

advanced FLOW engineering

Instruction Manual P/N: 46-70020 / 46-70022

Ford 10.25 & 10.50 – 12 Bolt Rear Differential Cover

Make: Ford Model: F-250/F-350 Year: 1986-2019 Engine: V8 6.9L/7.3L/6.0L/6.4L/6.7L

Make: Ford Model: Excursion Year: 2000-2005 Engine: V8 5.4L



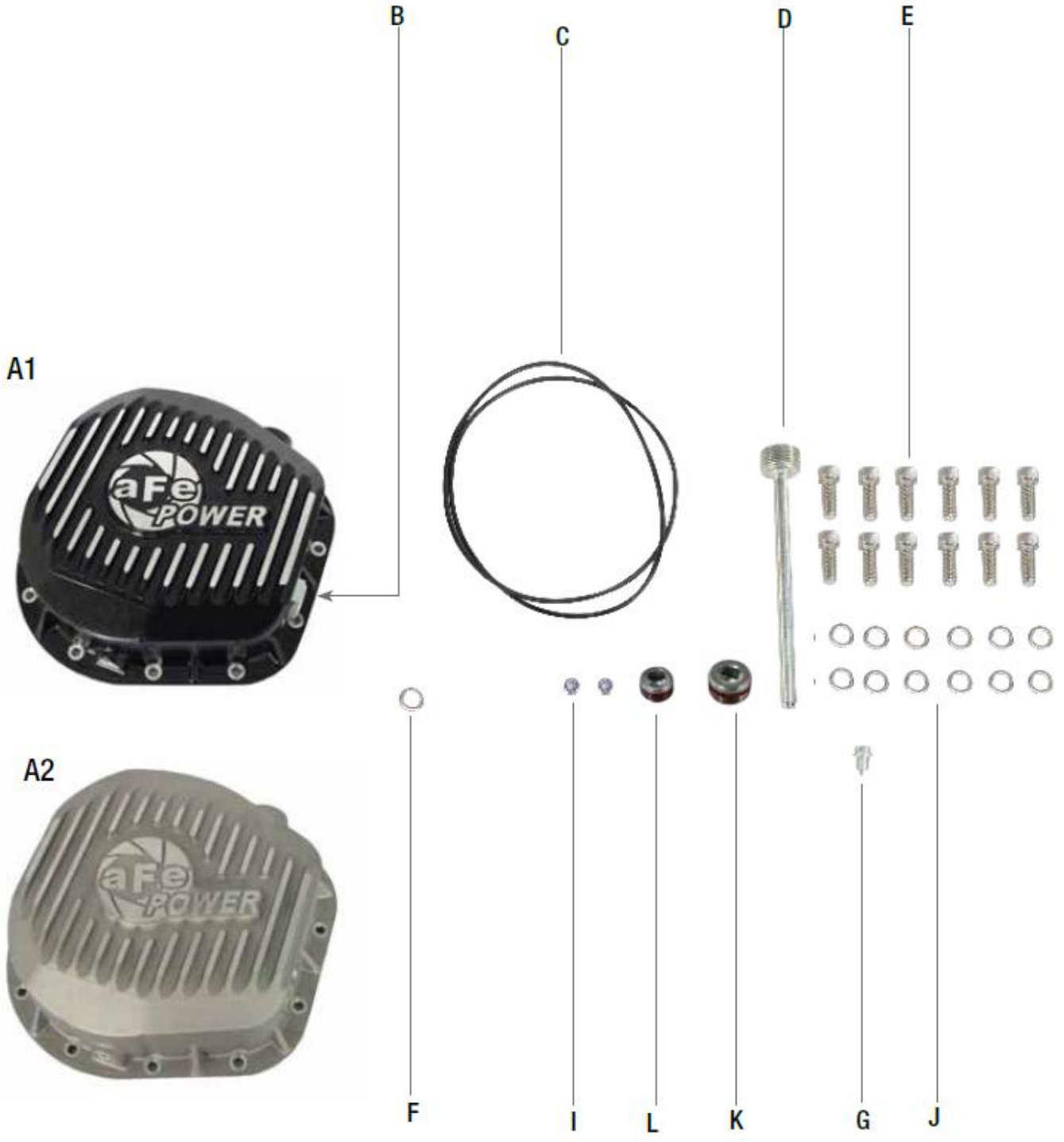
- Please read the entire instruction manual before proceeding.
- Ensure all components listed are present.
- Ensure you have all necessary tools before proceeding.
- Ensure that your vehicle is cooled off before proceeding.
- Retain factory parts for future use.

Label	Qty.	Description	Part Number
A1	1	Diff. Cover - Black, Machined Fins (46-70022)	05-60711B
A2	1	Diff. Cover - Raw, Machined Fins (46-70020)	05-60711A
B	1	Porthole View Gauge (Pre-installed) (46-70022)	03-50224
C	1	O-Ring	05-60057
D	1	Plug, 6" Deep Reach, Magnet (Included in 46-70022)	03-50223
E	12	Socket Head Screws, 5/16" - 18X1.0 (S/S)	03-50227
F	1	Washer, Aluminum: M12, 15.85mm OD	03-50384
G	1	Plug, Magnetic M12 x 1.25	03-50385
H	1	Plug, Square Socket Head, 3/4" -14 NPTF Magnet	03-50222
I	2	Plug, Hex Head Socket, 1.8" - 27 NPT (Zn Plt)	03-50029
J	12	Flat Washers	03-50228
K	1	Plug, 1"-11.5 NPT (included in kit 46-70020)	03-50390
L	1	Plug, 3/4" -14 NPTF (Included in kit 46-70020)	03-50391

Note: Due to variances and / or modifications, it is up to the installer to make sure there is adequate clearances for the cover. Failure to do so may result in damage that is not covered by aFe's warranty.

Installation will require the following tools:

3/16" Allen Key, 1/4" Allen Socket Key, 1/2" Ratchet, Oil Drain Pan, Gasket Scraper, 13mm Socket





1. Park your truck on level ground and apply the parking brake.
2. Position a drain pan under the differential cover.
3. Using a 13mm socket, remove all but one bolt in the top of the differential cover.
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.



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

Note: DO NOT "ROUND OFF" THE FLAT GASKET SURFACE



8. Apply Teflon (PTFE) tape on the threads of the 1/8" NPT and 3/4" NPT plugs before installing.
9. Install the 1/8" NPT plug into the top of the aFe differential cover and tighten.
10. Install the M12 x 1.25 magnetic drain plug and M12 washer into the bottom of the aFe differential cover and tighten.

When installing kit number 46-70020 only:

11. Apply Teflon (PTFE) tape on the threads of the large 1" NPT plug and install into the large hole on the side of the differential cover (not shown).

Note: Do NOT overtighten NPT plugs.



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



13. Install the aFe differential cover by aligning the bolt holes and start one of the new socket head screws and flat washers in the top bolt hole. Continue around the bolt pattern until all 12 screws and washers are installed and finger tight.
14. Using a ¼" allen socket key, torque the socket head screws to 11-14 ft.-lbs. in a cross tight pattern.



15. Fill the aFe differential cover using new oil. Fill until the oil runs out of the 1/8" NPT plug in side of differential cover (approximately 4.5 quarts).

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 the axle has been rotated, you will need to check if you have the correct level of oil in the differential of your vehicle.



If installing kit 46-70020:

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

If installing kit 46-70022:

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



18. Your installation is now complete.

NOTE: Drive at least 25 miles and check oil level, fill and re-torque all bolts if necessary.