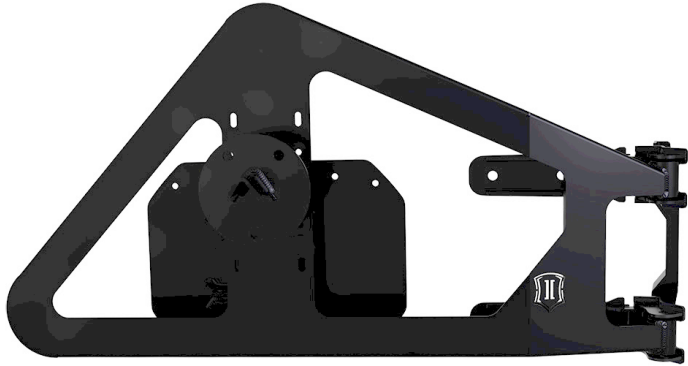


# JL PRO SERIES BODY MOUNTED TIRE CARRIER

DOCUMENT: INST\_25167\_REVA • UPDATED: JUL 2021

Thank you for purchasing this ICON Vehicle Dynamics product. Please read through this entire document before proceeding with installation. If you are not confident in your mechanical skills, please seek the help of a professional to perform the installation. Check your packages immediately upon arrival to ensure that everything listed is included, and to check for damage during shipping. If anything is missing or damaged, or if you need technical assistance with any aspect of this installation, call (951) 689-ICON as soon as possible.



## APPLICATION

These installation instructions apply to the following products:

25167 18+ JL BODY MNT TIRE CARRIER KIT

## COMPONENTS INCLUDED

- (1) Tire Carrier Frame
- (1) Tailgate Plate
- (1) Top Hinge Bracket
- (1) Bottom Hinge Bracket
- (2) Tailgate Hinge Leaf
- (1) Hinge Tie-In Bracket
- (1) Adjustable Tire Mount Bracket - Carrier Side
- (1) Adjustable Tire Mount Bracket - Wheel Side

## TECH NOTES

**NOTE:** These installation instructions are based on a clean installation on to a stock vehicle. Previously modified vehicles may require additional steps.

## TOOLS REQUIRED

- 3/8" hex key
- 7/16", 9/16", 5/8", 3/4" & 13mm sockets
- Ratchet and extensions
- 7/16", 9/16" & 3/4" wrenches
- 3/8" drill bit and drill motor
- T8, T25, T40, T55 Torx driver
- Torque wrench
- Small and medium flat screwdrivers
- Soft dead blow hammer
- Straight edge razor blade
- Straight edge and measuring tape

## HARDWARE INCLUDED

- (8) Tire Carrier Heim Spacer
- (2) CM6 Spherical Rod End - Male
- (2) CF6 Spherical Rod End - Female
- (2) 3/8-24 RH Jam Nut
- (4) 9/16" OD X 7/16" ID Bronze Bushing
- (4) Delrin Hat Bushing 1.510 X .755 X 1.180
- (2) Bushing Sleeve 0.750 X 0.510 X 2.593
- (1) Delrin Striker
- (2) 1/4-20 Gr8 Nylon Insert Lock Nut
- (4) 1/4 SAE Gr8 Flat Washer
- (2) 1/4-20 X 2 Gr8 Hex Head Cap Screw
- (6) 3/8-16 X 1 Gr8 Hex Head Cap Screw
- (16) 3/8-16 Gr8 Nylon Insert Lock Nut
- (6) 3/8-16 X 1-1/2 Gr8 Hex Head Cap Screw
- (34) 3/8 SAE Gr8 Flat Washer
- (4) 3/8-16 X 1-3/4 Gr8 Hex Head Cap Screw
- (2) 7/16-20 X 3-1/2 SS Socket Head Cap Screw
- (2) 7/16-20 Gr8 Nylon Insert Lock Nut
- (2) 1/2-13 X 4 Gr8 Hex Head Cap Screw
- (4) 1/2 SAE Gr8 Flat Washer
- (2) 1/2-13 Gr8 Nylon Insert Lock Nut
- (3) M14 Wheel Stud
- (1) Blue Thread Locker
- (1) Silver Antiseize Compound

## IMPORTANT NOTICES - PLEASE READ FIRST

- ✓ **READ ALL INSTRUCTIONS THOROUGHLY FROM START TO FINISH BEFORE BEGINNING INSTALLATION! IF THESE INSTRUCTIONS ARE NOT PROPERLY FOLLOWED SEVERE FRAME, SUSPENSION AND TIRE DAMAGE MAY RESULT TO THE VEHICLE!**
- ✓ **ICON VEHICLE DYNAMICS RECOMMENDS ALL INSTALLATION TO BE PERFORMED BY A PROFESSIONAL SHOP/SERVICE TECHNICIAN. PRODUCT FAILURE CAUSED BY IMPROPER INSTALLATION WILL NOT BE COVERED UNDER ICON'S WARRANTY POLICY.**

## INSTALLATION INSTRUCTIONS

1. Ensure the vehicle is placed on a flat, level surface with the transmission in PARK, the tires chocked,



and the emergency brake ON. Wear safety glasses from this point forward.

2. Use a T25 Torx driver to remove the seven (7) fasteners from the third brake light bracket cover.



FIG. 1

3. With the bracket cover off, disconnect the wiring harness from the third brake light.



FIG. 3

4. Lift the third brake light and bracket cover from the bracket and set it aside.



FIG. 3

5. Use the T25 Torx driver to remove the two (2) fasteners at the center of the tire carrier, at either side of the backup camera housing.



FIG. 4

6. Use a 13mm socket and driver to remove the eight (8) bolts that hold the spare tire mount to the tailgate. Set these fasteners aside as they will be re-used later.



FIG. 5

7. Lift the spare tire mount away from the tailgate. On Jeep Wrangler 4XE models (gas-electric hybrid), disconnect the wiring harness from the speaker box located inside the spare tire mount.

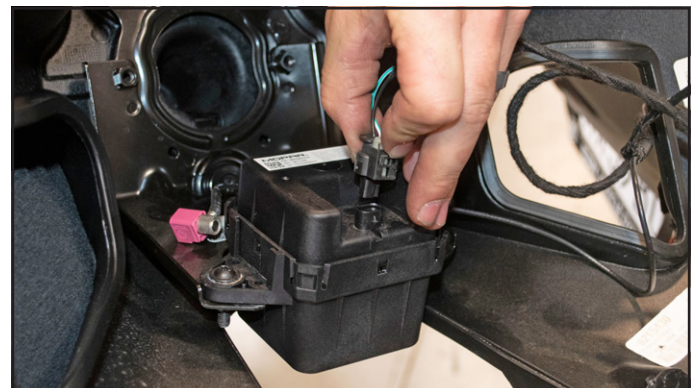


FIG. 6

8. Slide the rear camera mount out of the spare tire mount and use a T8 Torx driver to remove the three (3) tiny screws that attach the camera to the mount.



FIG. 7

- 9. Disconnect the wiring harness from the back of the camera. Set the camera aside as it will be re-installed later. The rest of the assembly will not be re-used.



FIG. 8

- 10. Use a T25 Torx driver to remove the two (2) screws that attach the third brake light to the third brake light mount. Set the third brake light and screws aside as they will be re-used.



FIG. 9

- 11. Use a plastic scraper or screwdriver to gently pry the inner tailgate panel away from the tailgate. Begin along the top as show below, and work your way around the edges popping each of the clips out of their seats until the panel is free.



FIG. 10

- 12. Note that some of the retainer clips may remain in their seats rather than staying with the retainer lugs on the panel. If so, simply pull them out and re-install them on to the retainer lugs on the back of the panel. Set the panel aside.



FIG. 11

- 13. Remove the tailgate vents by using a small screwdriver to depress the retaining tangs on the back side of the vents.



FIG. 12

- 14. Lift the trunk lid and remove the molded plastic parts tray that holds the Jeep's roof bolts when the roof is taken off.

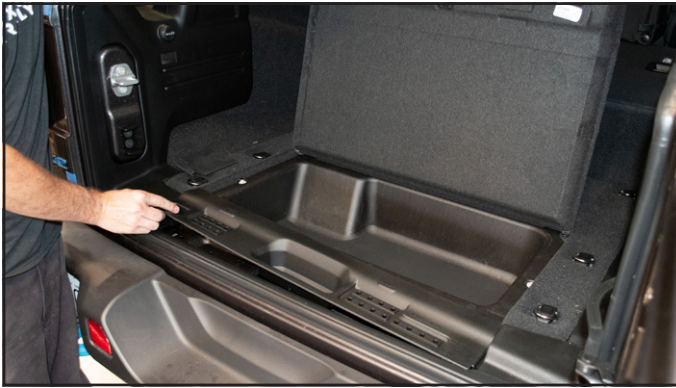


FIG. 13



FIG. 16

- 15. Use a screwdriver to pry up the covers on the three (3) tie-down loops along the passenger side. Use a T40 Torx driver to remove these tie-down loops and set them aside. There is no need to remove the three driver's side loops.



FIG. 14

- 18. Use a 10mm socket or T40 Torx driver to remove the taillight retainer screw.



FIG. 17

- 16. Lift the long, narrow carpet trim piece away and set it aside. This is the piece that the previously-removed tie-down loops were attached through.



FIG. 15

- 19. Lift the taillight away from the Jeep's body and disconnect the taillight wiring from the vehicle wiring harness. Set the taillight assembly aside.



FIG. 18

- 17. Use a small flat screwdriver to pry open the plastic cover at the inside rear corner, opposite the taillight.

- 20. Pull away the large plastic inner quarter panel trim piece. Begin at the tailgate, lifting it from under the tailgate seal and working your way around the perimeter of the piece. There is one fastener that must be removed, near the front of the cover, using a T25 Torx driver. It is not necessary to disconnect the stereo sub-woofer or completely remove the trim panel. It only needs to be pulled



away enough to access the area behind it at the rear-most corner of the Jeep.



FIG. 19

- 21. Observe the two rectangular vinyl covers affixed to the inner body panel of the Jeep at the height of each tailgate hinge. These covers are simply thin, tough vinyl with a very strong adhesive. Use a new razor blade to carefully lift the covers away.



FIG. 20

- 22. Be careful not to cut into the cover itself. Store the covers in a safe place for re-use. We recommend simply sticking them to the nearby roll bar.



FIG. 21

- 23. Use a 13mm socket and ratchet to remove the three (3) TOP inner hinge bolts only. It is OK to

have the tailgate open for leverage while breaking each of the bolts free, but the tailgate should be latched shut before fully loosening and removing them. Make sure the rear window is up and open before shutting the tailgate.



FIG. 22

- 24. Use a T55 Torx driver to remove the two (2) bolts holding the TOP outer hinge leaf to the tailgate.



FIG. 23

- 25. Remove the hinge from the tailgate.



FIG. 24

- 26. Identify the TOP Hinge Bracket. It will be the one without gussets, as shown in the comparison photos below.

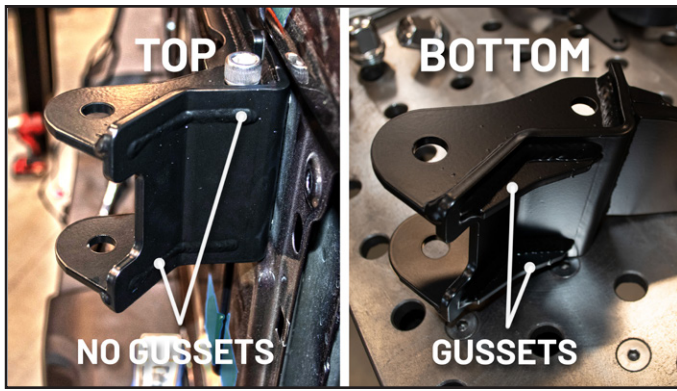


FIG. 25

- 27. Insert the Top Hinge Bracket into the hinge slot where the stock hinge had been.



FIG. 26

- 28. Re-use the OE 13mm (hex head) inner hinge bolts to secure the Top Hinge Bracket to the inner body tub. For this and all remaining hardware use, apply a drop of blue thread locker to the threads before inserting. Do not fully tighten these fasteners yet, just snug them up but loose enough that the Hinge Bracket may still be adjusted.



FIG. 27

- 29. Locate the 9/16" OD X 7/16" ID Bronze Bushings from your hardware kit. Install two of them into one of the Tailgate Hinge Leafs. Orient the bushings so that the flange is seated on

the outside of the hinge (facing away from the opposite bushing) as shown in the photo.

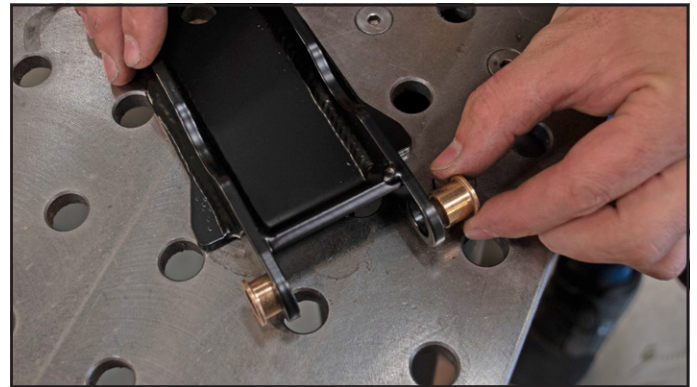


FIG. 28

- 30. Use a soft dead blow hammer to tap the bushings into place. Make sure they are fully seated with the flanges tight against the surface of the hinge.



FIG. 29

- 31. The bushing flanges should fit snugly into the Top Hinge Bracket. Reinstall the OE tailgate hinge bolts (T55 drive size) and snug them slightly (do not tighten).



FIG. 30

- 32. Take a 7/16-20 X 3-1/2 SS Socket Head Cap Screw from the hardware kit and insert it through the Top Hinge Bracket and the Tailgate Hinge Leaf. It should be a snug fit through the bronze bushings.



A few taps from a soft dead blow hammer may be necessary.



FIG. 31

careful not to open the tailgate until the hinge installation process is complete.



FIG. 34

33. Install a 7/16-20 Gr8 Nylon Insert Lock Nut on to the end of the hinge bolt. Use a 3/8" Hex Key and a 5/8" socket with ratchet to firmly tighten, then back the nut off by 1/16 turn.



FIG. 32

36. Locate the Delrin Hat Bushings from the hardware kit. Install two into each of the hinge bushing housings on the Tire Carrier Frame. It will be a tight fit and require some persuasion from a soft dead blow hammer.



FIG. 35

34. Use the T55 Torx driver bit to fully tighten the OE hinge bolts.



FIG. 33

37. It may be necessary to use the edge of a workbench as an anvil while tapping the bushings into place.



FIG. 36

35. With the top hinge installation complete, repeat the process to install the lower hinge components. You may backtrack to Step Number 22 in these instructions to follow the process, if needed. Be

38. Apply silver antiseize compound to the exterior surface of the two Bushing Sleeves and spread it evenly over the entire surface.



FIG. 37

- 39. Insert the Bushing Sleeve into the Delrin Hat Bushings and tap it into place until both ends of the sleeve are flush with the surfaces of the Hat Bushings.



FIG. 38

- 40. Apply a thin coat of silver thread locker to the flat surface of each of the Delrin Hat Bushings.



FIG. 39

- 41. Prepare the two 1/2-13 X 4 Gr8 Hex Head Cap Screws for installation by first installing a 1/2 SAE Gr8 Flat Washer onto them. Next apply a thin coat of silver antiseize compound to the smooth barrel section of the bolt. Do not apply antiseize to the threads.



FIG. 40

- 42. With the help of a friend, lift the Tire Carrier Frame into place, inserting the hinge bushing assemblies between the flanges of the previously installed upper and lower hinge assemblies. Insert the prepared 1/2-13 X 4 Gr8 Hex Head Cap Screws through each of the hinge assemblies and through the upper and lower bushings of the Tire Carrier Frame.



FIG. 41

- 43. Install a 1/2 SAE Gr8 Flat Washer and 1/2-13 Gr8 Nylon Insert Lock Nut onto each of the tire carrier hinge bolts. Use two 3/4" wrenches to fully tighten the hinge bolts.



FIG. 42





44. Reach inside the Jeep (without opening the tailgate) and fully tighten the six (6) interior hinge bolts (3 upper and 3 lower).



FIG. 43

47. Insert the Hinge Tie-In Bracket through the taillight hole and position it over the inner tailgate hinge nuts.



FIG. 46

45. Swing the Tire Carrier Frame out of the way and open the tailgate. Use a 3/8" drill bit and drill motor to drill the three extra holes through the Jeep's inner body tub, behind the Top and Bottom Hinge Brackets. The holes in the brackets will act as your drill guide.

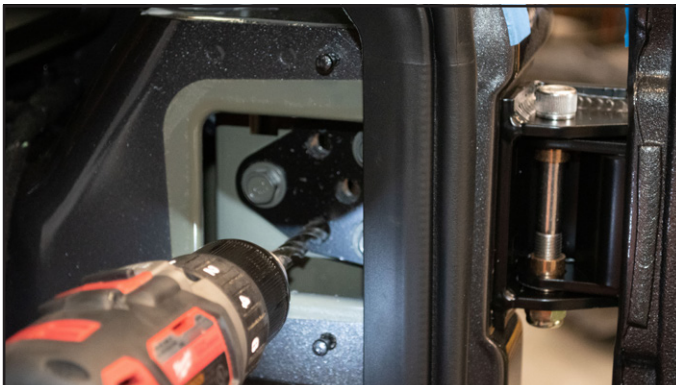


FIG. 44

48. Insert the a 3/8-16 X 1-1/2 Gr8 Hex Head Cap Screw with 3/8 SAE Gr8 Flat Washer through each of the new holes. Install a 3/8 SAE Gr8 Flat Washer and 3/8-16 Gr8 Nylon Insert Lock Nut onto the other end of each bolt. Fully tighten with a 9/16" wrench, socket and ratchet.



FIG. 47

46. Locate the Hinge Tie-In Bracket and note that it has recess holes to fit over the existing tailgate hinge nuts and slotted holes for the six new bolt hole locations. These holes will help determine the correct orientation of the Bracket.



FIG. 45

49. Use the OE spare tire mount bolts (13mm hex head size) to attach the Tailgate Plate to the tailgate. Be sure to apply a drop of blue thread locker to the threads of each fastener. Fully tighten with a 13mm wrench or ratchet and socket.



FIG. 48



50. Install the Delrin Striker between the vertical flanges on the Tailgate Plate. Secure with 1/4-20 X 2 Gr8 Hex Head Cap Screws, 1/4 SAE Gr8 Flat washers (at both ends of each bolt) and 1/4-20 Gr8 Nylon Insert Lock Nuts. Use a 7/16 wrench and ratchet with socket to tighten until just snug. Do not fully tighten at this time.



FIG. 49

51. From your hardware kit, locate the CM6 Spherical Rod End - Male, CF6 Spherical Rod End - Female, and 3/8-24 RH Jam Nuts and assemble them into two short tie rods as shown in the photo. Also locate the eight (8) Tire Carrier Heim Spacers.

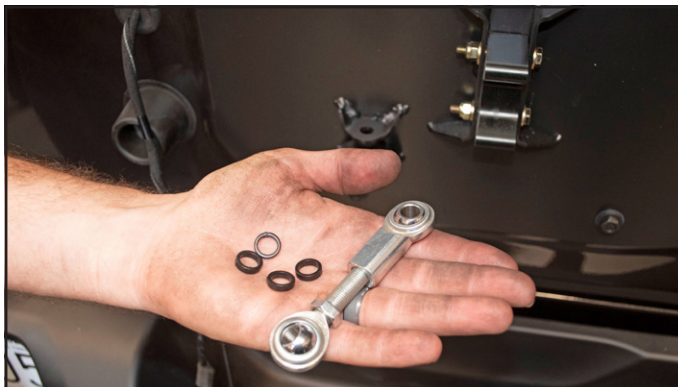


FIG. 50

52. Attach one end of each tie rod assembly to the tabs on the Tailgate Plate. Insert a Tire Carrier Heim Spacer on each side of the spherical bearing.



FIG. 51

53. Insert a 3/8-16 X 1-3/4 Gr8 Hex Head Cap Screw (with 3/8 SAE Gr8 Flat Washer) through the mounting tabs and spherical bearing. Do this for both tie rod assemblies. It is not necessary to add the second flat washer and lock nut to these bolts at this time.



FIG. 52

54. Use the same hardware and heim spacers to attach the opposite ends of the tie rods to their corresponding tabs in the back side of the Tire Carrier Frame.



FIG. 53

55. Now it's time to adjust the tie-rod lengths. Begin by pulling the bolts from one end of the tie rods, we recommend the tailgate end. Next, position the tailgate so that it is at a 2" gap at the open



end, as shown in the photo. At this measurement, the distance between the tie rod mounting tabs on the tailgate and on the Tire Carrier Frame are optimal. Measure this distance and adjust the length of each tie rod (center to center of the spherical bearing holes) by threading the two halves in or out. Once adjusted, re-attach the ends of the tie-rod and close the tailgate. The action should be smooth but firm as the wedge on the Tire Carrier Frame is drawn tightly into the Delrin Striker.



FIG. 54

56. Once any adjustments have been made, and while the tailgate and Tire Carrier Frame are shut and latched, use a 7/16" wrench and ratchet with socket to fully tighten the two bolts on the Delrin Striker.



FIG. 55

57. Use a pair of 9/16" wrenches to fully tighten the bolts at either end of both tie rods. Use the same wrench to tighten the Jam Nut on each tie rod assembly.



FIG. 56

58. The Adjustable Tire Mount Bracket may be mounted at a variety of heights to accommodate most tire sizes. To determine the optimum height location for your spare tire, start by measuring the overall height of the tire (the actual height, not the nominal height advertised by the tire company).



FIG. 57

59. Divide your tire height measurement in half and add one inch. Use the number to measure up from the surface of the bumper that the tire will first come in contact with. For most bumpers this will be the built-in spare tire depression, or "step". Where your measurement lands on the Tire Carrier Frame is where the center of the spare tire should land. It is also where the center of the Adjustable Tire Mount Bracket should be.



FIG. 58



60. Use four (4) 3/8-16 X 1 Gr8 Hex Head Cap Screws along with 3/8 SAE Gr8 Flat Washers (two per bolt) and 3/8-16 Gr8 Nylon Insert Lock Nuts to attach the Adjustable Tire Mount Bracket - Carrier Side to the Tire Carrier Frame, centered at the height determined by your measurements. Fully tighten with a 9/16" wrench and ratchet with socket.



FIG. 59

61. Use two (2) 3/8-16 X 1 Gr8 Hex Head Cap Screws along with 3/8 SAE Gr8 Flat Washers (two per bolt) and 3/8-16 Gr8 Nylon Insert Lock Nuts to attach the Adjustable Tire Mount Bracket - Tire Side to the Adjustable Tire Mount Bracket - Carrier Side. Snug the fasteners with a 9/16" wrench and ratchet with socket, but do not tighten yet. The bracket should still be adjustable in its slots.



FIG. 60

62. Place a straight edge across the back of your tire and measure the distance between it and the wheel mounting surface.



FIG. 61

63. Subtract 1/4" from the measurement taken in the previous step and adjust the distance between the mounting surface of the Tire Mount Bracket and the Tire Carrier Frame. Once adjusted, use a 9/16" wrench and ratchet with socket to fully tighten the Tire Mount Bracket bolts.

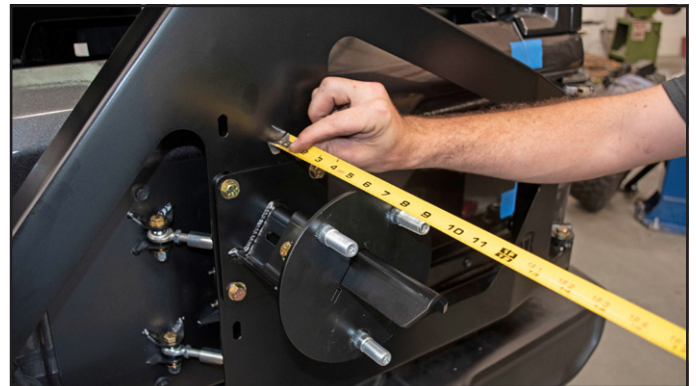


FIG. 62

*If mounting a 40" tire or larger, we recommend drilling and adding an extra 3/8" bolt (not included) to the Tire Mount Bracket.*

64. Lift the spare tire on to the Tire Carrier and secure it with your previously used spare tire lug nuts.



FIG. 63



65. Check the tailgate and tire carrier for smooth operation. Make any adjustments if necessary. Go back over all bolts and check for tightness.

**IMPORTANT:** Torque the six (6) 3/8" bolts and nuts at the Top and Bottom Hinge Brackets to 40 ft./lbs. The torque wrench should be applied on the nut side (inside the taillight housing). Only torque the supplied Grade 8 bolts to this spec, not the re-installed OE bolts that are next to them.

66. Once all fasteners have been checked for tightness, begin buttoning up your work by reinstalling the taillight and interior trim pieces, by reversing the procedures used at the beginning of these instructions.



FIG. 66

*Congratulations! Your installation is complete.*



FIG. 64



FIG. 67

67. Don't forget to reinstall the vinyl stick-on covers over the inner tailgate hinge access holes.

*If you are installing the ICON License Plate and 3rd Brake Light Relocation brackets, proceed to the instructions that came with that product.*



FIG. 65

68. Be careful re-installing the interior plastic trim. It can be tedious and requires patience.



**LIMITED LIFETIME WARRANTY**

*ICON Vehicle Dynamics warrants to the original retail purchaser who owns the vehicle on which the product was originally installed. ICON Vehicle Dynamics does not warrant the product for finish, alterations, modifications and/or installation contrary to ICON Vehicle Dynamics instructions. ICON Vehicle Dynamics products are not designed, nor are they intended to be installed on vehicles used in race applications, for racing purposes or for similar activities. (A "race" is defined as any contest between two or more vehicles, or a contest of one or more vehicles against the clock, whether or not such contest is for a prize). This warranty does not include coverage for police or taxi vehicles, race vehicles, or vehicles used for government or commercial purposes. Also excluded from this warranty are sales outside of the United States of America and Canada.*

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