

2004 Dakota PML Front Differential Cover Installation

The stock cover's lower bolts were removed from the underside of the truck (bottom view).



The upper bolts were accessed by removing the front splash shield (front view).



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I had to use two extensions to reach these bolts.



Removing the stock cover required the removal of the steering rack nut so the rack bolt could be pushed back.



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Once the bolt was pushed back and the vent tube hose removed, I was able to remove the stock cover.



This picture shows how much the ring gear protrudes from the front differential housing.



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The housing/diff mating surface was thoroughly cleaned and allowed to dry (before pictures).



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I did a dry fit and all of the bolts lined up. However, I was unable to tighten this bolt (and the one on the opposite side top, same position) with my 3/8 drive hex head driver because of the limited distance between the rack and the bolt head. A modified Allen wrench could be used to tighten this bolt.



I will be using the original bolt here and on the opposite side temporarily and will install the new bolts when I replace the steering rack this fall.



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I found this bolt to be the most difficult to tighten. I used white Teflon tape to install the brass vent tube and also pushed a plastic cap over it to prevent debris from getting into the differential.



The diff cover did clear the rack bolt, but I elected to cut 1/4 inch off the rack bolt to allow maximum clearance and still leave enough thread to fully tighten the nut.



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Three photos of the dry fit before final installation:



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This is a view looking straight up from the floor.



After the dry fit, I applied 1/8 inch of black silicone to the housing in a pattern specified in the instructions provided by PML.

After tightening the bolts, a small amount of sealant pushed out, even after applying only a 1/8 inch thick bead to the housing.



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I pushed on the vent tube hose from the top, inside the engine compartment.



The vent hose shows no signs of blow-by or leakage after 3 weeks of use.



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Overall, the installation went well and I'm happy with the new PML differential cover. The two new bolts that were not used could have been installed with some ingenuity and perseverance, but in my situation they will be installed when I replace the steering rack at a later time.

The large rack bolt did not need to be shortened, but for my reassurance I cut some off to make certain it did not hit the new differential cover during hard jolts and bumps. With the steering rack bolted directly to the frame, and the differential bolted directly to the engine, I believe the only movement of the differential housing would come from the play in the motor mounts, which would be minimal.

