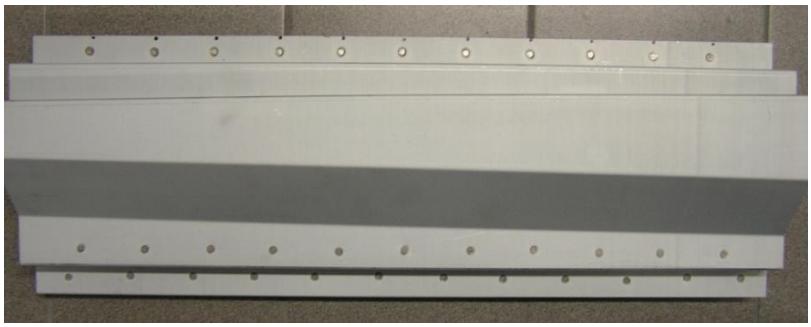
ATA AOM 134 - Replacing of Welded Panel Section for IMI Accreditation Senior Panel Assessment



The following new body parts are required.
(1) Panel section

(2) Reinforcement plate

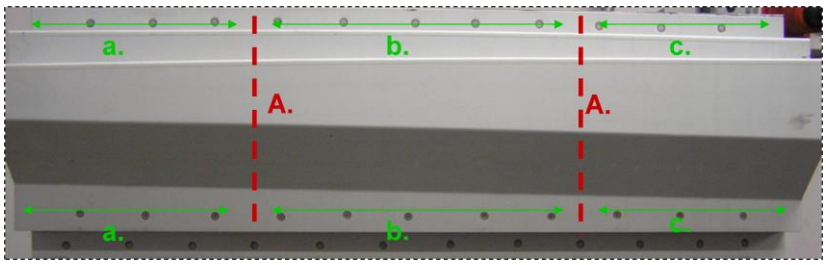
(3) Repair section

(4) Lock nuts (not pictured)

Following consumables are required

Material	Quantity
Adhesive	1
Blind rivets	5
5mm self-piercing rivets (SPR)	3
Plastic Lock Nuts	3
Cleaning agent	1

Note: When cutting the panel, the take into account, that there must be a 5 mm gap when the replacement panel is fitted, this is to accommodate the metal filler process.

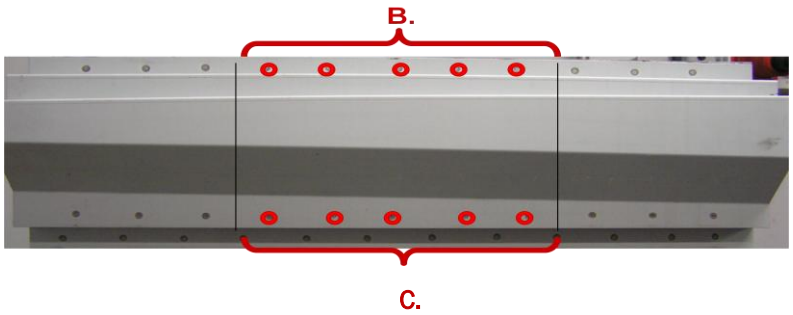


Mark severance cuts on outer side panel in accordance with specified dimensions at area A and cut.

(Separation lines should run perpendicular to the panel section)

Adhere to dimensions a, b + c.
Measurement a – approx 175mm
Measurement b – approx 250mm
Measurement c – approx 175mm

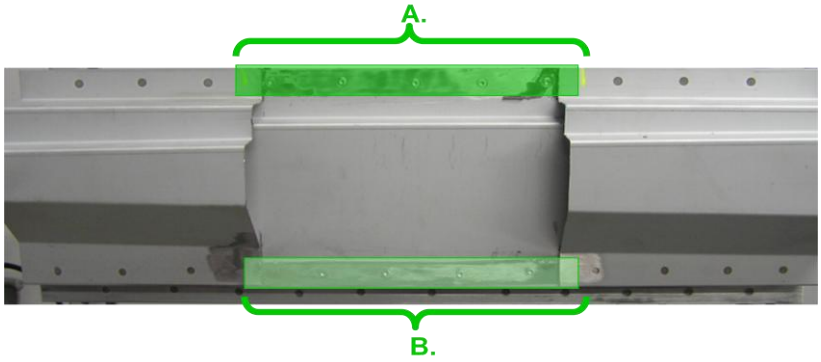
Take care not to damage remaining panel or panel flanges during separation. Take care not to damage inner panel during separation.



Open welded connection in areas B and C using an 8mm spot weld drill bit.

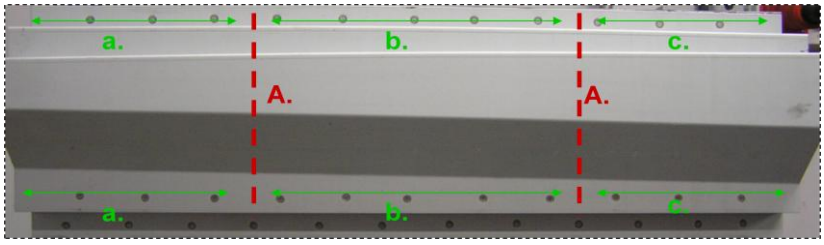
Open seam adhesive bond in area C
Remove the outer panel section

Your Assessor must take an image at this point.



Clean welded flange area A

Clean all bonding surfaces on original section, new parts and reinforcing plate with cleaning agent as specified by manufacturer or other info source.



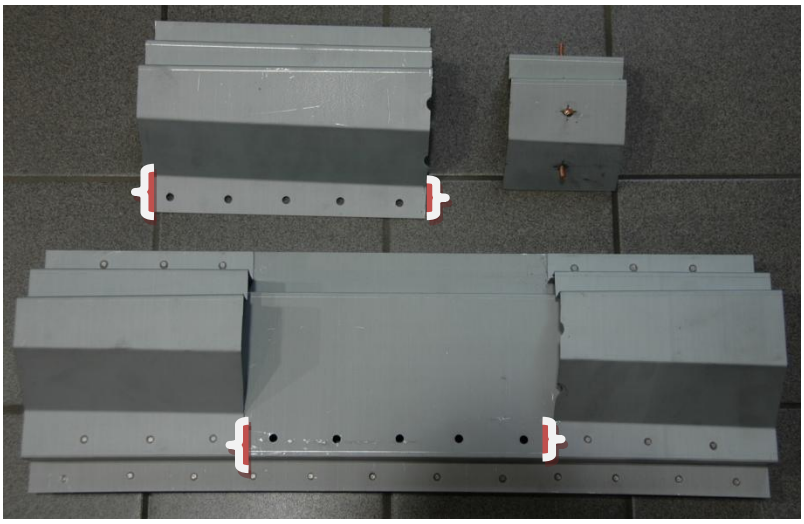
Mark severance cuts on new outer side panel in accordance with specified dimensions and cut.

(Separation lines should run perpendicular to the panel section)

Preparation of the reinforcement plate:

Before installing the reinforcing plate, the edges of the old and new replacement outer panel **MUST** be chamfered **BEFORE** fitting together. If the chamfering is carried out after the panels are in place, there is a high risk that the sanding / grinding process will damage the reinforcing plate.

(**Note: This preparation process does not apply to all vehicle manufacture's panel replacement methods, however in this instance; please follow the process which is required for this assessment**)



Test fit the new panel section to the original section.

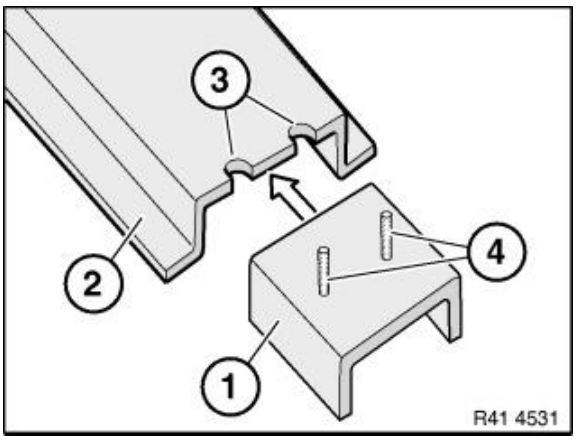
Reminder: to accommodate the metal filler process, there must be a 5 mm gap when the replacement panel is fitted,

Prepare holes by drilling as indicated with a 6.7mm drill bit on new and original section.

Blind rivets: - 50mm pitch between rivet holes.

Clean and prepare area to be welded as highlighted and area of new section at mating area.

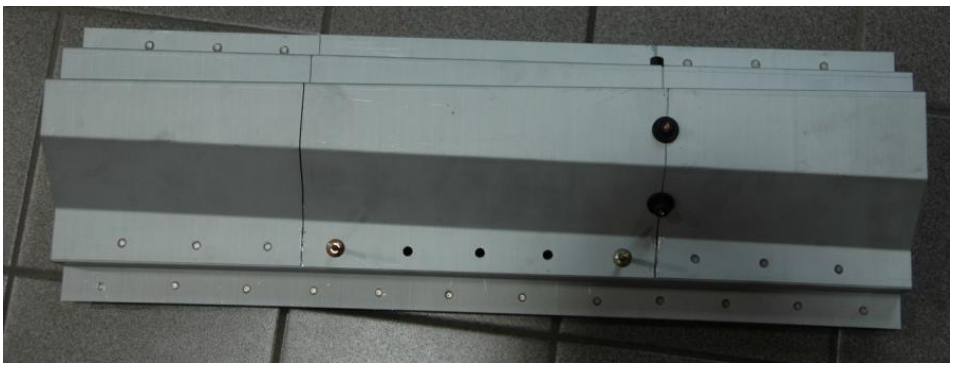
Your Assessor must take an image at this point.



Adjust reinforcement plate (1) to fit in component (2) on original section.

Make recesses (3) for stud bolts (4) in a semicircular shape.

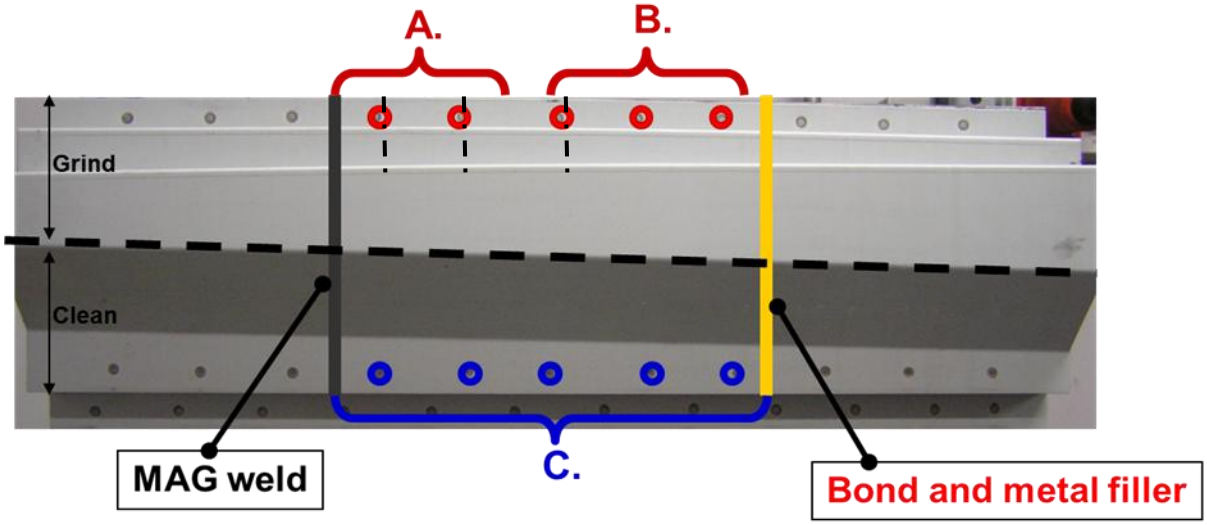
Diameter of recess approx 10-12mm



A – 50mm pitch between spot weld

B – 50mm pitch between punch rivets

A/B – 60mm pitch between spot weld/punch rivets



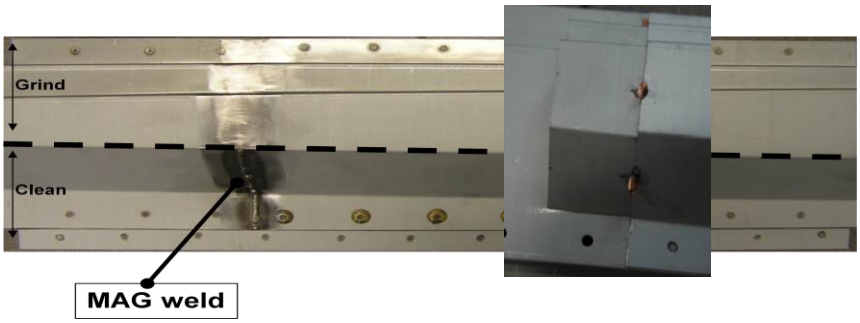
Adjust new part to fit and secure by installing reinforcing plate to right side and bond, use plastic securing nuts for alignment with necessary indents. Make sure there is sufficient adhesive on bonding surfaces.

Your Assessor must take an image at this point.

After adjusting panels, tighten nuts (6NM) on reinforcement plates.
Resistance spot weld locations (x2) to area A.
Use 5mm self-piercing rivets (SPR) (x3) to area B
6.5x12.5 blind rivets and bond to area C.
MAG butt joint to left side.

Your Assessor must take an image at this point.

Grind only above indicated line - clean below indicated line.



Bonding and Metal filler

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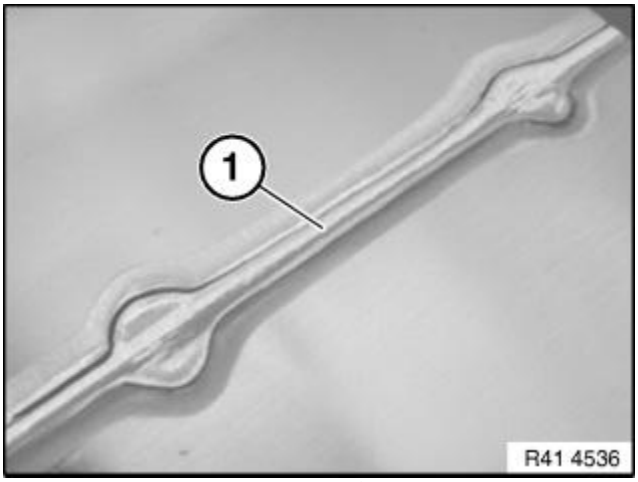
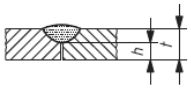
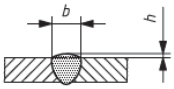
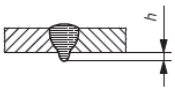
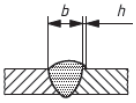
Once the sill section is complete prepare the bonded area in conjunction with the reinforcement panel for the application of the metal filler.
On prepared panel cut off stud bolts with bodywork saw. Completely remove adhesive residue in joint (1).
Apply metal filler – refer to Manufacturer Technical Data Sheets (MTDS)



Only the - approved metal filler should be used on the joint
Refer to Metal filler – instructions for use

Notes on quality levels for welding imperfections

1.9	4021	Incomplete root penetration		⩾ 0,5	Short imperfections, but no systematic imperfections. $h \leqslant 0{,}2s$ max. 2 mm	Not permitted	Not permitted
1.11	502	Excess weld metal	Smooth transition required. 	⩾ 0,5	$h \leqslant 1{,}5$ mm + $0{,}2b$ max. 10 mm	$h \leqslant 1{,}5$ mm + $0{,}15b$ max. 8 mm	$h \leqslant 1{,}5$ mm + $0{,}1b$ max. 6 mm
1.14	504	Excess penetration		⩾ 0,5	$h \leqslant 5$ mm	$h \leqslant 4$ mm	$h \leqslant 3$ mm
1.15	506	Overlap		⩾ 0,5	Short imperfections: $h \leqslant 0{,}2b$	Not permitted	Not permitted