Kawasaki F750 Four

The Much-Rumored New Road Racer Is Alive and Well in Australia

by Brian Cowan

Kawasaki's new F750 road racer is alive and well and just finished secret testing in Australia. The configuration of the two-stroke, reed-valve, four-cylinder engine is unique. Cylinders one and four are forward and outside the centerlines of cylinders two and three, a layout which results in a unit 2 in. narrower overall than a KR750 Triple. The cylinders are angled slightly forward, an arrangement which aids low weight placement. The staggered cylinder placement eases

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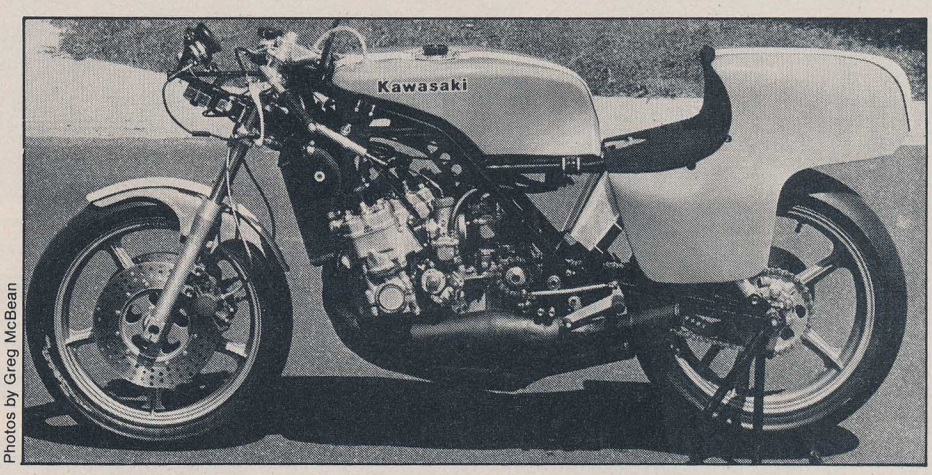

Photos by Greg McBean

The new Kawasaki Four features novel engine layout, reed-valve induction. Note short, fat exhaust pipes and unusual front hub layout.

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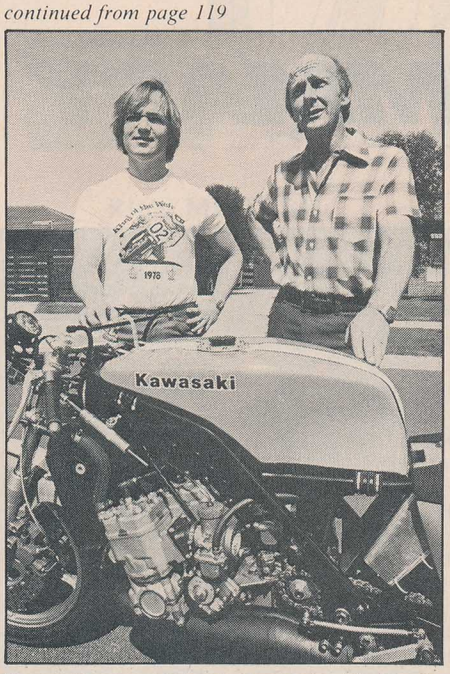

Team Kawasaki Australia's Neville Doyle (right) has been put in charge of engine development by the factory. Mechanic Jim Fitzgerald will assist.

expansion chamber routing hassles, solves the problem of restricted air supply to the outside carbs and also gave the Kawasaki engineers greater freedom in selecting transfer port placement and size.

Each cylinder has a separate crankshaft, as does the successful Suzuki RG500. But the new Kawasaki—which doesn't even have a model designation yet—has the cranks of the outside (and forward) cylinders connected by a cross shaft. A gear in the center of the cross shaft meshes with the inside ends of the two rear cylinder crankshafts, which in turn connect to a low-set primary drive shaft. The transmission is placed high and close behind the center (rear) cylinders, and can be removed simply by unbolting the transmission top case casting. The transmission can be worked on or removed without disturbing the crankcases.

Induction is by six-petal reed valves, with 38mm Mikuni carburetors. Cylinder porting and reed valves are very similar to the Kawasaki KX125 motocrosser. Ignition is by a modified KR250 CDI unit.

Team Kawasaki Australia manager Neville Doyle designed the new bike's frame and KR350-style bodywork, while the actual fabrication was completed by the Kawasaki factory in Japan. The frame is similar to the tried-and-true KR750 frame, but uses the engine as a stressed member, as well as having extra bracing on the top tubes and significantly larger diameter downtubes.

Doyle also came up with the idea for the unique Campagnolo cast magnesium alloy wheels. The rear rim is a huge 4.635-in. width, designed to match the giant 16/70 Michelin slick. The front wheel is also a one-piece casting, but with a truly novel design. Conventional cast spokes connect the rim to a 6.7-in. (170mm) center hub. The brake discs are mounted rigidly to the periphery of the hub instead of to the axle bearing carriers as in a conventional wheel. Smaller spokes inside the hub carry the axle. By rigidly carrying the discs closer to its edge, disc flutter is reduced. (Disc flutter—which hampers braking efficiency—was a problem encountered on RG500 Suzukis in 1978). The new front wheel is lighter than conventional wheels with bearing carriers/disc mounts and disc centers. Equipped with stainless steel discs, the new wheel weighs the same as last-year's KR750 wheel with plasma-sprayed aluminum discs.

At 300 lb. dry weight, the new bike weighs about 26 lb. less than a TZ750 dry. It is narrower than a TZ750, and has potentially better ground clearance. That's because the staggered cylinder arrangement means that the four expansion chambers don't reach their maximum diameter all in one area. Claimed horsepower for the new Kawasaki is 140 bhp at 10,500 rpm.

The Kawasaki 750 project was temporarily shelved in October, 1978, when the FIM announced that F750 would not be a World Championship class after 1979.

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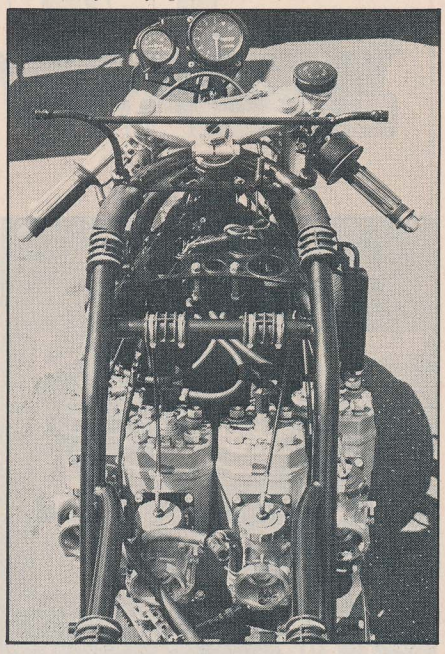

Cylinder configuration is staggered for a narrower package than Yamaha TZ750. Chassis was designed by Neville Doyle.

At that time no complete engines had been built and run. A change in heart on the part of the Kawasaki factory saw the only two motors in existence going to Doyle for race development early this year.

Early testing prior to the opening of the F750 season was done by Australian star Gregg Hansford at Calder Raceway in Australia.

Sources in the United States predict that one of the new bikes will eventually be ridden in the United States by Mike Baldwin, who rode a KR750 Triple to fourth in the Daytona 200 this year. ◘