

What BIKE?

MARCH • APRIL 1988 £1.75

**NEW STYLE! OUR NEW BIKE LISTING UPDATED
AND RE-DESIGNED FOR 1988. PLUS USED BIKE,
INSURANCE, FINANCE AND TRAINING DATA**



■ **NEW BIKES – KAWASAKI ZX10**

■ **TEST BIKES – YAMAHA FAZER v.
HONDA VF750C**

KAWASAKI GPZ500S

HONDA TRANSALP

■ **USED BIKES – YAMAHA LC's • KAWASAKI 500/550 FOURS**



**FIRST
TIMERS: TEENAGE TRIO ON MOPEDS**



Better seen than ridden

Acutely cumbersome...

NOW WE know where all those Mk1 v-four engines went after the original VF750 got a cold. You may recall that the original v-four, as opposed to the VFR750, was produced in both sports and conventional guises. From the outset it earned a reputation for silky, liquid power of a sort previously associated mainly with full one-litre engines.

Unfortunately it also attracted a richly deserved reputation for being heavy and, above all, for destroying its own camshafts and camchains. I know of one which had at least three new sets on warranty. A great many engine rebuild shops grew fat on the proceeds. Even World Endurance Championship success for a VF-derived engine couldn't save Honda's blushes. So they went back to the drawing board and came up with the sublime VFR750.

Whether Honda are still actually making VF750 engines, or whether the VF750 is a means of reducing their stockpile, I don't know. Whatever the reason, they're here. And by all accounts they've licked the cam gear problem; two dealers I canvassed hadn't had a top-end rebuild in almost a year. On that basis the modest weight penalty of the v-four power plant should make it ideal for anything but the most racer-orientated machine. The 'Custom' power plant in fact claims rather more than the original v-four, 88bhp compared to 79bhp, both at 9500rpm. (The chain-drive sports VF750 claimed 90bhp at 10,000rpm). Maximum torque is 7.9kg-m at 8500rpm.

● Engine and transmission

★ ★ ★

YOU couldn't imagine anything less racy than the VF750C. And the engine is indeed, a delight: smooth, fuss-free, leisurely, flexible — so much so that at least one of the ratios in the six-speed gearbox is unnecessary. This class of machine isn't aiming to ring every last ounce of performance out of the engine and could probably get by with four gears. Thankfully the transmission works well and the bike will readily pull from as low as 20mph in top gear.

The hydraulic clutch is smooth and progressive and the gearchange fairly slick. Final drive is by enclosed shaft — almost maintenance-free. Whilst shafties some-



A head-turner for sure, but that wheelbase and fork angle makes for some peculiar riding characteristics.

A poseur — but practical too

Moderately functional... if you like this sort of thing...

YAMAHA'S publicity brochure modestly tells us that the FZX750 "does not belong to a category, it creates one!" It combines the "power and handling of a sports machine" with "the sophistication and styling to be a high-profile 'cruiser'". It then goes on about Yamaha's stylistic, frontier busting with everything from the XS-11 Midnight Special to the V-Max, as though in two year's time every motorcycle will look like this.

And it has to be said that the Fazer's powerplant lives up to everything claimed of it. (Strictly speaking 'Fazer' is the machine's name only in the USA but it seems to have fallen into general use on this side of the Pond, too).

● Engine and transmission

★ ★ ★

YAMAHA had arguably the best starting point in the ¾ litre class with the stock FZ750 engine. When it first came out the 20-valve astonished everyone with a mid-range punch that just didn't belong on anything under a full litre, and even two years later the effect is still as mesmerising. On the basis that the only possible improvement on too much is a little bit more, the FZX is even stronger low-down.



Above: The Fazer's design was more restrained and Yamaha have restricted themselves to two exhaust pipes.

Left: Slightly modified in-line four cylinder FZ750 engine nearly scores top marks. Five valves per cylinder are retained and the 'X' version here has revised airbox and carburettor settings to give more low-down power.

The difference, due only to a revised airbox and carburettor settings, isn't huge — a maximum of 5bhp at 4000rpm, tailing to zero at 7000rpm. That it feels even greater is due to a combination of the cruiser's lower gearing, the strenuous efforts of several tons of unimpeded atmosphere trying to punt you off the back, and a deep-seated prejudice which says that bikes like this are just for wallies and poseurs and simply shouldn't be this quick. After 7000rpm the FZ's power curve climbs away from the Fazer's, but only to the tune of about five horsepower at their respective peaks. The FZX tops out a thousand rpm earlier at

9500, but hangs on slightly longer. Both engines turn out over 80bhp all the way from 7300rpm to 11,500.

Any other differences between the two engines are purely cosmetic — different valve covers and pseudo cooling fins — except that this one is rubber-mounted. Smoothness the old FZ isn't short of, but maybe they were concerned about tingles being amplified through the tubular and much longer bars of the Fazer. The frame, which is otherwise not totally dissimilar to the FZ's, carries engine coolant through its left downtube. The opposite downtube drops out for engine removal. Yamaha

reckon the extra cooling area allowed them to use a smaller version of the already very efficient double-core radiator than they'd otherwise have been stuck with.

Although the clutch and transmission are themselves slick and precise, there is a driveline problem. The Fazer is very, very sensitive to the twist grip at low rpm and throttle openings. Consequently trying to crawl in heavy traffic is a lurching, hiccupping affair which becomes hugely irritating. Although the first FZs had a similar problem, none of the four other '87 Yamahas I've ridden — two FZs and two Fazers — were afflicted. Curious.

Servicing those 20 valves with their shim-under-bucket adjustment isn't the nightmare it might appear. When the engine first appeared Yamaha, fearing public concern, were quick to point out that tappet adjustments were safe for a staggering 28,000 miles! With that job effectively out of the way major services are fairly straightforward — oil and filter, plugs, carbs, brake pads and a nut and bolt check — most of which aren't beyond the wit of a competent home mechanic. Yamaha reckon the job would normally take around three hours — one hour less than for the Honda. On the other hand the service interval is half the length — every 4000 miles.

● Chassis

★ ★

LIKE the Honda VF750C the Yamaha's chassis is dominated by styling considerations. However, although the bike looks just as radical, in reality it departs less from conventional norms. The wheelbase is a 'mere' 1525mm (60.0in), only 35mm (1.4in) more than the standard FZ. Trail is a quite lengthy 116mm (4.6in) compared to the 94mm (3.7in) of the FZ, but still com-

and offer to get back to you for the latter. Broadly speaking, the greater each figure, the more stable the bike will be in a straight line, particularly at speed. You might illustrate that with examples from your own experience; long skis are more stable at speed than short ones, for instance, or Rolls Royces than dodgem cars. As to trail, a supermarket trolley doesn't have much. Need I say more?

True, other factors come into play — fork yoke offset, wheel size, and so on, but these two are the most crucial. But on the main reckoning the Honda ought to be as stable as a Chieftain tank.

Which might be all very well if not for the well-known negative qualities of large wheelbase and trail figures: they make for slow, heavy steering, especially at low speed. In town the VF is acutely cumbersome, requiring much more steering effort than a normal machine. To negotiate a corner of a particular radius requires far more angular movement of the front wheel, giving the feeling that you're actually rowing the bike around. It isn't comfortable and it doesn't feel safe.

Cast your eye at the specifications of almost any other 750cc motorcycle, however, and you'll see typical dimensions of 1450mm and 100mm for wheelbase and trail respectively. These are figures which have been arrived at over many years as the best compromise between stability and manoeuvrability. Many of those machines are capable of 30mph more than the VF, yet they're not conspicuously unstable. They also turn with some willingness, a pretty useful attribute.

The VF is clearly different from accepted practise because it chooses to be. If its radical approach has any inspiration, it lies in films like *Easy Rider* and not with engineering theory.

Consequently they're easier to control at high rpm and need lighter valve springs. Multi-valve engines can thus be revved harder without suffering 'valve bounce' — the condition where they're moving up and down independently of the cam timing. Valve bounce tends to cause unpleasant things like valves colliding with each other or with the pistons.

Engine breathing is improved in two main ways. Ideally, in order to flow the most mixture, a valve should either be closed or fully open. In practice valves take a finite period of time to open, spending only a comparatively short period in the wide-open position. But because the valves in a five-valve design are lighter, they can be accelerated to the full-open position more quickly and stay there longer. As a result more mixture is flowed into the cylinder and combustion is more powerful.

Secondly, although two inlet valves can flow pretty well as much mixture as three at full lift, at intermediate valve positions three valves are far superior. Brian Valentine, in developing his five-valve single, discovered that when the valves were partly open his engine flowed around 20 per cent more gas than an equivalent four-valve design. At full lift the Valentine engine actually passed about five per cent less mixture, but the valves were in this position so briefly that it scarcely mattered. It seems that at partial openings the greater window area of three inlet valves predominates, whereas at full lift three valve stems cause slightly more of an obstruction than two.

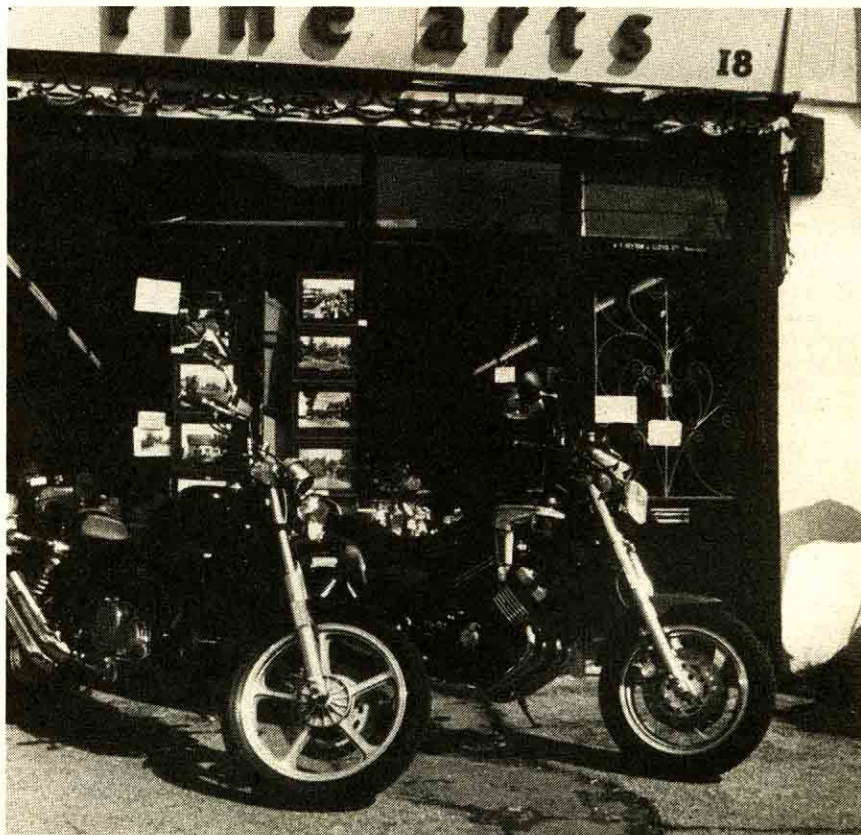
The upshot of all this is that the FZ develops more power at engine speeds well below the very high rpm where cylinder filling is optimal. It's simply more flexible, in theory and in fact.

● The verdict

BOTH of these bikes set out to be macho but just end up being garish. If you really insist on the tinsely end of the market, the Yamaha outscored the Honda on everything but initial purchase price. It's quicker, stops better, handles miles better and has a genuine edge on all-round refinement. Ten years ago the Yamaha would have been considered an OK scratcher; the Honda would have been a camel in any age. Despite each bike's good engine and transmission, the Fazer's is significantly the classier powerplant; it would have scored a solid five were it not for its low-speed jerkiness.

For so-called cruisers both bikes are deficient in fuel range with their tiny 13 litre tanks. That equates to a full-to-empty range of 126 and 141 miles for the VF and FZX respectively. The Yamaha at least delivers passable fuel economy — a saving of around £43 per year assuming a mileage of 10,000. Neither machine offers much by the way of luggage potential, passenger comfort or ease of wheel removal. The heavyweight Honda guarantees the biggest hernia if you do have a flat.

In functional terms both of these machines negate all the advances in chassis design by the Japanese over the past ten years. All they give you in return is some largely illusory notion of chrome-plated style. If this were California they might have a point; in our climate they're little more than impracticable and expensive designer jewellery. For just £100 more than the FZX, for instance, you could buy a 'real' FZ750 which does everything, simply everything, better.



SPECIFICATIONS

	HONDA VF750C	YAMAHA FZX750
Price	£3599	£3799
Engine	Liquid-cooled 16-valve V4	Liquid-cooled 20-valve straight 4
Capacity	748cc	749cc
Transmission	6-speed	6-speed
Dry weight	226kg (498lb)	204kg (449lb)
Fuel capacity	13.0 litres (2.9gal)	13.0 litres (2.9gal)
Fuel consumption	42mpg	47mpg
Top speed	117mph	125mph
Brakes	disc/drum	double disc/disc
Seat height	740mm (29.1in)	750mm (29.5in)
Engine/transmission	smooth, flexible, too many gears	smooth, ultra flexible, very responsive, too many gears, snatchy off idle
Chassis	vast and horrible, underbraked	fair — considering custom guise. Very compact
Equipment	usual Japanese standard but no centre stand, zero luggage capacity	as the Honda. Neat reserve switch



Styling (it appears to have been the main consideration in the Honda's development) dictates one front disc—adequate but it doesn't leave much in reserve for emergencies. Tank is the only place to mount storage space. Clocks are functional but equipment level generally poor.



times have odd effects on the rear suspension, the action of the VF's rear units is so comical that it's difficult to tell what's doing what. In any event the transmission wears an effective shock absorber and isn't particularly prone to snatch or locking the wheel on downchanges.

None of the v-fours lend themselves particularly well to inexperienced home servicing, although doing your own oil changes, for instance, will save a little on parts and labour. Tappet clearances are set by screws and locknuts, but the front ones in particular are hard to get at and there's a lot of 'em — 16 to be precise. Major service intervals are every 8000 miles, with a smaller one at half distance. The longer service would typically take in the region of four hours — £40 to £80 depending on labour charges, plus parts.

● Chassis

SUSPENSION at both ends is little more than something to hang the wheels from. It certainly doesn't do much to keep them under control. Soft springing and even softer damping see to it that the ride is comfortable in a yo-yoey sort of way. At speed the bike, despite the inherent stability of its sheer length, weaves its way through corners. It's for cruising, not going fast on.

Another element of the handling equation is the sheer weight and size of the bike. Even stationary it feels long, ponderous and intimidating. 226kg plus fuel, oil, coolant and whatever you've got on board add up to an awful lot of kinetic energy. Even a machine designed to handle it would have problems, so on the VF a sensible rider leaves more room than usual for everything. That includes braking. The front wheel

monoplace compared to the 152mm (6.0in) of the Honda.

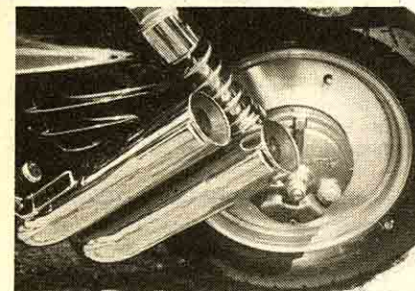
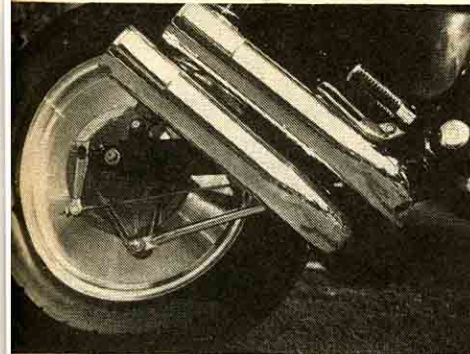
Consequently the Fazer's steering feels unremarkable. It goes pretty much where you point it when you point it without needing the Honda's three days' notice in advance. In town the 'slow' geometry gives a tendency to understeer, but it manoeuvres in traffic far, far better than the Honda. At speed the generous wheelbase keeps it fairly stable despite the lack of gyroscope effect in those tiny wheels.

Perhaps the Fazer's biggest handling asset compared to the Honda is psychological. The Yamaha is an extremely low and compact motorcycle. It feels very much smaller and less ponderous even when parked, so on the move you feel more able to take liberties. The Yamaha can be carved through traffic or country lanes in a way that would be suicidal on the VF. This is just as well as the suspension is nothing to write home about. The front forks are soft and under-damped, whereas the rear end is over-harsh, particularly at town speeds. This is partly a function of the short-travel, twin-shock design, chosen in order to keep the seat height as low as possible. It's also not helped by the 15 inch wheel — larger ones ride the bumps better. Ground clearance is good for this class of machine.

If Yamaha cut a few cost corners with the other cycle parts, the brakes and tyres are top-notch. Stopping is taken care of by a pair of dual-piston calipers similar to those gracing the front end of the FZ. Their action is light, their feel good and their effect stunning.

● Equipment

THE Fazer keeps its ancillaries in some funny places. Fuel lives not where you'd



Impressive from both sides. The four-piped Honda turned heads, mostly young, all commenting on the big exhaust pipes. A true pose-mobile! Fully enclosed rear wheel adds to the radical look.

wears a style-dictated single disc which works well enough without leaving much in reserve. Just as pronounced is the prodigious degree of dive and twist from the soft, shallow forks which can be quite disconcerting. Margins are also limited when it comes to ground clearance. The footrests scrape easily and it isn't long before stiffer bits of undercarriage join in. Indeed to my mind

the Honda has too little in reserve all-round. Unless it's ridden fairly conservatively it's as close as an inanimate object can come to being dangerous.

● Equipment

ACESSORIES are equally pared-down. The instruments are minimal as befits the two-wheeled frontiersman image, although they do tell you all you really need to know. There are two useful mirrors and the usual helmet lock, but after that you're on your own; no centre stand, no pillion grab handle. In fact the pillion, stuck way up in the elements on an abbreviated cushion, gets the worst of the deal. By comparison the rider's seat is an armchair, or at least adequate. A riding position catching the full blast of the wind ensures that you won't exceed the 70mph limit by more than 15mph or so for very long.

Other pieces of "equipment" can only be in the eye of the beholder. The belly pan is for appearance only, as are the four chromed pipes and 'solid' rear wheel. Perhaps the only thing you'll find agreement on is that they add weight. Much as the engine could purr to the Riviera and back as often as you wanted, luggage capacity is limited; there's little to sling throwover panniers over and the upswept pipes intrude anyway. The tank, nonetheless, accepts a tank bag reasonably well.

● Conclusion

TO casual observers the most striking feature of the VF is undoubtedly its

appearance. I literally lost count of the number of times complete strangers, usually young ones, approached with something along the lines of "ere, mate, that looks well tasty... love those pipes". Style, of course, is a matter of taste. But I equally lost count of the times I had to disillusion every one of these admirers: "actually it's a load of unadulterated rubbish — I can't think of anything it does well" — except maybe attract attention. That, I suppose, sums it up: the VF750 Custom is a bike to be seen on; as such it could be a very rewarding experience in a silly sort of way. If you like functional riding, however, you'll buy something else.

ABANDONING PROGRESS

BEHIND all those chrome pipes and vulgar plastic excrescences lurks a chassis of stunning design. "Stunning" because it departs so far from all we've struggled to learn about chassis design since the turn of the century. This is nothing to do with the "Jap bikes that don't handle" prejudice, which hasn't been true for ten years anyway. Honda's designers knew exactly what they were doing. They intended it to turn out as it did.

Two numbers sum up the VF: wheelbase — 1660mm (65.4in); trail — 152mm (6.0in). Both are huge in the extreme and at the heart of the bike's steering characteristics.

Wheelbase and trail figures are amongst the first things I ask when I hear of a new bike. Importers can usually oblige with the former — probably because it's related to overall length, which they seem to consider important — but usually scratch their heads

gasted. Of course, there's no way it could have. But if you must pose, and want a stage that's moderately functional, then the Fazer's the machine for you.

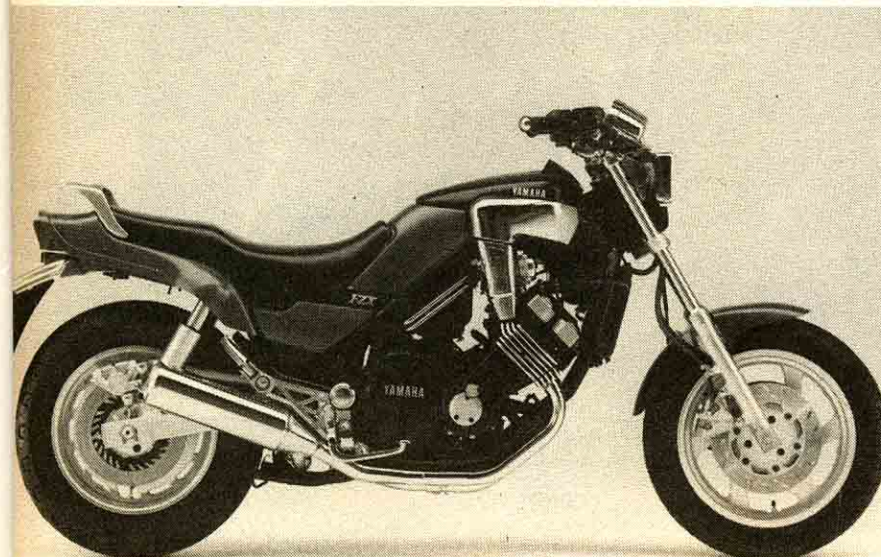
FIVE VALVE EFFICIENCY

ONLY in one sense could the FZX be considered restrained — high-profile decals it's very short of. Writ small on the tank and clutch cover is the legend 'Yamaha', then there's a tank transfer and two small chrome badges advising it's the FZX of that ilk. But nowhere does it say 'five-valves-per-cylinder', 20-valves, or even 'nobody else makes an engine like this'.

Those five valves per cylinder, three inlet, two exhaust, are the essence of the FZX. Yamaha's principal claim for them in that they enhance mid-range power. Imitation being the sincerest form of flattery, there's since been a British five-valve single from Valentine Racing and an 18-valve triple from Moto Guzzi. The single showed sufficient potential to be banned from competition before it was fully developed! Taking things one stage further, the Guzzi, which should be on sale next year, is in essence one bank of a 36-valve Maserati V-6 car engine.

So what has this multiplicity of valves got going for it? The advantages are similar to those of the by-now familiar four-valve arrangements, only more so. They have two main assets — revvability and better breathing.

The more valves you have, all other things being equal, the lighter each one is. And lighter valves, obviously, have less kinetic energy when asked to bounce up and down over 10,000 times per minute.



The Yamaha won in our double test assessment for being more practical and manageable on the street.

● Conclusion

IMUST admit that when I first laid eyes on the FZX I half hoped, and fully expected, to be disappointed. Whether you like the looks or not — and most people did — it looks about as functional as penny-farthing with clip-ons. That the engine is as good as any in the class came as no surprise. But if it really did combine sports and cruiser attributes, as it claims, I'd have been flabber-



'Easy Rider' type instruments and a petrol tank that isn't. The real tank is behind the engine helping to keep the weight low.

Trail is a 'modest' 4.6 inches compared to the Honda's full six, and improves steering.

