Installation Instructions for SportDrive® Frame Rail Reinforcement Kit

Overview & Preparation

Installation is fairly straightforward, but another pair of hands will make the job a lot easier. We do not intend to cover every safety aspect of this installation, so please take relevant precautions as necessary.

Supplied:

- *One pair of 2mm SportDrive stainless steel frame rails*
- *24 x 20mm A2 SS bolts*
- *24 x A2 SS large washers*
- *24 x A2 SS flange nuts*
- *6 x plastic dome caps*

Tools Required:

- *Electric drill*
- *Quality sharp 8mm drill bit*
- *WD40*
- *Eye protection and dust mask*
- *Safety gloves – For handling the rails*
- *Hammer (don't panic!) – Ball-peen recommended*
- *Underseal*
- *Newspaper*
- *10mm, 13mm, 14mm & 17mm socket sets*
- *13mm spanner*
- *Scissor jack*
- *Block of wood*
- *Sharp blade*
- *Vacuum cleaner*

Remove the seats (14mm socket), door kick trims, seat belt anchor (17mm) and roll back the carpet (see Photo 1). Don't forget any electrical connections under the seat and there should be a plastic retaining clip in front of each seat that needs removing before the carpet can be pulled back fully.

Jack up the car correctly and ensure the car is secure. You'll be working under the car so safety is paramount, as well as having sufficient height to work (you may want to install each side separately).

The fuel and brake line bracket bolts need to be removed to release the brackets from the factory rails. There are four in total, one to the left of the clutch slave cylinder (see Photo 2), two along the factory rail (see Photo 3) and one under the fuel filter flap. This is tucked away just above the filter but quite easy to access with a small extension bar. If you're planning to underseal the fuel/brake lines, then gently remove the clasps from the lines. Remove the rearward clasp and set aside and this will be relocated after the rails are installed.

Installation

You want to test fit the SportDrive rails over the factory rails; if you've suffered some damage then you'll need to do a bit of 'massaging'. Lift a rail into approximate position (the driver's side rail – passenger for LHD - has a large flange to the inside to clear the fuel/brake lines) and see if the rail fits snugly; undamaged factory rails will require no modification. If there is any damage to the factory rails use your hammer to mould the metal back into some sort of shape to clear the new rails. If damage has been slight, then you may be able to use a block of wood against the rail and tapped with a hammer. If more serious, we've found a ball pein hammer to give the best results. Don't worry if any factory underseal comes off, as you'll come back and repair this later.

Now the rail fits, you need to align it to the chassis. If you look outboard of the factory rail you'll notice two seams. You need to align the front edge of the SportDrive rail to the forward seam; you want the rail to butt up to the edge rather than sit over the seam (see Photos 4 & 5). To hold it in position for drilling, use the scissor jack and block of wood in the middle to keep it in position.

You now need to drill 12 holes per rail, using the holes in the flanges as a template. The steel is generally single skin, but at the rear it is triple skinned and requires a little more patience to drill through and a good idea is to use something like WD40 to keep the drill top from overheating. **Please use eye protection**, as there will be quiet a bit of swarf.

Tips:

- *Ensure the carpet is clear as the sound deadening gets caught and twists in the drill as it breaks through.*
- *Ensure any wires in the car are moved/taped out of the way.*
- *Take care when drilling around the fuel/brake lines. With all 4 brackets removed from the chassis, there is enough flexibility to drill straight and avoid the lines by holding them out of the way.*
- *The driver's side rail has 3 holes at the front. Choose the most relevant hole for your application that will be clear of the lines once the line brackets are back in place.*
- *Drop a bolt through each of the holes from inside the car and ensure they fall through cleanly. If not, use the flute of the drill bit to clean the holes by moving the electric drill around in a small circle.*
- *Be careful of any sharp burrs, and these can be cleaned off by using a larger drill to countersink the holes from inside (be careful not to enlarge the holes further though).*
- *Once you've finished with the drilling, you can peel off the laser plastic from the rails around the flanges, vacuum inside the car and brush away any swarf from the rails.*

If you want to keep the area under the rail protected you will need to apply underseal. Remove the rail and set aside, then cover the holes from inside the car with newspaper or tape. We use aerosol underseal for small areas like this, but it needs to be covered in thin coats otherwise it can collect and drip. Use newspaper to protect your floor and use a dust mask! Spray/coat the area that the rail will cover with 25-50mm of extra margin, and make some extra application where the factory underseal is missing, like where you hammered the rails. Wait until tacky. Once tacky, reinstall the rail and hold in position with the jack and block (being tacky, the underseal will spread a little and form a seal around the holes, so try and make this the last time you remove the rails). Open the hardware bags and set aside **2x 20mm bolts**. Install the large washers under the bolt head and then drop them through the holes from the inside of the car (see Photo 6).

Important: If you're using power tools to tighten the nuts, you'll need to coat the bolt threads with anti-seize compound (such as copper grease) to prevent galling (it's good practice to use anti-seize even if you're using hand tools).

Start from the centre of the car and tighten working towards the ends of the rail. Here is where another pair hands is er…handy to hold a spanner on the bolt head. Again, please work safely. For the nuts under the fuel/brake lines you may have to use a spanner. If you find you cannot install the nut under the washer/spring washer due to a lack of thread, temporarily remove the spring washer and tighten the nut under the flat washer to bring the rail into position and then re-install the spring washer. Torque to 20-25 lb/ft, 27-34Nm.

2 x 20mm bolts will be installed into the 2 centre holes of the driver's rail inside flange, under the fuel/brake lines, but in the opposite orientation i.e. the threads will be inside the car but keep the large washer inside the car. Once installed take 2 of the plastic dome caps and slice the domes off of each with a sharp blade (see Photo 7). You can smooth the edges with some sandpaper and then install on bolt heads (see Photo 8). The rest of the caps *may* require an 8mm hole drilled into the dome. Put the drill bit inside the cap and use a very, very slow speed to drill out a hole (use gloves here) and then install them on the 4 remaining nuts along the pipes (see Photo 9). You can add a blob of silicon sealant inside the cap which will ensure the caps stay installed, although they are a very snug fit anyway.

The final jobs under the car are to install the fuel/brake line brackets, install the fuel filter flap and remove the rest of the plastic coating from the rails. Use some anti-seize on the factory M6 bracket bolts and loosely install the front and rear brackets. The 2 middle brackets install inside of the rail cut-outs and require the small location tab to be straightened to aid installation. Once all the bolts are loosely installed, they can be tightened. Re-install the rearward pipe clasp slightly further rearward to clear the nut/cap.

Re-install the carpet, seats, electrical connectors and door kick trims and then you're done!!

If you'd like to comment on the rails drop me a line at phil@performance5.co.uk If you need any help during installation, please call my mobile on +44 7951 023341, but should I not pick up immediately, leave a message and I'll get back to you as soon as I can.

Thank you for your purchase.

Regards
Phil Dixon