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Eastern Catalytic Converter Replacement Checklist:

WARNING: Before replacing the converter, always check the following:

Retrieve all PCM (powertrain control module) trouble codes

and make the required repairs for all codes before replacing the converter.

Ensure that the new converter is not damaged by engine issues

such as oil consumption, low compression or coolant leakage by reviewing repair history and testing base engine condition. Include relative compression test, power balance test, volumetric efficiency test and cooling system pressure / leak down test.

Check for any manufacturer's technical bulletins, recalls or **PCM re-programming updates**

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that may be required for the vehicle. Example: vehicle PCM Reprogramming updates that eliminate false P0420 or P0430 codes.

Test all O2 sensors for proper operation and monitor fuel trims

to be sure vehicle is in proper fuel control.



Normal long-term fuel trims are in the range of -10% to + 10 %. If outside of these parameters, further diagnosis is required.

5 Test and repair any exhaust system leaks or restrictions.

Ensure that there are no exhaust restrictions downstream from the converter that's being replaced. Exhaust restriction will overheat and ruin a new converter.

6 **Verify proper EGR and** secondary air injection system operation, if equipped.

7 **Inspect the original** converter internally

for overheating or melt down, soot and carbon deposits, or signs of coolant contamination. Determine and repair the root cause of the problem that caused the original converter to fail before replacing the converter.







Coolant from a head gasket leak on one cylinder has steam blasted carbon from the Right Inlet. Note the coolant contamination to the substrate.

Soot/carbon deposits at converter inlet indicating excessive oil consumption and excessive emissions entering converter.

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Proper Break-In Procedure:

A replacement catalytic converter needs a proper "break-in" period to ensure proper

emissions performance and reliability. If the converter is not warmed-up (broken-in) properly after installation, the substrate inside could be adversely affected and eventually cause the converter to fail down the road.

The problem typically occurs when a shop installs the converter and immediately returns the vehicle to the customer. The customer runs the car for a long distance or lets the vehicle idle for an extended time. Under these conditions, the matting, which is wrapped around the substrate, will not expand properly and hold the matting in place.



1 Converter matting is wrapped around the converter's ceramic substrate.

2 This matting is installed in the converter in an unexpanded state. During first heat-up, the matting actually gets looser before it expands to fill the converte cavity to hold the ceramic substrate in place. Warm up must be done properly to avoid having the ceramic brick come loose, leading to converter failure.

To avoid this issue, include the following warm-up period as a part of your overall converter installation procedure.

This heating cycle will allow for correct matting expansion:

- Start the vehicle but do not rev the engine.
- Idle and allow it to warm up slowly.
- After 5 minutes, increase the engine speed to 2500 RPM and hold for 2 minutes.
- Allow vehicle to cool down and road test.

Failure to follow these procedures may result in reoccurrence of the original problem and/or damage to the new converter.

Ensure engine combustion chambers and fuel injectors are free of carbon deposits.

Carbon deposits reduce combustion efficiency and overload the converter with excessive emissions that overheat and damage the converter. When required, clean the deposits with a cleaning system

Normal light gray coloration of converter inlet – indicates good mechanical operating condition.

