



**advanced FLOW engineering**

**Instruction Manual** P/N: 46-70162 / 46-70166

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Make: **Jeep** Model: **Wrangler** Year: **1997-2016 (Dana 44)**

**\*Requires a minimum of 1.5" lift for proper clearance.**



- 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 engine is hot.

## Retain factory parts for future use.

Label	Qty.	Description	Part Number
A1	1	Diff. Cover - Machined Fins	05-60257
A2	1	Diff. Cover - Machined Fins (Red)	05-60257R
B	1	Plug, Hex Hd Socket: 1/8 NPT (Zn Plt)	03-50029
C	1	Plug, 3/4-14 NPTF, 6 Deep Reach	03-50223
D	14	Washer, Flat: 5/16 AN S/S	03-50228
E	4	Screws, Socket Head Cap: 5/16-18 x 1-1/2 S/S	03-50368
F	6	Screw, Socket Head Cap: 5/16-18 x 3/4 S/S	03-50370
G	1	Washer, Aluminum: M12, 15.85MM OD	03-50384
H	1	Plug, M12 x 1.25	03-50385
I	1	O-Ring; 9.-1/2 ID x 9-3/4 OD x .139W (-272)	05-60285
J	2	Screws, Socket Head Cap: 5/16-18 x 1-3/4" S/S	03-50388
K	2	Spacer, Aluminum: .750L x .500 OD x .319 ID	03-50387

### Installation will require the following tools:

1/2" socket, 14mm socket, 3/8 Ratchet, 1/2" Ratchet, 1/2" extension (3 inch), Panel popper, Gasket Scrapper Sand paper or file, & Drain pan.

### 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.**



I



F



E

J



D



G

K

B

H



A1



C



A2



### **Refer to Figure A for steps 1-5**

Step 1: Park your Jeep on level ground and apply the parking brake.

Step 2: Position a drain pan under the differential cover.

Step 3: **Rear Axle Only:** Using a panel popper, remove the electric locker wire loom (if applicable).

Step 4: Using a ½" socket and ratchet, remove all but one of the top bolts from the differential cover.

Leave the bolt at the top. Loosen but do not remove.

Step 5: 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. Remove differential cover.



**Refer to Figure B for steps 6-7**

Step 6: Using a clean lint-free rag, 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 or sand paper.

**DO NOT "ROUND OFF" THE FLAT GASKET SURFACE!**

INSTALL



Figure C

**Refer to Figure B for step 8**

Step 8: Using some gear oil, apply a thin layer of oil to the aFe differential cover O-ring. Install the O-ring on the back of the aFe differential cover.



### **Refer to Figure C for step 9**

Step 9: Using the six (6) supplied 5/16 x 3/4" socket head cap bolts and washers, install the aFe differential cover by starting the top three and the bottom three bolts. Using the four (4) supplied 5/16" x 1 1/2" socket head cap bolts and washers, install them in the remaining bolt holes. Tighten all the bolts using a 1/4" allen wrench.



**Refer to Figure E & F for step 10**

**Step 10 is only applicable to models with factory electric lockers.**

Step 10: Remove the two 5/16" x 3/4" bolts that are close to the fill plug. Install the bracket on the differential cover using the two supplied 5/16" x 1 3/4", four 5/16 washers, and two 3/4" spacers (as shown in figure E). Push the wire on the bracket (as shown in figure F).





Figure G

**Refer to Figure G for steps 11-12.**

Step 11: Place the M12 aluminum washer on the supplied drain plug.

Step 12: Using a 14mm socket, install the drain plug in the differential cover and tighten.



**Refer to Figure H & I for steps 13-15**

Step 13: Fill the differential with gear oil until the oil runs out of the 1/8" NPT hole in the front of the differential cover.

**\*If your axle is rotated different from stock, the 1/8" NPT will not be the full mark. Please fill to the correct level before driving.**

**\*Install teflon tape on 1/8" NPT plug and magnetic fill plug**

Step 14: Using a 3/16" allen wrench, install the 1/8" NPT plug in the front of the differential cover (as seen in Figure H) and tighten.

Step 15: Using a 1/2" drive extension, install the magnetic fill plug in the top of the differential cover (as seen in Figure I) and tighten.



FRONT

INSTALL



REAR

Figure J

**Refer to Figure E for step 16**

Step 16: Your installation is now complete. Verify all connections are secure before driving. Drive at least 25 miles and check the oil level and fill if necessary.

**NOTE: Retighten all connections after approximately 100-200 miles.**



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**Dana 30 Differential Cover**



P/N: 46-70192 (w/ Oil)  
46-70192 (Blk./Mach.)

**Oil Filter**



P/N: 44-LF006 (TJ/YJ Models)  
44-LF026 (JK Models)

**OE Air Filter Replacement**



P/N: 30-10012 (P5R) TJ/YJ  
31-10012 (PDS) TJ/YJ  
30-10155 (PDS) JK  
31-10155 (P5R) JK  
Exhaust System

**Throttle Body Spacer**



P/N: 46-35001 (TJ/YJ Models)  
46-35002 (JK Models)

**Momentum GT Intake**



P/N: 51-76202 (PDS) TJ  
54-76202 (P5R) TJ

**Twisted Steel Headers**



P/N: 48-46206 (YJ Models)  
48-46201 (TJ Models)



P/N: 49-46223 (TJ Models)

**Rebel Series (JK) Exhaust**



P/N: 49-48054-P (Pol. Tips)  
49-48054-B (Blk. Tips)

**Radiator**



P/N: 46-50002-B (JK Models)

**Twisted Steel Headers**



P/N: 48-48023 (JK Models)

**Momentum GT Intake**



P/N: 51-76203 (PDS) JK  
54-76203 (P5R) JK

**Glide Guard**



P/N: 46-79001 (JK Models)

To purchase any of the items above, view airflow charts, dyno graphs, photos, and video; please go to [aFepower.com](http://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](mailto: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.

<b>Product Category</b>	<b>P/N Prefix</b>	<b>Warranty duration</b>
Direct OE Replacement Filters	10, 11, 30, 31, 71, 73	Life of the vehicle
Racing Filters	18	1 year
Universal	21, 24, 72, TF	2 years
Air Intake Systems	50, 51, 54, 55, 75, TR, TA, TL	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
Turbochargers	46-6	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.

\*See turbocharger warranty for more info



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