

1982 Exhaust Emission Systems

CATALYTIC CONVERTERS

All Light Duty Emission Models

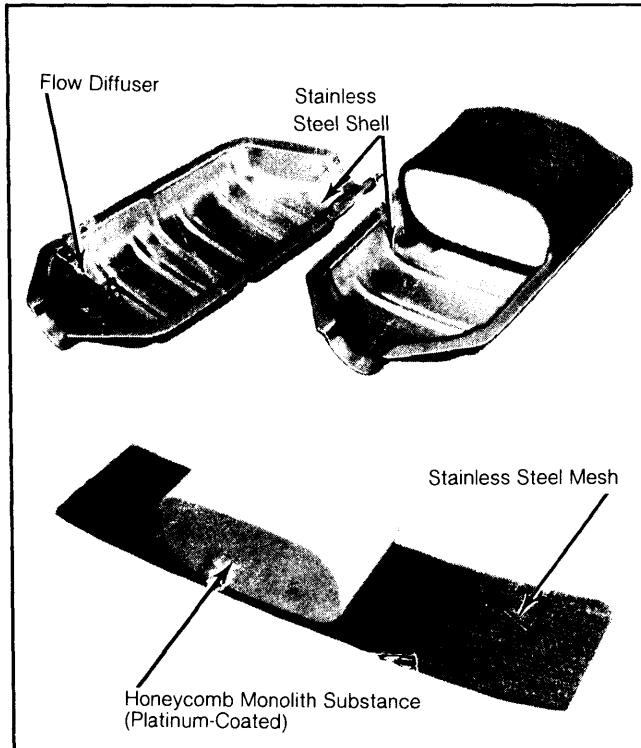
NOTE: Light Duty Emission vehicles are those vehicles whose Gross Vehicle Weight (GVW) does not exceed 8,500 lbs.

DESCRIPTION & OPERATION

The catalytic converter(s) is installed in the exhaust system in front of the muffler, so that all exhaust gas must pass through the converter(s). The converter is a stainless steel muffler-shaped device that reduces exhaust emissions.

The catalyst reduces hydrocarbons (HC) and carbon monoxide (CO) emissions. The material inside the converter is 1 of 2 types: a coated 1-piece honeycombed block (monolithic type), or small beads of catalyst-coated material.

Fig. 1: Cross Section of Monolithic Catalytic Converter



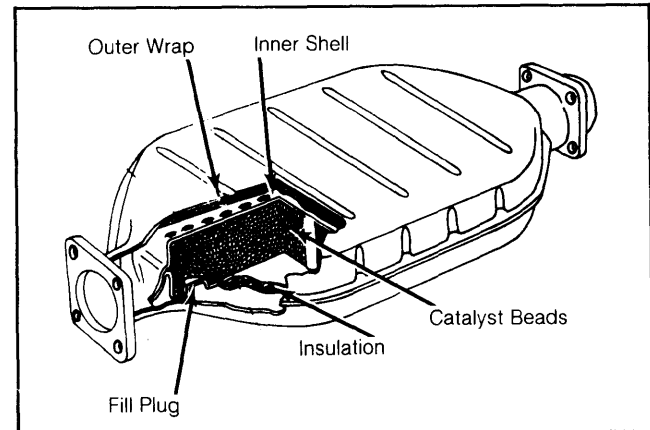
Chrysler Corp. Shown, Ford is Similar

NOTE: Use **ONLY** unleaded fuel in vehicles using catalytic converters. If leaded fuel is used, the Tetra Ethyl Lead will coat the palladium, platinum and rhodium, rendering these catalysts inoperative. If this happens, the converter must be replaced.

HEAT SHIELDS

The combustion reaction, which is furthered by the converter, releases additional heat. Temperature in the catalytic converter can reach 1600°F (871° C) under normal conditions. Special heat shields are used to protect underbody and components from this extreme heat.

Fig. 2: Cutaway View of Bead-Type Catalytic Converter



Beads may be replaced in General Motors & Jeep models.

SERVICE

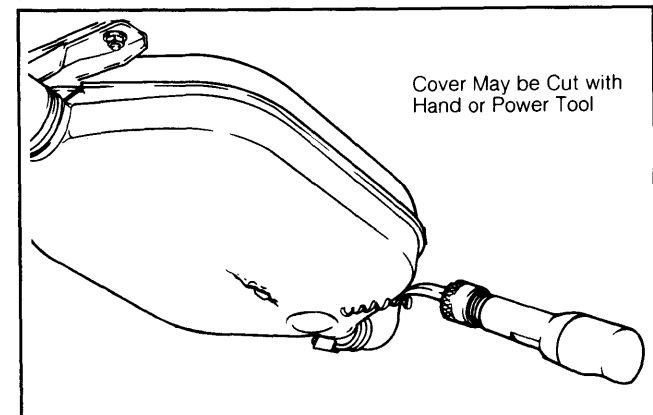
MAINTENANCE

There is no scheduled maintenance required for catalytic converters. However, on General Motors and Jeep models with bead-type converters, bead removal and replacement is possible.

BOTTOM COVER REPLACEMENT (GENERAL MOTORS ONLY)

1) Using a hand or power tool, remove bottom cover by making a shallow, close cut to bottom outside edge.

Fig. 3: Removal of Converter Bottom Cover (General Motors Vehicles Only)



Make a shallow cut; avoid damage to inner shell.

2) Remove insulation and check inner shell for damage. If damage is found, entire converter must be replaced.

3) If no damage is found, position new insulation into replacement cover. Apply sealer (8998245 or equivalent) around edge of cover, using extra sealer at front and rear pipe openings.

4) Install replacement cover on converter, and position retaining channel along edges. Complete the installation by attaching clamps (provided with replacement cover) to both ends of converter.

CATALYTIC CONVERTERS (Cont.)

CATALYST REPLACEMENT

Jeep

1) Raise vehicle, and attach vacuum aspirator (J-25077-01 or equivalent) to exhaust pipe. See Fig. 4.

2) Apply enough air pressure, minimum 80 lbs. (36 kg) to hold catalyst beads in place while converter fill plug is removed.

3) Clamp on vibrator and catalyst receptacle. See Fig. 5. Disconnect air supply from vacuum aspirator, and attach it to vibrator unit.

4) Using air pressure, vibrator should operate and empty the converter of the catalytic beads in about 10 minutes.

5) When all catalyst material is removed, disconnect air supply, and remove container from converter. Discard beads.

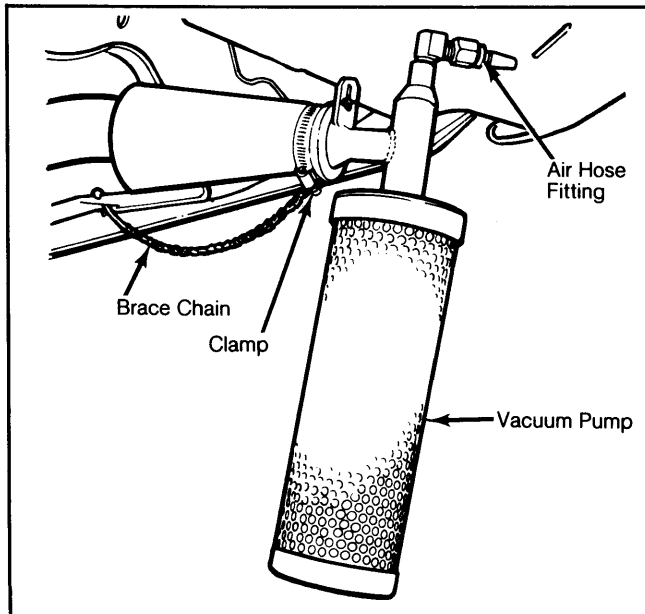
6) Fill container with approved replacement catalyst, and install a fill tube fixture to the vibrator device.

7) Attach air supply to both vibrator and aspirator. With container attached to fill tube, catalyst will begin to move into converter.

8) When catalyst stops flowing, disconnect air supply to vibrator, and note level of catalyst. It should be even with fill plug. Add more catalyst, if required.

9) Apply nickle-base, anti-seize compound to fill plug. Install plug and tighten to 60 ft. lbs. (82 N.m). If equipped with press-type fill plug, install "bridge-and-bolt" type service plug and torque to 28 ft. lbs. (37 N.m).

Fig. 4: Jeep Vacuum Aspirator (J-25077-01) Installed



Apply minimum of 80 lbs. (36 kg) of air pressure to hold beads in place.

CATALYST REPLACEMENT

General Motors

1) With converter removed from vehicle, remove fill plug by driving a small chisel between converter shell and fill plug. Continue to deform plug until it can be removed with pliers. Do not pry plug from opening as damage to plug sealing surface may result.

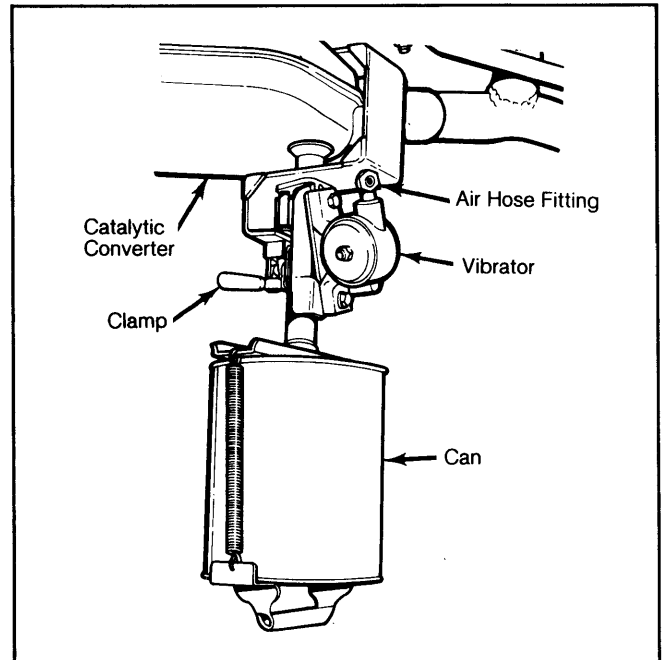
2) Hold converter over a container, and by shaking it, remove catalyst beads.

3) Raise front of converter to 45° and fill through opening with new catalyst beads. Light tapping on the converter side belt will facilitate bead installation.

4) Install bridge into fill plug opening and thread bolt into bridge. Move bridge back and forth to loosen catalyst and position bridge.

5) Remove bolt, and place washer and fill plug (with dished side out) in place. Install bolt and tighten to 28 ft. lbs. (38 N.m).

Fig. 5: Jeep Placement of Vibrator & Catalyst Container



Using air pressure & vibrator operate for 10 minutes.