

advanced FLOW engineering

Instruction Manual P/N: 46-70150 / 46-70152

Ford 9.75 – 12 Bolt Rear Differential Cover

Make: **Ford** Model: **F-150** Year: **1997-2008** Engine: **V6 4.2L**

Make: **Ford** Model: **F-150** Year: **2004-2014** Engine: **V8 4.6L**

Make: **Ford** Model: **F-150** Year: **2009-2019** Engine: **V6 3.5/3.7L, V8 5.0L**

Make: **Ford** Model: **F-150** Year: **2015-2019** Engine: **V6 2.7L/3.0L**

Make: **Ford** Model: **F-150 Raptor** Year: **2009-2010** Engine: **V8 6.2L**

Make: **Ford** Model: **F-150 Raptor** Year: **2017-2019** Engine: **V6 3.5L**

Note: Will NOT fit Lightning/Harley Davidson and models with rear sway bars.



- 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.
- Ensure that your vehicle is cooled off before proceeding.
- Retain factory parts for future use.

Label	Qty.	Description	Part Number
A1	1	Differential Cover – Raw, Machined Fins (46-70150)	05-60237A
A2	1	Differential Cover – Black, Machined Fins (46-70152)	05-60237
B	1	Porthole View Gauge (Pre-installed) (Included in 46-70152)	05-60224
C	1	Plug, Magnetic 3/4" NPT, 6" Deep Reach (Included in 46-70152)	03-50223
D	1	Plug, 1" NPT (Included in 46-70150)	03-50390
E	1	Plug, 3/4" NPT (Included in 46-70150)	03-50391
F	1	O-Ring	05-60184
G	12	Screws, Socket Head 5/16"	03-50227
H	1	Plug, Magnetic 3/4" NPT	03-50222
I	2	Plug, 1/8" NPT	03-50029
J	15	Washer, Flat	03-50228
K	3	Brackets	03-50185
L	3	Zip Ties	05-60167

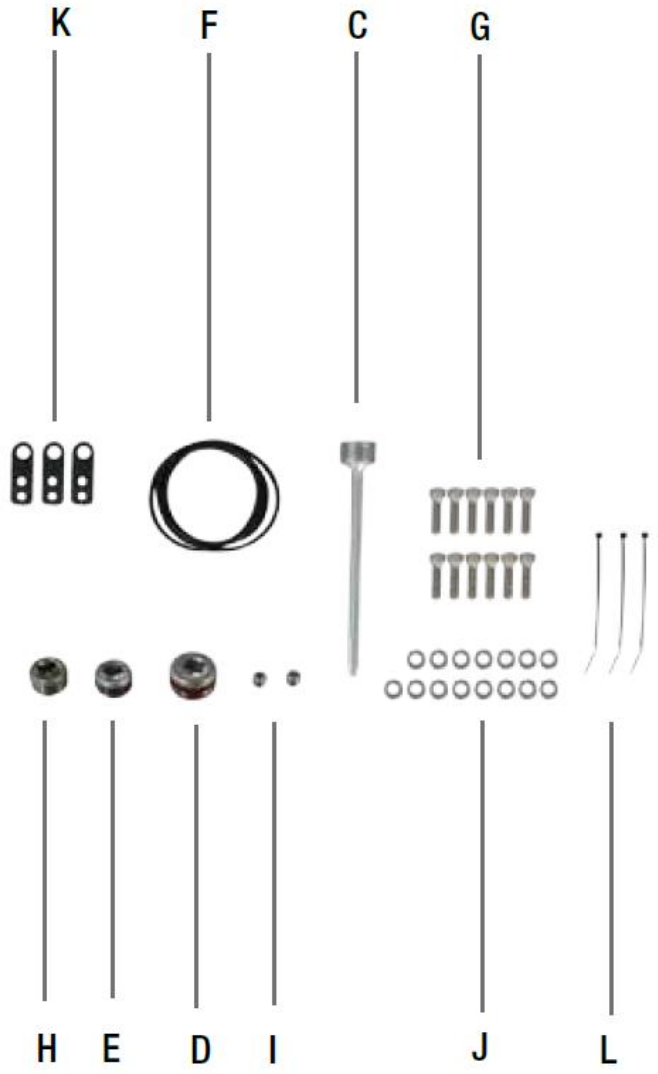
A1



A2



B





1. Park your truck on level ground and apply the parking brake.
2. Place a drain pan under the differential cover.
3. If applicable, remove the ABS wire from the studded bolts.
4. Remove the **bottom** 11 bolts from the differential cover.
5. Loosen, but do not remove, the top bolt. Break the seal on the cover and the gear oil will begin to drain.



6. Allow for all of the gear oil to drain from the differential.
7. Remove the top bolt from the differential cover and remove the cover from the housing.
8. Use a clean, lint free rag to wipe down the remaining oil from the housing. Clean off the sealing surface with a gasket scraper, being careful not to gouge the surface.
9. Check the surface of the housing for irregularities. If there are any, carefully remove high spots using a smooth flat file.

Note: DO NOT “ROUND OFF” THE FLAT GASKET SURFACE



10. Install the supplied O-ring onto the aFe differential cover.



11. Hold the aFe differential cover into position, aligning the bolt holes. Install one (1) of the supplied 5/16" socket head screws and flat washers at the top of the cover to hold it in place.
12. Continue installing ten (10) more 5/16" socket head screws and flat washers finger tight, leaving the indicated bolt uninstalled (see figure A).
13. If needed, remove the three (3) indicated bolts and washers then re-install with the three (3) supplied brackets and additional flat washer. Use the supplied zip ties to attach the ABS wire to the brackets (see figure B).
14. Torque the mounting bolts to 11-14 ft. -lbs in a crisscross pattern.



15. Apply Teflon pipe sealant and install the supplied 3/4" NPT magnetic drain plug into the bottom of the cover.

When installing kit number 46-70150 only:

16. Apply Teflon pipe sealant and install the supplied 1" NPT plug into the passenger side of the cover.



17. Fill the aFe differential cover using new gear oil. Fill until oil runs out of the 1/8" NPT port on the passenger side of the cover.

Note: If your vehicle is lifted and your axle has been rotated, you will have to verify you have the correct oil level for your vehicle.

18. Apply Teflon pipe sealant to the threads of the supplied 1/8" NPT plug and install it into the side of the cover.

19. Install the last 5/16" socket head screw and flat washer.

20. Torque the mounting bolt to 11-14 ft. -lbs.



21. If not otherwise utilizing the port, apply Teflon pipe sealant and install the supplied 1/8" NPT plug into the top of the cover.

If installing kit number 46-70150:

22a. Install the supplied 3/4" NPT plug into the top of the cover.

If installing kit number 46-70152:

22b. Apply Teflon pipe sealant and install the supplied 3/4" NPT magnetic 6" deep reach plug into the top of the cover.



23. Verify clearance with the spare tire heat shield (bend if needed).

24. Your installation is now complete.

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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/Transmission Pan	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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