DRIVE ▲ DIY

BMW M3 E46 Differential Fluid Change

Steps for a BMW M3 E46 differential fluid change.

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INTRODUCTION

The BMW Differentials tend to get noisy as the fluid ages, this should help maintain the diff and keep it quite.

TOOLS:

- 12mm Hex Socket (1)
- 14mm Hex Socket (1)
- 3/8" Torque Wrench (1)
- Low Profile Oil Drain Pan (1)
- Differential Fluid Pump (1)

PARTS:

- BMW ///M Differenital Oil 75W-140 (3)

3 Bottles Are Needed for full refill

- BMW Crush Washer (2)
- BMW Differential Drain Plug with O-Ring (1)

Includes 2 new style O-Ring backed drain plugs

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Step 1 — Jack up car and place on jack stands

- **Parts:** 3 bottles of SAD-JX + FM booster(Part# 83222282583), crush washer (part # 07-11-9-963-355) OR new plugs with O-Rings: part # is 33117525064 OR 2 new O-Rings: part # 07-11-9-963-355.

- **Steps:** 1. Go for a drive and warm up your car, it helps old fluid to drain completely. and 2. Jack up your front and rear end of car on 4 jack stands.

Step 2 — Unbolt Fill Plug

- Use 14 mm (or 12mm) hex to unbolt fill bolt first. When I unbolted fill bolt, little bit of fluid started draining a little bit, so make sure to have towel or oil pan ready to catch old fluid.

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Step 3 — Unbolt Drain Plug

- Unbolt drain plug and let it drain for 30 ~ 45 minutes.

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Step 4 — Place Drain Bolt Back On

(i) According to Bentley service manual, torque spec for drain/fill bolts are: With O-ring: 60 Nm (44 ft-lb) and With sealing washer: 65 Nm (48 ft-lb).

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Step 5 — Filling Diffrential with Fluid

- Cold fluid is more like jelly, so it's time consuming process, but make sure to pump until it's dripping from fill hold. I ended up using 2.6 bottle of new fluids.

- (i) Fill till fluid is right below the fill plug

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Step 6 — Place the Fill Bolt on with a Washer - Tighten to spec

- Put fill bolt on with washer and tighten it to 48 ft-lb. I had hard time fitting torque wrench for fill bolt, so I had to use combination of some adjustments shown below.

- Lower your car and go for a test drive.

- Check for leaks once fluid and differential are warm

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