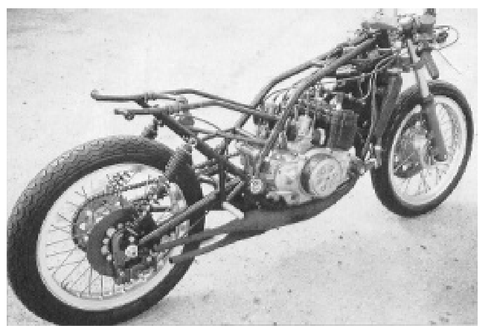
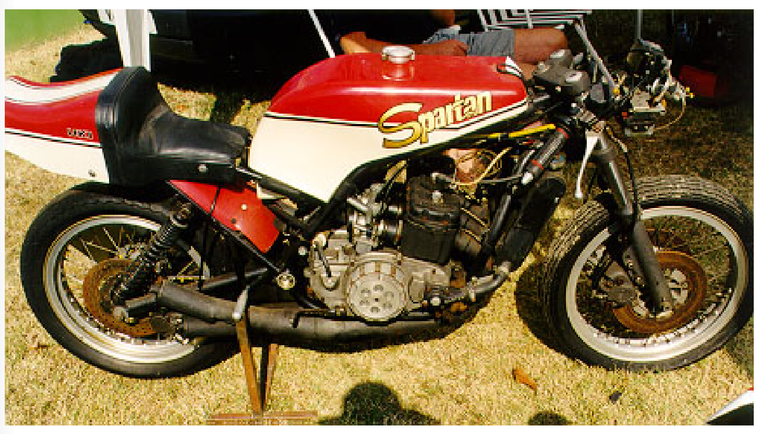
Sparton 500cc Triple

Based on the Suzuki GT380cc bottom end, the UK built Barton water-cooled 500cc triple was shoehorned into a Spondon frame to create the 500 Sparton, though in the restoration shown the owner has spelt it as Spartan!

Thanks to Dr Gaz for digging out the newspaper article.....



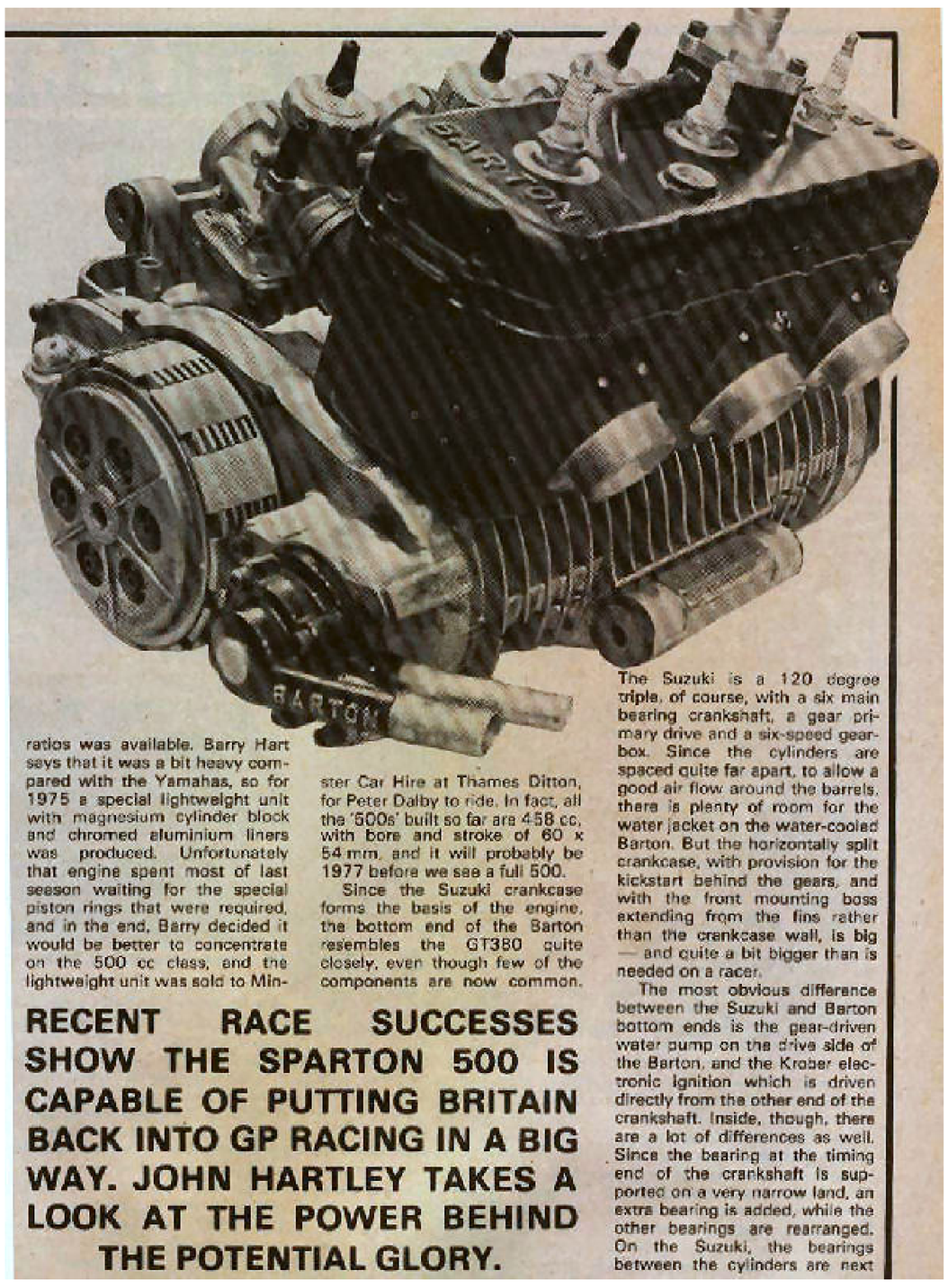


WITH A one-two victory in the North West 200, and fifth fastest lap in practice for the Senior TT, the Sparton 500 is beginning to make its mark. Martin Sharpe's 105.67 mph lap in the Island was not only the fastest ever by a British 500, but it was also quicker than all but three of the bikes practising for the Open Classic TT — and that can't be bad.

Despite the fact that this British racer is built by a small team with limited resources, it is clearly competitive. And the team may be small, but it is not standing still; next year should see a slimmer and more powerful engine in a chassis with a very low centre of gravity, and that could really stir things up a bit.

The Sparton is, of course, a Barton three-cylinder engine and six-speed gearbox unit installed in a Spondon chassis, but the engine is not merely a tuned and reworked Suzuki GT380, but is now almost made entirely by Barton Motors (Caernarfon) who also supply special gears and tuning equipment for Suzukis. In fact, the Barton story really goes back to 1971 when Barry Hart, the Barton boss and boffin, designed a 350 cc racing triple. He built a prototype, but development costs forced him to abandon the project and turn to more lucrative ideas. He then designed a six-speed gearbox for the Suzuki T500, and set up a small engineering business to specialise in the manufacture of racing equipment.

Not long after that, Rex White of Suzuki (GB) asked Barry to modify a Suzuki GT380 for racing, and as he set about this, Barry found that the layout of the engine was quite close to that of his stillborn motor. At any rate, he produced a water-cooled cylinder block, with slightly smaller bores to reduce the capacity to 350 cc, and decided that this was the way to produce his own racing engine — on an established and readily available bottom end. The project for Suzuki never really got off the ground, but by 1974 the Barton 350 cc engine, with 52 x 54 mm bore and stroke, and a Suzuki bottom end with special gear



ratios was available. Barry Hart says that it was a bit heavy compared with the Yamahas, so for 1975 a special lightweight unit with magnesium cylinder block and chromed aluminium liners was produced. Unfortunately that engine spent most of last season waiting for the special piston rings that were required, and in the end, Barry decided it would be better to concentrate on the 500 cc class, and the lightweight unit was sold to Minster Car Hire at Thames Ditton, for Peter Dalby to ride. In fact, all the '500s' built so far are 458 cc, with bore and stroke of 60 x 54 mm, and it will probably be 1977 before we see a full 500.

Since the Suzuki crankcase forms the basis of the engine, the bottom end of the Barton resembles the GT380 quite closely, even though few of the components are now common.

RECENT RACE SUCCESSES SHOW THE SPARTON 500 IS CAPABLE OF PUTTING BRITAIN BACK INTO GP RACING IN A BIG WAY. JOHN HARTLEY TAKES A LOOK AT THE POWER BEHIND THE POTENTIAL GLORY.

The Suzuki is a 120 degree triple, of course, with a six main bearing crankshaft, a gear primary drive and a six-speed gearbox. Since the cylinders are spaced quite far apart, to allow a good air flow around the barrels, there is plenty of room for the water jacket on the water-cooled Barton. But the horizontally split crankcase, with provision for the kickstart behind the gears, and with the front mounting boss extending from the fins rather than the crankcase wall, is big — and quite a bit bigger than is needed on a racer.

The most obvious difference between the Suzuki and Barton bottom ends is the gear-driven water pump on the drive side of the Barton, and the Kraber electronic ignition which is driven directly from the other end of the crankshaft. Inside, though, there are a lot of differences as well. Since the bearing at the timing end of the crankshaft is supported on a very narrow land, an extra bearing is added, while the other bearings are rearranged. On the Suzuki, the bearings between the cylinders are next

The three heads and their cover