SEA

Springfield Euro Auto EXAMPLE SHOP

service@springfield-euro-auto.example

TECHNICIAN WORKSHEET · M54
RA-M54-012345-20261027

2004 BMW 330i · E46 3 Series sedan · RWD

WBAEV53474KM12345

ODOMETER IN	DOOR-JAMB BUILD (MM/YY)	RO #	TECHNICIAN / DATE
142,000			

A · RECALLS AND CAMPAIGNS TO VERIFY (DEALER PRINTOUT OR NHTSA.GOV)

14V-428 · Passenger air bag inflator (do not drive) ☐ Open ☐ Done ☐ N/A

15V-318 · Driver air bag inflator (do not drive) ☐ Open ☐ Done ☐ N/A

20V-018 · Air bags · passenger inflator ☐ Open ☐ Done ☐ N/A

01V-206 (Cooling fan motor (fan stops)): not listed by NHTSA for MY2004. Confirm on the dealer printout.

B · INSPECTION POINTS, IN PLAN ORDER

1. Cooling system overhaul (water pump, thermostat, expansion tank, hoses)

Now · Inside the range (Median ~96k; middle half 74k–142k (97 reports))

Expansion tank neck and radiator end tanks ☐ OK ☐ Watch ☐ Fix

Pump wobble and seep ☐ OK ☐ Watch ☐ Fix

Pressure test ☐ OK ☐ Watch ☐ Fix

Cooling parts: original / replaced at ____ mi

Scan for: Thermostat codes

Parts (E46): FCP Euro lists an E46 cooling overhaul kit (E46COOLKIT, Graf, $301.06), an expansion tank kit (E46EXPANKIT, Genuine BMW, $264.15) and a water pump and thermostat kit (11517509985KT, Graf, $273.87), Oct 26, 2026. Kits differ by model (E39, E46, X3, X5, Z4): confirm by VIN.

2. VANOS seals and solenoids

Watch · Any mileage (Only 9 NHTSA reports name VANOS, too few for a mileage)

VANOS adaptation and response ☐ OK ☐ Watch ☐ Fix

Scan for: Camshaft position / VANOS codes

Parts (E46): Febi VANOS solenoid 11361432532 ($61.79) and a Febi/Vaico seal filter kit (11361401971KIT, $66.21) on FCP Euro, Oct 26, 2026. Confirm by VIN.

3. DISA valve (intake manifold flap)

Watch · Any mileage (Only 17 NHTSA reports name DISA, idle control or rough idle, too few for a mileage)

DISA flap play ☐ OK ☐ Watch ☐ Fix

Scan for: DISA / intake manifold codes

Parts (E46): Rein DISA valve 11617544805 ($183.08) and Febi ($194.99) on FCP Euro, Oct 26, 2026. Confirm by VIN.

4. Crankcase ventilation (CCV) hoses and oil separator

Watch · Any mileage (Median ~74.2k (43 crankcase-vent and vacuum-leak reports))

Crankcase vacuum test ☐ OK ☐ Watch ☐ Fix

Oil-cap suction at idle ☐ OK ☐ Watch ☐ Fix

Cracked hoses ☐ OK ☐ Watch ☐ Fix

Scan for: Lean codes (P0171/P0174)

Parts (E46): FCP Euro lists a CCV kit (11617501566KT, $185.18), a Hengst oil separator (11617501566, $37.09) and a Genuine BMW crankcase vent valve (11157840446, $154.99; Vaico $55.99), Oct 26, 2026. Confirm by VIN.

5. Oil filter housing and valve cover gaskets (oil leaks)

Watch · Any mileage (Median ~82.5k (26 oil-leak reports, thin))

Seep at filter housing and cover gasket ☐ OK ☐ Watch ☐ Fix

Leak: dry / damp / wet

Parts (E46): Elring valve cover gasket kit 11129070990KT ($155.74) and an oil filter housing gasket (11421719855: Genuine BMW $10.49, Elring $2.92) on FCP Euro, Oct 26, 2026. Confirm by VIN.

6. Rear subframe / trunk-floor mounts (E46) Watch · Any mileage (Median ~115k (62 reports, 61 of 68 on 2000 cars))

Cracks at the subframe mounting points from below and inside the trunk ☐ OK ☐ Watch ☐ Fix

Cracks: none / hairline / open

Parts (E46): Meyle HD subframe reinforcement kit E46SUBKIT ($101.82) and Corteco E46SUBKIT1 ($81.76) on FCP Euro, Oct 26, 2026 (parts only). Confirm by VIN.

FACTORY MAINTENANCE DUE BY 172,000 MI (ASK FOR RECORDS)

Spark plugs · every 100,000 mi · was due at 100,000 mi (check records) · $329 ☐ Done (records) ☐ Due ☐ Quoted

Brake fluid · every 2 years · $149 ☐ Done (records) ☐ Due ☐ Quoted

C · ALSO REPORTED FOR THE M54, QUICK CHECKS

- **Engine-internal (failure, oil burning, VANOS)** (46 complaints): Only 1.0% of complaints, spread across causes; the M54 has no known recurring internal failure. VANOS is its own item below.

WHAT TO SAY AT THE COUNTER (ADVISOR)

1. Cooling system overhaul (water pump, thermostat, expansion tank, hoses)
Plastic cooling parts age out together: the water pump impeller, thermostat, expansion tank, radiator necks and hoses. At 142,000 mi your car is in the mileage range where owners report it. Our price is $1,250, before tax and shop supplies. Left until it fails, published repair bills run $1,150–$7,350.
Ask: have you noticed temperature gauge climbing, or coolant smell or puddles?

Adjust after the inspection. The report is not a diagnosis or a guarantee, so say what the technician found, not what the report predicts.

NOTES FOR THE ADVISOR

Record findings here (OK / Watch / Fix and measurements); the advisor adjusts the quote before the handout is printed or sent.

Reference only. Follow BMW repair procedures and your shop's judgment.