



# BMW M3 E46 Differential Output Shaft Seal Replacement

This guide will illustrate the procedure to remove the Differential Output Shaft of a 2000-2006 BMW M3 Credit to M3Forum.net user JeST

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## INTRODUCTION

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### TOOLS:

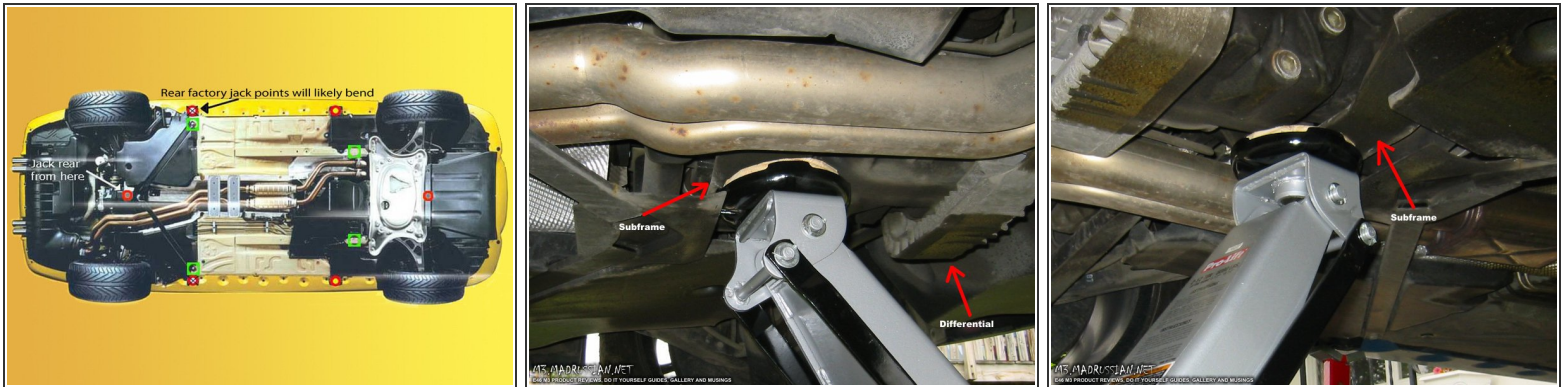
- [3/8" Torque Wrench](#) (1)  
*3/8" Drive*
- [E Torx Socket Set](#) (1)



### PARTS:

- [BMW ///M Differential Oil 75W-140](#) (1)
- [BMW Differential Seal](#) (2)  
*BMW part# 33 12 1 213 949*

## Step 1 — Jack up rear of vehicle and place on jack stands



- The E46 M3 has four factory jack points (two per side), but you can also jack up the car using these two center points (one in front and one in the rear). Then you can easily place jack stands under the lift pads on the sideskirts/rocker panels.

**⚠ DO NOT JACK UP BY THE DIFFERENTIAL!**

## Step 2 — Loosen bolts connecting axle to differential



- Using a e12 socket , remove the 6 bolts
- Using a pry bar, pop the output shaft out of the diff. The shaft is held into the diff by a spring clip that needs to be compressed for the output shaft to slide out of the diff.
- ⓘ For additional clearance , it may be beneficial to loosen all 4 allen bolts that holds up the rear sway bar and swing it down and out of the way.



### Step 3 — Remove Old Seal



- i** Inspect output shaft spline for damage once it is removed.
- i** Try and keep a mental note as to how far the seal sits in the flange.

## Step 4 — Install New Seal



- When your placing the new seal in make sure all of the original parts from the original seal is out (primarily the skinny circular spring, you'll see the spring when you look at the new seal).
- Use something a little smaller in diameter then the seal itself (I know this is kind of vague but really anything thats a little smaller in diameter will work) and tap it in with a small hammer (it's a tight fit in there but you'll have to tap the seal in until the seal is in the flange about 1/4" deep into the flange).

**⚠ Seal has to sit flush (without having one side of the seal in or further out then the opposite side).**

## Step 5 — Reinstall axle



- Tighten e12 bolts to 64 ft lb
- Top Off Differential Fluid