

## Lagondaforum: V12 & LG6 brake drums; lightened v standard?

### V12 & LG6 brake drums; lightened v standard?

*Written by h14 at May 21, 2016 2:07 pm*

Both my V12 and LG6 have the lightened chassis with flared holes. The V12 has lightened drums, as the Le Mans cars, with 6 large holes, covered with sprung aluminium discs.

The LG6 has the same lightened drums on the rear axle, but standard undrilled drums at the front. Perhaps it had drilled drums all round originally and the standard ones are replacements. This is perhaps born out in that the rear drums are stamped "96" and "97", corresponding with those numbers on the hub flange, whereas the fronts are crudely centre punched "O" and "N".

Out of interest, I've weighed the drums and the drilled ones weigh 21 lbs, whilst the standard ones come in at 26 lbs.

I'm thinking that the car would be better served with the lightened drums on the front (I'm assuming they will prove interchangeable!). Less unsprung weight making the independent front suspension more efficient, and will also help me get the car's weight distribution nearer 50/50 front/rear.

Anyone think of a good reason for keeping things as they are? Just slightly worried that the front drums are standard; could this mean there were problems with the drilled ones. The front brakes are of course more highly loaded than the rears. The car is now a special, with shortened chassis and very light body, so the car weighs considerably less than it would have done as a saloon; so the brakes will have a less demanding life.

Laurence

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### Re: V12 & LG6 brake drums; lightened v standard?

*Written by h14 at May 24, 2016 2:59 pm*

Any observations anyone?

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### Re: V12 & LG6 brake drums; lightened v standard?

*Written by Mark at May 24, 2016 3:59 pm*

Hi Lawence

I think this is a matter of personal choice.

If the car were mine and assuming it did originally have drilled drums all round then I would be cautious of change. As you indicate it may be that the original type drums now on the front were fitted after problems were encountered with the drilled items. The front brake drums on my LG45 are original and certainly more worn than the rear which shows the harder life they have, but of course not hydraulic like the LG6. At the end of the day it depends on what value you place on achieving reduced unsprung weight and 50/50 weight distribution. I doubt there would be a significant improvement in braking performance, but I may be wrong.

Not very informative I am afraid but I know it is frustrating when you do not get a response so thought I would do my bit

Regards

Mark

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### Re: V12 & LG6 brake drums; lightened v standard?

*Written by h14 at May 24, 2016 6:01 pm*

Thanks Mark. My V12 has drilled drums all round, and there have been no problems with the ones on the front. I'm inclined therefore to try swapping...probably find they won't swap now!

Laurence

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### Re: V12 & LG6 brake drums; lightened v standard?

*Written by bill at May 24, 2016 7:17 pm*

I would have thought that it was better to leave the drums where they are because all the linings and drums will now be nicely bedded in.

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If you simply want lightened (ie drilled) drums on the front why dont you drill appropriate holes in the standard drums ? This is not as difficult as it sounds if you have access to a small milling machine or decent pillar drill. I have done this on a number of drums for a couple of cars (not Lagonda) and can be done with a decent (Bosch) "hole saw". Or you could use a Mag Drill if the drum metal is sufficiently magnetic to allow the drill base to "grip".

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### Re: V12 & LG6 brake drums; lightened v standard?

*Written by h14 at May 24, 2016 9:24 pm*

Hi Bill,

Assuming diameters are identical, it shouldn't take long for the shoes to bed in. One drum is a little scored so another aim is to swap that around so that fresh shoes attack the high points.

Unfortunately I don't have the machinery required to drill the drums. They would need to be as the originals, where the holes are very large, 4" diameter, stepped to accept the sprung aluminium lids. Slight error could lead to balancing issues, so could be fraught!

Laurence

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### Re: V12 & LG6 brake drums; lightened v standard?

*Written by bill at May 25, 2016 9:23 am*

Hi Laurence

Yes, I quite understand - but be careful on the first corner after swap around !

Even if you cannot do the job yourself, any competent engineering company could do the job for you I am sure. As long as the holes are drilled with the correct PCD I would not have thought that you would have any balancing problem.

Maybe you should make certain if possible that the material used for the front and rear drums is identical - drums were often made from different types and one type of material may be better than another ! Therefore your current front drums may be very efficient and your rear ones not so good.

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### Re: V12 & LG6 brake drums; lightened v standard?

*Written by Julian at May 30, 2016 11:07 am*

Hi all,

Interesting subject these brake holes.

In the past it was common to make holes in the drums for lightening and for cooling, (supposedly)

However,

The holes obviously do lighten the drums but not as much as you would think. The actual effect of the weight differs with the distance the mass is away from the centre of rotation, so one drum weighing in at several pounds lighter than another can be a little misleading. Motorcycle drums are lightened often by drilling the finned area which is lightening in the best place... BUT

Many years ago we had a problem with brakes overheating on a drum braked race car, (easily capable of 140mph+) under investigation we found that it showed most overheating at the points on the friction area closest to the lightening / cooling holes, we then under test discovered that the largest proportion of heat removed from the brake friction area is done so by heat dissipation into the actual drum material and then into the hub, These big holes actually 'Reduced' the cooling ability and were in fact causing the overheating. We made new drums which were heavier unfortunately but much to our joy, completely eliminated the brake fade and local overheating. Cooling ducts were improved on the backplates later and this again aided cooling to a point where we could even use a softer lining.

Ally drums are the way to go if you want the best of both worlds but stay away from some of the rubbish available as I have seen some shocking quality offered by supposedly reputable manufacturers.

Look out for conformity of thickness of the cast in iron liner, this needs to be dead centre if good wheel balance is to be achieved.

Look also for signs of welding on the cast in iron liner, this is absolutely unacceptable and positively dangerous on a highly stressed drum.

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Also a set of drums should be identical, and this means absolutely identical, accept nothing else.

Brakes and crash helmets rule 1.

"Fit the items that match the value of your head"

Regards,

Jules

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### Re: V12 & LG6 brake drums; lightened v standard?

*Written by h14 at May 30, 2016 7:54 pm*

Hi Julian,

That's very interesting, who'd have thought that. Thanks for the heads up.

Laurence

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