



Everyone knows that a four-point harness is better than a regular inertia seat-belt - right? Well, hold your horses; I would like to add the important caveat that 'a correctly worn' harness is better. An incorrectly worn harness could actually do more harm than good, which is why some owners may have experienced my "holier-than-thou" interference at a trackday.

It may seem an obvious piece of equipment, but experience with new drivers in the Caterham Academy series has demonstrated to me that anyone new to the car can be easily defeated by it. In fairness, Academy drivers also have to contend with arm restraints and crotch straps (and with the genuine risk they can present to the drivers' ahem "delicate parts" if incorrectly used). Therefore, for last few years, as part of the Academy not only have we provided written instructions and pictures, but we have also performed a practical exercise that involves strapping one of our lovely young ladies into a chair. I tend to find that there has never been any shortage of volunteers for this bit, so I can only assume that it must be seen as a particularly important exercise...

Of course, the critical safety factor is a key benefit of proper harness use, but there are

Buckle Up...

Chief Motorsport & Technical Officer at Caterham Cars, **Simon Lambert** talks us through the critical safety aspects of correct harness usage.

performance advantages too. Being sufficiently strapped into the car gives you more control and therefore can make you faster - on track at least. Try it for yourself; take a note of how much you brace yourself in a corner by hanging onto the steering wheel or by using your knees against the sides of the car. If you are doing either of these, there's probably something wrong with the way that you are strapped in. You should be so well held in the seat that the only effort you need to put on the steering wheel is for steering itself.

Right, let's talk you through it. When successfully fitted, the lap straps will be low across your hips, with the buckle as low as it can conceivably go. Smack in the middle of your chest is wrong. You are not Iron Man. Get it wrong and if you are unlucky enough to be involved in an impact and come to rely

on the harness for its primary use, it is easy to 'submarine' under it (your chin may stop you) or if you stay put, listen to sound of your sternum cracking.

So first of all, focus on the lap straps: The lap straps should be as tight as you can get them and therefore worn across the pelvis, not the soft tissue of your lower stomach. Tightening and loosening your lap straps regularly will make them easier to adjust. When pulling on the strap to tighten, 'levering' it up and down a little will help.

In reality, if you are the only driver, once you have the lap straps right for you, you can generally leave them alone. You will know that they are okay as they should be a challenge to buckle up; rather like doing up a pair of jeans that you used to wear ten years ago and have just rediscovered in the wardrobe.

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If you were a racing driver, next would come the crotch straps and arm restraints, but we can dispense with these and go straight to the last step: the shoulder straps. Loosen off the strap by pulling up on the adjuster whilst pulling the belt down. It should loosen easily or else you are doing it wrong. Once loose, clip into the buckle and give it a tug upwards on the buckle plate to check it is secure – they occasionally can fool you.

This is where it gets important: Tighten the shoulder straps by pulling down on the loose strap end. Firmly. Really firmly. No, I mean REALLY firmly. It is rare that a novice race driver or average trackday driver tightens their shoulder straps sufficiently. NB: A handy tip here is to keep an elastic band on the shoulder strap so that the loose end can be strapped down to stop it flapping about in the breeze annoyingly. That is all there is to it, but let's cover the key points again:

- Lap straps go across your pelvis, not soft tissue
- Shoulder straps should be 'Apollo 13' tight (Google a clip from the film).
- Oh, and don't forget to take the keys out of your back pocket first... [LF](#)

Properly adjusted harnesses are not only crucial for safety, but offer performance benefits on track too.



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