

advanced FLOW engineering

Instruction Manual P/N: 46-70040 / 46-70042

Dana M220 – 12 Bolt Rear Differential Cover

Make: **Dodge** Model: **RAM 2500** Year: **03-07** Engine: **L6-5.9L (td)**

Make: **Dodge** Model: **RAM 2500** Year: **07-13** Engine: **L6-6.7L (td)**

Make: **Dodge** Model: **RAM 3500** Year: **03-07** Engine: **L6-5.9L (td)**

Make: **Dodge** Model: **RAM 3500** Year: **07-13** Engine: **L6-6.7L (td)**



- 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 (46-70040)	05-60755A
A2	1	Differential Cover – Black, Machined Fins (46-70042)	05-60755B
B	1	RTV Silicone	05-60096
C	14	Screw, Socket Head M8 x 1.25 x 30	03-50225
D	14	Washer, Flat	03-50228
E	1	Plug, Magnetic M12 x 1.25	03-50385
F	1	Crush Washer	03-50384
G	1	Plug, 1/8" NPT	03-50029
H	1	Plug, 3/4" NPT (46-70040)	03-50391
I	1	Plug, Magnetic 3/4" NPT, 6" Deep Reach (46-70042)	03-50223
J	1	Plug, 1" NPT (46-70040)	03-50390
K	1	Porthole View Gauge (Pre-Installed) (46-70042)	03-50224

Warranty Information available at <https://afepower.com/contact#warranty>



A1



A2



B



C



D



E



F



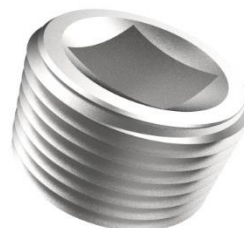
G



H



I



J



K



Note: Your vehicle must be completely cooled off before proceeding with the installation.

1. Park your vehicle on a flat, dry surface. You will need to block the tires to prevent the vehicle from rolling.

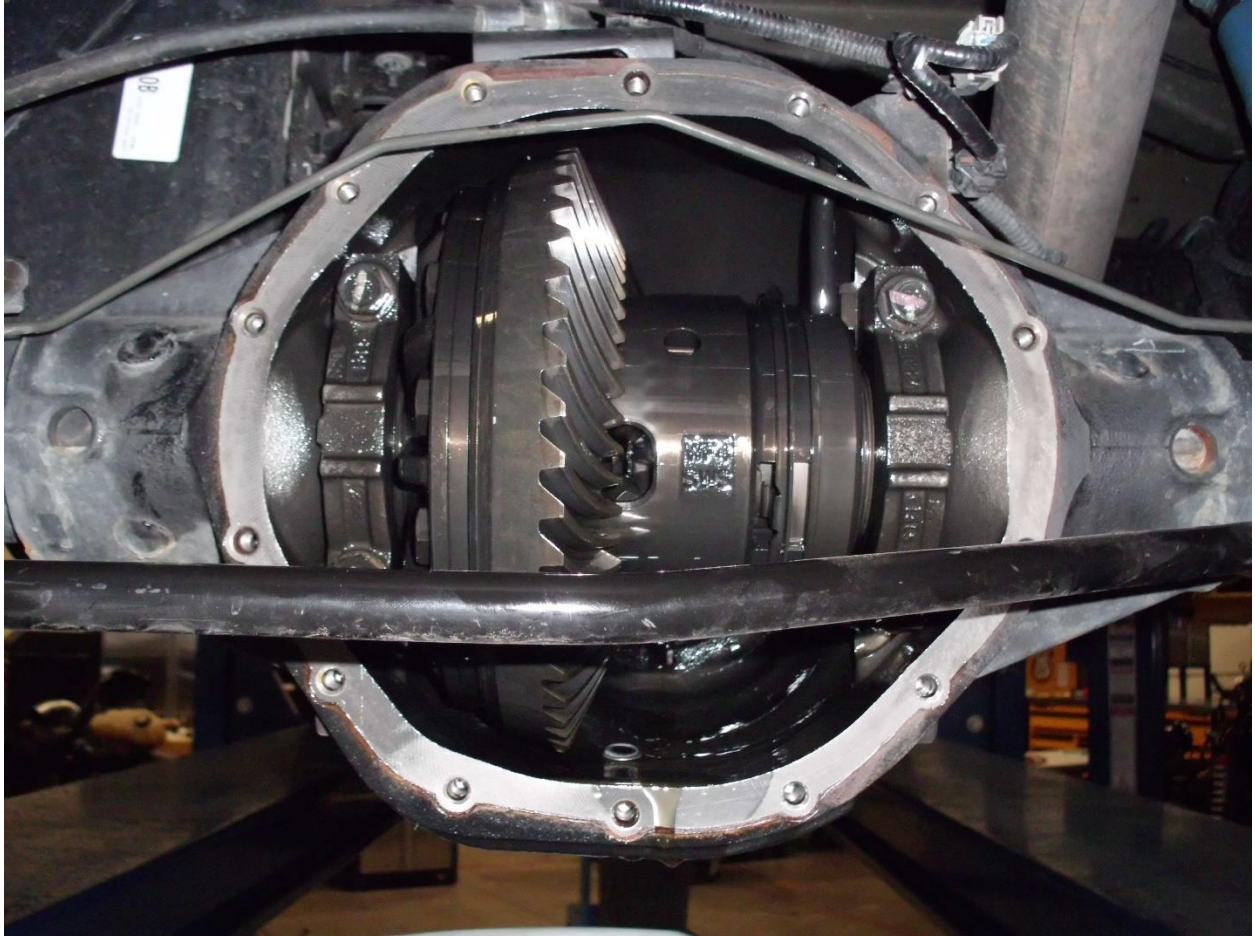
Note: You will need to get under the truck to do this installation. Please use every precaution when lifting the vehicle.

2. Place a drain pan under the differential cover.
3. Remove the **bottom** 13 bolts from the differential cover.
4. Loosen, but do not remove, the top bolt. Break the seal on the cover, allowing the gear oil to drain.



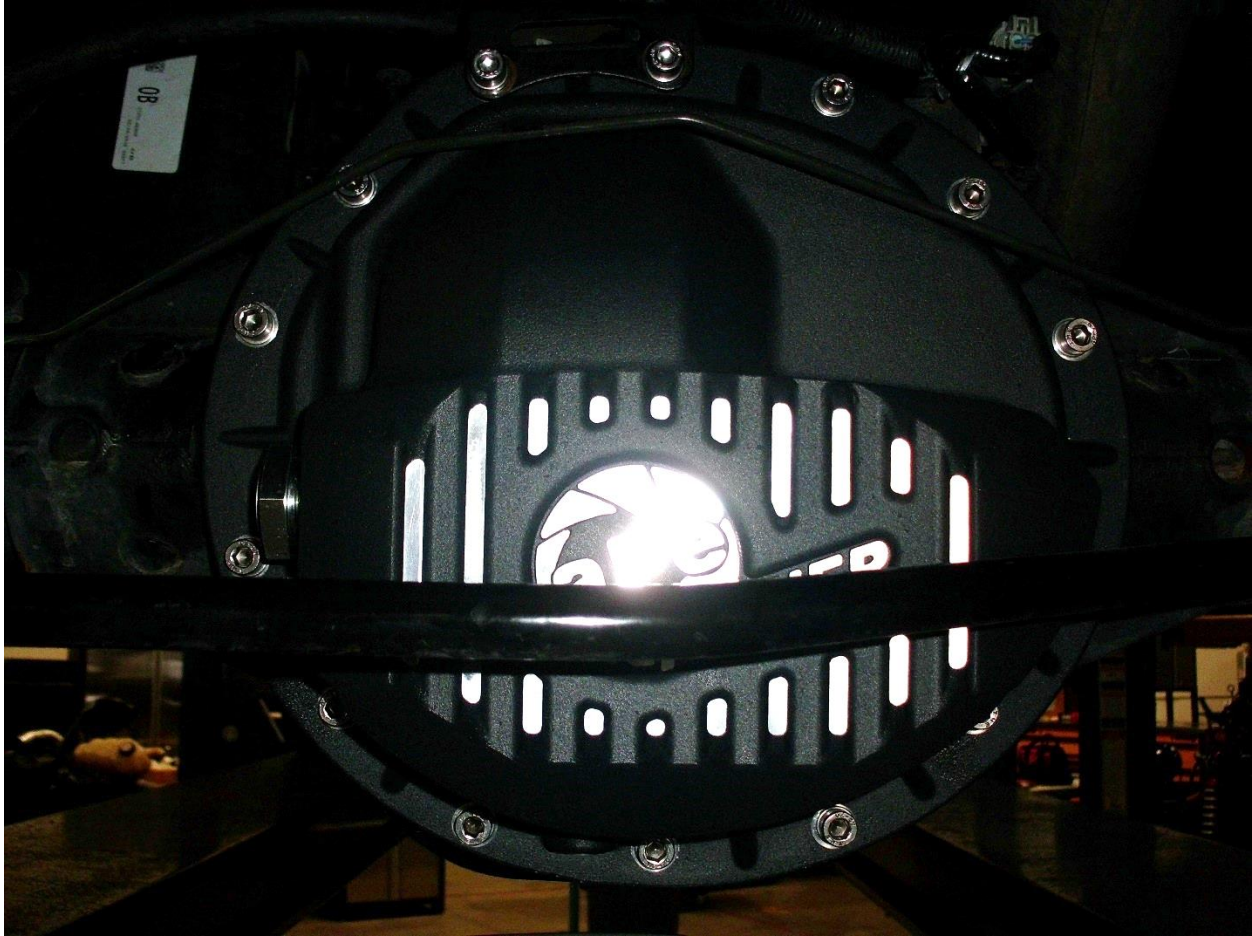
5. Remove the remaining bolt from the top of the differential cover.
6. Remove the OEM cover from the housing.

Note: If applicable, also remove the OEM gasket.



7. Use a clean, lint free rag to wipe down the remaining gear oil from the housing.
8. Clean off the sealing surface with a gasket scraper. Be careful not to gouge the surface while cleaning.
9. 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.

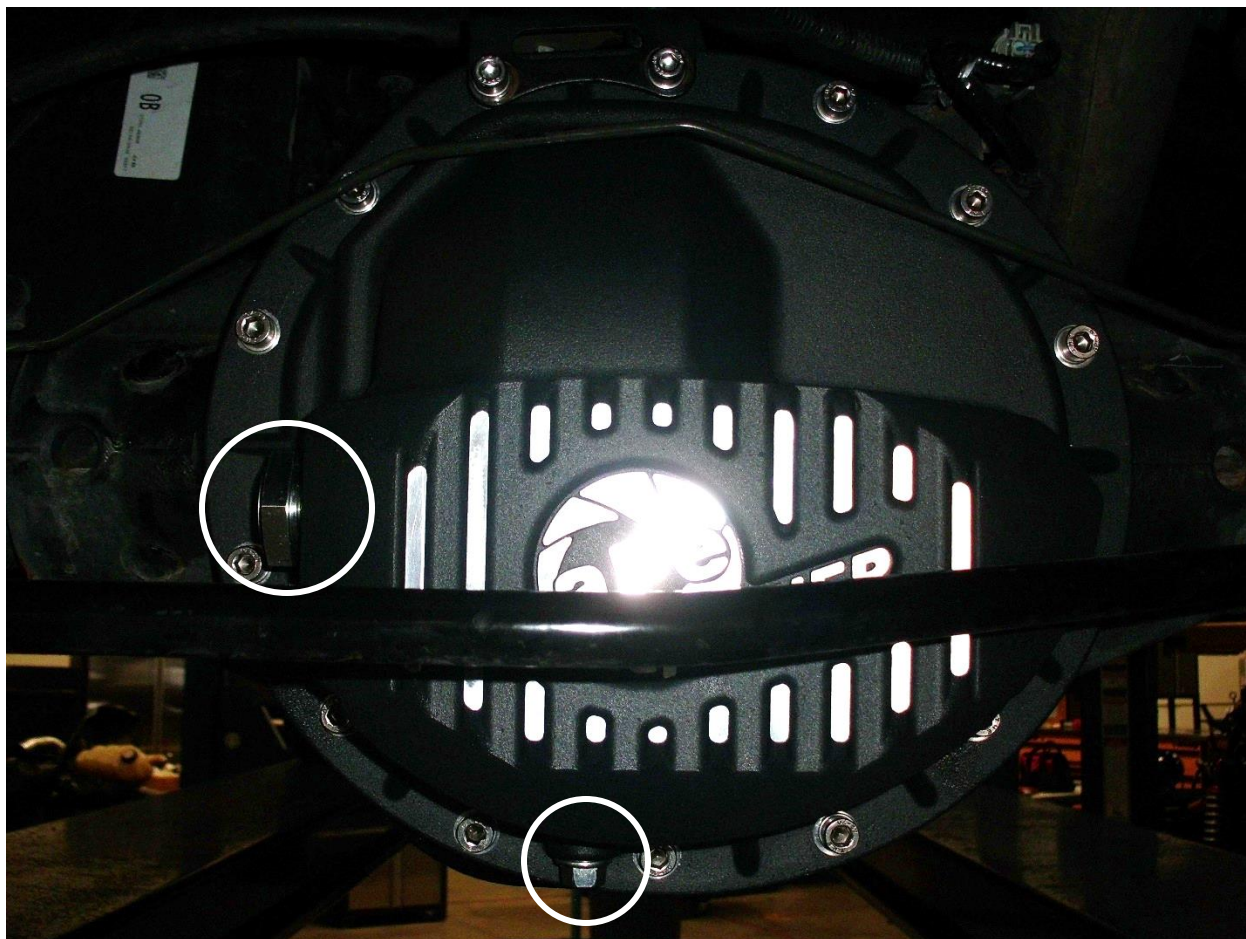


Note: If applicable, you can re-use the OEM gasket in place of RTV silicone.

10. Spread the supplied RTV silicone across the gasket surface of the supplied aFe differential cover. Be generous when spreading the silicone across the surface, ensuring to follow along the inside of all the bolt holes.

Note: Before moving on, make sure that the silicone will completely seal with the gasket surface.

11. Hold the aFe differential cover into position, aligning the screw holes. Install four (4) of the supplied M8x1.25x30 socket head screws and flat washers into separate sides of the cover to hold it in place.
12. Continue installing the remaining M8x1.25x30 socket head screws and flat washers finger tight.
13. Torque the mounting screws to 12-16 ft. -lbs. in a crisscross pattern.



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

If installing kit number 46-70040:

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



16. Using the top fill port, fill the aFe differential cover with new gear oil. Fill until gear oil runs out of the 1/8" NPT port on the side of the cover (about 3 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.

17. Apply Teflon tape/pipe sealant and install the supplied 1/8" NPT plug into the side of the cover.

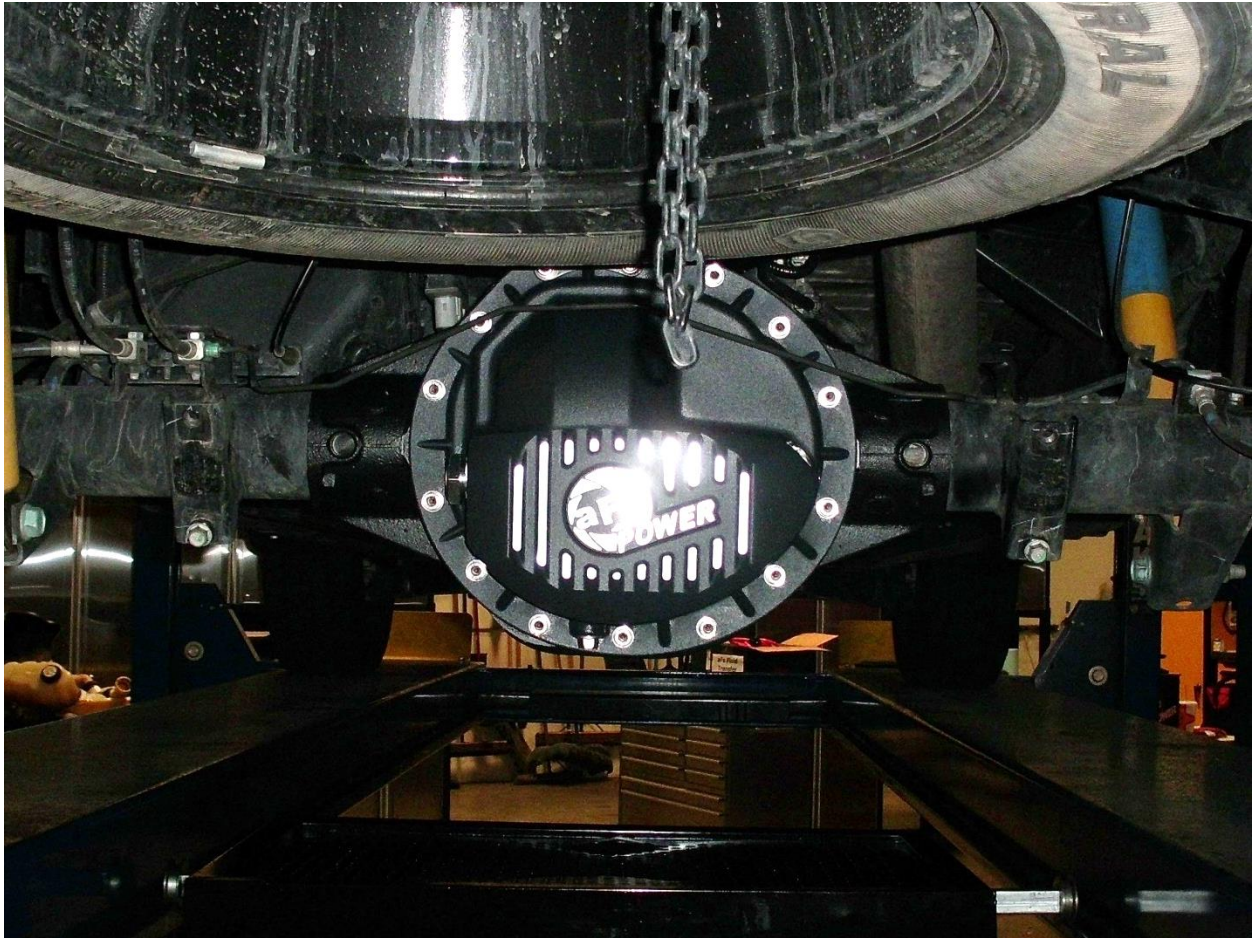


If installing kit number 46-70040:

18. Apply Teflon tape/pipe sealant and install the supplied 3/4" NPT plug into the top of the cover.

If installing kit number 46-70042:

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



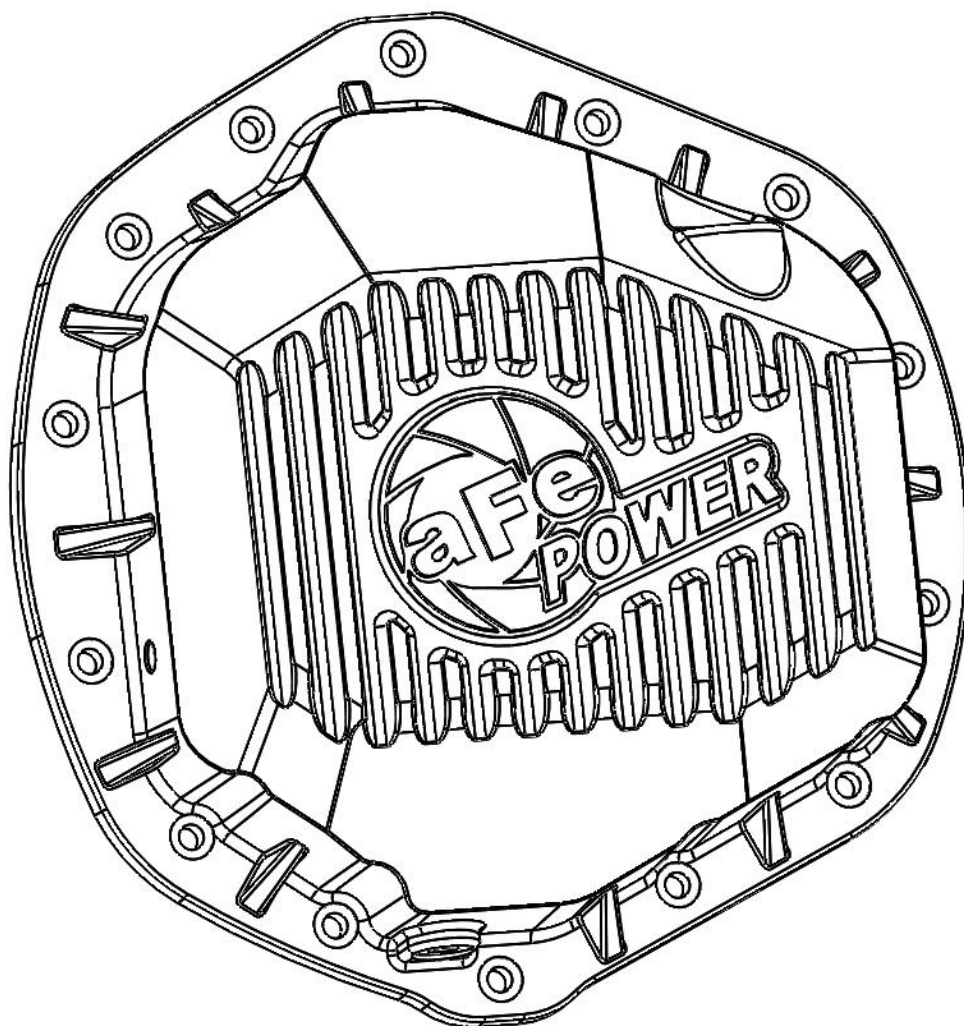
20. Your installation is complete.



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Instruction Manual P/N: 46-70390 / 46-70392

AAM 11.5/11.8 – 14 Bolt Rear Differential Cover

Make: Dodge	Model: 2500/3500	Year: 03-07	Engine: L6 – 5.9L (td)
Make: Dodge/RAM	Model: 2500/3500	Year: 07-18	Engine: L6 – 6.7L (td)
Make: Dodge/RAM	Model: 2500/3500	Year: 10-18	Engine: V8 – 5.7L
Make: RAM	Model: 2500/3500	Year: 14-18	Engine: V8 – 6.4L



- 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.

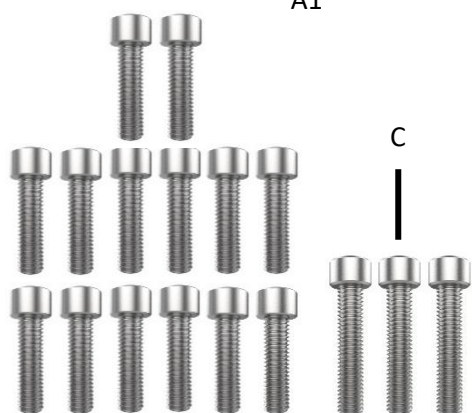
Label	Qty.	Description	Part Number
A1	1	Differential Cover – Raw, Machined Fins (46-70390)	05-60812A
A2	1	Differential Cover – Black, Machined Fins (46-70392)	05-60812B
B	14	Screw, Socket Head M8x1.25x30	03-50225
C	3	Screw, Socket Head M8x1.25x40	03-50245
D	17	Washer, Flat	03-50228
E	1	Plug, Magnetic M12 x 1.25	03-50385
F	1	Crush Washer	03-50384
G	1	Plug, 1/8" NPT	03-50029
H	3	Spacer	03-50529
I	1	Plug, 3/4" NPT (Included in 46-70390)	03-50391
J	1	Plug, Magnetic 3/4" NPT, 6" Deep Reach (Included in 46-70392)	03-50223
K	1	Plug, 1" NPT (Included in 46-70390)	03-50390
L	1	Plug, 1" NPT Sight Glass (Pre-Installed) (Included in 46-70392)	03-50224



A1

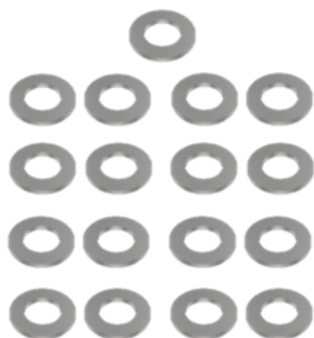


A2



B

C



D



E



F



G



H



I



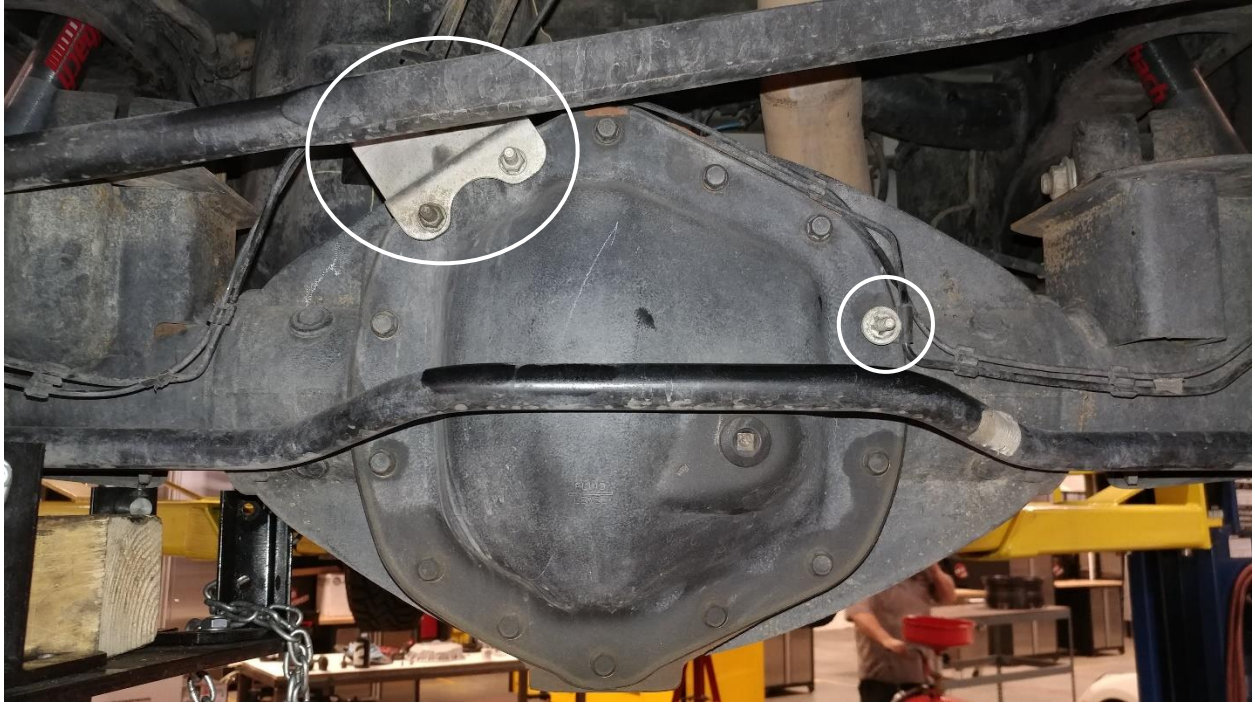
J



K



L



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. If applicable, remove the two (2) nuts holding on the brake line bracket and remove the bracket.
4. If applicable, remove the push nut and brake cable retention pad from the right side of the cover.
5. Remove the **bottom** 13 bolts from the differential cover, leaving only the top bolt.
6. Loosen, but do not remove the top bolt. Break the seal on the cover and the gear oil will begin to drain.



7. Allow all of the gear oil to drain from the differential.
8. Remove the one (1) remaining bolt from the top of the differential cover.
9. Remove the OEM cover and gasket from the housing.



10. Use a clean, lint free shop towel to wipe down the remaining gear oil from the housing.
11. Clean off the sealing surface with a gasket scraper. Be careful not to gouge the surface while cleaning.
12. 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



Note: Follow step 13 for coil spring vehicles only.

13. Remove the four (4) bolts holding on the sway bar and move the sway bar out of the way of the differential.



14. Hold the OEM gasket and supplied aFe differential cover into position, aligning the screw holes. Install one (1) of the supplied M8x1.25x30 socket head screws and flat washers at the top of the cover to hold it in place.
15. If applicable, reinstall the brake line bracket using two (2) supplied M8x1.25x40 socket head screws, two (2) spacers, and four (4) flat washers.



16. If applicable, reinstall the brake cable retention pad using one (1) M8x1.25x40 socket head screw, one (1) spacer, and two (2) flat washers.
17. Continue installing the remaining M8x1.25x30 socket head screws and flat washers finger tight.
18. Torque the mounting screws to 12-16 ft. -lbs. in a crisscross pattern.



Note: Follow step 19 for coil spring vehicles only.

19. Reconnect the sway bar using the four (4) bolts removed in step 13.



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



If installing kit number 46-70390:

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



22. 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 4 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.



23. Apply Teflon pipe sealant to the threads of the supplied 1/8" NPT plug.
24. Install the 1/8" NPT plug into the side of the cover.



If installing kit number 46-70392:

25. Apply Teflon pipe sealant to the threads of the supplied 3/4" NPT magnetic 6" deep reach plug.



If installing kit number 46-70390:

26a. Install the supplied 3/4" NPT plug into the top of the cover.

If installing kit number 46-70392:

26b. Install the 3/4" NPT magnetic 6" deep reach plug into the top of the cover.



27. Your installation is complete.

Warranty

General Terms:

- aFe warrants our products to be free from manufacturer's defects due to workmanship and materials.
- The warranty period begins on the original invoice date and covers the applicable period listed below.
- 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 product.
- All products sold under aFe's Private Label Program do not carry an aFe warranty.
- All items purchased labeled "Closeout" or "Overstock" or "Extra Savings" are final sale. No returns will be accepted.
- All items listed as "Race Only" are not covered by aFe's warranty.

<u>Product Category</u>	<u>P/N Prefix</u>	<u>Warranty duration</u>
Racing Filters	18	1 year
Pre-Filters	28	2 years
Fuel Systems	42	Life of the Vehicle
Torque Converters	43	2 years
Fluid Filters	44	90 days
Catalytic Converters	47	2 years
Headers	48	2 years
Exhaust Systems	49	2 years
Heavy Duty OE Replacement	70	2 years
Tuners / Modules	77 (Ex. 77-1)	1 year
Power Sports Intake Systems	85	2 years
Direct OE Replacement Filters	10, 11, 30, 31, 71, 73	Life of the Vehicle
Suspension – Direct Fit	37, 1XX, 2XX, 3XX, 4XX, 5XX, 7XX, 8XX	1 year
Suspension – Universal Fit	5XXXX, 6XXXX	90 Days
Oil Coolers	46-8	2 years
Universal Filters	20, 21, 23, 24, 72, TF	2 years
Intake Manifolds	46-1	2 years
Intercooler & Intercooler Tubes	46-2	2 years
Throttle Body Spacers	46-3	2 years
Exhaust Manifolds	46-4	2 years
Radiators	46-5	2 years
Turbochargers	46-6	2 years
Differential Covers	46-7	Life of the Vehicle
EGR	46-9	2 years
Air Intake Systems	5X, 75, F1, F2, TA, TL, TM, TR	2 years
Sprint Boosters	77-1	3 years
Scorpion Grilles	79-2	Structure: Lifetime / Finish: 3 years
Power Sports OE Replacement	81, 87	2 years
All Other Products Excluding Marketing and Chemicals		1 year

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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