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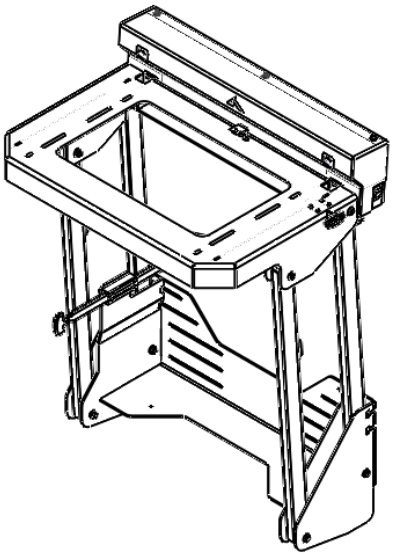
# Power Lift Bike Rack Installation Instructions

P/N 210775.3: Ford Transit 15+ Power Lift Bike Rack (Compatible with 210579 Base Unit)



**Before you begin:**

- *Stainless steel (SS) hardware may bind together when tightening — apply an anti-seize assembly lubricant to the threads of each SS bolt before assembly.*
- *Do NOT use an impact gun if this symbol is shown – doing so may strip or cross-thread bolts.*
- ***Maximum Upper Tray load capacity is 155 lbs***
- ***Maximum Box Tray load capacity is 100 lbs***
- *Unless otherwise specified, refer to the general torque value at the end of the instructions for specified torque values*

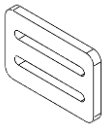
**Required Tools:**

- Standard and metric wrench set
- Standard and metric socket set
- Clean Rag
- Tin Snips or Dremel Cut-Off Wheel
- Painter's Tape (optional)
- Spray Bottle (optional)

**Included Hardware:**

| *P/N* | *Description* | *Quantity* |
|---|---|---|
| 70369 | Bolt, Grade 5 Square Neck Carriage, 5/16-18 x 1", SS Black Oxide | 16 |
| 70344 | Bolt, Button Head, 5/16-18 x 1", SS Black Oxide | 8 |
| 70446 | Bolt, Button Head, 5/16-18 x 1", SS Black Oxide | 2 |
| 70345 | 5/16" ID Washer, BLACK OXIDE, SS | 36 |
| 70346 | 5/16"-18 Nylon-Locking Nut, BLACK OXIDE, SS | 26 |
| 70448 | 5/16" ID Washer, 1/8" THICK, BLACK OXIDE, SS | 4 |
| 70013 | Bolt, Flat Head Countersunk Soc Cap, SS, 1/4-20 x 1" | 6 |
| 70365 | Nut, Nylock, 1/4-20, SS Black Oxide | 6 |
| 70366 | Washer, 1/4", SS Black Oxide | 14 |
| 70437 | Bolt, Button Head, M6-1.0 x 16mm, SS | 3 |
| 70476 | Bolt, Button Head, ¼"-20 x 1", SS, Black Oxide | 5 |
| 70449 | Weld Nut, Low Profile ¼"-20, SS | 1 |
| 70436 | Washer, Cushioning, 3/8" ID, 1" OD | 1 |
| 70726 | Screw, Self Drilling, Hex Head, ¼" x ¾" Long | 4 |
| 70492 | Cushioning Rubber Washer, 5/16" ID, 1.25" OD | 6 |
| 70246 | Antiseize | 1 |
| 401193 | Sticker, Reflective Stripe, Red/White, 1" | 18" |
| 70027 | Washer, Flat, SS, 3/8 ID x 1 OD x 1/8 Thick | 4 |
| 70024 | Nut, Nylock, SS, 3/8-16 | 4 |

**Additional Parts:**

| *Part Number:* | *Description:* | *Quantity:* | *Picture:* |
|---|---|---|---|
| 301836 | PLBR, webbing anchor plate | 2 ea. |  |

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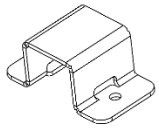
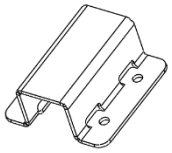
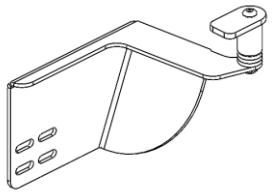
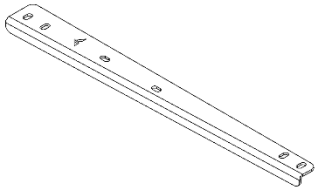
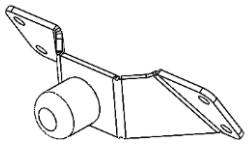
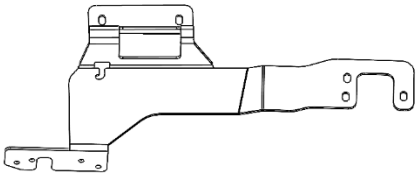
| | | | |
|---|---|---|---|
| 351566 | PLBR, Mounting Bracket, Small | 2 ea. |  |
| 351567 | PLBR, Mounting Bracket, Medium | 2 ea. |  |
| 351930 | PLBR, Slide Handle | 1 ea. | |
| 351639 | PLBR, Handle Adapter, Transit *(pre-assembled)* | 1 ea. |  |
| 351692 | Transit Adapter Bracket | |  |
| 351693 | Rear Door Bump Stop Assembly *(pre-assembled)* | |  |
| 351694 | Rear Door Interior Reinforcement Bracket | |  |

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**Lower Tray Installation:**

1. Remove your Aluminess Base Unit (210579) from vehicle if applicable. Remove any and all products from Base Unit. Place your Base Unit horizontally on a protected surface (use blankets or towels as needed).
2. Loosely place the Power Lift lower assembly on the Base Unit as shown in Figure 1.

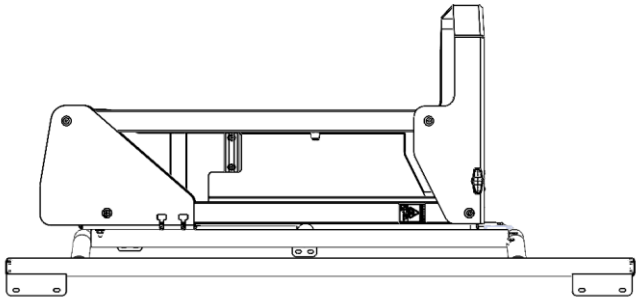

*Figure 1: Power Lift Placed on Base Unit*

3. Use 2x 5/16" Carriage bolts (70369), 2x 5/16" washers (70345), and 2x Nylock nuts (70346) to secure the Power Lift lower assembly to the Base Unit. Route the Carriage bolts through the holes in the lower gusset of the Base Unit. Assemble as shown in Figure 2. Note the orientation of the bolts MUST be installed exactly as shown. DO NOT TIGHTEN THESE YET.

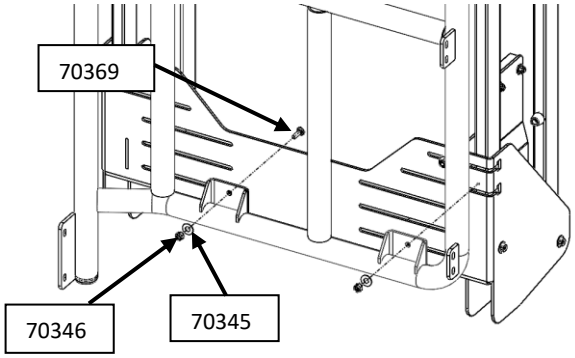


*Figure 2: Lower Tray Installation Gusset Bolts*

4. Insert the slide handle (351930) into the pre-installed slide on the side of the lower tray. Before tightening hardware, adjust the horizontal position of the Power Lift until the slide handle just clears the inside pipe of the Base Unit on the left side as shown in Figure 3 and Figure 4. Check for squareness between the handle and the Base Unit.

*Figure 3: Slide Handle Alignment*

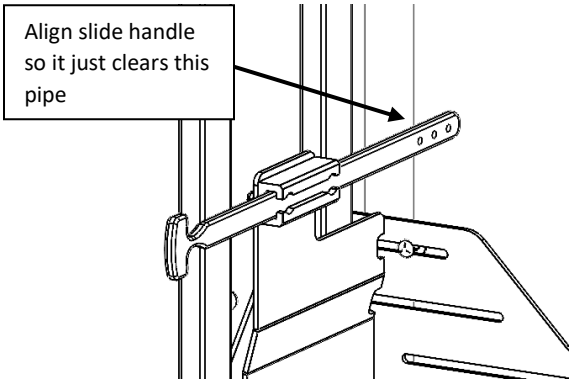


*Figure 4: Slide Handle Alignment Image 2*

5. Once aligned, tighten the 2 bolts installed in step 3 then use 2x Medium Mounting Brackets (351567), 8x 5/16" Carriage bolts (70369), 8x 5/16" washers (70345), and 8x Nylock nuts (70346) to secure the Power Lift lower assembly to the Base Unit. Route the Carriage bolts through the slots in the lower tray using the side cutouts. Assemble as shown in Figure 5 & Figure 6. Note the orientation of the bolts MUST be installed exactly as shown.

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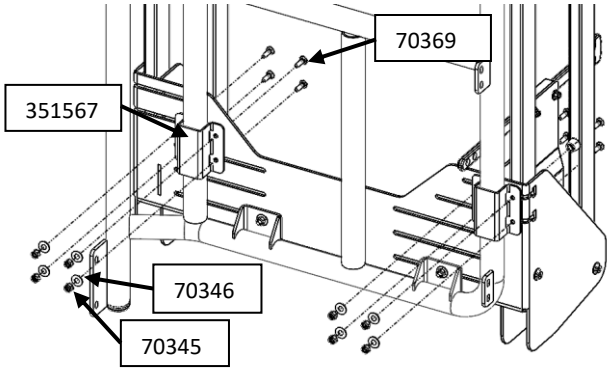


*Figure 5: Lower Tray Installation Bracket Bolts*

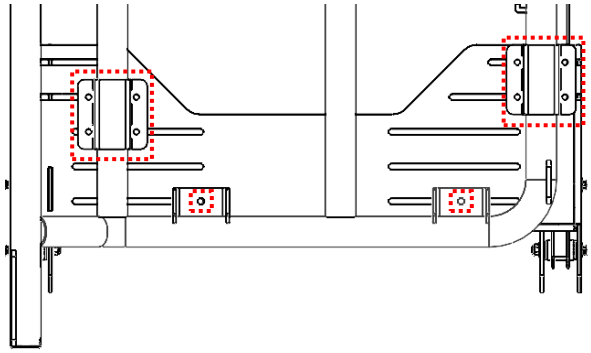

*Figure 6: Lower Mounting Locations*

6. Tighten all hardware and remove slide handle, it will be installed after the Power Lift is mounted. Confirm the Medium Mounting Brackets are wrapped around the base unit pipe and are clamping the Power Lift lower tray to the Base Unit.

**Power Box Installation:**

7. Unbolt Power Box Enclosure cover shown in Figure 7.

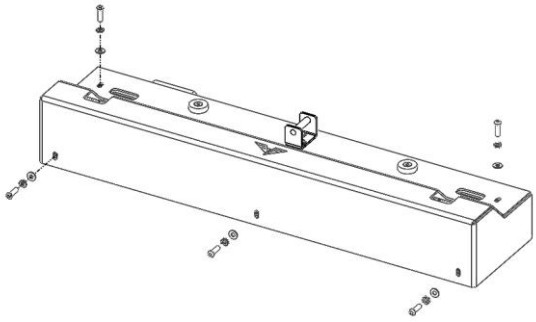

*Figure 7: Power Box Cover Removal*

8. Align the Power Box Enclosure onto the Base Unit using the holes of the upper mounting tabs (Base Unit) to the small, centered slots in the back plate (Power Box Enclosure). Install 2X small mounting brackets (351566) around the vertical supports on the Base Unit. Insert 6x 5/16” carriage bolts (70369) through slots and mounting brackets and mounting tabs as shown in Figure 8 & Figure 9.

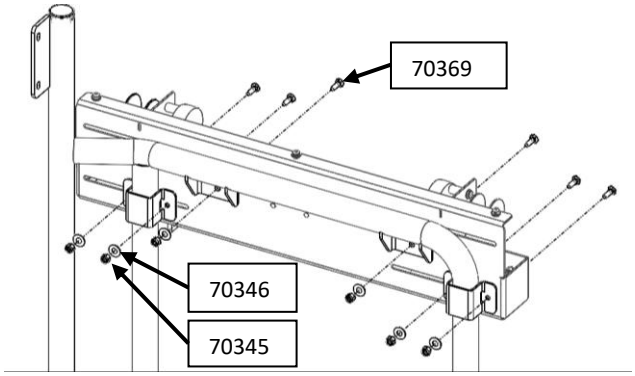


*Figure 8: Power Box Enclosure Installation*

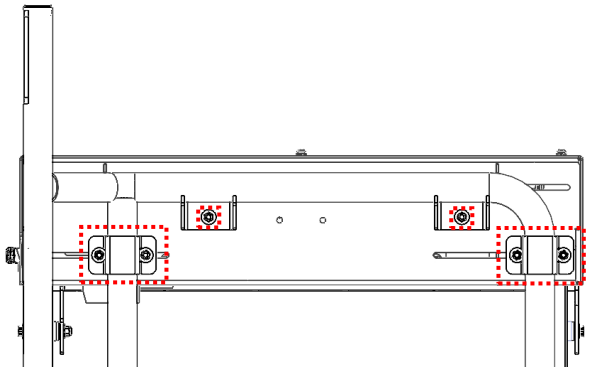

*Figure 9: Upper Mounting Locations*

9. Verify alignment of the Power Box Enclosure with lower lift assembly by loosely replacing the Power Box Enclosure cover and latching the center pin (Figure 10). Adjust Power Box Enclosure as needed to align latch mechanism. Verify for squareness between Power Box Enclosure / Lower Lift Assembly / Baes Unit.

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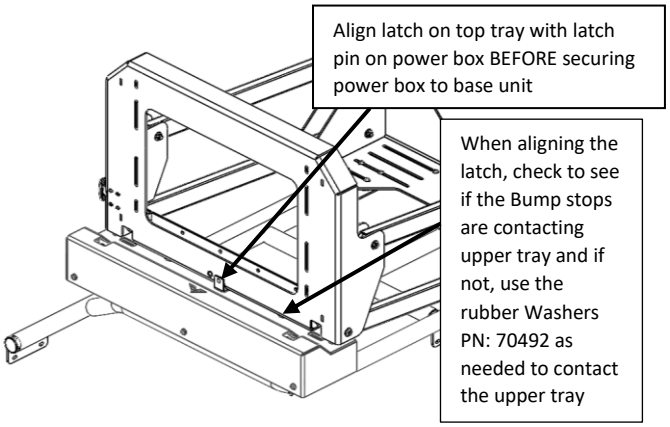


*Figure 10: Aligning Power Box Enclosure with Lower Lift Assembly*

10. Thread webbing through window in the cover as shown in Figure 11. Loosely bolt the cover on the Power Box using the same hardware.

*Figure 11: Threading Webbing Through Power Box Cover*

11. Thread the webbing through the top of the pulleys, then through the bottom on the Upper Tray of the Power Lift and back to the Power Box as shown in Figure 12 and Figure 13.

*Figure 12: Threading Webbing Through Upper Tray Pulleys*

*Figure 13: Bringing Webbing Back to Power Box*

12. Thread webbing through and double back through webbing anchors as shown in Figure 14, Figure 15 and Figure 16.

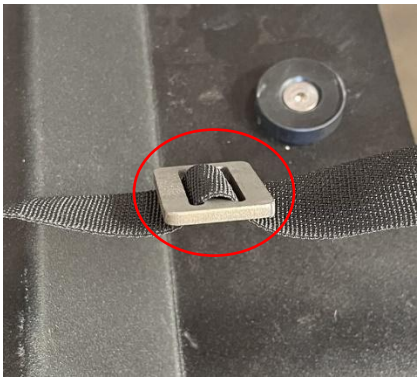

*Figure 14: Threading Webbing Through Webbing Anchors*

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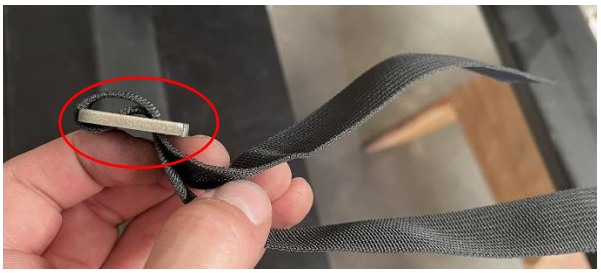

*Figure 15: Doubling Back Webbing in Webbing Anchor*

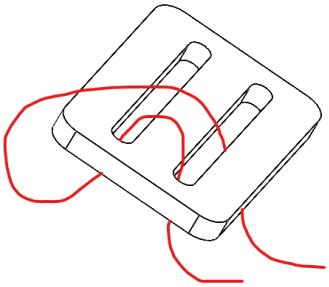

*Figure 16: Webbing Anchor Webbing Routing*

13. Insert webbing anchors with webbing threaded through into slits in the Power Box as shown in Figure 17. Ensure both straps are equal in length.

*Figure 17: Webbing Anchor Installed Through Power Box Slit*

14. Complete one last verification for squareness between the Power Box Enclosure to the Lift Mechanism, and the Lower Lift Mechanism to the Base Unit. Once verified, tighten all bolts securing the Power Lift Unit to the Base Unit.

**Transit Interior Bracket Installation:**

15. Remove passenger door interior paneling as applicable to gain access to highlighted regions in Figure 18.

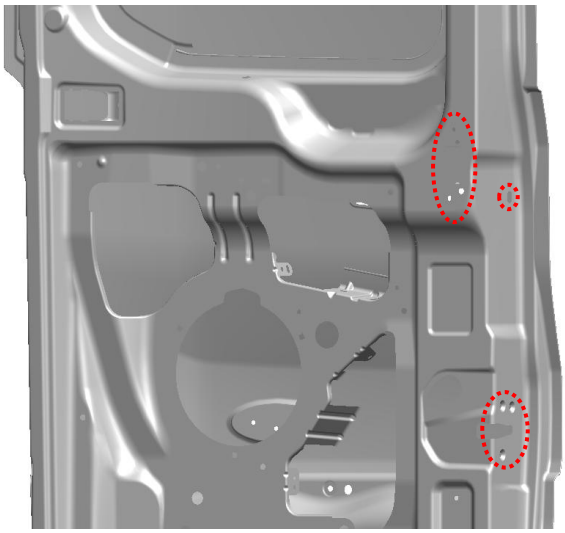

*Figure 18: Passenger Door Interior Mounting Locations*

16. Remove both centerline brackets from passenger side door if applicable.

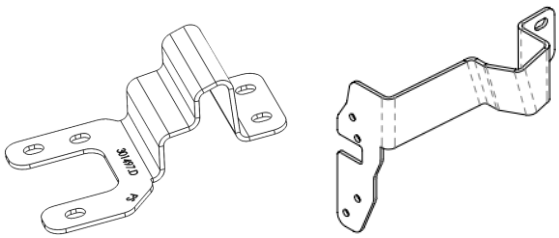

*Figure 19: Passenger Door Bracket Removal*

17. Remove the three (3) factory torx bolts holding on the passenger's side latch. NOTE: Prevent the latch from falling into the door by holding the inside latch (Figure 20 & Figure 21).

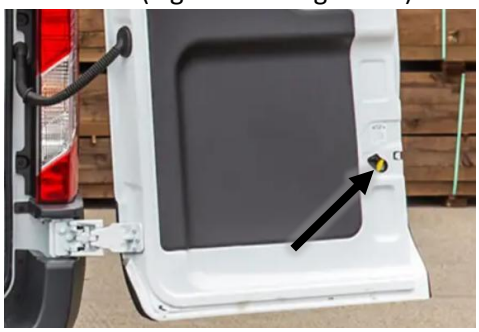

*Figure 20: Inside Latch on Passenger Door*

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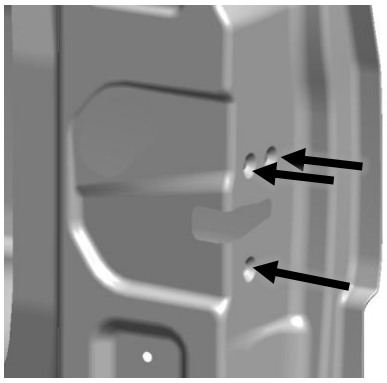

*Figure 21: Installed Inner Passenger Door Bracket*

18. Remove plastic plug on the midline door seam (Figure 22).

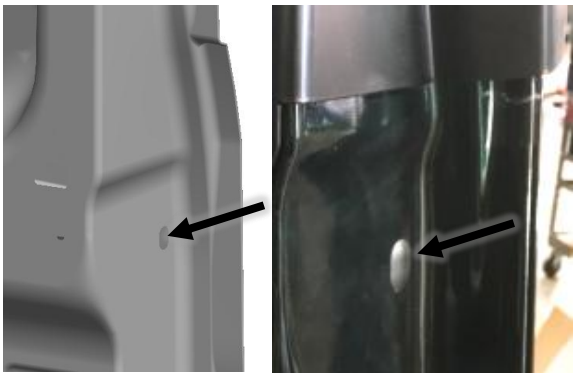

*Figure 22: Door Seam Plastic Plug Removal*

19. Determine if there is an upper handle present on the inside of the passenger door (Figure 23).

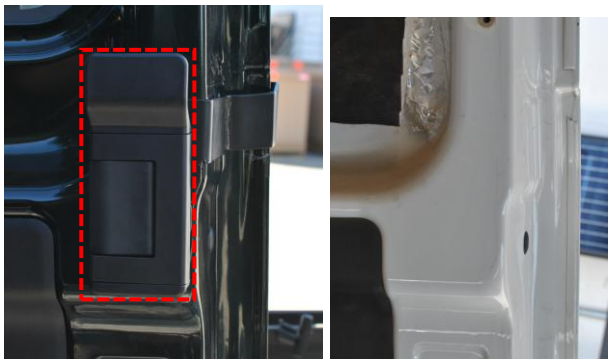

*Figure 23: Inside Upper Handle - Present (left) or Not Present (right)*

20. If there <u>is</u> an upper inside handle (2020+), continue to step 21. If there is no handle present (2015-2019), skip to step 22:
21. If the passenger door <u>does</u> have the upper inside door release handle, complete the following:
    a. Remove the plastic cover by prying from the side with a flathead screwdriver (Figure 24).

*Figure 24: Inside Upper Plastic Cover*

    b. Remove the plastic handle by loosening the two (2) exposed bolts with a 7mm socket (Figure 25).

*Figure 25: Plastic Handle (left) and Latch Handle (right)*

    c. Remove the latch handle by loosening the two (2) remaining 7mm nuts (Figure 25).
    d. Install Upper, Inner Passenger's Side Door Bracket and reuse factory hardware to reinstall handle and covers. Sandwich the bracket between the door and the latch handle (Figure 15).

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*Figure 26: Upper Inner Passenger's Side Bracket Installed*

22. If the passenger door <u>does NOT</u> have the upper inside door release handle, complete the following:
    a. Remove any door plastic coverings to gain access to inside of the door.
    b. Peel back inside door liner if applicable (Figure 27).

*Figure 27: Inner Door Liner Peeled Back for Access*

    c. Dry fit bracket to door (Figure 28).

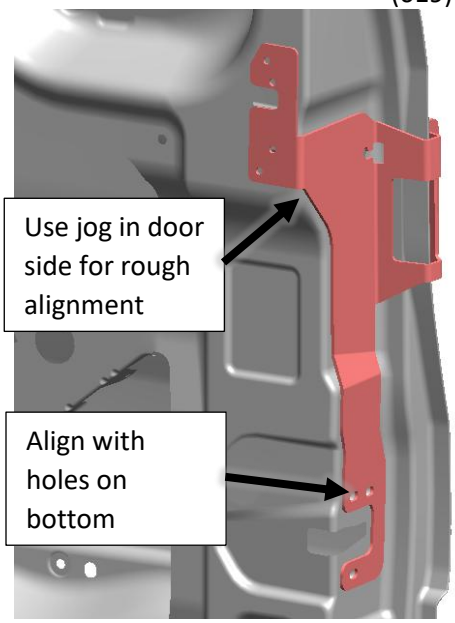


*Figure 28: Dry Fit Bracket Up to Door*

    d. Mark four (4) mounting hole locations. Measure twice, cut once!
    e. Drill a ¼" hole at the marked locations.
    f. Paint any exposed metal.
    g. Install inside bracket with ¼"-20 hardware (Figure 29).
    h. Reseal liner and replace plastic coverings.

*Figure 29: Installed Inside Upper Bracket without Factory Handle*

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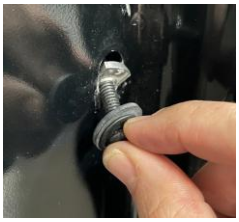
23. Install weld nut mounting fastener:
    e. Assemble the door seam bracket hardware in this order *exactly* – ¼"-20 weld nut (projections towards rubber), 3/8" cushioning washer, ¼" ID washer, ¼"-20 x 1" bolt.

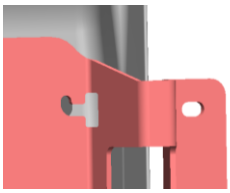
    f. Insert one end of the weld nut through one of the door seam holes. **(WARNING – assembly may slip into door, do not drop. Tie dental floss around bolt for retrieval prior to inserting)**



    g. Fold the cushioning washer and insert into the hole. Note: trying to **remove** the cushioning washer once inserted is difficult; removal will likely destroy washer. Only insert once you're ready.

    h. Prepare weld nut assembly for bracket installation **(WARNING – assembly may slip into door, do not drop. Tie dental floss around bolt for retrieval prior to inserting)**

    i. Using notch and 'J'-shaped slot, insert reinforcement bracket over the inserted hardware and into position on the interior seam of the door.



    j. While applying slight backpressure, tighten the door seam bracket down.

24. Install lower three (3) M6-1.0 x 16mm bolts with washers through the bracket into the center latch (Reference Figure 30).

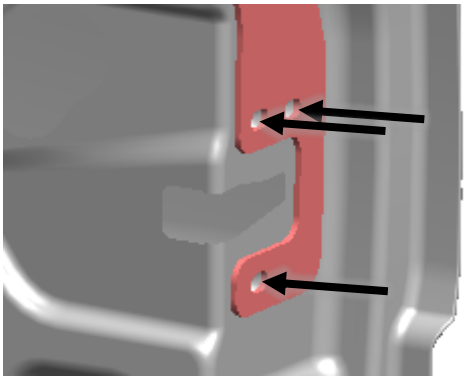


*Figure 30: Latch Bolts Installation*

25. Ensure proper alignment between all mounting locations and tightening all hardware down. Reference Figure 31.

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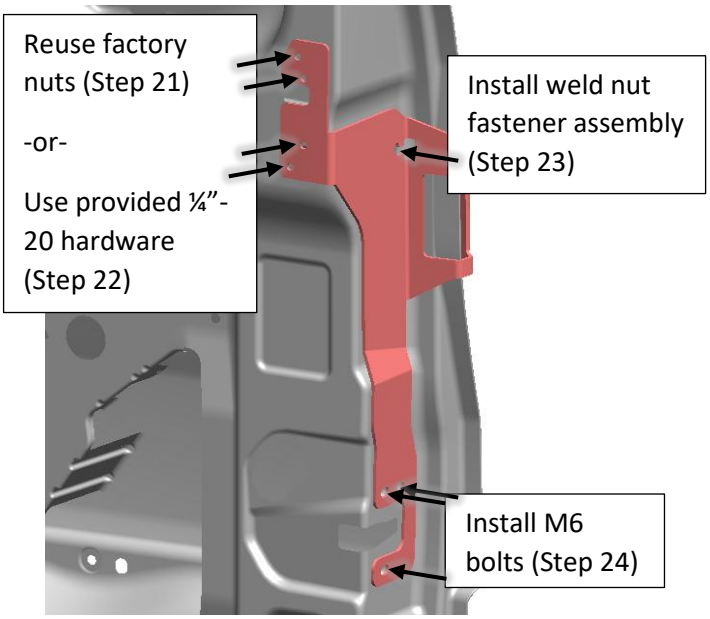


*Figure 31: Final Fastener Installation Verification*

**Mounting Power Lift and Base Unit Assembly to Van:**

26. Install adapter bracket (351692) to base unit using 5/16"-18 x 1" hardware, washers, and nylock nuts (Figure 32).

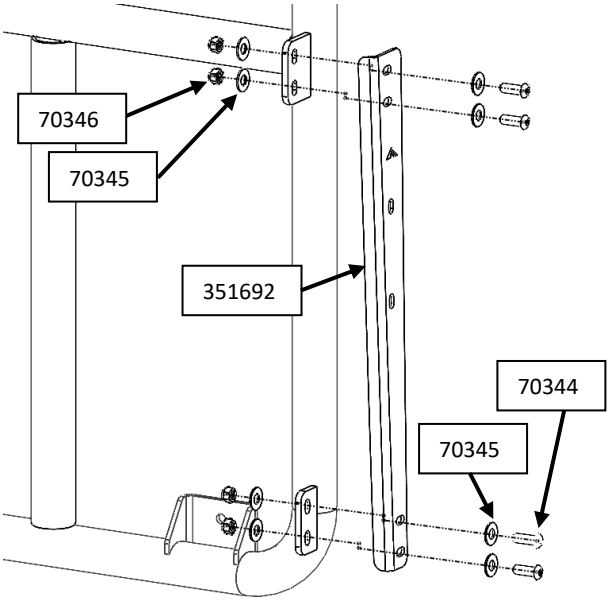


*Figure 32: Adapter Bracket Installation*

27. Install the Base Unit/PowerLift Bike Rack assembly onto rear door of vehicle (Figure 33). Reuse the upper and lower hinge brackets from the Base Unit Installation. New hardware for outer and inner brackets have been provided for your convenience. Securely fasten centerline brackets with 5/16"-18 x 1-1/4" bolts, washers, and nylock nuts (Figure 34 & Figure 35).

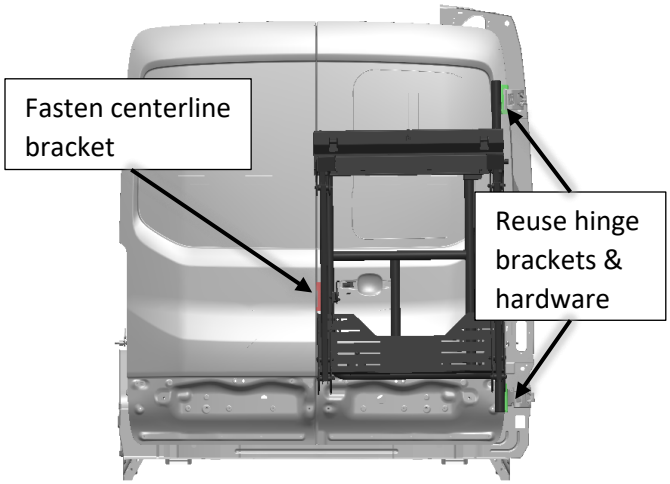


*Figure 33: PowerLift and Base Unit Installation*

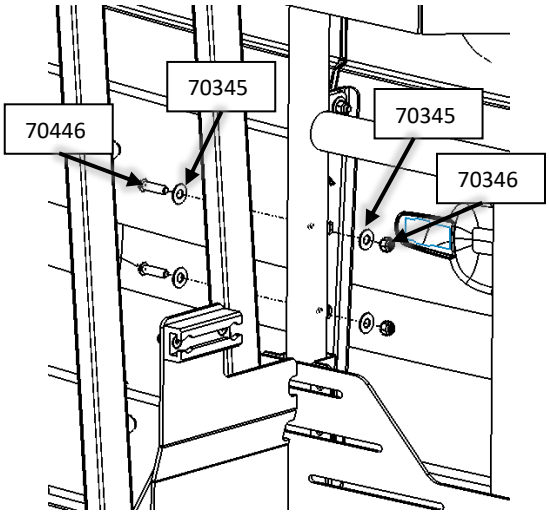


*Figure 34: Centerline Bracket Fastening*

**NOTE:** There should be a small gap between the base unit and the reinforcement bracket before it is fully tightened (0 - 1/8"). Use the provided thick washers (70448) and refer to Table 1 to reduce the gap to 0 – 1/8" as needed. Do **NOT** eliminate the gap completely.

*Table 1: Desired Gap Between Base Unit & Reinforcement Bracket*

| Gap before tightening | 70448 per bolt | Total Used |
|---|---|---|
| 0" to 1/8" | 0 | 0 |
| 1/8" to ¼" | 1 | 2 |
| Larger Than ¼" | 2 | 4 |

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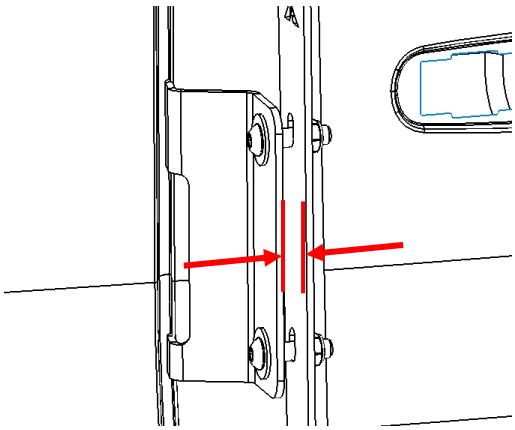

*Figure 35: Gap Between Base Unit and Reinforcement Bracket*

**Door Handle Adapter Installation:**

28. Using 1x Transit Handle Adapter Assembly (351639), 1x Slide Handle (351930), 2x Countersunk ¼" bolts (70013), 2x Nylock nuts (70365), and 2x ¼" washers (70366), slide the slide handle through the plastic slide housing on the lower tray as shown in Figure 3. Hook the aluminum spacer under the vehicle door handle and attach the bracket to the slide handle as shown in Figure 36 & Figure 37.

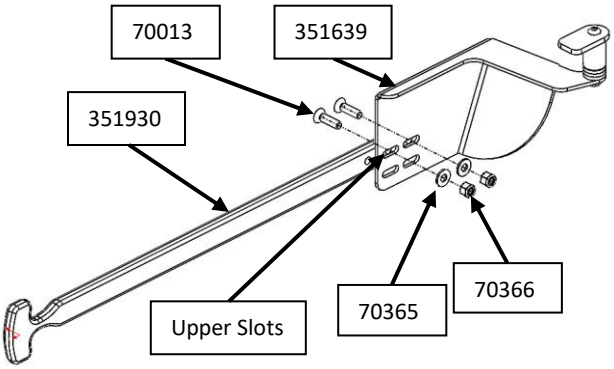


*Figure 36: Door Handle Adapter Installation*

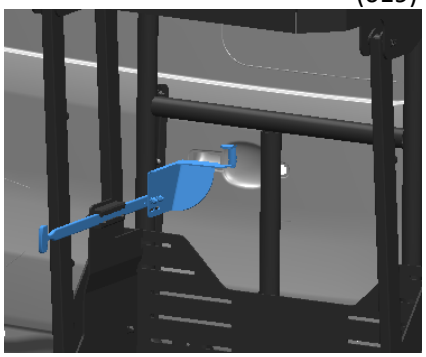

*Figure 37: Handle Slide Installed*

**Bump Stop Installation:**

29. Place painter's tape in the location for the passenger door interior bump stop as shown in Figure 38 & Figure 39. Dry fit the bump stop assembly into position and mark drill locations.

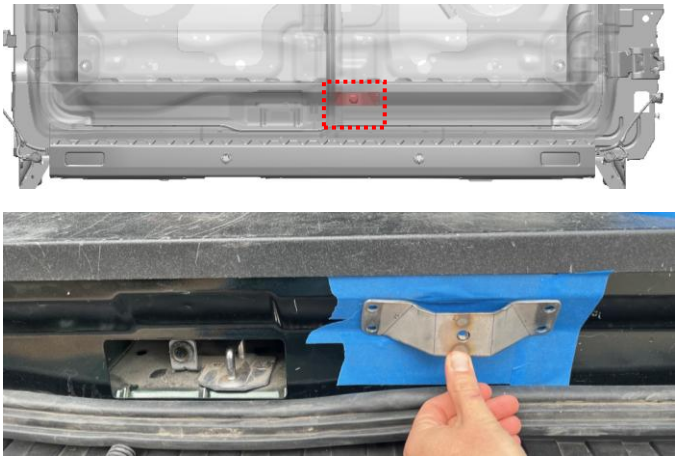

*Figure 38: Bump Stop Installation Location*

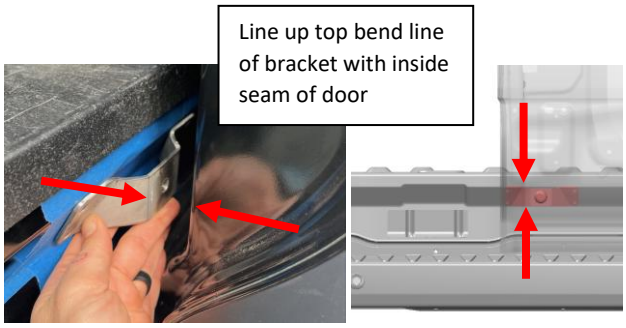


*Figure 39: Bump Stop Mounting Alignment with Door*

30. Drill a pilot hole in marked locations (Figure 40).

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*Figure 40: Pilot Holes Marked*

31. Carefully close driver's side door to verify clearance on placement of rubber bumper (Figure 41).

*Figure 41: Driver Door Clearance Check*

32. Install bump stop assembly using #14 self-tapping screws (70726) through pre-drilled locations (Figure 42).

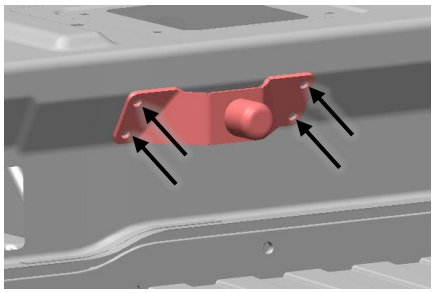

*Figure 42: Installation with Self-Tapping Screws*

33. With the driver's side door open, gently close the passenger door.
34. Carefully loosen the bump stop until the rubber bumper is just touching the inside of the passenger door (Figure 43).

*Figure 43: Bump Stop Adjustment to Passenger Door*

35. Open passenger door and **unscrew** (increase engagement with door) the bumper a **¼ turn** (Figure 44).

*Figure 44: Unscrew Bump Stop 1/4 Turn to Increase Engagement*

36. Tighten both jam nuts down to secure bumper into place (Figure 45).

*Figure 45: Tightening Jam Nuts on Rubber Bumper*

**NOTE:** The jam nuts may need to move to the same side to provide enough shank length on rubber bumper. Tighten both jam nuts together to secure bumper in place for travel.

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**Reflective Sticker Installation:**

37. Using the provided reflective red/white stickers (401193), cut the 18" strip into four 4" sections. place them on four outer corners of the bike trays that are or will be mounted to the Upper Tray of the Power Lift. Refer to Figure 46 and Figure 47.

*Figure 46: Reflective Tape Installation*

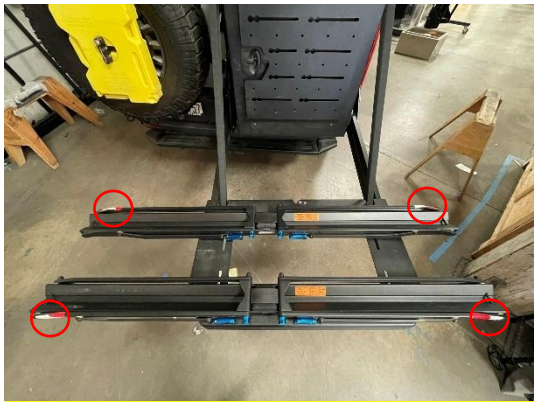

*Figure 47: Reflective Tape Layout*

**Box Installation:**

38. Follow the separately provided instructions on installation of storage box.
39. For your convenience, four (4) shorter bolts (PN 70013 – ¼" x 20 x 1" Flathead) have been provided to mount the storage box to the PowerLift Unit.

## Switching the Power Lift from a 2:1 System to a 1:1 System (Fast Raise/Lower Mode):

**NOTE: Switching the lift ratio on your Power Lift will REDUCE the weight capacity to <u>100 lbs</u>.**

1. Fully lower the Power Lift so the webbing spools are completely unspooled as shown in Figure 48.

*Figure 48: Power Lift Fully Lowered*

2. Have one person lift the Power Lift upper tray to provide slack in the webbing.
3. Grab the webbing anchors from the pulley holes in the Power Box as shown in Figure 49.

*Figure 49: Webbing Anchor Pulled Through Pulley Holes*

4. Remove the webbing from the anchors, thread the webbing over the pulleys in the upper tray and through the slots as shown in Figure 50.

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*Figure 50: Webbing Threaded Over Pulley and Through Upper Tray Slot*

5. Thread the webbing back through the webbing anchors with the white stitch in the webbing lying in the middle of each webbing anchor as shown in Figure 51. Double them back as shown in Figure 15. Check that straps are even.

*Figure 51: White Stitching Position on Webbing Anchors*

6. Store excess strap with a ziptie.

| TORQUE SPECIFICATIONS | | | |
|---|---|---|---|
| SIZE (SAE) | 18-8 SS | GRADE 5 ZINC PLATED | GRADE 8 ZINC PLATED |
| 6-32 (IN-LBS) | 9.6 | 15.3 | 21.5 |
| 8-32 (IN-LBS) | 19.8 | 29.5 | 41.7 |
| 10-24 (IN-LBS) | 22.8 | 47.0 | 62.9 |
| 10-32 (IN-LBS) | 31.7 | 48.0 | 68.0 |
| 1/4-20 (IN-LBS) | 75.2 | 91 | 129 |
| 5/16-18 (IN-LBS) | 132 | 188 | 265 |
| 3/8-16 (FT-LBS) | 20 | 28 | 39 |
| 7/16-14 (FT-LBS) | 31 | 44 | 63 |
| 1/2-13 (FT-LBS) | 43 | 68 | 96 |
| 9/16-12 (FT-LBS) | 57 | 109 | 226 |
| SIZE (Metric) | 18-8 SS | CLASS 8.8 ZINC PLATED | CLASS 10.9 ZINC PLATED |
| M5 X 0.8 (IN-LBS) | 38.4 | 46.8 | 66.0 |
| M6 X 1.0 (IN-LBS) | 57.6 | 79.2 | 112.8 |
| M8 X 1.25 (IN-LBS) | 99.6 | 192.0 | 274.8 |
| M10 X 1.5 (FT-LBS) | 13.8 | 31.6 | 45.2 |
| M12 X 1.75 (FT-LBS) | 21.0 | 55.1 | 78.9 |
| M14 X 2.0 (FT-LBS) | 29.4 | 88.1 | 126.1 |

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Aluminess Products, Inc. (Aluminess) Warranty

1. Lifetime Warranty. Aluminess provides a lifetime warranty of its products to the original retail purchaser provided such products are installed correctly according to the official Aluminess installation instructions. Any modification to the original product design, function or use of any Aluminess products will void the Aluminess warranty. Aluminess will have sole discretion to determine warranty eligibility for any and all Aluminess products sold to any purchaser.

2. Limited Remedies. Subject to any limitations and exclusions described herein, and subject to Aluminess' determination of warranty eligibility, Aluminess will remedy defects in product materials and/or workmanship of any product by repairing or replacing such defective product, which shall be within Aluminess' sole discretion, without charge for parts or labor. Aluminess may elect in its sole discretion not to replace a defective product and issue the purchaser a refund equal to the purchase price of any defective product or purchaser may elect to receive a credit (equal to such refund) toward the purchase of new Aluminess products. Repair or replacement of a defective product or providing a refund or credit to purchaser will be purchaser's exclusive remedy under this warranty. Damage to a purchaser's vehicle, cargo and/or any other person or property is expressly excluded from the Aluminess warranty.

3. Modification. Aluminess products are designed to be mounted to factory equipped vehicles. Aftermarket additions to such vehicle may or may not require modification of an Aluminess product. The Aluminess warranty does not extend to any Aluminess products that are modified to fit around other otherwise accommodate or be compatible with any aftermarket vehicle accessories or alterations. Aluminess does not guarantee fitment with any other aftermarket accessories or modified vehicle, and it is up to purchaser to determine fitment prior to purchasing any Aluminess product.

4. Damage. Damage to Aluminess products due to normal wear and tear, including, but not limited to, cosmetic issues and superficial scratches, or structural damage to an Aluminess product in connection with any vehicle collisions or other structural degradation in connection with the use of such vehicle (on road or off road) will not be covered by the Aluminess warranty. Additionally, any product user's misuse, neglect, overloading, improper maintenance or improper installation or repair of any Aluminess products are not covered under the Aluminess warranty.

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8. Warranty Claim Submission. Purchaser will responsible for returning any defective product to Aluminess for warranty consideration and purchaser may be responsible for all costs associated with shipping the product to and from Aluminess. Prior to returning any product for warranty, purchaser must contact Aluminess Products Inc. for proper authorization.