

# SOUNDPROOFING AN MGF

**We visit Noisekiller to find out how to reduce the rattles, vibrations and noise of the engine and road with a variety of soundproofing products.**

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**W**e may well call it the charm of owning an MG when panels rattle and vibrate, but such signs of poor build quality can be fixed to help transform these mass produced vehicles with minimal attention to detail into something that you always look forward to driving. Panels that vibrate and sound tinny when tapped with a finger can be lined with a material that stops such sounds being amplified. The floors can be covered in thick matting to stop sounds transmitting through them. The underside of the engine cover or bonnet can be lined

in a vibration reduction material to help muffle noise. Even undersealing the wheelarches and underside of the floors can help, along with securing objects inside the boot and glovebox to prevent them moving around.

So there are a wide range of materials and methods available for quietening a car, but do they work? We took a particularly rattly MGF to Noisekiller to see if they could make it more civilised to drive. This car is equipped with polyurethane suspension bushes, so the ride quality is quite harsh. Driving over lumps in the road often results in a cacophony of bangs and crashes from inside the front compartment and inside

the doors. Engine noise isn't too bad, but don't expect to be able to hold a conversation at 70mph with the hood up unless you're prepared to shout.

So the challenge was set and the following steps outline the work involved. The big question though is did it make a difference? It certainly did. The panel rattles need a little more work, but the amplification of sound has been reduced, making the MGF a more civilised car to drive. There's less road noise transmitted through the bodyshell and whilst the engine was never too noisy anyway, motorway driving with the hood up isn't quite so deafening now.



## Costs and Contacts

Noisekiller  
Tel: 0161 652 7080  
www.noisekiller.co.uk  
Soundproofing kits available for all MGs. Prices start at £199, with £12 for delivery

## Tools

- Clean cloths
- Panel wipe
- Screwdriver
- Socket set and spanners
- Trim tools
- Decorator's roller
- Sharp craft/Stanley knife

## Soundproofing materials



**1**

**Sound barrier:** Fitted to the cabin, boot floors and underneath the rear seat on saloons. Made up of three layers, the top and bottom layers are a semi-rigid heavy duty polymer, which helps reduce vibrations and block road noise when placed against a panel, and helps to block airborne sounds. In the centre, there is an open cell acoustic foam which also absorbs airborne sounds.



**2**

**Barrier mat:** A self-adhesive material that helps to reduce vibrations and block road noise. On side panels and doors, it only needs to cover 50% of the surface area to be effective at reducing vibrations, but on wheelarches Noisekiller recommend covering the entire surface. Supplied in long lengths, which can be cut into 25x12cm sections or smaller to be able to cover the majority of interior panels.



**3**

**Vibrasorb:** Looks similar to barrier mat, but is a thicker fireproof material that can be installed in an engine bay. It has a self-adhesive backing, so it can be fixed to the underside of the bonnet, helping to reduce panel vibration and absorb sounds from the engine. The outer surface can be wiped down if it becomes coated in oil from the engine.

## Templates and trimming

Noisekiller have created templates for all of the vehicles they have soundproofed, so they can supply a made-to-measure kit for the majority of MGs. However, if a piece of soundproofing material needs to be cut out or trimmed, this can be easily done with a sharp craft or Stanley knife.



# Front compartment



1

With the MGF's engine behind the seats, the front compartment acts like a loudspeaker, especially if there are a few tools that can move around inside. We empty the interior and find the spare wheel well has lots of panels that amplify noise.



2

Before a self-adhesive piece of soundproofing material is stuck onto a panel, the surface should be cleaned. Panel wipe and a cloth help to remove dirt and grease. The spare wheel well in our case is clean and only needs a quick wipe over.



3

In the bottom of the spare wheel well, there are two drain holes with metal grommets. We need to ensure we can still access these plugs with the soundproofing fitted as we'll need to remove them if water collects inside the spare wheel well.



4

A pre-cut piece of self-adhesive barrier mat can be fitted to the front of the spare wheel well. It's best to trial fit a piece first before peeling off the backing paper and sticking it in position. This helps to check whether the piece needs trimming.



5

There's an art to fitting a large piece of self-adhesive soundproofing material. Peel off half the backing paper, stick the piece into position, then continue peeling off the remainder of the backing paper.



6

Once the barrier mat is in position, it should be firmly stuck down by first rubbing a hand across it and pressing it into position, especially around the edges. Noisekiller then use a small decorator's roller to ensure it's securely fitted.



7

There are three more pieces of barrier mat that need to be fitted inside the spare wheel well. We decide to remove the plastic bulkhead trim to make it easier to fit them. This is secured with a series of plastic 10mm nuts.



8

The two sections of pre-cut barrier mat for the floor of the well cover the drain holes, so we mark a square to cut out of each corner of the material. This will allow access to each grommet and ensure we can drain out any water.



9

After fitting the two pieces of barrier mat into the floor of the spare wheel well, we make sure they are firmly stuck down by rolling over them with the decorator's roller. There's one more piece to fit in the spare wheel well...



**10**

...and that last piece of barrier mat to be fitted in the spare wheel well is along the back panel. This is a little fiddly to fit with the plastic trim in position, so it was removed in step 7. The spare wheel well is now soundproofed and will hopefully generate less noise.



**11**

The underside of the bonnet can be lined with self-adhesive Vibrasorb, which helps to reduce panel vibration and absorb sounds. For the best results, fit it onto the underside of single skinned panels. We start by cleaning these panels, then trial fit the Vibrasorb.



**12**

When fitting the Vibrasorb, we use a trim tool to squeeze the edges into position and tuck them behind the ribs on the underside of the bonnet. We then finish off with the decorator's roller to ensure it's well and truly stuck down. Now it looks cool as well as being effective.

## Under the carpets



**1**

It's not necessary to remove the seats to fit soundproofing material, but in many cases, any existing material may need removing, especially if it's wet and smelly. Peel off the door seals to release the carpet at the sides.



**2**

The carpet in the front footwells is usually secured with plastic trim plugs and nuts. On the driver's side, there's a metal footrest held in place with three 8mm bolts. These need to be removed to be able to pull the carpet back.



**3**

Slide each seat fully back, then pull the front of the carpet towards the rear of the car. The carpet cannot be removed without removing the seats, but there should be sufficient access to clean the floors and remove any old material.



**4**

Two pieces of non-adhesive sound barrier are fitted inside the front footwells - a large piece for the floor area and a smaller piece for the centre tunnel. The large piece for the passenger footwell travels halfway up the bulkhead.



**5**

Next, after sliding the seats fully forwards and lifting the carpet, we slide a small piece of sound barrier underneath. This should help to block road noise. The original soundproofing material fell to pieces and was removed back in 2008.



**6**

If you're keen to spend a bit more time on soundproofing, then it's worthwhile removing the seats (secured with four Torx T50 bolts) and carpets to be able to fully clean the floors, treat any rust and also clean the carpets.

# Engine cover



**1** A thick layer of non-adhesive sound barrier can be fitted over the engine cover to help absorb engine noise. First, unclip the back of the hood from inside, pull it forward and lift out the carpeting and old soundproofing.



**2** If required, the back of the hood can be secured with a bungee or two to stop it dropping down whilst working on the engine cover. This can be useful if you need to scrape off any remaining soundproofing.



**3** A pre-cut piece of sound barrier fits over the engine cover and the surrounding area. Once in position, the old soundproofing doesn't need to be refitted. However, the moulded carpet should be put back into place.

# Doors



**1** Remove the door panels by undoing screws down the rear edge, two inside the handle used to pull the door shut, one at the front and another behind the door release handle. Pull the panel up and off to release its plastic clips.



**2** Carefully peel back the waterproof sheet from the rear of the door. This will reveal the largest access hole into the door whereby pieces of barrier mat can be fitted. If the sheet splits, it can easily be replaced.



**3** Clean the outer skin of the door panel. This is where the barrier mat will be fitted, so make sure there's no dirt or moisture. Water may run down this panel, so make sure it's dry before fitting the barrier mat.



**4** Trial fit a piece of barrier mat to see where it can be fitted and whether you can manoeuvre it into position. It's easier to fit several small pieces than one large sheet. Do not remove the backing paper at this stage.



**5** When you're ready to fit a piece of barrier mat, peel off half the backing paper and fit it in position. With the barrier mat half stuck down, you'll find it much easier to peel off the remainder of the backing paper.



**6** Firmly press the barrier mat into position on the door panel, then run over it with the decorator's roller. This area often has moisture and water running down it, so the barrier mat must be firmly stuck down.

# Firewall



**1** Unscrew the plastic fittings that secure the carpet over the rear firewall. Peel back the carpeting - it cannot be fully removed as it's fitted behind the centre console. Remove any old soundproofing material from behind it.



**2** Make sure the metal panel of the firewall is clean. If necessary, scrape off any rust or old soundproofing. Two pieces of self-adhesive barrier mat need to be stuck to this surface, so remove any loose dirt and rust.



**3** Trial fit each piece of barrier mat, making sure it doesn't cover any of the 10mm securing bolts for the firewall panel (trim the edges if necessary). When fitting each piece, use your fingers to mould it into the shape of the firewall panel.

# In the boot



**1** Carefully prise out all the plastic plugs that secure the moulded carpet inside the boot. Manoeuvre the carpet out of the boot and check the condition of the soundproofing material on the underside. If it is soggy, either remove it or dry it out.



**2** Three pieces of pre-cut sound barrier can be fitted on the boot floor. These will help to absorb noise from the exhaust, which is amplified inside the boot. Make sure the boot floor is dry before fitting them.



**3** Two pieces of Vibrasorb can be fitted to the underside of the boot lid. First, spray over the surfaces to be covered with panel wipe to remove any dirt and oil - this area can get contaminated with oil from the engine.



**4** Trial fit each piece of Vibrasorb to the underside of the boot lid. It may be a tight fit around the edges, so trim it if necessary. When you're ready, peel off the backing paper and secure each piece in position.



**5** As ever, make sure the edges of the Vibrasorb are firmly pushed in position - use your fingers or a trim tool to manipulate the edges. Run over each piece with a decorator's roller to ensure they are securely stuck to the boot lid.



**6** Finally, a piece of self-adhesive barrier mat can be fitted inside each rear wing. Squeeze a hand inside and tap the outer panel to see where it vibrates. Trial fit a piece first before peeling off the backing paper and sticking it down.