

- **TRANSAXLE—TORQUE CONVERTER REPLACEMENT GUIDELINES AND TORQUE CONVERTER/TRANSAXLE COOLING SYSTEM CLEANING PROCEDURES—SERVICE TIP**
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**Article No.
96-26-12**

FORD: 1985-1986 LTD
 1985-1988 EXP
 1985-1994 TEMPO
 1985-1997 CROWN VICTORIA, ESCORT, MUSTANG, THUNDERBIRD
 1986-1997 TAURUS
 1988-1993 FESTIVA
 1989-1997 PROBE
 1994-1997 ASPIRE
 1995-1997 CONTOUR
 1985-1990 BRONCO II
 1985-1996 BRONCO
 1985-1997 ECONOLINE, F-150-350 SERIES, RANGER
 1986-1997 AEROSTAR
 1988-1997 F SUPER DUTY
 1991-1997 EXPLORER
 1995-1997 WINDSTAR
 1997 EXPEDITION

LINCOLN: 1985-1992 MARK VII
 1985-1997 CONTINENTAL, TOWN CAR
 1993-1997 MARK VIII

MERCURY: 1985-1986 MARQUIS
 1985-1987 LN7, LYNX
 1985-1994 TOPAZ
 1985-1997 COUGAR, GRAND MARQUIS
 1986-1997 SABLE
 1987-1989 TRACER
 1991-1994 CAPRI
 1991-1997 TRACER
 1995-1997 MYSTIQUE
 1993-1997 VILLAGER
 1997 MOUNTAINEER

MERKUR: 1985-1989 XR4TI
 1988-1990 SCORPIO

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ISSUE

Torque converter replacement guidelines and torque converter/transmission (or transaxle) cooling system cleaning procedures are now available to reduce repeat repairs.

ACTION

Refer to the following guideline to properly diagnose and service torque converters and to properly clean the torque converter and transmission cooling system using forward flushing/backflushing. For diagnosis, service and cleaning, refer to the appropriate model/year Service Manual, Sections 07-01, 07-02, 03-03, 307-01, 307-02, or 303-03.

DIAGNOSTIC PROCEDURE

Prior to torque converter replacement, all diagnostic procedures must be followed. This is to prevent the unnecessary replacement of good torque converters. Only after a complete diagnostic evaluation can the decision be made to replace the torque converter.

The normal diagnostic procedure is as follows:

1. Preliminary inspection.
2. Know and understand the customer's concern.
3. Verify the concern:

—Perform the Torque Converter Clutch Operation Test

4. Perform diagnostic procedures:

- a. Run On-Board Diagnostics

—Repair all non-transmission-related Diagnostic Trouble Codes (DTCs) first.

—Repair all transmission DTCs.

—Rerun On-Board Diagnostic to verify repair.

- b. Perform Line Pressure Test

- c. Perform Stall Speed Test

- d. Diagnosis by Symptom Routines - Use the index to locate the appropriate routine that best describes the symptom(s). The routine will list all possible components that may cause or contribute to the symptom. Check each component listed, diagnose and service as required, before servicing the torque converter.

SERVICE PROCEDURE - REPLACEMENT

The torque converter must be replaced if one or more of the following statements are true:

- A torque converter malfunction has been determined based on completed diagnostic procedures
- A converter stud(s), impeller hub or bushing is damaged
- If there is discoloration of the torque converter (due to overheating)
- The torque converter is found to be out of specification when performing the following checks (as applicable):

1. Torque Converter One-way Clutch Check
2. End Play Check
3. Stator-to-Turbine Interference Check
4. Converter Leakage Check
5. Stator-to-Impeller Interference Check

- If there is evidence of transmission assembly or fluid contamination due to the following failure modes:

Torque Converter Replacement Policy Failure Modes
Major metallic failure
Multiple clutches or clutch plate failures
Sufficient component wear which results in metallic contamination

SERVICE PROCEDURE - TORQUE CONVERTER AND TRANSMISSION COOLING SYSTEM CLEANING

When the torque converter is replaced, the following actions must take place:

1. All cooler lines must be thoroughly cleaned by Back and Forward Flushing using Service Manual procedure.
2. All coolers (in-tank and auxiliary) must be thoroughly cleaned by Back and Forward Flushing using Service Manual procedure.
3. All Cooler By-Pass Valves (CBV), if equipped, must be removed and thoroughly cleaned using Service Manual procedures. Replace rubber coated sealing washers prior to reinstalling CBV. Replace CBV if damaged or plugged.

4. Perform Transmission Cooler Flow Test - If the Transmission Cooling System fails the Flow Test, the coolers, CBVs or lines must be replaced. If the coolers are to be replaced, use only factory approved service parts.

5. Perform Transmission Cooler Flow Test - If the Transmission Cooling System fails the Flow Test, the coolers, CBVs or lines must be replaced. If the coolers are to be replaced, use only factory approved service parts.

If the torque converter is not being replaced, the following actions must take place:

1. The torque converter must be thoroughly cleaned:
 - a. Torque converters with drain plugs can be cleaned using the Rotunda Torque Converter Cleaner. Follow the instructions included with the equipment.
 - b. Torque converters without drain plugs can be cleaned by hand. Partially fill the converter using clean transmission fluid (as recommended for the particular transmission). Hand agitate the converter and then thoroughly drain the fluid. Refill with new fluid, specified for the transmission, and reinstall.
2. All cooler lines must be thoroughly cleaned by Back and Forward Flushing using Service Manual procedure.
3. All coolers (in-tank and auxiliary) must be thoroughly cleaned by Back and Forward Flushing using Service Manual procedure.
4. All Cooler By-Pass Valves (CBV), if equipped, must be removed and thoroughly cleaned using Service Manual procedures. Replace rubber coated sealing washers prior to reinstalling CBV. Replace CBV if damaged or plugged.

REQUIRED TOOLS	
Tool Number	Description
014-00028	Rotunda Converter/Oil Cooler Cleaner
014-00752	Rotunda Oil Cooler Flusher Kit
T77L-7902-R	Converter Clutch Holding Tool
T76L-7902-C	Converter Clutch Torquing Tool
TOOL-4210-C	Dial Indicator With Bracketry
T80L-7902-A	End Play Checking Tool
014-R1075	Torque Converter Leak Check Tool And Gasket
007-00500	New Generation Star (NGS) Tester
007-00085D	Rotunda Transmission Tester Kit - includes all cables and overlays required for transmission/transaxle diagnosis. Refer to the Service Manual for the correct cable/overlay combination to use. Individual cables/overlays and the tester may be ordered separately from Rotunda.

OTHER APPLICABLE ARTICLES: NONE
WARRANTY STATUS: INFORMATION ONLY
OASIS CODES: 501000, 502000, 503000, 504000