



# Bulkhead

## MASTERCLASS

They are one of the most rot-prone areas on a Land Rover and equally tricky to repair. Kev Mills visits Ashtree Land Rover International to see how a professional does it

WORDS KEV MILLS PICS TOM CRITCHELL

**L**and Rovers are long-lived – that's part of the reason we love them. Unfortunately, they are prone to a bit of rust in the steel areas. On Series and Defender vehicles, the worst areas are usually the chassis and the bulkhead. While new galvanised chassis are available – and repair sections relatively easy to fit – bulkheads are a different matter. Full, Genuine Parts replacements are virtually extinct for Series motors and while there have been various reproduction bulkheads made, they are either expensive, inaccurate or hard to get hold of.

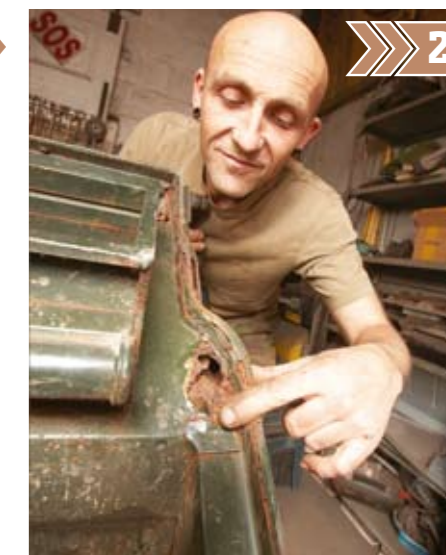
Now, there's another option – a refurbished original, professionally repaired and galvanised for longevity. Ashtree Land Rover International of Andover, Hampshire are the company behind them, led by Lyndon Swann with Kev Hardie as the man with the welding torch. Their bulkheads are in big demand among restorers and also owners who want to do a quick bulkhead swap, as the vehicle can be off the road for as short time as possible.

In this feature they guide us through how they assess a bulkhead and start repairs, starting with a Series IIA bulkhead in typical 40-year-old condition.



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Kev and Lyn start by placing the bulkhead in their special jig and thoroughly inspecting it. 'As long as you have the dash and the centre section', says Lyn, 'there's enough to work with. Some need more work than others, but there aren't many we have to write off completely.'



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Door pillar/shut: this area isn't available as a repair section, so will have to be fabricated. This area is triple-layered for strength, so unless the rot is fully cut out and the metal replaced, any rust will be trapped.



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Rotten footwells – typical of many older Land Rovers. If the top half is still solid, these can be repaired, otherwise a complete new footwell is required. This one has already been patched at one stage...



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...but the original rotten metal was left underneath the patch and has now 'blown' away from the repair.



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Many bulkheads will have years of layers of paint, possibly filler and all sorts of other nasties underneath the surface. The best approach is to get the bulkhead shotblasted, removing any loose rust and leaving clean metal to work with.



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The top rail is often badly rotted. Water collects under the windscreen and is trapped by the sealing rubber. This one's been hidden by paint, but is a relatively easy repair...



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...Unlike the area around the vent flaps. 'This really isn't a job for the faint-hearted', says Kev. 'It will take as long to repair this section as it will to replace a footwell and door pillar. The really bad ones are put to one side and done on a 'as and when' basis.'

# Practical LRO Fitting a refurbished bulkhead



8

Typical of previous owner bodes is this welded-on top door hinge. 'This means a otherwise solid top corner will need rebuilding to get back to standard', Kev explains. 'We see some right lash-ups. As well as filler, we've found complete pages of a 1970s-era Cornish newspaper and even repairs using concrete!'



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Footwells and stiffeners are held in by spot welds. 'We drill these out and remove the complete sections, enabling us to keep the construction similar to original and also remove trapped rust.'



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Ideally, the top of the bulkhead and windscreen hinge and are held tight in a jig while the door pillar is cut out and replaced. 'Series I, II and IIA bulkheads are the easiest to repair in this way as the dash tray keeps everything stiff - important for the galvanizing later.'



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Here we see where the door pillar joins the footwell. 'We puddle-weld in the same place they were originally spot welded, for strength and appearance. The lip for the door seal can be added if needed, but more people are using the one-piece Defender-type seals which don't need the lip.'



12

A typical fault with Series and Defender bulkheads: the door has swung open too far, tearing the stay bracket away and denting the pillar itself. Despite having no rot, this will all have to be cut out and replaced to get a decent job.



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Defender footwells are a different shape to Series and at present replacements are not available. 'As a result, we repair them using parts of other bulkheads which have rotted in different places', explains Lyn.



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Similarly repaired is this Lightweight top bulkhead, which was rotted right through in the top corners. After blending the new metal in, it's time for galvanizing.



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## CONTACT

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Lyn and Kev show off a finished bulkhead for a six-cylinder Series IIA. 'We have very few problems with the galvanizing as the guys at the plant have really got the hang of them now. We drill a few extra holes in the closed sections and a couple in the top to allow the gases to escape and the galv to flow into all the nooks and crannies.' The finished bulkhead is cleaned up and all threads re-tapped ready for assembly. There's 25 microns of galv on each of these bulkheads, losing on average .5 microns a year. In theory, this means it will last for 175 years!