

advanced FLOW engineering

Instruction Manual P/N: 46-70040 / 46-70042

Dana M220 – 12 Bolt Rear Differential Cover

Make: **Dodge** Model: **RAM 2500** Year: **03-07** Engine: **L6-5.9L (td)**

Make: **Dodge** Model: **RAM 2500** Year: **07-13** Engine: **L6-6.7L (td)**

Make: **Dodge** Model: **RAM 3500** Year: **03-07** Engine: **L6-5.9L (td)**

Make: **Dodge** Model: **RAM 3500** Year: **07-13** Engine: **L6-6.7L (td)**



- 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.

Label	Qty.	Description	Part Number
A1	1	Differential Cover – Raw, Machined Fins (46-70040)	05-60755A
A2	1	Differential Cover – Black, Machined Fins (46-70042)	05-60755B
B	1	RTV Silicone	05-60096
C	14	Screw, Socket Head M8 x 1.25 x 30	03-50225
D	14	Washer, Flat	03-50228
E	1	Plug, Magnetic M12 x 1.25	03-50385
F	1	Crush Washer	03-50384
G	1	Plug, 1/8" NPT	03-50029
H	1	Plug, 3/4" NPT (46-70040)	03-50391
I	1	Plug, Magnetic 3/4" NPT, 6" Deep Reach (46-70042)	03-50223
J	1	Plug, 1" NPT (46-70040)	03-50390
K	1	Porthole View Gauge (Pre-Installed) (46-70042)	03-50224

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



A1



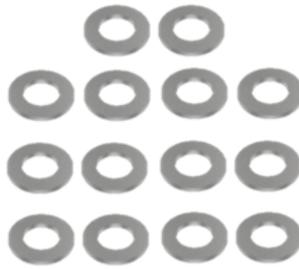
A2



B



C



D



E



F



G



H



I



J



K



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

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

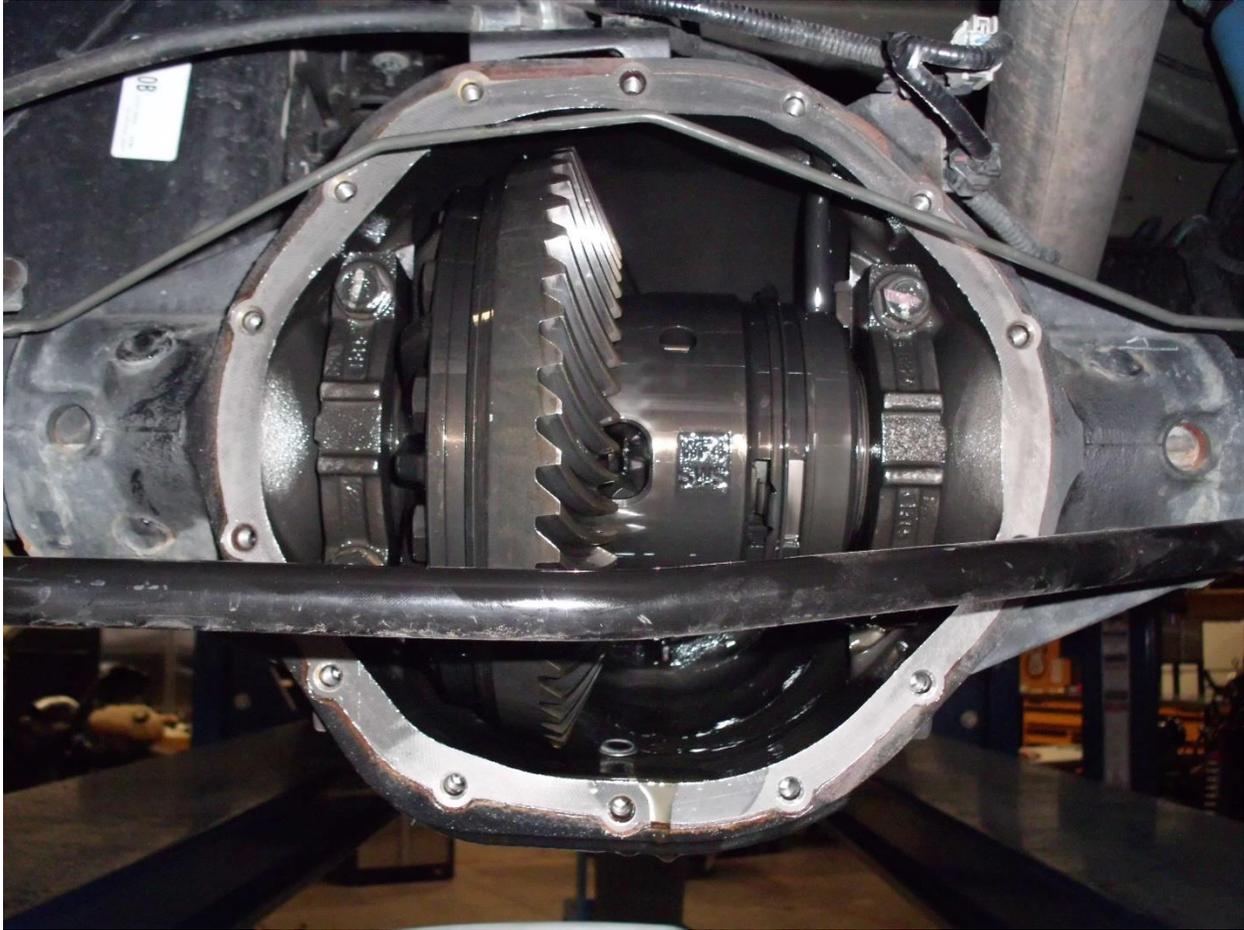
Note: You will need to get under the truck to do this installation. Please use every precaution when lifting the vehicle.

2. Place a drain pan under the differential cover.
3. Remove the **bottom** 13 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.



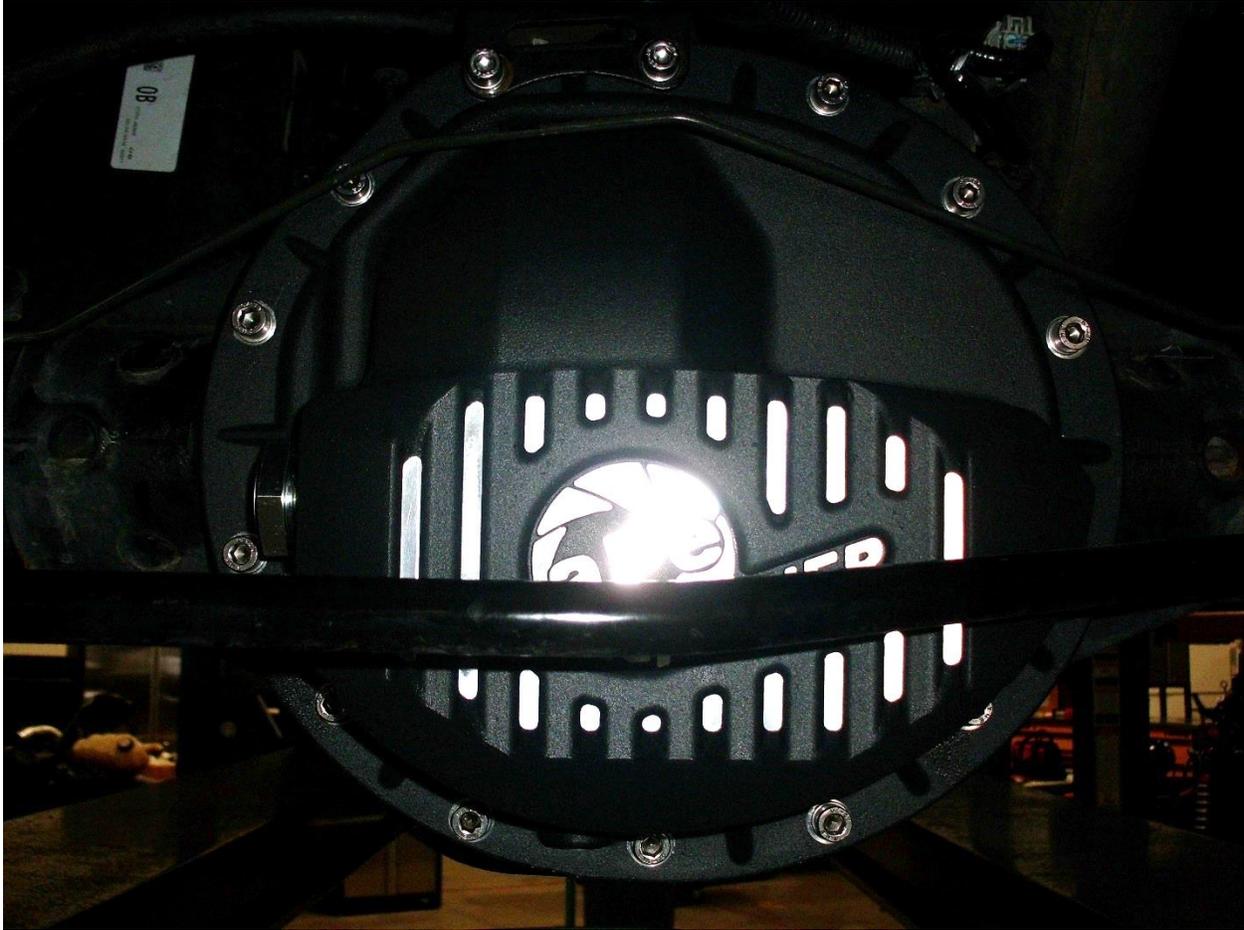
5. Remove the remaining bolt from the top of the differential cover.
6. Remove the OEM cover from the housing.

Note: If applicable, also remove the OEM gasket.



7. Use a clean, lint free rag to wipe down the remaining gear oil from the housing.
8. Clean off the sealing surface with a gasket scraper. Be careful not to gouge the surface while cleaning.
9. 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.

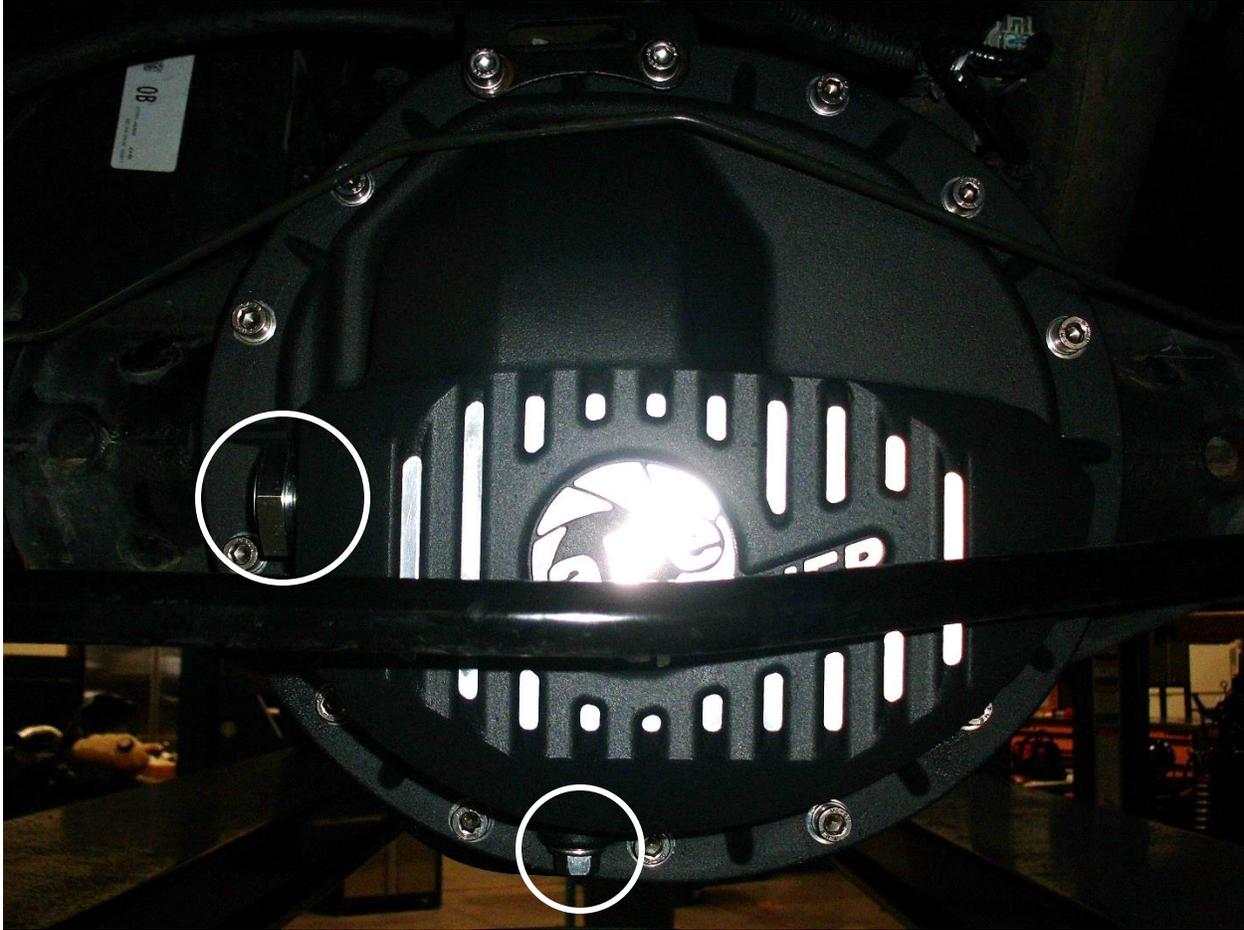


Note: If applicable, you can re-use the OEM gasket in place of RTV silicone.

10. Spread the supplied RTV silicone across the gasket surface of the supplied aFe 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 gasket surface.

11. Hold the aFe differential cover into position, aligning the screw holes. Install four (4) of the supplied M8x1.25x30 socket head screws and flat washers into separate sides of the cover to hold it in place.
12. Continue installing the remaining M8x1.25x30 socket head screws and flat washers finger tight.
13. Torque the mounting screws to 12-16 ft. -lbs. in a crisscross pattern.



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

If installing kit number 46-70040:

15. Install the supplied 1" NPT plug into the side of the cover.



16. 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 3 ½ 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.

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

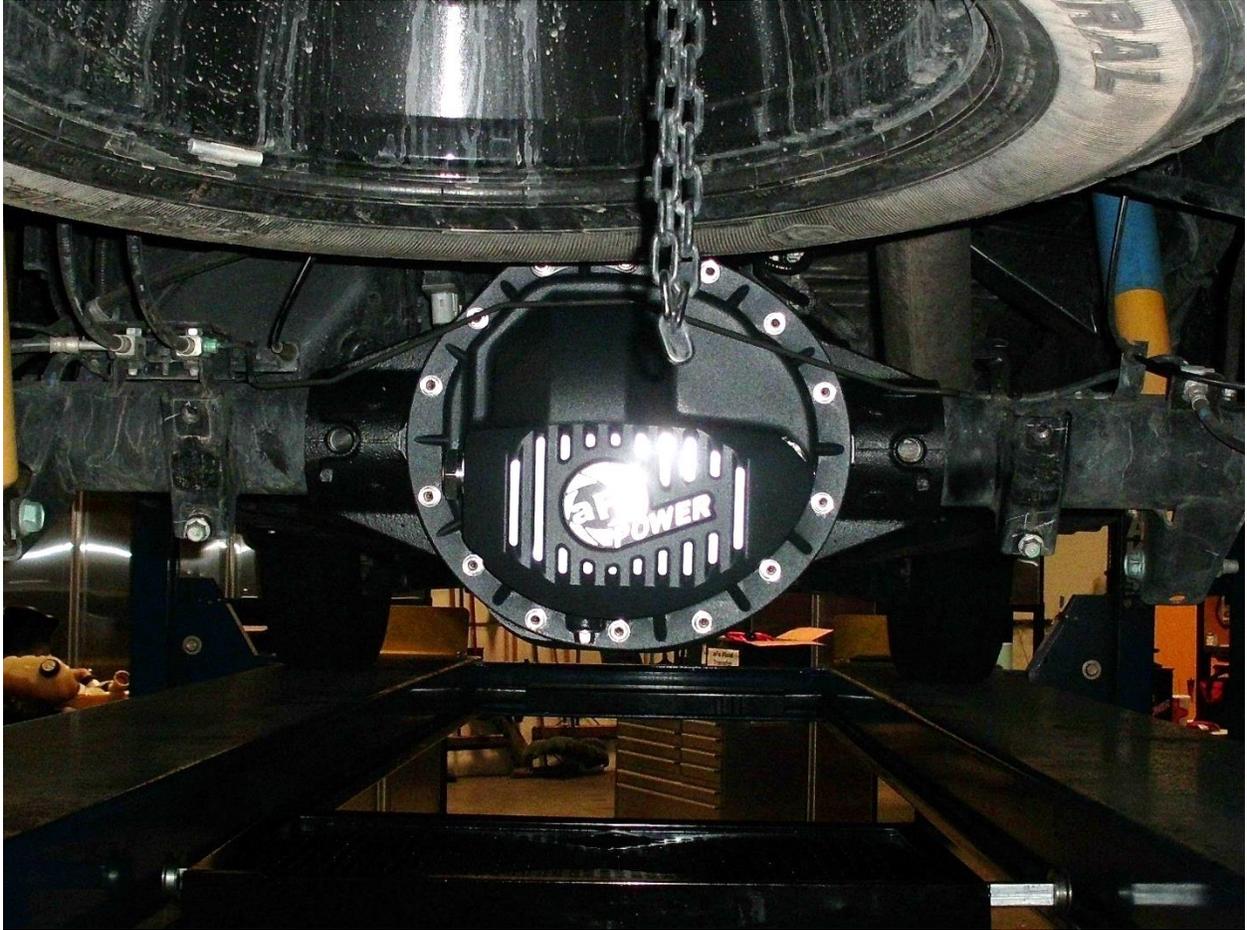


If installing kit number 46-70040:

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

If installing kit number 46-70042:

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



20. Your installation is complete.



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