



With the 90 quieter we'll need new 'I can't hear you' excuses



HOW LONG?

Around four hours to fit pre-cut set



HOW MUCH?

- 90 full kit (underbonnet, front cab and rear to window level) £275
- Engine blanket £95 (or £80 if bought with a kit)
- Roof eggbox £90

HOW HARD?



Project 90

Vehicle: 1991 Defender 90

Engine: 300Tdi

Mileage: Now shows 60,392, but this is speedo number 3

What we're doing: Making it fit for comps and greenlaning



Fit sound-proofing

We spend a lot of time in our Land Rovers, so reducing the noise levels makes sense, explains Neil Watterson

You'll need

- White spirit or methylated spirits
- Cleaning rags/sponge

Tools used

- Sharp knife ■ Wallpaper scraper ■ Awl
- Small painting/wallpapering roller
- Hole punch ■ Tape measure ■ Straight edge

Safety advice

- Wear goggles when working with cleaning fluids
- Watch out for sharp edges when you're pushing the material in ■ Wear safety boots



The Expert Grant Bithell

Grant has worked for Noisekiller for six years and is now the company director. It's been a family business for a dozen years and although he doesn't have a Land Rover, he's a regular at Land Rover shows, so knows no two Land Rovers are the same!

Shout if your Land Rover is too noisy. Sorry – can't hear you! A common complaint about Series Land Rovers and Defenders is the volume of noise bouncing around the vehicle.

Our Defender has always been a noisy beast. Admittedly swapping the 200Tdi for a quieter 300Tdi has done wonders for the volume levels, as has changing the van sides for windows, but long, high-speed journeys were still very wearing, so we've had some sound deadening fitted.

We called in the services of Noisekiller (nkgroupp.co.uk, 0161 652 7080), which supplies a wide range of sound-suppressing

products for both the interior of the vehicle and under the bonnet and had the work done at their Oldham factory, though they do offer a mobile fitting service.

You can also buy kits for DIY fitting. Kits are available for different vehicles and engine combinations – for instance, experience has shown that Td5-engined Defenders need a different under-bonnet product to cope with the heat from the turbocharger. It's not difficult to install – just clean the surfaces properly first.

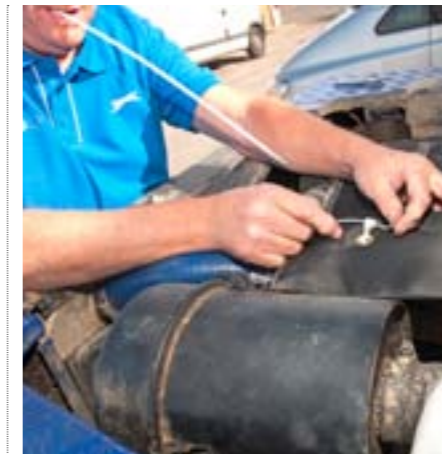
Fitting should take less than four hours – depending on the size of the kit and how much ancillary equipment you have to work around. The kits are designed to be easy to fit, without the need to remove seats or standard equipment, but some tweaking may be necessary.

The reduction in noise levels is significant – I can even hear the radio now!



Engine and bellhousing kit

1 The lead-lined blankets help deflect noise under the vehicle. Slide the bellhousing blanket between the bellhousing and bulkhead – it's tricky and easiest done on a ramp, but can be done on a drive.



Secure the blankets

2 The blankets have eyelets at the corners to secure them. They shouldn't fall off, but appropriately placed cable ties secure them. Make sure they don't interfere with the operation of any rods or cables.



Remove old sound deadening

3 Remove any old sound-proofing or foam. You should be able to remove the main chunks of foam with a wallpaper scraper – get as much as you can off, as hopefully the adhesive will peel off too.



Remove the adhesive

4 If the adhesive doesn't come off with the foam, try Lee's trick – put newspaper over the adhesive then pour white spirit on it. The newspaper prevents the white spirit from drying and helps dissolve the glue.



Clean the bonnet

5 The undersides of most Defender bonnets are dirty, either from oil or mud and water. Prop the bonnet up (with fabric to protect the paintwork) and give it a thorough cleaning with a jetwash.



Test-fit the panels

6 The underbonnet kit is made of Vibrasorb, a water and oil-resistant class 'O' fire-rated acoustic foam that controls vibrations, while the foil covering reflects heat and gives the product a wipe-clean finish.



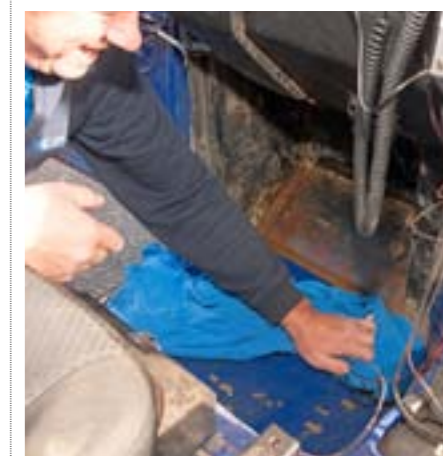
Fit the sound deadening

7 The foil-fronted Vibrasorb has a self-adhesive back. Peel the backing off the leading edge, tuck it under the steel frame and stick down. Gradually remove the rest of the backing and press into place.



Replace the bonnet

8 As the Noisekiller lads would say: 'It looks like it grew there.' Refit the bonnet to the vehicle. This section of the Land Rover is finished and attention is turned to reducing noise inside the vehicle.



Clean it properly

9 Time spent removing dirt now will ensure the sound deadening sticks properly. Jetwash the interior if needs be and allow to dry. Remedy any rust issues before sticking the sound deadening down.



The adhesive panels

10 Two types of adhesive panels are used. Flatter ones are three-ply sound barrier, which have a layer of acoustic foam sandwiched between two rigid damping sheets. It's easy to cut with a sharp knife.



Check the fit

11 Start with the transmission cover and test-fit the sheets. They may be oversize, but don't trim them at the moment. When you're happy that you know where each part goes, start sticking them into place.



Press the sheets down firmly

12 In order for the adhesive to hold properly it needs to be firmly pressed into place – essential in tricky shapes like the transmission cover. Normally the gaiter would cover the gear lever opening.



Fit the bulkhead sheets

13 I asked for an extra sheet to fit between the fusebox and the bulkhead, so this had to be cut to size and holes made for the ancillary stuff fitted to the bulkhead. Stick this in place and refit the fusebox.



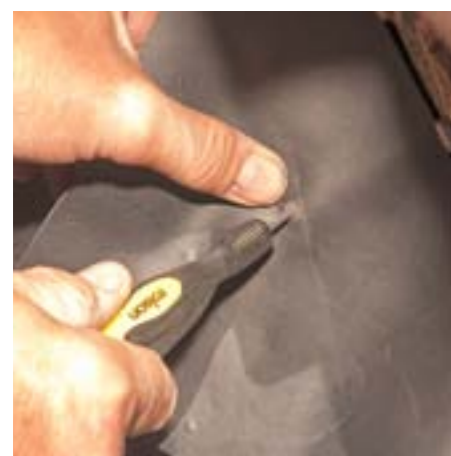
Trim the edges

14 Some of the panels are cut oversize – trim them with a sharp knife. As sound travels in straight lines you don't have to fill every single gap: it's not like water and won't all spill in through a tiny gap!



Fit the seatbox panels

15 The flat seatbox panels are easy to fit, but you may have to trim sections to clear the seatbox lid catches or turnbuckles. We also had to cut out sections for electrical cut-off switches and the compressor outlet.



Fit the bulkhead footwell sheets

16 The passenger-side bulkhead sheet is a straightforward fit, but the driver's one may require a bit of work to clear the bonnet release (we've a Td5 release fitted in ours). Punch holes with an awl.



Fit the floor panels

17 The floor panels are a three-ply construction, but don't have an adhesive coating. This is so you can quickly remove them for off-roading (or drying, if you forget to remove them before wading...). Trim to fit.



Cutting your own shapes

18 Noisekiller haven't had much demand for soundproofing for Series doors for a while, so had to make up a fresh template for the ones fitted to our 90. Use a large sheet of paper to draw the outline.



Fit the lower panels

19 The door sheets are made of barrier mat – a thin self adhesive foam damping sheet with a foil cover. We went for this as we will be fitting a pair of LaSalle door trims in the near future.



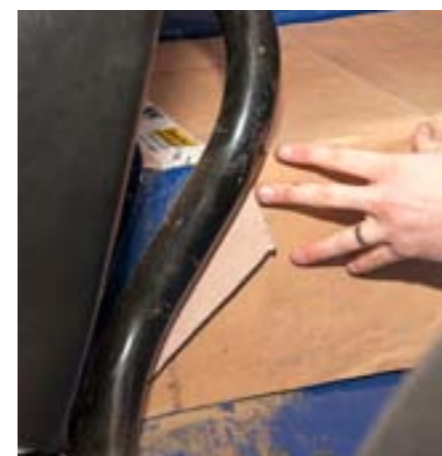
Fit the upper panels

20 Arguably not required for sound deadening purposes, we fitted extra sheets to the barrel sides on the doors. Although they may not have a significant impact on noise, they'll add insulation.



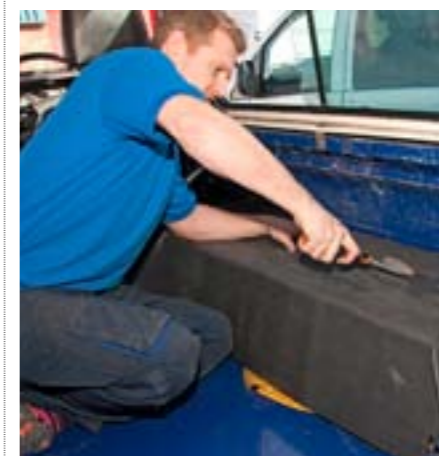
The finished cab

21 Pre-cut non-adhesive panels drop onto the top of the seatbox lids, so you have easy access to the battery/ECU on later models and gives a tidy finish. The same can't be said for the wiring...



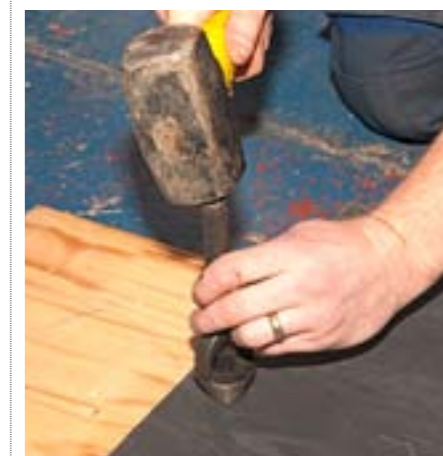
The rear wheel boxes

22 As our 90 has had its centre bulkhead removed and roll cage fitted, the wheelbox sheets have to be trimmed to fit. A cardboard template makes this easier and the dimensions are marked onto the sheet.



Fit the sheet

23 With the cut-outs made for the cage and rear wiring, the sheet is installed. Because this has to be bent through 90° on the edge of the wheelbox, a self-adhesive two-ply mat is used and rolled down.



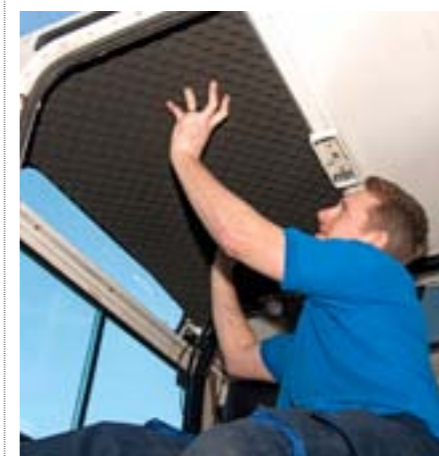
Cutting the floor mat

24 The floor mat is prepared for fitting. This is non-adhesive so it can easily be removed. We've removed the rear drawer we fitted last issue to fit it and punch holes for the drawer fixing bolts.



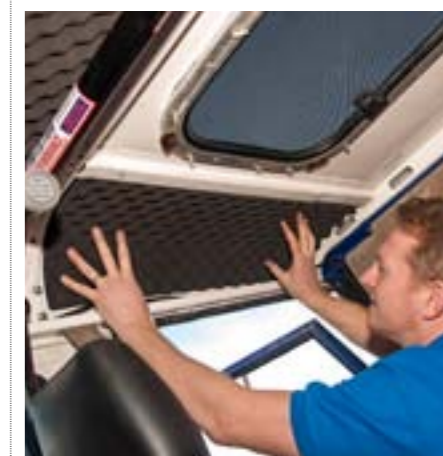
Finish off the rear floor

25 Slide the new mat into place, then stick sound barrier to the wings. We're able to go from the back right to the B-pillar as our centre bulkhead has been removed. The wiring will eventually be hidden!



Quietening the roof

26 Flat Defender roofs resonate as you drive and sound bounces off it. We don't have any headlining, so we fit 25mm 'egg box'. The profile gives a greater surface area that absorbs more sound.



Treating the front

27 The front panels are less critical than the large flat rear sections, but we fill every panel with egg box. Not only does it absorb noise, it adds some insulation, making the interior a bit warmer. **LRO**