Modifications for Comfort.

By Bob Hutton (IVK264 2500TC)

Firstly, I must apologise for not attending many Club meetings this past year. I can plead extenuating circumstances, but mostly I was busy on house extensions or Triumph modifications. On one occasion, I was en-route to a meeting, June, I think, when The Triumph suffered a major fuel blockage. My wife, Joan, who had never towed a car or even a trailer before, was given the unenviable and traumatic task of towing me home in the dark.

The things I've done to my 2500TC during 1998 are:- Converted it to a manual with overdrive after a failure of the BW35 gearbox, Installed a new rocker shaft and reground the tappet faces (very carefully), Removed the mechanical fan and replaced the thermo-fan with a larger Davies Craig fan, Removed and cleaned fuel tank and fitted a 'sediment trap', Replaced the rear half-shafts with Datsun 180B half-shafts, Replaced the rear springs with 2500S springs, Replaced the wheels with 2500S Mags, and fitted new Pirelli P400 tyres, Replaced the differential with a nice quiet 2500S diff.

I realise that the 'purists' among our ranks might consider most of the above as sacrilege, but my interest is primarily to have an easily serviced, reliable Triumph that is a pleasure to drive, not a concours car that sits in a garage most of the time. I've detailed the things I've done recently as they may be of interest to readers who have thought of doing similar things.

The end result of these modifications is that my Triumph is now an absolute dream to drive with no vibrations and no rear end clunks, twitches or differential noise. The engine, which is now quiet, has no fuel or cooling problems and the mags, which have been reconditioned, look fantastic. By the way, as it was only the drive plate that failed with the BW35 box, anyone wanting a recently serviced auto box with new kick down cable, balanced tailshaft with new uni's and also the oil cooler, pipes and gearbox adaptor plate, can have it all for $100 ONO.

Conversion to manual gearbox

This was a fairly straightforward task.I was able to obtain from a wrecker, a complete 2500S with O/D. It was simply a matter of removing everything from the back of the engine, including the gearbox adapter plate, back to the diff. and relacing it with the bits from the 'S'. I also had to remove the auto brake pedal assembly and replace it with the complete manual pedal assembly and clutch master cylinder. The master and slave cylinders were cleaned and new seals were installed.

I noticed that the ring gear on the flywheel was installed back to front, so took that off and re-installed it. An exchange pressure plate and new clutch plate and thrust bearing were bought and the flywheel and clutch assembly was balanced. Before refitting the gearbox, I took the top off for a visual inspection and was pleased to find no apparent problems with gears, syncros or bearings. The old oil drained from the gearbox was quite clean.

I took the ‘J’ type overdrive to pieces and cleaned it and replaced only the large central bearing. I didn’t buy a new exhaust system, but adapted the auto exhaust by cutting and welding.

Removal of the mechanical fan

After replacing the gearbox, the fan, for some reason I couldn’t fathom, was a little closer to the radiator. It was now impossible to change a fan belt if needed without removing the radiator. I removed the mechanical fan and machined the front of its mounting disc to give about 50mm clearance from the radiator. I bought a 355m.m. (14") Davies Craig fan out of the Trading Post and fitted it in place of the existing thermo fan. The thermo switch was then moved from its position near the top outlet to where the radiator drain plug was. (They’re the same thread.)

This fan only switches on in bumper to bumper traffic or after idling for five minutes or so. Being more powerful than the original, it dragged the idle down because the alternator would cut in to compensate for the power drain. I’ve now switched it through a relay so it is powered directly from the battery. No more idle problems.

Some of you may remember that I fitted my own version of the ‘Eco-Therm’ cooling system about two years ago (removed the thermostat from its normal position to the bottom outlet of the radiator). This now works much better with the thermo switch in the bottom of the radiator. It used to switch on before while the radiator was still cold. The fan actually drags the temperature back down to normal when idling and switches on only for a couple of minutes at a time. Another side benefit is that the engine is much quieter.

Cleaned fuel tank and fitted a sediment trap

After being stranded several times by fuel blockages, I decided the tank had to be removed and cleaned out.

It had some small leaves, water and loose bits of rust in it. These seemed to cause problems only when I let the fuel level get too low. I discovered there was a piece of plastic tube inside the tank outlet, with its end about 35m.m. above the bottom of the tank. The inner diameter was about 1 ½m.m., so it doesn’t take much to block it!

I removed the outlet pipe and emptied and dried the tank.

Removed the small plastic pipe from the outlet and discarded it,

Used a vacuum cleaner to clean out all loose material,

Put half a cup of rust killer in it and after swishing it around to get into all nooks and crannies, emptied it and left overnight,

Washed it out with a garden hose and then drained, Poured two to three litres of methylated spirits in and swished that around to collect all water residue and then drained it, Refitted tank, Obtained from a second hand engineering equipment supplier, an aluminium water/oil separator from an air compressor, Discarded its inner filter and fitted a drain tap to the bottom of the canister, Fitted the canister under the tank behind the differential. The petrol now goes through this small canister first and allows any sediment or water to collect in the bottom before it has a chance to

contaminate and block the filter. It's a simple matter to reach under the car and drain any accumulated sediment into a container. No more fuel blocks.

Replaced rear half shafts

You don't notice how worn and loose the back axle is when you've got an automatic gearbox because the drivetrain is always under torque. Only when you shift into reverse might you notice a 'clunk'.

After installing the manual gearbox, I was surprised to find that the axle and half shafts had considerable backlash and were very noisy. The only solution seemed to be Datsun 180B half shafts. The procedure was basically as follows:

Both hubs were dis-assembled. (I tried pressing them apart in my 20 tonne press to no avail. Eventually oxy/acetylene was applied to the flange at the keyway position only, and one whack with a sledge hammer did it),

Stub axles had their U-joint yokes reamed out to take the larger Datsun uni's, I re-assembled the hubs with new bearings and seals (002" end float), Obtained two Datsun half shafts from a wrecker. Dis-assembled, cleaned and re-greased them, Took the Datsun flange couplings off the outer, male ends of the shafts and put them on the inner, female ends, (new Datsun U-joints fitted),

Thinned down, in my lathe, the Triumph diff flanges so they mated properly with the Datsun flanges and redrilled the bolt holes to match the Datsun flange pattern,

Fitted another Diff from a 2500S (after cleaning it, fitting new quill shaft seal and refilling with fresh oil).

Fitted 2500S rear springs

Hubs, with male ends of half shafts, refitted,

Female ends of halfshafts mated to male ends and flanges bolted to diff

Future Work

At this stage, the only things that still require to be done are to rebuild a spare power steering rack and maybe do up the dashboard and door wood.

I'd love to fit a six-stack CD player just to cap off the enjoyment that my car now is to drive.

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