



**Installation Manual v1.1:
Dana 80 ATS Protector Differential Cover
Dodge - 1994-2002 2500 w/ 5-Speed Manual Transmission (NV4500);
all 94-02 3500 Trucks
Ford 1999 & Newer F350 & F450 Dually Superduty; 1990-1998 Superduty
(spec. chassis)**

Please read all instructions before installation.

For some installations, removing the spare tire may provide better access to the work area. It is not necessary in every case. The installer should determine if there is adequate workspace prior to starting the installation.

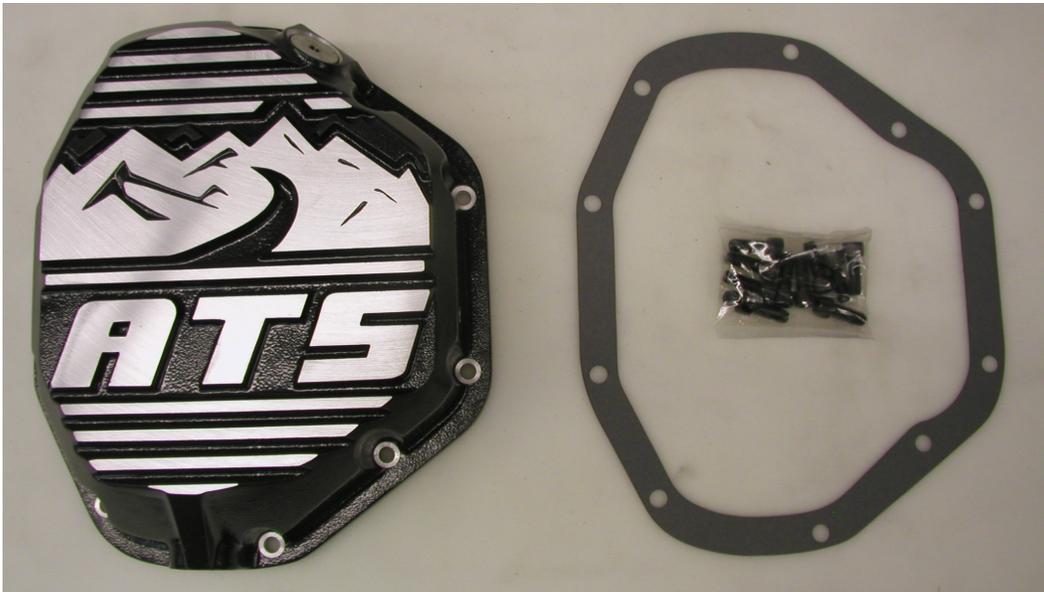
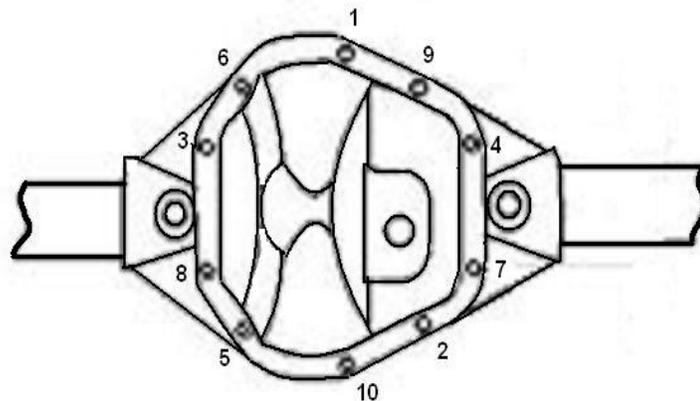


Figure 1: Dana 80 ATS Protector Differential Cover Kit

1. Please make sure no parts are missing from ATS Protector Differential Cover kit. A complete corresponding list of parts can be found on page 5. The bag pictured contains all hardware necessary for installation.
2. Park vehicle on level ground and apply parking brake.
3. Position a drain pan under differential cover to catch old gear oil.

4. Remove 9 out of 10 existing bolts, starting at bottom of differential cover. Loosen remaining bolt 3-4 threads. This will keep factory differential cover from falling into gear oil.
5. Using a gasket scraper, start at bottom of cover and carefully (so as not to gouge the gasket surface) insert between factory cover and differential housing and pry factory cover off.
6. Allow gear oil to drain. Inspect for debris (as metal in the oil is an early sign of potential failure within differential). Remove last bolt and differential cover.
7. Using a gasket scraper, carefully remove remaining gasket material from differential housing.
8. Before installing ATS Protector cover, check machined gasket surface on differential housing for dents, irregularities, or gouges. Should any exist, carefully remove high spots using a smooth flat file. **Take care not to round off flat gasket surface.**
9. Align new gasket with holes on ATS Protector differential cover and place a stainless steel socket head cap screw through a top hole on both differential cover and gasket.
10. Position cover on housing by aligning bolt holes and start threading cap screw into top bolt hole. Continue around bolt pattern until all 10 bolts are installed finger tight.
11. Using a hex bit and 3/8 drive torque wrench, torque stainless allen cap screws to **22 ft-lbs** in a cross tight pattern as shown in *Figure 2*.



Torque cap screws to 22 ft-lbs

Figure 2: Cross Tight Pattern and Torque Specifications

12. Check drain plug for tightness. If loose, torque drain plug to **15 ft-lbs**.
13. Remove fill plug from top of differential cover and 1/8 pipe plug from weep hole if installed. Fill differential through fill plug hole at top of ATS Protector differential cover. Fill differential until gear oil begins to leak out of weep hole. If no weep hole is present, add 7 quarts of gear oil. If vehicle is equipped with a limited slip differential, add 6.75 quarts of gear oil. Use SAE 90W gear oil.

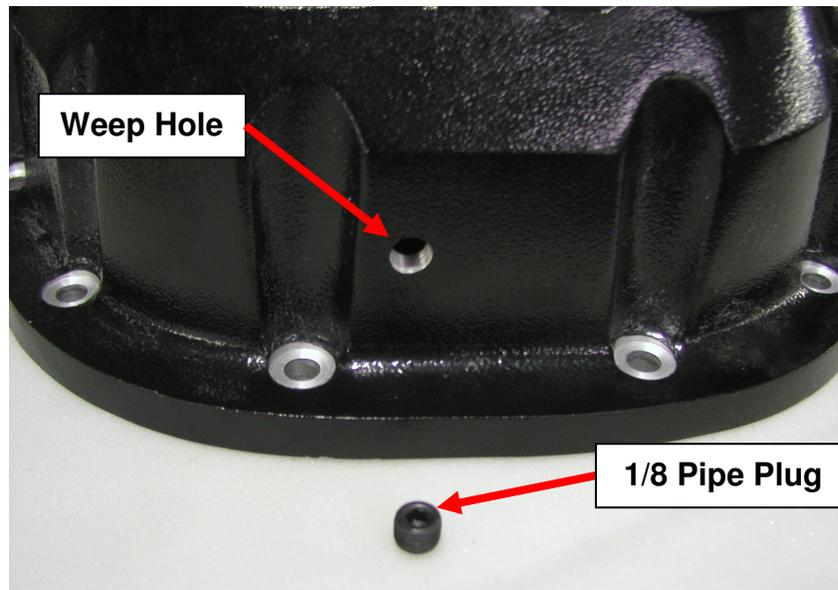


Figure 3: Weep Hole and 1/8 Pipe Plug

14. If vehicle is equipped with a limited slip differential, add appropriate amount and type of friction modifier. Stuart Friction Modifier is a good choice and is available under many other private labels. It is available at both Dodge and Ford dealerships and is compatible with LE and Amzoil gear lubes. One 4oz bottle per 3 quarts of gear oil. Two 4oz containers typically are enough.
15. If you plan to install a temperature sender, do so at this time and set aside the 1/8 pipe plug. If not, install pipe plug in side of ATS Protector differential cover. Be sure to use LPS all-purpose anti-seize or equal on the pipe threads. Torque 1/8 pipe plug and drain plug to **15 ft-lbs** or until snug.
16. Pour used gear oil into approved container and dispose of fluid at appropriate recycling facility or participating local parts store.

A word of caution to the vehicle owner/installer:

It is the responsibility of the vehicle owner/cover installer to ensure no other vehicle component comes in contact with the ATS Protector differential cover. **Contact with any vehicle component, or the making of any modifications to the ATS Protector differential cover, automatically voids the warranty. ATS Diesel Performance assumes no liability, expressed or implied, for damage or injury to persons or property. Additionally, if incorrect amount of fluid is added to differential subsequently resulting in failure, ATS Diesel Performance cannot be held liable for damages.**

Have Any Questions?

Thank you for purchasing the ATS Protector Differential Cover. Please check our website at <http://www.atsdiesel.com> for technical support and other performance products such as the 5-Star™ torque converter, ATS High Performance Valve Body and ATS High Performance Transmission along with our full line of power enhancers. Please call or e-mail our Technical Service Department, 8:00am to 5:30pm Mountain Standard Time, Monday through Friday.

Contact Information

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We strive to make our instructions as clear and complete as possible. To achieve this, our instructions are under constant construction. We encourage you to visit our website to check for the most up-to-date manuals and diagrams as well as other information. If you have any suggestions as to how we can improve this installation manual, let us know at <mailto:Suggestions@ATSDiesel.com>.

Bill of Materials

1. ATS Protector Differential Cover 5116-402-180
2. Gasket (P/N FPG RDS55447)
3. Hardware Bag
 - (10) Stainless Steel Cap Screws (3/8-16 x 1)
 - (1) 1/8 Pipe Plug
4. Fill Plug
 - (1) Fill Plug
 - (1) O-Ring
5. Magnetic Drain Plug
 - (1) Drain Plug
 - (1) O-Ring

Not Pictured:

6. Instruction Manual 5116-402-980 – INST
7. ATS Warranty www.atsdiesel.com/warranty