

2003-2008 BMW Z4 | Easy | 45-75 minutes

TOOLS

Floor jack Jack stands (rated) Wheel chocks 36mm socket and ratchet Oil drain pan Funnel Nitrile gloves Shop towels

PARTS

M54 oil filter cartridge element
Oil drain plug crush washer
BMW LL-01 approved 5W-30 engine oil, approx 6.5 liters

STEPS

- 1 Warm the engine and secure the Z4 - Start the M54 and let it idle for two to three minutes** so the oil warms and drains out completely, then park on level ground. Set the parking brake and chock the rear wheels.
- 2 Lift the car and remove the undertray - Raise the front of the Z4 onto jack stands** and remove the underbody splash shield with its screws and plastic fasteners. The E85's low nose means you need the clearance to reach the drain plug comfortably.
- 3 Drain the engine oil - Slide a drain pan under the oil pan, remove the drain plug, and let the M54 empty for 10 to 15 minutes.** Put a new crush washer on the plug and thread it back in by hand before tightening.
- 4 Remove the M54 oil filter cartridge - From above, unscrew the black plastic oil filter housing cap on the M54 with a 36mm socket and lift out the old cartridge.** Remove the spent O-rings from the cap and wipe the sealing surfaces clean.
- 5 Install the new filter and seals - Lightly coat the new O-rings with fresh oil, press them into the cap grooves, and install the new cartridge element.** Start the cap by hand, then snug it with the 36mm socket - the plastic cracks if you heave on it.
- 6 Refit the plug and undertray - Tighten the drain plug with its new washer and reinstall the splash shield with every original fastener.** Check that nothing is left dangling before lowering the car.
- 7 Refill with fresh oil - Add roughly 6.5 liters (6.9 quarts) of BMW LL-01 5W-30 through the filler, pouring the last half liter slowly.** Unlike newer BMWs, the M54 has a real dipstick - use it.
- 8 Check the dipstick and finish - Start the engine and check underneath for leaks at the plug and filter housing.** Pull the dipstick, wipe, reinsert, and read the level; adjust to the full mark and you are done - no electronic reset needed on this generation.