

## **KRATOS**

The Tire Carrier
INSTALLATION INSTRUCTIONS

#### **CAUTION!**

AFTER INSTALL, YOU WILL HAVE ADDED APPROX 150 LBS OF WEIGHT TO YOUR REAR HATCH. NEVER SIT, HANG OUT, PLAY AROUND OR LEAVE CHILDREN NEAR THE CARGO AREA WITH THE HATCH OPEN. ALTHOUGH WE HAVE THOROUGHLY TESTED THE MOUNTS AND NEW STRUTS,

NOTHING IS FAIL-PROOF. IF THE GAS STRUT SHOULD LEAK, THE HATCH WILL BEGIN TO LOWER SLOWLY. IF THE STUD SHOULD BREAK FOR ANY REASON, THE HATCH WILL SLAM DOWN. ALWAYS EXERCISE CAUTION WHILE OPENING THE HATCH.

# DURING INSTALL MEASURE FOUR TIMES DRILL ONCE

# PARTS LIST

- A) 1pc Tire Carrier
- B) 2pcs 1.5" x 26.75" bars with four holes (image shows full bar, we cut in half for shipping)
- C) 1pc 1" x 22" bar with 4 holes and groove in center
- D) 2pcs 1.5" x 18" bar with 3 holes
- E) 2pcs Struts w/reinforced stud mounts + hardware
- F) 3pcs Lug Nuts
- G)8PCS 3/8" x 1-1/4" Serrated Edge Flange Nuts and Bolts
- H)4PCS 3/8" serrated edge flange nuts



#### **Required Tools**

- 1) Primer to cover drilled steel on hatch
- 2) 13mm Deep Socket
- 3) 14mm Deep Socket
- 4) 14mm Wrench
- 5) 10mm Socket
- 6) T30 Torx Socket
- 7) ¼" Drill Bit as your Pilot Bit.
- 8) 7/16" Drill Bit

9) 1/2 " Drill Bit

or 1 step drill bit

- 10) 23/64" Drill bit (required No Substitute) for stud ball brackets
- 11) Phillips Screwdriver or phillips driver bit
- 12) Sharpie or steel marking pen
- 13) Center Punch Tool (REQUIRED)
- 14) Rivet Nut Tool
- 15) Power Drill
- 16)An extra pair of helping hands (call a buddy)
- 17) a sturdy pipe or stick to hold hatch up while working on new struts

# Step 1: Remove Liftgate Trim Panel



Grand Cherokee WJ - Liftgate trim panel

The liftgate trim panel is attached with 5 screws, 4 spring clips and

1a) Remove screws

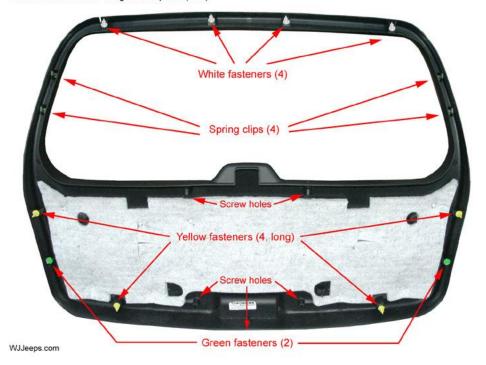
from liftgate trim

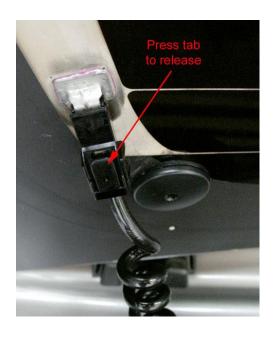
panel.

10 plastic fasteners.

WJJeeps.com

Grand Cherokee WJ - Liftgate trim panel (rear)





1b) Disconnect both rear window defroster wires, which are locked into place (See photo to left). Press the tab on the connector to release it and carefully wiggle the connector out. Keep it parallel to the glass, do not bend it up or down.



1c) Using a trim stick or equivalent, carefully pry the liftgate trim panel off the liftgate. There are 10 plastic fasteners used on the liftgate,



1d) Remove the black insulator cover from the liftgate. This is attached with a light adhesive and can slowly be pulled off.



# 2) Prepping Hatch



2a) Remove plastic cover on rear windshield wiper. Using a 13mm socket, remove bolt holding wiper into place and pull wiper off.

Note: Wiper may be stuck on well due to corrosion, work it off

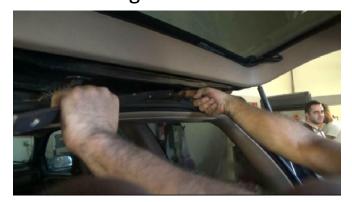


2b) Open hatch.
Install 1" x 22" bar with 4 holes and groove in center. You must install this bar behind the two wires on top of the hatch. First, slide in bar behind the wire on the right. Then slide in behind wire on the left.

Note: Center bar on hatch measuring from outer holes of the bar to the hatch hinges.

Right Wire

Left Wire







2c) Align plate and center the groove in the plate against the rubber seal on the hatch. With a pair of helping hands, hold plate in place and mark holes to be drilled.

Note: Center bar on hatch measuring from outer holes of the bar to the hatch hinges.



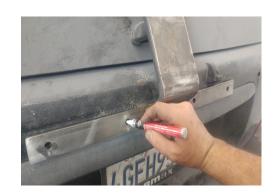
2d) Once the holes are marked, no need to remove the plate, just let it lay down as shown in photo. Drill marked holes to 1/2" drill bit. Start with a smaller bit as your pilot drill then drill to 1/2" OR USE STEP BIT

It is a wise idea to brush on some sort of primer or paint on the holes to cover the exposed steel. This Section edited July 2017 from original installation instructions with different images and updated product.

Close hatch. Hang carrier through upper holes you recently drilled.



Mark four holes to be drilled and remove carrier from hatch.



Locate the two 26.75" long bars with the stamped letters and numbers on the ends. The number is associated with your build and does not matter for the installation. The letter D and P stamped on the bars are for Driver Side and Passenger Side.

Align bars with holes you marked on carrier and mark the additional holes needed to drill. Be sure bars are even across hatch. #D bar is on drivers side and #P is on passenger side. Remove bars and drill holes to 7/16".







### Step 3: Installing Kratos

3A) Install a total of four nuts and bolt into the center bar(two on the left of hatch as marked in photo and two on the right of hatch. Do not install the 4 center holes just yet and DO NOT INSTALL CARRIER JUST YET. Bolt size 3/8" x 1". Hand tighten the bolts enough so the bar stays in place but can still be moved a bit.





3B) With hatch closed, insert the top part of Kratos (with the bolts welded to bar) into the top four holes of the hatch.



3C) Install the four bolts into carrier. Bolt size 3/8" x 1-1/4". Now SLOWLY open hatch making sure Kratos is sitting as flat as possible on the top of the hatch so it does not touch the roof while opening.



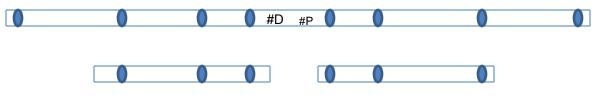
3D) With the hatch open, now it's time to wiggle that bar onto the four bolts. This part may be a PITA so take your time. Have some chamomile tea to keep your nerves calm and not go crazy and grow impatient. It will go on, just takes a little finesse. Use the 3/8" serrated flange nuts to tighten.



3E) Install the backing plates inside the hatch to the lower part of Kratos.



50" Bar on the outside of hatch.
Edit July 2017: 50" bar was cut in half to 26.75" with stamped #D and #P on bars.



Backing Plates: These plates line up as shown in this diagram. The backing plates are mounted inside the hatch and act as master support washers.

Once all hardware is installed, tighten using 14mm socket and wrench.

# Step 4: Installing New Struts

Parts List

2pcs - 3" Reinforced Stud Mounts with two holes for the hatch

2pcs - 3.5" Reinforced Stud Mounts with three holes for the unibody

4pcs - 8mm-1.25 Bolt

4pcs - #14 Self Tapping Hex Screws

4pcs - Lock washers

2pcs - 14" Steel Rivnuts

2pcs - 1/4"-20 Torx Pan Head Screw (Stainless Steel)

4A) Be sure hatch is supported by a stick or pipe of some sort. A strong friend or two comes in handy. With hatch supported, Remove old struts from vehicle. Some WJ struts are mounted with Torx Ball Studs while others are mounted with Socket Studs.

4b) Using 13mm socket, install BEVELED stud mount on hatch using 8M-1.25 Bolts to mark required drill point.



4c)Using a steel marking pen or quality sharpie, mark hole to be drilled. MAKE SURE YOU MARK THE HOLE IN FULL. Now remove reinforced stud mount.



4d) Once stud mount is removed, use a Center Marking Tool to mark the driling point DEAD CENTER. This part is critical and absolutely imperative you use a center marking tool so you drill dead center. Do not attempt to just drill it with-out marking it. If you drill off center you will not be able to install the reinforced stud mounts properly and there is no going back. Take your time and do it right.



4e) Drll first hole with a 1/4" drill bit then enlarge hole with 23/64" drill bit.
PLEASE ENSURE DRILL BIT DOES NOT MOVE AROUND. DRILL A NICE CLEAN HOLE FOR RIVNUT TO BE INSTALLED.



4f) Screw on the 1/4"-20 Steel rivnut onto Rivet Nut tool.



4g) Insert rivnut into the hole you just drill and with a strong steady grip, squeeze the rivnut until fully tight.



Photo of rivnut properly inserted



4h) With a 13mm socket, Install Reinforced Stud Mount using 8M-1.25 Bolt. Notice in the photo how the rivnut is perfectly aligned. Hand tighten 8M bolt until nice and snug. No need to use loctite as the bolt provided is a Serrated Flang-Nut bolt and it will not come undone on its own. If you would like to use loctite for added peace of mind, go right on ahead.

4i) Installed countersunk machine screw into beveled hole.

Installing Lower Stud Mount on the Unibody.

BE SURE THE BALL STUD IS MOUNTED BELOW THE FACTORY HOLE ON THE BODY AS SHOWN.

4J) Using socket wrench and 13mm socket, install Reinforced Stud Mounts and hand tighten until snug (approximately 30ft-lbs). Photo shows driver side.



4k) Using 10mm socket and power drill, instal self tapping screws on the lower holes of the reinforced stud mounts.



(update; only two holes in bottom stud bracket)

**Photo of Upper Stud Mounted** 



Remove pin on both ends of new strut and set aside.



Install new strut as shown. The gas chamber goes on top. Install the bottom mount first, then the top . Attention! The end mounts on the struts are bolted onto the strut . Be sure they are tight and not loose. Once the bottom mount is on. install the safety pin. Be sure both ends of the strut are well aligned with the stud on the vehicle. Just rotate the struts bar using a screw driver in the head until the ends match the studs.



#### Step 5: Reinstalling Liftgate Trim Panel

- 1. Inspect all 10 of the plastic fasteners, making sure they are locked in place and straight, and that they are not broken or damaged.
- 2. Reinstall the black insulator pad, working from one side to the other, making sure that the cut-out holes are aligned properly. Take a small towel and rub around the edges to nicely seal it back in place.
- 3. With the liftgate fully open, lift the trim piece and hold in the approximate position up against the liftgate. Start by aligning the two bottom fasteners into their holes, once both are lined up, hit the trim with your palm in the area directly above each fastener to lock them firmly in place. Next, align the next two plastic fasteners on one side, and then the other side, and snap them into place. You should now have all 6 lower connectors fastened.
- 4. At the top portion of the trim piece, check that the coiled defroster wires are routed through their slots that are cut in to the top of the trim panel.
- 5. Align each of the 4 top fasteners, starting them in their holes and lightly holding the trim panel in place to keep them from slipping out. Also make sure the 4 spring clips are lined up as well. When everything is lined up, tap each area above the fastener firmly with your palm to seat them into place.
- 6. Check the entire perimiter of the trim panel to make sure it is seated flat against the liftgate. Install the 3 short lower phillips screws. Install the two long screws that are by the window latch. You may have to pull the trim towards you a little and move it as sometimes the screws are tough to align in their holes.
- 7. Carefully reconnect the two defroster wires, making sure they "lock" into place.

Now install your spare tire where it belongs and head out to the trail to celebrate all that extra space you just gained in your cargo area.

#### **REMINDER:**

AFTER INSTALL, YOU WILL HAVE ADDED APPROX 130LBS OF WEIGHT TO YOUR REAR HATCH. NEVER SIT, HANG OUT, PLAY AROUND OR LEAVE CHILDREN NEAR THE CARGO AREA WITH THE HATCH OPEN. ALTHOUGH WE HAVE THOROUGHLY TESTED THE MOUNTS AND NEW STRUTS,

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