

***advanced FLOW engineering***

**Instruction Manual** P/N: 46-71170A / 46-71170B

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Dana M220 – 12 Bolt Rear Differential Cover

Make: **Ford** Model: **Ranger** Year: **2019** Engine: **I4 2.3L**



- 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.
- 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 (46-71170A)	05-60882A
A2	1	Differential Cover – Black, Machined Fins (46-71170B)	05-60882B
B	10	Screws, Socket Head M8x1.25x25	03-50231
C	10	Washer, Flat	03-50228
D	1	Plug, Magnetic M12 x 1.25	03-50385
E	1	Crush Washer	03-50384
F	1	Plug, 1/8" NPT	03-50029
G	1	Plug, 3/4" NPT (Included in 46-71170A)	03-50391
H	1	Plug, Magnetic 3/4" NPT, 6" Deep Reach (Included in 46-71170B)	03-50223
I	1	Plug, 1" NPT (Included in 46-71170A)	03-50390
J	1	Porthole View Gauge (Pre-Installed) (Included in 46-71170B)	03-50224



A1



A2



B



C



D



E



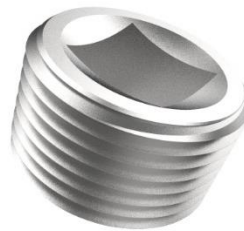
F



G



H



I



J



1. Park your vehicle on a flat, dry surface. You will need to block the tires to prevent the vehicle from rolling.
2. Place a drain pan under the differential cover.
3. Remove the brake line brackets by pulling them off of the cover bolts. Next, remove the two (2) bolts supporting the brackets (circled above).
4. Remove the **bottom** six (6) bolts from the differential cover.
5. Loosen, but do not remove, the top four (4) bolts. Break the seal on the cover, allowing the gear oil to drain.





6. Remove the four (4) remaining bolts from the top of the differential cover.

**Note: Be careful when removing the OEM gasket, it will be reused later during the installation.**

7. Remove the OEM cover and gasket from the housing.



8. Use a clean, lint free rag to wipe down the remaining gear oil from the housing.
9. Clean off the sealing surface with a gasket scraper. Be careful not to gouge the surface while cleaning.
10. Check the surface of the housing for any irregularities. If there are any, carefully remove high spots using a smooth flat file.

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





11. Hold the OEM gasket and supplied aFe differential cover into position, aligning the screw holes. Install one (1) of the supplied M8x1.25x25 socket head screws and flat washers at the top of the cover to hold it in place.
12. Reinstall the two (2) bolts removed during Step 3 in their original positions (circled above).
13. Continue installing the ten (10) remaining M8x1.25x25 socket head screws and flat washers finger tight.
14. Torque the mounting screws to 12-16 ft. -lbs. in a crisscross pattern.
15. Reinstall the brake line brackets removed during Step 3.



16. Install the supplied M12x1.25 drain plug and crush washer into the bottom of the cover.





**When installing kit number 46-71170A only:**

17. Install the supplied 1" NPT plug into the side of the cover.



18. Fill the aFe differential cover using new gear oil. Fill until gear oil runs out of the 1/8" NPT port on the side of the cover (about 2 ½ quarts).

**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.**





19. Apply Teflon pipe sealant to the threads of the supplied 1/8" NPT plug.

20. Install the 1/8" NPT plug into the side of the cover.





**If installing kit number 46-71170A:**

21a. Install the supplied 3/4" NPT plug into the top of the cover.

**If installing kit number 46-71170B:**

21b. Apply Teflon pipe sealant to the threads of the supplied 3/4" NPT magnetic 6" deep reach plug and install into the top of the cover.



22. Your installation is complete.

# 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 Covers/Transmission Pans/ Oil Pans	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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