



advanced FLOW engineering

Instruction Manual P/N: 46-70030 / 46-70032

Dana 80 – 10 Bolt Rear Differential Cover

Dodge Ram	3500	94-02 L6-5.9L (td)
Ford	F350 / F450	99-03 V8-7.3L (td)
Ford	F350 / F450	04-07 V8-6.0L (td)



Qty.	Part Description
1	Differential Cover – Raw, Machined Fins (46-70030)
1	Differential Cover – Black, Machined Fins (46-70032)
10	Screw, Socket Head 3/8-16
10	Washer, Flat
1	Plug, Magnetic M12 x 1.25
1	Crush Washer
1	Plug, 1/8" NPT
1	Plug, 3/4" NPT (46-70030)
1	Plug, Magnetic 3/4" NPT, 6" Deep Reach (46-70032)
1	Porthole View Gauge (46-70032)
1	Ratchet Strap
1	RTV Silicone

- Please read the entire instruction manual before proceeding.
- Ensure all components listed are present.
- If you are missing any of the components, call customer support at 951-493-7100.
- Ensure you have all necessary tools before proceeding.
- Ensure that your vehicle is cooled off before proceeding.
- Retain factory parts for future use.

Note: Your vehicle must be completely cooled off before proceeding with the installation.

Warranty information available at <https://afepower.com/contact#warranty>

1. Park your vehicle on a flat, dry surface. You will need to block the tires to prevent the vehicle from rolling.

Note: You will need to get under the truck to do this installation. Please use every precaution when lifting the vehicle.

2. Place a drain pan under the differential cover.
3. Remove the **bottom** nine (9) bolts from the differential cover.
4. Loosen, but do not remove, the top bolt. Break the seal on the cover, allowing the gear oil to drain.
5. Remove the final bolt from the differential cover and remove the OEM cover from the housing.
6. Use a clean, lint free rag to wipe down the remaining gear oil from the housing.
7. Clean off the sealing surface with a gasket scraper. Be careful not to gouge the surface while cleaning.
8. Check the surface of the housing for any irregularities. If there are any, carefully remove high spots using a smooth flat file.

Note: Do not "Round Off" the flat gasket surface.

9. Hold the supplied aFe differential cover up to the housing to make sure you will be able to maneuver it into place easily.
10. Spread the supplied RTV silicone across the gasket surface of the differential cover. Be generous when spreading the silicone across the surface, ensuring to follow along the inside of all the bolt holes.

Note: Before moving on, make sure that the silicone will completely seal with the sealing surface.

11. Hold the aFe differential cover in position, aligning the screw holes. Install four (4) of the supplied 3/8-16 socket head screws and flat washers into separate sides of the cover to hold it into place.

Note: Be careful not to move the cover around once it touches the gasket surface.

12. Continue installing the six (6) remaining 3/8-16 socket head screws and flat washers finger tight.
13. Torque the mounting screws to 12-16 ft. -lbs in a crisscross pattern.

Note: If needed, use the supplied ratchet strap to secure the spare tire towards the rear of the truck. This will allow for extra clearance between the spare tire and the aFe differential cover.

14. Install the supplied M12x1.25 drain plug and crush washer into the bottom of the cover.

If installing kit number 46-70032:

- Apply Teflon tape/pipe sealant to the threads and install the supplied 1" NPT Sight Glass plug into the passenger side of the cover.

Note: For all NPT plugs, secure 1.5-3 turns past finger tight. The fitting should never bottom out in the port.

15. Using the top fill port, fill the aFe differential cover with new gear oil. Fill until gear oil runs out of the 1/8" NPT port on the side of the cover (about 4 quarts).

Note: If your vehicle is lifted and your axle has been rotated, you will have to verify you have the correct oil level for your vehicle.

16. Apply Teflon tape/pipe sealant and install the supplied 1/8" NPT plug into the side of the cover.

If installing kit number 46-70030:

- Apply Teflon tape/pipe sealant and install the supplied 3/4" NPT plug into the top of the cover.

If installing kit number 46-70032:

- Apply Teflon tape/pipe sealant and install the supplied 3/4" NPT magnetic 6" deep reach plug into the top of the cover.

17. Your installation is complete.