

advanced FLOW engineering

Instruction Manual P/N: 46-71490A / 46-71490B

Sterling 11.6 – 16 Bolt Rear Differential Cover

Make: Ford

Model: F-250 Super Duty

Year: 2023-2026

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

Make: Ford

Model: F-350 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	Oil Pan – Raw, Machined Fins (46-71450A)	05-61674A
A2	1	Oil Pan – Black, Machined Fins (46-71450B)	05-61674B
B	16	Screw, Socket Head Cap: M10 x 1.5 x 40, S/S	05-50883
C	16	Washer, Flat M10: 18mm OD 10.5mm ID	05-50882
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, 3/4 NPT, 6" Deep Reach (46-71490B)	03-50223
H	1	Porthole View Gauge (46-71490B)	03-50224
J	1	Plug, 3/4 NPT (46-71490A)	03-50391
K	1	Plug, 1" NPT (46-71490A)	03-50390

Tools Needed:

- 1-1/2" Socket
- 13mm Deep Socket
- 14mm Deep Socket
- 3/16" Hex-Bit Socket
- 8mm 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 ground and engage the parking brake. Wait for the vehicle to cool down before beginning installation.

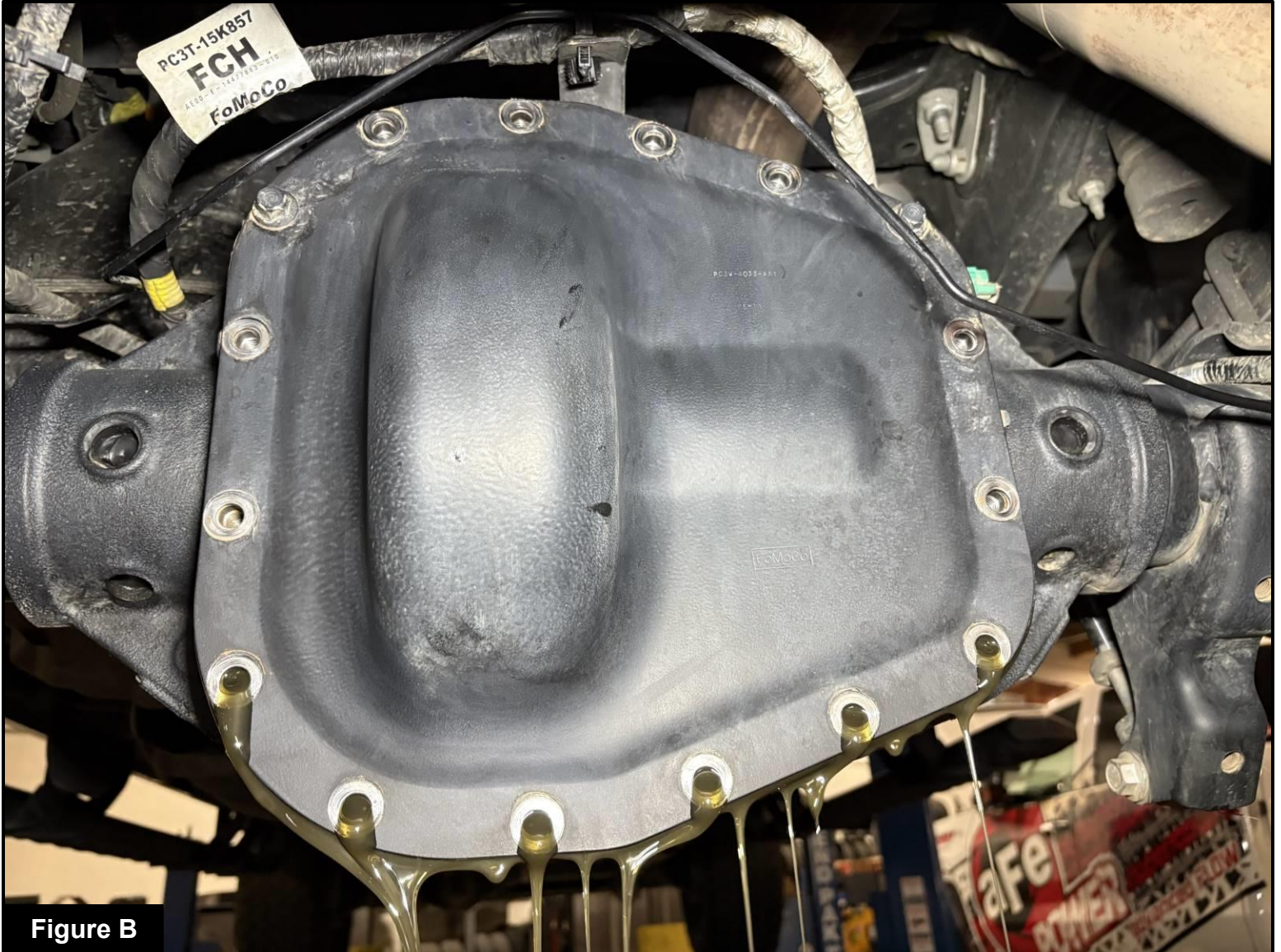


Figure B

Refer to Figure B for Steps 2-4

Step 2: Remove the bottom eight (8) hex head screws from the stock differential cover.

Step 3: Remove the top six (6) hex head screws and loosen the remaining two (2) hex head screw from the stock differential cover.

Step 4: Carefully pry the stock differential cover away from the differential housing. Use caution when removing the stock differential cover.



Figure C

Refer to Figure C for Step 5

Step 5: Thoroughly clean the mating surface.

Note: Clean the surrounding area of debris.

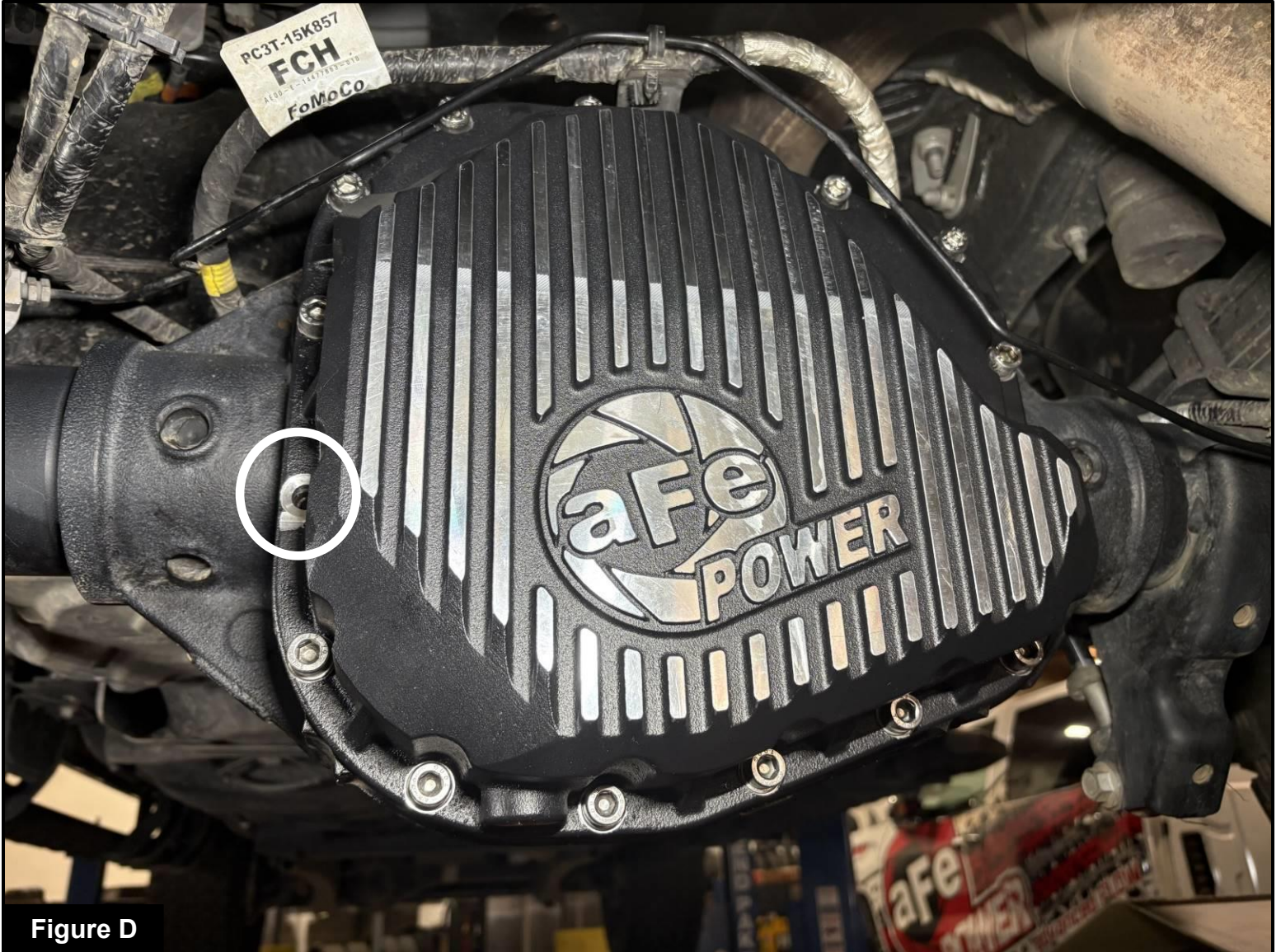


Figure D

Refer to Figure D for Steps 6-7

Step 6: Carefully position the aFe differential cover with a new differential cover gasket (not included) against the differential housing. Ensure the gasket is properly aligned and verify that the cover seats evenly on the housing surface.

Step 7: Install the supplied fifteen (15) socket head cap screws and fifteen (15) washers to secure the aFe differential cover. The last screw and washer will be installed later. **Tighten each screw snugly but do not torque at the stage.**



Refer to Figure E for Steps 8-10

Step 8: 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 **46-71490A**: Install the 1" NPT plug included in the kit.

For cover **46-71490B**: Install the 1" NPT sight glass included in the kit.

Note: Do not overtighten.

Step 9: Install the last supplied socket head cap screws and washer.

Step 10: Torque all sixteen (16) socket head screws to **33 ft-lbs (45 Nm)** in an X-pattern.

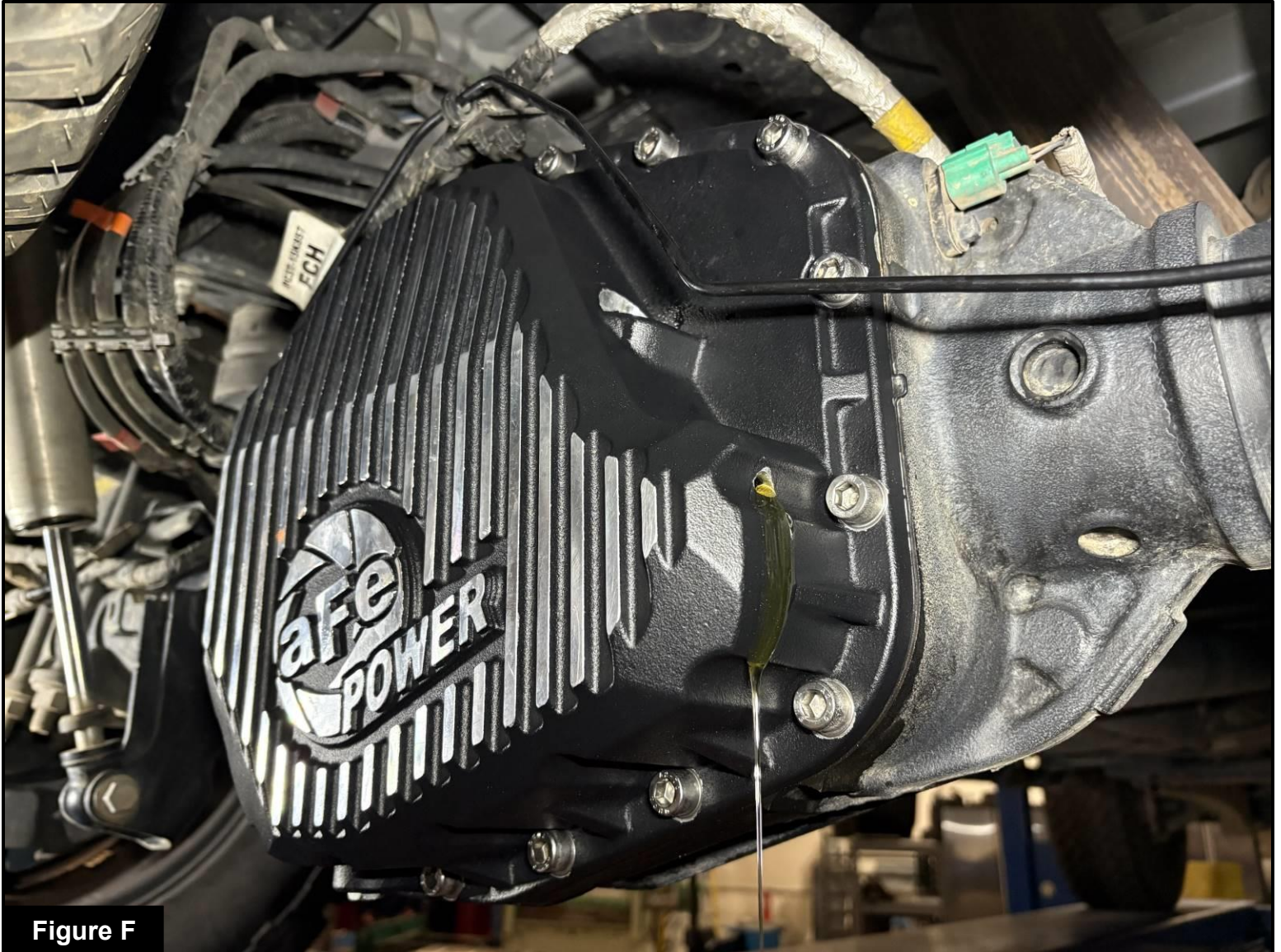


Figure F

Refer to Figure F for Step 11

Step 11: 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 5 quarts).



Figure G

Refer to Figure G for Steps 12-13

Step 12: Apply Teflon pipe sealant to the threads of the 1/8" NPT plug.

Step 13: Install the 1/8" NPT plug into the side port of the aFe differential cover and tighten securely.

Note: Do not overtighten

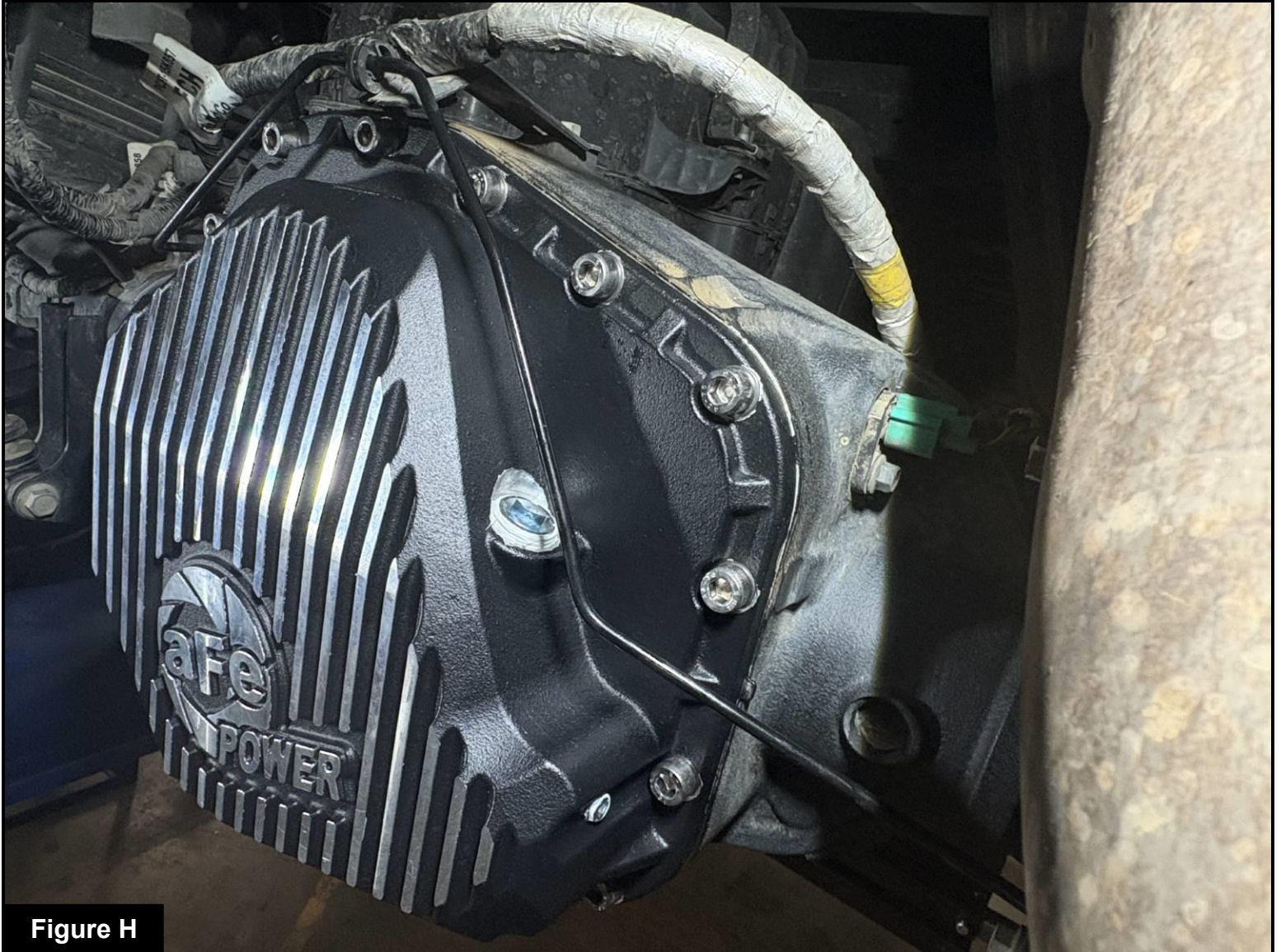


Figure H

Refer to Figure H for Steps 14-15

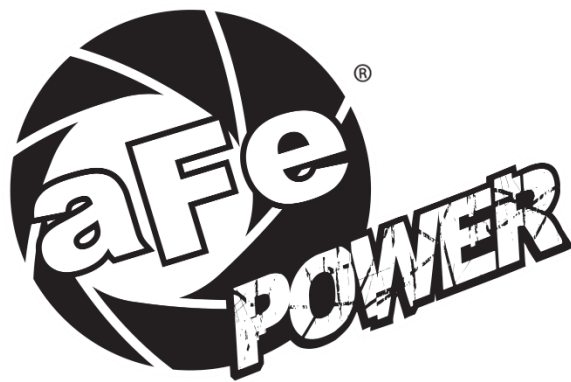
Step 14: Apply Teflon pipe sealant to the threads of the supplied 3/4" NPT and install it into the top of the aFe differential cover. Tighten securely.

For cover **46-71490A**: Install the **3/4" NPT plug** included in the kit.

For cover **46-71490B**: Install the **3/4" NPT magnetic 6" deep reach plug** included in the kit.

Note: Do not overtighten

Step 15: Installation is now completed.



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