



**ROCK HARD 4X4 JEEP WRANGLER JL 2/4-DOOR
2018-CURRENT REAR BUMPER WITH TIRE CARRIER
PART #: RH-90301
Installation Manual**



PACKING LIST:

2 - 1/4 x 3/4 pan head
2 - 7/16" Flat Washer
2 - 7/16" Lock Washer
2 - 1/2" Wing Nut
6 - 1/2" SAE Flat Washer
6 - Shim
2 - Spacers
1 - Grease fitting 1/4 "x 28
2 - 1/4" x 20 x 5/8" STD button head
2 - 1/4" Nylock nut
3 - 5/16" x 18 x 1 1/4" bolts
2 - 1/2" Collars
1 - Striker bolt
1 - 7/16" STD nut with welded tab
3 - 331 ABN 10.9 wheel studs
2 - 1/2 x 3 full tread
1 - Small Rubber Bumper
1 - Aluminum Endcap
1 - Aluminum special Nut
1 - Latch
1 - Latch Handle
1 - Latch plate (3-holes)
1 - Tail gate guard / flat
1 - Plate with thread 3 5/8 x 2 1/2 x 3/8
2 - 3 3/4 x 1 1/2 x 1 3/8 block with 2- 3/4 holes
3 - 3mm x 48 nut
3 - 3mm x 1/4 bolt
4 - 14mm x 1.50 x 40
4 - 14mm washer
2 - 7/16" x 3 3/4" Grade 8 Bolt
1 - Large Rubber Bumper
1 - 5/16" X 1 1/2" hex head
10 - 7/16 x 1 1/4 "Hex Head
10 - 7/16 lock washers

10 - 7/16 grd 8 nuts
10 - 3/8 uss washer
1 - 5/16 nylock
1 - 5/16 SAE washer
1 - Nylon block
2 - 1/4 x 20 x 1 1/2 serrated flange bolt
2 - 1/4 nylock
2 - Wire ties
2 - 10 x 3/4 self-taping
1 - Sensor clips bag
1 - Camera mount
1 - Camera mount cover
1 - Bag wiring harness
2 - O-rings
2 - Cushioned metal clamps
1 - 3rd tail light mounting plate
2 - Spacer plates
1 - Large round plate for large rubber
1 - 1/2" pin w/ bushing and spring
1 - Brass Bushing
1 - 1/2" x 3" Full thread Tap Bolt
2 - 1/2" SAE flat washer
1 - 1/2" nut
2 - Bearings
2 - Seals
4 - 10x24x 3/4 Whiz Bolt
4 - 10x24 Keps Nut
1- Light Covers
1 - 4 Plug Adaptor Cover
4 - Sensor plug covers
1 - 7' Reverse Camera Harness

REQUIRED TOOLS:

xx

Thank you for your purchase! Whether you bought this Rock Hard 4x4 product from one of our fantastic dealers or our factory direct team, we thank you for your business.

Rock Hard 4x4 is a family owned and operated business. We are headquartered in Saint Paul, Nebraska where we design, fabricate, and produce every single one of our products. Every single part we manufacture is 100% Made in the USA and exclusively in house by the Rock Hard 4x4 team.

We outsource zero processes.

To you, that means the product you are installing is the highest quality and longest lasting component on the market.

To us, that means you've selected a part we've spent years developing. Each Rock Hard 4x4 part has gone through more research and development and evolution than most people realize. While our parts may have the same striking look year after year, subtle revisions and refinements we implement maintain their status as the most durable and easy to install on the market.

We invite you to send us your feedback! Please email, call, write, or catch us on an off road trail near you to share your tales, share comments, and ask questions.

REMOVING FACTORY REAR BUMPER AND TIRE CARRIER

1. Starting on driver side: remove factory plastic mud guard (if equipped) behind JL rear bumper. Use 8MM or 5/16 socket. Remove end cap braces (if equipped) using 16MM socket. 2 on end cap, 2 on frame. Disconnect wiring harness. 3 plastic plugs. Last plug on bumper may be easier to remove if bumper is loose. Disconnect plug. Repeat process on passenger side.
2. If equipped with factory tow hooks, remove using 21MM socket, remove all hook bolts. 16MM socket removes bumper nuts. Remove rear bumper cross member bolts, 1 per side, using 16MM socket. Remove bumper from frame.
3. Remove backup sensors (if equipped) by prying connect, then press clip towards wiring and remove sensor plug. Once connectors are disconnected pop plastic fasteners out of bumper using flat blade screwdriver. You'll retain entire harness. Remove sensors from factory bumper. Remember which sensor was driver/passenger inside/outside and what orientation. Must be installed same orientation/location from driver to passenger.
4. Remove hitch and towing harness (if equipped) using 16MM socket.

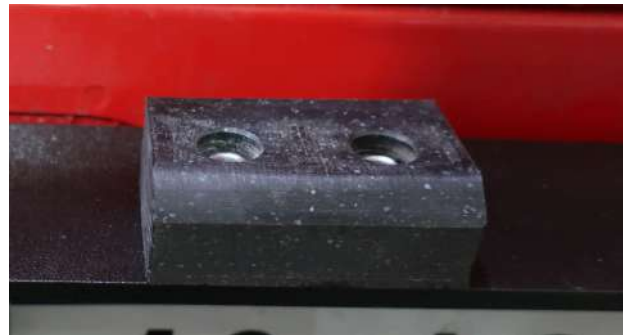
INSTALL ROCK HARD 4X4 REAR BUMPER AND TIRE CARRIER

1. Install striker and striker nut with welded tab with T47 Torx into bumper. **DO NOT tighten completely.**



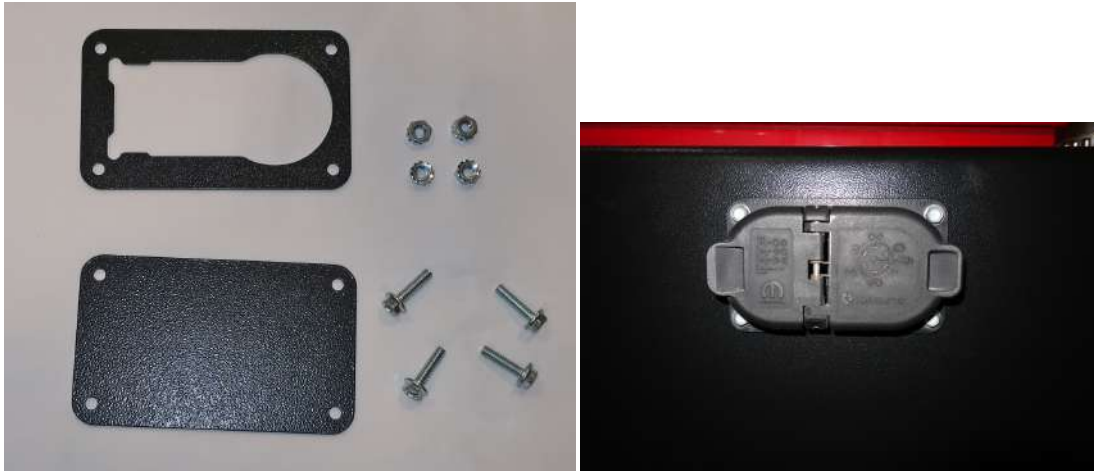
(Striker nut installed)

2. Install hard plastic block/plastic slide onto bumper using 2x $\frac{1}{4}$ " x 1- $\frac{1}{4}$ " flange head bolts with 2x $\frac{1}{4}$ " nylock nuts . Use $\frac{3}{8}$ " socket and $\frac{7}{16}$ " wrench.



(Slide installed)

3. Install factory towing electrical plug (if equipped) into Rock Hard 4x4 rear bumper or block off plate (included with hardware kit) using 4x #10 x 24 x 3/4" flange bolts and 4x #10 x 24 locking nuts using 3/8" and 5/16" wrenches.



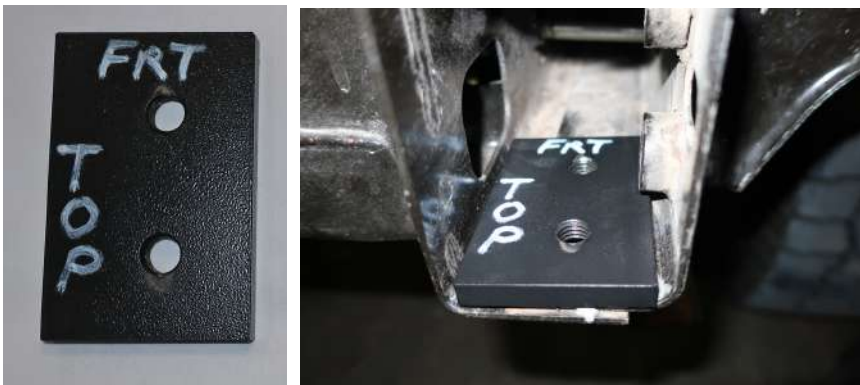
4. Install 2x 7/16 X 3-3/4 bolts with lock washer and flat washer using 16MM wrench in center two holes of the frame, from muffler side of the frame with the threads out the back. If you enlarge these holes it will help with lining up bolts into bumper spacer.



5. Install sensor holders and clips into bumper and sensors with wiring (if equipped). Sensor plugs must point to center of bumper. If no sensors, install supplied plastic plugs into bumper. Some JL sensors may require a simple splice/extension, there are 2 sensor harnesses part numbers, each vary in length slightly. Install factory license plate light with factory nuts.



6. Install 3/8" x 2-1/2" x 3-3/4" plate into passenger side frame as marked "front top" and align holes. Not needed on driver side since factory nuts are in place from tow hook.



7. Set top lip of bumper on frame. Slide 2x 1-1/2" x 1-3/8" x 3-1/4" blocks with 2 holes between frame and lower lip of bumper. Make sure wiring is between bumper and block and will not get pinched. Use 2 factory bolts from tow hook on driver side. Use 2-1/2" x 3" full thread bolts with 2x 1/2" SAE flat washers on passenger side 18MM wrench on factory bolt using 3/4" wrench on 1/2" x 3" bolts. Do not tighten fully.



8. Install 2x 14MM x 1.50 x 40MM bolts with flat washer from outside of frame onto each side. 22MM socket with short extension. Do not tighten.



9. Tighten these 2 bolts into bumper that you inserted in rear cross member from Step 4. Tighten all remaining hardware.



TIRE CARRIER INSTALL

10. Remove red cap from tire carrier spindle.
11. Install 2x thin shims on shaft to start, more shims for heavier wheel/tire combinations. On top of shims, place thicker 1-3/8" spacer.
12. Place swing arm on bumper shaft. Be careful of the grease seal when installing onto post. Place remaining thick spacer onto shaft and seat inside of top of tire carrier spindle inside grease seal. Should stick up just past seal. Place extra shims on shaft just to store them. Place Large Aluminum Nut on shaft, grease, and tighten with crescent wrench only to take up and down play out of swing arm. Use a towel to prevent scratching.



13. Install zerker fitting into hub. Do not grease yet.
14. Install Release Handle on latch with 2- ¼" x 5/8" button head bolts and ¼" nylock nuts. Use ½" or 13MM wrench to tighten 3 bolts that hold latch to latch plate. Hold latch assembly with L shaped plate sticking up, oriented on the left side of assembly (so longer side of latch assembly faces away from you). Install latch handle facing towards you on right side of L shaped plate. Allen head bolts go through L shaped plate with threads sticking through latch handle. Use locking nuts.
15. Insert nut plate (machined holes line up with latch assembly) inside swing arm. Latch assembly will install underneath swing arm.
16. Install latch in swing arm with release handle in slot in swing arm. Use three 5/16" x 1 ¼" bolts and tapped plate for the nut. Tighten with 1/2" or 13MM. Do not use impact or over tighten. You don't want to bend latch.
17. Test latch assembly. It should operate easily, if it feels too firm slightly loosen hardware and retest.
18. Install aluminum end cap over handle and press into swing arm with rubber mallet or board and hammer. Remove any burrs with a file if necessary.
19. Lift stainless drop down safety pin to close swing. Check for proper operation. When swing is opened, the Lock pin should drop in hole into bumper at the same time as it hits the dead stop at full open.

20. Close swing arm onto striker. This should center striker in the bumper. Carefully release latch and tighten striker bolt. Recheck for binding and readjust if needed. Make sure latch is closing on second catch. It is a two-stage latch just like a car door.
21. Tighten striker with T47 torx.
22. Install round rubber bumper stop using 5/16" x 1-1/4" bolt with nylock nut. Close swing and make sure the latch is on second catch. A good hard push is required to close swing. Rubber bumper should be squished.

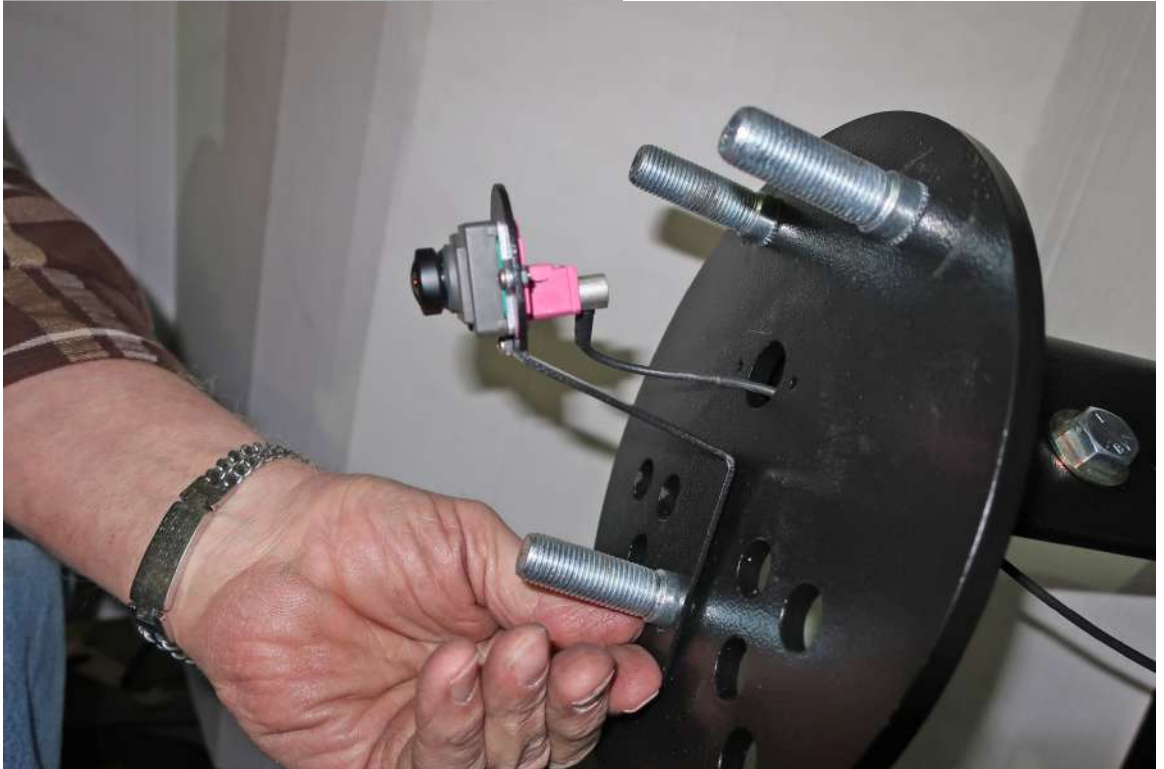


23. Locate two spare tire mounting brackets. One has a rectangular plate welded to a v-shaped predrilled hole plate. This is the plate that mounts to the tire carrier upright. The other, with the round plate, gets the wheel studs and mounts to your spare wheel.
24. Set your spare tire height with the mounting location of the rectangular plate. Hold spare into place – don't worry if it's wrong later, you can always adjust. Locate 8 same bolts, washers, and nylock nuts. Install 4 bolts with bolt

- head towards tailgate, nut side towards spare tire with lock washers. V shaped plate faces down (will look like an upside down V). Tighten all 4 using 11/16" and 5/8" wrenches.
25. Set spare tire mounting plate (round) onto your wheel so you can identify where studs need to go to match your bolt pattern. Mark plate with sharpie near each hole where you will pull studs in.
 26. Spare tire plates mounts ON TOP of angled plate you just installed on tire carrier. Bolts go through both plates with nuts on bottom side. Use 11/16" and 5/8" wrenches to tighten. Where you install plate to lengthen or shorten mount depends on your wheel offset. Adjusting may be required.
 27. Install studs by starting stud with hammer and drive in with long punch. Install tire and wheel nut. Pull stud into tire mount to seat the stud by tightening wheel nut. Put other two bolts in with punch and seat with wheel nuts.



28. Install camera in mount with 3x 3MM screws and nuts. Install mount and camera cover on studs and secure with 2x o-rings onto bolts. Use factory wiring for camera.





29. Install 3rd brake light hoop onto plate and 2x spacers with factory screws and 2x 7/16" x 1-1/4" bolts with flat washers and lock washers and nuts using 5/8" wrench and 11/16" wrench and #25 Torx. Use holes that bring 3rd brake light as close to tire as possible without being blocked.







30. Install tailgate plate using 4 factory bolts.



31. Install large round rubber bumper onto tire carrier swing so it contacts tailgate bar. Use $5/16$ " x $1-1/4$ " bolt with washer and nylock. Use Large $2-3/4$ " black machined washer as a spacer to adjust pressure on tailgate. Pressure is ideal.



32. With added weight of spare tire/wheel and optional accessories, check where swing arm closes against hard plastic block on bumper. Should hit it by $1/16$ " to $1/8$ " when you gently close swing arm.
33. You want plastic rest to carry the weight not the bearings. It will rattle if not adjusted right. Take shims out or add shims at bottom of bearing to adjust overall tire carrier height.
34. If latch rattles at striker pin you can add a washer behind round rubber bump stop to tighten. Make sure latch locks

on second stage.

35. Fill hub completely with grease only when satisfied with tire carrier operation. Fill until the grease starts pushing seals out at bottom. Remove grease fitting and let pressure out. Push seals back in with flat headed screwdriver. Grease your tire carrier swing hub after each rain, vehicle washing, or water crossing.
36. Install ½” collars on high lift jack mounts. Install your jack and adjust collars to keep jack away from your powder coating. Install ½” washers and wing nut. A few jacks have different hole spacing. Move the ½” bolt in slot to match your jacks’ hole spacing.
37. Install new wiring to camera wire and 3rd brake light wires. Run as needed into passenger side lower corner of tail gate. Zip tie wiring to tailgate strap and attach to factory wiring.

