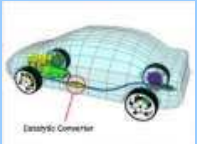


CALIFORNIA REQUIREMENTS FOR AFTERMARKET CATALYTIC CONVERTERS



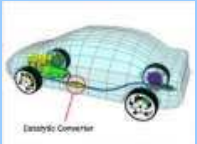
October 22, 2013

Agenda



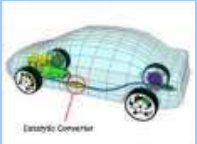
- Background
- Performance Criteria
- Warranty Requirements
- Labeling Requirements
- Manufacturer's Vehicle Application Catalog
- Installation Guidelines
- Warranty Card Requirements
- ARB Converter Database
- Compliance with Converter Regulations
- Regulation - Support Data

Background



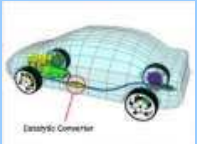
- Aftermarket catalytic converters must be exempted by ARB to be sold in California
- Current regulations adopted in October 2007
- Current regulations took effect January 1, 2009

Performance Criteria OBD II Vehicles



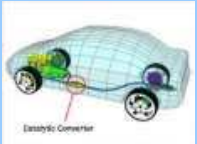
- Meet certification emission standards
- Demonstrate durability to 50,000 miles using rapid aging test (RAT A)
 - 75 hours for PC & LDT 1
 - 100 hours for LDT 2 thru MDV
- Demonstrate OBD II compatible

Performance Criteria OBD II Vehicles (cont.)

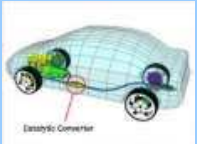


- OBD II vehicle coverage identified by converter manufacturer, based on adequate performance and fit
- Test vehicles selected by ARB
- Limited vehicle model coverage because of substantial differences in OEM configuration and catalyst composition

Performance Criteria Pre-OBD II Vehicles



- Pre-OBD II vehicle coverage based on OBD II converters
- Test vehicles selected by ARB using four vehicle categories
 - (PC-1): passenger car single configuration
 - (T-1): truck single configuration
 - (PC-2): passenger car dual configuration
 - (T-2): truck dual configuration



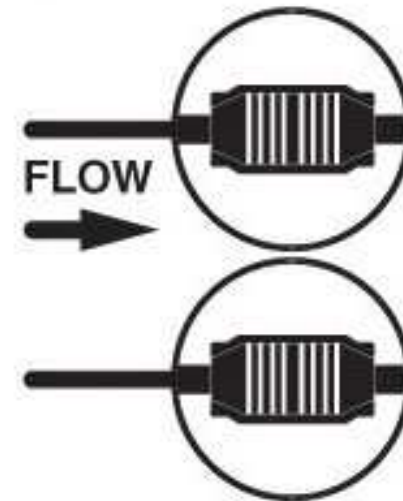
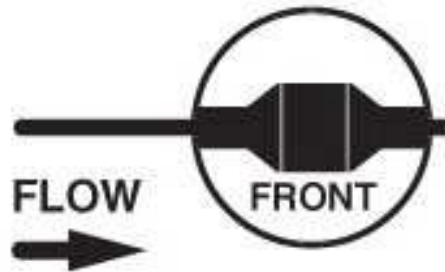
PC-1 and T-1 Configurations



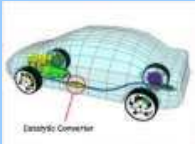
(PC-1): (Passenger Car Single Configuration)
Passenger cars with single or dual exhaust systems with one catalytic converter per exhaust bank.



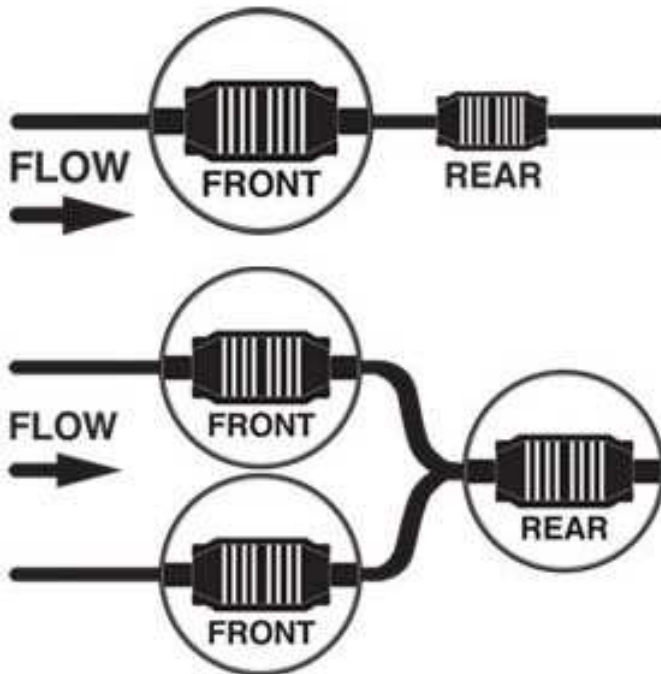
(T-1): (Truck Single Configuration)
Light-duty or medium-duty trucks with single or dual exhaust systems with one catalytic converter per exhaust system.



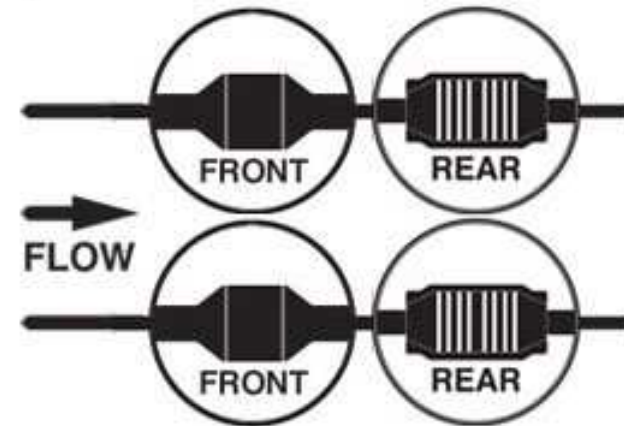
PC-2 and T-2 Configurations



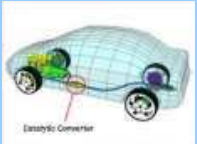
(PC-2): (Passenger Car Dual Configuration)
Passenger cars with single or dual exhaust systems with two or more catalytic converters per exhaust bank.



(T-2): (Truck Dual Configuration)
Light-duty or medium-duty trucks with single or dual exhaust systems with two or more catalytic converters per exhaust bank.

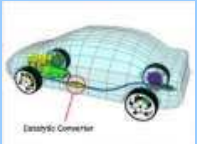


Warranty Requirements



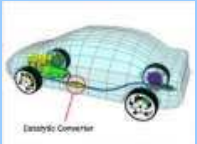
- Warranty valid for 5 years or 50,000 miles from date of installation
- Covers:
- Defects in catalyst, external shell, end pipes, etc.
 - Catalyst malfunctions detected by OBD II or Smog Check
 - Parts and labor costs

Labeling Requirements



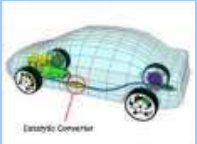
- Converter Label key to improving compliance
 - Makes Smog Check inspection simple and effective
- Label must be visible/readable after being installed
- Label must include
 - Executive Order number (D-XXX-XX)
 - Manufacturer part number
 - Date of manufacture (MMYY)
 - An arrow indicating required exhaust flow directional

Manufacturer's Vehicle Application Catalog



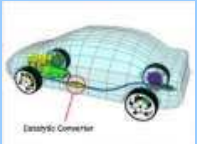
- Specific to California applications
- Separate pre-OBD II and OBD II sections
- Organized to allow catalytic converter look-up by specific vehicle application
 - Vehicle make, model year, model, displacement, engine family and emission standards
- Identify what Aftermarket converter to use for which OEM converter when multiple OEM converters in series are required

Installation Guidelines



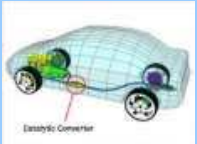
- Conditions required to replace a Catalytic converter
 - Converter is exempted for the vehicle and is specifically included in the vehicle application list
 - Vehicle is beyond its warranty period
 - A legitimate need to replace existing converter has been established
 - New catalytic converter is installed in the same location as the OEM converter being replaced (front face +/- 3 inches of OEM front face)
 - O₂ sensors cannot be relocated or have their orientation changed
 - Installed on one-for-one basis and with all other required converters

Warranty Cards Required



- Warranty card must be filled out by the installer with the correct information
 - Converter part number
 - Vehicle year, make, model, VIN and odometer reading
 - Date of installation
 - Name of the installation shop
- Warranty card is filled out in triplicate
 - Must be signed by the customer
 - Original copy to the customer with attached invoice
 - The installer keeps a copy along with the records for four years from the date of sale/installation
 - One copy is returned to the converter manufacturer

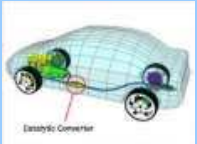
Using ARB Converter Database



- Search by vehicle make, model-year, model, and engine size or by Executive Order (EO) number

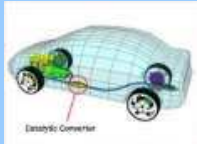
<https://ssl.arb.ca.gov/PartsSearchTool/CatalystSearchTool.aspx>

Compliance with Converter Regulations



- Smog Check inspection on the vehicle helps promote correct converter installations
- ARB may inspect manufacturer and installer facilities and records
- ARB has tested 31 production converter series over the last two years
 - Most converters passed
 - Some converters have been removed from the California market
 - Other of these converters are still under evaluation

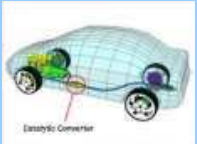
Summary of Test Data Used to Support Current Regulations



		HC (g/mi)	NOx (g/mi)
Green Catalyst	Previous	0.311	0.493
	Current	0.162 (48%)	0.342 (31%)
8000 mile Aged Catalyst	Previous	0.605	1.431
	Current	0.253 (58%)	0.358 (75%)

() percent emission reduction from previous program

More Information



- Aftermarket catalytic converter webpages

www.arb.ca.gov/msprog/aftermktcat/aftermktcat.htm

<https://ssl.arb.ca.gov/PartsSearchTool/CatalystSearchTool.aspx>

- Aftermarket Parts Section

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