



TECHNICIAN
Information
TonsShife & (68140)
Transmission Instruction Sheet
IMPORTANT!
www.kiaengines.com



FORD PARTS

Additional Information
for Mitchell

6 (6R140)

FR-7040-AA

- Backflush and Flush Transmission Oil Cooling System.
- Inspect for kinked or damaged Cooler Lines.
- Make sure the engine to transmission alignment dowel pins are installed.
- Diagnose and Repair all electronic and other vehicle related concerns

IMPORTANT

Transmission Oil Cooling System must be serviced as directed in the Transmission Instruction Sheet or Warranty Will Be Denied.

r Company.

SOLENOID BODY ID

SEE SHOP MANUAL SECTION 307-01


Visit us on the Web at www.fordparts.com

FCS-8430-AB | June 20

Transmission Instruction Sheet or Warranty Will Be Denied.

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FR-7040-AA

 FORD PARTS

VEHICLE OWNER Information

Warranty & Maintenance

IMPORTANT!

Included in this packet:

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




Powertrain Assistance Center

800-392-7946

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FCS-8405-AL | June 2015

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 FORD PARTS

TECHNICIAN Information

TorqShift® 6 (6R140)

Transmission Instruction Sheet

IMPORTANT!

Included in this packet:

- Installation Instructions
- Transmission Core Return

BC3P-7G342-BA
SOLENOID BODY SERVICE INFORMATION
#678749

Technical help call

800-392-7946



FORD PARTS

VEHICLE OWNER Information

Warranty & Maintenance

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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 or Lincoln 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:

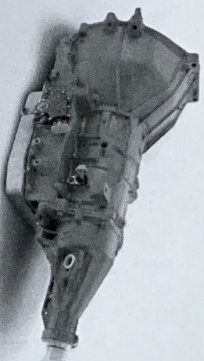
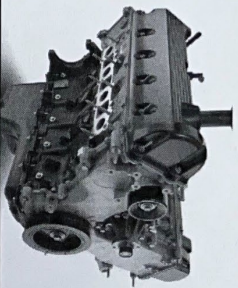
- This Limited Warranty may be honored by the original Installer or any Dealer (even though that particular Dealer was not the original purchaser/seller of the product)
- In order for the Dealer or Installer to claim under the Limited Warranty, the Installer or vehicle owner (whether original vehicle 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, NEGLIGENCE, 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.



FORD PARTS



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**



Powertrain Assistance Center
800-392-7946

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

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

BC3P-7G342-BA
SOLENOID BODY SERVICE INFORMATION
1000045678749
SOLENOID BODY STRATEGY
OF60996D
SOLENOID BODY ID
SEE SHOP MANUAL SECTION 307-01

TECHNICIAN Information

FORD PARTS



TorqShift® 6 (6R140)

Transmission Instruction Sheet

IMPORTANT!

Included in this packet:

- Installation Instructions
- Transmission Core Return Procedures

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For technical help call
800-392-7946



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

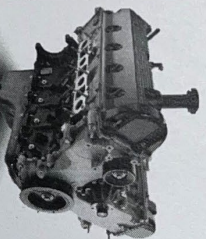
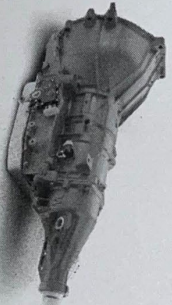
FCS-8430-AB | June 2015



FORD PARTS

CORE RETURN GUIDELINES FOR REMANUFACTURED ENGINES & TRANSMISSIONS

**FORD ENGINES & TRANSMISSIONS,
CYLINDER HEAD & CRANKSHAFT KITS**



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

"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.

Quality Remanufactured Parts



Powertrain Assistance Center
800-392-7946

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

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

TorqShift® 6 (6R140)

Transmission Instruction Sheet



SEE IMPORTANT MANDATORY NOTES — NEXT PAGE.

GENERAL REMOVAL/INSTALLATION GUIDELINES

- Verify that the replacement unit is the correct unit for the vehicle. Refer to the Remanufactured Engines and Transmissions Catalog or **parts.ford.com** to ensure that the replacement transmission part number is correct prior to removal of the original unit
- Follow the appropriate Workshop Manual for exact procedures and specifications required to remove and replace the transmission assembly
- Perform all mandatory procedures identified on this sheet
- Prior to the installation of the transmission, lightly lubricate the torque converter pilot that fits into the engine crankcase bore with multipurpose grease Motorcraft® Part Number XL-5-A
- Follow the Workshop Manual to install the transmission unit
- The replacement transmission is filled with transmission fluid. After installation, ensure the fluid is at the proper level. For complete fluid level checking procedures, refer to the appropriate Workshop Manual. The transmission uses MERCON® LV Automatic Transmission Fluid

NOTE: When checking the transmission fluid level, use a scan tool to verify that the transmission fluid temperature is between 91°-102° C (196°-216° F). Do not overfill the transmission.

- The Powertrain Control Module (PCM) and the Transmission Control Module (TCM) must be updated using the new Solenoid Body Strategy Data File and Solenoid Body ID. Failure to update the PCM/TCM can cause erratic transaxle operation. Use the scan tool to obtain the Solenoid Body Strategy Data File (**www.motorcraft.com**) and download it to the PCM/TCM. Follow the procedure in the Service Manual Section 307-01 — Diagnosis and Testing — Solenoid Body Strategy
- Verify that the PCM/TCM is programmed to the latest available calibration. Use a scan tool to update the PCM/TCM calibrations
- Use a scan tool to check for Diagnostic Trouble Codes (DTCs) stored by the PCM/TCM. Perform diagnostic and/or repair procedures as outlined in the Workshop Manual to correct these codes prior to returning the vehicle to the customer

TRANSMISSION FLUID COOLER BACKFLUSHING AND CLEANING

Mandatory

Thoroughly backflush the transmission cooler and lines using Rotunda Transmission Cooling System Heated Flusher (or equivalent) with Motorcraft® MERCON® LV Automatic Transmission Fluid as the flush agent. The flush machine used must have a GPM flow meter, maintain fluid at 140° F, pulsate fluid during cleaning, have twin magnetic filters and have air purge capability before and after flushing, which is crucial for maximum effectiveness. Any substitute flushing tool considered must have these features to ensure success. If equipment meeting these above specifications is not available, the transmission fluid cooler should be replaced and the lines cleaned by hand.

CAUTION: Failure to properly flush cooler and lines will cause transmission failure.

CAUTION: On vehicles equipped with an in-line cooler bypass valve, the cooler bypass valve must be replaced whenever the transmission is replaced.

NOTE: For complete flushing instructions, refer to the appropriate Workshop Manual.

NOTE: The TOP transmission case fitting receives the cooler return line (the fluid coming out of the cooler and returning to the transmission).

NOTE: Monitor flow meter to ensure sufficient flow is present. Refer to the appropriate Workshop Manual.

CAUTION: On 6.2L applications, the Oil-To-Air (OTA) cooler MUST be REPLACED.

DRIVE CYCLE PROCEDURE

Mandatory

The following procedure will allow the PCM/TCM to learn adaptive transmission pressure control for optimal shift quality. Complete the steps listed below:

NOTE: DO NOT clear the PCM Keep Alive Memory (KAM) before performing drive cycle.

NOTE: Using the scan tool, clear the Transmission Control Module (TCM) KAM and the adaptive table before conducting the drive cycle.

NOTE: The engine and transaxle must be at normal operating temperature. Using the scan tool, verify the transmission fluid is at normal operating temperature, between 91°-102° C (196°-216° F).

1. Apply parking brake.
2. With the engine running and the brakes applied, move the selector lever through the gears in the following order, pausing in each gear for 4 seconds: N, R, N, D, R, D, N. Repeat this pattern 2 additional times. If any engagements feel soft or harsh, repeat this procedure.
3. Release the parking brake and accelerate at a moderate throttle so that the upshifts occur at 2,000 rpm for gas engines and 1,500 rpm for diesel engines up to 65 mph (105 km/h) and brake lightly to a stop. Repeat this pattern 2 additional times.
4. Drive the vehicle and accelerate at a moderate throttle so that the upshifts occur at 3,000 rpm for gas engines and 2,250 rpm for diesel engines up to 65 mph (105 km/h) and brake lightly to a stop. Repeat this pattern 2 additional times.
5. Stop the vehicle and apply the parking brake.
6. With the engine running and the brakes applied, move the selector lever through the gears in the following order, pausing in each gear for 4 seconds: N, R, N, D, R, D, N. Repeat this pattern 2 additional times.

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Universal Automatic Transmission Fluids (ATF)

IMPORTANT: Using the Ford-approved ATF is the only way to meet warranty requirements, protect the transmission from damage and ensure proper function

- This transmission uses MERCON® LV Automatic Transmission Fluid
- Most newer transmission fluid change intervals are 150,000 miles (check Owner's Manual for correct interval). To achieve this drain interval without issue, Ford recommends only a MERCON®-licensed ATF in your Ford, Lincoln or Mercury
- Ford transmissions were designed to function with ATF having specific viscosity ranges. This ensures adequate fluid pressure and oil film thickness, both of which are necessary for precise transmission function
- Using ATF with the wrong viscosity will adversely affect the function, efficiency and durability of the transmission
- It is not possible for an ATF to be universal and work in all transmissions
- Aftermarket ATF additives are not required for proper transmission operation

TECHNICAL SERVICE BULLETIN AND HELPFUL HINTS INFORMATION

Early and Repeat Transmission Failures/Erratic Shift Operation

Potential Causes:

- Failure to complete proper diagnosis and verification of repair prior to and after transmission replacement — failure may have been caused by components external to the transmission
- Failure to inspect the wiring harness plug to determine if the old solenoid body receptacle seal is stuck to it. If so, the vehicle wiring harness will not fully seat into the remanufactured transmission's solenoid body receptacle. Remove the old seal and reseal to correct
- Failure to ensure that the transmission cooler/s, cooler lines and cooler hoses are not blocked, restricted, leaking or damaged. See the appropriate Workshop Manual
- Incomplete or incorrect transmission cooler system flushing procedures followed
- PCM/TCM not at latest calibration level
- Vehicle wiring harness damaged or chafed — closely inspect the harness for any damaged areas, particularly on modified/fleet vehicles. Correct any concerns of damage, corrosion or routing, and use the correct scan tool to ensure there are no DTCs
- Failure to ensure that the harness plug has no damaged pins, cracks or corrosion — correct as necessary
- Engine performance issues can adversely affect transmission operation — be sure to correct any driveability concerns and/or codes during the course of repair

Additional dealer sources of information include:

- **Fmcdealer.com** and the Professional Technician Society (PTS) website. PTS includes information on TSB, Service Tools and Workshop Manuals (WSM)
- Remanufactured engines and transmissions catalog
- **parts.ford.com**

The following resources will assist in diagnosing parts failure, transmission removal, the cleaning/inspecting and transferring of components and transmission installation:

- Vehicle warranty history
- Special service messages
- Workshop manuals (Ford/Lincoln/Mercury/Mazda)
- Official Ford service publications, including WSM, PCED and Wiring Diagrams

NOTE: 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 transmission. Step-by-step service procedures and fastener torque specifications are contained within the WSM.

ORIGINAL (CORE) UNIT SHIPPING GUIDELINES

Attention: The shipping container must be used to return the original transmission being removed from the vehicle.

- Fully drain fluid from transmission pan and torque converter
- Ensure that all components to be transferred have been removed from the original unit and installed on the replacement unit
- Verify dowel pins are removed from the original unit and reinstalled in the engine block
- Transfer all shipping caps and plugs from the replacement unit to the original unit
- Ensure the returned transmission is completely reassembled
- Install the torque converter shipping strap