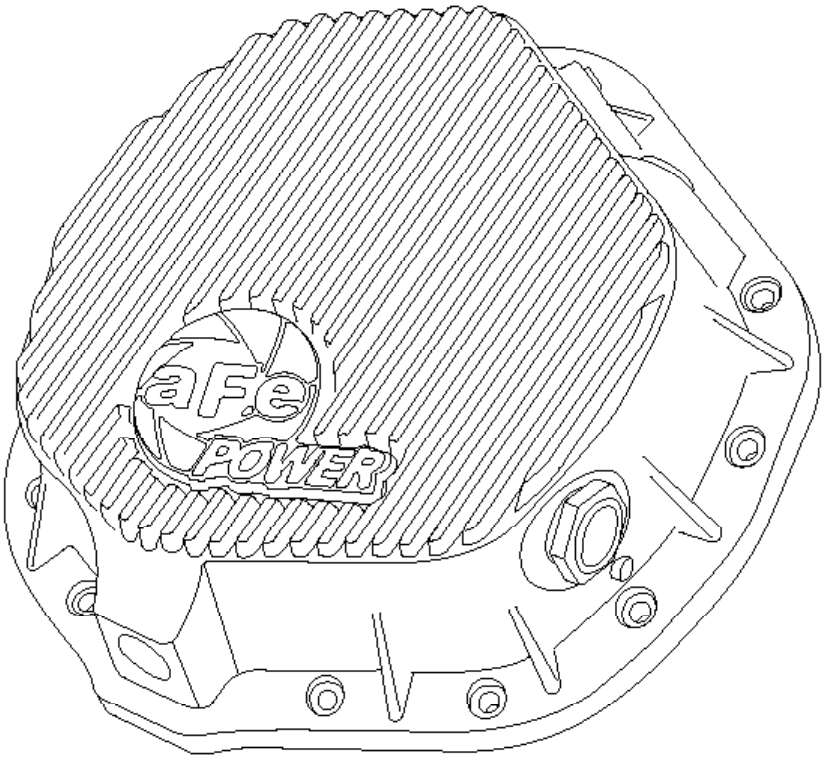

advanced FLOW engineering

Instruction Manual P/N: 46-70010, 46-70012 & 46-70012-WL

Make: **Dodge** Model: **Ram 2500/3500** Year: '**13-'15** Engine: **L6-6.7L (td) Cummins**
Leaf Spring Only (Does not fit coil spring suspension
Make: **Dodge** Model: **Ram 2500/3500** Year: '**03-'12** Engine: **L6-5.9L/6.7L (td) Cummins**
Make: **GM** Model: **Silverado/Sierra HD** Year: **'01-'15** Engine: **V8-6.6L (td) Duramax**
Make: **GM** Model: **3500** Year: **'01-'07** Engine: **V8-8.1L**

- **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 - Raw (46-70010)	05-60056A
A2	1	Diff. Cover - Black Fins, Pro Series (46-70011)	05-60041
A3	1	Diff. Cover - Machined Fins, Pro Series (46-70012)	05-60056
A4	1	Diff. Cover - Machined Fins, Street Series (46-70013)	05-60056
B	1	Porthole View Gauge (Pre-Installed) (Included In Kit 46-70011 and 46-70012)	03-50224
C	1	Plug, Square Socket Head, 3/4”-14 NPTF, Neodymium Magnet	03-50222
D	1	Plug, 6” Deep Reach, Magnet (Included In Kit 46-70011 and 46-70012)	03-50223
E	2	Plug, Hex Head Socket, 1/8”-27 NPT (Zn Plt)	03-50029
F	1	O-Ring	05-60057
G	4	Bracket	05-60084
H	1	Strap, Rachet w/S-Hook, 1" x 10', Black	05-60085
I	13	Screws, Socket Head Cap: M8 x 1.25 x 30, S/S	03-50225
J	4	Screws, Socket Head Cap: M8 x 1.25 x 16, S/S	03-50171
K	29	Washer, Flat M8: 16mm OD S/S	03-50228
L	1	Plug, 1"-11.5 NPT (Included In Kit 46-70010 and 46-70013)	03-50390
M	1	Plug, 3/4"-14 NPTF (Included In Kit 46-70010 and 46-70013)	03-50391

Installation will require the following tools:

1/2" drive wrench, 1/2" drive extension, 6mm allen bit with a 3/8" rachet 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.**

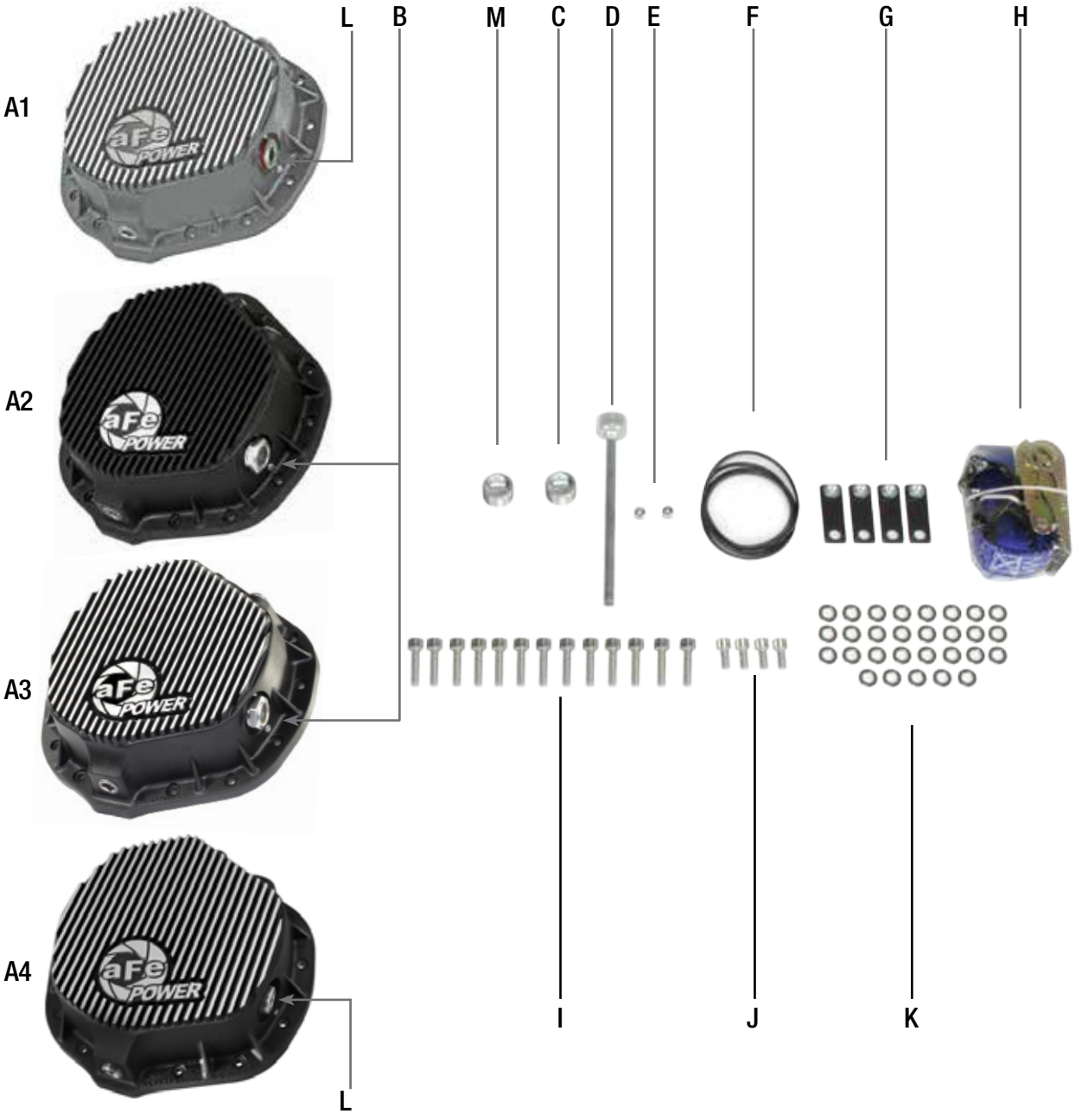
A1
A2
A3
A4
L
B
M
C
D
E
F
G
H
I
J
K
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Figure A

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 9 screws on the differential cover.

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

Figure C

Refer to Figure C for steps 5-6

Step 5: Remove all screws. Using a gasket scraper, start at the bottom of the cover and carefully (so as not to gouge the housing metal) insert and pry off old cover. Allow the old gear lube to drain.

Step 6: Use a clean lint free rag and wipe down the remaining oil from the housing and the gasket surface. 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 D

Refer to Figure D for step 8

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

Note: Photo shows deep reach magnetic fill plug which is only included in kit part numbers 46-70011 & 46-70012. If you would like to purchase the magnetic dipstick fill plug see aFe part number 46-00002.

Figure E

Refer to Figure E for step 9 (Skip this step if you are going to install a temperature sensing unit)
Step 9: Install 1/8” NPT plug on top of aFe differential cover (torque to 30 in.-lbs.).

Figure F

Refer to Figure F for step 10

Step 10: Install 1/8” NPT plug into aFe differential cover oil level port (torque to 30 in.-lbs.).

Note: Photo shows oil level sight glass which is only included in kit part numbers 46-70011 & 46-70012. If you would like to purchase the oil level sight glass see aFe part number 46-00001.

Figure G

Refer to Figure G for step 11

Step 11: Install magnetic Drain plug on the bottom of aFe differential cover (torque to 50 ft.-lbs.).

Figure H

Refer to Figure H for step 12

Step 13: Using some gear lube, apply a thin layer of oil to the aFe differential cover O-ring. Install the O-ring on back of the aFe differential cover.

Refer to Figure I for steps 14-15

Step 14: 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 the bolt pattern until all 13 screws and washers are installed and finger tight. GM trucks may need to install bracket(s) provided to secure brake line.

Step 15: 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 16-17

Step 16: If you are going to install a temp. sender, do so at this time. Be sure to use all purpose anti-sieze or equal on the sender's threads.

Step 17: Refill the aFe differential cover with new gear lube. Your new aFe differential cover takes about 5 quarts to fill to the bottom of axle tube and 6-7 quarts to bottom of axle. If you have a limited slip differential, be sure to add the appropriate amount of friction modifier.

Figure K

Refer to Figure K for steps 18-19

Step 18: 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 19: Use aFe site glass to check oil level (Sight glass in Kit 46-70011 & 46-70012 only). If your diff cover did not come with a sight glass, remove the small 1/8" NPT “over fill” plug (shown above) and fill the diff cover until oil level reaches the plug. Note: When diff cover is full, excess oil may over flow out of oil fill plug. Re-install 1/8” NPT “over fill” plug when proper oil level is established.

Figure L

Refer to Figure L for step 20

Step 20: If oil level is ok , install deep reach magnetic plug or 3/4-14" NPTF plug included in kits 46-70010 & 46-70013 (torque to 50 ft.-lbs.) DO NOT OVER TIGHTEN. Drive at least 25 miles and check oil level.

Figure M

Refer to Figure M for step 21

Step 21: 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.

Figure N

Refer to Figure N for step 22

Step 22: 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.

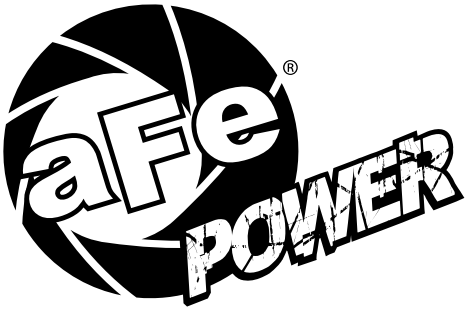
Warranty

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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