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Eastern 20375

Eastern 20375 Direct Fit Catalytic Converter User Manual

Model: **20375** | Brand: **Eastern**

1. INTRODUCTION

This manual provides essential information for the proper installation, operation, maintenance, and troubleshooting of your Eastern 20375 Direct Fit Catalytic Converter. This product is designed as a direct replacement for specific Chrysler Town & Country Mini Vans and Dodge Caravan models, ensuring compatibility and ease of installation.

A catalytic converter is a crucial component of your vehicle's exhaust system, responsible for converting harmful pollutants in exhaust gases into less toxic substances before they are released into the atmosphere. Proper functioning of the catalytic converter is vital for vehicle performance, fuel efficiency, and compliance with emission standards.

2. SAFETY INFORMATION

Always prioritize safety when working on your vehicle's exhaust system. Failure to follow safety precautions can result in serious injury or damage to the vehicle.

- Ensure the vehicle is parked on a level surface and securely supported by jack stands. Never rely solely on a jack.
- Allow the exhaust system to cool completely before beginning work. Exhaust components can reach extremely high temperatures.
- Wear appropriate personal protective equipment (PPE), including safety glasses, gloves, and long sleeves.
- Work in a well-ventilated area to avoid inhaling exhaust fumes.
- Disconnect the vehicle's battery before starting any electrical work, though typically not required for catalytic converter replacement.
- Use proper tools for the job. Do not force fasteners.
- Keep a fire extinguisher nearby.

3. PACKAGE CONTENTS

Verify that all components are present and undamaged before beginning installation:

- Eastern 20375 Direct Fit Catalytic Converter Assembly (may be in multiple pieces)
- Gasket(s) for connection points
- Exhaust Clamp(s)

- Note: Additional nuts and bolts for manifold connection are typically not included and may need to be purchased separately, especially if existing hardware is rusted.

4. SETUP AND INSTALLATION

Installation of a catalytic converter requires mechanical aptitude and specific tools. If you are unsure about any step, it is recommended to seek professional assistance.

4.1. Tools and Materials Required

- Socket/Wrench Set (metric and standard may be needed)
- Penetrating Oil (e.g., WD-40, PB Blaster)
- Torque Wrench
- Exhaust Hanger Removal Tool (optional, but helpful)
- Wire Brush
- Anti-seize Compound
- Jack and Jack Stands
- Safety Glasses and Gloves
- Optional: Permatex muffler and tailpipe sealer, third-party exhaust clamp (e.g., 3" wide)

4.2. Pre-Installation Checks

- Confirm vehicle compatibility with the Eastern 20375 model.
- Inspect the new converter for any shipping damage.
- Ensure all necessary gaskets and clamps are present.
- If replacing O2 sensors, it is often advisable to do so at the same time.

4.3. Removal of Old Catalytic Converter

1. Safely lift and secure the vehicle using a jack and jack stands.
2. Locate the existing catalytic converter. It will be part of the exhaust system, typically between the engine manifold and the muffler.
3. Apply penetrating oil to all bolts, nuts, and hangers that need to be removed. Allow time for it to work.
4. Disconnect any oxygen sensors (O2 sensors) from the old converter. Be careful with the wiring.
5. Unbolt the converter from the exhaust manifold and any downstream connections. Start with the easiest bolts first. Rusted bolts may require significant effort or cutting.
6. Carefully remove the converter from the exhaust hangers.
7. Remove the old gaskets and clean the mating surfaces thoroughly with a wire brush.

4.4. Installation of New Catalytic Converter

1. Install new gaskets onto the mating surfaces.
2. Position the new Eastern 20375 catalytic converter assembly. If it comes in multiple pieces, assemble them loosely first.
3. Align the converter with the exhaust manifold and the downstream exhaust pipe. It may be helpful to have a second person assist with alignment.
4. Start all bolts by hand to ensure proper threading before tightening. Apply anti-seize compound to bolt threads to prevent future corrosion.
5. Tighten the bolts evenly to the manufacturer's specified torque settings. If torque specifications are not provided for the supplied clamps, tighten them securely but avoid over-tightening, which can strip threads or deform pipes.

6. Reconnect any O2 sensors. Ensure they are properly seated and wired.
7. Re-attach the exhaust hangers.
8. *Important Note on Fit: Some users have reported that the assembly might be slightly shorter than the OEM unit, potentially leading to a small gap or difficulty fully seating the rear joint. If this occurs, a wider, third-party exhaust clamp (e.g., 3" wide) or exhaust sealer (like Permatex muffler and tailpipe sealer) may be necessary to ensure a leak-free connection. Adjusting hanger brackets might also be required to relieve tension.*
9. Double-check all connections for tightness and proper alignment.
10. Lower the vehicle safely.

4.5. Post-Installation

- Start the engine and check for any exhaust leaks. You can often hear a hissing sound or feel exhaust gas escaping.
- Allow the engine to reach operating temperature. The new converter may emit a slight burning smell initially as manufacturing oils burn off.
- If a "Check Engine Light" (CEL) was on due to a faulty converter, it should extinguish after a few drive cycles. If it persists, further diagnosis may be required.

5. OPERATING PRINCIPLES

The Eastern 20375 Catalytic Converter functions by facilitating chemical reactions that convert harmful exhaust gases into less harmful substances. It typically contains a ceramic honeycomb structure coated with precious metals (platinum, palladium, and rhodium). As exhaust gases pass over these catalysts, carbon monoxide (CO) is oxidized to carbon dioxide (CO₂), unburnt hydrocarbons (HC) are oxidized to CO₂ and water (H₂O), and nitrogen oxides (NO_x) are reduced to nitrogen (N₂) and oxygen (O₂).

For optimal performance, the engine's air-fuel mixture must be precisely controlled, which is monitored by the vehicle's oxygen sensors.

6. MAINTENANCE

Catalytic converters are generally maintenance-free components. However, their longevity and efficiency are directly tied to the overall health of your vehicle's engine and exhaust system.

- **Regular Engine Maintenance:** Ensure your engine is running efficiently. Misfires, excessive oil consumption, or rich fuel mixtures can lead to catalytic converter damage (e.g., overheating, clogging).
- **Oxygen Sensor Health:** Faulty O₂ sensors can cause incorrect fuel mixtures, leading to converter damage. Replace them as needed.
- **Exhaust System Inspection:** Periodically inspect the entire exhaust system for leaks, rust, or damage that could affect the converter's performance or lead to premature failure.
- **Avoid Contaminants:** Do not use leaded fuel or certain fuel additives, as they can poison the catalyst.

7. TROUBLESHOOTING

If you experience issues after installing your new catalytic converter, consider the following:

Symptom	Possible Cause	Solution
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Symptom	Possible Cause	Solution
Check Engine Light (CEL) On	P0420/P0430 code (Catalyst System Efficiency Below Threshold), faulty O2 sensor, exhaust leak, engine misfire.	Verify O2 sensor connections. Check for exhaust leaks (especially at new connections). Diagnose and repair any engine misfires or fuel system issues. Clear codes and re-test.
Exhaust Leak at Connection Points	Improperly tightened clamps/bolts, damaged gasket, misaligned pipes, insufficient pipe overlap.	Re-tighten clamps/bolts. Replace gaskets if damaged. Use exhaust sealer or a wider clamp if pipes are not fully seating. Ensure proper alignment.
Rattling Noise from Converter	Damaged internal honeycomb structure (rare for new part), loose heat shield, loose exhaust hangers.	Inspect heat shields and hangers for looseness. If the noise is internal to the converter, contact the manufacturer.
Reduced Engine Performance / Sluggish Acceleration	Clogged converter (unlikely for new part unless engine issues persist), other engine problems.	Ensure engine is running optimally. Check for other diagnostic trouble codes.

If troubleshooting steps do not resolve the issue, consult a certified automotive technician.

8. SPECIFICATIONS

- Model:** 20375
- Brand:** Eastern
- Type:** Direct Fit Catalytic Converter
- Compatibility:** Chrysler Town & Country Mini Van, Dodge Caravan (specific years/engines may apply, refer to vehicle fitment guides)
- Item Weight:** Approximately 23 pounds
- Product Dimensions:** Approximately 46 x 16 x 12 inches (L x W x H)
- Manufacturer Part Number:** 20375
- UPC:** 606729203755

9. WARRANTY AND SUPPORT

Specific warranty details for the Eastern 20375 Direct Fit Catalytic Converter are not provided in this manual. For information regarding warranty coverage, claims, or technical support, please contact Eastern directly or the retailer from whom the product was purchased.

It is recommended to retain your proof of purchase for warranty purposes.