



Installation Manual v1.1:

GM/Dodge 14 Bolt ATS Protector Differential Cover

**GM 2001+ 2500HD & 3500 w/ Full Floating Axle (All Duramax & 8.1L
Equipped Trucks)**

**Dodge 2003 2500 High Output Diesels; 2003 3500 Standard & High Output;
2004-2006 2500 & 3500, Standard & High Output Diesels**

Please read all instructions before installation.

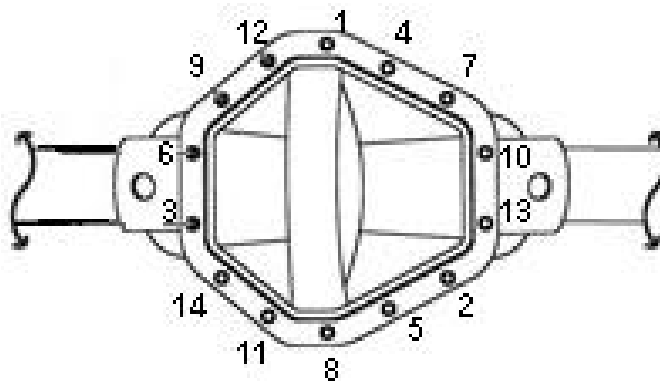
For some installations, removing the spare tire may provide better access to the work area. It is not necessary in every case. The installer should determine if there is adequate workspace prior to starting the installation.



Figure 1: GM/Dodge ATS Protector Differential Cover Kit

1. Please make sure no parts are missing out of 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 13 out of 14 existing bolts, starting at bottom of factory differential cover. Loosen remaining bolt 3-4 threads. This will keep the differential cover from falling into gear oil.
5. Using a gasket scraper, start at bottom of differential cover and carefully (so as not to gouge differential housing metal) insert between existing cover and differential housing and pry old cover off.
6. Allow the gear oil to drain. Inspect for debris (as metal in 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 allen cap screw through top hole in both differential cover and gasket.
10. Position cover on housing by aligning bolt holes and start threading cap screw into the top bolt hole and continue around bolt pattern until all 14 bolts are installed finger tight.
11. Using a hex bit and 3/8 drive torque wrench, torque cap screws to **30 ft-lbs** in a cross tight pattern as shown.



Torque all bolts to 30 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 the top of the ATS Protector differential cover. Fill differential until gear oil begins to leak out of weep hole. If no weep hole is present, add 6 quarts of gear oil.

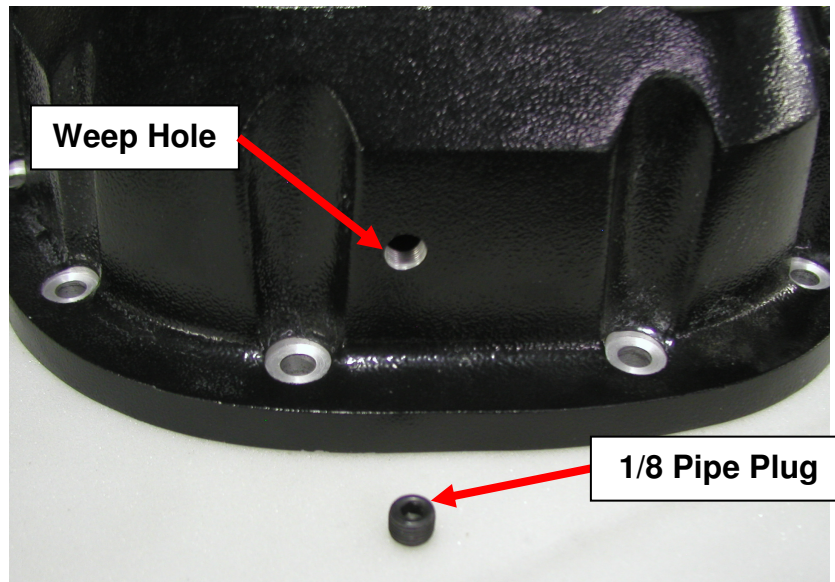


Figure 3: Weep Hole and 1/8 Pipe Plug

14. If vehicle is equipped with a limited slip differential, add appropriate amount and correct type of friction modifier.
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:

On some axles, the brake lines are mounted with tabs to the differential housing using the differential cover bolts. If this is the case, reinstall the mount with the brake line junction block (some clearance grinding may be necessary). Discard the parking brake line mount located on the passenger side of differential cover. 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 Technical Support Website (<http://www.atsdiesel.com/ATSWbsite/Technical.asp>) 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 402-115-6248
2. Gasket (Mopar p/n 1-05085905AA)
3. Hardware Bag
 - (14) M8-1.25x30mm SS Socket Head Cap Screws
 - (14) 8mm Washers (not pictured)
 - (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 402-915-6248 – INST
7. ATS Warranty www.atsdiesel.com/warranty