

Diesel Engine Installation Checklist

For light-duty and medium-duty diesel engine replacements

Customer: _____	Order / Invoice #: _____
Vehicle Year / Make / Model: _____	VIN: _____
Engine Code: _____	Installation Date: _____

Before You Begin: Diesel engines are especially sensitive to fuel contamination, turbocharger debris, cooling-system problems, and low oil pressure. The original failure must be fully diagnosed before the replacement engine is started.

1. VERIFY THE ENGINE AND APPLICATION

- ☐ Confirm VIN, engine code, emissions family, production date, turbo configuration, fuel-system version, drivetrain, and oil-pan configuration.
- ☐ Compare mounts, oil pan, accessory brackets, intake, exhaust, EGR components, sensors, harness connections, flexplate or flywheel, and bellhousing pattern.
- ☐ Inspect the block, heads, oil pan, turbo mounting surfaces, fuel-system ports, wiring, and shipping plugs. Photograph any concern before installation.

2. DIAGNOSE AND REMOVE THE ORIGINAL FAILURE CAUSE

- ☐ Determine whether the original failure involved overheating, low oil pressure, fuel contamination, injector failure, turbo failure, coolant intrusion, hydrolock, or restricted exhaust.
- ☐ Inspect the high-pressure fuel pump, injectors, rails, tank, lines, and filters for metal, water, gasoline, biological growth, or other contamination.
- ☐ If contamination is present, clean or replace every affected fuel-system component before connecting the replacement engine.
- ☐ Inspect the turbocharger, intercooler, charge-air piping, intake manifold, oil feed, and oil return for metal, oil, coolant, or broken compressor material.
- ☐ Clean or replace contaminated intake and charge-air components. Debris left in the system can destroy the replacement engine or turbocharger.

3. REQUIRED SERVICE AND SUPPORTING SYSTEMS

- ☐ Install a new thermostat. *Required by the standard warranty terms.*
- ☐ Install a new timing belt and related components if the engine uses a timing belt. *Required when applicable.*
- ☐ Replace engine oil and filter with the correct diesel-rated oil and manufacturer-specified viscosity.
- ☐ Replace primary and secondary fuel filters and drain or service the water separator.
- ☐ Replace accessible seals, gaskets, and filters. Inspect crankcase ventilation, glow plugs or intake heater, engine mounts, belts, hoses, and accessory drives.
- ☐ Pressure-test and flush the cooling system. Inspect radiator flow, oil cooler, EGR cooler, heater core, fan clutch or electric fans, hoses, cap, and degas bottle.
- ☐ Confirm the exhaust, EGR, DPF, SCR/DEF, and related sensors are serviceable and will not create excessive restriction or uncontrolled regeneration.

4. OIL AND FUEL PRIMING

- ☐ Prime the engine lubrication system before allowing the engine to fire.
- ☐ Disable injection as required and crank until oil pressure is established. Confirm the warning light or gauge functions correctly.
- ☐ Prime and bleed the low-pressure fuel system according to the manufacturer procedure. Do not use starting fluid unless specifically approved by the manufacturer.
- ☐ Confirm clean fuel supply, correct rail-pressure operation, no fuel leaks, and no air entering the system.

5. INITIAL STARTUP AND VERIFICATION

- ☐ Monitor oil pressure, coolant temperature, fuel pressure, rail pressure, charging voltage, and scan data immediately after startup.
- ☐ Inspect for oil, fuel, coolant, boost, exhaust, and crankcase-pressure leaks.
- ☐ Verify turbocharger oil supply and return, charge-air connections, EGR operation, and exhaust aftertreatment status.
- ☐ Do not continue operating the engine if there is knocking, low oil pressure, overheating, uncontrolled smoke, fuel dilution, coolant loss, turbo noise, or abnormal crankcase pressure.
- ☐ Complete required injector coding, module programming, crank/cam relearn, fuel-system relearn, and emissions-system service procedures.
- ☐ Perform a controlled road test without towing or heavy load until all fluid levels, pressures, temperatures, and diagnostic data are verified.

6. WARRANTY AND MAINTENANCE RECORDS

- ☐ Complete installation and activate the warranty within 30 business days of delivery. *Coverage is subject to the warranty issued with the order.*
- ☐ Record installation date, mileage, engine code, and all replaced components on the paid repair invoice.
- ☐ For standard used-engine coverage, change the oil and filter after the first 1,000 miles. *Extended coverage may require a different or more frequent schedule.*
- ☐ Keep all commercial service invoices, fuel-system records, filter receipts, scan reports, programming documentation, and maintenance records.
- ☐ Stop operating the vehicle after a problem is identified and obtain written authorization before teardown or repair.

Diesel-Specific Warning

- Fuel-system metal contamination, turbocharger debris, restricted aftertreatment, overheating, and insufficient lubrication can rapidly destroy a replacement diesel engine.
- Document that the original failure cause and all contaminated supporting systems were corrected before startup.

INSTALLER SIGN-OFF

Installer / Technician: _____

Repair Facility: _____

Date: _____

Mileage: _____

This checklist is a general installation aid. Always follow the vehicle manufacturer service manual and the warranty terms issued with the order. If the documents conflict, the invoice and applicable written warranty terms control.