

advanced FLOW engineering

Instruction Manual P/N: 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.
- If you are missing any of the components, call customer support at 951-493-7100.
- 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 - Machined Fins (46-70032)	05-60061
B	1	Porthole View Gauge (Sight Glass)	03-50224
C	1	O-Ring	05-60057
D	1	6" Deep Reach Plug	03-50223
E	10	Socket Head Screws	03-50229
F	1	3/4" Square Socket Head Plug	03-50222
G	2	1/8" Hex Head Socket Plugs	03-50029
H	1	Ratchet Strap	05-60085
I	10	Flat Washers	03-50230

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.**



**Figure A****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: Begin loosening the top 5 screws on the differential cover.

Step 4: Loosen the lower 5 screws to drain the old gear oil.

NOTE: You may need to use a gasket scraper so the fluid can start draining. If so, start at the bottom of the cover and carefully (so as not to gouge the housing metal) insert and pry off old cover.



Figure C

Refer to Figure C for step 5

Step 5: Remove all screws and allow the last of the old gear 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!



Figure E

Refer to Figure E for step 8

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

INSTALL



Figure F

Refer to Figure F for step 9

Step 9: Install 1/8" NPT plugs on top and side of aFe differential cover (torque to 30 in.-lbs.).

NOTE: If your are going to install a temperature sensor, DO NOT INSTALL 1/8" NPT plug on top of differential cover. Side 1/8" plug enables draining excess oil to stock level.



Figure G

Refer to Figure G for step 10

Step 10: Install Drain plug on the bottom of aFe differential cover (torque to 50 ft.-lbs.).



Figure H

Refer to Figure H for step 11

Step 11: Install your new o-ring onto the aFe differential cover.

**Figure 1****Refer to Figure 1 for steps 12-13**

Step 12: 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 13: 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 J

Refer to Figure J for steps 14-17

Step 14: If you are going to install a temperature sensor, do so at this time. Be sure to use all-purpose anti-seize or equal on the sensor's threads.

Step 15: Refill the aFe differential cover with new gear oil. Your new aFe differential cover takes about 4 quarts to fill.

Step 16: If your vehicle has been modified or "lifted" and the axle has been rotated, you will have to establish the correct oil level for your vehicle.

Step 17: Use aFe sight glass to check oil level.



Refer to Figure K for steps 18

Step 18: If oil level is ok, install deep reach magnetic plug (torque to 50 ft.-lbs.) **DO NOT OVER TIGHTEN.**
Drive at least 25 miles and check oil level.

Step 19: If needed, use strap provided to secure spare tire towards rear of truck to make clearance space between the spare tire and the aFe differential cover.

INSTALL



Figure L

Refer to Figure L for step 20

Step 20: Your install is now complete.

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



aFe Power Hat



P/N: 40-10083

aFe Key Chain



P/N: 40-10103

aFe Diesel Tee



P/N: 40-30221 (M)
P/N: 40-30222 (L)
P/N: 40-30223 (XL)
P/N: 40-30224 (2XL)
P/N: 40-30225 (3XL)

To purchase any of the items above, view photos, and video; please go to aFepower.com.

Warranty

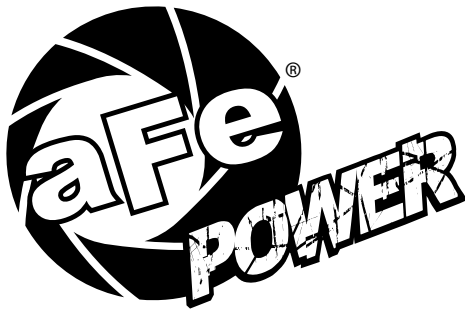
General Terms:

- aFe warrants their products to be free from manufacturer's defects due to workmanship and material.
- This warranty applies only to the original purchaser of the product and is non-transferrable.
- Proof of purchase of the aFe product is required for all warranty claims.
- Warranty is valid provided aFe instructions for installation and/or cleaning were properly followed.
- Proper maintenance with regular inspections of product is required to insure warranty coverage.
- Damage due to improper installation, abuse, unauthorized repair or alteration is not warranted.
- Incidental or consequential damages or cost, including installation and removal of part, incurred due to failure of aFe product is not covered under this warranty.
- All warranty is limited to the repair and/or replacement of the aFe part. To request Return Goods Authorization ("RGA"), email RGA@afepower.com or call (951)493-7100. Upon receipt of the RGA, you must return the product to the address provided in the RGA, freight prepaid and accompanied with a dated proof of purchase and the RGA. Upon receipt of the defective product and upon verification of proof of purchase, aFe will either repair or replace the defective product within a reasonable time, not to exceed thirty days.

Product Category	P/N Prefix	Warranty duration
Direct OE Replacement Filters	10, 11, 30, 31, 71, 73	Life of the vehicle
Racing Filters	18	1 year
Universal	21, 24, 72	2 years
Air Intake Systems	50, 51, 54, 55, 75	2 years
Exhaust Systems	49	2 years
Intercoolers & Intercooler Tubes	46-2	2 years
Intake Manifolds	46-1	2 years
Differential Cover	46-7	Life of the vehicle
Exhaust Manifolds	46	2 years
Throttle Body Spacers	46-3	2 years
Fluid Filters	44	90 days
Pre-Filters	28	2 years
Heavy Duty OE Replacement	70	2 years
PowerSports OE Replacement	81, 87	2 years
PowerSports Intake Systems	85	2 years

No other warranty expressed or implied applies nor is any person or advanced FLOW engineering authorized to assume any other warranty. Some States do not allow the exclusion or limitation of incidental or consequential damages or do not allow limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from State to State.





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