The Mitsubishi Outlander

This edition we are looking at some of the do's and don'ts when repairing the Mitsubishi Outlander. Mitsubishi NZ have been very supportive of I-CAR NZ in putting this update together and like most other Motor Companies in New Zealand are very aware of the increased *Passive Safety* features now being built into today's vehicles.

The vehicle owner needs to have confidence that a facility doing collision repairs has the correct workshop equipment, plus they must be aware of and understand the correct procedures to reinstate the vehicles *Passive Safety* features when repairs are carried out.

Mitsubishi collision repair specifications are available from your local dealership, be sure to give the correct model information, and these specifications are likely to incur a cost to the job.

So, what are some of the features and the recommendations we should be aware of when repairing the Outlander?

Aluminium Roof Skin

- The Outlander has an Aluminium Roof skin, this is attached with Self Piercing Rivets and Adhesives, be sure to follow the detailed replacement recommendations from Mitsubishi when working around the roof area. 46 rivets are required and available as a part, Part No. MS460117, also be sure to use the recommended Adhesive. *(Refer PanelTalk May 2010, page 28, for this procedure).*

Using heat

- Although not specific on heat limitations, Mitsubishi state that UHSS parts should be replaced as whole assembly to avoid reduction of strength by heat. Caution should always be taken when using heat on any steels.

Welding See below

- STRSW Squeeze Type Resistance Spot Welding, (Inverter Spot Welder) and Mig Steel are the preferred method of welding. Specifications give detailed examples of the required method, how many and where the welds should be made. Destruction Testing welds prior to welding on the vehicle is also recommended.

Note; Mig Steel welds are used for 2 or more panel layer thickness being welded.

Reinforcements

- Mitsubishi have cautions for partial replacement of inner reinforcements, they state that some are impossible to replace, however they do have good specifications for reinforcements that can be replaced. **Check the Repair Specificationss before carrying out these types of repairs.**

Adhesives

- The brand and type of adhesive is given when required, check the spec's for the correct application and product.

NVH Sound Dampening Foam

- Foam is used in the Upper and Lower A, B & C pillar areas, rear quarter panel, wheel arches and tail gate pillar. Be sure to replace this with the correct product and the same amount as OEM.
- 3M ATD Part No 08463 is the most common product used for this.

Torque Settings

- Torque settings are required for all underbody bolt on parts, most bolts used for suspension, beams and steering are one time fasteners and require replacing with new. Torque settings are also shown for some body parts like the roof panel bolts.

Electronic Awareness

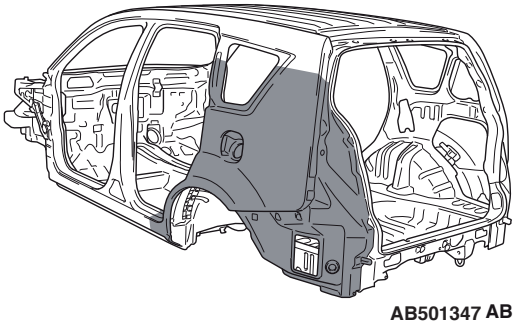
- Because the electronics of any current model vehicle are now very complex, it is advised that these should be checked with the correct diagnostic equipment when carrying out any major collision repair work.

Another caution from Mitsubishi

- Be sure to use the correct OEM Radiator Coolant when removing the radiator.
- Failure to do so will affect the vehicle warranty.

Corrosion Protection

- Anticorrosion agents are required for all welded joints; (see symbol below).



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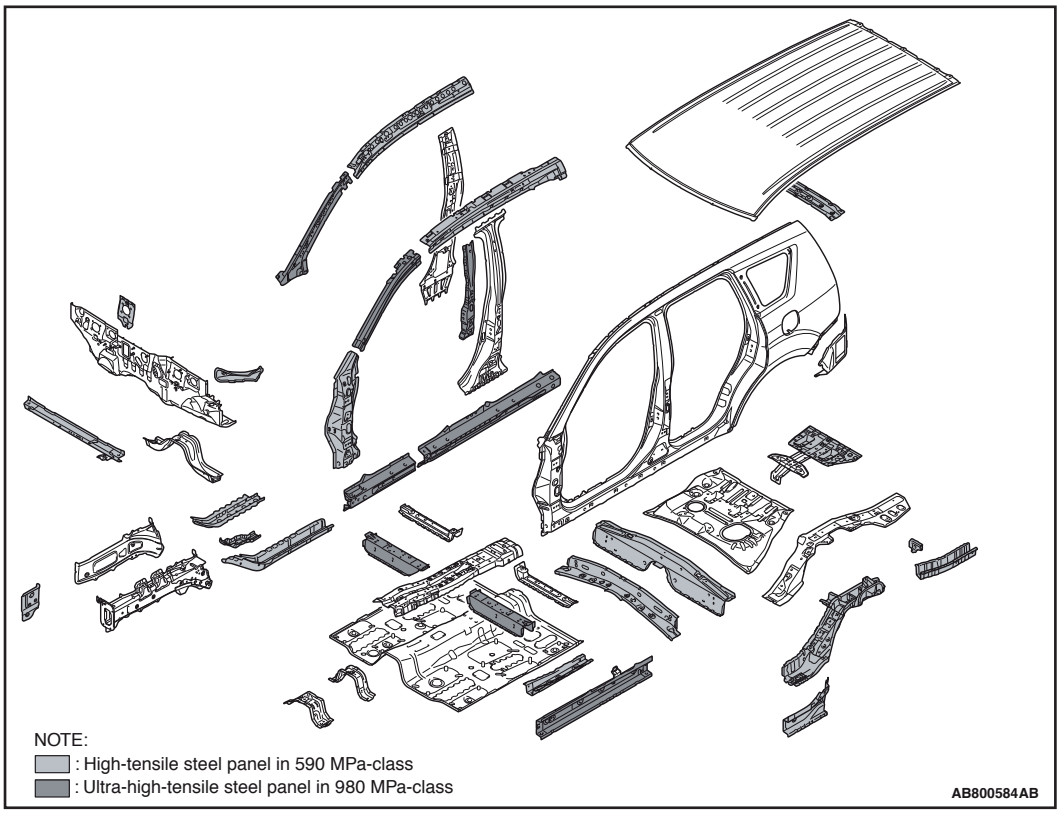
Symbol	Operation description
● ● ● ●	Spot welding
■ ■ ▲ ▲	MIG plug welding (■: indicates two panels to be welded ▲: indicates three panels to be welded)
+ + + +	MIG spot welding
⫴⫴⫴⫴⫴⫴⫴⫴⫴⫴	MIG arc welding (continuous)
∞∞∞∞∞∞∞∞∞	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally to butt-welded joints.)

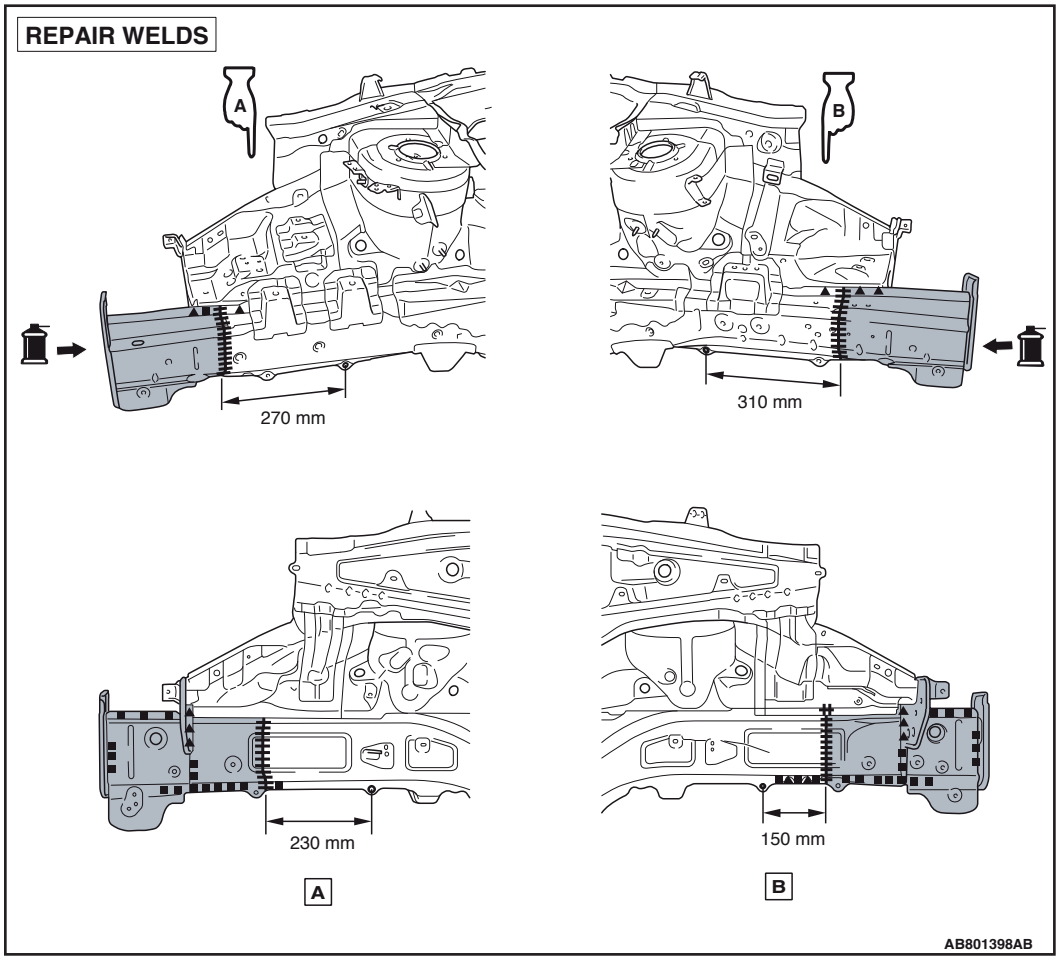
Steels Used

They use a combination of different steels for the body structure, HSS and UHSS is used for the A pillar, B pillar, and Sill reinforcements, also the cross beams, rear rails and front extensions. Mitsubishi states that to avoid over pull and spring back, realignment should be done gradually with stress relieving as you go.

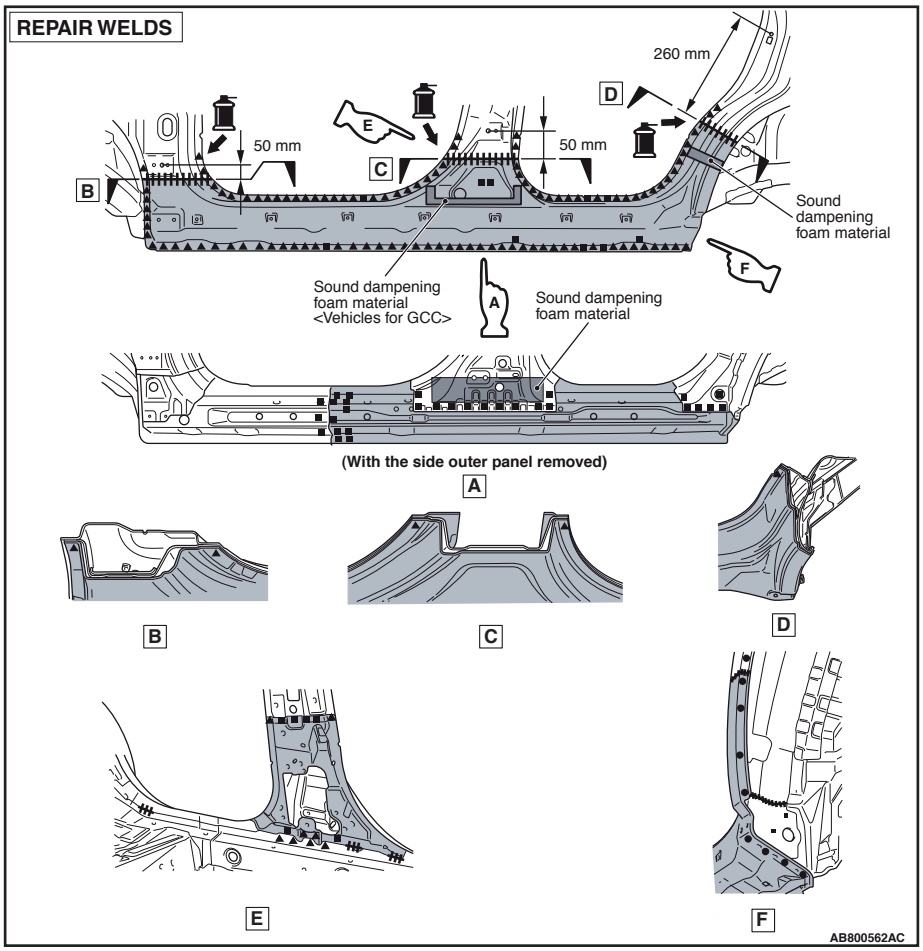


Front Rail Partial Replacement

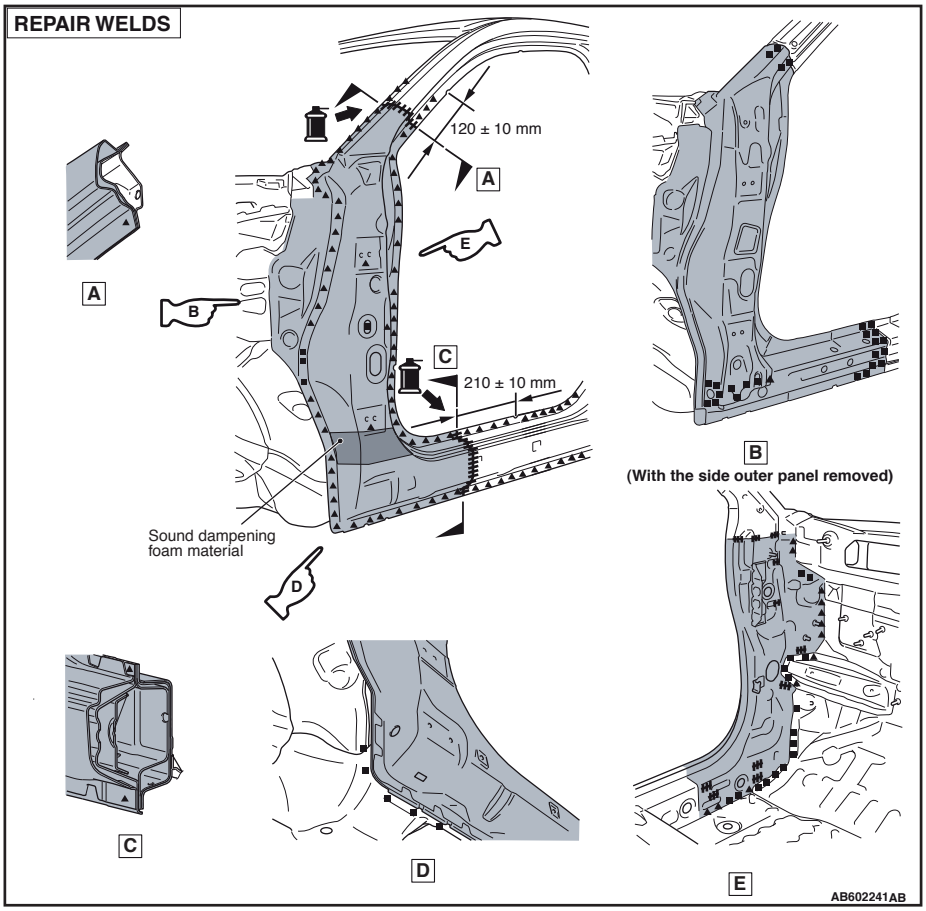
This is done using an Open Butt Weld.



Sill Panel Replacement

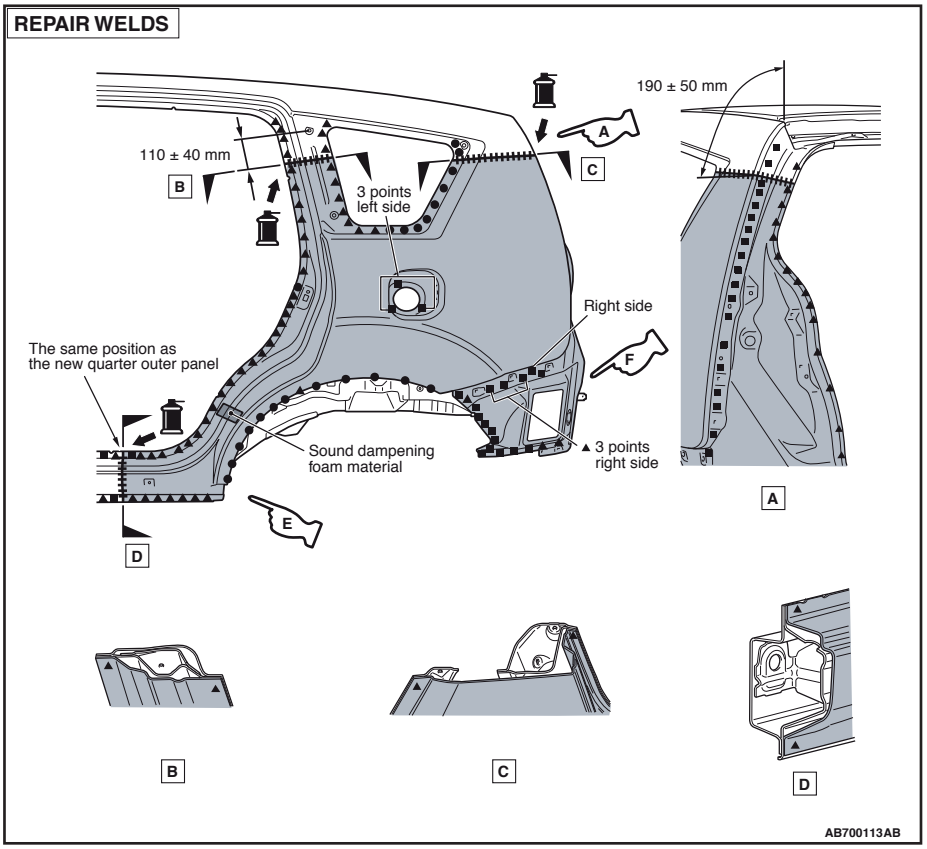


A Pillar Partial Replacement



Rear Guard Partial Replacement
3M ATD 8115 structural Adhesive is required for some joint areas on this panel.

Note: To reinforce the rear gate pillar joint (Hand A pointing) make a lap joint with a 50mm overlap.



Rear Rail Partial Replacement Note; this diagram shows the location only; you should get full details for weld and joint methods.