

FINAL INSPECTION CHECKLIST

STEP DESCRIPTION

- 1 Remove/clean/inspect/install reusable parts and components.
- 2 Install a new oil cooler on vehicles originally equipped with an oil cooler if not installed on or sent with the remanufactured replacement engine.
- 3 Check/adjust fluid levels; ensure proper cooling system fill.
- 4 Allow engine to warm up to operating temperature.
- 5 Verify coolant level.
- 6 Check for loose connections/leaks; adjust/repair as required.

Tear along dotted edge and attach to customer repair order.

Installing Technician's Signature

Date

Last Four SS# Digits

Service Manager's Signature

Date

Last Four SS# Digits

PLEASE REMOVE THIS PAGE AND FILE WITH THE CUSTOMER REPAIR ORDER.
(May be required for future warranty reimbursement.)

ENGINE INSTALLATION

INSTRUCTIONS FOR REMANUFACTURED ENGINES

FCS-8321-AF

IMPORTANT!

- ☒ **Verify that the replacement engine received is the correct one for the vehicle**

Before beginning the engine removal and installation process, be sure to review these Installation Instructions.

The following resources will assist in diagnosing the failure, engine removal, cleaning/inspecting/transferring component parts and engine installation:

- Vehicle Warranty History
- Special Service Messages
- Workshop Manuals (Ford/Lincoln/Mercury/Mazda)
- Official Ford Service Publications, including WSM, PCED and Wiring Diagrams
 - A 3-day (or longer) subscription to these materials can be purchased for a nominal fee from www.motorcraftservice.com to assist in the installation of the remanufactured engine. Step-by-step service procedures and fastener torque specifications are contained within the WSM (Select **Service Publications** from the **Subscription Products** section of the website.)

- ☒ **Ensure proper operation of systems**

The Technician must diagnose, repair and ensure proper operation of all related systems, subsystems and components. These include:

- Cooling System and Related Components (belt, fan, fan motor, fan switch, wiring, fan clutch, hoses, thermostat, water pump, hydraulic fan pump, hydraulic fan drive)
- Coolant (age, strength, contamination, compatibility)
- Fuel Injectors and Fuel Injection System
- Fuel Delivery System (volume and pressure)
- Fuel Quality (sugar, soap, water, debris)
- Lubrication (oil quality, oil filter, oil cooler, cooler lines)
- Ignition Systems and Engine Control
- Wiring Harnesses and Connectors
- Induction Systems
- Exhaust Systems and Catalytic Converters (plugged or loose catalytic bricks, restricted or leaking systems)
- Sensors
- EGR Systems
- PCV System
- Vacuum Systems
- Electrical and Charging Systems
- Air Conditioning and Power Steering Systems



IMPORTANT!

✓ **Warranty claims will not be honored on replacement engines that have failed due to insufficient cleaning of the intake manifold.**

- 1** The intake manifold being installed on this engine must be thoroughly cleaned and absolutely free of any debris. If this is at all questionable, replacement of the intake manifold is necessary. Warranty on engines that have failed due to foreign object debris ingestion will not be honored.

Intake Cleaning Requirements

1. Separate upper and lower intake manifolds.
2. Remove throttle body, MAFS, IMRC, PCV valve and EGR valve.
3. Remove sensors, injectors and fasteners.
4. Remove thermostat and housing.
5. Thoroughly wash the entire intake manifold using commercially available soaps and solvents.
6. Use ultrasonic cleaning equipment, pressurized washing equipment, or wash cabinets if available.
7. Thoroughly drain any remaining liquids from the intake manifold.
8. Blow through all port runners and the plenum box area with shop air.
9. Invert the intake manifold and continue to blow through with shop air.
10. If any metal debris can be seen imbedded in the runners of a plastic intake manifold, replace the intake manifold.
11. If any loose debris can be heard inside the intake manifold, replace the intake manifold.
12. Reassemble the throttle body, MAFS, IMRC, PCV valve, EGR valve and thermostat housing using new gaskets.
13. Reassemble the upper and lower intake manifolds with new gaskets.
14. Install the intake manifold on the engine with new gaskets.

NOTE:

Never use a blast cabinet, regardless of the type of blast media being used, to clean an intake manifold!

- 2 NEVER** reuse an oil cooler from the failed engine. A new oil cooler must be installed if not already provided on the replacement engine.

- 3** Overheating can cause severe engine damage. For this reason, it is **CRITICAL** to ensure the cooling system is properly filled. Always refer to section 303-03 of the vehicle Workshop Manual for specific cooling system fill and bleed procedures.

- 4 NEVER** use impact tools to remove or install a knock sensor.

- Use of impact tools and overtightening the knock sensor mounting fastener can destroy the sensor and cause engine failure

IMPORTANT!

✓ **Index Mark Torque Converter**

Before disassembling the torque converter from the flex plate or the pressure plate from the flywheel, index mark the torque converter position to the flex plate or the pressure plate position to the flywheel.

✓ **Clean and Inspect Transferred Components**

Thoroughly clean and inspect all component parts being transferred from the failed engine to the replacement engine.

Use extreme care when cleaning sealing surfaces of component parts that will be transferred from the failed engine to the replacement engine.

NOTICE:

Replacement engines returned under warranty will be inspected. Warranty claims for engines found to have the following conditions will not be honored:

- Customer Abuse
- Foreign Object Damage
- Improper Diagnosis and Repair of Original Failure
- Improper Installation of Reused Components
- Lack of Maintenance

*For information about other quality parts
for Ford, Lincoln and Mercury vehicles,*

Visit us on the web at **www.fordparts.com**

For easy reference, fold your receipt and keep it under the flap of this Limited Warranty Statement.

WHAT MAINTENANCE SCHEDULE SHOULD YOU FOLLOW?

Normal Schedule

Follow the Normal Schedule for most normal, everyday driving conditions.

Special Operating Conditions

If one of the special operating conditions listed below describes how you typically operate your vehicle, you will need to perform some of the maintenance services more often than the Normal Schedule calls for:

- Trailer towing or carrying a heavy load
 - Extensive idling or driving at low speeds for long distances
 - Driving in dusty conditions
 - Off-road operation
 - Use of E85 fuel 50% of the time or greater (Flex Fuel vehicles only)
- Follow the Scheduled Maintenance Guide to determine your recommended schedule.

GENERAL MAINTENANCE SCHEDULE

The required scheduled maintenance service intervals for your remanufactured engine are considered essential to the proper operation and performance of your Ford Motor Company vehicle. It is also important that you perform the owner maintenance listed. These services are matters of day-to-day care that are also crucial to the proper operation of your vehicle. The recommended lubricants, fluids and service parts conforming to Ford Motor Company specifications are available at your local Ford or Lincoln dealer.

Maintenance: An Investment!

To help ensure the durability of your vehicle and its emission control systems, it is necessary that scheduled maintenance be performed at the designated intervals. Proper maintenance is an investment in your vehicle that can pay dividends in the form of improved reliability, durability and resale value.

The vehicle's Scheduled Maintenance Guide is contained within the Owner's Guide material (typically kept in the glove box). The Scheduled Maintenance Guide can also be found online at www.fordmotorcraftservice.com. From the home page, select Owner's Guide, then vehicle make and model year, then Scheduled Maintenance Guide.

Ford Motor Company recommends the use of genuine Ford or Motorcraft® replacement parts.

GAS ENGINE MAINTENANCE SCHEDULE



FORD PARTS

VEHICLE OWNER Information

Warranty & Maintenance

IMPORTANT!

Included in this packet:

- ☒ Thank-you letter from the Ford Team
- ☒ Maintenance Schedule
- ☒ Limited Warranty Statement/ Receipt Holder

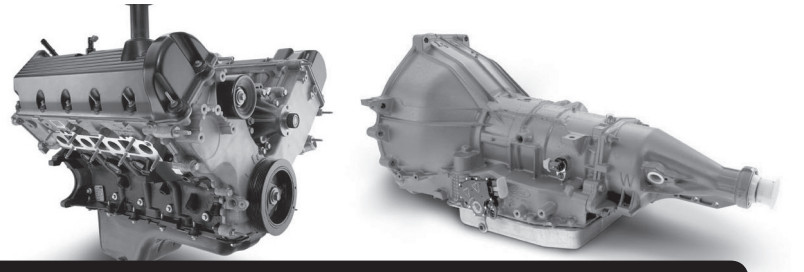


Powertrain Assistance Center

800-392-7946



FORD PARTS



LIMITED WARRANTY STATEMENT (FOR RETAIL SALES ON OR AFTER 9/1/2010) Ford New and Remanufactured Transmissions and Gas Engines

Ford Motor Company, The American Road, Dearborn, MI 48121 ("Ford") provides the following Limited Warranty on Ford New and Remanufactured Transmissions and Gas Engines to Ford and Lincoln Dealers (each being a "Dealer") or general Installers (each being an "Installer"). This Limited Warranty provides Ford will credit the Dealer or Installer for repairing or replacing, at Ford's option, any Ford Transmission or Gas Engine sold by Ford in the United States, for installation in the United States, in a Ford, Lincoln or Mercury vehicle that was sold, registered/licensed, and operated in the United States, that is found to be defective in factory-supplied material or workmanship subject to the following terms, conditions and limitations:

Vehicle Owner: To obtain warranty service, please return your vehicle to any Ford or Lincoln Dealership or return to the Installer who originally installed the Ford Gas Engine or Transmission Assembly in your vehicle. You must have one of the following items:

- Vehicle Owner assembly installation repair order which includes Vehicle Identification Number (VIN), date of installation, assembly part number, and odometer reading
- Dealer Over-the-counter Invoice documenting date of purchase, assembly part number, & VIN
- Your powertrain was registered by a Ford or Lincoln Dealer.

Gas Engine Long Block Assemblies (6006/6007/6V006/6V012) and Transmission Assemblies (7000/7V000/7002/7003)

- For 36 months from warranty start date (unlimited miles), Ford will cover 100% of all parts and labor at approved warranty reimbursement rates
- If installed by a Dealer, reasonable towing charges (up to 35 miles or to the nearest Dealer) are covered only if the vehicle is not covered under another towing insurance coverage
- Excludes gas engine short blocks (6009)

Warranty Start Date for Ford New or Remanufactured Transmissions and Gas Engines

- If Dealer-installed, the Warranty Start Date is the date of installation.
- If sold Over-the-counter to a vehicle owner, the Warranty Start Date is the date of sale.
- If sold Over-the-counter to a fleet, general installer or wholesaler, the Warranty Start Date is the date the assembly is installed (could be later than the date of sale).

Limitations to the Warranty

The following limitation applies to the products covered by this Limited Warranty:

- Towing charges are not reimbursable for Ford Transmissions and Gas Engines sold over-the-counter by a Dealer or Installer

How to obtain Limited Warranty coverage for Ford Transmissions and Gas Engines sold over-the-counter by a Dealer or Installer:

This statement applies to over-the-counter customers of a Dealer, such as a vehicle owner, independent repair facility, wholesaler, or fleet customer.

The Dealer or Installer can claim both parts and labor under the Limited Warranty if the vehicle owner, at his/her option,

- Returns the vehicle to the Installer (from which the assembly was purchased) or to any Dealer for repairs, or
- Returns the Ford New or Remanufactured Transmission or Gas Engine to the Installer (from which the assembly was purchased) or to any Dealer for repairs

NOTES on obtaining Limited Warranty coverage for Ford Transmissions and Gas Engines:

- This Limited Warranty may be honored by the original Installer or any Dealer (even though that particular Dealer was not the original purchaser/seller of the product)
- In order for the Dealer or Installer to claim under the Limited Warranty, the Installer or vehicle owner (whether original vehicle owner or subsequent transferee) must provide the Dealer the following information when repairs are requested:
 - Authorization code from the Powertrain Assistance Center (PAC) @ 800-392-7946
 - A copy of the original vehicle owner's assembly installation repair order
- Only new Ford Original Equipment, Ford Authorized Remanufactured, or other parts or assemblies authorized by Ford may be used to complete covered warranty repairs
- Installer labor reimbursement is calculated using Ford Labor Times Standard hours multiplied by the selling Dealership's warranty labor rate or the Installer's actual labor total, whichever is less
- Diagnostic steps taken to determine cause of warrantied concern with diagnostic results must be clearly documented on Installer repair order. (Warranty parts and labor reimbursement requests must be supported by diagnostic labor steps and test results)
- All parts replaced under warranty must be returned to your selling Dealer

THIS LIMITED WARRANTY DOES NOT COVER FORD REMANUFACTURED TRANSMISSIONS AND GAS ENGINES THAT FAIL DUE TO ABUSE, MISUSE, NEGLECT, ALTERATION, ACCIDENT, RACING, OR PARTS AND ACCESSORIES INSTALLED IN VEHICLES OTHER THAN THOSE LISTED IN FORD AUTHORIZED CATALOGS INCLUDING OTHER FORD MOTOR COMPANY BRANDS, OR THE USE OF NON-FORD PARTS, OR LACK OF PROPER MAINTENANCE. THIS LIMITED WARRANTY DOES NOT COVER PARTS WHICH ARE REPLACED AS PART OF NORMAL MAINTENANCE. THIS LIMITED WARRANTY DOES NOT COVER REPEAT REPAIRS PERFORMED AS A RESULT OF A MISDIAGNOSIS OR IMPROPER PRIOR REPAIR. TO THE EXTENT ALLOWED BY LAW, LOSS OF TIME, INCONVENIENCE, LOSS OF THE USE OF THE VEHICLE, COMMERCIAL LOSS, AND INCIDENTAL AND CONSEQUENTIAL DAMAGES ARE NOT COVERED. **THERE IS NO OTHER EXPRESS OR IMPLIED WARRANTY ON THESE FORD NEW AND REMANUFACTURED TRANSMISSIONS AND GAS ENGINES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** TO THE EXTENT ALLOWED BY LAW, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS IS LIMITED TO THE DURATION OF THIS WRITTEN LIMITED WARRANTY.

To retain the safety and dependability built into this product, it is essential that your Ford Remanufactured Transmission or Gas Engine receives the scheduled maintenance at the recommended intervals contained in your vehicle Owner's Manual/Maintenance Schedule.

**Thank you,
The Ford Team**

2 To help ensure complete satisfaction with the engine installation, please provide the vehicle owner with the Vehicle Owner Information Package accompanying this engine.

1 Please ensure the Final Inspection Checklist is signed and attached to repair order.

REQUESTED ACTION...

Thank you for choosing Ford remanufactured products. We appreciate the opportunity to work with you.

To assist you, we have enclosed the following materials:

- ☒ Engine Installation Instructions/Final Inspection Checklist – Critical information to help you correctly replace the engine
- ☒ Engine Core Return Procedures
- ☒ Ship Loose Parts List (Diesel only)



FORD PARTS

TECHNICIAN Information

Engine Instruction Sheet

IMPORTANT!

Included in this packet:

- ☒ Engine Installation Instructions/
Final Inspection Checklist
- ☒ Engine Core Return Procedures
- ☒ Ship Loose Parts List
(Diesel only)



For technical help call

800-392-7946

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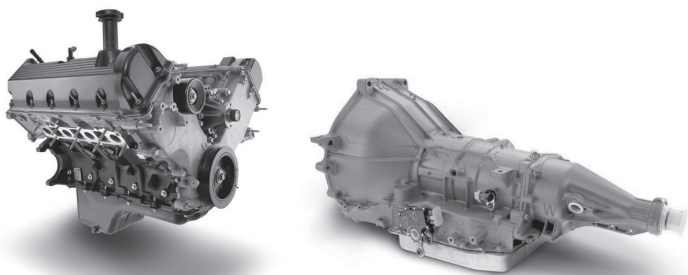
FORD **PARTS**

CORE RETURN GUIDELINES FOR REMANUFACTURED ENGINES AND TRANSMISSIONS

The Genuine Ford program is a one-for-one
(same vehicle application) exchange program.

Ford Engines and Transmissions, Cylinder Head and Crankshaft Kits

“No-Risk”
Core
Return Policy



No-Risk Core Return Policy

- 1 Core must be returned in original dunnage.
- 2 All cores are to be drained of all fluids (oil and coolant) prior to being inserted into the original dunnage!
- 3 Core must be fully assembled and as complete as the replacing engine or transmission (i.e., must include cylinder block, cylinder head(s), crankshaft, camshaft, main caps, etc.). Transmissions must include torque converter.



Powertrain Assistance Center

800-392-7946

Quality Remanufactured Parts

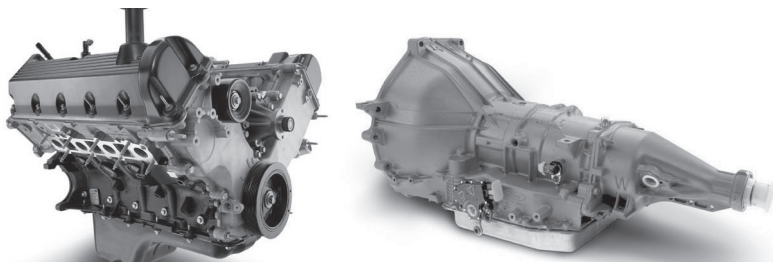
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DEAR VALUED CUSTOMER:

Thank you for choosing us for your recent service work. We appreciate the opportunity to serve you and take pride in knowing that your remanufactured transmission is of high quality, built to the exacting standards of Ford Motor Company.

Our commitment to you, however, does not end with the installation. We are eager to assist you with all of your future automotive needs. To help you ensure the best possible performance from your transmission, we've enclosed:

- **Copy of the Limited Warranty Statement** —
Details on coverage

Maintenance — Please refer to your vehicle Owner's Guide for maintenance recommendations. Maintenance intervals for your remanufactured transmission are the same as for the transmission with which your vehicle was originally equipped.

Again, thank you for choosing our facility. We look forward to assisting you with your future automotive needs.

**Thank you,
The Ford Team**



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