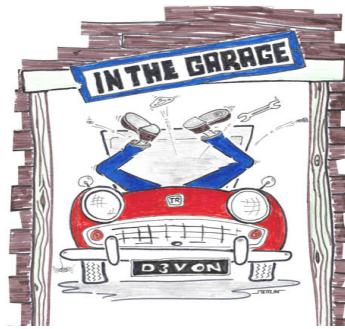


In The Garage



Sept 2023

Issue 18

Welcome to Issue 18 of In The Garage. We are always looking for content so please let us know what is going on in your garage especially if you are a new contributor.

Andrew Willmott – TR3

Scuttle Brace

Scuttle shake is something which affects all side-screen cars to one extent or another and although my TR3 is solidly built around the A pillars and bulkhead the unwanted movement was still noticeable on occasion. Being well aware of the huge difference that the roll bar made to the rigidity at the rear I looked to see what could be done to improve things around the bulkhead. In the later “windy window” cars Triumph solved the matter to a greater extent by fitting a cast H frame around the tunnel bracing the dashboard to the floor but this solution is not practical on the earlier cars due to the gear lever being tucked under the dashboard. A quick survey revealed that a full height bar tucked under the coaming would require a major strip down but there was a clear route from side to side, just under the steering column and battery box lining up close to the chassis to body mounts at each side. Only the overdrive relay would need relocating.

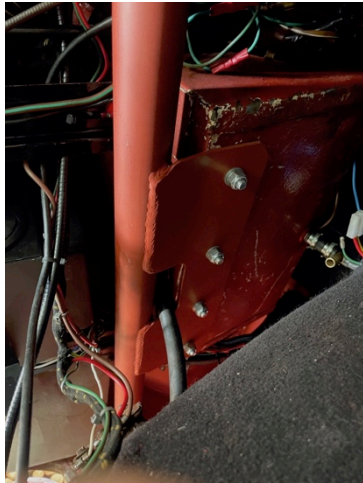
I wasn't sure if the proposed position would encroach on legroom or be capable of fitting and removal as a one-piece assembly so some left-over 40mm plastic waste pipe and elbows were used to assemble a quick mock up and try it out. All went well so our friends at North Devon Metalcraft were pressed into service bending a single piece bar from 38 x 2.5mm cold drawn seamless tube similar to that used for the rear roll bar. The plastic mock up was used as a template so that a good fit was ensured.

Footplates were cut from 3mm thick plate together with a plate to secure the centre of the bar to the underside of the battery tray.

Once the components had been test fitted the car was driven to the Bob Dove Motorsport workshop near South Moulton and Mikey Dove quickly tacked everything in place. The whole assembly was then removed which was easier said than done but it did come out using some Chinese puzzle skills. Mikey then finished welded it and it was taken back to the garage for a quick coat of Bondarust primer before being refitted to the car and bolted firmly in place.



With a couple of 38mm holes in the carpets and the overdrive relay replaced with a modern unit in the relay bank under the bonnet, the car was test driven along my back roads test route and revealed that all traces of scuttle shake were absent and that the ride seemed considerably quieter; a great result.

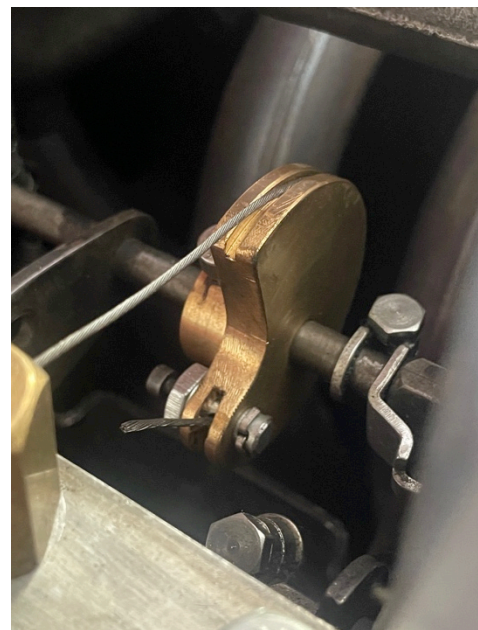


The new brace will provide a good bit of extra impact protection around the foot-well and form the starting point for the future installation of door bars linking to the roll bar at the rear.

Progressive Throttle Quadrant

Four cylinder TRs in general tend to suffer from a sharp throttle response at low openings but unlike a modern car where it's a simple matter to plug in a laptop and reset the parameters the only solutions available are mechanical. I had previously converted the TR3 to a cable throttle so a progressive quadrant was sketched up to fit in place of the standard lever arm.

A few hours in the workshop saw a brass quadrant ready to fit. The initial cable pull acts on the larger diameter that rapidly reduces as the throttle is applied so that the first half of the pedal movement translates to about one quarter of the carb opening and the second part then opens to full throttle.



Road testing revealed an improvement but I may try a more pronounced cam to increase the progression.

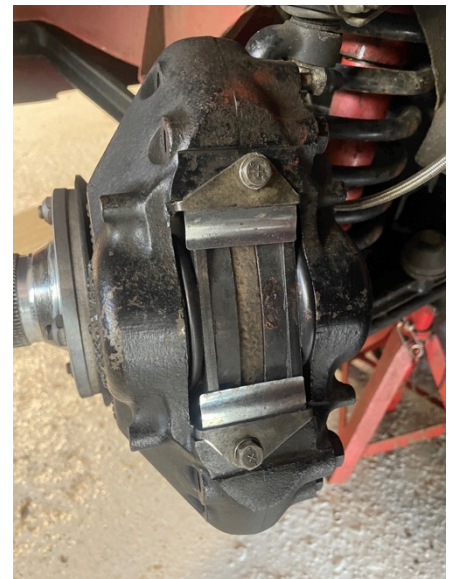
Indicator Audible Warning Mute

I don't think that this item will be much help to anyone else but I found it amusing and useful. Anyone who has travelled in close proximity to my TR3 will be familiar with the sometimes overly loud indicator audible warning. The usual solution has been to stick a piece of tape over the sounder. This is fine around town but renders it inaudible when at speed on motorways and dual carriageways so it usually gets ripped off and replaced later. I'm sure that electronics gurus would soon sort out a variable volume control but my mind doesn't work like that so a much less technical solution came to mind using a squeezey bottle top.



Squeaky Brakes

I recently replaced the Mintex M1144 brake pads on the TR3 and quickly found that the new ones although effective tended to squeak and squeal. I'd had good results before using 3M anti squeal pads so a set was ordered online from brake specialists Bigg Red who keep genuine 3M items in stock. With the pads removed the steel backing plates were cleaned with white spirit and then methylated spirits and the self-adhesive pads were stuck in place before being trimmed to size with a craft knife. Having been marked on removal, the brake pads were re-installed in their original positions. New anti rattle springs were used for good measure.



No squeaks or squeals have been evident since and there is no noticeable difference in the pedal feel with the extra layer in place.

Gearbox Selector Shaft Leaks

The area at the rear of the gearbox on TRs has been well known for oil leaks for many years and usually results in a persistent but very slow drip off the bottom of the overdrive. When rebuilding a spare gearbox and overdrive recently I resolved to look into the problem and make an effort to make the area leak free.

Close examination revealed a few areas requiring attention:

1. The standard O-rings that seal around the selector shafts are free to move longitudinally in their oversize recesses, this can cause a "pump" effect due to seal roll back, sometimes sometimes specified to lubricate the seal.
2. The 3rd and 4th gear selector shaft features a small through hole that transmits the seal during operation and carries a small amount of oil with it each time. Research suggests that this may be to lubricate the area where the rods slide against each other.
3. An O-ring only makes a single line seal on the shaft, which can be improved.

I managed to source a modern Quad seal that provide a double seal and more flexibility than the O-ring to cope with any misalignment. Some brass back-up rings were made to take up the slack in the recess and prevent movement. A commercial nylon back up ring could be used in its place.

The hole in the centre shaft was filled with J B Weld and polished back and the shafts were greased where they slide against each other.



Back up ring, Quad seal & O-ring



Seal recesses



Hole in the centre selector

It may be some time before I can report back on the effectiveness of these measures but meanwhile I have a supply of the Quad-rings as the cheapest option was to purchase a bag of 50. If anyone else wants to try them they are available from me FOC.

TR4 – Subtle Dashboard Mod

TR4s are fitted with unique switch bezels to add a bit of bling to the switch panel but knobs for the cable operated heater controls have a different thread pitch and so are fitted with the uninspiring standard chrome rings. The switch bezels are thin and only accommodate two or three threads so a bit of fettling on the lathe soon had some spare bezels close enough to screw onto the cable pull bodies. A suitable spacer was fitted behind the H frame to allow only minimum protrusion of the threads and the bezels were fitted with a drop of Loctite to make sure that they don't vibrate loose.



Spot the difference

Ben Freer – TR3

Bonnet Security

The bonnet modifications to Ben and Vicky Freer's TR3 "Geoffrey" were prompted by an incident which, although serious could have been much worse. They were on their way from North Devon for a jaunt around France when the bonnet latches failed. The bonnet flipped open and folded back over the aero screens, hitting both Ben and Vicky square on the top of their heads prior to breaking off the hinges and disappearing over the back of the car. Vicky was aware enough to jump out and retrieve the bonnet before it was run over by following traffic but Ben was still stunned when she returned to the car with the bonnet, now with two head shaped dents in it. Needless to say the incident curtailed their trip and they returned home for a week of recovery.

Having lost all confidence in the standard bonnet fixings Ben sourced some nice stainless steel clips from the rally world to replace the Dzus fittings.

The springs were removed from the standard receivers mounted on the inner wings together with the Dzus cams in the bonnet and with the bonnet closed holes were drilled down through the cam holes and straight through the inner wings. The new latch pins were bolted through the holes secured with large, load spreading washers and a couple of lock nuts each.



The latch plates required a little fettling to fit the profile of the valley in the bonnet but once all was well they were locked to the pins now protruding through the cam holes and pop riveted into place.



The completed modification looks entirely in keeping on a modified car and not only ensures that the bonnet will remain in place but has the advantage of not needing a budget key to open.

Dennis Hobbs –TR5

Under Bonnet Rattles

A couple of simple but effective mods were spotted under the bonnet of Dennis's (currently for sale) TR5.



A soft buffer is secured to the bonnet stay and compresses against the stay guide when the bonnet is closed. A lip seal is fitted to the rain gutters on each inner wing and seats against the closed bonnet.

Mark Radford - TR6

Rebuild Progress

Mark's rebuild continues. My latest visit found the suspension and steering all fitted, the body complete and ready for paint.

A week or so later the engine, gearbox and shiny new exhaust manifold were all fitted. I'm looking forward to seeing the car back on the road next year.



Martin Lovell –TR6

Gearbox Repair

Martin found himself waylaid at the roadside early in the year unable to select any of the TR6's four gears. The car was quickly recovered back to his garage and the familiar Gearbox Party was organised with volunteer group members assisting the gearbox removal ready for a detailed examination. An oil leak from the bell housing had been on the jobs list for some time and this would be investigated at the same time. The initial problem was quickly identified. The anti rattle plunger in the base of the gearstick had become displaced and had jammed the change mechanism.



A new spring and plunger was ordered ready for re-assembly.

With the gearbox removed it was evident that the oil leak was coming from the gearbox input rather than the crankshaft seal. This was easily remedied by fitting a new seal and nose gasket, generously donated from John Blake's extensive stock. The gearbox nose/clutch release-bearing carrier allows fitment in four different orientations but should always be fitted with the oil gallery at 9 o'clock to line up with the recess around the main bearing. Like many, Martin's was not lined up when disassembled.



With the gearbox on the bench the top cover was removed so that the internals could be examined and the selector shaft seals replaced. The overdrive was also removed for partial strip and examination. No damage or wear was evident and the clearances were in tolerance, so the transmission was re assembled with new gaskets brushed with a light coating of Welseal to cure a couple of nagging oil leaks.

With the gearbox re-fitted the car has now completed over one thousand trouble free miles and remains leak free.

John Bonnett – TR3

A Little Side Project

Although not a TR, I think that most will be interested in John's latest project, which takes up his time when he is not driving his striking yellow TR3. I called in at his workshop recently and got the full rundown on his unique special. Based on a Reliant Kitten chassis. The compact coupe features a Ford Zetec SE engine, which is fitted with Jenvey throttle bodies and EFI. The all aluminium SE, or Sigma engine, was developed with Yamaha and weighs a mere 80kg. The dash support/scuttle is taken from a Fiesta as are the front and rear screens, although this is not at all obvious to the casual observer due to the far from Fiesta like angle at which the glass sits. John has used his carpentry skills to produce the wooden bucks and is fabricating the self-designed bodywork from sheet aluminium.

To my mind the lightweight body references a number of classic 70s design cues with its Aston Martin style grille and Trident Clipper like rear three quarters.



John has a history with this type of project having previously re-bodied a Triumph GT6 in aluminium and campaigning it in hill-climbs before finding it a new home.



I look forward to seeing the completed project on the road.

Seal Problems

I was recently able to assist with a TR3, which had been rebuilt by a general garage rather than a TR specialist. It was dripping oil from its rear brake drum. Removal of the half shafts revealed that the inner seals were not just leaking but were completely absent!

See if you can spot another problem on the same car in the second picture :-)



...and finally here's a different axle seal problem.



You – Your Car

Thanks to all our contributors to this issue.
Contributions and feedback (positive or negative) are always welcome.

What's happening in your garage?
Please make a few notes about your garage exploits and email them to me for the next issue.
Contributions are best managed by sending in plain text with attached photos or in Word format.

Mail your notes and pictures to: andrewawillmott@gmail.com

Andrew W