

# Lagondaforum: Front Axle Wedges?

## Front Axle Wedges?

*Written by H 54 John at Dec 15, 2009 11:54 pm*

Has anyone had experience of the wedges which are sold to, presumably, increase the castor angle of the front axle? I would have thought them likely to make the steering, already heavy, much worse. Is there an optimum angle that Staines never found?

John

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## Re: Front Axle Wedges?

*Written by oakley at Dec 16, 2009 7:31 pm*

What is the reason why you wish to increase the castor angle of the front axle?

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## Re: Front Axle Wedges?

*Written by H 54 John at Jan 01, 2010 4:43 pm*

Hello Oakley! Sorry about the delay in replying, Christmas has seen me away from my computer. The reason for my query was simple - I've been told that the wedges sold by some of our suppliers can considerably improve the car's handling - which sounds like good news that I would like to confirm, being a cynical old git myself.

All the best for 2010

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## Re: Front Axle Wedges?

*Written by Colin M34 at Jan 04, 2010 9:07 am*

Hi Folks,

Setting the castor angle helps the handling of a car by increasing or decreasing the self-centring action of the steering. Too little castor angle and you are continually correcting the steering, too much and you will have to fight the tendency of the car to continue in a straight line when you go round bends. Both can be exhausting.

With a well-set up vintage car, the steering is direct and intuitive - just like riding a motor bike - and just a little pressure on one side of the wheel will take you where you want to go and the castor will correct the line when you take the pressure off. Lovely!

I once owned a 1948 Triumph Roadster and it was a NASTY car to drive - it wandered all over the road - many 1950's cars with independent front suspension were the same. The geometry design was wrong.

When I went from the Triumph to driving vintage cars I was amazed how nice they were to drive in comparison, with the HC 2 Litre being one of the best!

So why are wedges needed? Vintage cars usually have beam front axles and cart springs, and over the years the springs can settle. The general view is that the springs should be flat and parallel to the road in the centre. However newly set up springs may not be so flat and this can change the handling characteristics. Another reason might be minor accident damage or misalignment. Wedges are needed to correct the castor angle in both cases. It is trial and error.

I once drove a 2 Litre which was not very nice to drive though I never got a chance to fiddle with wedges and castor angles and have subsequently lost track of the car.

The other fun-to-drive Lagonda (when the castor is properly set up) - is of course the Rapier, where 'tidy' cornering involves just the right pressure on the spokes of the steering wheel plus a dab on the clutch at the right time to change gear with the preselector box so the wonderful engine can rev and pull you round the corner...

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So its all down to wedges...

Colin M34

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### Re: Front Axle Wedges?

*Written by H 54 John at Jan 04, 2010 6:58 pm*

Thanks Colin. But does anyone know the optimum angle? Or is it purely up to driver preference?

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### Re: Front Axle Wedges?

*Written by at Jul 07, 2010 5:33 pm*

Dear John,

Belatedly, but how did you get on in your quest for info on wedges. Who supplies them? Did you get a response re optimum angle? Have you used them and with what result? I am in the same position as you when you first posted this topic.

regards

Don Courtney (C6)

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### Re: Front Axle Wedges?

*Written by Colin M34 at Jul 22, 2010 10:29 pm*

To get the right angle, I think it is similar to going to an optician for an eye test using the special glasses.

I fear that you will need a section of wedges which you then try in different combinations to establish the correct castor angle in relation to how your springs are set up. Presumably, once a suitable combination of wedges has been found the best, one would have a set made to this specific angle.

I can't see any other way of doing. Can anyone advise me to the contrary?

Colin M34

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### Re: Front Axle Wedges?

*Written by at Jul 23, 2010 11:52 am*

Dear Colin,

Thanks for taking the time to respond. I notice from your earlier response to H54 that you said then "trial and error". So that is what I shall do but in my usual ham-fisted way I suspect there will be a lot of error before I get there.

Lying on the garage floor messing about with heavy bits loses its appeal once one passes 70. But then visits to the optician don't have much appeal either.

Yrs

Don Courtney

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### Re: Front Axle Wedges?

*Written by Peter S30 at Jul 23, 2010 6:11 pm*

Dear Don,

without having practical experience with adjustment of castor angle, some thoughts:

1) you can do it the try and error way, which makes sure you have optimised it for your car (depending on all the other angles in axle geometry). The effects of increased positive castor angle are described in books or wikipedia (more castor angle runs more straight and gives heavier steering)

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2) you find the correct value in documents, (Arnold Davey?, if you find such information please post it here for others) have your cars castor angle measured (with a do-it-yourself measurement device or done by professionals), than you have the difference and can get a suitable wedge to put in

3) you find the same type of car that performs well (test a car from a club member who thinks it is perfect) and if you agree, have it measured, than have your car measured, this gives you the difference needed

Peter

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### Re: Front Axle Wedges?

*Written by Colin M34 at Jul 24, 2010 9:36 am*

Following Peter's helpful suggestions, may I add some more thoughts?

I put "inclinometer" into eBay and it returned some great items for our needs. For example take a look at the Wixey digital angle gauge/inclinometer, item number 230498995472. Even more sophisticated is item 390219646848 called the "SlopeView" which includes a laser, though it is fairly expensive. These look like the right tools for measuring the castor angle of cars that handle well, and then comparing them with figures for a car that does not. This gives an absolute value which eliminates differences in the 'set' of the springs.

There is a YouTube video of the simple Wixey device at <http://www.youtube.com/watch?v=yhweDL3DiYM>

I love clever tools and I'm tempted to buy something like this Wixey unit and try it out. Any one else got any thoughts?

Colin M34