2003-2008 BMW Z4 - Spark Plug Replacement

2003-2008 BMW Z4 | Advanced | 1-2 hours | $115 DIY

TOOLS

5/8-inch spark plug socket (M54, N52 engines) Thin-wall 12-point 14mm spark plug socket (N54 engines) 3/8-inch ratchet with 6-inch and 10-inch extensions Universal joint (swivel) adapter Coil-puller tool (optional but helpful) Feeler gauge set for checking plug gap Compressed air or shop vacuum E-Torx socket set (if unbolting the strut brace)

PARTS

Correct spark plug set for the gasoline/ICE engine in 2003-2008 BMW Z4; verify engine, heat range, gap, and VIN fitment $115.00 Coil-boot seals or ignition coils only if inspection finds damage $35.00

STEPS

1. **Identify your generation and engine, then let it cool - E85 (2003-2008): M54, N52, or S54** (Z4 M) inline-6 - six plugs. E89 (2009-2016): N20 turbo four (four plugs) or N52/N54 inline-6. Match plugs to your engine code on the underhood label. Work on a fully cold engine.
2. **Remove the engine cover and assess access - Pull the plastic cover up off its rubber** mounts. On the E85, the strut brace crosses the middle cylinders, making the number 5 plug fiddly - work around it with a swivel extension, or unbolt one end and ease it aside. Mark its position f...
3. **Disconnect and pull the ignition coils - These coils are press-fit - no bolts. Release** each locking clip, unplug, twist, and pull the coil straight up. Heat can seize them - a coil-puller or gentle rocking frees them without cracking the plastic. Keep them in cylinder order.
4. **Remove the old spark plugs - Blow debris out of the plug wells. M54/N52: 5/8-inch spark** plug socket. N54: thin-wall 12-point 14mm socket - a regular socket jams in its narrower wells. Use extensions, turn counterclockwise; add a universal joint for the number 5 plug...
5. **Check the gap and install the new plugs - Use plugs specified for your exact engine code** - the high-output S54 in the Z4 M and the turbo N54 are picky about plug type, so do not substitute. Check the gap in the owner’s manual or on the underhood emissions sticker and verify with...
6. **Reinstall the coils, brace, and cover - Seat each coil on its plug with a click or solid** stop, then reconnect each wiring plug until its clip latches. Bolt the strut brace back to its marked position and torque the fasteners properly - it’s a structural chassis part.
7. **Start up and verify a clean idle - Start the engine and check for a smooth idle with no** warning lights. BMWs set misfire codes fast, so any flashing check-engine light means a coil is not seated or a connector is loose - shut down and recheck. Take a short drive with some...

TORQUE

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