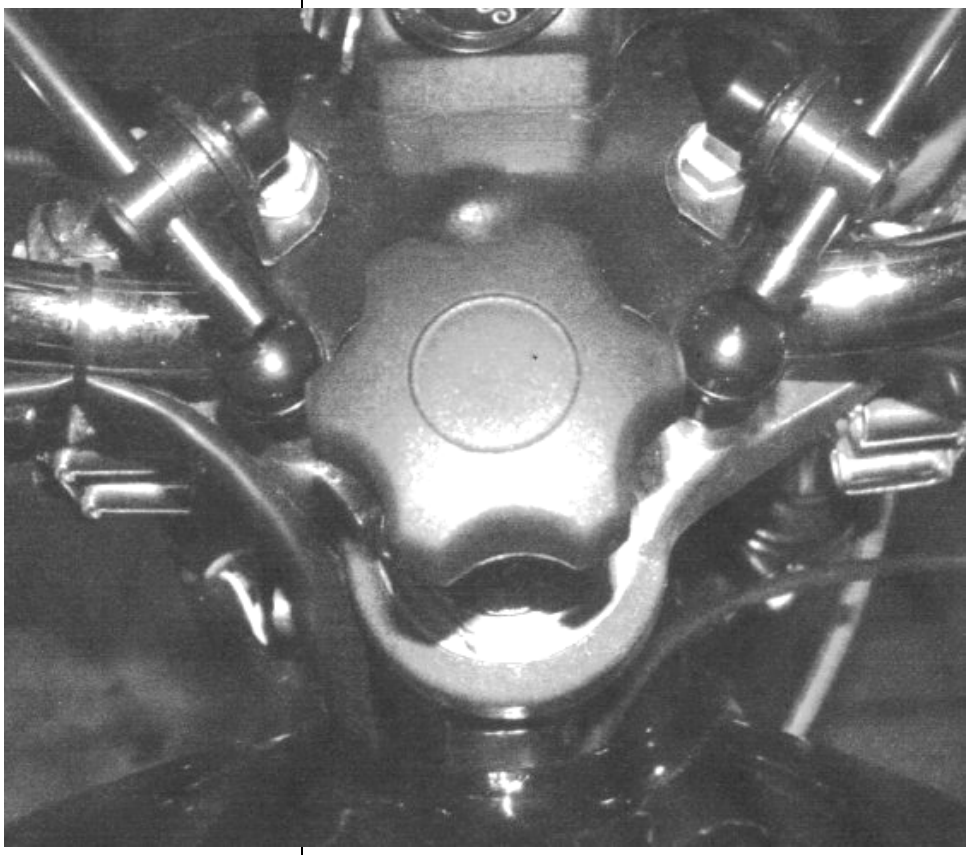
Steering Damper Modification. 350cc Jawa 'Classic'.

(and some earlier models, but not the ones with the centre ignition switch!)

I have finally got round to adapting the steering damper on the 350 Jawa so that it can be adjusted from the cockpit. I had always thought that the existing damper assembly, which involves furkling around under the lower fork yoke, is a real challenge if you want to tighten it up while on the move. Don't try this at home. A classic 'get around to it' situation, as this is my fourth Jawa sidecar outfit since 1979, with a combined mileage of something over 120,000.



The move was prompted by some beautiful little handwheels which I saw in my local 'Aladdin's Cave', Messrs. Tri-Part of Galway. Nicely scalloped, 60mm diameter, black plastic, with an M10 threaded brass bush in the middle.

'Perfect for a steering damper knob' I thought.

The guy in the shop looked at me sideways when I told him what I wanted it for ……

So, the new bits for the assembly are as follows:-

1. A handwheel. You will probably find something similar in your own local engineers' supplier – Irish readers could do worse than getting one of the handwheels from Tri-Part of Galway.

2. A length of M10 studding for the shaft between the handwheel and the existing damper assembly. Whatever handwheel you finish up with, you will find that the existing damper assembly will not safely accept a shaft of more than 10mm diameter. I used about a 320mm length, but depending on what you use for a bush at the top of the steering column, this might vary – you will probably have to trim it on final assembly anyway.
A bush (see drawing) to fit into the top of the steering column. If you have access to a lathe, this is the way to go. I don't have a lathe, so I fabricated a bush using a piece of ½" copper pipe hard-soldered to a ⅜" mudguard washer. Crude, but it works. The aluminium bush would be much nicer.

3. A Ø10 thrust washer between the handwheel and the bush. If you can get one of the PTFE-faced ones, so much the better.

4. An M10 nutplate (see drawing) to be riveted or otherwise fixed to the underside of the lower plate of the existing steering damper assembly. (I had to make my own, as I couldn't find a commercially-available nutplate of this size. You might have more luck). To fix the nutplate, I used 5/32" x ¾" pop rivets. (left over from grafting a new pair of GRP front wings onto a Rover '90', back in the days when we did things like that!)

5. An M10 'Nyloc' nut to adjust and retain the damper assembly.

The assembly and adjustment procedure is as follows:-

1. Screw the length of M10 studding – the damper shaft – into the handwheel, and retain with high-strength Loctite. I also drilled thro' the handwheel boss ø3.3, for an M4 tapped hole. This is added security, as you have to react the torque from adjusting the M10 'Nyloc' nut by holding the handwheel.

2. Remove the existing steering damper assembly and drill through all friction plate components Ø10 to clear the damper shaft. This includes the M6 tapped bush at the yoke end of the assembly, so this is the point of no

return… You will find that the holes in the friction inserts themselves are already well over 10mm in diameter.

3. Punch a ⅜" diameter hole through the thick rubber washer immediately above the bottom plate.

4. Fix the M10 nutplate to the underside of the bottom plate of the damper assembly, ensuring that the M10 tapped hole in the nutplate is concentric with the Ø10 hole in the bottom plate. If you use pop-rivets, apply these from the upper surface of the bottom plate – the rubber washer will easily accommodate the rivet heads. If you use M4 countersunk screws, be sure to countersink to minimum depth for the screw heads, as the plate is none too thick.

5. Leave the damper assembly aside while you remove the plastic bung from the top of the steering column. Offer the Ø19 end of the bush to the open end of the steering column, and follow this with the handwheel, thrust washer and damper shaft assembly.

6. Check that the lower end of the damper shaft emerges from the hole in the lower fork crown and that the handwheel beds down on the thrust washer and bush. Check that the end of the damper shaft extends at least 50mm below the under surface of the lower yoke, but, for convenience, no more than 60mm.

7. Offer up the top plate of the existing damper assembly to the underside of the lower fork yoke and fix with the original M6 setscrews. Check that the Ø10 hole in the plate is concentric with the bore in the steering column before finally tightening the screws. Note that the screws cannot be further tightened once the rest of the assembly is added.

8. Add the rest of the damper assembly, noting that the rubber washer with its ⅜" dia. punched hole neatly retains the components so far assembled around the damper shaft, as it is a light push fit on the shaft.

9. As you add the lower plate of the assembly, complete with its M10 nutplate, you will find that you can screw it up the damper shaft quite a way before it is about to engage with the slots in the upper plate. As it engages, you can then pull it further into engagement by turning the handwheel clockwise. Be sure that it is fully-engaged, and cannot rotate out of the slots!

10. Now add the M10 'Nyloc' nut, holding the handwheel and winding the nut up the damper shaft with a spanner until it just touches the nutplate on the bottom plate of the damper assembly. Do not allow the shaft to rotate with respect to the damper assembly at this stage. There should be no backlash when the assembly is finally adjusted.

11. For final adjustment, ensure that the handwheel is bedded down, and that the nutplate is just very lightly pre-loading the damper assembly with the M10 'Nyloc' nut just touching the nutplate. Further clockwise rotation of the handwheel will tighten the damper; full anticlockwise rotation will slacken off the damper, but must not allow the lower damper plate to come out of its slots. Check the adjustment of the 'Nyloc' nut by watching the damper assembly as you turn the handwheel.

12 Finally, do not force the handwheel anticlockwise beyond the point at which it stops rotating freely. At this point the nutplate has met the M10 'Nyloc' nut and the assembly is in the lightly preloaded condition set up in note 11 above.

Note! In picture below, the damper nutplate is pulled up clear of 'Nyloc' nut, i.e. damper is adjusted for running.

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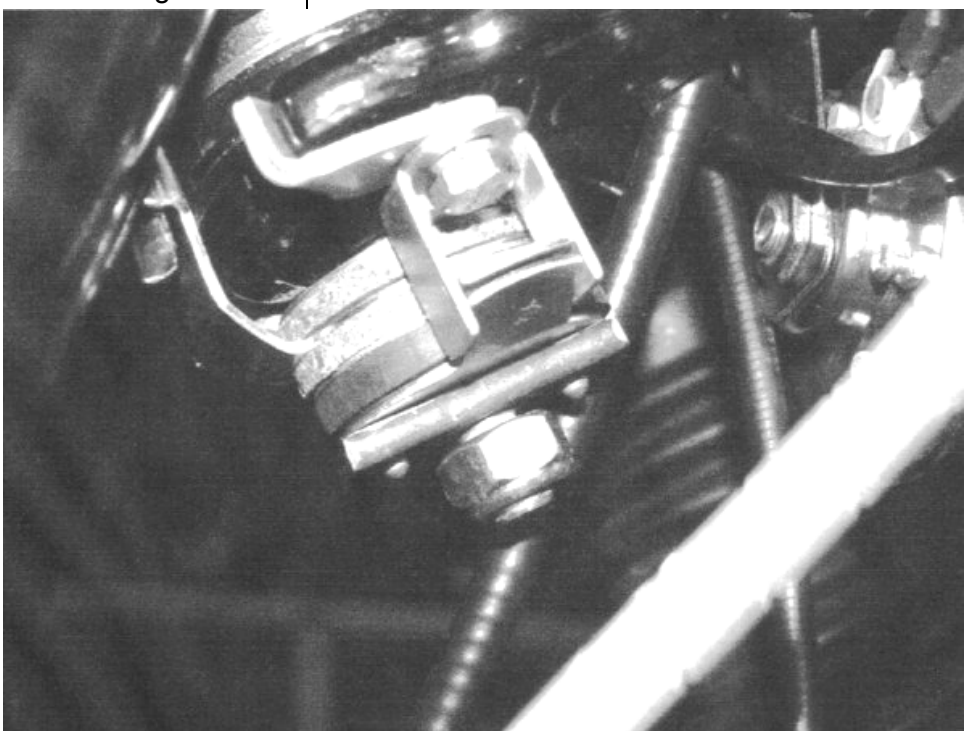

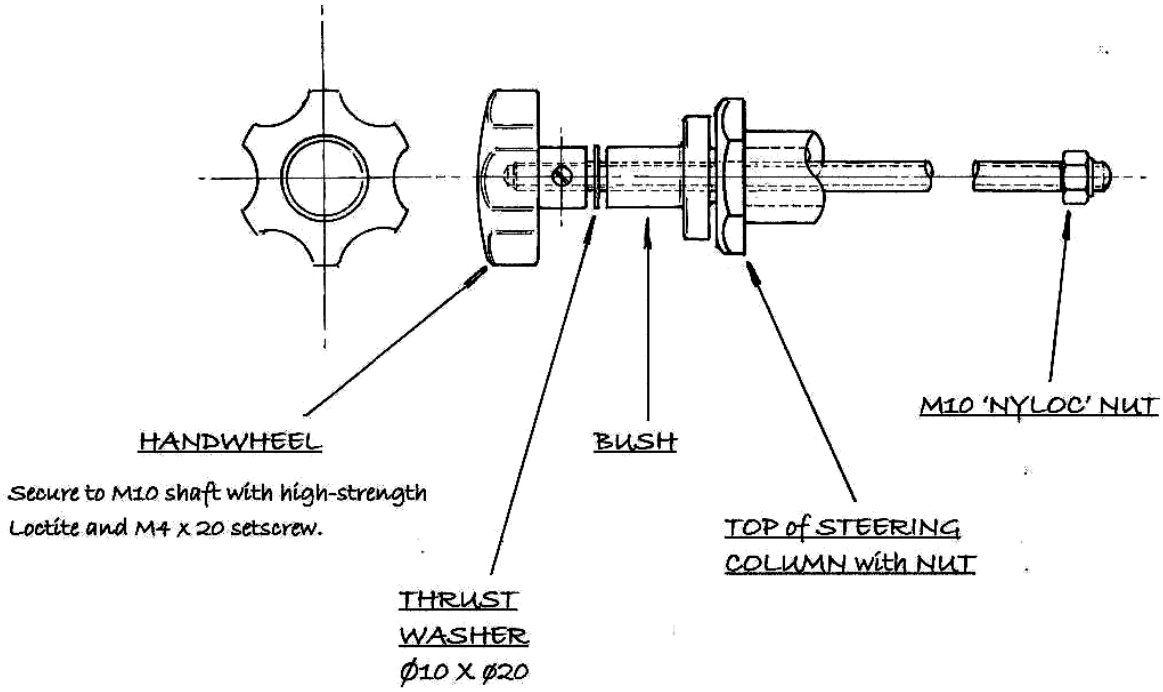

ARRANGEMENT of STEERING DAMPER COMPONENTS

(existing damper assembly not shown)