TECHNICAL REPORT

We have come a long way in just a short time when it comes to keeping abreast of new vehicle design and build technology. Understanding these advanced vehicle assembly features and how this plays a big part in the way we repair these new vehicles is so important. New Zealand repairers are lucky that we have access to a lot of this information thanks to many of the NZ motor companies now sharing vehicle body repair information with us as a new model is released. A good example of this is the new GM Holden Malibu; this vehicle has not been released to the NZ market when this edition of PanelTalk was delivered. Having this technical information early, enables us to preview and advise those in the industry on any new design features or cautions they should be aware of before a new model arrives in their shop, and yes there are a few features and cautions with the Malibu. Some of the new Malibu design features and repair methods might take a little while for some in this industry to get their head around, just look at the different steels used for the body structure shown in the cut away image in Fig. 1. As you would expect being a GM brand, the Malibu also has some repair methods very similar to the VE Holden Commodore.

Overall the new GM Holden Malibu has some good repair options, but because the body structure has such a wide range of different steels be sure to get the full repair method before replacing any structural or welded on panels.

CAUTION;
The 2013/14 The GM Holden Malibu released in NZ is a new body structure; it has different repair options than the earlier North American Malibu. **Early model Malibu repair specifications do not apply to the NZ model.**

Let's look at the GM Holden Malibu

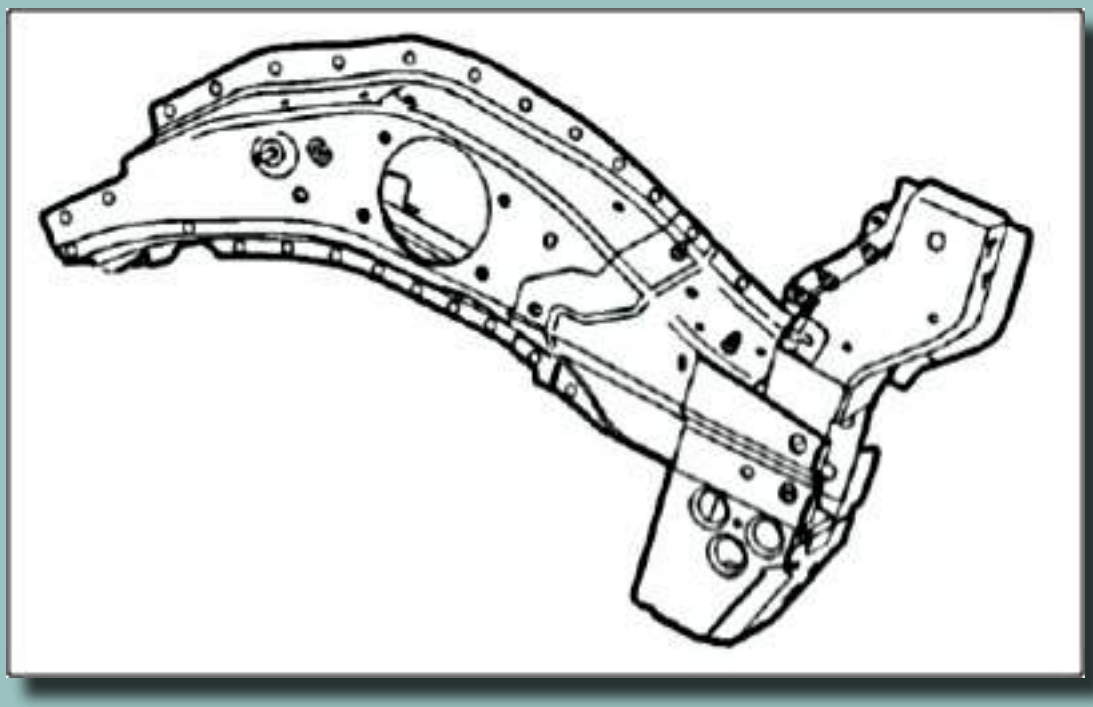
Welding - Sectioning weld joint methods at locations that are not OEM assembly joints are consistent with other GM Holden specifications, these use the Overlap Plug Weld Joint method, (check the January / Feburary 2013 edition of PanelTalk where we overviewed this weld joint method and showed how it should be done).

Perhaps one repair method that is a little different on the new Malibu is replacing the roof panel. The OEM roof panel is attached with spot welds on the screen opening flanges and is Mig bronze welded on the side rails, the repair method for replacing the roof is using structural adhesive in place of Mig brazing for the side rails and Mig plug welds for the screen opening flanges. These specifications also come with some good tips on how to position the roof panel correctly once the glue has been applied.

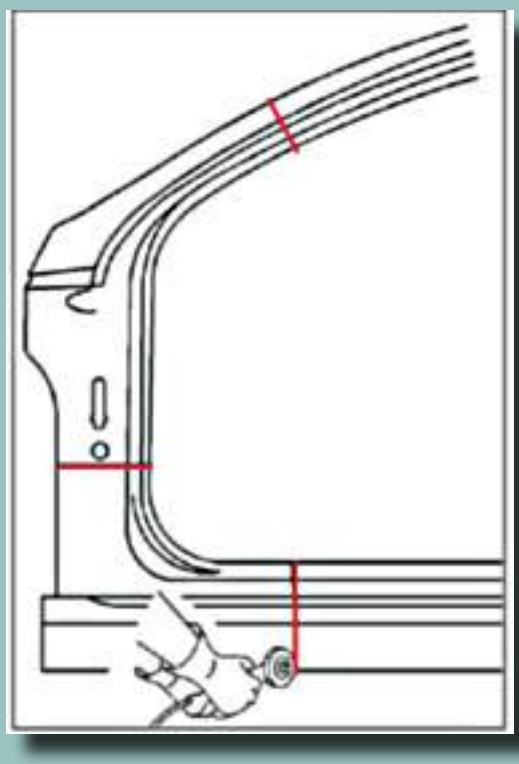
The rear rails have a partial replacement option that allows cutting the rail and fitting these as rear extensions only rather than installing the full rail. Another good option for the Malibu is the boot floor; this comes as a convenient ready to fit welded on part that is cut to the correct length from the floor-pan.

Unlike the earlier model, the new model Malibu does not have a repair specification for fitting the full front rail; it has a partial replacement method only. A big bonus of this partial replacement repair method is that the front rail section is available as a part and doesn't require cutting from the full rail. The joint location is well back on the rail close to the dash panel (bulkhead/ firewall). This partial replacement has an inner and outer panel sectioning option and is far enough rearward on the rail that the need for full replacement would be limited.

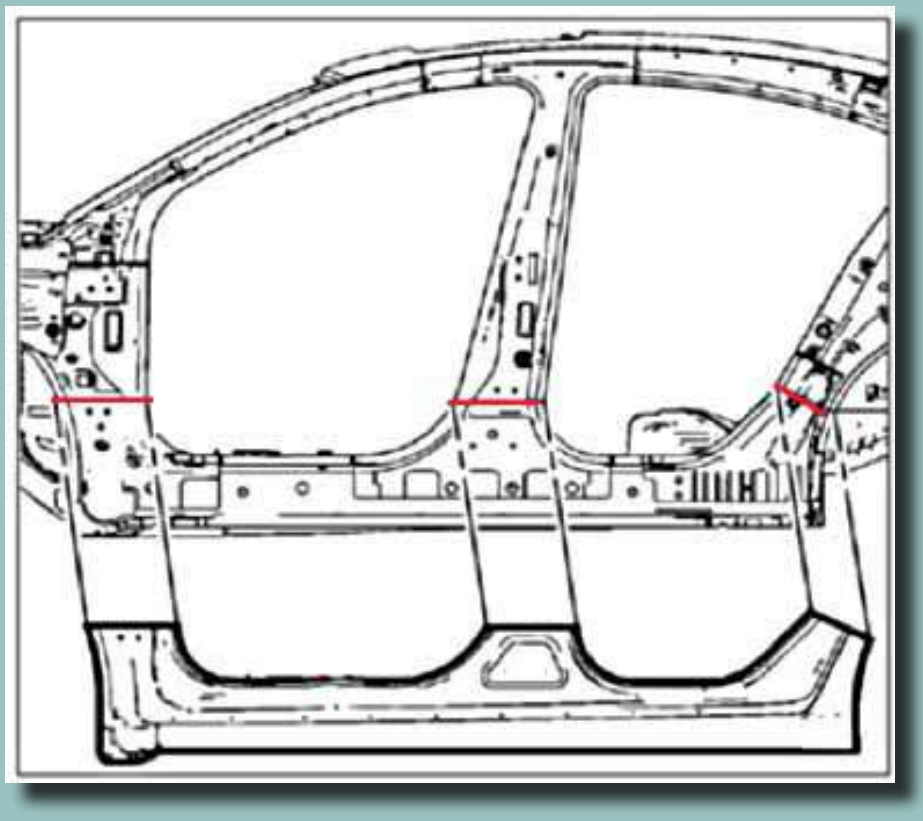
See Fig. 2



There are two sectioning options for the A pillar outer panel, full panel or the lower section only shown in Fig. 3. These options for the A Pillar panel are becoming more common these days and makes for a good alternative if there is only damage to the lower portion of the panel. The Malibu also has the option for fitting the A pillar reinforcement and inner panel however this is a little more involved so make sure you get the full procedure.

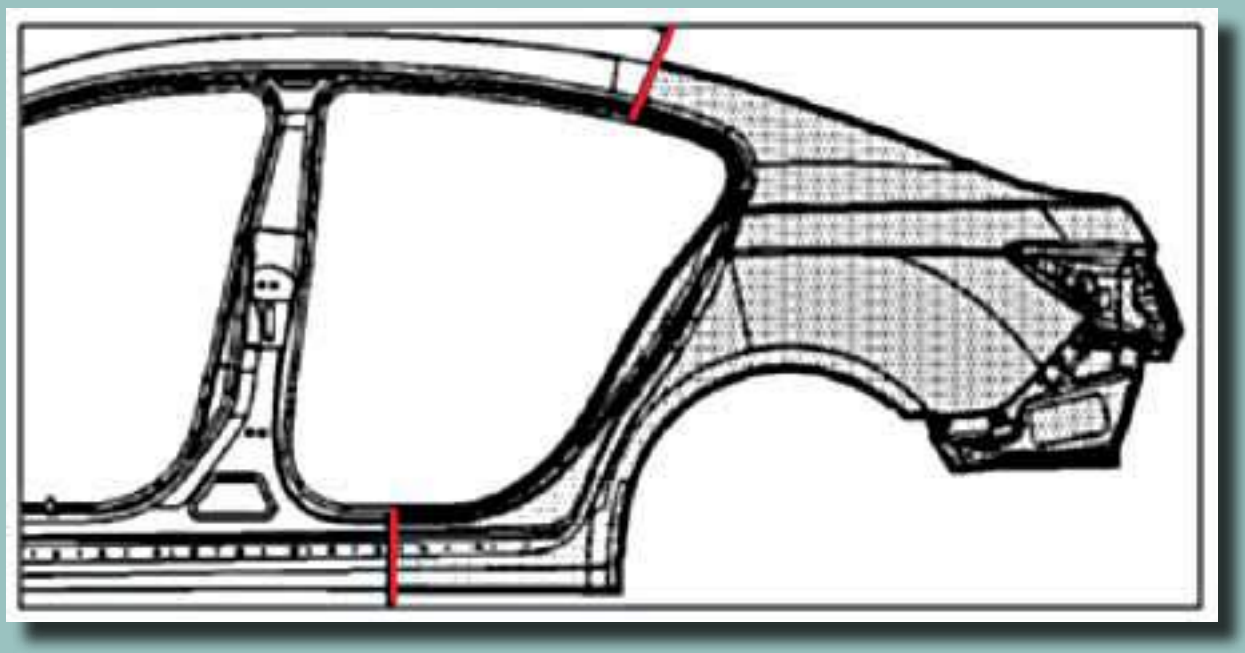


The sill (rocker) and B pillar outer panels plus the inner reinforcements are almost a reproduction of the VE Commodore method but the Malibu does have different measurements so these should be followed. The full outer sill panel can be fitted (see Fig. 4) but remember the other joint locations for the A and B Pillar or rear quarter can also be considered.



Let's look at the GM Holden Malibu

The rear quarter outer panel has the full replacement option, however remember the sill cut joint on the dog-leg could be another option if required. Looking at the upper cut joint on the pillar, this is getting real close to the roof panel so this might make a difference for refinishing, (something to consider when estimating) Fig. 5 shows the cut locations.



Looking at the B Pillar outer panel replacement; this is another standard GM repair method for models that have ultra high strength steel (UHSS) reinforcements, this requires cutting into the cant rail to allow assess for fitting the full reinforcement. There is also a method for fitting the B Pillar reinforcements. Fig. 6 shows the B pillar outer panel removed.