SEA

Springfield Euro Auto EXAMPLE SHOP

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TECHNICIAN WORKSHEET · N20

RA-N20-123456-20261027

2014 BMW 328i · F30 3 Series sedan · RWD

WBA3A5C52EJ123456

ODOMETER IN	DOOR-JAMB BUILD (MM/YY)	RO #	TECHNICIAN / DATE
82,000			

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

24V-608 · Electric water-pump connector (fire risk)	☐ Open ☐ Done ☐ N/A
14V-627 · Brake vacuum pump lubrication (follow-up to 13V-454)	☐ Open ☐ Done ☐ N/A
13V-454 · Brake vacuum pump lubrication	☐ Open ☐ Done ☐ N/A
15V-189 · In-tank (low-pressure) fuel pump	☐ Open ☐ Done ☐ N/A
25V-871 · Air bags · side/window · head	☐ Open ☐ Done ☐ N/A
24V-527 · Air bags · frontal · driver inflator	☐ Open ☐ Done ☐ N/A
24V-288 · Air bags · side/window	☐ Open ☐ Done ☐ N/A

Timing chain: build-date verdict: Original chain design (from model year 2014 (build month not entered)). Fill in the build month above to confirm.

B · INSPECTION POINTS, IN PLAN ORDER

1. Timing chain, guides & tensioner

Now · Inside the range (50k–100k)

Cold-start whine from front of engine	☐ OK ☐ Watch ☐ Fix
Chain slack via oil filler opening (engine off, cool)	☐ OK ☐ Watch ☐ Fix
Invoice for chain job with revised part numbers?	☐ OK ☐ Watch ☐ Fix

Chain stretch: ____ (within spec / over)

Guides: OK / worn

Scan for: Cam/crank correlation codes

Parts (F30): FCP Euro N20/N26 timing chain kit 11318648732KT, rear-wheel drive / sDrive (with updated sprockets)

2. Oil pan gasket

Now · Inside the range (80k+)

Pan seep (on lift) ☐ OK ☐ Watch ☐ Fix

Leak: dry / damp / wet

Parts (F30): ECS upper/lower oil pan gasket kit with bolts (BMW101412KT)

3. Oil filter housing gasket + belt

Now · Inside the range (60k+ and 6+ years)

Oil at housing / front left of block	☐ OK ☐ Watch ☐ Fix
Belt condition	☐ OK ☐ Watch ☐ Fix

Leak: dry / damp / wet

Parts (F30): Aluminum oil filter housing 11 42 8 637 812 (service-action replacement for the early plastic housing) · Gasket / oil-cooler seal kit and belt: ask your supplier for the OE numbers for this VIN.

4. Spark plugs & ignition coils

Now · Past the range (Plugs 50k–60k · coils 60k–75k)

Plug age / last record	☐ OK ☐ Watch ☐ Fix
Coils original?	☐ OK ☐ Watch ☐ Fix

Plugs last done at ____ mi

Scan for: Misfire codes, any cylinder

Parts (F30): Use the OE-spec plug and coil numbers your supplier lists for this VIN.

5. Turbo wastegate

Check now · Inside the range (80k+)

Cold-start rattle; persists hot? ☐ OK ☐ Watch ☐ Fix

Wastegate arm play ☐ OK ☐ Watch ☐ Fix

Rattle: none / cold only / persists hot

Scan for: 30FF, 120308

Parts (F30): Inspection item; no preventive part.

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6. Electric water pump + thermostat

Plan · Inside the range (55k–100k)

24V-608 campaign status ☐ OK ☐ Watch ☐ Fix

Pump original? (date stamp / invoice) ☐ OK ☐ Watch ☐ Fix

Coolant level, overheat history ☐ OK ☐ Watch ☐ Fix

Pump: original / replaced at ____ mi

Scan for: 2E81, 2E82

Parts (F30): Electric water pump BMW 11 51 8 635 089 / Pierburg 7.03665.66.0 · Thermostat: ask your supplier for the OE number for this VIN.

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7. Coolant expansion tank & vent hose

Plan · Inside the range (80k+ or 8–12 years)

Tank seam crust / crack ☐ OK ☐ Watch ☐ Fix

Vent hose condition ☐ OK ☐ Watch ☐ Fix

Parts (F30): Coolant vent hose 17 12 8 570 061 · Expansion tank and cap: ask your supplier for the OE number for this VIN.

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8. Valve cover / PCV valve

Watch · Inside the range (60k–100k+ and 6+ years)

Seep on exhaust side / turbo ☐ OK ☐ Watch ☐ Fix

PCV: cap suction test, whistle ☐ OK ☐ Watch ☐ Fix

Leak: dry / damp / wet

Scan for: P0171

Parts (F30): Valve cover with integrated PCV: ask your supplier for the OE or OE-supplier number for this VIN.

FACTORY MAINTENANCE DUE BY 112,000 MI (ASK FOR RECORDS)

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

C · ALSO REPORTED FOR THE N20, QUICK CHECKS

- **Stall / loss of power / limp** (276 complaints): A symptom with many causes (chain, fuel pump, wastegate, ignition, electrical). The engine causes we can source are scored as their own items.
- **Auto start-stop / battery** (64 complaints): Mostly battery and battery-sensor faults: a maintenance item, not an engine weak point.
- **Overheat** (64 complaints): A symptom. Its usual causes are the cooling items (water pump, expansion tank and vent hose).
- **Fuel pump / HPFP** (63 complaints): Not ranked yet. The in-tank pump on 2014 cars is covered by recall 15V-189 (listed for this model year). We don't yet have sourced ranges or costs for the high-pressure pump.
- **Generic oil leak** (29 complaints): Unspecified leaks. The named N20 leak points are scored as the oil filter housing, valve cover and oil pan items.

WHAT TO SAY AT THE COUNTER (ADVISOR)

1. Subframe-down bundle

The original polymer chain guides wear. At 82,000 mi your car is in the mileage range where owners report it. Our price is $3,450, before tax and shop supplies. Left until it fails, published repair bills run $6,000–$10,000.

Ask: have you noticed A loud whine from the front of the engine that rises with RPM, most noticeable cold, or chain slack visible through the oil filler opening (a shop can judge this)?

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2. Spark plugs & ignition coils

The pencil coils fail at random, and plugs wear. At 82,000 mi it is due, unless the records show it done. Our price is $520, before tax and shop supplies. Left until it fails, published repair bills run $1,000–$2,500.

Ask: have you noticed misfire or rough idle, or flashing check-engine light?

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3. Turbo wastegate

The wastegate flap bushing on the TD04 turbo wears. At 82,000 mi your car is in the mileage range where owners report it. There is no charge for it.

Ask: have you noticed metallic “clack-clack” at cold start, idle or light throttle, or A rattle that goes away warm is “watch”; one that persists hot is “fix”?

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4. Cooling bundle

The N20 uses an electric, engine-computer-controlled water pump. At 82,000 mi your car is in the mileage range where owners report it. Our price is $1,290, before tax and shop supplies. Left until it fails, published repair bills run $3,000–$6,000.

Ask: have you noticed overheat or coolant warning on the dash, or weak cabin heat?

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.