Honda XR500

THIS TEST SERVES to illustrate the fallibility of the tester, if nothing else. I thought that the big XR was a dream machine, BUT, subconsciously, I feel sure that I must have been comparing it to the four-strokes I raced in the late 1960s.

All the big four-strokes tend to receive rave reviews from the media, not unlike the report I wrote. Equally, they attract a small band of ardent, and vociferous, enthusiasts who are always very quick to laud the virtues of a big banger. However, both magazine riders and four-stroke enthusiasts tend to be competent riders with a distinct bias towards four-strokes. The sales figures show a different story! The great majority of riders prefer lighter two-strokes, which are usually faster than the equivalent four-stroke. Two-strokes are usually cheaper, too!

I loved the big XR, particularly since I had the bike on long-term test and rode it for over 1000 miles, most of which was as hard as I could go. During this period the XR never missed a beat and, other than demanding frequent chain adjustment, required no maintenance. No two-stroke could match the big Honda's performance in this respect.

Then came the real test of my loyalties. At the end of the 1980 season my pal Malcolm Grassie, of Pegasus Kawasaki, was playing with the idea of building a special KLX four-stroke. The deal was that I could buy a bike at cost and he would supply the American bits and pieces to make it competitive. For a few days I dreamed about the project, and then I thought about the work involved and the trouble of making special parts to pare off enough weight to get the bike into the same league as the two-stroke and I rang up Malcolm and asked him to find another rider.

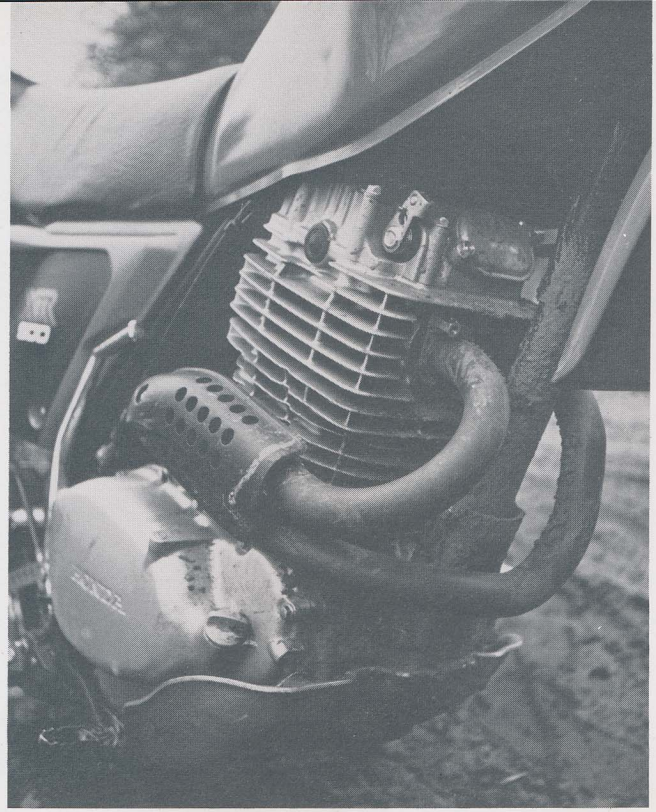
The really interesting thing was that he, too, had been having second thoughts – for the same reasons! I think that this illustrates why two-strokes will always do better than four-strokes in off-road racing. They are the easy option!

The XR500 was the first radically new four-stroke design to appear since the heyday of the big single in the 1950s. In one stroke, it made the best offerings from the other Japanese manufacturers look obsolete and archaic.

For the first attempt, the XR was amazingly near the mark. Both front forks and brake were excellent. Only the use of the silly 23in front wheel revealed that Honda's designers were still human and fallible!

The big four-stroke makes a lovely noise and is fun to ride, but one has to be really determined to try to race one on equal terms against a two-stroke. When I finally retire I will definitely build a real scorcher of a four-stroke – if I can spare a couple of thousand hours and a garage full of pound notes.

Upon seeing the XR500 the first thought which passed through my mind was, 'I wonder if Honda engineers ever get bored with getting things right?' After watching the efforts of Yamaha and Suzuki one gets the feeling that they must have decided that the time for half-attempts at building an off-road 500 four-stroke was over, so they rolled up

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their sleeves and got down to designing the XR.

Not that the XR is perfect, but it is an outstandingly good first attempt and one which will leave the opposition trailing in its wake.

The first thing which should be acknowledged is that the XR is a very clever motorcycle, as thoughtfully put together with as much flair as any of the factory's exotic multis. Avid Honda students might well put it high on the list as one of the marque's best overall concepts, for the XR is very much a whole motorcycle in which each part is interrelated and interdependent on its fellow. Some elements of the XR design philosophy might not meet with everyone's approval, but there is no arguing about the skill with which the ideas have been turned into metal.

The heart of the bike is a unique 500cc single-cylinder motor which retains all the virtues of a big banger and effectively kills all the vices. No one, not even the most timid seven-stone weakling, need be afraid of the XR. An automatic decompressor linked to the kickstart mechanism ensures that even the most inept prod will not cause a malevolent kick-back, and because the effective compression is so low neither strength nor weight is required to spin the motor into life.

Two or three prods from cold, using the handlebar-mounted choke lever, fired up the XR even in near-zero temperatures, whilst one prod would get things under way when warm.

Even after being deliberately stalled after a period of low-speed running, the XR would fire up easily.

Effective power starts at about 1200rpm and continues until about 6000rpm, by which time the motor is gasping for breath. Peak power is listed at 35.9bhp at 6500rpm, but to get the bike to perform well the motor must be worked hard in the lower end of the rev range.

Because counter-balancers are incorporated in the unit, the power flow from extremely low revs is very smooth, and I soon got into a riding style I had not used since my BSA days. High gears,

Although at its best on fast going, the big XR could deal with any off-road terrain.


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The XR at its glorious best! A long, steep, power-sapping hill flattened by its effortless urge. Still one of the best experiences in motorcycling.

low rpm and plenty of throttle will give an acceleration which is equal to all but the very best 250 enduro bikes. In fact, on some surfaces the Honda was the fastest enduro bike we have ever tested.

This last comment leads us on to one of the XR's major problems. Its petrol consumption, low noise level and ability to plonk along at walking pace without suffering any ill effects make it an ideal green lane tool. In a few months I wouldn't mind betting that the XR will be the top seller in the dual-purpose market, but Honda insist that it is more than a trail bike – it is a serious racing machine.

It would almost be as well if one could laugh at the claim, but make no mistake, the XR is a medal winner. Its handling is better than some 'genuine' enduro bikes, and although it lacks the power of a big-bore two-stroke it can really motor.

Because of its comparative lack of suspension, 8.8in front and 7.8in rear – which is less than the top line bikes – and its heavy weight, the XR is best on fast going. Unfortunately with a top speed of just over 80mph it is only as fast as a good 175. Yet it could pull such a high top gear that 80mph cruising with another 10–15mph to spare would be possible.

The absolute top speed is not as important as the fact of the closeness of the intermediate ratios, which make second and fourth gears redundant. Given a truly wide set of ratios, the XR rider would be able to hang on to one gear for a wide variety of conditions, safe in the knowledge that the motor's superb flexibility would give instant drive and acceleration. At present the internal ratios are more suited to motocross than enduros.

For such a big bike Honda have done an extremely good job in getting it to steer and handle so well. The rear suspension could be bottomed out, but only when going very hard and fast over motocross-type going.

It would be nice to say that Honda's much vaunted 23in front wheel played a big part in achieving this success, but in practice it doesn't work that way. I can't say that the 23in wheel is better, or worse, than a 21in, but the front Bridgestone which comes on the rim is certainly unsatisfactory. This tyre has an almost continuous set of knobbles round its outer edge and they keep the wheel tracking on line right until the point of no return, and then traction breaks and the front wheel flicks round with a vicious kick. The problem is not ultra-serious in that one has to be pressing on to notice it, but I am positive that with a 21in Metzeler on the front the handling would be near perfect.

At present only Bridgestone tyres are available as replacements and this will be a sales handicap

to Honda. Off-road riders like to choose their tyres from whatever is the market leader at the time and, equally, they won't like the idea of paying full list price for a tyre which holds the monopoly.

In criticizing the XR's handling and gear ratios I am conscious of being rather hard on the bike. It is not a 400 KTM and it is a long way from being one, but by the same token it is a very complete off-road motorcycle.

In the short time we have had it no faults have appeared. The bike is well equipped with reliable, nearly legal lights; a tool bag and kit; crankcase shield; chain tensioner and chain guard. Personally I would take the XR straight out of the box to any enduro from the Welsh downwards and be confident of winning a medal, even if my special test times were somewhat depressed.

Normal maintenance seems to be straightforward. The ignition timing will not drift, being pointless. The tappets are easy to work on and the oil drain plug is accessible. Camshaft chain adjustment is also simple, so that it should be a reliable racing tool, or a green laner, with an almost indefinite life span. Overall, we have not found any other fault other than those noted and these become apparent only when the XR is compared with the best thoroughbred racers.

Just at the moment the XR is not an event winner. With the addition of the Mugen race kit, which Honda UK are debating whether or not to import, apparently containing different internal ratios, a lighter exhaust, different cam and higher compression piston culminating in a genuine 40bhp, the XR will cause a few frights even with its slight deficit in handling.

In its present form it is an outstanding motorcycle both in terms of design and performance, and once more evidence that Honda are the most creative company in motorcycling.

Honda XR500

Engine: Four-stroke single-cylinder with counterbalancers and four-valve head SOHC
Capacity: 498cc (89 × 80mm)
Compression ratio: 8.6:1
Carburation: 35mm Keihin. Handlebar-mounted choke for cold starting. Oil-soaked foam air filter
Maximum power: 35.9bhp at 6500rpm
Transmission: Wet multi-plate clutch with common lubrication from engine and gearbox
Ratios: 1 – 2.462; 2 – 1.647; 3 – 1.250; 4 – 1.000; 5 – 0.840
Electrical equipment: Pointless electronic ignition driven from flywheel generator; 25W front headlamp, 3W rear light, battery
Fuel capacity: 10 litres (2.2 imp gal)
Oil capacity: 1.8 quarts
Suspension: Leading axle front forks with 8.8in of travel, 7.8in rear
Frame: Single-tube main frame with engine as stressed member. Unbraced swinging arm
Wheels: WM2 × 23in front; WM3 × 18in rear. Shoulderless aluminium alloy
Tyres: Bridgestone 'Claw Action' enduro; 3.00 × 23in front, 4.60 × 18in rear
Brakes: 5in sls front and rear
Wheelbase: 56.5in
Ground clearance: 11.2in
Handlebar width: 33in
Saddle height: 34.6in
Weight: 288lb