

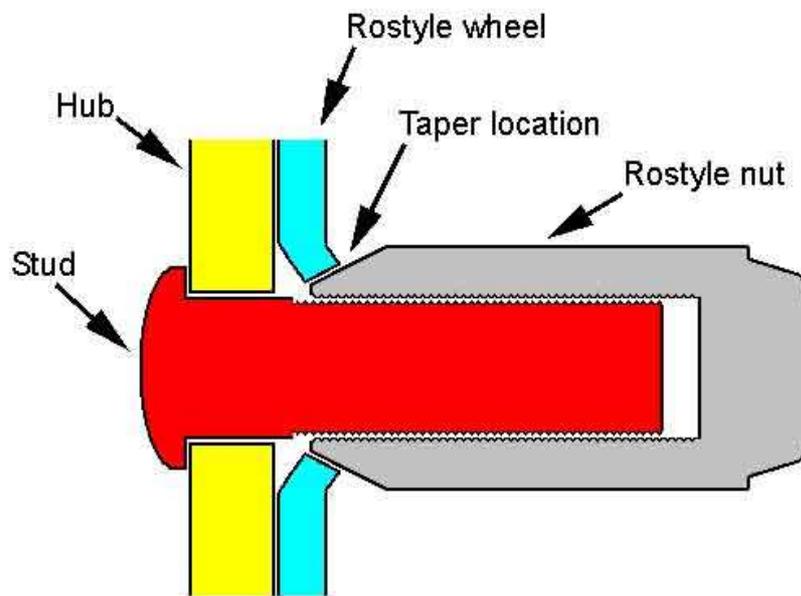


Wheel Nuts

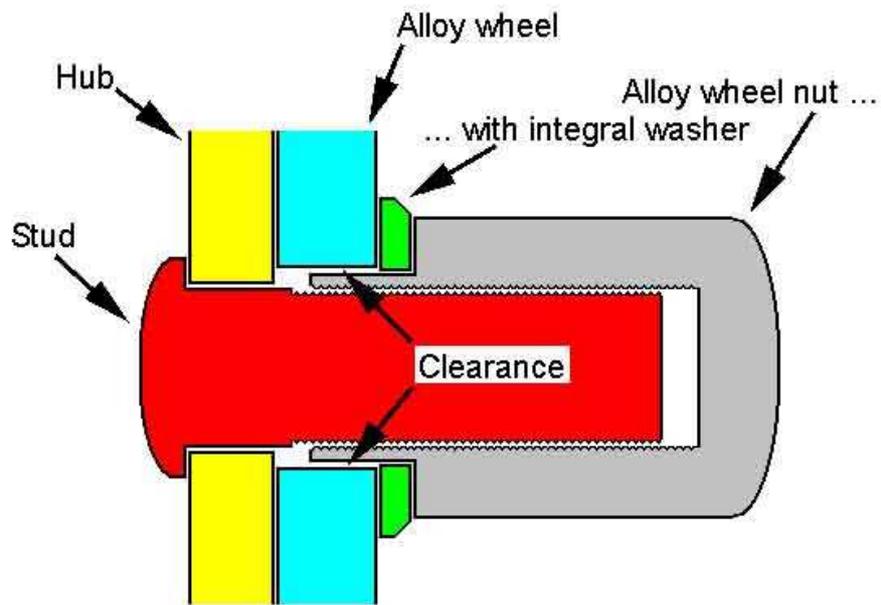
Rostyle at the top, V8 alloy below:



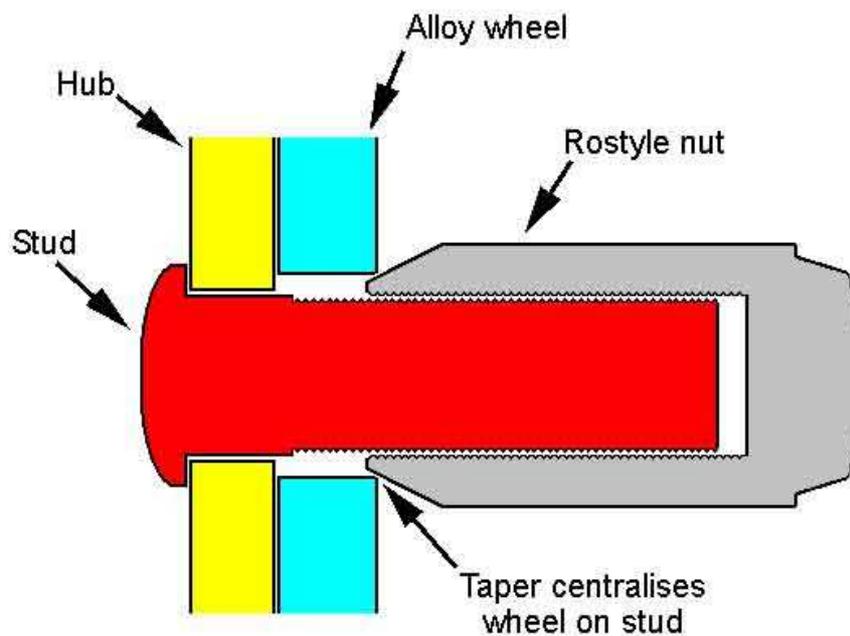
A simplified drawing (not to scale) of how the taper on the Rostyle nut locates in a taper in the wheel to centralise the wheel holes over the studs:



V8 nut in alloy wheel, showing how the cylindrical nut in the cylindrical wheel hole leaves a clearance which allows for a range of lateral positioning:



Whereas fitting a pair of Rostyle nuts lightly first positions the wheel centrally on the studs, then a pair of V8 nuts are fitted to hold the wheel while the Rostyle nuts are removed and the other pair of V8 nuts fitted:

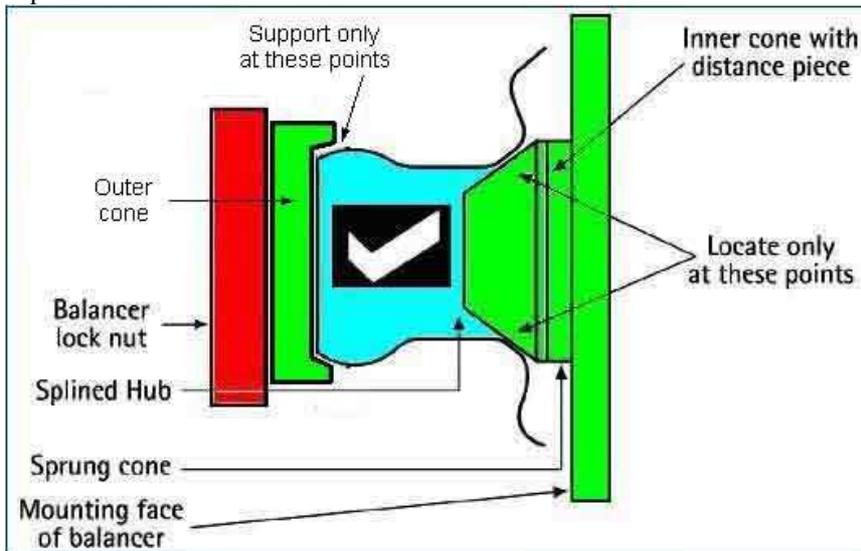


Showing a strip of mild steel wrapped round the Rostyle nut and tack-welded to make it the same size as the V8 nut:

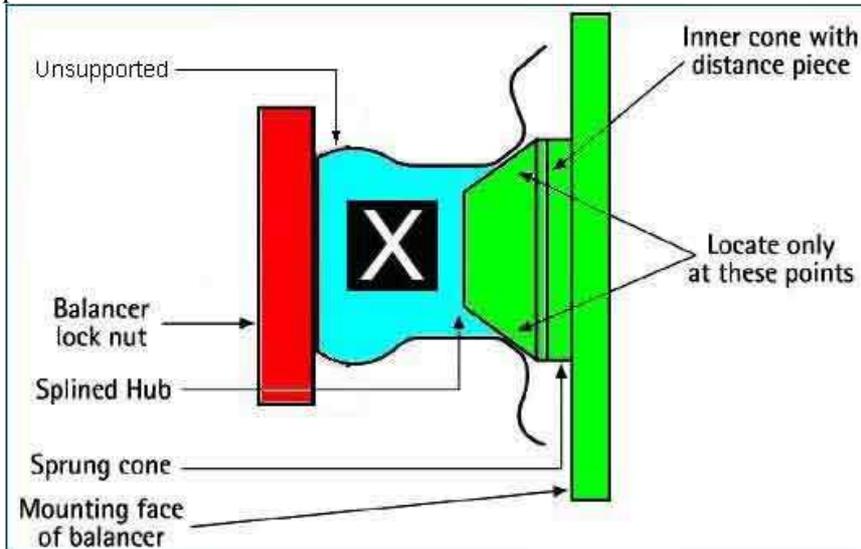


Centre-lock Wheel Balancing

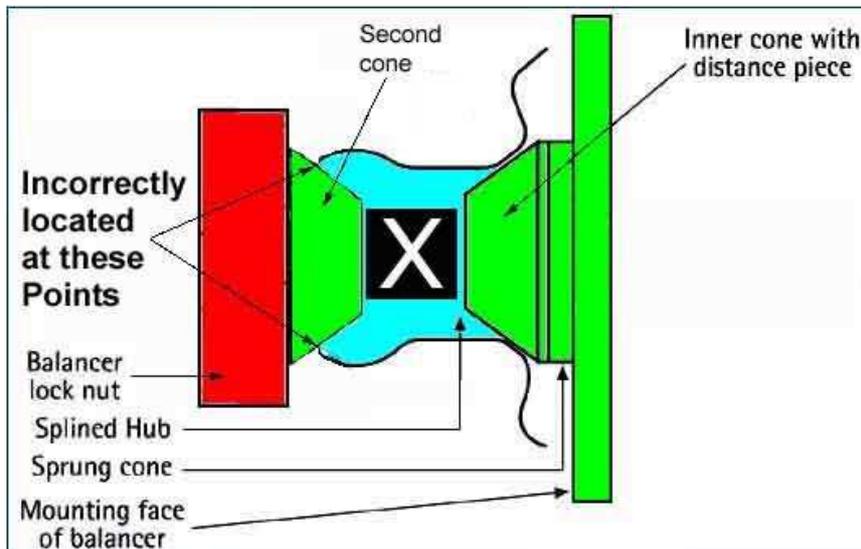
Showing the correct points to locate the wheel:



Outer face not supported:



Incorrectly located on the outer face of the hub:

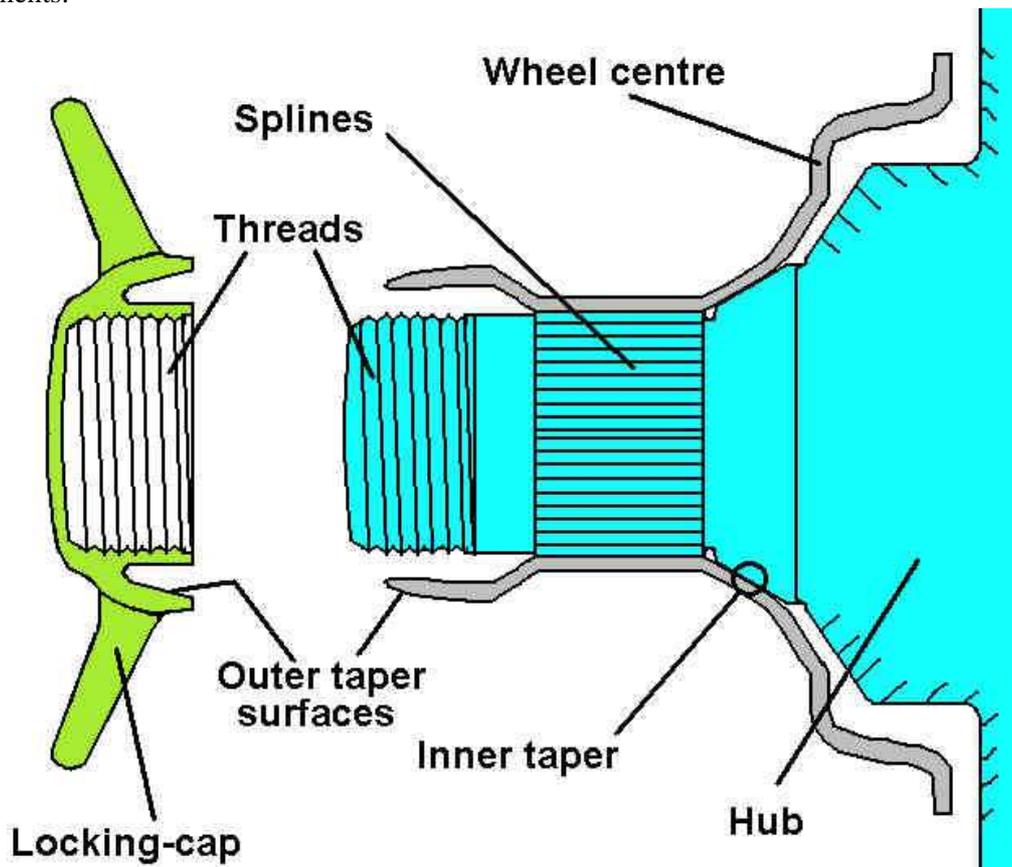


Balancing cones, outer on the left, inner on the right:



Centre-lock Wheels

Main components:



See also this Dayton Wire Wheel document on [taper angles](#).

Centre-lock Hammers



My preferred Thor hammer with a nylon insert one end. This has deformed slightly over the years but hasn't marked the spinners at all.



The MGOC hammer described as 'lead faced', whatever that means. It is very shiny and extremely hard, in fact it wouldn't surprise me if it wasn't lead at all but some harder alloy. Just one gentle knock far lighter than required to undo the spinner was enough to mark the chrome.

Rear Axle Alignment

The edge of the level is against the spinner. You can tell by how far away the reflection of the level is, from the level itself, at the lowest point of the panel, just how much further the spinner projects on the left compared to the right - 6mm.



The shape of the reflection also shows how there is more of a curve below the trim strip on the left compared to the right. This puts the trim strip on the left another 6mm further away from the spinner compared to the right, making a 12mm or nearly half an inch difference between sides, if both wings had the same profile.

Rear Seal Replacement

New flange and seal, together with a wooden ring originally intended to be used to drift the new seal into position but not used



The seal fitted over the flange



The 'tool' used to hold the drive flange steady while the central nut was undone - a piece of 2 1/2" angle iron, with a curved section cut out and 2 holes. The flange nut is 1 1/8" AF, same as the front hub nuts.





Prop-shaft removed



Flange removed



The 'ice pick', and the large socket that was used to drift the new seal into position



V8 Wheels Refurb

Deep in the recesses of the chrome rim there were areas of black that seemed to resist elbow-grease and Solvol Autosol, a so-called chrome cleaner that I would never normally use on chrome as I consider it too abrasive - I keep it for the alloy parts. It even resisted a wet Scotchbrite pad (although heavy use of a wet pad will eventually wear away the chrome, use of a dry pad results in visible scratches almost immediately). So I took a small screwdriver to a patch and scratched away at it fairly gently to see what happened. Amazingly it came away, and with a wet Scotchbrite used after the screwdriver left a tiny pimple in the chrome in place of what had been an area of black perhaps 1/2" by 1/4". So that became the first step in the process, to be followed by a session with Solvol Autosol and a great improvement in all the rims.



Next came removing the existing black paint. A 'pencil' wire brush in a drill proved very effective. Even though quite a lot of the paint remained most of it had very poor adhesion around the cut-outs in the outer part, although it was a bit harder work in the central section. I completely stripped the front but just the areas round the cut-outs on the back. A short-cut I know, but since the end-result was hardly going to be pristine it didn't warrant the extra effort to completely strip the rear as well.



What paint to use? Although the spare (which I have only ever used once for a puncture as about 1/3rd of the chrome in one large area has peeled off and been painted silver) looks like it has been repainted in gloss, that on the wheels on the car looks like satin, and I think the satin is preferable. I had previously used Hammerite Special Metals primer (brushing) and silver (aerosol spray) on the Toyota Celica wheels with good results so opted for the same again but in satin black. The problem is all those cut-outs in the alloy with polished facets, and the polished ring round the nuts. I tried masking off the central ring but it proved impossible, let alone the cut-outs. Laying masking tape past the edge then shaving it off with a sharp blade may work but I didn't think of that at the time. I had seen liquid masking tape in Halfords so thought that worth a try, but wouldn't you know they had sold out and didn't know when they were getting more in. As I was on a tight timescale there was nothing else for it but to go for brushing top-coat as well as undercoat and no masking - what was I thinking of!

The primer is very easy to apply, being thin but with good coverage, and able to be top-coated within a couple of hours. I used a 1/4" flat brush (last used for painting Airfix kits with my son) and it didn't take too long. I made sure I painted right up to the edges which meant that there were some streaks onto the polished facets, but I immediately wiped along each facet with a thumb or finger which left a nice sharp edge.



The top coat was a different matter - it is quite thick anyway, has to be applied thickly or the coverage is poor and the red primer shows through badly, it needs two coats anyway, and they must be applied at least two hours apart but within seven hours of each other. This was very time consuming with the 1/4" brush and a 1/2" proved better for the larger areas with the 1/4" being reserved for the groove between the cut-outs and the ring and the inner faces of the cut-outs. One thing I was concerned about was brush-marks in the paint, but even though it has a thick consistency it flows very well and all the brush marks vanished. The can warns against too-thick application causing sagging and runs, but I didn't get any. For the back of the wheel round the cut-outs a spray version of the same paint was OK as there was no masking required, and this saved some time. While waiting for each coat to dry I cleaned up the (previously removed) hub centres with Solvol Autosol and the wheel nuts with a wet Scotchbrite pad to remove the rust staining on the chrome and Solvol Autosol to polish. The MG logo came out of one of the centres while removing it from the wheel with a mallet, Araldite has proved very good for sticking them back on.

The results are really quite good (this was a refurb not a restoration) and well worth the eight hours or so of effort per wheel it took. They still don't bear close examination of the chrome or nuts but they are a lot better than before. Some of the nuts are hardly marked whereas others have lost quite a bit of chrome and the substrate has rusted. I did consider replacing the nuts with stainless now but at £74 for sixteen that can wait for the new wheels.



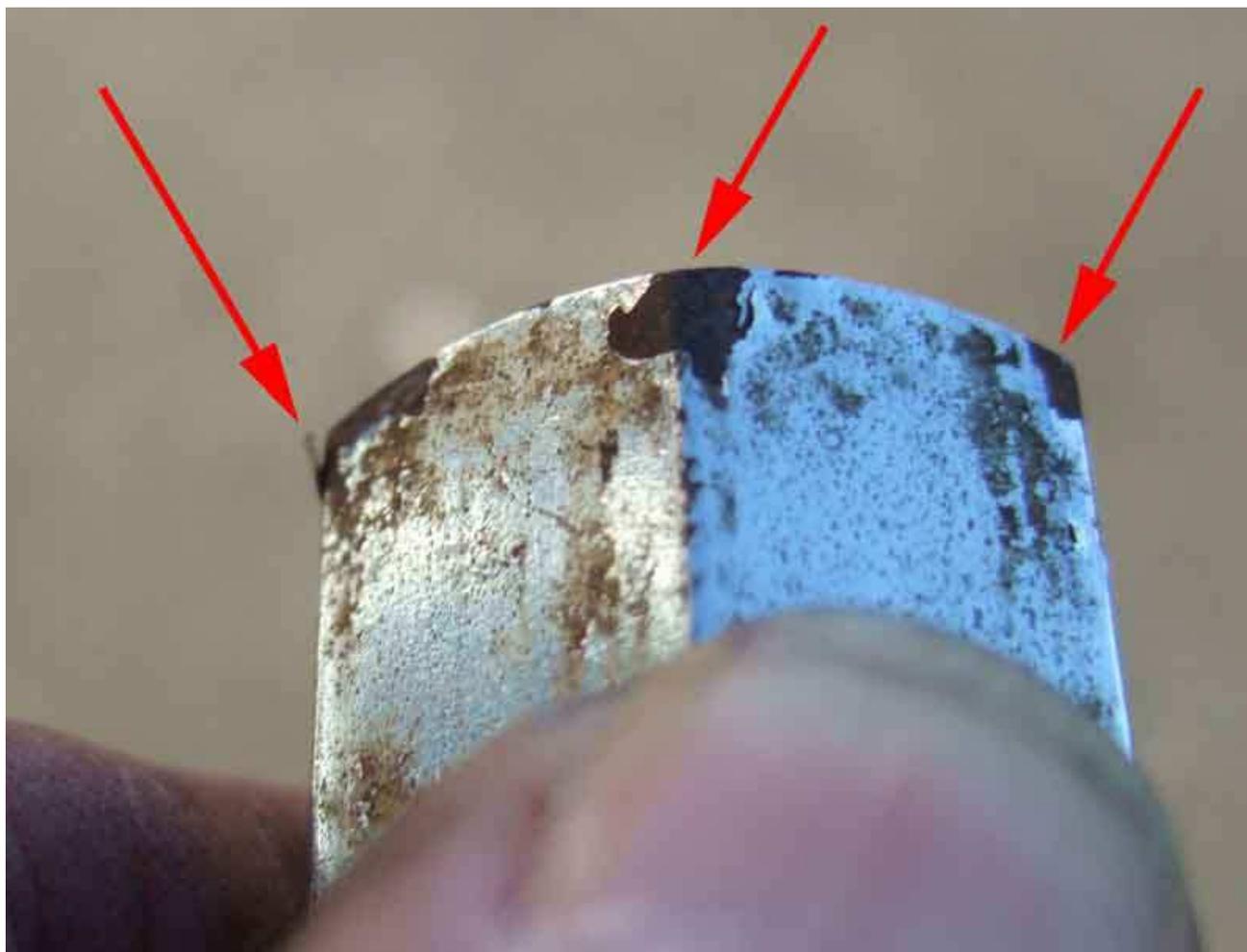
September 2017 and they get another much needed 'clean'. The black centres were still sound after the previous refurb, the facets came up well with Solvol Autosol similarly the chrome centres, but the chrome rims needed a lot of work with a pan-scourer and Solvol Autosol, and even a blunt flat-blade screwdriver to get the worst of the crustiness off from round pin-holes in the chrome that had allowed corrosion to leach out. I'd already replaced the nuts with stainless in 2010, although half of them started rusting and turned out to be magnetic i.e. ferrous steel! Some argument with the supplier got them replaced - eventually.



Stainless Steel V8 Wheel Nuts

The peeling (arrowed) nut and the worst washer - clearly not stainless.

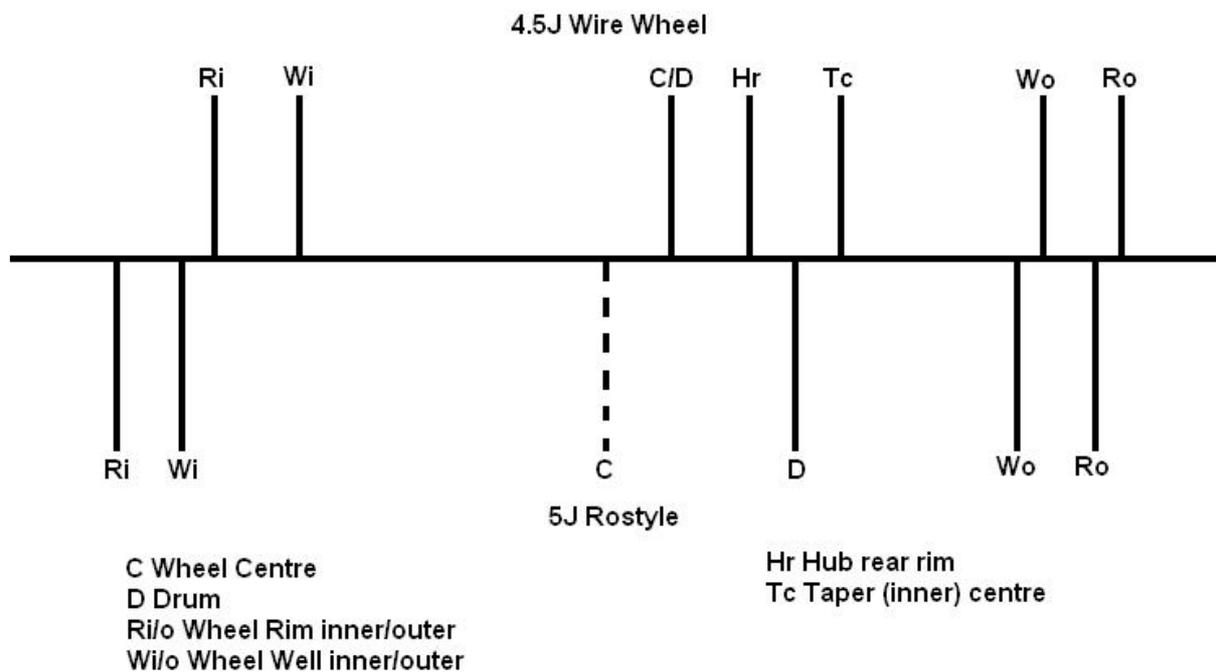




Wheel Offset and Backspacing

Offset:

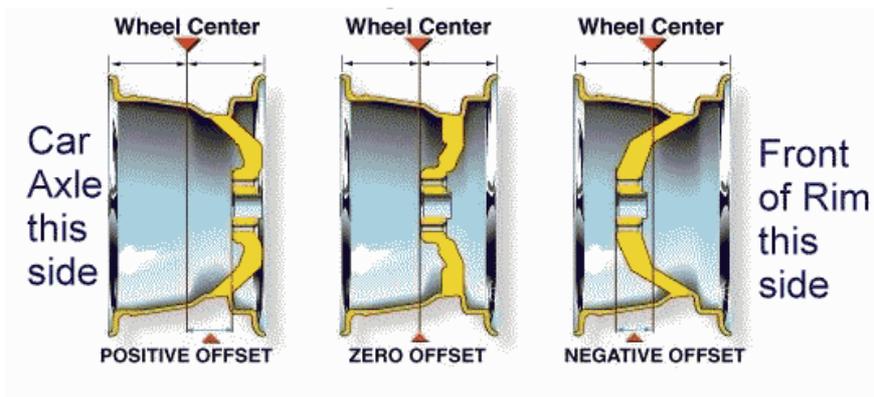
Comparison of my wire (aftermarket Dunlop India) and Rostyle (presumed original) wheels. The outer face is the closest comparison between the two, giving a (near) standard clearance to the outer arch, which has the effect of reducing the track with the wider Rostyles. If choosing wider wheels you would have to go for more offset to maintain that clearance, while still giving adequate clearance to the inner part of the wheel well. Note the face of the drum of the Rostyle is to the right of the drum on the wire wheel denoting the extra length of the stud-wheel axle. This has the effect of putting the outer edges of both types of wheel close together i.e. giving the maximum rear track within the arches. The Workshop Manual gives an identical track for both the roadster 4J disc (5J on the GT) and the 4.5J wire (roadster and GT) wheels, meaning that the different axle length was exactly balanced by the different offsets of the two wheels. Wheel and tyre width is irrelevant as the track is measured from the centre of each tyre/wheel. The front track was 1/4" bigger for wire wheels, indicating that the different hubs did not quite balance out the different offsets.



Showing the protrusion of the 'hub cap' mounting face of the earlier narrow-track wheel. This makes the wheel 'wobble' when that side is laid down on a flat surface with the hub-cap removed. The later wide-track wheel with less offset lies flat with no wobble.

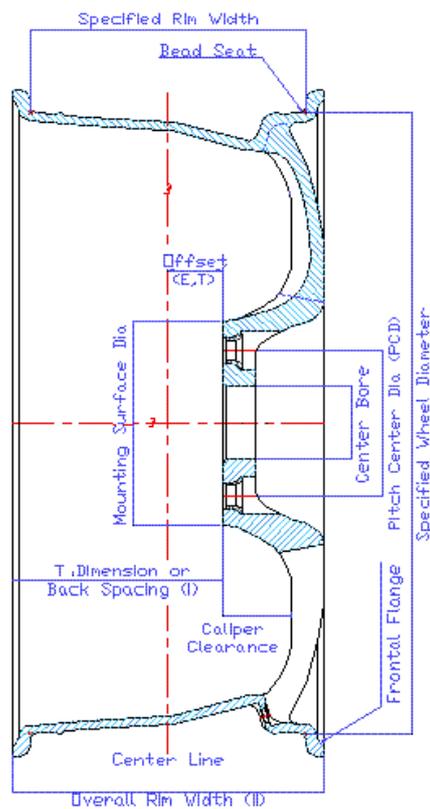


Positive, zero and negative offsets, where the mounting face is outside the centre-line of the wheel. Positive offset is the usual arrangement - for steel and alloy wheels at least, to bring the angle of the kin-pin and the centre-line of the tyre together at the road surface. Negative offset is often used on show cars to bring the wheels out, but it causes them to move back and fore as the wheel is turned instead of pivoting and can adversely affect handling. Image from [Crankshaft Coalition](#).



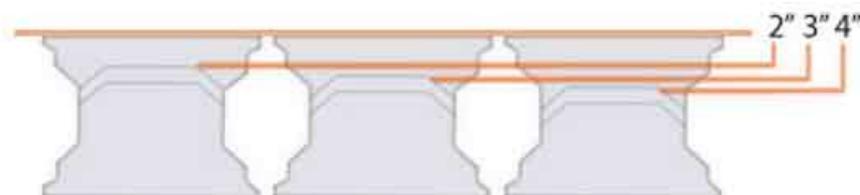
Offset and other wheel dimensions, from [The MG Experience](#)

DIAGRAM A



Backspacing:

This is the distance between the inner rim of the wheel and the mounting face to the hub, as shown here, taken from [this site](#)



This means there is a mathematical relationship between wheel width, offset and backspace, and it is much easier to measure backspacing and use the stated wheel width to calculate the offset, than measure the offset

directly from some notional centre-point of the wheel. For positive offset wheels as on the MGB, take the backspace, subtract half the wheel width, and you have offset.

Well, I say easier, but it is not quite so simple as that. Some sources say to lay a straight-edge across the rim of the wheel and measure from there to the mounting face to get the backspace, and do the calculation. But the stated width of a wheel is the part that the beads sit in, i.e. excluding the outermost part of the rim, so one way or another you need to take that into account. The easiest way, especially if there is no tyre on the wheel, is to measure the **overall** width of the wheel i.e. rim to rim, then measure the backspace from the inner rim, subtract half the overall width from that, and you have offset directly. Some sites indicate you should subtract 1/2" from the backspace, but that would be if you are using the stated wheel width instead of the overall width. But half an inch is only an approximation - on both my V8 alloys and old Rostyles it is 0.55".

Another complication if measuring existing wheels with tyres on. If you don't have a straight-edge that only sits on the rim and doesn't reach the tyre, you have to take into account the 'bulge' of the tyre past the rim. I laid a straight-edges across smooth parts of the tyre wall, and measured from there to the edge of the rim on each side to get two 'bulge' correction factors. Measured tyre bulge to tyre bulge and subtracted both correction factors to get an overall rim to rim width. Then I could do the original calculation for offset and got 28.5mm - close enough to the stated value of 28mm.

Chrome Wire Cleaning

Pretty good, after 20 years



Do I have valves?

Tubeless valve on the left clearly with a 'mushroom' seal against the face of the rim, tube valve on the right with straight sides going through the hole in the rim i.e. no seal.



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