

94-99 Dodge 2500/3500

CAD Delete Kit & 35 Spline Upgrade Kit

Before Starting! Check all parts and tools!

Included in your CAD Delete Kit :

- Axle Shaft (2 upgrade)
 - Axle Seal (2 upgrade)
 - Block off Plate
 - Gasket
1. Upgrade Kit will also need a different carrier (posi, locker, etc.) or 35 spline side gears. Not supplied.
 2. Read all instructions before starting. Do not attempt the install unless you are an equipped and experienced mechanic.
 3. When working with tools and chemicals, always wear the required safety equipment and glasses.
 4. If there are any questions during the install, contact EMS Offroad. **Do not modify** any of the parts (UNLESS INSTRUCTED TO DO SO).
 5. These instructions do not replace the required knowledge of vehicle repair or seal installations.
 6. Inspect all parts. Check fitment before disassembly. If any parts appears to be damaged or does not fit/function contact EMS Offroad. There are no returns on modified, abused, neglected, altered or improperly installed parts.
 7. You will have 2 options of installing the CAD Delete Seal. Option 1- Section 8.1 is the **only recommended Option**. *Option 2 is section 8.2 and is italicized. Disregard all of section 8.2 when using the recommended Option 1.*

*****Improper tool use may result in injury or death!**

When working with tools and chemicals, always wear the required safety equipment and glasses.

Installing the EMS Offroad CAD Delete:

1. Clean and inspect all parts
2. Lift and support front axle with jack stands of vehicle. Block rear tires.
3. Remove outer (refer to hub kit instructions or Factory service manual)
4. Remove Axle

5. Remove OEM stub axle from inner axle (**skip this step if upgrading to the hub conversion kit**)
 - 5.1. Install the stub axles onto the new inner axle. **EMS Offroad stocks Spicer u-joints and 4340 u-joints if required.**
6. One seal is located next to the carrier, the other is located outboard of the CAD on the long side axle tube.
7. Remove CAD
 - 7.1. Remove collar
 - 7.2. **Seal removal is optional.** Seal is located on the outboard side of CAD.
 - 7.2.1. To remove seal, drive the seal in towards the center section.
 - 7.2.2. Some models will require removal of the bearing, check to see if your new axle clears the bearing.
8. Install new breather.
 - 8.1.1. Remove cover and drain housing
 - 8.1.2. Mark (if needed) and remove carrier bearing caps
 - 8.1.3. Remove carrier (Don't worry Dana 60s have the shims under the carrier bearings)
 - 8.1.4. Drill and tap a new 1/8" NPT hole in top of front center section.
(Figure 1) You will see a splash guard cast into the center section inside.
(Figure 2)



Figure 1



Figure 2

- 8.1.4.1. Remove factory breather from CAD housing. Install in new hole. Re-route breather hose, to new location.
9. Install the new axle seal. Your kit came with a new state of the art axle seal. This seal is the same design used by NASCAR!
 - 9.1. Prepare the axle tube for seal installation. Clean and de-bur the inside of the axle tube on the right. This is the side that **does not** have a place machined for a seal. **Upgrade kit will repeat both sides.** (Flap wheel on a die grinder works best, but may be done by hand)



Figure 3

- 9.2. Prepare the seal for installation

9.2.1. Fill the inside of the seal with a **low melting point drum brake wheel bearing grease**. A coating of 1/8" – 3/16" is sufficient. (A)

NOTE: DO NOT USE FANCY SYNTHETIC HIGH TEMP GREASE. YOU WANT THE CHEAPEST GREASE YOU CAN FIND, WHICH CAN BE FOUND AT A TRACTOR SUPPLY PLACE. IF YOU USE A HIGH TEMP GREASE SEAL LIFE WILL BE REDUCED BY 100x!

9.2.2. Run a bead of hardening RTV on the outside diameter, just inside of rubber barbs. (B)



Figure 4

9.2.3. Allow the RTV to start setting up before installing. Approximately 10 minutes depending on type of RTV used.

9.2.4. Install the seal into the end of the axle tube

9.2.5. The seal will press hard into the end of the tube, make sure the seal is set into the end of the tube 1/4"



Figure 5

- 9.3. Replace the carrier and carrier bearing caps. Torque to factory spec per vehicle. **Upgrade kit will have to replace side gears to 35 spline side gears before installing carrier.**
- 9.4. Replace cover
10. Check the axle shaft for any burs or sharp edges, clean and de-bur as needed.
11. Apply a liberal amount of grease to the seal area and splines of the inner axle shafts.
12. Slide Axles into housing; take care not to knock the seal out, and make sure not to push dirt, mud, and rust into the center section.
13. Confirm that the Right side axle does not contact the bearing support on the inboard side of the CAD.
 - 13.1. Install block off plate and gasket.
14. Fill with recommended fluid.
15. Options for Vacuum and 4WD light wires.
 - 15.1. Option #1 – Wire in new switch
 - 15.1.1. Remove Vacuum lines from Transfer case switch (switch is located directly above the Transfer case shifter, near the front output,)
 - 15.1.2. Remove and plug vacuum line that feeds the switch
 - 15.1.3. Replace the switch with one that is an electrical switch (this must be sourced locally, due to the various differences in transfer case options.)
 - 15.1.3.1. Most likely replacement switch can be found from a 02 Dodge 2500. This switch may not fit your transfer case.
 - 15.1.4. Reroute the wires from the CAD to the new transfer case switch.
 - 15.2. Option #2 – Plug the vacuum lines that ran to the CAD, Dead end the wires that ran to the CAD
 - 15.3. Option #3 – Remove the fork from the CAD and reinstall. Discard the Block Off Plate.
16. Install outers, or continue with hub conversion install.