

## Lagondaforum: M45 GEARBOX herringbone vs straight cut ?

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*Written by bruffsup at Aug 20, 2014 3:29 pm*

Reading the description of that lovely M45 for sale ( 399K pounds!) that did the Paris /Peking, I see that it had straight cut gears installed which I assume did away with the weaker? herringbone jobs. I am interested in hearing more about this as the cost of the new herringbone gears is outside of my budget right now. If the only advantage of herringbone gears is only quiet operation then I will not need them !

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### Re: M45 GEARBOX herringbone vs straight cut ?

*Written by bruffsup at Jan 07, 2015 1:28 pm*

With all the engineers out there I had expected a response ! Please send me a PM if you have an opinion on this.

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### Re: M45 GEARBOX herringbone vs straight cut ?

*Written by Julian at Jan 20, 2015 6:11 pm*

Hi Barry,

Sorry for this late response but you will see in a minute why I have not been about to comment.

OK. Questions answered.

The herringbone gear was invented for two reasons, one for quiet running and two to allow one gear to control the whereabouts of the other. This unfortunately puts quite a strain on the sides of the small gears as they thrust back and forth but they work well enough when they are new.

Straight cut gears on the other hand are noisy, stronger and need locating individually. and that is about it.

The box in Bob's car has Dog engagement of the gears so is actually what we call a "constant mesh" "dog box" and was designed by me. It works with all the gears engaged constantly with its pair gear and all main shaft gears are spinning freely on needle rollers. These are only locked to the main shaft when selected by what is called a "dog ring" this is a ring with large slots milled into it that slides on the splined main shaft and engages these large slots with "dogs" that stick out from the sides of the gears.

click this link to see an example

<http://www.bing.com/images/search?q=dog+gearbox&qsn&form=QBIR&pq=dog+gearbox&sc=1-11&sp=-1&sk=#view=detail&id=7C70353EFD4DBE4C03A7F358C739C86492DAAA57&selectedIndex=103>

Easy to engage gears and you don't always need to double clutch, but noisy in operation as they clonk from side as you are on and off of the power. Not a bother though in real driving. Wonderful boxes in my opinion. Made loads of them.

Hope this helps,

Julian

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### Re: M45 GEARBOX herringbone vs straight cut ?

*Written by bruffsup at Jan 23, 2015 7:07 pm*

Thanks Julian , much appreciated. Good luck with your new venture.