Alternative methods for dealing with New Metals during extrication

Cutting new metals on new vehicles today is a much talked about topic, with many concerns being raised from all across the world.

I have personally experienced these problems at incidents I have attended, this certainly left me with some concerns and lead me to post this article.

Are we becoming over cautious about these issues? Yes cars are getting stronger from year to year which poses many problems for us the rescuer.

But are we taking the issue in the wrong direction? yes stronger cutters can be considered the answer, but are we ignoring the basics?

Better training and a more overall basic knowledge of vehicle construction is one answer, but what can we expect to find, can we avoid it, what to do when we find it and can we work around these new metals, and not to mention all the SRS systems that will make alternatives just as difficult.

Here are some points to take away with you:

One thing is that your cutter can also stall out on a vehicle where no UHSS (Ultra High Strength Steel) is used. A lot depends on the know-how of the tool user and that the user knows the physics behind the tool.

The other thing is that hydraulic cutters are of course able to cut boron steel! It all depends on the circumstances and besides the know-how of the user, the thickness of the material, the number of layers and the shape are all playing an important roll as well as the shape of the blade on the cutter can make a difference.

The tool user has a big influence, whether a vehicle structure can be cut or not. A bad user can stall out the best cutter available on the oldest car driving on the road. There are several tricks of the trade to get maximum performance out of the cutter.

A basic understanding of vehicle anatomy will help the tool user.

Expect the following:

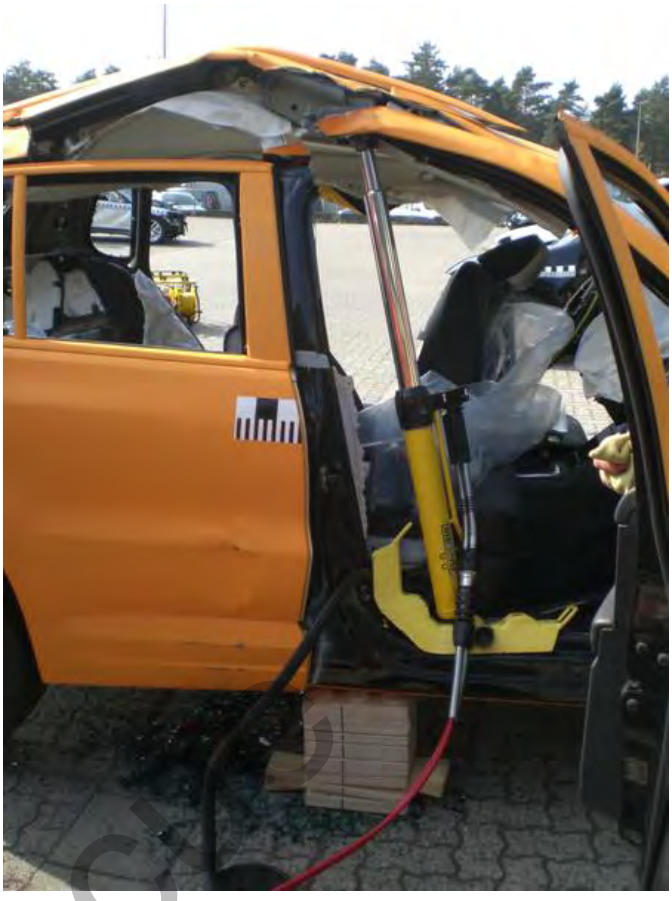
All new vehicles will have a stronger B-post. Avoid the seatbelt attachment bracket as this can always slow down the cutting process (even on a very old vehicle). Most of the time it's the easiest option to cut at the thinnest point (high) on the B-post. Especially if you have a late model cutter, don't mess around with

"V-Cuts", as it slows everything down. IF you are planning to rip-of B-pillars at the bottom this works well, but you definitely need some experience with that technique.

If you are dealing with a Coupe or a Convertible, expect that there are UHSS pipes in A-post and probably the remains of the B-post (Coupé). Try to avoid cutting those pipes, therefore, cut high on the A-post of a convertible or do something else to remove the roof. Some of the pipes cannot be cut, even with late model cutters, especially when mounted deep inside the pillar.

For a late model vehicle, you need a late model cutter. Before we talk about alternative techniques, everybody should know that this is most important.

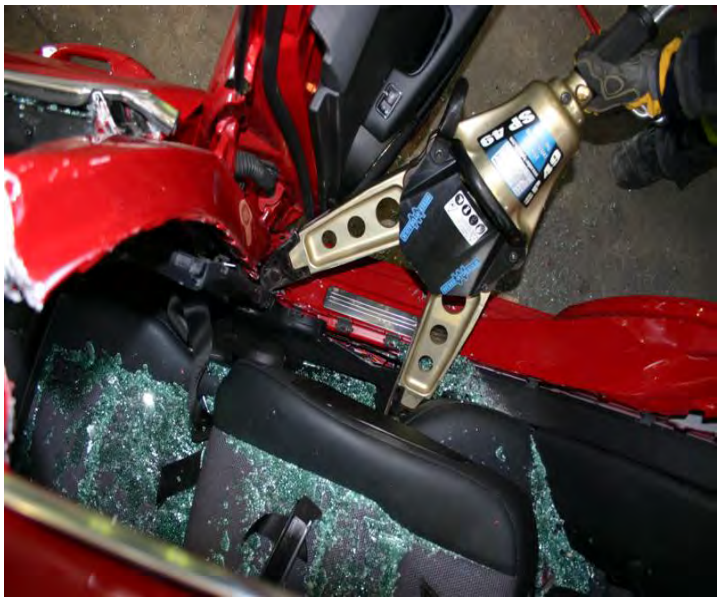
Alternative methods are vast and we can have many plan B's in out tool box, we have found during training and testing of these alternative techniques that they do actually work very well.



In the old days and for some this may still be the case, when we only had Combi tools on our trucks we always carried out a B-post rip as this was easier than trying to cut the post off, but as we progressed with dedicated cutters we now tend to primarily cut the B-post off at the base.

But due to the new hardened metals and sheer size of some B-posts at the base this technique is now not so achievable, so we have to go back to ripping the B-post by spreading and tearing the hardened metals of their welds, or simply by just tearing the metal, we may not be able to cut it but it will tear.

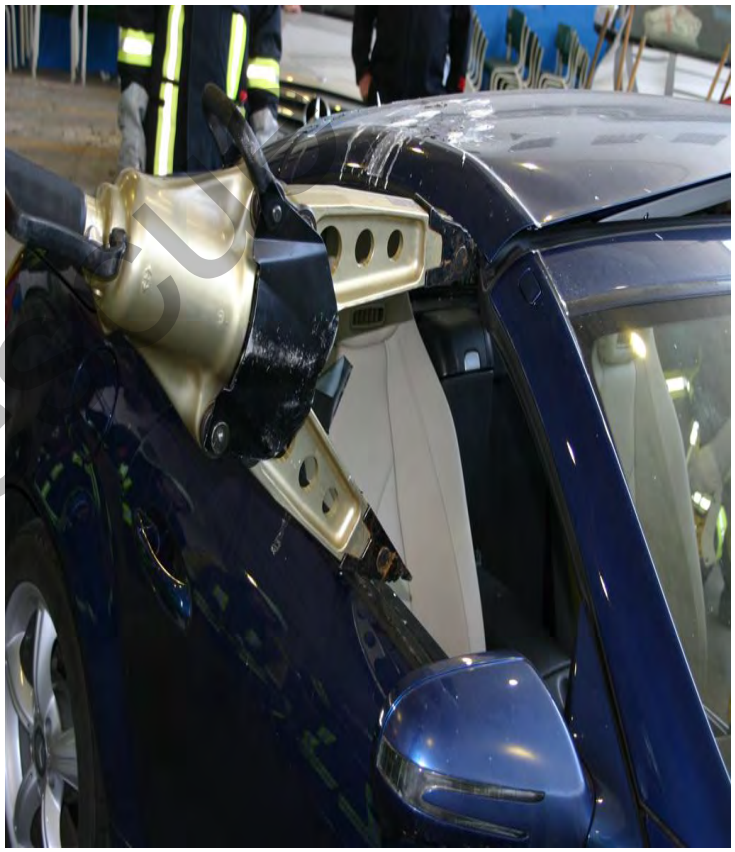
On the left you can see a Brand new Mercedes we were unable to cut the base of the B-post, even after trying as you can see it remained solid.



These cuts were carried out on new cars with UHSS components, as you can see ripping the B-post was successful.

As you can see in the next picture it was possible to ram the A-post and roof apart on a convertible.

Or alternatively the use of dedicated spreaders worked just as well.



Another method is the tent technique, which does not create maximum space, but where we are unable to cut the roof posts we can give ourselves that bit extra space to work with.

This technique involves ramming or spreading from the rear seat or parcel shelf depending on the vehicle construction and pushing the rear header rail upward to form a tent like shape in the roof, this may give you that extra bit of room to remove the casualty out the back of the vehicle, it doesn't create the best amount of space but when the other options have run out this may just be acceptable.

In the following picture you can see during some training just how effective ramming the roof off the B-post can be, we over rammed here just to see what the end result would be.

In conclusion the answer is and will always be, well for the forseeable future anyway, **late model cutters**, rams and spreaders have the power, but if we do not have the latest model of cutters we will have problems, the methods shown in this article are alternatives that can be used when our cutters fail, they are not to be taken as an alternative to buying the latest Cutting equipment!! These techniques are a last resort when all else fails.

I hope you have found these alternative techniques useful, we value any feedback or methods you would like to add to this page.

I would personally like to thank Mr Jorg Heck (Technical research manager) for Moditech crash recovery systems. For the information supplied for this document and the supplied pictures.