

advanced FLOW engineering

Instruction Manual P/N: 46-70030 / 46-70031 / 46-70032

Make: **Dodge** Model: **2500/3500** Year: **94-02** Engine: **L6-5.9L (td) Cummins**

Make: **Dodge** Model: **2500/3500** Year: **94-02** Engine: **V8-5.9L & V10-8.0L**

Make: **Ford** Model: **F-350/450 DUALY** Year: **99-07** Engine: **V8-6.0L/7.3L**



- Please read the entire instruction manual before proceeding.
- Ensure all components listed are present.
- Ensure you have all necessary tools before proceeding.
- Do not attempt to work on your vehicle when the differential is hot.
- Retain factory parts for future use.

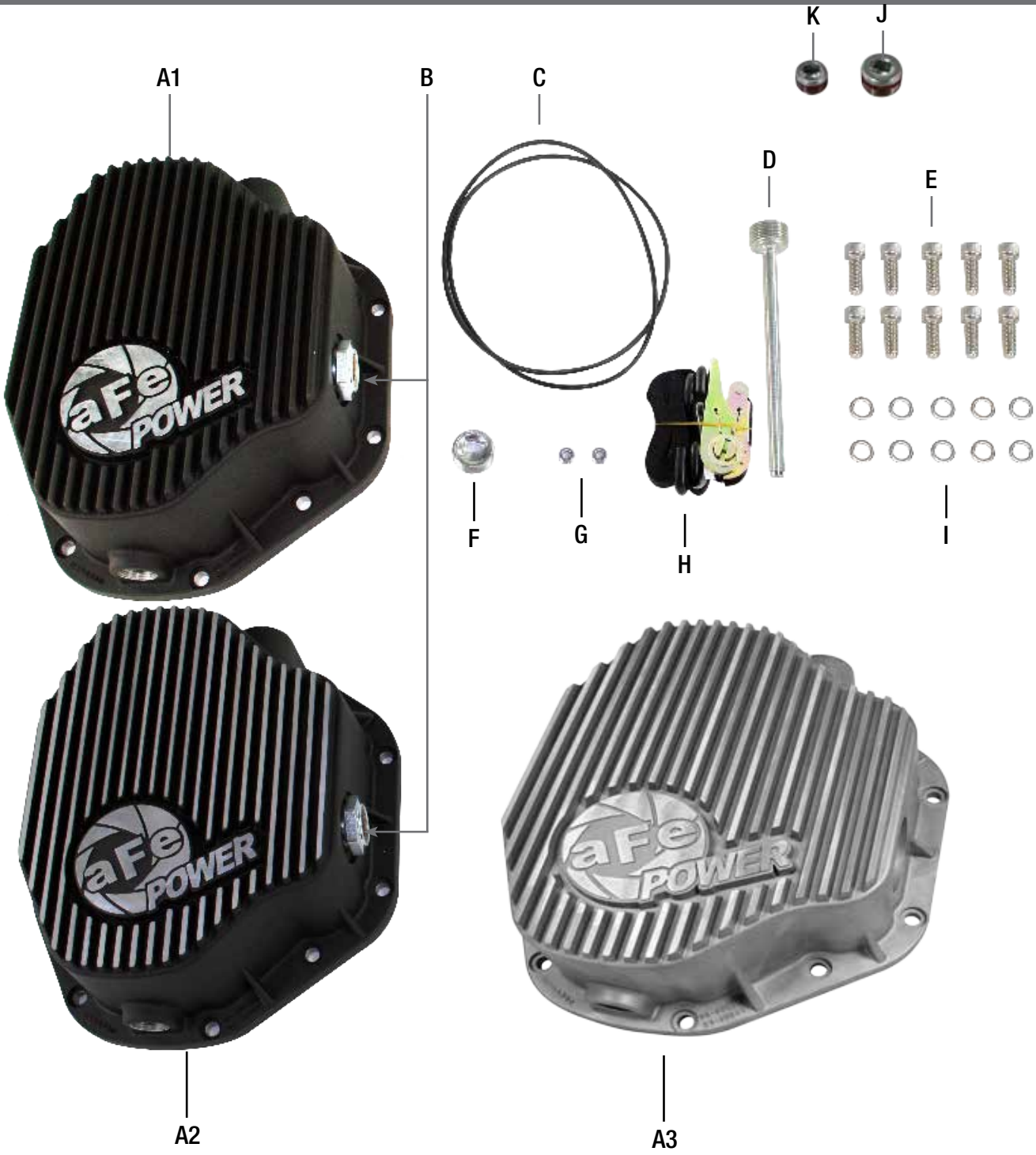
Label	Qty.	Description	Part Number
A1	1	Diff. Cover - Black Fins (46-70031)	05-60060
A2	1	Diff. Cover - Black, Machined Fins (46-70032)	05-60061
A3	1	Diff. Cover - Raw, Machined Fins (46-70030)	05-60061A
B	1	Porthole View Gauge (Pre-installed) (46-70031, 46-70032)	03-50224
C	1	O-Ring	05-60057
D	1	Plug, 6" Deep Reach, Magnet (Included in 46-70031, 46-70032)	03-50223
E	10	Socket Head Screws	03-50229
F	1	Plug, Square Socket Head, 3/4" -14 NPTF Magnet	03-50222
G	2	Plug, Hex Head Socket, 1.8" - 27 NPT (Zn Plt)	03-50029
H	1	Ratchet Strap	05-60085
I	10	Flat Washers	03-50230
J	1	Plug, 1"-11.5 NPT (included in kit 46-70030)	03-50390
K	1	Plug, 3/4" -14 NPTF (Included in kit 46-70030)	03-50391

Installation will require the following tools:

1/2" drive wrench, 1/2" drive extension, 6mm allen bit with a 3/8" ratchet drive, 3/16" allen wrench, 3/8" drive torque wrench, Gasket scraper, Smooth flat file (8" to 12" long), Oil Drain pan (minimum 8 Qt.), New gear lube, Teflon pipe sealant tape

Attention installer / Vehicle owner:

The aFe differential cover is designed to fit the factory axle supplied as original equipment. For some applications, or due to the use of certain factory options and / or after market equipment, there may be clearance problems between the aFe differential cover and other vehicle systems. **It is the responsibility of the installer / vehicle owner to ensure that no other vehicle component come into contact with the aFe differential cover. Contact with any other vehicle component, or any modification made to the aFe differential cover, automatically voids the warranty. aFe assumes no liability, expressed or implied, for damage or injury to persons or property.**





Refer to Figure A for steps 1-2

Step 1: Park your truck on level ground and apply the parking brake.

Step 2: Position a drain pan under the differential cover.



Figure B

Refer to Figure B for steps 3-4

Step 3: Using a 9/16 socket, remove all but one bolt in the top of the differential cover.

Step 4: Loosen but do not remove the remaining bolt. Break the seal on the cover and the oil will start to drain.

NOTE: You may need to pry the cover so that the old oil can start to drain. If so, use a gasket scraper starting at the bottom of the cover and carefully insert and pry off. Do not gouge sealing surface.



Figure C

Refer to Figure C for step 5

Step 5: Remove the last bolt and allow the old oil to drain.

INSTALL



Figure D

Refer to Figure D for steps 6-7

Step 6: Use a clean lint free rag and wipe down the remaining oil from the housing and scrape the gasket surface clean. This surface must be clean for the o-ring to seal.

Step 7: Before installing the aFe differential cover check the surface of the differential housing for any irregularities. Should there be any, carefully remove high spots using a smooth flat file.

DO NOT “ROUND OFF” THE FLAT GASKET SURFACE!



Refer to Figure E for steps 8-11

Step 8: Apply teflon tape on the threads of all the plug components before installing.

Step 9: Install the 1/8" NPT plug into the top of the aFe differential cover and tighten.

Step 10: Install the 3/4" NPT magnetic drain plug into the bottom of the aFe differential cover and tighten.

When installing kit number 46-70030 only:

Step 11: Install the large 1" NPT plug into the large hole on the side of the differential cover (not shown).

Note: Do not overtighten NPT plugs.

INSTALL



Figure F

Refer to Figure F for step 12

Step 12: Lightly coat the supplied o-ring with oil and install onto the aFe differential cover.



INSTALL



Figure G

Refer to Figure G for steps 13-14

Step 13: Install the aFe differential cover by aligning the bolt holes and start one of the new allen cap screws and washers in the top bolt hole. Continue around the bolt pattern until all 10 screws and washers are installed and finger tight.

Step 14: Using a 6mm hex bit and a 3/8 drive torque wrench, torque the allen cap screws to 12-16 ft.-lbs. in a cross tight pattern.

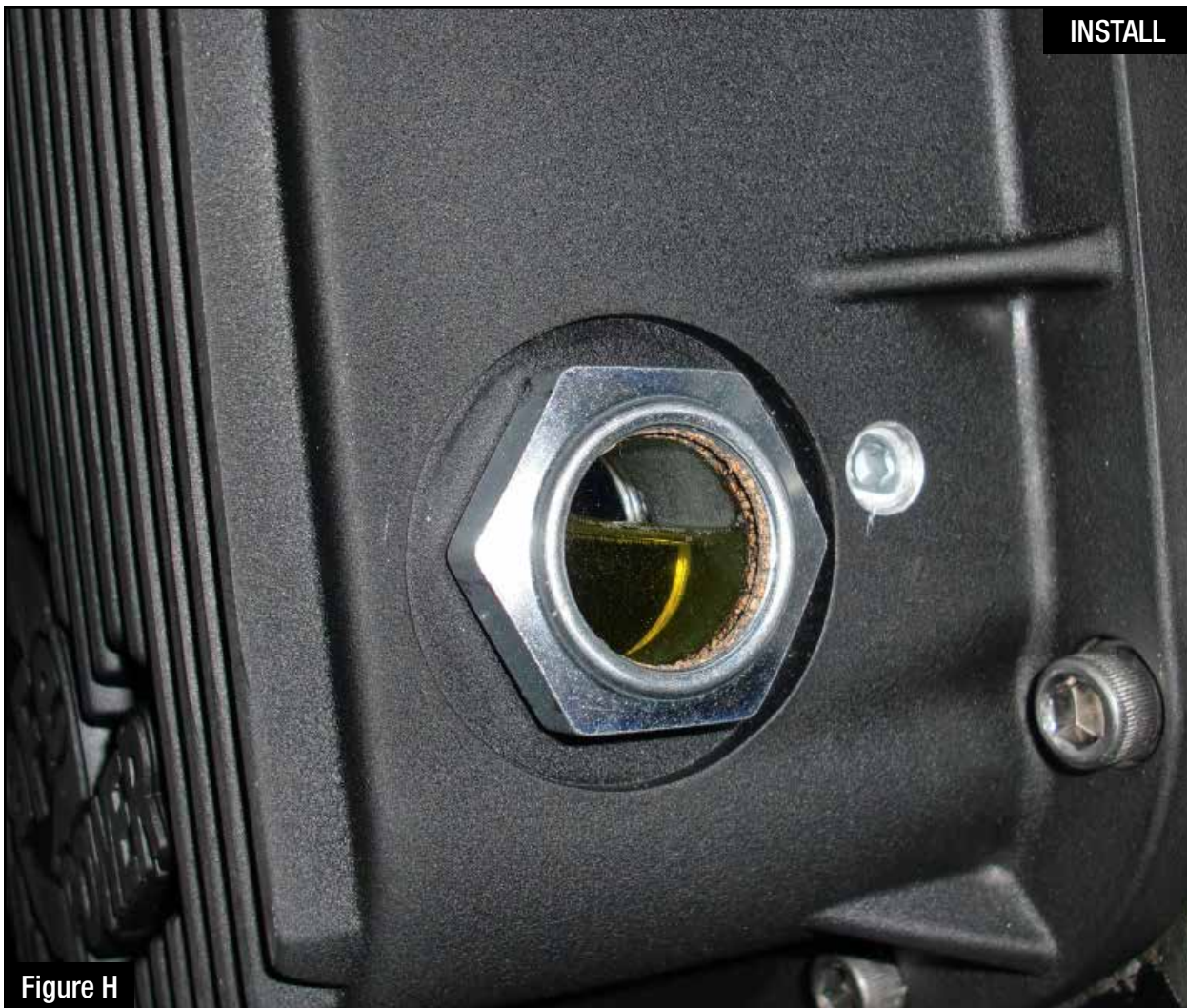


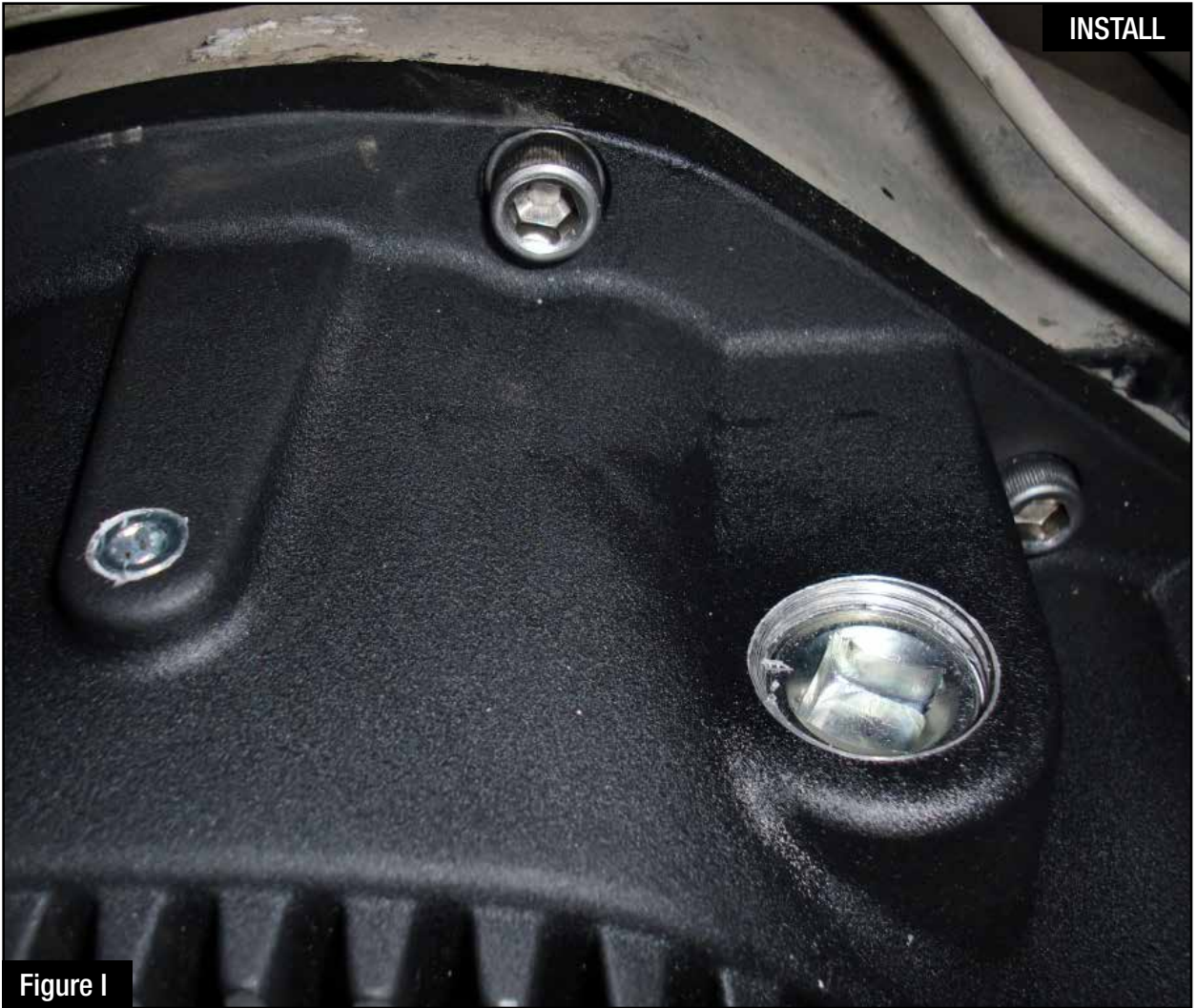
Figure H

Refer to Figure H for steps 15-16

Step 15: Fill the aFe differential cover using new oil. Fill till the oil runs out of the 1/8" NPT plug in side of differential cover (approximately 4 quarts).

Step 16: Install the 1/8" NPT plug in the side of the aFe differential cover.

Note: If your vehicle has been modified or lifted and your axle is rotated, you will need to check if you have the correct level of oil in the differential for your vehicle.

**Figure I****Refer to Figure I for steps 17-18****If installing kit 46-70030:**

Step 17a: Install the 3/4" NPT plug in the top of the aFe differential cover and tighten.

If installing kit 46-70031 & 46-70032:

Step 17b: Install the 3/4" NPT 6" deep reach magnet into the top of the aFe differential cover and tighten.

Do not over tighten NPT plugs

Step 18: If needed, use the strap provided 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.

INSTALL



Figure J

Refer to Figure J for step 19

Step 19: Your install is now complete.

NOTE: Retighten all connections after approximately 100-200 miles.



Intercooler Tubes



P/N: 46-20064

Torque Converter



P/N: 43-12011

Exhaust Manifold



P/N: 46-40044

Air Intake



P/N: 75-80072GS

Exhaust System



P/N: 49-42033-B

Intercooler



P/N: 46-20062

Transmission Pan



P/N: 46-70052

Air Intake



P/N: 54-10072

Oil Level Sight Glass



P/N: 46-00001

Magnetic Dipstick



P/N: 46-00002