Step 1 - Document # 139.23.604.60P

Bestop Core Door Alignment Procedure

Bestop Parts Kit # 604.60P

Step 1 of 2

CORE DOOR MANIA

Here are the Bestop videos to help pair with these documents

Step 1 : Fitment Adjustments - https://youtu.be/p9yh6TbDYDM

Step 2 : Gasket Improvements - https://youtu.be/Ur7z-yBRSjc

Before beginning, it is important to note that if any of the following describe your Jeep, precise fitment may be required to allow the doors to function as intended:

- Has had impact damage to the rocker panel
- Has been in an accident
- Has an aftermarket roll-cage installed that required the hinges to be moved
- Has had the recall for hinge corrosion issues
- Has had the hinges removed, or repositioned for any other reason

It is also crucial that your factory hinge bushings are not damaged or worn-out. If your bushings are worn-out or corroded, they will need to be replaced before installing your Core Doors

TOOLS NEEDED:

- 11mm or 7/16” Drill bit and Drill
- 2.5mm hex key
- 4mm hex key
- 6mm hex key
- 10mm socket
- 15mm socket
- 3” socket extension (optional)
- 10mm wrench
- Linesman or needle nose pliers
- Sharp pocketknife or X-Acto style knife (only required for customers installing rear Core Doors)

BESTOP PARTS KIT (604.60P) NEEDED:

- Small Zip Ties (Qty 3)
- Star-Locking Washers (Qty 10)
- Door Check Strap (qty 2)

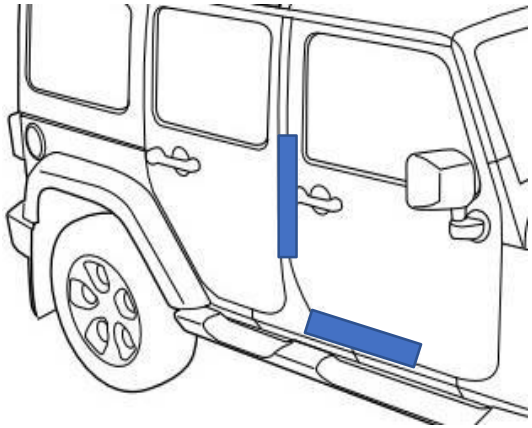
MATERIALS NEEDED:

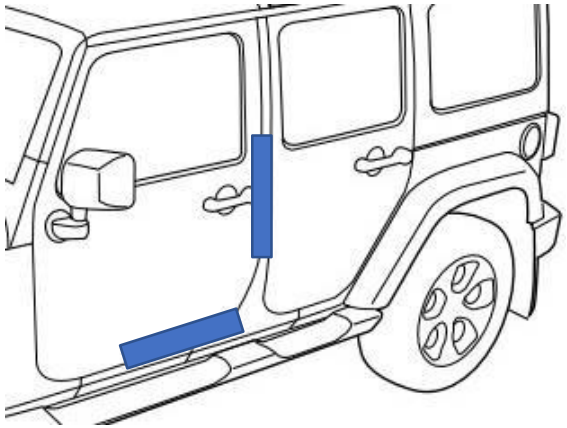
- Masking Tape to protect vehicle paint
- 5 popsicle sticks or tongue depressors
- A clear workbench or table large enough for at least one Core Door to lie down

Removing the Bestop hinges from the doors will be required, for the drilling of the 11mm clearance holes. The adjustment process can be performed off the vehicle, or on the vehicle. On-Vehicle process is easier, but powder-coat paint and metal shavings may get inside your vehicle. Please make this decision now.

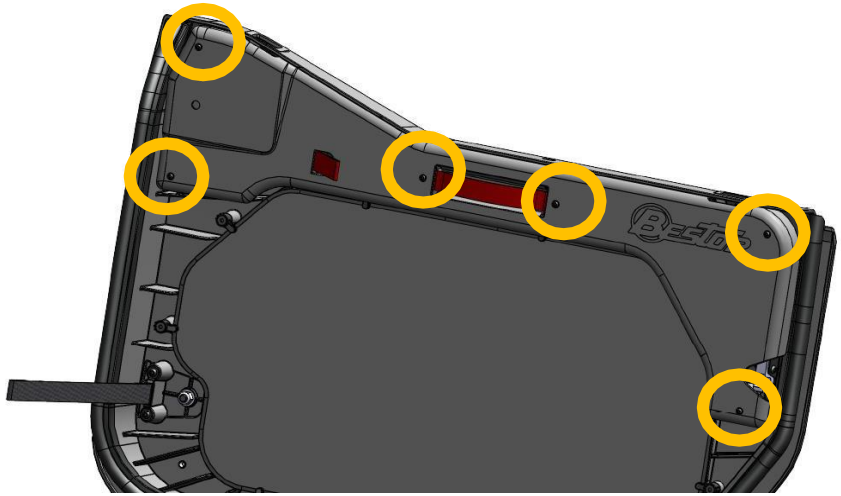
PREP:

Mask off the vehicle body on both sides, as shown below in blue. The tape will need to be on the inner surface of the door jam, to protect the paint from the Shim\tools while components are loose in the adjustment process.



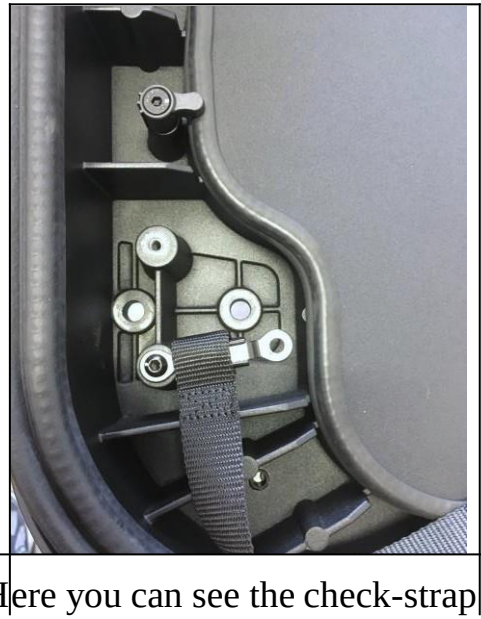


Step 1: Remove the six hex screws securing the trim panel on with a **2.5mm** hex bit or allen.



Step 2: Remove the trim panel.

Step 3: Remove one of the two 4mm hex screws securing the check-strap, and loosen the other one to allow the metal bracket to swing out of the way. This will allow access to the bolts holding the lower hinge on.



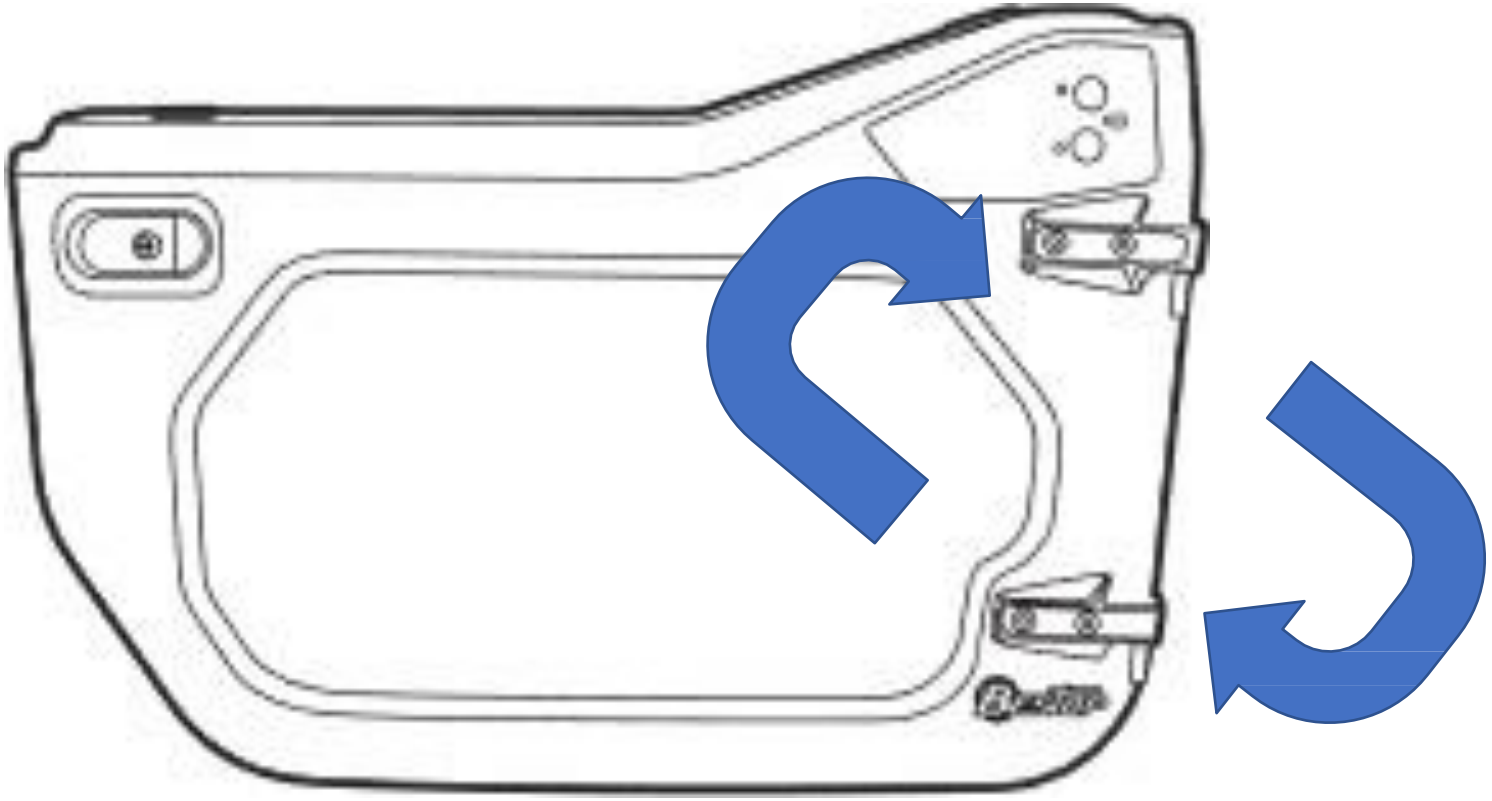
Here you can see the check-strap moved aside, and the bolts holding the hinge have already been removed.

The bolts should fit into these holes loosely and have a slight bit of movement. If they fit too tightly, some excess powder-coat will need to be removed.

Step 4:

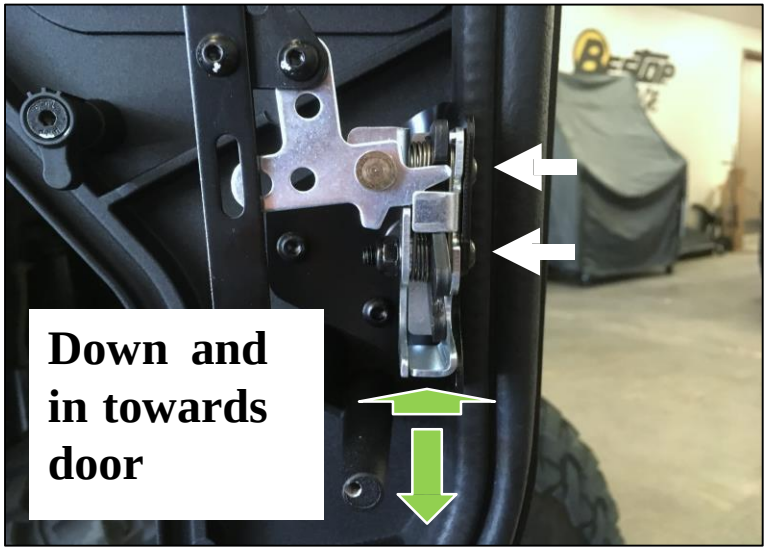
Remove both hinges from the door using a 15mm socket and a 6mm hex key. Now proceed to drill out the hinge holes with the 11mm drill bit. Proceed to do this on all hinge bolt hole locations on all of the Bestop CoreDoors.

Step 5:
Switch the hinges, installing the one with the **longer pin on the bottom** and reinsert the bolts. Tighten the nuts to finger tight. (The hinges need to be loose for the next several steps)



Step 6:

Using a 10mm wrench and a 4mm hex key, remove the two bolts used to secure the latch assembly, and **add an external tool lock washer (PN: 605.48),** between both the bolt head, and the external side of the latch plate. These are marked with the two white arrows below. Reinstall and **torque to 18 Nm** (160 in/lb or 14 ft/lb) on ONLY THE NUT SIDE, not on the bolt and washer side of the assembly. You will see the bracket dimple slightly when the torque is getting close to the proper tightness.

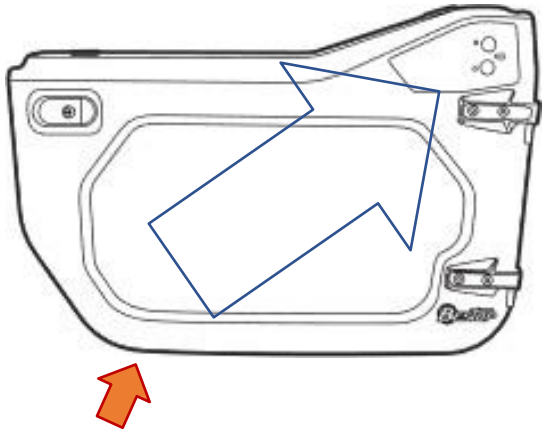


Make sure the latch is open before attempting to close the door

Step 7:
Carefully put the door on the Jeep allowing it to hang from the hinges, it should sag downward, as the hinges are loose.

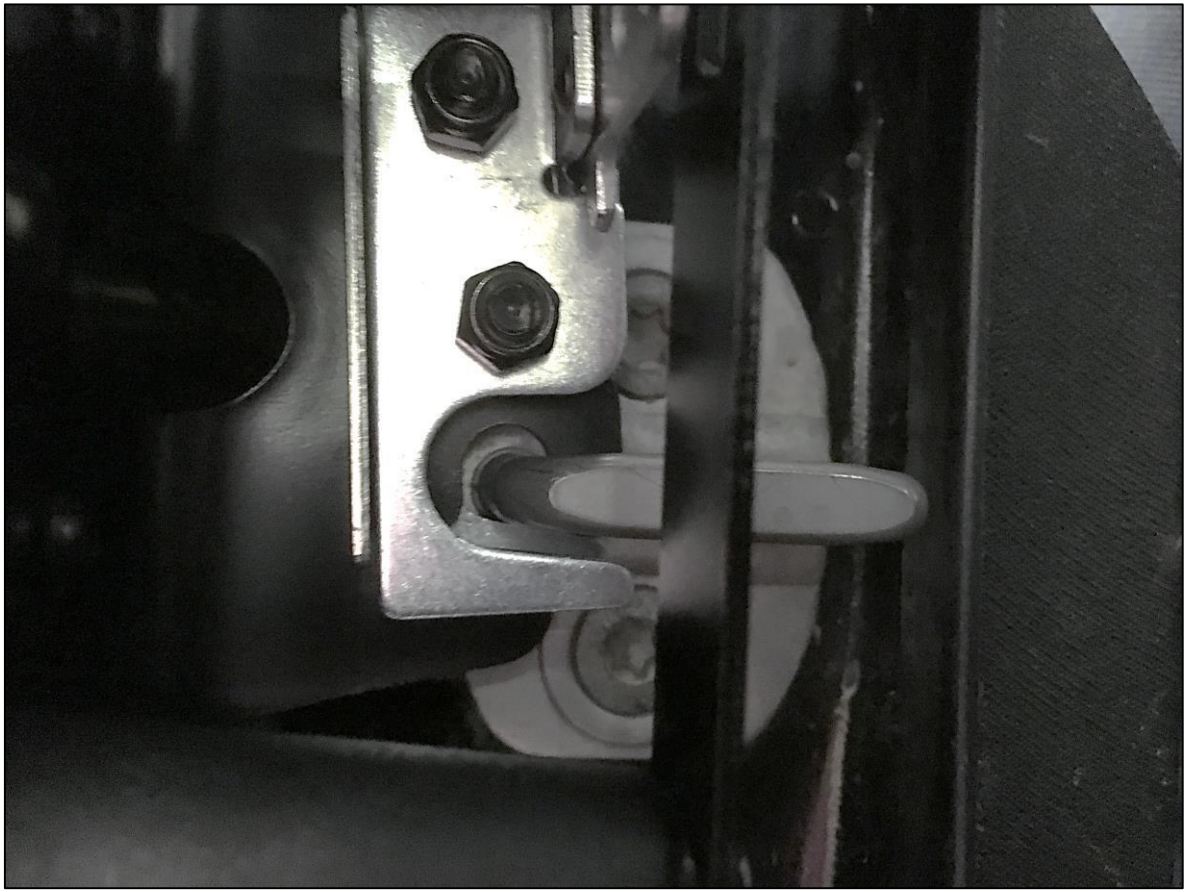
Step 8:
While supporting the back of the door, carefully move it to a closed position. Use 3 popsicle sticks stacked on top of each other to make a shim under the back of the door to support it.

When the door is held up by the shim and in the 'closed' position, you should be able to push on it and feel the rubber gasket compressing on the door sill. The metal portion of the door should not be contacting or binding on the door sill. If the door is hitting the sill, it will be necessary to add another popsicle stick to the shim. Aftermarket Sill protection plates may interfere with the door.



The shim should be placed at the back of the door, away from the hinges, near the rocker panel seams.

Step 9:
Check to make sure latch can properly close around striker hoop (See figure below)



Looking in, you should be able to see the striker hoop centered within the latch, and the latch should be fully closed.

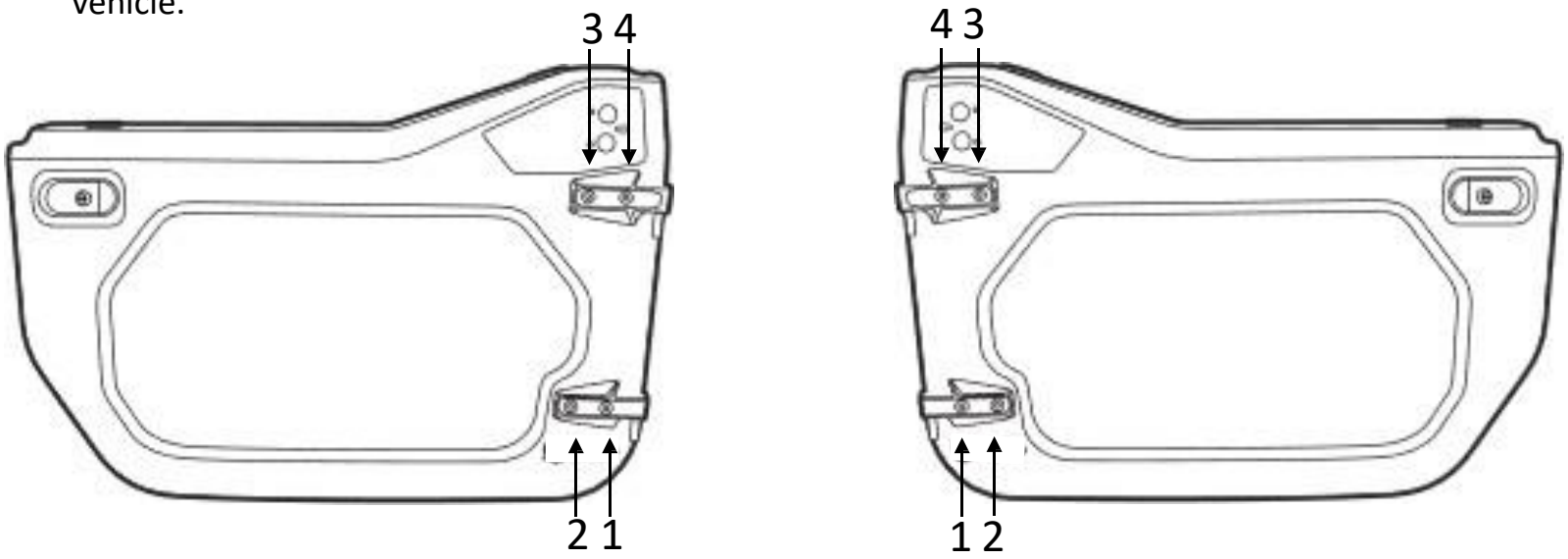
(Note that this latch has two ‘clicks,’ and can be partially or fully closed, just like the full steel doors)

For the next two steps, pressure needs to be applied to the top of the hinges to ensure that they seat properly and support the weight of the door when the shim is removed. (See figure below)

The pressure needs to be applied to the top of the hinge pin, there should be no visible gap between the portion of the hinge attached to the door and the portion attached to the Jeep. This is required to ensure that the hinges support the door when the shim is removed without shifting or sagging.

Step 10:

Starting with the bottom hinge, tighten first the bolt closest to the front of the car, and then the bolt closest to the back. Tighten the bolts on the top hinge, starting with the bolt closest to the back of the vehicle.



The nuts need to be tightened to **64NM or about 47 Ft-lbs**. (This should feel very tight)

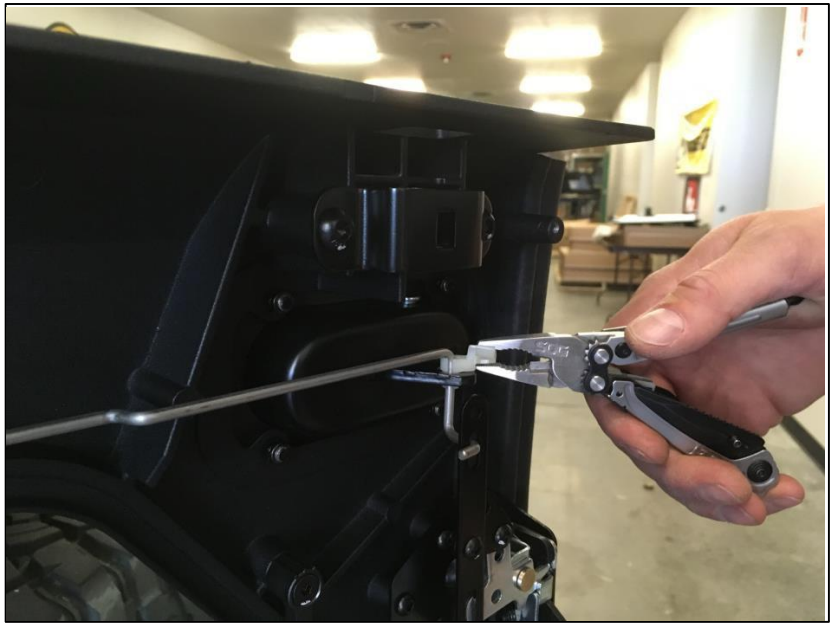
When tightening, use the 6mm hex key to hold the bolts still and only turn the 15mm nuts with a socket wrench.

Step 12: Remove the shim and open the door, it should not appear to sag, and should open freely.

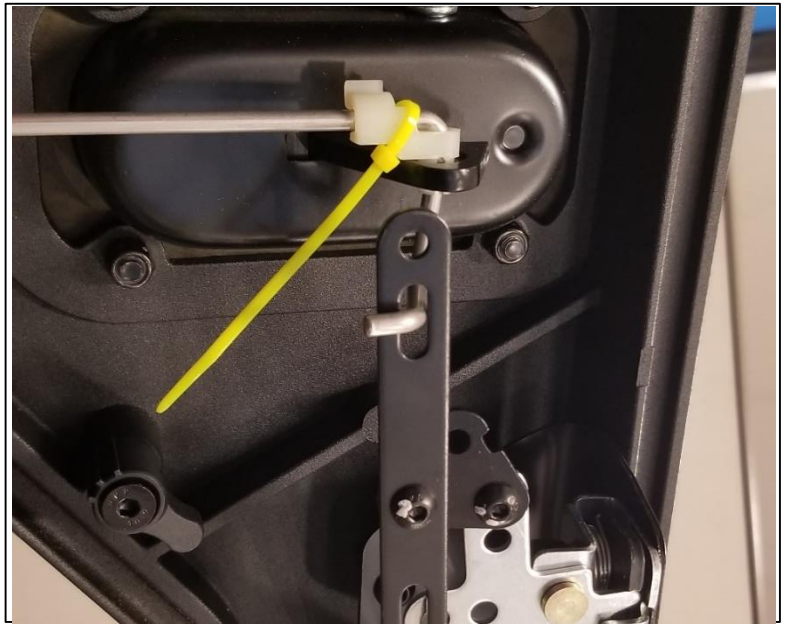
Step 13: Reinstall the bolt that was removed from the check-strap bracket and secure the check-strap to the car.

Step 15:

There is a nylon clip on the rod that attaches the latch to the red release strap, unclip it from the rod and swing it open. Next, take a pair of pliers and crimp the clip. Finally, reclip it to the linkage rod, and apply the zip-ties **(PN: 605.49)** as shown (See both figures below).



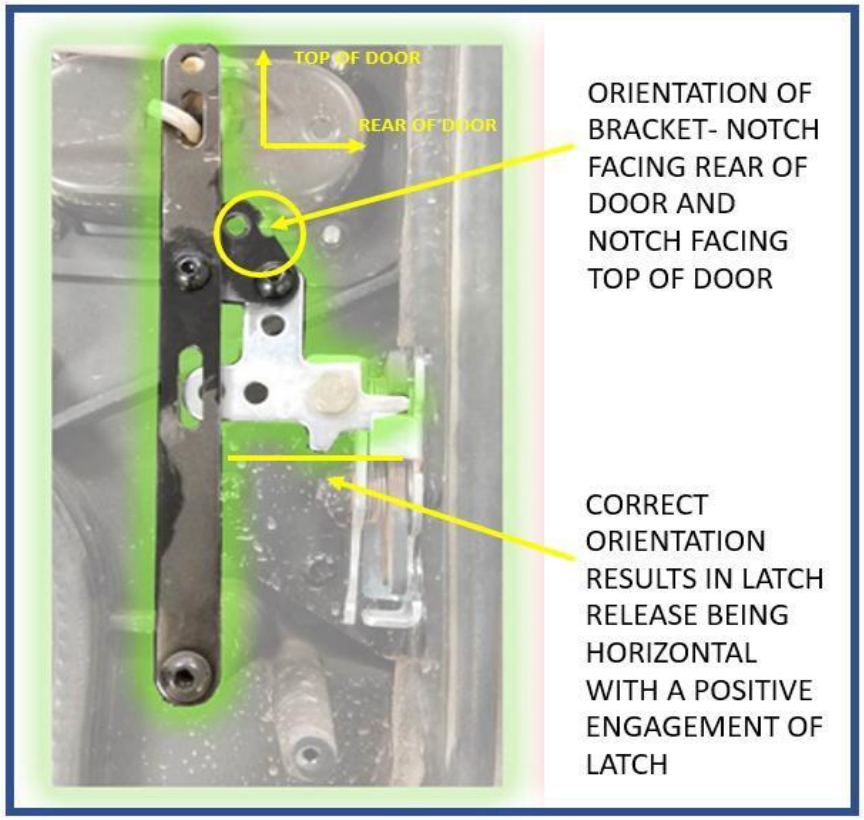
Carefully unclip from the horizontal portion of the rod. The clip should swing open and remain attached on the vertical portion. Using a pair of pliers, squeeze the open end shut and release. Then reconnect the clip to the rod. The goal is to give the clip a tighter grip and ensure it does not vibrate loose or come off on its own.



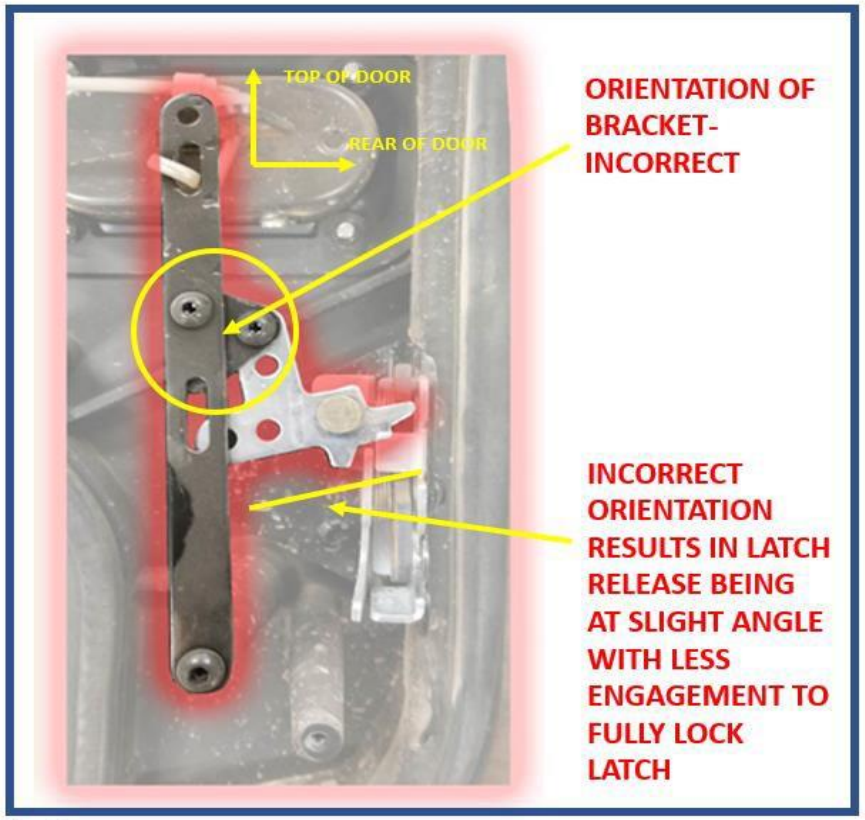
Apply the ziptie **(PN: 605.49)** to each door exactly as shown. Locking feature should be on the lower side of the parts, so it does not interfere with the upper door grommet.

While you are at this step, make sure this Tri-lobe linkage is in proper orientation, and hardware has no slop, but not tight. This is critical for proper operation of the latching system.

GOOD



BAD



BESTOP: 5/16/2019

Step 16: Open and close the door several times to check fitment, it should take a bit of effort to close as the gaskets are stiff. Make sure that the latch fully engages, up to the 'second click.'

Step 17: If installing factory style mirrors at this time, follow the instructions provided with the Bestop mirror cup kit, if not, reinstall the trim panel and pull strap with the six screws using 2.5mm hex bit. Make sure the pull strap is moving smoothly through the panel as shown below.

Step 18: Install the plastic grommets for upper windows by pushing them into their respective holes, the slanted ones goes on the front portion of the door.

Step 19: Install upper windows, these windows are friction fit and will be tight the first few times they are installed and removed. If you look at the bottom of the window, you will notice two long rectangular pegs, and one small round one in-between (circled in red) This round peg may try to bind on the first few installations. A tip to help when installing is to lightly tap on the outside of the window where the peg is to help seat it.

Make sure that the window is fully seated before trying to shut the door.

Keep in mind that the windows will fit very snug for the first few installs and removals, **be extra careful not to accidentally lift the door off the Jeep** when trying to remove the upper.

Step 20: Close the door and check the fitment of the upper. The door may take some force to close, and the best way to close the door is with an open palm on the latch providing a firm close. The upper should align evenly against the Jeep without an excessive amount of gasket hanging out. The gasket may not seat perfectly even on the door surround, and a mild amount of gasket overhang on one side or the other is to be expected. Because of the modular nature of the Jeep roof, upper, and lower doors, fitment cannot be expected to be absolutely perfect, and every jeep will be a bit different.

Both tops here have a decent fit, and a small amount of gasket overhang is to be expected

The procedure for the rear doors is similar to the one for the front doors, but not identical

Step 1: Remove the six hex screws securing the trim panel on with a 2.5mm hex key.

Step 2: Remove the trim panel.

Step 3: Remove both hinges from the door using a 15mm socket and a 6mm hex key, the bolts should be able to slide out with gravity alone, if they fit tightly in the door, the excess powder-coat will need to be removed from the holes (The loose fit is required to allow proper room for alignment)

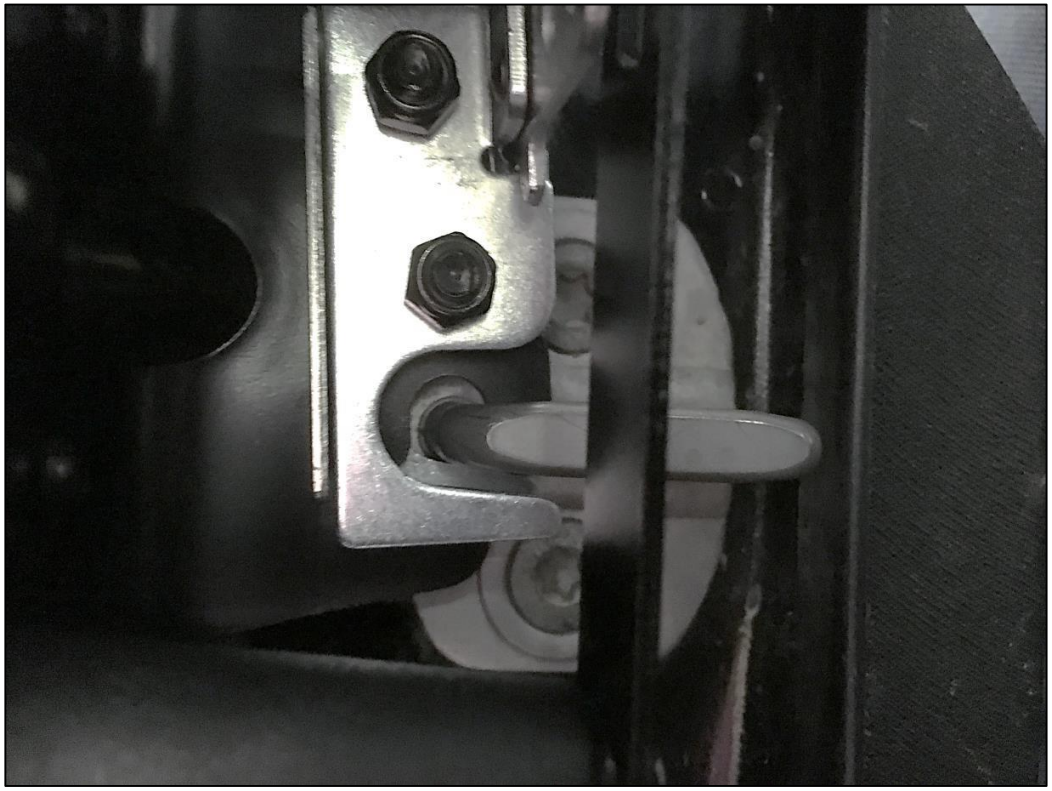
Step 4: Switch the hinges, installing the one with the longer pin on the bottom and reinsert the bolts. Tighten the nuts to finger tight.

Step 5: Using a 10mm wrench and a 4mm hex key, loosen the two bolts used to secure the latch assembly, but do not remove.

Step 6: Carefully put the door on the Jeep allowing it to hang from the hinges

Step 6: Carefully move the door to the closed position.

Step 7: Check to make sure latch can properly close around striker hoop.



Looking in, you should be able to see the striker hoop centered within the latch, and the latch should be fully closed.

(Note that this latch has two 'clicks,' and can be partially or fully closed, just like the full steel doors)

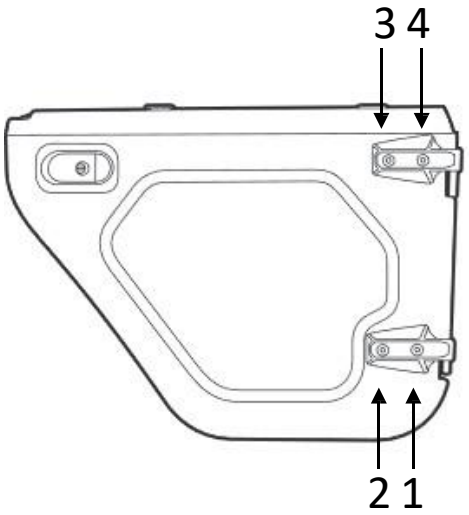
For the next two steps, pressure needs to be applied to the top of the hinges to ensure that they seat properly, and firm pressure also needs to be applied to the door itself to bring it lower. No shim should be used for the rear door, and instead it needs to be coaxed downward. While tightening the hinge bolts, maintain a firm downward push on the top of the door.

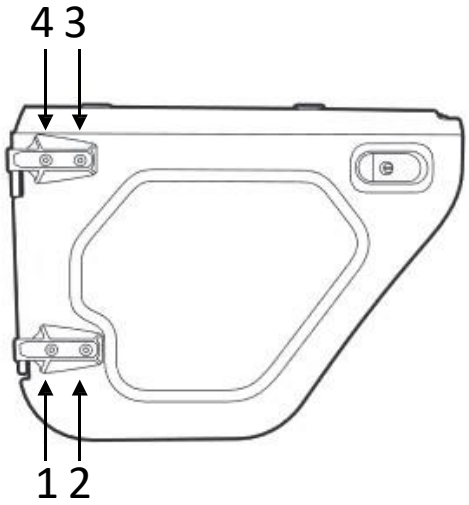
The hinges don't need a lot of force applied to them and you should be able to hold one down with the same hand you use to keep the hex bolts from spinning.

A good way to do this is to reach over the door with your right arm and use your weight to apply the downward force as you tighten the nuts. Use you left hand to hold the hex bolts still and hold the top part of the hinge flush against the lower.

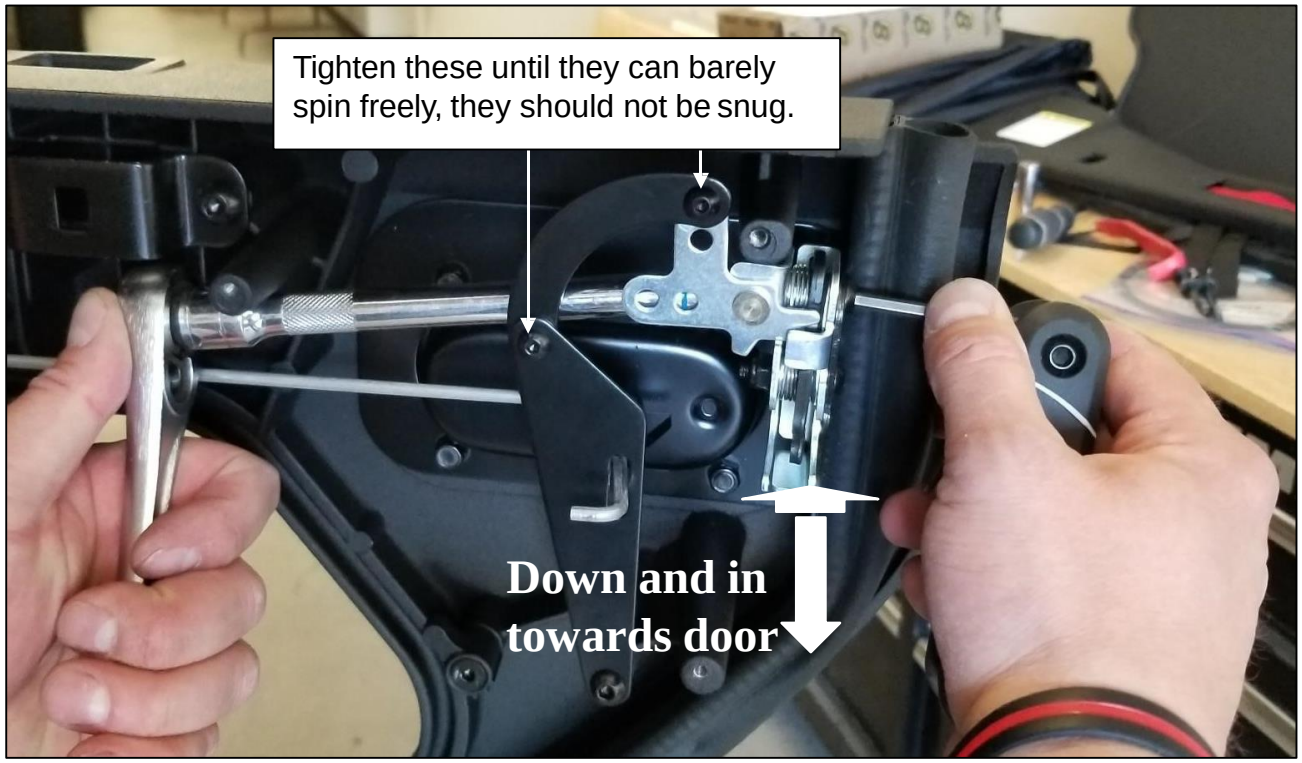
Step 8: Starting with the bottom hinge, tighten first the bolt closest to the front of the car, and then the bolt closest to the back.

Step 9: Tighten the bolts on the top hinge, starting with the bolt closest to the back of the car





Step 7: Tighten the nuts on the latch assembly while simultaneously pushing the assembly as far in towards the door, and as far down towards the ground as it will go. Tighten to 18Nm, or until the bracket begins to lightly dimple. (See figure below)

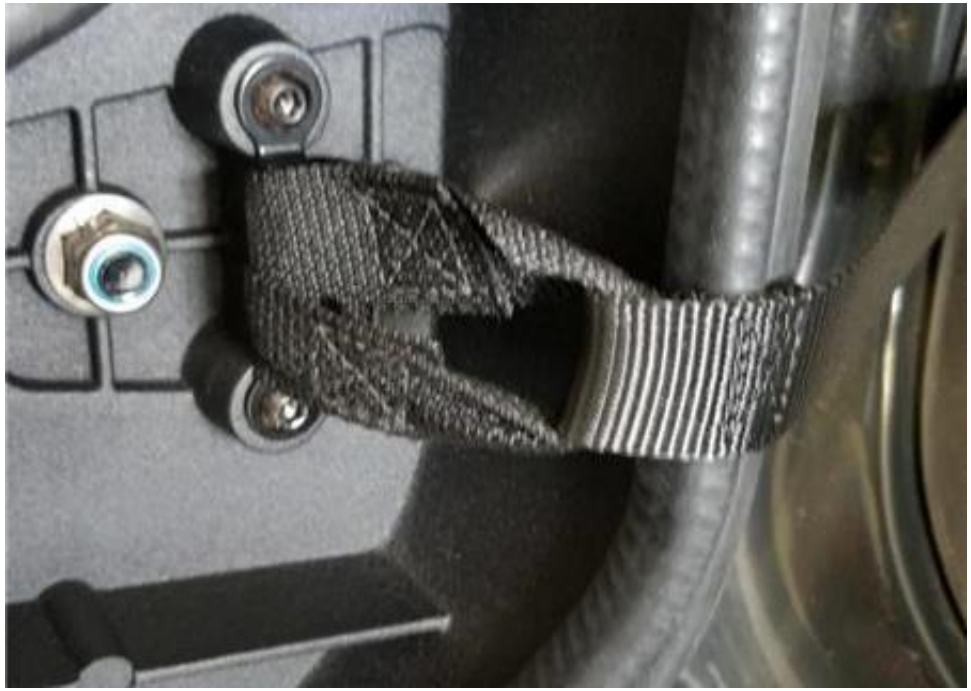


Using a 10mm wrench and a 4mm hex key, tighten the two bolts marked in the diagram while pushing the latch down and towards the door.

After the latch is secure, the linkage connections can be tightened as needed, if too loose they may rattle, if they can't spin freely, they may bind and cause problems.

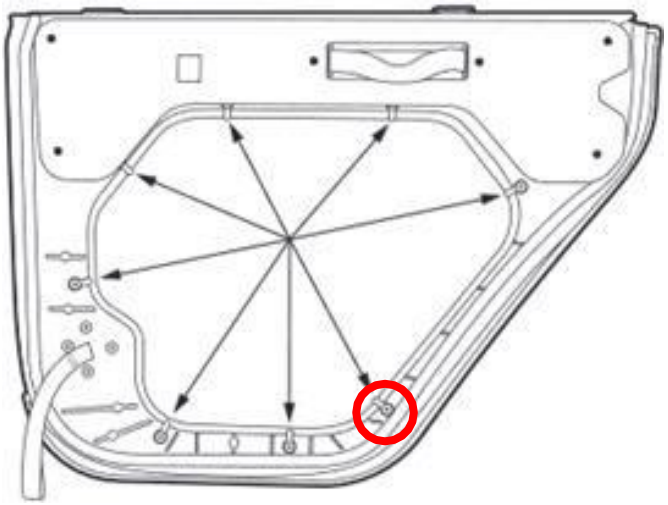
Step 12: Open and close the door several times to check fitment, it should take a bit of effort to close as the gaskets are stiff. Make sure that the latch fully engages, up to the 'second click.'

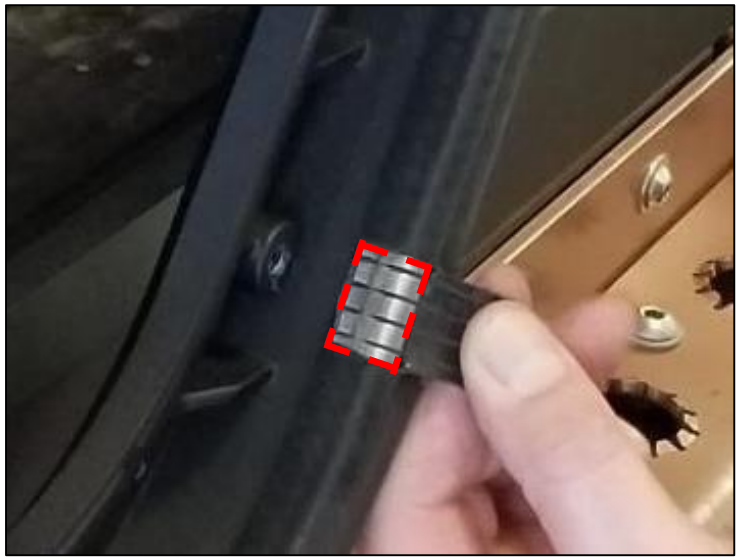
Step 13: * If desired; install the additional door strap (393.29P) to the rear doors as shown. below.



Step 14: One of the knobs that hold the center panel on will need to be given some more room to turn properly. The knob in question is the one on bottom of the door where the slanting begins. To give it the space it needs to operate correctly, first remove it with a 4mm hex key and set aside. (Shown circled in red in the figure below)

Using a sharp pocketknife, or a precision knife, such as an X-Acto blade, cut out about one inch of the rubber weather seal centered where the knob would be. You only need to make a shallow cut and peel back the first layer of rubber to expose the metal clips. (Marked in the picture with a red dashed line)





Cut off the peeled back strip to fully expose the metal clips. Carefully use the tip of the knife to pry up the clips one by one and discard.

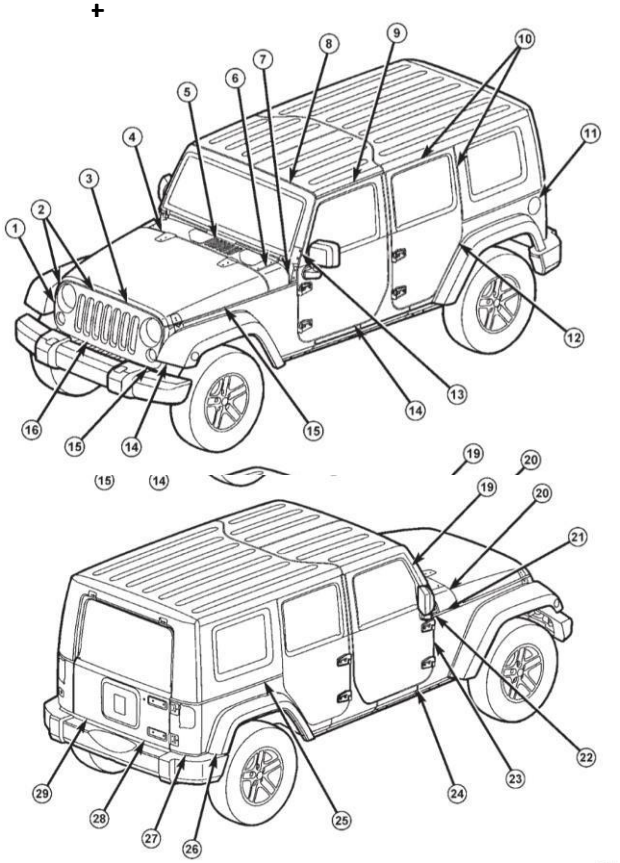
After removing the clips, the knob can be reinstalled with the 4mm hex screw

At this time, you should check the knobs on all four doors to ensure none of the hex screws are too loose. The knobs should be able to spin freely, but not rattle.

Step 16: Install the plastic grommets for upper windows by pushing them into the holes, the sleeves are identical and will fit in either slot.

Step 17: Install upper windows, these windows are friction fit and will be tight the first few times they are installed and removed. If you look at the bottom of the window, you will notice two long rectangular pegs, and one small round one in-between. This round peg may try to bind on the first few installations. A tip to help when installing is to firmly tap on the outside of the window frame where the peg is to help seat it.

Step 18: Close the door and check the fitment of the upper. The door may take some force to close, and the best way to close the door is with an open palm on the latch providing a firm close. The upper should align evenly against the Jeep without an excessive amount of gasket hanging out.



DIMENSION	DESCRIPTION	GAP	FLUSH
1	Fender to Grille	--	0.0 +/- 2.0
2	Hood/Fender to Grille	7.0 +/- 2.0 Parallel within 1.5 Side to Side 2.0	--
3	Hood to Grille	--	Hood O/F 1.0 +/- 2.0 Parallel within 1.5
4	Hood to Cowl Grille	7.0 +/- 2.0 Parallel within 1.5	0.0 +/- 2.0
5	Cowl Grille to Windshield	5.0 +/- 2.0 Parallel within 1.5	0.0 +/- 2.0
6	Cowl Grille to Cowl End Cap	5.5 +/- 1.5	0.0 +/- 1.5
7	Cowl Panel Windshield Reinforcement	To Windshield 4.0 +/- 1.5 Parallel within 1.5 To Cowl End Cap 3.0 +/- 2.0	--
8	Windshield to Hard/Soft Top	5.0 +/- 2.0 Parallel within 2.0	O/F 1.0 +/-2.0
9	Hard/Soft Top to Front Door	5.0 +/- 2.0 Parallel within 1.5	12.0 +/- 2.0
10	Hard/Soft Top to Rear Door	5.0 +/- 2.0 Parallel within 1.5	12.0 +/- 2.0 at Drip Rail 0.0 +/- 1.5 at Belt Line
11	Fuel Filler Door to Body Side	0.0 + 1.5/-0.0	--
12	Rear Door to Body Side	5.0 +/- 1.5 Parallel within 1.5	0.0 +/- 1.5 Allow additional +/- 0.5 with Side Curtain
13	Windshield Reinforcement to Door	5.0 +/- 1.5 Parallel within 1.5	0.0 +/- 1.5
14	Front Door to Body Side	5.0 +/- 1.5 Parallel within 1.5	0.0 +/- 1.5 Allow additional +/- 0.5 with Side Curtain
15	Hood to Fender	6.0 +/- 1.5 Parallel within 1.5	0.0 +/- 1.5
16	Fender/Wheel Flare to Fascia	16.0 +/- 4.0 Parallel within 3.0	--
17	Grille to Bumper	11.0 +/- 4.0 Parallel within 3.0	--
18	Grille to Valance Cover	13.0 +/- 4.0	--
19	Windshield to Door	5.0 +/- 1.5 Parallel within 1.5	0.0 +/- 1.5 Allow additional +/- 0.5 with Side Curtain
20	Hood to Cowl Grille End Cap	7.0 +/- 2.0 Parallel within 1.5	0.0 +/- 1.5
21	Cowl End Cap to Fender	5.5 +/- 1.5 Parallel within 1.5	0.0 +/- 1.5
22	Windshield Reinforcement to Fender	7.0 +/- 2.0	0.0 +/- 1.5
23	Fender to Door	5.0 +/- 1.5 Parallel within 1.5	0.0 +/- 1.5
24	Fender to Body Side	5.0 +/- 1.5	0.0 +/- 1.5
25	Hard/Soft Top to Body	16.0 +/- 1.5 Parallel within 1.5	0.0 +/- 1.5
26	Rear Bumper to Wheel Flare	19.0 +/- 5.0	0.0 +/- 4.0
27	Rear Bumper to Body Side	13.0 +/- 3.0	--
28	Rear Bumper to Swing Gate	34.5 +/- 3.0 Parallel within 3.0	--
29	Swing Gate to Body	5.0 +/- 1.5 Parallel within 1.5 Side to Side 2.0	0.0 +/- 1.5 Parallel within 1.5

Revision Control Sheet