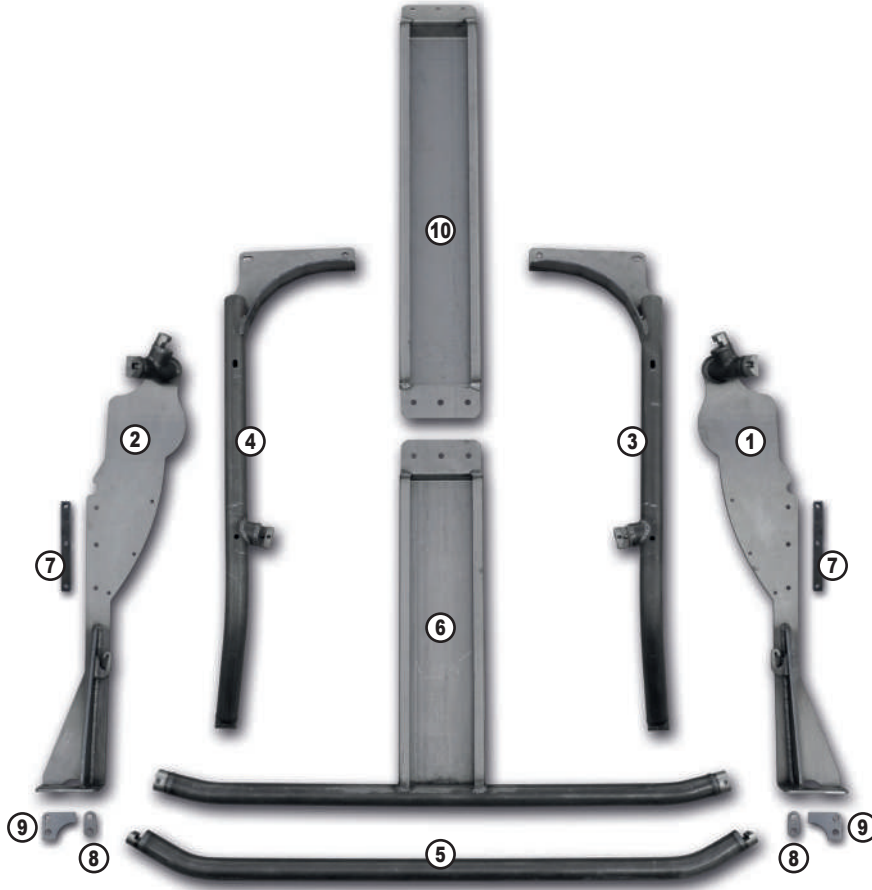


POISON SPYDER

C U S T O M S

'07-'10 JK BOLT-TOGETHER TRAIL CAGE INSTALLATION INSTRUCTIONS



Installing the Poison Spyder Customs JK Bolt-Together Trail Cage is about medium in difficulty, with the right tools and good mechanical abilities. It is, however, a rather lengthy procedure so patience and attention to detail is important. If you are not confident in your mechanical skills, please seek the help of a professional to perform the installation. Please read through these entire instructions before proceeding with installation.

PARTS LIST

- (1) Driver Side A-Pillar Assembly ①
- (1) Passenger Side A-Pillar Assembly ②
- (1) Driver Door Header Bar Assembly ③
- (1) Passenger Door Header Bar Assembly ④
- (1) Dash Bar ⑤
- (1) Front Overhead Assembly ⑥

- (2) A-Pillar Fill Plate ⑦
- (2) Small A-Pillar Foot Spacer ⑧
- (2) Large A-Pillar Foot Spacer ⑨
- (1) Rear Center Stringer ⑩ (4-Door Only)
- (4) 1/2-13 X 3 Gr8 Hex Head Cap Screw
- (4) 1/2-13 X 1-1/2 Gr8 Hex Head Cap Screw
- (16) 1/2 Flat Washer
- (8) 1/2-13 Nylon Insert Lock Nut
- (12) 5/16-24 X 1-1/4 Socket Head Cap Screw
- (3/6*) 7/16-20 X 2-1/2 Gr8 Hex Head Cap Screw
- (6/12*) 7/16 Flat Washer
- (3/6*) 7/16-20 Grade "C" All Metal Lock Nut
- (6) 3/8-24 X 1-1/4 Gr8 Hex Head Cap Screw
- (6) 3/8 Flat Washer

INSTALLATION INSTRUCTIONS

- (6) 1/4-20 X 3/4 SS Button Head Cap Screw
- (6) 1/4-20 Clip Nut
- *Qty varies for 2/4 door models

TOOLS NEEDED

- Primer, paint, cleaners and masking materials (if painting)
- Mechanic’s tool set with a full assortment of SAE and metric end wrenches, sockets, ratchets, hex keys, etc., including:
 - 9/32” hex driver
 - 1/4” hex key
 - 10mm and 13mm end wrenches & sockets with ratchet
 - Phillips screwdriver
 - Bar clamp
 - Torx T40 driver bit with ratchet
 - Soft dead-blow hammer or rubber mallet
 - Drill Motor with 1/2” drill bits
 - Felt-tip fine point marker
 - Pneumatic body saw or similar cutting tool
 - Utility knife and scissors

BEFORE YOU BEGIN

The Poison Spyder Customs Bolt-Together Trail Cage Kit comes as unpainted, bare steel. You will want to either powder coat or paint the parts prior to final installation, however it is very important to PRE-INSTALL then remove entire kit, following these instructions, BEFORE painting or powder coating any of the components! This will ensure that all parts are correct and any incidental trimming or drilling will have been done prior to coating. Also, it will give you a practice run to familiarize yourself with the process, to lessen the likelihood of damaging the finish during final installation.

IMPORTANT: Poison Spyder Customs, Inc. is NOT RESPONSIBLE for paint or powder coating costs, damage to paint or powder coating, or costs associated with inadvertently painting or powder coating components that are defective or were shipped or assembled in error. It is the customer’s responsibility to pre-install and verify that all parts are correct prior to paint or powder coat.

NOTE: Some of the following photos were shot out of order, so some items shown in the backgrounds of various shots may not correspond correctly to the assembly procedure. Follow the written steps below, in sequence, regardless of what is shown in the photos. Photos should only be assumed to illustrate the specific procedure described in the corresponding step.

INSTALLATION PROCEDURE

1. **Park the Jeep on a flat, level surface** and set the parking brake.
2. **Remove the soft or hard top**, if present. Consult your Jeep’s or your aftermarket top’s documentation for removal procedures.
3. **Use a 10mm wrench to remove the stock door strap hooks** and disconnect the door keeper strap and front door wiring harness. Use a 13mm wrench to remove the door hinge bolts and the entire door. Do this for both front doors.



FIGURE 1

4. **Remove the plastic end covers** at each side of the Jeep’s dash. Use a small flat screwdriver or pick to pry an edge away, then simply pop the cover off.
5. **Use a Torx T20 driver** to remove both sun visors, then remove all of the factory cage soft covers and foam padding. Remove the sound bar (be careful when disconnecting the sound bar wiring harness).
6. **Use a 13mm wrench to remove the factory header bars** (the bar above the driver and passenger window along each side). There are several bolts at each end of the header bar assembly.

INSTALLATION INSTRUCTIONS



FIGURE 2



FIGURE 5



FIGURE 3

9. Remove the windshield wipers. Pry up the plastic cover at the pivot point of the wiper to expose the nut. Use a 13mm wrench to remove the nut, then slide the wiper arm off of the shaft.

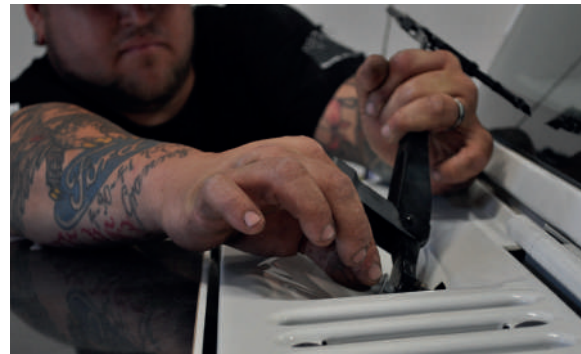


FIGURE 6

7. On the forward sheetmetal piece of the factory header bar, locate the two screw clips where the sun visor had attached. Remove each one by pinching the metal clip from the back side and pushing it out.



FIGURE 4

10. Use a Torx T40 driver bit to remove the windshield brackets from the lower corner of each end of the windshield, then tilt the windshield forward into the rubber bumpers on the Jeep's hood.



FIGURE 7

8. Look along the underside of the top of the windshield frame, at each end, and locate the rectangular hole with two smaller rectangular holes (and a round hole) in the panel behind. Insert the screw clips removed from the factory header bar into the two small rectangular holes, as shown in the photo below. You may need to file a small amount of material off the end of each clip for a proper fit. Push them in until they are fully seated.



FIGURE 8

11. Use a 9/32" nut driver to remove the small tweeter speakers and their housings on top of the dash at either end. Be careful when disconnecting the speaker wires.



FIGURE 9

12. Locate the two A-Pillar Filler Plates. These are a 1/2" thick bar with three holes. Measure the distance between the hole centers, noting that this distance is 3" on one the and 3.5" on the other end. The end that corresponds with the 3.0" distance between the hole centers is the TOP. Use a fine-tip felt pen to mark this end as the TOP, for both A-Pillar Filler Plates.

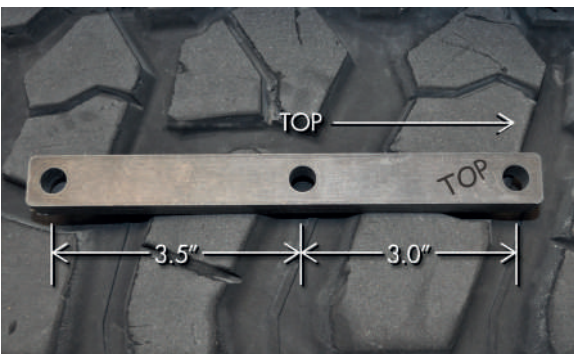


FIGURE 10

13. Look along the inside, forward door post of the Jeep. Locate the small notch along the inward flange, a couple of inches below the level of the dash. Measure upward 4.5" from

this notch, and make a horizontal mark on the flange. Hold the A-Pillar Fill Plate against the flange, as shown in the photo below, with the end previously marked "TOP" toward the top, and with the bottom edge of the plate aligned with the mark on the flange. Space the Fill Plate horizontally about 1/16" from the edge of the flange.

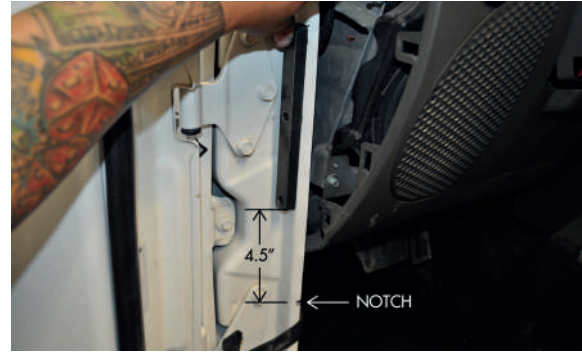


FIGURE 11

14. While holding the plate in this position, use a fine tip felt marker or 3/8" transfer punch to mark through the three holes in the door opening flange, corresponding with the three holes in the filler plate.
15. Drill each of the three hole locations to 3/8". It is advisable to start with a pilot hole of 1/8", then step up to 1/4" and finish with the 3/8" bit.



FIGURE 12

16. De-burr each hole with a file, then use touch-up paint to coat the bare metal around the edges of each hole to prevent future rust.
17. Remove the plastic lower door moldings. Fold back the carpeting from the floor area adjacent to the front of the door opening. Locate the Small A-Pillar Foot Spacer and Large A-Pillar Foot Spacer, and place them on the floor approximately as shown in the photo below. Note how the pieces fit in and around

the raised areas of the floor pan. Make sure they seat flatly on the floor, however they need not be perfectly aligned at this time.



FIGURE 13

18. Temporarily insert the A-Pillar assembly into the space between the end of the dash and the forward door jamb. Visually align the curved edges of the A-Pillar with the curve of the dash's plastic fascia. The steel A-Pillar will snugly recess into this space (where the plastic dash end cap was removed in a previous step), but some minor trimming at the top and bottom edges of the plastic fascia will be required. Use a fine-tip felt marker to mark where the edge of the dash fascia will need to be trimmed, at the top and the bottom where the A-Pillar plate extends past the border of the fascia.



FIGURE 14



FIGURE 15

19. Use a pneumatic body saw, die grinder, or similar cutting tool to trim the edge of the plastic dash fascia above and below the marks made in the previous step. Note that the steel A-Pillar Plate is 3/16" thick, but you may not need to remove quite that much material. Take off a little at a time and re-fit the A-Pillar Plate between each pass, to ensure that you don't remove too much material. Patience will result in the cleanest results. Once the cuts have been made to fit, use sandpaper to clean up the edges of the cuts.



FIGURE 16

20. Insert one of the supplied 1/4-20 clip-nuts into each of the three rectangular tabs along the inside edge of the dash fascia.



FIGURE 17

21. Take the A-Pillar Fill Plate, and slip it behind the door post flange, aligned with the holes that were previously drilled. Remember that the Fill Plate has a top and bottom, make sure it is oriented correctly. While holding it in place, insert three (3) of the 3/8-24 X 1-1/4 Gr8 Hex Head Cap Screws through the holes in the door post flange, into the holes in the Fill Plate. Use a supplied 3/8 Flat Washer under the head of each Cap Screw. Insert them just far enough to let the Fill Plate "hang" there temporarily while completing the next step.



FIGURE 18

- 22. Carefully insert the A-Pillar Assembly** in between the end of the dash and the door post. Be careful not to knock the Fill Plate from where it is hanging behind the flange on the door post.



FIGURE 19

- 23. Align the A-Pillar Assembly,** and thread the three 3/8-24 X 1-1/4 Gr8 Hex Head Cap Screws in to the corresponding threaded holes on the A-Pillar Assembly. Note that the three bolts will sandwich the Filler Plate between the door post flange and the A-Pillar Assembly. Leave these bolts slightly loose at this time.



FIGURE 20

- 24. Insert a supplied 1/4-20 X 3/4 Stainless Steel Button Head Cap Screw** into each of the three holes along the curved edge of the

A-Pillar Assembly. Thread these into the clip nuts installed in an earlier step. Tighten these three screws as well as the three Hex Head Cap Screws installed in the previous step.



FIGURE 21

- 25. At the foot of the A-Pillar Assembly,** use a bar clamp to make sure the bottom end of the A-Pillar is snug against the side of the footwell (pushed away from the center of the Jeep). Make sure that the bolt holes of the previously placed Large and Small A-Pillar Foot Plate are correctly aligned with the four holes in the foot of the A-Pillar Assembly. Drill each hole location with a 1/2" bit. After each hole is drilled, temporarily insert a supplied 1/2-20 X 3 Gr8 Hex Head Cap Screw into the hole to keep the foot from walking slightly while drilling the remaining holes.



FIGURE 22

- 26. Once all of the holes** have been drilled, install the remaining supplied 1/2-13 X 3 Gr8 Hex Head Cap Screws, 1/2-13 X 1-1/2 Gr8 Hex Head Cap Screws into the 4 holes in the foot plate. Under the floor, install the supplied 1/2 Flat Washers and 1/2-13 Nylon Insert Lock Nuts to the threads of the cap screws where they protrude beneath the floor. Do not fully tighten these yet.
- 27. Install the Door Header Bar Assembly** for each side. Begin by carefully slide together

the connection where the interlocking tube couplers meet at the top of the A-Pillar Assembly.



FIGURE 23

28. While holding the Header Bar to A-Pillar joint together, fit the upper end of the Header Bar Assembly into the factory B-Pillar crossover bar.



FIGURE 24

29. Use the OEM bolts that were removed during disassembly of the factory components, to attach the Header Bar Assembly at the factory B-Pillar. Use a 13 mm wrench or socket to thread these in, but leave them slightly loose at this time.



FIGURE 25

30. Use a 1/4" hex key to install two (2) supplied 5/16-24 X 1-1/4 Socket Head Cap Screws at the tube coupler joint where the Header Bar

Assembly meets the A-Pillar Assembly. A soft dead-blow hammer or rubber mallet may be needed to make fine adjustments to the tight-fitting joint. Leave these fasteners slightly loose at this time.



FIGURE 26

31. Install the dash bar, which spans between the driver and passenger side A-Pillar Assemblies. Carefully slide it into place from the top down on both sides simultaneously.



FIGURE 27

32. Use a 1/4" hex key to install two (2) supplied 5/16-24 X 1-1/4 Socket Head Cap Screws into the tube coupler joints at either end of the Dash Bar where it meets the A-Pillar Assemblies. A soft dead-blow hammer or rubber mallet may be needed to make fine adjustments to the tight-fitting joint. Leave these fasteners slightly loose at this time.



FIGURE 28

33. Install the Rear Center Stringer (4-door models only). If you have not done so already, you will need to remove the fabric cover and padding from the rear overhead crossover bar of the factory cage (ignore the fact that it is visible in the photo below--you will need to trim and re-install it later). Note that the Rear Center Stringer has three bolt holes on the mounting flange at either end. Disregard these at this time, simply set the Rear Center Stringer approximately in to place and move on to the next step.



FIGURE 29

34. Install the Front Overhead Assembly. The Front Overhead Assembly comes with the Front Center Stringer and Upper Windshield Bar already welded together into a single assembly. The three holes at the rearward mounting flange of the Front Center Stringer will overlap and align with the three holes in the forward mounting flange of the previously -installed Rear Center Stringer, with both setting on top of the factory B-pillar crossover bar. Rest the rearward mounting flange in place then carefully slide both ends of the Windshield Bar into place simultaneously, where it joins the Door Header Bar Assembly at either end.



FIGURE 30

35. Use a 1/4" hex key to install two (2) supplied 5/16-24 X 1-1/4 Socket Head Cap Screws into the tube coupler joints at either end of the Windshield Bar where it meets the Door Header Bar Assemblies. A soft dead-blow hammer or rubber mallet may be needed to make fine adjustments to the tight-fitting joint. Leave these fasteners slightly loose at this time.

36. Use a 7/16" drill bit to drill through factory B-pillar crossover bar, using the existing holes in the Front and Rear Center Stringer mounting flanges as your drill guide.



FIGURE 31

37. Install three (3) supplied 7/16-20 X 2-1/2 Gr8 Hex Head Cap Screws with 7/16 Flat Washers and 7/16-20 Nylon Insert Lock Nuts to clamp the Front and Rear Center Stringers to the factory B-pillar crossover bar. Do not fully tighten these yet.



FIGURE 32

38. (4-door only) Use a 7/16" drill bit to drill through factory rear crossover bar, using the existing holes in the rearward mounting flange of the Rear Center Stringer mounting flanges as your drill guide.

39. (4-door only) Install three (3) supplied 7/16-20 X 2-1/2 Gr8 Hex Head Cap Screws with 7/16 Flat Washers and 7/16-20 Nylon Insert

Lock Nuts to clamp the Rear Center Stringer to the factory rear crossover bar.

At this point, all of the components of the Cage Kit are installed. Now, go back over every assembly joint and tighten all fasteners that had been not been fully tightened in earlier steps. Note that at this point, the cage is now fully installed. However you will be disassembling the entire cage in a later step to paint or powder coat the components. Before doing that, however, all remaining factory components, covers, etc., should be reinstalled and trimmed to fit in order to ensure proper fitment BEFORE painting or powder coating. Some of those steps are briefly covered next...

40. Use a 9/32" nut driver to reinstall the factory tweeter speakers and their housings. Be careful when re-connecting the speaker wiring.



FIGURE 33

41. Fold the Windshield up and back into place, and reinstall the exterior windshield brackets using a Torx T40 driver bit.



FIGURE 34

42. Reinstall the driver and passenger doors, carefully align them and test for fitment against the cage A-Pillar Assembly and Door Header Bar Assembly.

43. Locate the driver and passenger side header bar foam pads that were removed during initial disassembly. These will fit back into place on the new Door Header Bars, however they will need to be trimmed for clearance around the windshield bar joint, as shown in the photo below. Use a sharp utility knife to trim the foam. Remove only a little at a time to ensure the best fitment. Once the trimming is finished, snap the foam pads into place.



FIGURE 35

44. Locate the driver and passenger side B-pillar joint foam pads that were removed during initial disassembly. These will need to be trimmed to snugly fit around the components of the new Door Header Bar Assembly—specifically the plate steel fabricated bracket where it mates to the factory B-pillar crossover bar. Compare the stock foam pad with the trimmed one shown in the photo below, to get an idea how the pad must be trimmed to fit.



FIGURE 36

45. Use a sharp utility knife to cut away the foam, a little at a time, until the foam pad snugly fits.



FIGURE 37

46. Re-install the fabric covers that go over the foam pads at the B-pillar joints.



FIGURE 38

47. Re-install the factory sound bar to the b-pillar crossover bar. Note that you will need to trim the plastic sound bar fascia to fit around the Front and Rear Center Stringers, as shown in the photo below. Use a pneumatic body saw or similar cutting device. Start with an undersized opening and enlarge it a little at a time, test-fitting the sound bar between each pass, until it fits just right. Patience here will pay off with a clean looking install. Once the cuts are the correct size, use sandpaper or a file to clean up the cut edges of the plastic cover before final installation.



FIGURE 39

48. Re-install the factory inner door sill covers. These will also need to be trimmed for clearance around the new cage A-Pillar leg. Consult the photo below, showing a stock sill cover on the bottom and a properly trimmed sill cover on top.



FIGURE 40

49. Use a pneumatic body saw or other suitable cutting device to trim the plastic inner door sill covers. Start by cutting off most of the area shown removed in the photo above, intentionally leaving slightly more material than needed. Then test fit, trim, and test fit again until the piece fits properly into place. Patience here will pay off with a clean looking install. Once the cuts are the correct size, use sandpaper or a file to clean up the cut edges of the plastic cover before final installation.



FIGURE 41

50. Trim the carpet around the A-Pillar leg where it meets the floor pan.
51. Reinstall the upper A-Pillar fascias, sun visors and the rest of the fabric cage covers. Trim to fit wherever necessary.



FIGURE 42

- 52. Once all of the covers, top and doors are in place, check for fitment anywhere the newly installed cage is near to any OEM component. If any further adjustments are needed, make them at this time.**
- 53. Remove the top, covers, and all of the cage components in order to paint or powder coat.**
- 54. Paint or powder coat the components of the kit in the color of your choice. If painting yourself, careful preparation will make a big difference in the quality and longevity of your paint job, even using “rattle can” aerosol paints. Begin by thoroughly cleaning the components with solvent or de-greaser, then make sure all residue is removed. Even if you use cheap paint, try to use a good quality primer. “Etching” primers are best to use on bare, unpainted metal. Allow it to properly dry before painting, and between paint coats.**

IMPORTANT: DO NOT POWDER COAT the mating surfaces of the interlocking tube clamps! The thickness of the powder coat on these surfaces will make the components much more difficult to install. If powder coating, mask these surfaces off prior to coating, then use a color-matched paint to protect them prior to installation.



FIGURE 43

- 55. Re-Install the Cage Kit by repeating the previous installation steps. You may wish to tape or cover the finished surfaces of the cage components to protect the finish during installation.**

Congratulations, you have completed installation of your JK Bolt-Together Trail Cage!