

BPP Shifter Install by Dave68

- 1.0. This procedure defines the steps necessary to install a Breathless Performance Products short-throw shifter into a Corvette C5. This product distinguishes itself as the most adjustable shifter available for a 97-04 Corvette with manual transmission.



- 2.0. Parts required: BPP Shifter

3.0. Tools and equipment required:

- ◆ One #15 Torx screwdriver
- ◆ flat blade screwdriver
- ◆ socket wrench, 1/4 or 3/8-drive with extension
- ◆ 10mm socket [front console, armrest/storage, and shifter isolator flange nuts]
- ◆ 3/8-inch socket [shifter base screws]
- ◆ 1/2-inch socket [upper to lower shifter shaft screws]
- ◆ liquid silicone (RTV) gasket
- ◆ needle-nose pliers [to pull small connector under AH lid]

4.0. Procedure

- 4.1. Place your shifter in second or fourth gear (for ease of trim panel removal) and remove your shift knob. **Note:** If this is the first time you will be removing the OEM knob, please see http://www.conceptualpolymer.com/corvette_install.htm for complete instructions. Remove all items from the center console storage bin and leave its door open for the next few steps. Now pop off the active handling lid by gently prying it up with a flat blade screwdriver or other wedge-like tool. See fig. 1.



Figure 1: AH lid

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(continued)

There will be two connectors mounted underneath the lid. See figure 2. When I pulled my lid up, a spring steel tab fell off of the lid. Make sure that the lid's two tabs are in place before you continue.



Figure 2: AH lid connectors

- 4.2. The large connector plug is disconnected by squeezing its tab and pulling the wired half, away. See figure 3.

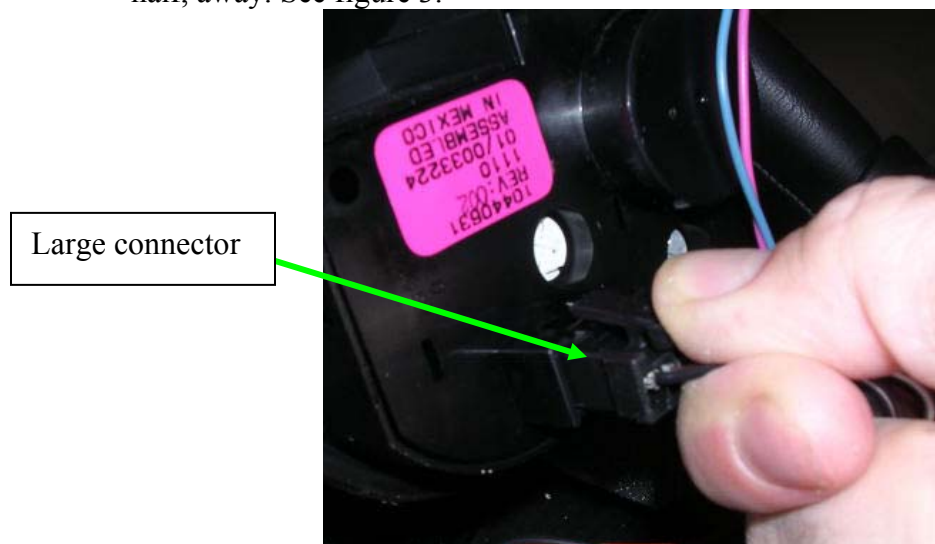
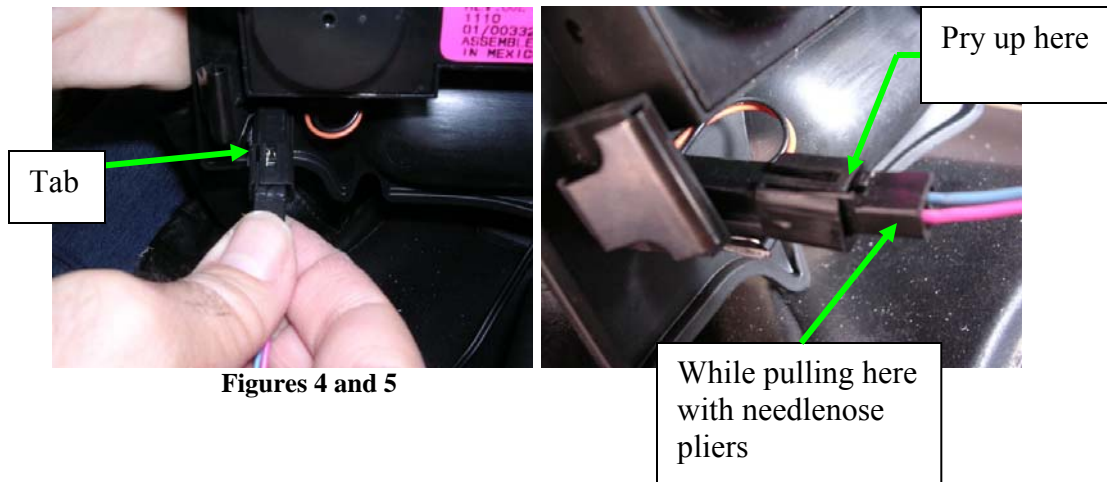


Figure 3

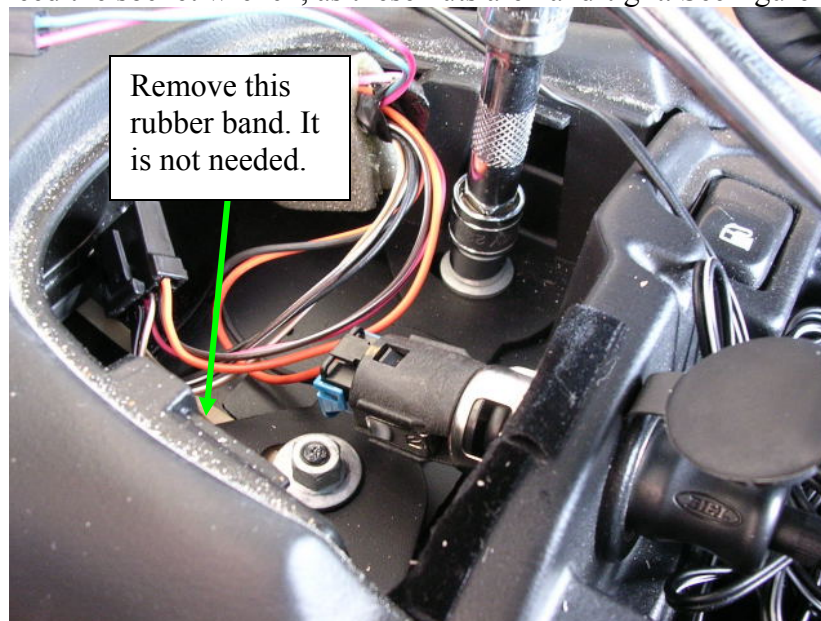
- 4.3. The small connector front half features a locking tab that is positioned in a square opening. I found that the easiest way to unplug this connector is to have someone pry the outer (back half) connector away from the tab, while you pull on the part of the connector (with needlenose pliers) into which the wires enter. **Note:** Be very careful not to bend the back half of this connector more than a few degrees. Its base is very fragile and may split. If this happens, repair with a 2-part epoxy. See figures 4 and 5.

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(continued)



- 4.4. Use a 10mm socket to remove the two nuts at the bottom of this compartment. You won't need the socket wrench, as these nuts are hand-tight. See figure 6.



- 4.5. Disconnect the lighter plug by pushing down on its tab. See figure 7.

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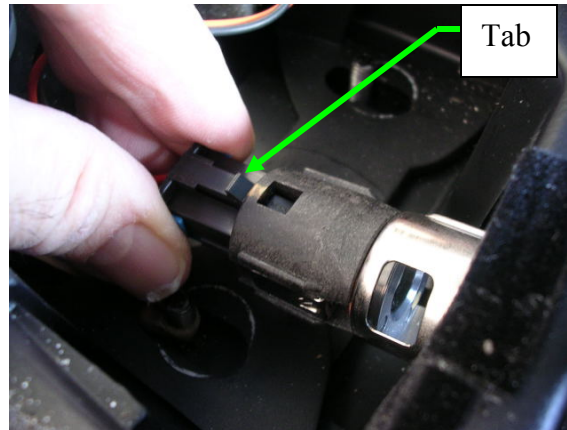


Figure 7

4.6. Pop the rear stud covers off of the compartment's rear mounting holes.

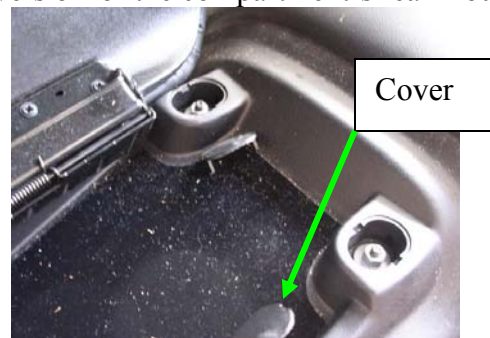


Figure 8

4.7. Remove the nuts using the 10mm socket.

4.8. Pop out the ashtray from the center console by opening its lid and pulling. Directly behind it is a #15 Torx screw. See figure 9. Remove it.



Figure 9

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(continued)

- 4.9. Just to the left of the ash tray opening is a second #15 Torq screw. Remove it as well.
- 4.10. Now remove the temperature sensor lid by popping it out with your fingernail or flat blade screwdriver. Remove the exposed #15 Torx screw. See figure 10.

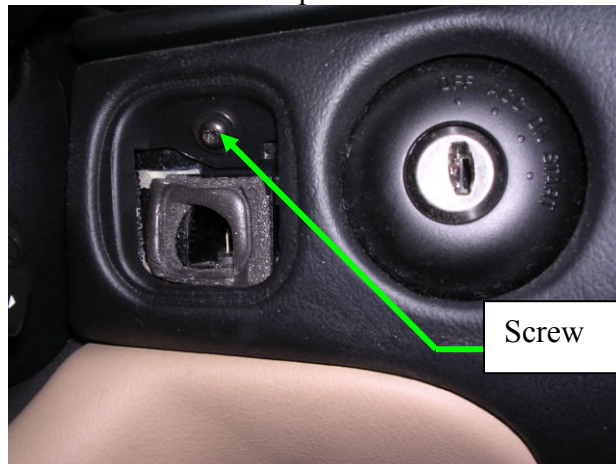


Figure 10

- 4.11. Now it's time to remove the center panel trim piece. The top of the panel, just above the stereo and below the vent contains 2 tabs. See figure 11. Pull the panel out far enough to release the tabs.

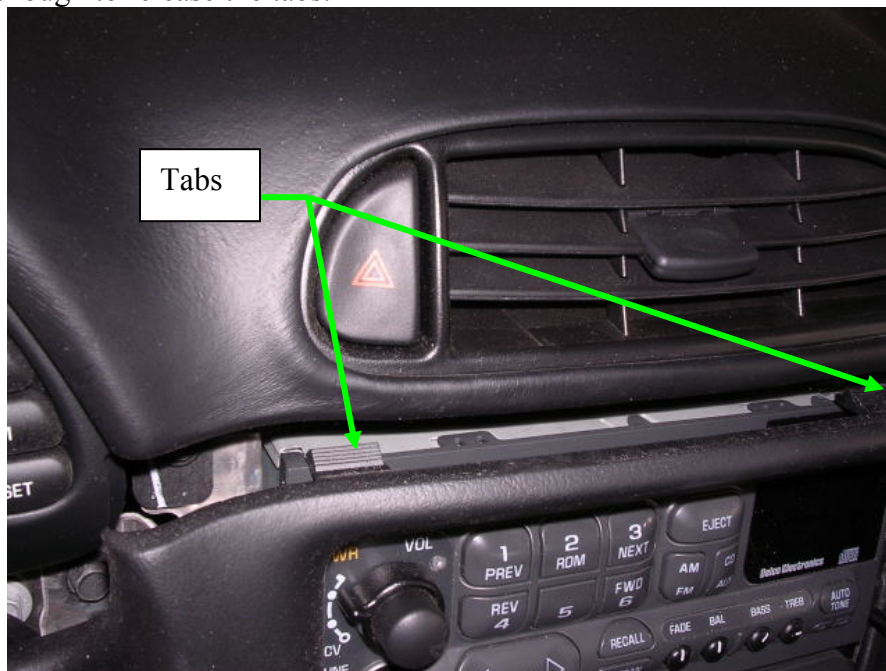


Figure 11

- 4.12. Work your fingers around the panel, pulling it away from the instrument panel. You will need to lift the panel up as you pull it towards you. This will allow the area closest to the storage compartment to clear the threaded studs that protrude through the two holes in the front panel. Refer to figure 6.

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- 4.13. Once you lift the back of the front panel away from the rear studs, you will be able to lift the armrest/storage compartment and disconnect the cable connector as shown in figures 12 and 13.

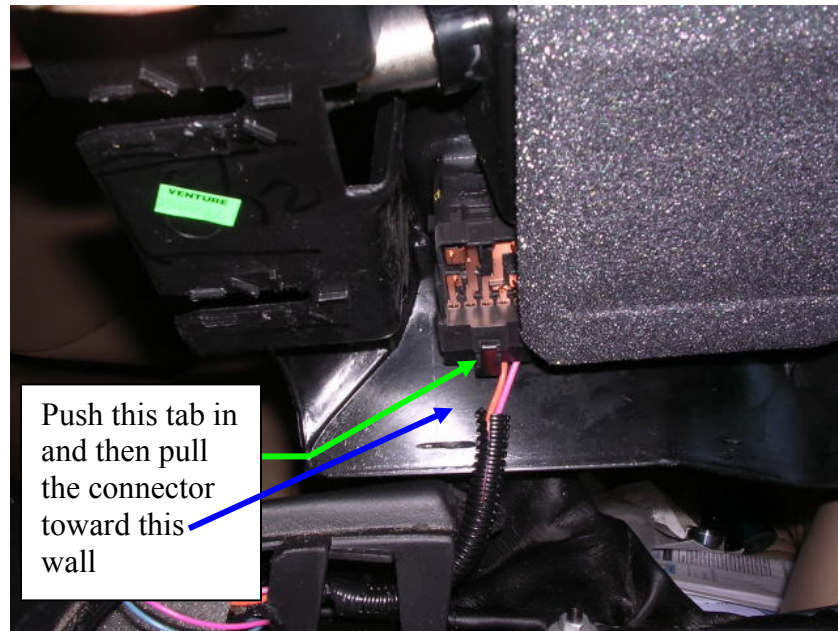


Figure 12

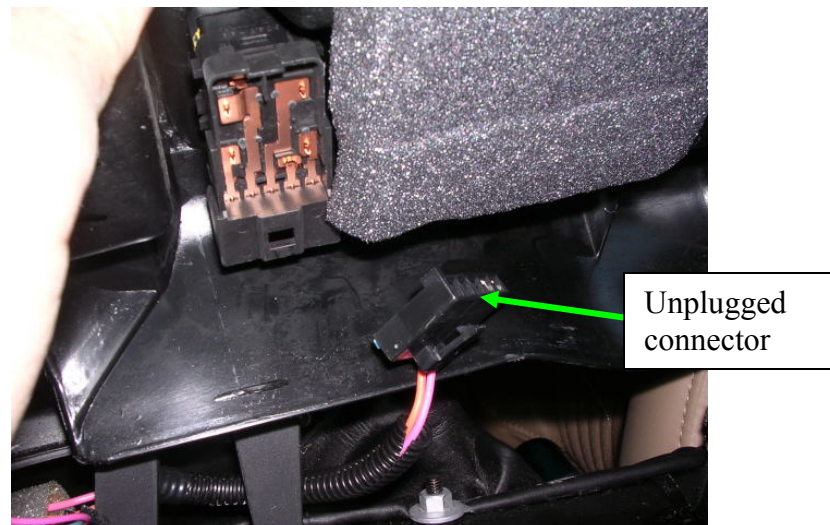


Figure 13

- 4.14. Remove the armrest/storage compartment.
- 4.15. Now, after unplugging the cigarette lighter connector, you can completely remove the front/center panel trim. See figure 14. The shifter boot will remain attached to this trim piece.

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(continued)

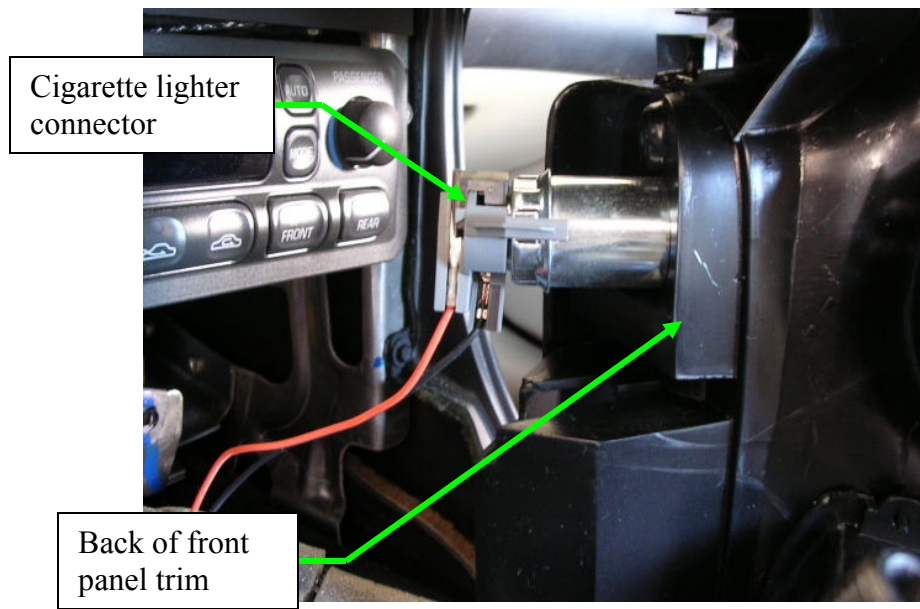


Figure 14

- 4.16. Remove the 10mm flange nuts that hold down the rubber isolator base. As can be seen in figure 15, the nuts are finger-tight and can be removed without the wrench.



Figure 15

- 4.17. After removing the isolator base, you will see the four bolts that secure the OEM shifter to the transmission. See figure 16. Remove these using a 3/8-inch socket. **Caution: Be extra careful not to drop any hardware into the opening!**

C5 BPP Shifter installation (continued)



Figure 16

4.18. Once the shifter is removed, pull off the plastic cap from its pivot ball. See figure 17 and 18.

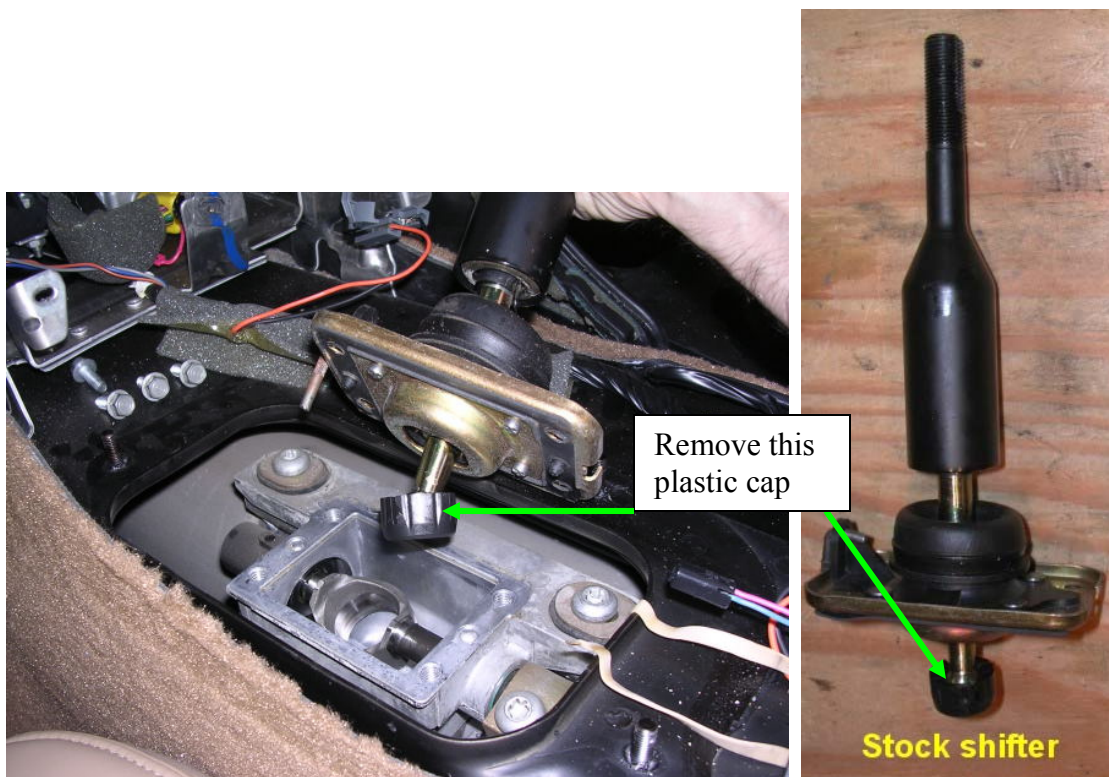


Figure 17

4.19. Pop the cap onto the BPP pivot ball. See figure 18. You may apply a small amount of silicone or Teflon grease into the cap before attaching it to the ball.

C5 BPP Shifter installation (continued)



Figure 18

4.20. Apply silicone RTV around the bolt holes as shown in figure 19.



Figure 19

4.21. Check the length of each 1/4-20 hex-head screw that will be used to mount the shifter. It should be either 3/4-inch or 7/8-inch. Assemble a lock and flat washer onto each one as shown in figure 20.

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(continued)



Figure 20

- 4.22. Assemble the shifter onto the RTVed surface. I positioned it so that the manufacturer's sticker was facing the rear of the car. See figure 21.



Figure 21

- 4.23. Now comes the fun part – selecting the upper-to-lower arm attachment configuration to match your own personal ergonomics. The hardware kit includes a plastic wedge that allows you to mount the upper shifter arm so that it tilts toward or away from you. Since this wedge helps to isolate transmission vibration, it should always be used as part of the assembly. **Note:** There are a minimum of 16 possible upper/lower arm/wedge configurations available. Spend some time trying them out with shift knob in place while shifting gears. This is time well spent, as you will undoubtedly be enjoying this shifter for many years to come.
- 4.24. Once you are satisfied with the arm assembly configuration, tighten the two mounting bolt/lock washer/flat washer combinations with a 1/2-inch socket. See figure 22. **Note:** The upper shifter arm shown in this picture has been modified by milling pockets in both sides and filling them with anti-dampening material. The BPP-supplied arm is shown at the very beginning of this procedure.

C5 BPP Shifter installation (continued)



Figure 22

4.25. Remove the shift knob and invert the rubber isolator. Ideally, the opening in this isolator would fit around the cylindrical body of the shifter lower assembly, but without cutting and potentially damaging the formed rubber, inverting it allows it to be installed over this assembly. See figures 23 and 24.



Figure 23: OEM isolator configuration



Figure 24: Inverted configuration

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(continued)

- 4.26. Assemble the rubber isolator as shown in figure 25 and hand-tighten the 10mm flange nuts until snug.



Figure 25

- 4.27. Carefully reassemble the front/center panel trim. Plug in the cigarette lighter connector and tilt the panel forward to ensure that its two tabs are inserted first. Refer back to figure 11.
- 4.28. Before tightening the panel's mounting hardware, assemble the storage compartment, making sure that its forward end is mounted underneath the rear of the panel.
- 4.29. Reverse the assembly procedure, put away all your tools and take 'er out for a ride!

Completed photos: figures 26 and 27.

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(continued)



Figures 26 and 27