

FRAME RAIL REINFORCEMENT KIT V2 13-69011



Thanks for purchasing our frame rails, these do an amazing job of reinforcing your chassis and provide a basis for our Butterfly Brace as well as future upgrades. If you have any questions during installation or suggestions for improvement to the product or the instructions - please don't hesitate to call or email.

WARNING: Not everyone can perform every installation. It is critical that you be honest with yourself in regards to your ability. We're more than happy to help, but there are only so many things we can do from the other end of a phone / computer. If in doubt, discuss the install with us before you dive in. Improper installation could cause injury and / or death!

Required tools:

- Jack and jackstands
- Drill
- 5/16" drill bit
- Metric socket set
- Undercoating spray
- Flathead screwdriver
- Scrap wood to protect carpet
- Hammer / Channellock pliers / C-clamp (refer to step 4)
- Safety glasses
- Pliers and/or bench vise
- Anti-sieze

Torque specs:

- Frame rail hardware - 20-25 lb-ft.

1. Start by lifting the car off the ground. You'll be crawling around underneath and drilling upwards, so give yourself enough room for this. Remove the seats from the car by removing the four bolts on the seat rails (plus a fifth in the transmission tunnel on '94-'97 cars). Move the seats fore and aft to access all of the bolts. When pulling the seats out of the car, unplug any electrical connections underneath (not all cars have these connections, but be careful). **On '90-'97 cars**, remove the screws holding the sill protector in place and set it aside. **On '99-'05 cars**, pull the sill protector straight up, starting at one end and working towards the other. Undo the bolt holding the lower end of the seatbelt to the car and move it out of the way (be careful to keep the stack of washers and spacers together and in the correct order). There's a small plastic fastener holding the carpet down between the two front seat rail bolts. If your plastic fastener *doesn't* have a separate screw in the middle of it, gently pry it out of place. If your plastic fastener *does* have a separate plastic center screw, carefully unscrew it (if you push down too hard it won't unthread), then remove the whole plastic fastener. You can now pull up the carpet. Secure the carpet to be sure it won't fall back into place, where you could accidentally drill through it. Placing a shield (such as a piece of wood) towards the front, where the carpet is more difficult to get safely out of the way, is highly recommended.



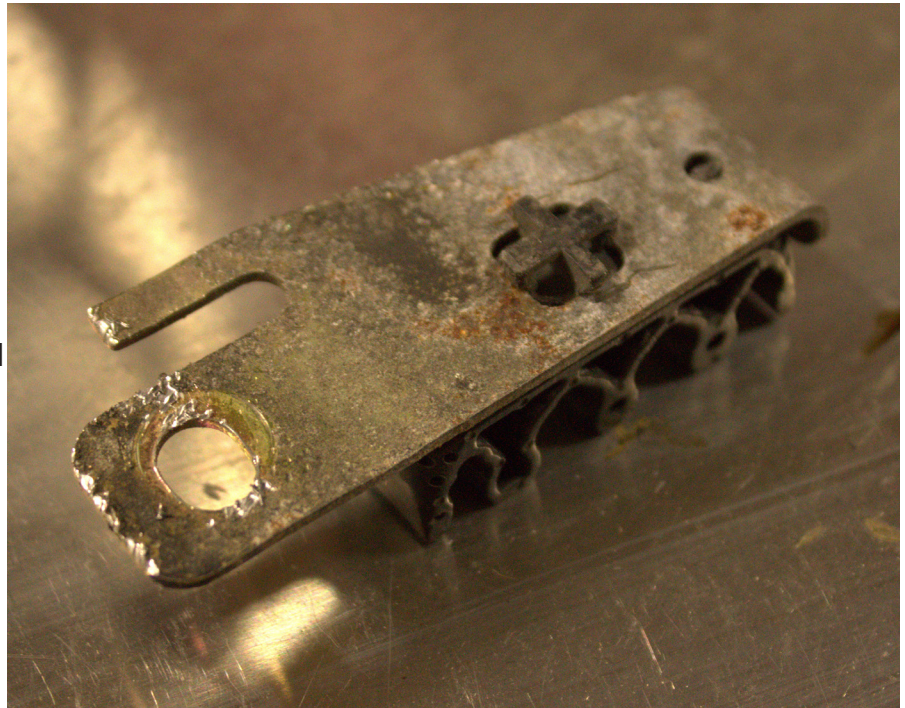
2. On '94 - '97 cars only, the ECU is mounted to the bulkhead behind the passenger seat. Be very careful with the ECU and wires; make sure that you do NOT damage anything with the drill bit. Remove the ECU and secure the wires out of the way if necessary.
3. Underneath the car, unbolt the two brackets holding the fuel and brake lines to the right side frame rail. These brackets can be popped off the lines by prying lightly with a screwdriver. Also remove the fore and aft fuel line clips (which are identical) that are floating as it makes it easier to manipulate the lines during installation. Pay attention to their orientation, as they appear symmetrical at a quick glance but actually aren't.
 
4. Check the condition of your car's stock frame rails. They don't need to be perfect, but they do need to be narrow enough to allow the new frame rail reinforcement to slip over it. Use a hammer, large channellock pliers, and/or a C-clamp to get them back into shape.
5. Press the new frame rail reinforcements into place. Carefully orient them to allow the cylindrical weld nuts that protrude on the inside to line up with their corresponding holes (the front one is tightest). This gets us 90% to the proper location, but you need to line up the front of the rail to get it 100%. Slide the rail as far forward as it can go and still be on the flat horizontal surface of the underbody (as shown). Determine this position by watching both the outboard square edge and the inboard cutout edge. Do the same steps to square both rails up equally before drilling any holes in the floor pan. It is very important to get both sides square so that if you're adding the Butterfly section (available as a package or separately) it will bolt directly up.
 
6. Put on some form of eye protection and drill up through the floorpan with a 5/16" bit using one of the end holes in the frame rail for location. After the first hole is drilled, hit the hole with a bit of rubberized undercoat or similar rustproofing. **Apply some anti-sieze** to the threads of a bolt before dropping it (with a washer) through the hole and bolt the rail into place with a washer under the locking nut. **Tighten the hardware slowly (by hand - not with an impact) to prevent galling.** The short bolts should be used on the inside (towards the center of the car) of the passenger side rail. This is for additional clearance for the fuel lines. Once a bolt is in place, drill a second hole that's at the opposite corner and secure it with another bolt - this ensures good alignment. Drill the rest of the holes, spray some undercoating, **install the remaining bolts with anti-sieze on the threads, and then tighten them slowly (to prevent galling)** - you may see the floor start to deform slightly. Be careful when drilling beside the fuel and brake lines. They can be gently pulled out of the way while
 

drilling.

7. The brackets for the fuel lines need to be bent for re-installation, as shown in the photos. This is most easily done by removing the plastic piece the holds the lines. Twist the plastic piece 45° (in either direction) so that the "X" in the backside of the plastic is now pointed at the corners of the square hole, as shown. The plastic should now slip out of the metal bracket. Flatten the two flanges where the metal bracket attaches to the car, but leave the single smaller flange as-is. A bench vise works great to flatten the bracket, but pliers can be used as well.



Reinstall the plastic pieces (be sure the small plastic nub lines up with its small hole), then slip the brackets over the studs in the right hand (passenger side in the US) frame rail and tighten down the supplied nuts. The fore and aft floating brackets should be attached as a buffer between the rail and the fuel lines - again, the outside slot in each is different, so be sure you're installing them correctly (match the slot sizes to the similar pieces attached to the metal brackets).



Your driver-side frame rail reinforcement may have studs in it as well, those won't be used.

8. You can now vacuum any shavings out of the interior of the car before putting the carpet back down. Reinstall the bolt for the seatbelt, the seats and also the side sills. You're done with the frame rail reinforcements. If you're installing the Butterfly Brace as well, please follow those instructions before putting the car back on its wheels. If you're not installing the Butterfly now, put the car back on its wheels and go for a drive!