

Installing a Folding Bench Seat in our 2020 Sprinter 170 2500

We elected to install a “Double Bellagio Foldaway Bus Seat” manufactured by Freedman Seating Company (these are generally sold by Suburban Seats).

While doing research, we learned that Fenton Mobility (www.fentonmobility.com) sells the bench seat along with an installation kit. The installation kit is tested for full FMVSS/CMVSS compliance. We decided to go with a professionally designed and tested system from Fenton instead of relying on some local welder to put together a mounting system. Just to be clear, we ordered the foldaway bench and the installation kit all from Fenton:

<https://www.fentonmobility.com/product/fenton-doublefoldaway-kit/>

We ordered the “street side” version that folds up against the driver-side wall. The bench sold by Fenton includes the 3PT (three-point) seat belt system. More importantly, it comes with a heavy mounting plate which is secured to the van floor with heavy bolts (the bolts and related hardware all come from Fenton). For those who are counting pounds, the total additional weight of the Fenton mounting plate and hardware is 28 pounds.

We wanted to place the bench reasonably close to the driver’s seat so that the bench did not extend very far back into the usable space in the van. But of course, not too far forward as we wanted passengers to have sufficient legroom. We also wanted the bench to be as close as reasonably possible to the wall so that the bench, when open, would not overly interfere with the usable space in the van. But of course, far enough from the wall to allow the bench to be folded up. Achieving this placement turned out to be **surprisingly tricky**, in part because the location of the mounting plate cannot “interfere” with the frame pieces on the underside of the van.

Long story short, we located the Fenton mounting plate directly on the metal floor of the van, 4.25” from the side wall, and 17” behind the center of the driver seat pedestal (that is, measured from the slightly indented portion of the pedestal). Please note that while this placement works, **the dimensions are critical -- be sure to measure to the eighth of an inch!**

The location specified here allows you to use the original washers for attaching the Fenton mounting plate to the floor of the van. If your holes end up being slightly too close to a frame piece (underneath), then you can cut the side of the washer(s) as needed. Fenton might be willing to supply several of these to you.

Our cargo van came with the factory wood floor. We are using this original floor in our build (although we might cover it with a finish layer). We placed a layer of foam insulation underneath the floor; we used the .50” Minicell foam from diyvan.com (yes, we used the .50”, which is a little thicker than the typical .30” layer).

The heavy bolts that mount the Fenton plate to the floor are ½” bolts. We drilled 9/16” holes to allow for just a tiny bit of wiggle room to facilitate lining all of the holes up.

Installation Steps/Notes (these supplement the instructions from Fenton)

1. If you have flooring installed, remove it (and any insulation) to expose the bare metal floor.
2. Place the Fenton plate on the metal floor, 4.25” from side and 17” from center of driver pedestal.
3. Mark the mounting holes (you can use either of the two middle holes towards the rear of the plate).
4. Using a Sharpie, mark the edges of the mounting plate on the wall of the van and pedestal.
5. Starting with a 1/8” pilot hole, drill each hole. We used a 9/16” bit (instead of ½”) to aid alignment.
6. Good time to check and see if the original washers will work, or if you need to cut one or more washers.
7. Verify the fit by inserting all bolts, then paint the holes (from top and underside).
8. Place your wooden floor back down onto the metal floor, and place the plate using the marks from step 4.
9. Using the mounting plate as a template, draw around the plate onto the wooden floor.

10. Remove the flooring so that you can cut out the space needed for the mounting plate.
11. Using a 1" bit, cut out the 4 corners in the flooring. Cut the sides with a jigsaw. Sand as desired.
12. If you have a foam layer of insulation, place it on the metal floor.
13. Using the marks from step 4, cut the foam so that the plate can go directly onto the metal floor.
14. Place the floor onto your foam layer, and verify that the plate fits into the cutout, and that the bolts line up.
15. Re-attach the floor.
16. Bolt down the Fenton mounting plate.
17. Using a scrap of unused foam insulation, fill the void in the middle of the Fenton mounting plate.
18. Attach the foldaway seat bolts to the Fenton mounting plate.
19. Apply something to the underside to protect and seal the mounting holes; we painted on Flex-Seal with a brush.
20. Observe the awesomeness.

John R. Adams

Atlanta, GA

404-786-0113

jra@adamsj.com