

Modifying 2004.5 Dodge 3500 Rear Axle Covers

Objective: Prevent Axle Covers from coming off wheels while driving.

Part List:

- 7/16-14 All Thread (4 Each @ 3.5" Length)
- 7/16-14 Flange Nut (4 Each)
- 7/16 ID Nylon Washer (4 Each)
- 7/16-14 Chrome Acorn Nuts (4 Each)

Not Installed:

- 7/16-14 Jam Nuts (2 each)

Tool List:

- ½" Drive Ratchet
- ½" Drive Extension 10"
- 9/16"-1/2 Drive Socket (Std)
- 11/16"-1/2 Drive Socket (Deep)
- 11/16" Open End Wrench (x2)
- 5/8" Open End Wench or 5/8" Socket (Deep)
- 7/16"-14 Die
- 7/16"-14 Thread Chaser or Tap
- 3/8" Drill
- 1/8", ¼", 5/16", 3/8", 7/16", 15/32" Drill Bits (3/8" Shank)
- Blowgun
- Liquid Paper
- ½" Masking Tape
- Blue Loctite (Service Removable)

Installation Steps:

1. Remove 2 Axleshaft Flange Bolts (Use two directly across from each other-see Photo 1)



PHOTO 1: Axle shaft Flange Bolts Removed

2. Run 7/16-14 Thread chaser thru bolt holes and blow out debris.
3. Cut 7/17-14 All Thread into 4 pieces, each 3 ½" in length.
4. Run 7/16-14 Die onto studs to clear burrs or any other problems with threads.
5. Apply blue Loctite to pre-cut 7/16-14 all thread studs approximately 1 inch from end going into Axleshaft Flange bolt hole.



Photo 2: Installing Axle Studs

6. Use 7/16-14 Jam Nuts to seat stud into axle flange (See Photo 2).

7. Remove Jam Nuts and install 7/16-14 Flange Nut onto each stud (See Photo 3).



Photo 3: Installing Axle Flange Nuts

8. Torque Flange Nut to 95 ft lbs.

Note: You should have approximately 1 1/2" of each stud remaining as measured from axle flange.

9. Apply liberal amount of White Out compound to the end of the studs.
10. Place axle cover on wheel making sure you line up the cover lug nut catches and press hard to imprint White Out from stud ends onto inside of the cover.

WARNING: Do not twist cover in Step 10!



Photo 4: Alignment Marks

11. Measure marks on the inside of cover. They should be approximately 4" center to center. Double check this by measuring stud center to centers on axle (See Photo 4).

WARNING: This step is critical before drilling into your covers. Measure carefully and double-check before drilling your pilot holes.

12. Apply masking tape to outside of cover in the areas that the drill bit will penetrate.
13. Use 1/8" drill bit to make stud pilot holes in cover by drilling from the **inside**.
14. Begin drilling cover using 1/4" bit, followed by 5/16" and then 3/8".
15. Stop and place cover over axle studs noting locations in relation to the cover holes. You will want to make adjustments at this point before drilling any larger (i.e. left or right, up or down).
16. Drill 7/16" Holes and recheck alignment of cover to studs.

Note: I made my holes somewhat oblong to accommodate any minor adjustments when removing and reinstalling covers in the future.

17. Drill final hole using the 15/32" Bit.
18. Remove masking tape and use blowgun to remove any shavings or debris from cover.
19. Install cover to axle over the studs and firmly snap into place (See Photo 5).



Photo 5: Cover Installed

Note: You should have approximately 1/2" of each stud protruding from cover..
20. Install 7/16 Nylon Washer over each stud (See Photo 5)



Photo 6: Nylon Washers Installed

21. Apply blue Loctite to the threads inside of each 7/16-14 Chrome Acorn Nut and hand thread nuts onto studs.
22. Using 5/8 open end wrench or 5/8" -3/8 Drive Socket (Deep) and tighten Chrome Acorn Nuts (See Photo 7).



Photo 7: Assembled Product

WARNING: Do not over tighten the nuts while using the wrench or socket. The cover will crack if over tightened!

23. Repeat Steps 1-22 for remaining axle side.

Note: When I have the vehicle serviced which requires removing the rear wheels/tires, I remove the covers prior to arriving at the shop.

Time: 30 Minutes per axle

Cost: (Materials purchased from local ACE Hardware)

- 7/16-14 All Thread x 24" \$3.00
- 7/16-14 Flange Nuts \$2.05
- 7/16-14 Nylon Washers \$1.00
- 7/16-14 Chrome Acorn Nuts \$11.20
- 7/16-14 Jam Nuts \$0.70
- **Total - \$18.00 VS Axle Cover from Dealer \$119.00!**

Additional Photos:



