

advanced FLOW engineering

Instruction Manual P/N: 46-71480A / 46-71480B

Dana M235 – 14 Bolt Front Differential Cover

Make: Ford Model: F250 Super Duty

Year: 2023-2026

Engine: V8-6.7L (td)/7.3L (gas)

Make: Ford Model: F350 Super Duty

Year: 2023-2026

Engine: V8-6.7L (td)/7.3L (gas)



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- Please read the entire instruction manual before proceeding.
- Ensure all components listed are present.
- For technical support please call 951-493-7185.
- Ensure you have all necessary tools before proceeding.
- Do not attempt to work on your vehicle when the engine is hot.
- Retain factory parts for future use.

Label	Qty.	Description	Part Number
A1	1	Differential Cover – Raw, Machined Fins (46-71480A)	05-61673A
A2	1	Differential Cover – Black, Machined Fins (46-71480B)	05-61673B
B	14	Screw, Socket Head M8 x 1.25 x 25	03-50231
C	14	Washer, Flat: 5/16 AN S/S	03-50228
D	1	Plug, M12 x 1.25	03-50385
E	1	Washer, Aluminum: M12, 15.85MM OD	03-50384
F	1	Plug, 1/8" NPT	03-50029
G	1	Plug, 1/2" NPTF: 3" Deep Reach (46-71480B)	03-50612
H	1	Pothole View Gauge (46-71480B)	03-50224
J	1	Plug, 1/2" NPT (46-7160A)	03-50249
K	1	Plug, 1" NPT (46-71460A)	03-50390

Tools Needed:

- 1-1/2" Socket
- 13mm Deep Socket
- 14mm Deep Socket
- 3/16" Hex-Bit Socket
- 6mm Hex-Bit Socket
- Ratchet & Extension
- Torque Wrench

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

Emissions Disclaimer: This product does not require a CARB EO#.



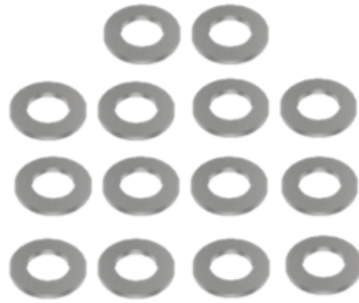
A1



A2



B



C



D



E



F



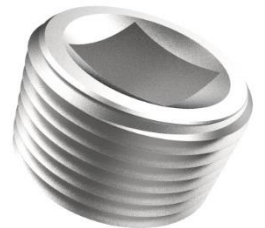
G



H



J



K

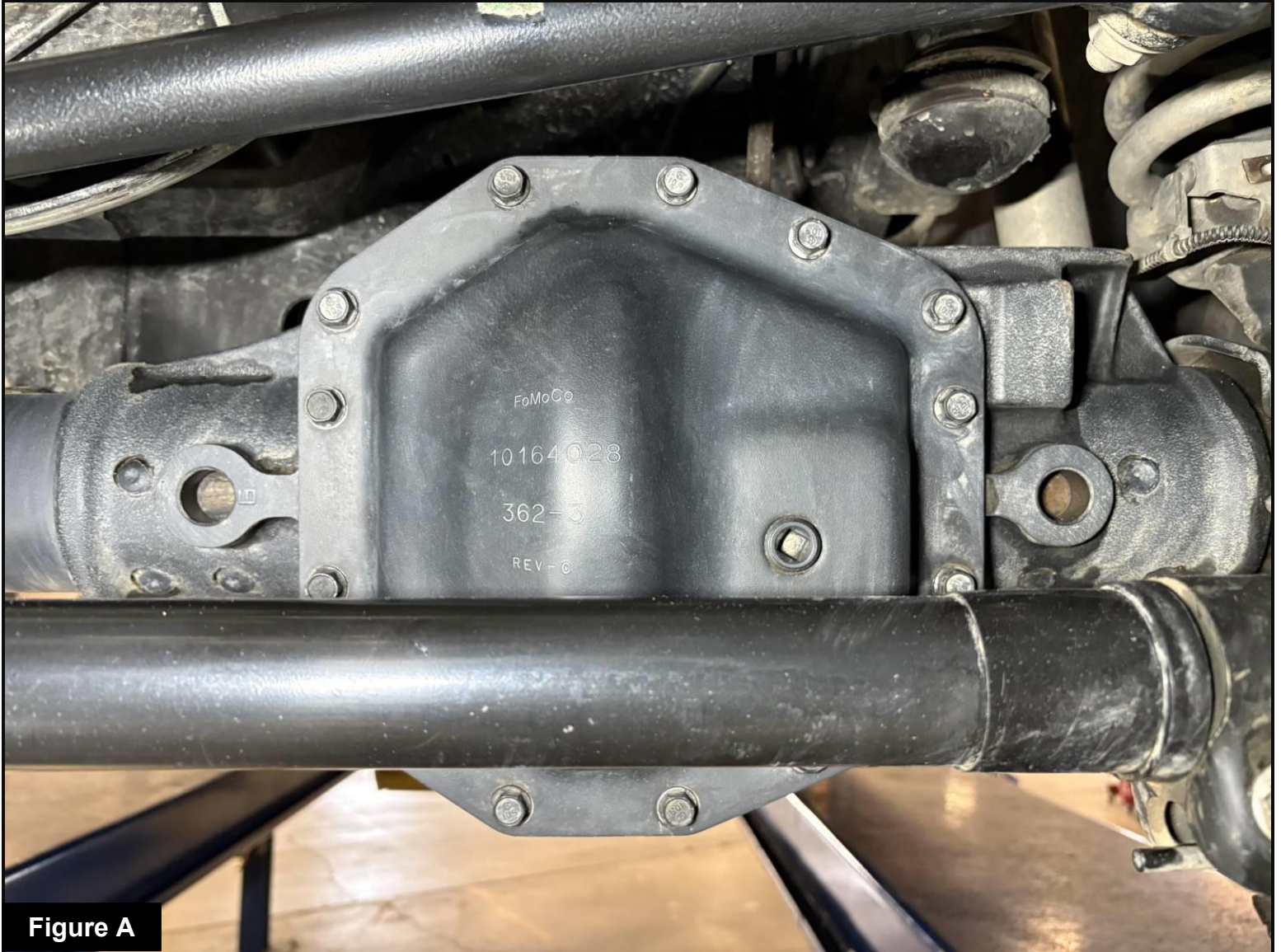


Figure A

Refer to Figure A for Step 1

Step 1: Park the vehicle on level surface and engage the parking brake. Allow the vehicle to cool down completely before beginning installation.



Figure B

Refer to Figure B for Steps 2-5

Step 2: Remove the bottom seven (7) hex-head screws from the stock differential cover.

Step 3: Remove the top five (5) of the seven (7) hex-head screws from the stock differential cover.

Step 4: Loosen, but do not remove, the top two (2) hex-head screws. Carefully break the seal on the stock differential cover and drain the gear oil completely.

Step 5: Remove the last two (2) hex-head screws, then carefully pry the stock differential cover away from the differential housing. Use caution when removing the stock differential cover. Inspect the reusable gasket to ensure it is not damaged; if it is damaged, replace it with a new gasket.

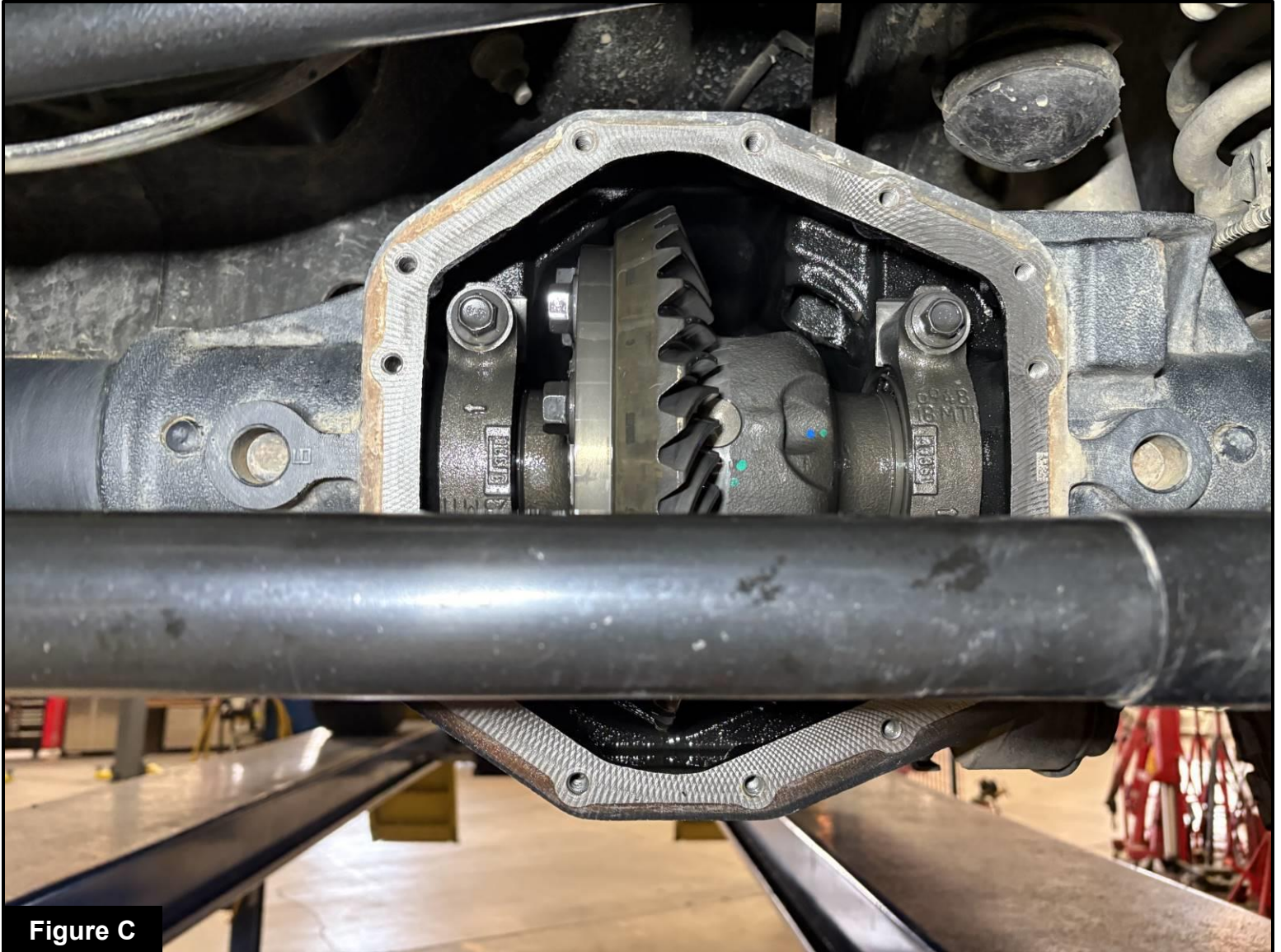


Figure C

Refer to Figure C for Step 6

Step 6: Thoroughly clean the mating surface.

Note: Clean the surrounding area of debris.

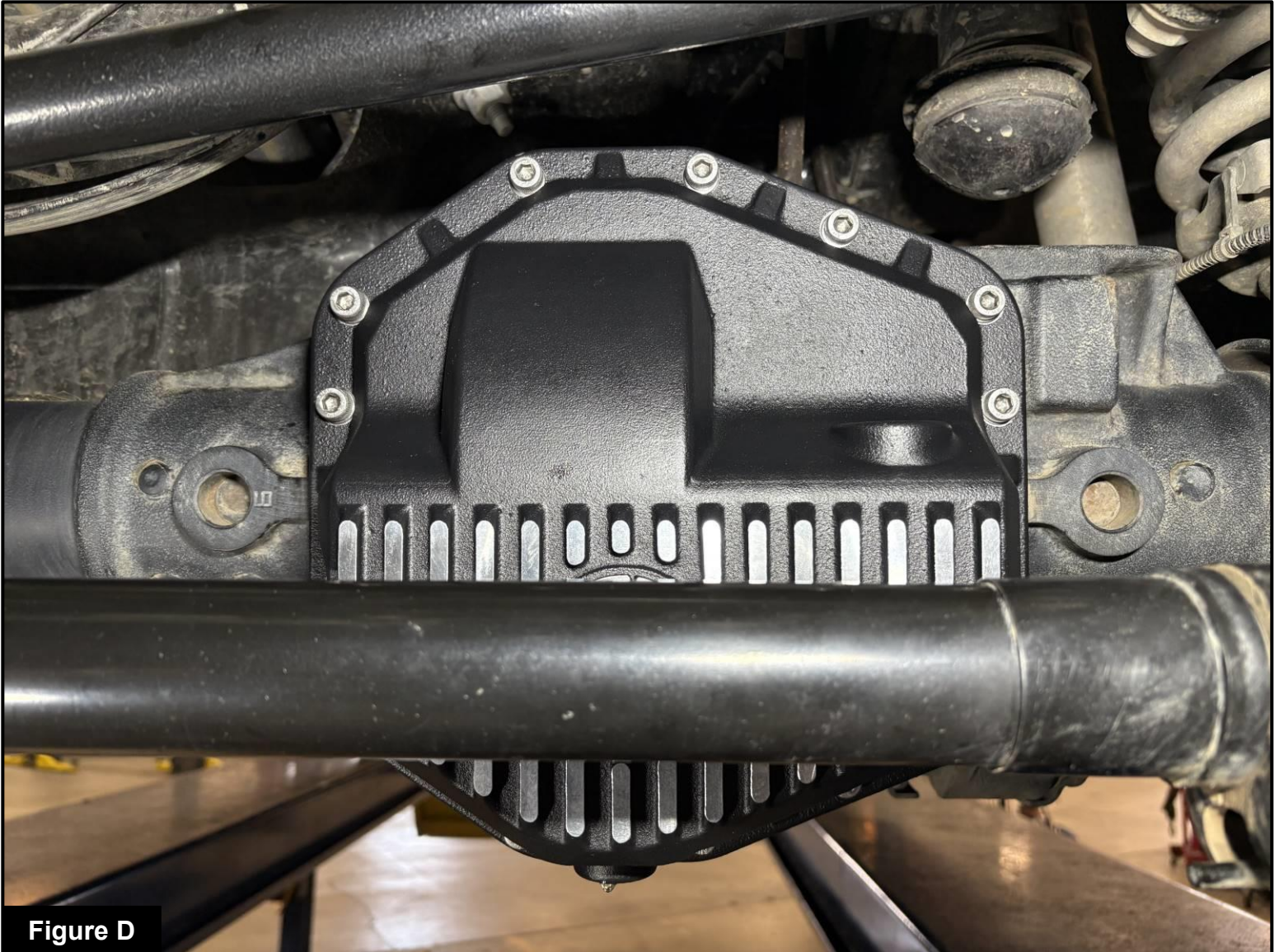


Figure D

Refer to Figure D for Steps 7-9

Step 7: Carefully position the aFe differential cover with the reusable differential cover gasket against the differential housing. Ensure the gasket is properly aligned, and verify that the cover seats evenly on the housing surface.

Step 8: Install the supplied fourteen (14) socket head cap screws and fourteen (14) washers to secure the aFe differential cover. **Tighten each screw snugly but do not fully torque at this stage.**

Step 9: Torque all the screws to 26 ft-lbs (35 Nm) in an X-pattern.



Figure E

Refer to Figure E for Step 10

Step 10: Apply Teflon pipe sealant to the threads of the supplied 1" NPT fitting. Install the fitting into the large side port of the aFe differential cover and tighten securely.

For cover **46-71460A**: Install the 1" NPT plug included in the kit.

For cover **46-71460B**: Install the 1" NPT sight glass included in the kit.

Note: Do not overtighten



Figure F

Refer to Figure F for Step 11

Step 11: Install the supplied M12 x 1.25 drain plug and crush washer into the bottom of the aFe differential cover. Torque the drain plug to **20 ft-lb (27 Nm)**.



Figure G

Refer to Figure G for Step 12

Step 12: Using the top fill port on the aFe differential cover, fill the differential with the vehicle manufacturer's recommended gear oil until fluid begins to flow out of the 1/8" NPT side port. (approximately 4 quarts).



Figure H

Refer to Figure H for Steps 13-14

Step 13: Apply Teflon pipe sealant to the threads of the 1/8" NPT plug.

Step 14: Install the 1/8" NPT plug into the side port of the aFe differential cover and tighten securely.

Note: Do not overtighten.

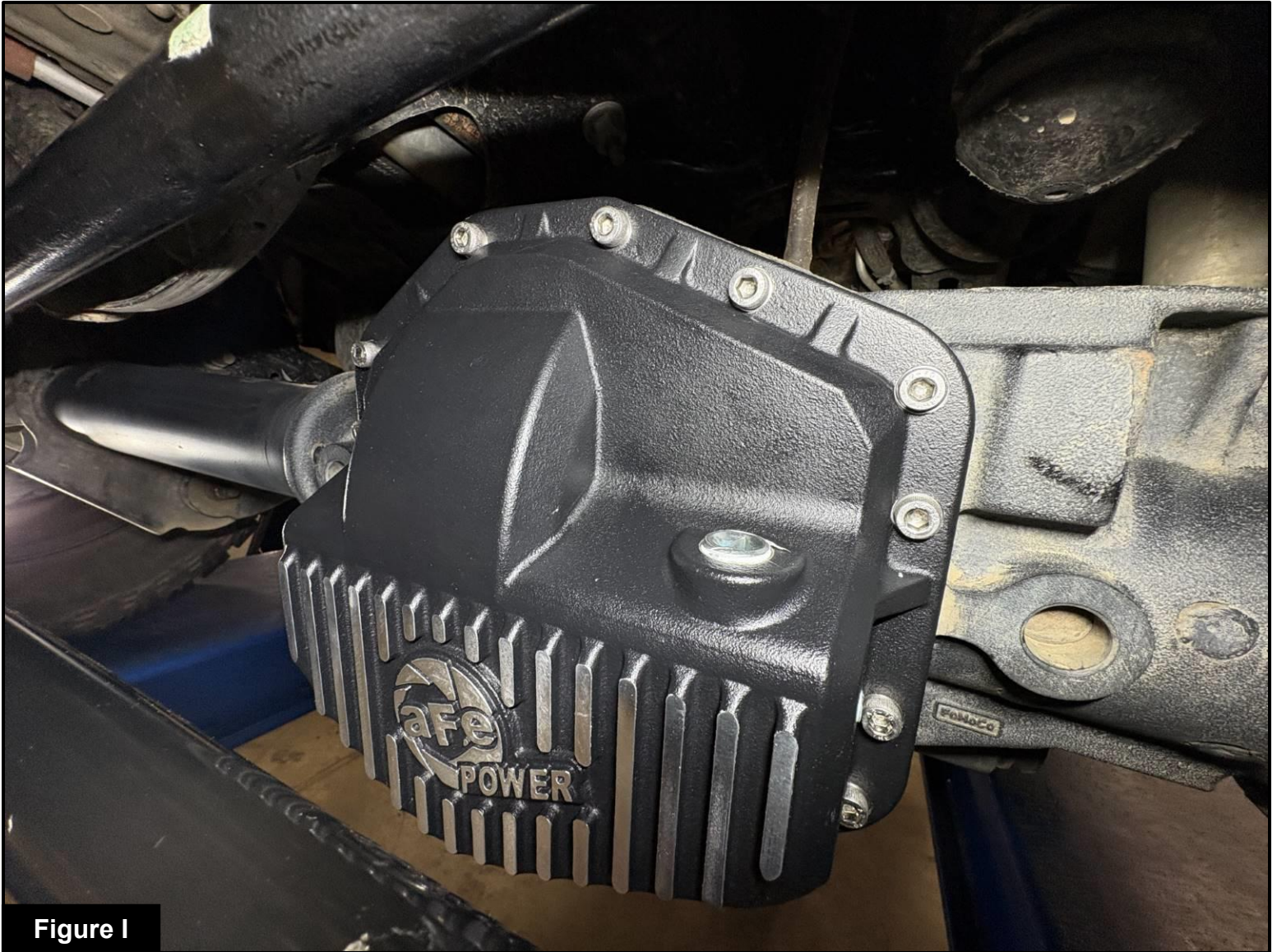


Figure 1

Refer to Figure 1 to Step 15

Step 15: Apply Teflon pipe sealant to the threads of the supplied 3/4" NPT fitting and install it into the top of the aFe differential cover. Tighten securely.

For cover **46-71410A**: Install the 3/4" NPT plug included the kit.

For cover **46-71410B**, Install the 3/4" NPT magnetic 6" deep reach plug included in the kit.

Note: Do not overtighten.

Step 16: Installation is now complete.



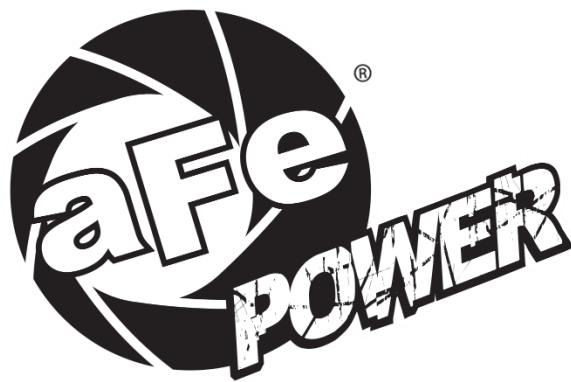
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