



Cat[®] Retrofit Catalysts (TWC, DOC, & OC)

Installation, Operation & Maintenance Manual

ES200100 & up
ES300100 & up
ES400100 & up
TW3 1-10000
DC1 1-10000

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Introduction

Do not perform any procedure until you read this information and you understand this information.

The Caterpillar catalytic converter is designed to convert carbon monoxide, hydrocarbons, and aldehydes into carbon dioxide and water. The equations in Table 1 are the unbalanced chemical reactions.

Substrate – typically a grid or honeycomb structure that directs exhaust flow and provides a surface area for a catalyst to be supported.

Conversion efficiency - The ratio of a system's emission output that is compared to the system's emission input

Catalyst - A catalyst is a substance that accelerates a chemical reaction without being affected by the reaction.

The Cat Retrofit TWC (three-way converter) and OC (Oxidation Catalyst) are designed for spark-ignited engines, gas engines. The DOC (Diesel Oxidation Catalyst) is designed for compression ignition or diesel engines. They all feature a high-performance, durable catalyst formulation. The catalyst is supported on a ceramic honeycomb substrate and housed within a stainless steel enclosure. This proprietary catalyst technology is available in either stand-alone converter or converter/muffler combination.

Overview

The catalysts can be built into standard units, with end housings to transition to the exhaust pipe, or built inside a replacement muffler system. It is easily installed in the exhaust system by using standard clamps.

In general, clamped units are shipped assembled. If a unit is to be unclamped for any reason, reinstall as shown in the exploded view above. **Tighten bolts to 200 in-lbs.** Care must be used in handling the graphite gaskets. These gaskets are extremely fragile. Any deformation or cracking renders the gasket unusable and it must be replaced. Contact your Cat Dealer for replacement gaskets.

If a stock muffler is to be used in conjunction with the Cat TWC, the Cat TWC must be installed in front (engine side) of the muffler