

DOUBLE VISION



Compare the X14 with the writer's highly tuned but vaguely standard looking, blue X7. It's hard to believe that the frames are the same.

IT'S double-take time. Yes, there are two 250cc Suzuki X7 engines in 23-year-old John Oakes's standard X7 frame.

A *Mechanics* reader and fan of the X7 v RD250 Yamaha shoot-out series of a few years ago, John thought he would add a new dimension to pepping up the X7. His ultimate 500-4 street ride is probably the only two-stroke four on Britain's roads.

Printer's engineer John, from Thurnby, Leicester, set about the job in straightforward fashion and had "Hell Cat" running within six months of conceiving the idea.

Though it needs attention to a few details, the bulk of the work has been done. John had put 250 shakedown miles on the clock using 5500rpm as a rev ceiling at the time of writing, and was confident enough to let me have a brief spin on it.

News about this special custom came via the phone. *Mechanics'* John Robinson had referred the story to me because of my interest in X7s. I was caught at an awkward moment when the phone rang and could only spend a short time on the phone to make an appointment.

The conversation went like this:

"Would you be interested in doing a story on my bike? I've put two X7 engines in an X7 frame."

"Whaaat? Sounds fantastic. What have you done to the frame to get them in?"

"Nothing. The frame is standard with a standard wheelbase."

"How did you join the engines together?"

"With great difficulty."

Yes. Well it did sound amazing but I had no time to delve further at that point. I took down his address and began wondering how he could have shoehorned two motors into an already tiny frame without altering it. I was soon to find out.

Obviously, to do this interview I just had to ride over on my all blue X7, which currently holds four Pro Street speed records.

John lives at home with mum and dad in a suburban semi. After eventually finding my way onto his estate, I saw a couple of parked big bore four-strokes with someone standing next to them who I rightly guessed to be an owner.

"It's round the corner. You'll see it. It's great," came the reply to a question I hadn't even asked.

The owner had recognised my bike and knew straight away what I was doing in the vicinity.

Round the corner there it was sure enough. Bright yellow wheels and cylinder heads — the standard fuel tank rubbed down to bare metal for an alloy look — a green racing seat — and that straight four powerplant ranged across the frame.

Just like he'd said, the frame was stock, with the short wheelbase looking even shorter because of the attention grabbing driving device he had installed.

Though the machine was missing side-

panels and has a slightly unfinished look to it the engine's snug fit gave the bike an overall integrated appearance.

"I thought it would look a bit of an abortion when I started on it," said John once we got chatting. "With such a lot of engine I thought it might look out of all proportion, but it seems to have blended in. I'm pleased with it."

The whole package is rather like a Kawasaki triple and looks hardly any wider. I'm sure that's what most people think it is when they first see it from a distance . . . then they see it has four pots!!

"It draws crowds whenever I park it and puzzles a lot of people," smiles John who is justifiably proud of his unique special.

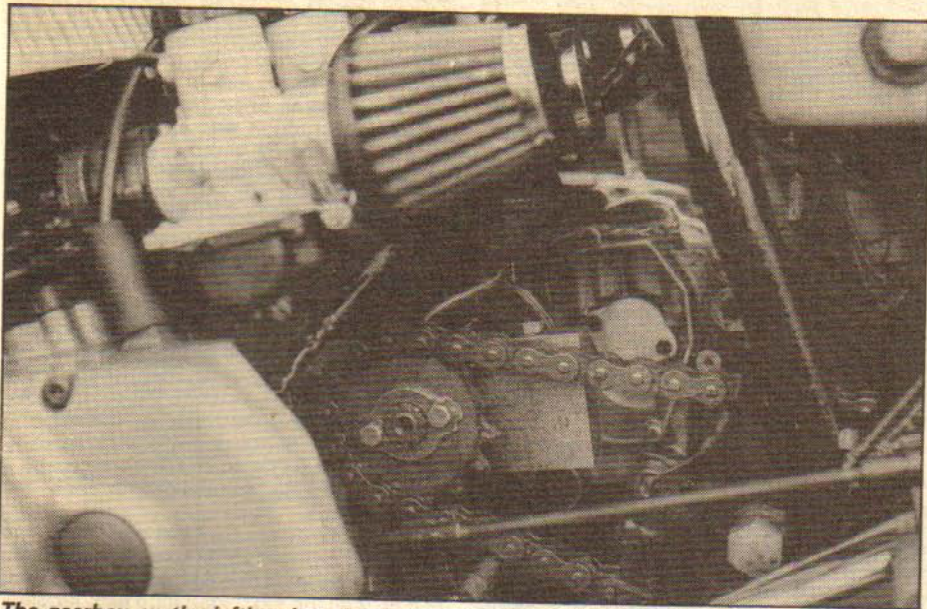
It was about this time that my X7 almost broke down in tears. Parked next to the four, which Technical Editor Robinson has deemed must be an X14, its power unit looked as though it had shrunk down to a 125 in comparison.

Until then I thought I owned the trickiest X7s in captivity. But this sassy special has elbowed that notion aside.

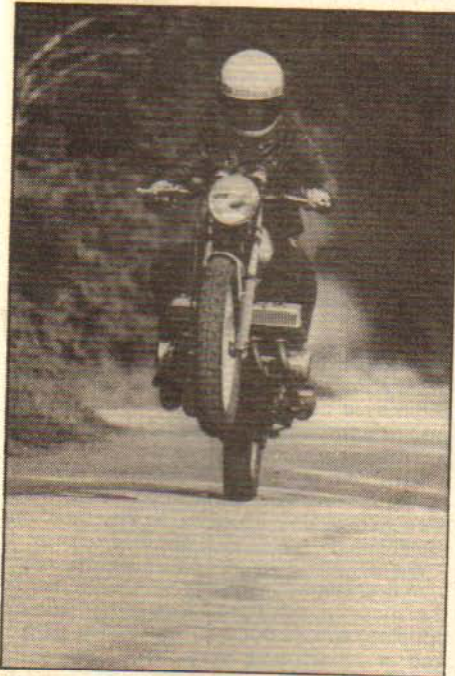
Before Hell Cat grew its extra claws John had already tuned it to specifications revealed in *Mechanics*. He had also made his own monoshock conversion.

Then an X7 owning friend blew a big end and let John have the motor for the princely sum of a tenner.

That was the turning point and the project



The gearbox on the lefthand engine was removed and the output shaft of the remaining gearbox was extended and given extra support by means of an outrigger bearing mounted in a housing bolted to the rear of the engine.



Brain-off time as owner builder John Oakes shows the X14's wheelie-pulling ability.



All this in a standard frame. See story for details of how the engines were joined.

began. He stayed on after work until 9pm in the evenings using company engineering facilities to create his special.

Where the cranks were to meet their ends were cut. John joined them together by making up a collar 2in round x 4in. This was bored to 0.003in less than the diameter of the crankshafts. The collar was then heated to "sweat" it on while the cranks were pressed in from either side.

One crank was then welded to the collar, and the other pinned so that if it is necessary to separate the cranks the collar can be heated and the pin knocked out. The cranks were timed a la 750 Yamaha TZ, with the centre two pistons at TDC, and the outer pair at BDC.

Alignment of the cranks was set by placing

a steel rod through the small ends of the centre two rods. When the cranks were pressed together they were 0.004in out of true which a knowledgeable engineer told John was quite acceptable, and this has proved to be the case.

Because of the alignment tolerance the steel rod through the small ends had to be cut in half to remove it.

In order to join the two engines together the inner main bearings were dispensed with leaving four mains to support the crank. Heavy alloy plates were welded to what are now the inner faces of each engine, so that they could be mated together using six nuts and bolts.

The gearbox from the left engine was severed and in order to align the sprockets the output shaft was extended six inches by

using the shaft from the spare motor. This was cut and flange bolted to the original.

To support the extra long shaft an outrigger bearing housed in an alloy plate bolted to the back of the engine was devised. To keep the bearing lubricated it has its own grease pot reservoir.

Both gearchange shaft and clutch pushrod have been extended. Guides screwed to the back of the engine hold the clutch rod in position and prevent it from bowing.

The stock swinging arm was brought back into play to avoid chain fouling problems. It is controlled by a pair of GS550 shocks.

The oil pump has been dispensed with in favour of petrol mix. The oil tank which is still on the bike is due for removal.

Front and rear original frame mounts only have been employed to secure the plot, in the frame. John's next task is to hold the motors more rigidly with a third mount.

The engines are modified to *Mechanics* shoot-out spec with K&N air filters and 102.5 main jets. The one-piece heads have been cut in half so that each barrel can be set up separately.

Exhausts are made up of standard X7 front pipes joined to modified Allspeed expansion chambers with copper conduit stingers. It's unsilenced, but not quite as noisy as you might expect.

A special linkage was made to operate the four stock carbs. At the moment the throttle action is very stiff and can be improved.

To provide the sparks, an extra coil was added and simply wired in parallel to the original.

The clutch has been fitted with four-stroke inner valve springs instead of the weaker standard springs. So far its holding up, though the plates are showing signs of wear. Not surprising with double the amount of torque to handle.

The chain too is wearing rapidly. John may have to think about a heavier duty set-up. But then he didn't build the bike for high mileages, so he's not too concerned. And the fact that it only does 18mpg curbs any thoughts of extensive use!

My brief ride on it was a great experience. Once on board it was sensational to see cylinders extending either side of the tank.

The motor was smooth and progressive in its build-up. My 250 is smooth for a twin and it pulls from 3000rpm, stepping up hard at 7000rpm. The X14 felt to have strong, progressive power right from below 3000rpm.

The motors gave the impression that they couldn't wait to be revving on full song. And the bike felt nicely balanced, though John reckons that when the front wheel comes over it does tend to roll to the right slightly because of the extra weight on that side.

Plans for the bike were to take it to Santa Pod for a *Run What Ya Brung* to see how it would perform.

If the clutch can hold it should be exciting. I reckon my X7 which has been timed at 118.7mph probably gives about 38bhp at the back wheel. Let's say John's motors each give 35. That's a total of 70bhp in a light-weight machine which probably hits the scales around the 350lb mark.

The success of this street special so far has inspired John to consider even greater heights as a follow up. Ideas for a twin engined 1000cc two-stroke are fermenting in his brain at the moment. We look forward to reporting on that one!

Brian Crichton