DRIVESHAFT INFO

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Posts: 128

Re: drive shaft

Quote:

Originally Posted by **Lawrie**
Can you tell me what grade tube you used on the driveshaft, you said DOM, is that hydraulic tube,also what size and wall thickness.
I have a 33 and 34 that I have spent a lot of time on the driveline getting to get them vibration free.
My next step was to use the old ends and make up a driveshaft using either chrome moly tube or some other.
Any help would be appreciated.
And I like your 32.
I have a stock 34 3w,with very low miles from new.
Lawrie

Lawrie,

We got some AISI 1020 steel, which is what was readily available from the steel supplier in town. The DOM is just a seamless tube, though the original tube did have a welded seem.

We ended up going with 0.120" wall, which is 0.005" thicker than the original tube. We were really constrained on going with a larger diameter tube by where the torque tube narrows down near the clamshell. I had an end from the tapered '35/36 shafts and it wouldn't fit all the way through - and it isn't much larger in diameter.

We turned 0.001-0.002" OS of the diameter of the couplers, which allowed them to be press fit into the tube. We pressed the pieces together in a lathe, which allowed us to check runout too. Before doing that, we drilled 4 holes in each end of the tube so that we could rosette weld them as well. Both couplers were chamfered, along with the tube, so that we got good penetration, and fully welded about the circumference of the joints.

I did the calculations for shear stress based on the steel properties, max torque of the engine in first gear, along with a stress concentration factor for the welded joints. We have a good safety factor level, so I think the driveshaft should be good for the car. I think the last shaft might have been hurt sometime in its life - or maybe it happened to be a bad weld from Day 1.

I don't know that you'll get a lot of benefit going with a chromoly tube. You'll gain some torsional strength, but the weld will still be your weakest link. The metal properties there are going to revert to mild steel due to the welding process anyway. If you could do a post-weld treatment (shot peen, etc) you could get a little better fatigue performance than the mild steel tube though.

Cory