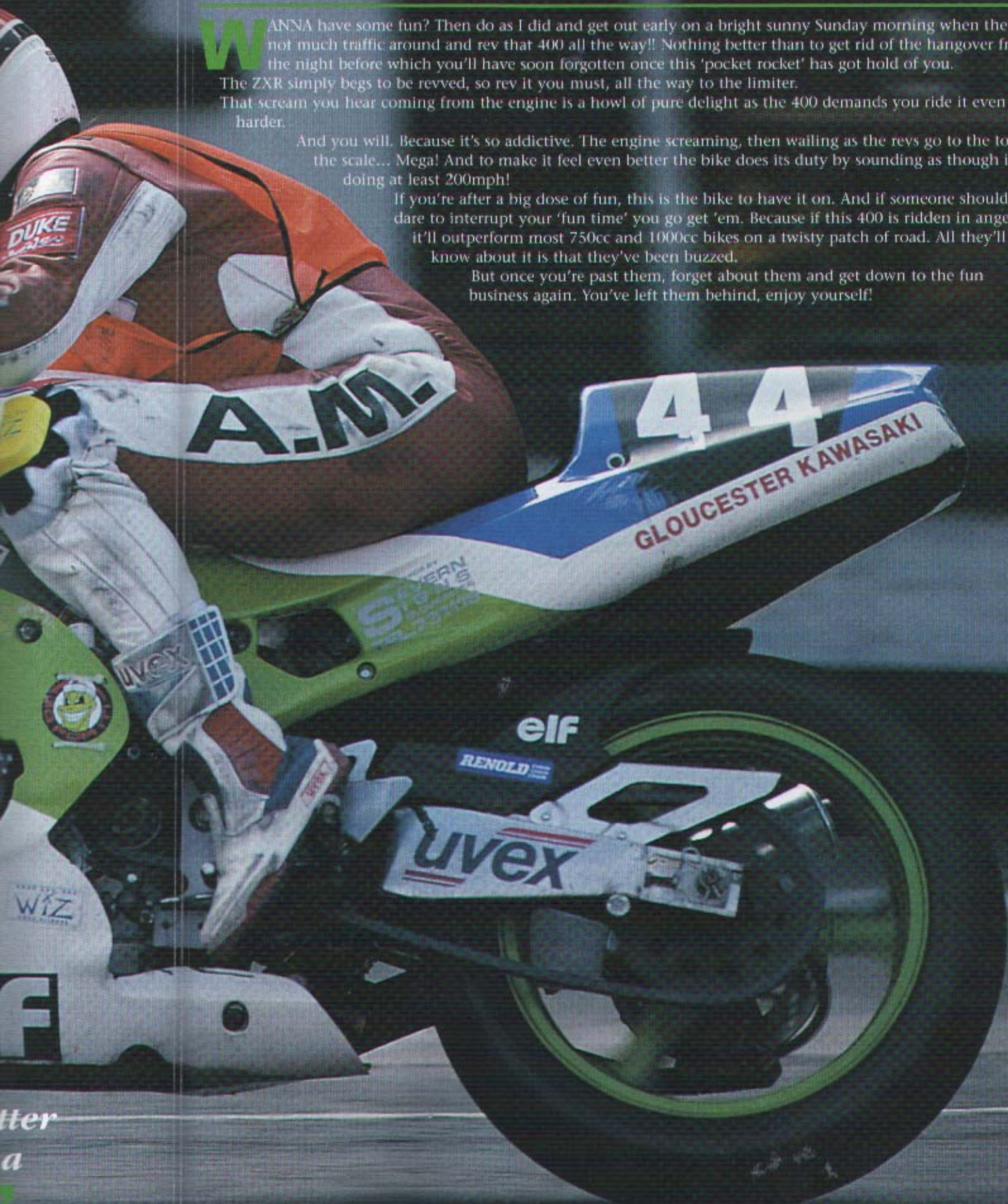
The ZXR simply begs to be revved, so rev it you must, all the way to the limiter.

That scream you hear coming from the engine is a howl of pure delight as the 400 demands you ride it even harder.

And you will. Because it's so addictive. The engine screaming, then wailing as the revs go to the top of the scale... Mega! And to make it feel even better the bike does its duty by sounding as though it's doing at least 200mph!

If you're after a big dose of fun, this is the bike to have it on. And if someone should dare to interrupt your 'fun time' you go get 'em. Because if this 400 is ridden in anger it'll outperform most 750cc and 1000cc bikes on a twisty patch of road. All they'll know about it is that they've been buzzed.

But once you're past them, forget about them and get down to the fun business again. You've left them behind, enjoy yourself!



atter
a

ESSENTIAL
SUPERBIKE

Kawasaki

ZXR400

KAWASAKI
File 1
Section 3





CHASSIS

EVERYTHING about this bike is scaled down. You can see why the Japanese wanted to keep it to themselves, the only people who can ride these things in the way they were intended are certifiably small – unlike me, who at six feet two inches have no trouble reaching the floor or the bars or anything else for that matter. Straddling the bike for the first time I figured this could be a very uncomfortable ride indeed. The strange thing is, and it's the same with the RGV250, they are TARDIS like, bigger than they seem at first, but not big enough to be comfortable after twenty minutes.

The aluminium frame has the same basic layout as its big brother, the 750. Perimeter type spars run across the top of the engine supporting the tank and hiding the carbs and airbox. The rear sub-frame bolts to the back of the main unit and supports the saddle, tail lights and electrics, very normal by today's standards but pretty trick in the late 80s. The fuel tank holds a paltry 16 litres with a further two in reserve, it won't be long before I'm stopping for petrol!

Suspension at the front is as hard as any I've come across giving fantastic feedback through the bars, fine on smooth tarmac but hit a pothole and boy do you know about it. Your whole body jars and if you aren't careful your knees smash into the fairing edges, not nice! At the back the shock seems equally hard even wound back to its softest setting, this can cause a skittering on slightly uneven bends but generally it handles great. The lightness of the machine allows you to throw it around without worry but you must live close enough to a decent set of twisties to warrant having one, if you live in the middle of London get a scooter!



BRAKING POWER

BRAKING on a 150kg motorcycle would be pretty easy with drum brakes so pulling on a pair of 300mm floating discs is a breeze. Braking late into bends was possible as long as the road was smooth, bumps tending to push the front wheel out as it pattered under the conflicting forces of braking and absorbing bumps. The whole braking set up seems to have been borrowed from a 750 rather than designed for the little 400, though the rear end was sensitive enough to allow rear end only dabs without locking up.

ERGONOMICS & STYLE

THE little Kawasaki draws the attention of anyone who knows anything about bikes. They all seem to have a place in their hearts for the blatant aggression of such a small machine. The battleship stripes and vibrant colours let you know where you've parked it even at the busiest track days or Sunday morning haunts.

The seating position can only be described as 'prone'! all the weight at low speed is thrown on to the wrists however hard you try to grip with the thighs. Very uncomfortable after only a few minutes. The pillion space is poor with high footpeg positions and limited padding on the saddle, there's not much to hang on to either. Switches and running gear are functional but close up the finish is second-rate. Panel fit is bad and the powder coating is distinctly lumpy.

VERDICT

IF you have access to long flowing stretches of smooth tarmac, have limited disposable income, are under 5 foot 10 inches, like living on the edge and love revving the nuts off small engines, then this is the bike for you!

RATINGS

| | |
|---------------------|-------|
| Engine | ✓✓✓✓ |
| Transmission/Clutch | ✓✓ |
| Ergonomics | ✓✓ |
| Chassis | ✓✓✓ |
| Braking power | ✓✓✓✓✓ |
| Desirability | ✓✓✓✓ |
| Overall | ✓✓✓ |

Kawasaki ZXR400 ROAD TEST



INTRODUCTION

THE name ZXR has introduced a range of race replica motorcycles for the last 12 years, the most popular being the original ZXR750, an aggressive looking racer with vacuum cleaner hoses on the tank and battleship camouflage paintwork. Well out of the reach of mere mortals the ZXR became the bike to be seen on until some bright spark realised that the Japs were enjoying a super fast, high revving 400 version with the same aggressive styling but at a much lower price tag. Some were privately imported from Japan and proved so popular that Kawasaki relented and began to bring in official UK versions. The early 1990s saw sales really take off and the revvy little 400 became the leader in a pack of 400 followers in terms of sales and performance. These little bikes have been many riders introduction to sports bikes, with their pin sharp handling and bomb proof motor, they have proved to be an excellent training ground.

ENGINE/TRANSMISSION

WITH a red line of 14,500 as you would imagine nothing much happens below 10,000rpm. But once it does the motor takes off with a banshee howl coming from the end can! The motor is a in-line four, transverse unit with DOHC and 16 valves, the bore and stroke of the cylinders only adding up to 398cc. From this it produces a noteworthy 62bhp but with a laughable 27 lb ft of torque, with my frame on board the little machine struggled pulling away from the lights but once out on the open road it is stunning so long as you keep the revs up. Anything below 9,500rpm and the intake roar is almost deafening as you open up the carbs slides, but nothing happens, snick down a gear and watch the needle climb smoothly and rapidly to the redline before you make any judgement on the capability of this pocket rocket. Amazingly this machine can touch nearly 140mph!

The gearbox is built to last, as have all gearboxes made by Kawasaki, and leaves the factory a little stiff, this one at 6,000 miles is just beginning to loosen up but still has the habit of finding the odd false neutral, a testament to the strength of the motor when the wide open throttle meets zero resistance and buries the needle in the red. Let the gear oil warm up before attempting any hard riding! The six speed unit gives a good spread of ratio's and can handle short periods of gazing at scenery, but not much. The chain has a tendency to wear quickly so a Scottolier is recommended.

Kawasaki ZXR400 RUNNING & RIDING

JULIAN SCRIVENS SCAFFOLDER

'It's the Pitt Bull of the mini sportsbike'

“How I came to own a ZXR400 is a bit of an odd one, but now it's here, it's here to stay. I went out on a Saturday morning for a bit of retail therapy and met an old mate of mine, Jem, who was off down the pub. There we met a mate of his called Bob, who was in a touch of bother with his 'landlord' and was selling anything he could, to get himself out of the doggy doo. I drew the line at purchasing pictures of Bob and his fiancée in *delicto flagrante*, but he did have a Kawasaki ZXR400 that was up for grabs. Bob was in so much trouble with his big 'landlord' that he was open to crazy offers.

“Now as it turned out, I had been looking for a Kawasaki sports bike and decided to check it out. It turned out to be the right colour, and only had 4,500 miles on the clock. All the paperwork checked out and a call to the HPI place reassured me that it was all paid for (not everything I'd heard about Bob had convinced me he was completely Kosher). Now, this next bit is a bit embarrassing, but you know, and I know, that Bob was between a rock and a hard place and of course, all I had was two grand (yeah right!), for a 97R! Okay, so I got it really cheap, but that's how the cookie crumbles!

“I'd always been a big fan of Kawasaki's since the late 70s, when my big bruv got a KH250, just before the law changed and learners were restricted to 125s. The build quality always seemed that bit better than the competition, and the style always seemed that bit sharper. In the late 80s and early 90s I would have had one of those ZXR750's like a shot if I could have afforded one, but I was well short of readies. They were one of the most outrageously aggressive bikes I'd ever seen with those twin air pipes and battleship stripes. They were going to be used in a film called *Bloodrunners* if I remember it right. I saw a clip at the NEC Bike Show and it just made me want one even more.

“This ZXR400 is all I thought it would be, the handling is pin sharp and the engine just wants to rev forever. The great thing is that this is the result of all the experience and R&D that Kawasaki put in on the ZXR. The frame feels really taught and the handling is good enough for me. The motor will rev to about 13,000rpm but dies a death at about 12,000, but the note from the

exhaust is perfect, it's the Pitt Bull of the mini sportsbikes. The handling feels great to me, and the suspension, though using stock settings, makes the bike feel neutral and stable. It gives you a lot of confidence going into fast corners that the bike will do what you expect it to. Equally the brakes are excellent and will haul you down from high speed in no time at all.

“The reach to the bars feels pretty short and kind of hunches you over a small distance, and the saddle is very lacking in the padding department, making for a very low comfort factor. Having said that it was never built for touring. The other complaint I have, while we're on them, is the weight. The bike can feel too light and gets a bit too wayward at the back under heavy braking. But there is no substitute for taking on some of the big boys on a track day and coming out on top, the weight can be a problem, but is more often a joy.

“I've been out on it loads even though the weather hasn't been that good and the bodywork is holding up really well. It cost's me £3 at the local garage to jet wash it back to 'as new' condition. All in all I'd say this is a great bike if you want to be take on the 600 crowd but can't afford CBR prices. This could be the bike for you, you won't get mine though, I'm keeping it.”



CHRIS BISHOP IMPORTER

'The ZRX400 is a light machine so its chuckability is high'

“ Having finally given up with my ageing RD350LC, which was developing terminal rust, and to save itself the final embarrassment blew itself to pieces – conrods galore, I decided to look around for a replacement. I wanted something a little bit different, that would propel me to ridiculous velocities and looked the part. A trip to my local Kawasaki dealer provided the solution. A second hand ZXR400 for a very good price (around £4,000) that had 3,600 miles on the clock.

“The bike has terrific looks, I love the twin headlight fairing, the neat frame and the 65 horses lurking in the engine. The riding position was also just about acceptable for my rugby-battered body and that was the key to my purchasing her. I tried various other machines but really and truly felt that they should have been sold with a course in contortionism thrown in.

“Very similar to my old RD, to keep the Kawa rocking it requires some serious balls out revving. Torque is somewhat poor peaking at a lowly 27 lb ft hence the need for screaming motors. The engineering of the four cylinder LC engine is of a high integrity and it never feels like its going to give me any major headaches despite the rough treatment I hand out to it (I am touching wood after that statement, having looked at the intricacies of the 400, I really don't fancy undertaking any sort of major rebuild!).

“Having decided to buy, I picked up the machine on a wet, April morning and was instantly disappointed. Going up the road, I think I must have found a false neutral on every other shift. This led to some embarrassing deep red lining and made my glorious progress, on my new pride and joy, a complete nightmare. After this poor start I decided to try and correct this defect by changing with much more care and slightly slower, hoping that after a few more hundred miles the problem would resolve itself as the box bedded in. Gratefully this was the case, together with my knowledge of the likely false neutral positions, I can now

change with confidence and thus greater speed, although it still feels a bit notchy.

“After about 6,000 miles I noticed that I was developing further drive problems, again with the gear change. The fault was detected as being a near knackered chain, transmission lurch at lower revs was quite terrible by this stage and a replacement chain was quickly fitted. The problem was alleviated but I felt the low chain life was a bit poor, possibly due to the high revs required to keep the motor sweet so I upgraded from OE to a high quality replacement unit and have suffered no problems since.

“The ZXR400 is a light machine, coming in at about 160kg so its chuckability is high. The handling is good but the ride can be a bit daunting. I think that the rear shock is over stiff, the back wheel does have a tendency to be thrown around over reasonably small bumps and the front end, despite being slightly more compliant still bounces the bars when I exit corners with a bit too much gusto. I may well upgrade in the near future as this is one of the most disappointing aspects of an otherwise extremely competent piece of kit.

“Economy is not too bad, I have managed to get 50mpg plus when doing a bit of motorway marauding within the speed limits. This drops quite considerably however when the boundaries are pushed further down to around 35-40mpg.

“Despite the transmission hiccups, this bike is cheapish to run, has caused me very few problems and best of all, is great fun.



“The engine is a real gem”

PRICE GUIDE

Both sets of figures are for a bike in good overall condition. Expect an average bike to have covered about 4,000 miles per year. Pay less for higher-mileage and parallel import examples.

| Year | Private | Dealer |
|----------|---------|--------|
| 1991 (H) | £1,325 | £1,995 |
| 1991 (J) | £1,375 | £2,095 |
| 1992 (J) | £1,450 | £2,150 |
| 1992 (K) | £1,475 | £2,225 |
| 1993 (K) | £1,575 | £2,350 |
| 1993 (L) | £1,625 | £2,425 |
| 1994 (L) | £1,725 | £2,550 |
| 1994 (M) | £1,775 | £2,625 |
| 1995 (M) | £1,900 | £2,750 |
| 1995 (N) | £1,950 | £2,850 |
| 1996 (N) | £2,075 | £2,995 |
| 1996 (P) | £2,150 | £3,095 |
| 1997 (P) | £2,250 | £3,250 |
| 1997 (R) | £2,325 | £3,350 |
| 1998 (R) | £2,450 | £3,525 |
| 1998 (S) | £2,525 | £3,625 |
| 1999 (S) | £2,650 | £3,825 |
| 1999 (T) | £2,750 | £3,925 |
| 1999 (V) | £2,825 | £4,095 |
| 2000 (V) | £2,950 | £4,250 |
| 2000 (W) | £3,050 | £4,375 |

INSURANCE GUIDE

Town

| Age | Comp | TPFT |
|-----|---------|---------|
| 21 | £716.85 | £607.18 |
| 25 | £370.01 | £246.82 |
| 35 | £179.82 | £124.90 |
| 50 | £143.25 | £91.44 |

City

| Age | Comp | TPFT |
|-----|---------|---------|
| 21 | DECLINE | DECLINE |
| 25 | £911.31 | £539.05 |
| 35 | £405.97 | £219.92 |
| 50 | £268.99 | £150.60 |

(Quotes supplied by Norwich Union, based on rider holding a full clean licence with three years no claims bonus, garaging the bike. Examples quoted for town, Kenting; city, London.)



A PART from it being a damn fine bike, most ZXR400s tend to be owned by younger riders as cheaper insurance and its racey good looks make it a very attractive entry level sports bike.

You're also lucky in that there are plenty available on the secondhand market so it will be mainly a matter of looking carefully and choosing correctly as finding a good example can be a bit of a challenge.

Unlike a lot of bikes nowadays ZXR400s are much more likely to have been ridden in bad weather and to have had minor spills so if you're expecting to find one in pristine condition you may just have to buy a new one!

The bike has remained almost unchanged throughout its nine year history which says something for the build quality and use of good components in the first place.

The engine is a real gem, revving to 14,500 rpm and making just over 60 bhp when measure on a dyno.

Reliability on such a high revving motor is brilliant and there have been no reports of any engine problems.

FINELY tuned engine

A full service history is a must as the engine is finely tuned and needs the carbs synchronising and valve gear shimming at the correct service intervals. If this work isn't carried out the engine will run very unevenly and will lack the correct throttle response.

If you're tall you may want to think twice about the ZXR because, great bike that it is, it is a bit on the small side, particularly when tucking in behind a fairing. Something to think about carefully, because a five minute test ride might seem fine, but doesn't begin to compare with spending any length of time on the bike.

When taking the bike for a test ride make sure it changes gear smoothly and doesn't make any whining noises in any gear.

The engine should run very smoothly with hardly any vibration even at high revs.

If you haven't ridden a ZXR before you'll find the power delivery is quite peaky and you need to keep the motor on the boil to get the best out of it.

The brakes are very powerful and when applied should not judder or pull to one side. If they do this then it could mean there's a faulty component such as a warped or damaged disc.



HEADLIGHTS Compact and modern appearance



INSTRUMENTATION Clean dials with the air hoses running through the fuel tank



EXHAUST Very efficient and really nice, with one alloy end

WHAT TO LOOK FOR



ADWATCHER

KAWASAKI ZXR400, 1993, L Reg.
35,000 miles, very good condition for age, some extras, £1,700.
Tel: 0181 402 4022

WORTH A LOOK: All depends on whether you're looking for a particular model. This one has above average mileage, but the price is good. Ring and go see.

Kawasaki ZXR400, 1993, (K).
33,000 miles, well looked after, good condition, only £2,000.
Tel: 0181 402 4022

YOU'RE KIDDING, RIGHT?
Two grand for a 1993 model which has 33,000 miles on the clock? Don't think so, but no harm in a phone call.

ZXR400, 1995 (M), FSH, beautiful example, first to see will buy.
20,000 miles, £2,800.
Tel: 0181 402 4022

THIS IS THE ONE: On yer bike and go see. Mileage is good, price is fair (a bargain if the bike is that good), you probably won't find better.

Kawasaki ZXR400, 1999, S Reg.
0,500 miles, always garaged, excellent condition, forced sale, £6,000. Tel: 0181 402 4022

HOLD ON: This sounds a great example, but the price? You wouldn't pay much more from a dealer. See if the owner's willing to come down and then maybe you've got a deal.

The finish on the ZXR is good with the fairing panels and plastics all fitting together well. If they don't look as if they are aligned then take a closer look for possible accident damage.

Bent fairing brackets and a damaged radiator, for example, are items which are sometimes not replaced after an accident; the owner will sometimes just straighten them out and put them back on.

Seat trouble?

But as one of our staff discovered, another thing to check for in this area is the fitting of the seat. This person had the seat up to get at the tools and then locked it properly only to find later that it could not be unlocked because it was not aligned correctly. It proved quite costly to repair.

You'll probably have the seat up anyway, but use the key yourself rather than letting the owner do it just to ensure there has been no damage. It will still lock easily, but unlocking will be a problem.

An aftermarket exhaust can is often fitted to the ZXR, but these are often too noisy and don't comply with MOT regulations, so check to see if the original is available.

Kawasaki ZXR400 HEAD TO HEAD

How would the 'Pocket Rocket' fair against the more powerful Suzuki and the less powerful, but stunning race bred, RS250? MATTHEW WAGLAND and BEN GREENWOOD have fun finding out.

KAWASAKI ZXR400

MATTHEW WAGLAND: The Kawa is a stunning looking bike with all the decals and snazzy graphics. As with all bikes in this class the riding position is painful after a few miles, wrists and neck suffering badly. It's got a decent 16-valve engine and performance is pretty good through the range. Handling is reasonable.

BEN GREENWOOD: A lot of style comes with the ZXR. I like the fairing twin headlights and the overall look. Engine performance is goodish throughout the range but it was the transmission that let it down for me. I kept finding false neutrals. Handling is crisp and, due to its lightweight it stops very smartly.

PERFORMANCE

Top Speed 114.2 mph

FUEL CONSUMPTION

Average N/A

Best N/A

Range N/A

PRICE

Price £5,350

Insurance Group 12

WEIGHTS AND CAPACITIES

Wheelbase 1,385mm

Dry Weight 159 kg

Seat Height 760mm

Rake/Trail 27°/110mm

Fuel Tank 16 litres

SUZUKI GSX600F

MATTHEW WAGLAND: To my mind this is the also ran. Despite the massive difference in engine size the Suzi just cannot get it up at all. Sluggish turn in, only average brakes and a relatively weak engine leave this down the list. Comfort levels are slightly higher than the other two.

BEN GREENWOOD: Arggh! how I hated the Suzuki when it was first introduced. The motor is the weakest of the three, the handling is the most sluggish and the looks seem old fashioned in comparison. Its good points are few and far between. I suppose rider comfort is slightly better and the headlight works well. But that's it.

PERFORMANCE

130.4 mph

FUEL CONSUMPTION

42.1 mpg

46.8 mpg

205 miles

PRICE

£4,499

14

WEIGHTS AND CAPACITIES

1,470mm

208 kg

785mm

N/A

20 litres

APRILIA RS250

MATTHEW WAGLAND: Oh to own one of these. The Aprilia, race bred, is very fast, extremely lightweight with great handling and brakes. This machine has all the gizmos of a pure bred racer and the riding position is excruciating after some fifty miles or so.

BEN GREENWOOD: Aprilia really have a gem here. Lots of racing pedigree, a brilliant frame and a very light mass overall mean that this machine has oodles of handling ability, fabulous Aprilia stroker engine (from the RGV250) and can stop on a pin. I couldn't get it out of shape if I wanted to.

PERFORMANCE

137 mph

FUEL CONSUMPTION

31 mpg

34 mpg

133.7 miles

PRICE

£6,024

12

WEIGHTS AND CAPACITIES

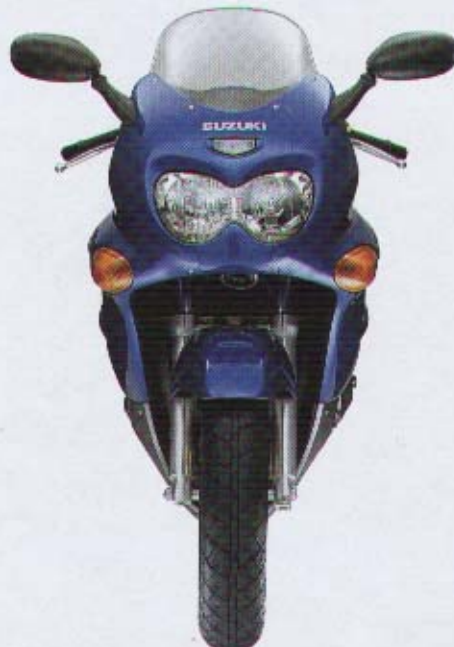
1,980mm

140 kg

790mm

25°/102mm

19.5 litres



Kawasaki ZXR400 HEAD TO HEAD

KAWASAKI ZXR400

| ENGINE | |
|-------------|---------------------|
| Type | 4-stroke |
| Layout | in-line four |
| Capacity | 389cc |
| Bore/Stroke | 57mm x 39mm |
| Valves | 4 per cylinder |
| Fuel System | carburettor |
| Cooling | liquid |
| Power | 65 bhp @ 13,000 rpm |
| Torque | N/A |

| TRANSMISSION | |
|--------------|---------|
| Gearbox | 6-speed |
| Final Drive | chain |

| CYCLE PARTS | |
|------------------|----------------------|
| Frame | Alloy perimeter |
| Front Suspension | 41mm telescopic fork |
| Adjustments | preload and rebound |
| Rear Suspension | Uni-Trak |
| Adjustments | preload and rebound |

| TYRES | |
|-------|-------------|
| Front | 120/60 x 17 |
| Rear | 160/60 x 17 |

| BRAKES | |
|--------|-------------------------------|
| Front | 2 discs, 4-piston caliper |
| Rear | single disc, 2-piston caliper |

| RATINGS | MATTHEW | BEN |
|-----------------|-----------|-----------|
| Engine | ● ● ● ● ● | ● ● ● ● ● |
| Handling | ● ● ● ● ● | ● ● ● ● ● |
| Braking | ● ● ● ● ● | ● ● ● ● ● |
| Rider Comfort | ● ● ● ● ● | ● ● ● ● ● |
| Pillion Comfort | ● ● ● ● ● | ● ● ● ● ● |
| Overall | ● ● ● ● ● | ● ● ● ● ● |

SUZUKI GSX600F

| ENGINE | |
|-----------------------|--|
| 4-stroke | |
| in-line four | |
| 599.6cc | |
| 62.6mm x 48.7mm | |
| 4 per cylinder | |
| 4 x 36mm carburettors | |
| air/oil | |
| 76.7 bhp @ 10,850 rpm | |
| 41 lb ft @ 9,400 rpm | |

| TRANSMISSION | |
|--------------|--|
| 6-speed | |
| chain | |

| CYCLE PARTS | |
|---|--|
| steel double cradle | |
| 41mm telescopic forks | |
| preload, rebound and compression damping monoshock | |
| 7-way preload, plus 4-way compression and rebound damping | |

| TYRES | |
|-------------|--|
| 120/70 x 17 | |
| 150/70 x 17 | |

| BRAKES | |
|-----------------------------------|--|
| 2 x 290mm discs, 2-piston caliper | |
| single disc and caliper | |

| RATINGS | MATTHEW | BEN |
|-----------------|-----------|-----------|
| Engine | ● ● ● ● ● | ● ● ● ● ● |
| Handling | ● ● ● ● ● | ● ● ● ● ● |
| Braking | ● ● ● ● ● | ● ● ● ● ● |
| Rider Comfort | ● ● ● ● ● | ● ● ● ● ● |
| Pillion Comfort | ● ● ● ● ● | ● ● ● ● ● |
| Overall | ● ● ● ● ● | ● ● ● ● ● |

APRILA RS250

| ENGINE | |
|---------------------------------------|--|
| 2-stroke | |
| 90-degree twin | |
| 249cc | |
| 56mm x 50.6mm | |
| N/A | |
| 2 x 34mm Mikuni TM SS flatslide carbs | |
| liquid | |
| 60 bhp @ 11,250 rpm | |
| 30.38 lb ft @ 9,400 rpm | |

| TRANSMISSION | |
|---------------------|--|
| 6-speed | |
| sealed O-ring chain | |

| CYCLE PARTS | |
|---|--|
| aluminium alloy twin spar | |
| inverted 41mm Showa telescopic forks | |
| preload, rebound and compression damping Sachs-Boge monoshock | |
| preload, ride height, plus rebound and compression damping | |

| TYRES | |
|-------------|--|
| 120/60 x 17 | |
| 150/60 x 17 | |

| BRAKES | |
|---|--|
| 2 x 298mm steel semi-floating discs, 4-piston caliper | |
| 220mm steel disc, 2-piston caliper | |

| RATINGS | MATTHEW | BEN |
|-----------------|-----------|-----------|
| Engine | ● ● ● ● ● | ● ● ● ● ● |
| Handling | ● ● ● ● ● | ● ● ● ● ● |
| Braking | ● ● ● ● ● | ● ● ● ● ● |
| Rider Comfort | ● ● ● ● ● | ● ● ● ● ● |
| Pillion Comfort | ● ● ● ● ● | ● ● ● ● ● |
| Overall | ● ● ● ● ● | ● ● ● ● ● |



Kawasaki

ZXR400

SPECIFICATION

IT'S hard to believe that in just a few months this great little 400 will have been around for a decade. And it's good to see Kawasaki hasn't discontinued it because what other brilliant 400s are there? This is often nicknamed the 'pocket rocket' and just one ride on it tells you why. Get on a good but twisty road and it'll see off many a bigger, more powerful bike. It's nimble, has sharp steering and great handling. And it looks brilliant as well.

You can't fault much about this bike and perhaps we shouldn't be as surprised as we often are that other manufacturers aren't putting out their own 400s – after all the ZXR is a tough act to follow, let alone beat.

ENGINE

| | |
|--------------------|----------------|
| Type | 4-stroke |
| Layout | in-line four |
| Total displacement | 398cc |
| Bore | 57mm |
| Stroke | 39mm |
| Compression ratio | N/A |
| Valves | 4 per cylinder |
| Fuel system | carburettor |
| Ignition | electric |
| Cooling | water |

TRANSMISSION

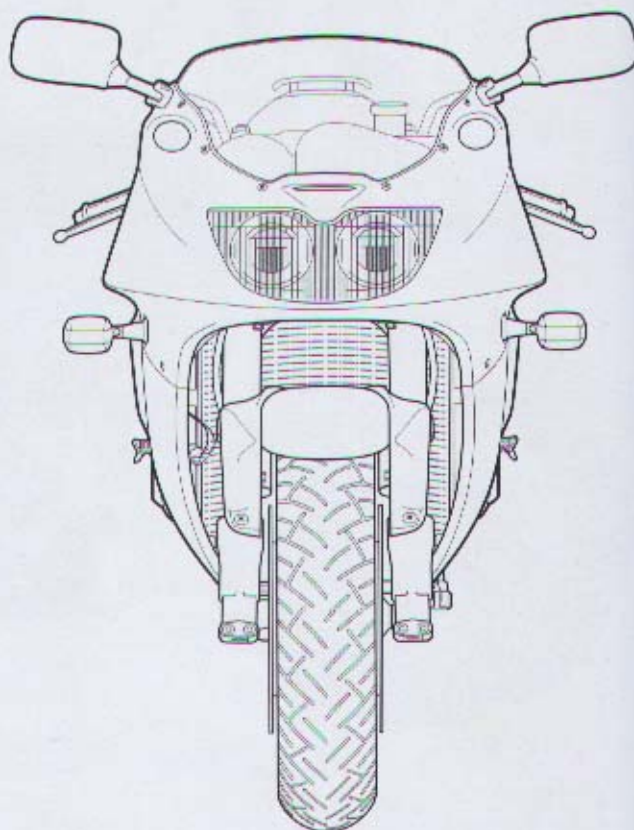
| | |
|---------------|------------|
| Primary drive | gear |
| Clutch | multiplate |
| Gearbox | 6-speed |
| Final drive | chain |

CYCLE PARTS

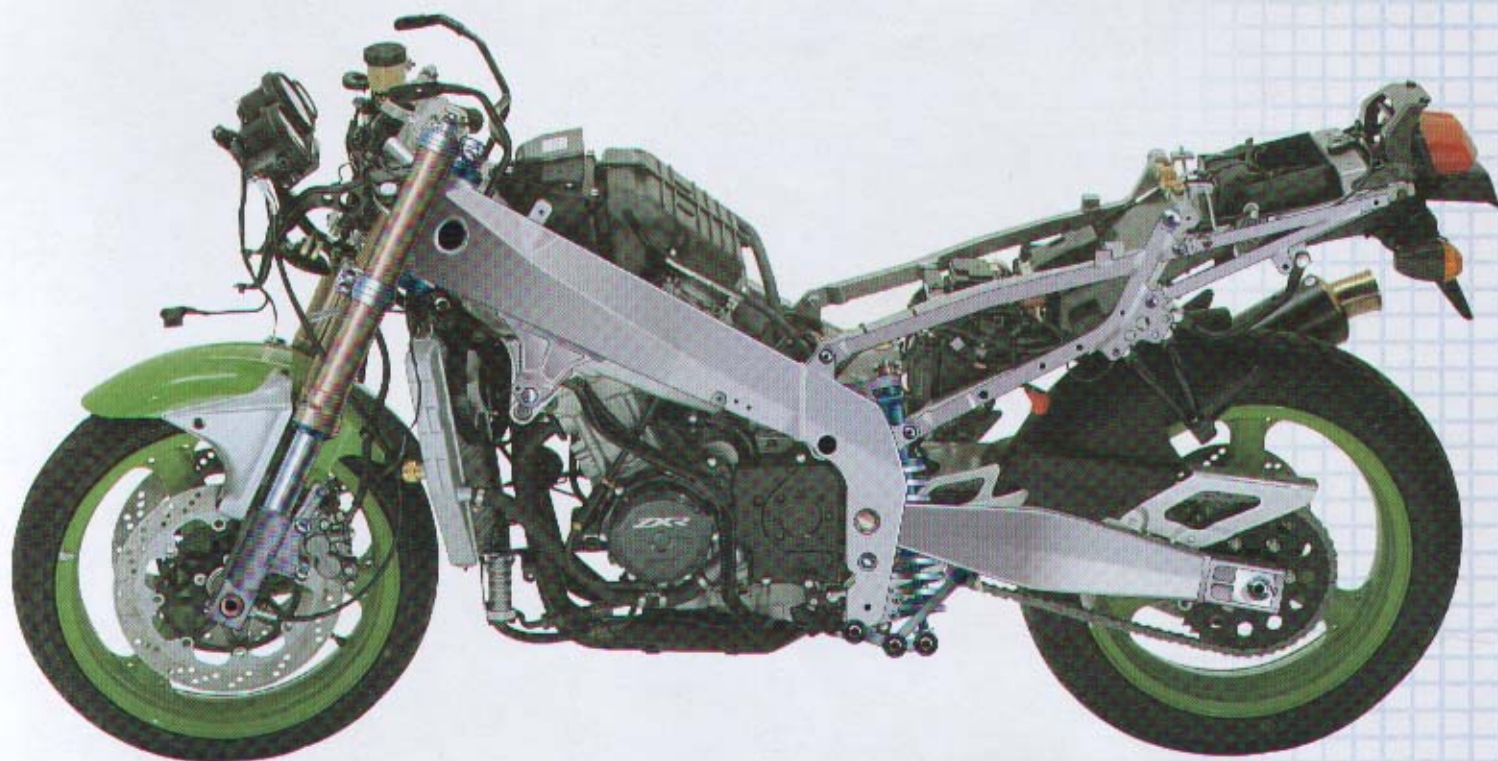
| | |
|------------------|-------------------------------|
| Frame | alloy perimeter |
| Rake/trail | 27°/110mm |
| Front suspension | 41mm telescopic forks |
| Travel | N/A |
| Adjustment | preload, plus rebound damping |
| Rear suspension | Uni-Trak |
| Travel | N/A |
| Adjustment | preload, plus rebound damping |
| Tyres | |
| – front | 120/70 x 17 |
| – rear | 170/60 x 17 |
| Brakes | |
| – front | twin discs |
| – rear | single disc |

WEIGHTS & CAPACITIES

| | |
|---------------------|-----------|
| Tank capacity | 22 litres |
| Dry weight | 242 kg |
| Weight distribution | |
| – front | N/A |
| – rear | N/A |
| Wheelbase | 1,510mm |
| Overall length | N/A |
| Overall width | N/A |
| Overall height | N/A |
| Seat height | 790mm |



“ It's nimble, sharp steering and has great handling ”

Kawasaki**ZXR400****CHASSIS**

DURING THE early 1990s there was a whole host of 400cc supersports bikes available, some as grey imports, some as official ones. And aside from the paint schemes and badges it wasn't that easy telling them apart. Kawasaki's take on the type in many respects would read just as accurately for any number of other machines, but at least that gives you an idea of where the state of the chassis art lay a decade ago, when it was first introduced (and it's changed little since then). And to be fair, the ZXR was a slightly higher specification machine than most.

The frame for example was made of aluminium, at a time when even the 600 class sports bikes were still generally managing with steel. The construction method was standard practice and the same as today: the steering head and rear swingarm mounting plates are aluminium castings, accurately machined to accept their bearings, while the two spars running either side of the engine are fabricated from aluminium sheet, welded into hollow beams and also welded onto the castings at each end.

Uni-Trax suspension

Also higher spec than the rule are the forks, which are inverted telescopic items with cartridge type damper units, where most of the 400s manage with right-way-up forks. The 41mm diameter of the legs is wide for a 400 too, although there are no facilities for adjusting either the damping or the spring preload.

At the back is a version of Kawasaki's Uni-Trak suspension, where the top of the shock absorber is fixed to a mounting point on the frame while the lower end is operated by a lever system from the swingarm, giving a rising rate movement. There's adjustment for spring preload and rebound damping.

Braking is taken care of by a pair of semi-floating front discs with four-piston calipers, while at the rear a two-piston caliper and single disc are used.

Compared with the competition the ZXR has the longest wheelbase at 1385mm (only 10mm shorter than a 1000cc Yamaha R1!) – the Honda VFR400's for example is just 1345mm and the Yamaha FZR400RR is 1370mm. But the Kawasaki compensates with the lowest weight of 159kg, which helps it to make up for any loss of agility due to the extra length – no doubt the use of aluminium in the frame goes some way towards achieving the weight advantage.

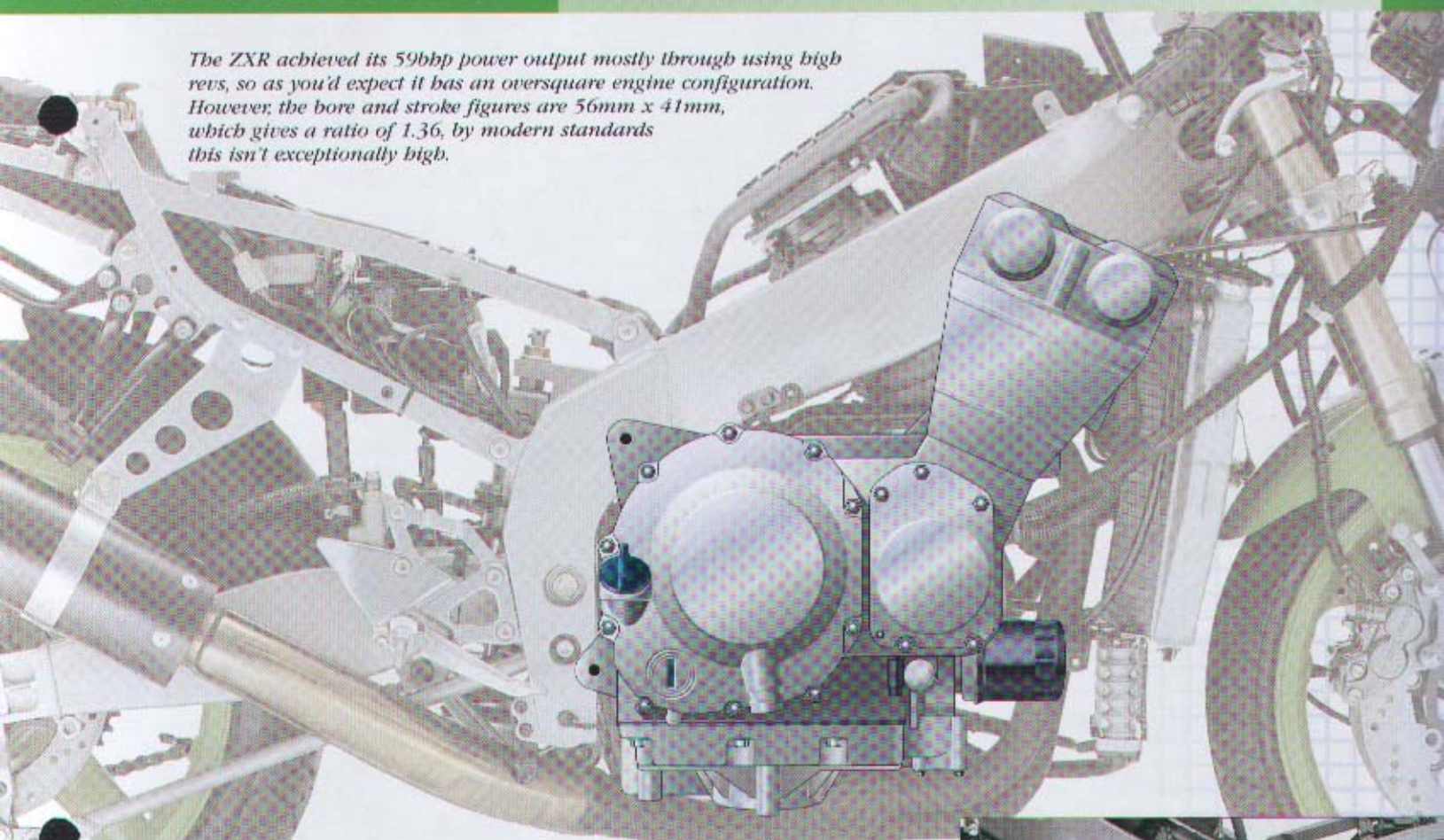
Everything else is as it should be – 17 inch wheels front and rear (worth mentioning because the VFR400 had an 18 inch rear) with 120/60 and 160/60 tyres front and rear respectively. The bodywork is injection moulded plastic held on by a steel subframe around the front of the bike and bolted on directly or via small brackets elsewhere, and the instrumentation comprises the usual speed and tachometer with the minimum array of warning lights.

And it's styled so similarly to the early 1990s ZXR750 you really have to look at the details to tell the bikes apart, which no doubt a deliberate move made by Kawasaki in order to encourage sales of the smaller machine to those riders who'd have liked the larger version (or wanted others to think they were on one) but either couldn't afford it or just didn't think they could handle one.

“The ZXR is a tough act to follow, let alone beat”

Kawasaki ZXR400 ENGINE

The ZXR achieved its 59bhp power output mostly through using high revs, so as you'd expect it has an oversquare engine configuration. However, the bore and stroke figures are 56mm x 41mm, which gives a ratio of 1.36, by modern standards this isn't exceptionally high.



BY THE EARLY 1990s a whole host of 400cc sports bikes were on sale in the UK, and at the time they represented the state of the art for motorcycle engineering, with only a few restrictions apparently in place due to the lower price bracket compared with their bigger 750cc brothers.

But as the market evaporated in favour of the 600s, these bikes were not further developed or replaced, and now bikes such as the ZXR400 appear rather dated. Indeed, at its 159kg dry weight, it's only 11kg lighter than the current Suzuki GSX-R1000, which produces around 100bhp more!

Kawasaki has still managed to achieve a compression ratio of 12.0:1, which is high and means the efficiency of combustion will also be high. Even so, there did appear to be a tendency during this period for the bike manufacturers to achieve their high power figures by flowing the fuel/air mixture through the engine as fast as possible, having less regard for burning what was in the combustion chamber completely than simply getting as much in then out as possible. This worked as far as bumping up the power figures was concerned but did not help either fuel consumption nor exhaust emissions.

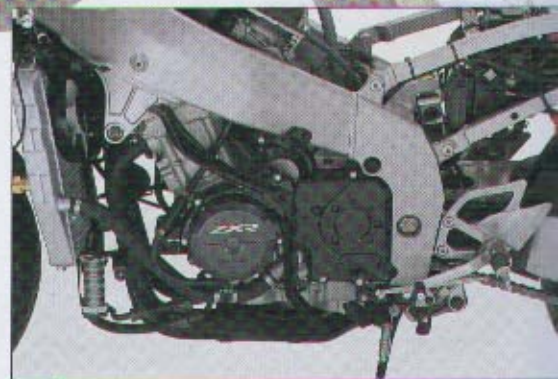
Whatever, the basic architecture of the motor is absolutely typical of the time, and indeed of Japanese fours for many years before and since. A pair of overhead camshafts operates four valves per cylinder (two inlet and two slightly smaller diameter exhaust valves) with the cam lobes bearing directly onto buckets over the tops of the valves. The camshafts are driven on the right side of the engine by a single chain which is driven off the end of the crankshaft and tensioned by an automatic, oil-pressurised blade-type tensioner on the rearward chain run.

The cylinders are fed by a bank of four constant velocity carburettors – no carb heaters in those days, so these bikes did suffer from carb icing when the conditions were conducive to that. And despite the two inlet tubes passing forward to the front of the fairing, the ZXR400 did not have, as many riders believe, Ram Air pressurised induction. The sole purpose of these tubes is to duct cool air to the engine from the front of the bike rather than let it breathe the warmer air found behind the engine, a move which improves efficiency as cold air is also denser air, which means more of it gets into the combustion chambers.

The gearbox is driven through a wet, multiplate clutch which is geared to the crankshaft via a pair of straight cut gears – helical cut gears are quieter but their efficiency at transmitting the power is less. The six-speed gearbox comprises the usual cluster of indirect ratios, the output shaft turning the final drive sprocket and chain.

The rest of the engine is aluminium, including the horizontally split crankcases, and cooling is by liquid.

All in all, a description which could have fitted several other motors in the same class, with just Honda's contemporary V-four VFR400R showing any sign of imagination, although Honda did hedge its bets by also producing the transverse four-cylinder CBR400RR at the same time!



The cylinders are aluminium fitted with steel liners – ceramic coated liners were relatively new at this time, and Kawasaki was the slowest of the Japanese manufacturers to adopt the new technology, believing for a long time that steel liners lasted longer

Kawasaki ZXR400 TUNING

EVEN THOUGH Kawasaki's engines are famously powerful and love to be revved, so their owners still seem to want to tune them. But in the case of the ZXR400 road riders must be very careful about what they do as the motor already is rather short of torque at lower revs, and there's a danger of making this even worse if too much effort is concentrated on increasing top end horsepower. Most tuners we spoke to suggested serious tuning should be left for the race track, but also pointed out that few people are racing the ZXR400 these days anyway as there are no popular categories in which it is competitive.

The road bike is a relatively rare beast too, so tuning really is restricted to the usual and obvious changes of fitting an aftermarket exhaust system plus the ubiquitous K&N air filter.

We spoke to TTS of Towcester, who have some experience of the ZXR400 from the past, but who say they see them very rarely these days.



SPECIALIST VIEW NO.1

TTS - 01327-858212

The 400 is very similar to the 750 in the way it responds to tuning, which means despite being quite rare and just over half the size of the far more popular bigger bike, TTS's considerable experience of tuning ZXR750s for many years is fully applicable.

The majority of owners go for the inevitable Dynojet kit, with K & N filter and exhaust end can, not least because these changes are reversible so the bike can be got through its MoT test, where it's a legal requirement to have either the original exhaust system or one which is stamped with the appropriate British Standard kitemark.

The improvements are worth it, according to TTS, which says there's a gain of about 4-5bhp at the top end, while the mid-range is improved too (more important on the roads). Although these aren't dramatic increases, you do notice the improved throttle response. The cost is about £500, depending on the end-can used, and there's a huge range of these available. But note that for an increase in price, you don't usually gain any power increase, instead benefiting from extra longevity and quality of the can.

But it's worth considering a full exhaust system rather than the can alone if you do plan to have any further work done at a later date. A complete race pipe should be fitted straight away then, as with any more work than the Dynojet kit and filter, the standard pipes have to be junked, which means your end-can goes with them as there are no race pipes available without a silencer attached. But already you'll find the mid-range starting to dip uncomfortably and should maybe bear in mind that you shouldn't be trying to squeeze 600cc power levels from a 400, as you need to make quite a lot more of a commitment – it's engine apart time, and as always, there's no way of doing a little work, then some more later. So you should expect to have the cylinder head gas-flowed, high compression pistons, plus hotter cams (exchange items reground to factory specification) as well as the rejetting, filter and exhaust system. Costs are £440 for the pistons, £370 for the head work, £400 for the cams and £700 labour charges.

With regard to the chassis, even though the handling is excellent, the suspension does get better if good quality kit is fitted, such as WP or Ohlins, as the ZXR's damping is below average. But the cost of an Ohlins shock for a 400 is the same as that for a 750, so proportionately you're spending more on a bike which is worth a lot less, and so effectively you're losing a lot of money. Upgrading to a 600 or 750 usually gives you better quality suspension anyway, so you should at all stages keep this option in mind.