Roy Fisher

Joined: 25 Apr 2006
Posts: 27
Location: Coventry
Posted: Fri Apr 04, 2008 5:49 pm Post subject: Advice on'Kite' forks

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I have a question regarding the front hub/spindle fitting on the tapered tube ‘kite’ forks on my machine. Both the inside and outside of the fork slider ends are machined with a chamfered ‘flat’ with a hole through which the hub spindle passes. Through the centre of the hub assembly is a tubular spacer which carries the wheel bearings, brake plate etc., the front spindle itself passes through the centre of this spacer and through the fork ends. When fitted the outer ends of the tubular spacer abut the inner flats on the fork ends and when the spindle nuts are tightened the fork ends and the spacer are compressed together.

I was recently told that the tubular spacer should fit into a small counterbore in the hole in the inner faces of the fork ends, the forks being sprung apart slightly to allow it to fit into the counterbore, the forks sliders returning to their normal position when released and the nuts tightened.

If this is correct then the shear loading would be shared by both the spacer and the spindle. Without the counterbore (as on my machine) the shear loading is taken entirely by the 3/8” diameter spindle which appears to be about the same size as on a bicycle. I’ve recently fitted a new spindle in EN24T which I understand is a fairly tough material but I’m wondering which is correct and how safe the present arrangement is.

Any comments or advice would be much appreciated.

Many thanks

Roy F.

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efr215

Joined: 06 Nov 2004
Posts: 216
Location: Leigh-on-sea, Essex
Posted: Fri Apr 04, 2008 8:24 pm Post subject:

Cannot offer any observations about the kite forks themselves but 3/8" dia. in EN24T is good for about 4 tons so unless your 6 pack has also turned into a gallon like mine you should be safe!

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Roy Fisher

Joined: 25 Apr 2006
Posts: 27
Location: Coventry
Posted: Fri Apr 11, 2008 7:40 am Post subject:

Thanks for that 'efr 215'. - it's reassuring at least to know that the centre spindle is made of the 'right stuff'.

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efr215

Joined: 06 Nov 2004
Posts: 216
Location: Leigh-on-sea, Essex
Posted: Sun Apr 13, 2008 1:13 am Post subject:

Many moons ago I had occasion to make some special stub axles out of EN24T. These axles, attached at one end only, had 8mm I.D. deep groove ball races on the inboard end and tiny 4mm I.D. races on the outboard end. As it turned out they were marginally not quite up to the job and deformed. I made another set out of EN24, hardened and tempered to the 100 ton condition which did the job.

The interesting thing is that when tested in the 100 ton condition the material, while capable of carrying much greater loads, was also capable of flexing considerably more than the EN24T examples without deformation but when grossly overloaded failed catastrophically.

The point of this little tale is that if you have a critical component make sure the material you use is up to the job.

Eventually we had the machine these were fitted to over 50mph without the driver having to change his underwear!!! We even let the press have a go but forebore to mention the size of the axles - well, you never know, we might have struck a blow for the common man!