

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER D-307
Relating to Exemptions Under Section 27156
of the Vehicle Code

EM CAT, INC.
POWERTECH 2000

WHEREAS, Vehicle Code Section 27156 and Title 13 California Code of Regulations (hereafter "CCR") Section 2222(e), authorize the California Air Resources Board (ARB) and its Executive Officer to exempt add-on and modified parts from the prohibitions of Vehicle Code Section 27156.

WHEREAS, EM Cat, Inc. has applied to the ARB for exemption from the prohibitions of Vehicle Code Section 27156 for the Powertech 2000.

WHEREAS, pursuant to the authority vested in the Executive Officer by Health and Safety Code Section 39515 and in the Chief, Mobile Source Division by Health and Safety Code Section 39516 and Executive Order G-45-5, the Air Resources Board finds:

1. The Powertech 2000 is an add-on device that is attached to the fuel line in a motor vehicle.
2. The fuel line is part of the required motor vehicle pollution control system.
3. The Powertech 2000 is intended for use with a required pollution control system.
4. The Powertech 2000 by being installed on the fuel line alters the original design of a motor vehicle pollution control system.
5. The Powertech 2000 is a device subject to the prohibitions of Vehicle Code Section 27156 and an add-on part as defined by 13 CCR Section 1900(b)(1).
6. The Powertech 2000 does not reduce the effectiveness of any required motor vehicle pollution control device.
7. The ARB, in the exercise of technical judgement, is aware of no basis on which the Powertech 2000 will provide either a decrease in emission or an increase in fuel economy.
8. It has not been determined what effect use of the Powertech 2000 may have on any warranty, either expressed or implied, by the manufacturer of a motor vehicle on which the device is installed.
9. The Powertech 2000 is not a certified motor vehicle pollution control device pursuant to Health and Safety Code Section 43644.
10. The ARB by granting an exemption to EM Cat, Inc. for the Powertech 2000 does not recommend or endorse in any way the Powertech 2000 for emissions reduction, fuel economy, or any other purpose.

IT IS HEREBY RESOLVED that the POWERTECH 2000 is exempt from the prohibitions of Vehicle Code Section 27156 for installation on 1993 and older model-year gasoline and diesel powered vehicles subject to the following conditions:

1. This exemption shall not apply to any device, apparatus, or mechanism advertised, offered for sale or sold with, or installed on, a motor vehicle prior to or concurrent with transfer to an ultimate purchaser.
2. No changes are permitted to the device as described in the application for exemption. Any changes to the device, applicable model year, or other factors addressed in this order must be evaluated and approved by the ARB prior to marketing in California.
3. Marketing of this device using an identification other than that shown in this Executive Order or marketing of this device for an application other than those listed in Executive Order shall be prohibited unless prior approval is obtained from the ARB. Exemption of this product shall not be construed as an exemption to sell, offer for sale, or advertise any component of the product as an individual device.
4. Any oral or written references to this Executive Order or its content by the EM Cat, Inc. its principals, agents, employees, distributors, dealers, or other representatives must include the disclaimer that the Executive Order or the exemption it provides is not an endorsement or approval of any fuel economy or emissions reduction claims for the Powertech 2000 and is only a finding that the device is exempt from the prohibitions of Vehicle Code Section 27156.
5. No claim of any kind, such as "Approved by the Air Resources Board" may be made with respect to the action taken herein in any advertising or other oral or written communication.

Violation of any of the above conditions shall be grounds for revocation of this order. The order may be revoked only after a ten-day written notice of intention to revoke the order, in which period the holder of the order may request in writing a hearing to contest the proposed revocation. If a hearing is requested, it shall be held within ten days of receipt of the request and the order may not be revoked until a determination after hearing that grounds for revocation exist.

Executed at El Monte, California, this 29th day of March, 1993.



R. B. Summerfield
Assistant Division Chief
Mobile Source Division

State of California
AIR RESOURCES BOARD

EVALUATION OF EM CAT, INC'S. POWERTECH 2000 DEVICE
FOR EXEMPTION FROM THE PROHIBITIONS OF VEHICLE CODE SECTION
27156 IN ACCORDANCE WITH SECTION 2222, TITLE 13, OF THE
CALIFORNIA CODE OF REGULATIONS

March, 1993

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by

Mobile Source Division
State of California
Air Resources Board
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(This report has been reviewed by the staff of the California Air Resources Board and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Air Resources Board, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.)

SUMMARY

EM Cat, Inc. of Route 2, Box 201, Portales, New Mexico 88130, has applied for exemption from the prohibitions in Section 27156 of the California Vehicle Code for the Powertech 2000 device. The device is designed for installation on 1993 and older model-year gasoline and diesel powered vehicles.

Previously the Air Resources Board (ARB) exempted three similar devices; "Moleculator Fuel Energizer" and "Fuel Dominator" by Internal Energy Management Corporation and "Top Eliminator" by Top Eliminator, Inc. Based on the engineering evaluation of the Powertech 2000 device and exemptions issued for the devices that operate in a manner similar to the Powertech 2000, the staff believes that the Powertech 2000 will not have any adverse effects on the exhaust emissions from gasoline and diesel powered vehicles.

The staff recommends that the Powertech 2000 device be exempted from the prohibitions in Vehicle Code Section 27156 and that Executive Order D-307 be issued.

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CALIFORNIA CODE OF REGULATIONS

I. INTRODUCTION

EM Cat, Inc. of Route 2, Box 201, Portales, New Mexico 88130, has applied for an exemption from the prohibitions of Vehicle Code Section (VC) 27156 for the Powertech 2000 device. The device is designed for installation on 1993 and older model-year gasoline and diesel powered vehicles. The applicant submitted installation instructions and specifications of the device for our evaluation.

II. CONCLUSIONS

Previously, the Air Resources Board (ARB) exempted three similar devices; "Moleculator Fuel Energizer" and "Fuel Dominator" by Internal Energy Management Corporation and "Top Eliminator" by Top Eliminator, Inc. Based on the engineering evaluation of the device and the exemptions issued to other devices that operate in a manner similar to the Powertech 2000, the staff has determined that the Powertech 2000 will not have any adverse effects on the exhaust emissions from gasoline and diesel powered vehicles.

III. RECOMMENDATION

The staff recommends that EM Cat, Inc. be granted an exemption from the prohibitions in California Vehicle Code Section 27156 for the Powertech 2000 device and that Executive Order D-307 be issued.

IV. DEVICE DESCRIPTION

The Powertech 2000 is a cylindrical shaped device with a core of metal alloy. The metal alloy is composed of copper, tin, zinc, iron, antimony, nickel, lead, sulfur and manganese. The device consist of five models which are narrowed on both ends in order to match the various fuel lines. According to the manufacturer, the device should be positioned on the fuel line between the fuel filter and the carburetor, or the first injector on a fuel injection system. The device is secured in the fuel line by two nylon fastening straps running around the device. The device's installation instructions along with the parts list are shown in the Appendix.

The device is installed in series with a vehicle fuel line. According to the applicant when fuel passes through the device, the electrical interaction of dissimilar metals causes ionization of the fuel. The ARB did not perform any testing on the device. It is the staff's opinion that the technical principles underlying the stated function of the device are not capable of producing any effects on emissions and fuel economy.

V. DISCUSSION

The ARB previously exempted three similar devices; "Moleculator Fuel Energizer" and Fuel Dominator" by Internal Energy Management Corporation and "Top Eliminator" by Top Eliminator, Inc. Because of previous exemptions issued to similar devices with the same operating principle as the Powertech 2000 and the fact that qualifying for an exemption is based on not adversely affecting exhaust emissions, the staff recommends that EM Cat, Inc. be granted an exemption as requested.

APPENDIX

Installation Instructions for Gasoline Engines

Before installing the Power Tech 2000, establish a record of the mileage (MPG) of the vehicle. It will also be valuable to secure an emissions report on HC and CO.

After the Power Tech 2000 is installed, it may take 1,000 miles of driving for the reactions to remove excessive carbon build-up. During this period emissions may be expected to go up as the internal engine cleaning process is going on. Following this period, you should find improved combustion and engine efficiency.

Your oil will need to be changed at 1,000 miles after installation due to the removed carbon. Resume oil changes according to manufacturers suggested intervals.

Note: Installation should be done by a qualified mechanic.

1. Locate fuel supply line. On vehicles with fuel injection, there are two lines coming from the fuel tank. The larger line is usually the supply line and the smaller the return line.
2. Find a location where it is safe from heat, moving parts and high output of electrical fields such as alternators, ignition coils and ignition wires. It is recommended to install the Power Tech 2000 after the fuel filter to avoid debris from entering and plugging the unit.
3. Clean the Power Tech 2000 with carburetor spray cleaner or fuel to remove any dust or foreign material. Make sure fuel lines are extremely clean before cutting rubber or teflon line. Use a tubing cutter when cutting through metal fuel lines, not a hacksaw.
4. The Power Tech 2000 is designed for a particular fuel direction flow! Be sure to install according to label on the unit indicating fuel flow direction, or inspect internal bar the end with the hole in the Reactor bar is the fuel inlet end.
5. Check for leaks. Use nylon tie-wraps where needed to secure line from rubbing or coming in contact with moving engine parts.
6. If your vehicle has a Computer-Monitored Fuel System, you will need to re-calibrate the computer, which will enable the engine's computer to compensate for the more complete combustion that takes place after Power Tech 2000 installation.

Drive the vehicle for about four miles. Immediately disconnect first the negative terminal of your battery then the positive. Clean the terminals. Leave disconnected for 5 minutes, then reconnect the terminals, first the positive then the negative. Start the engine and run at triple the idle speed (about 2500 rpm's) for two minutes, then drive a mile. CAUTION on vehicles with air bags, refer to owner manual for specific disconnection procedure.

Troubleshooting Note:

If increased mileage and reduced emissions are not noticed after 1,000 miles, check the Oxygen Sensor. There may be some deterioration due to lack of manufacturers specified maintenance.

6. Carefully check to see that the rubber hose part of the unit is not resting on any surface. Engine vibration will, in time, cause wear on the part of the rubber hose that is resting or touching another surface.
7. After installation, carefully check all connections for tightness. Let engine run a sufficient time to check for leaks.

Large Diesel Installation

Before installing the **Power Tech 2000**, establish a record of the mileage (MPG) of the vehicle. It will also be valuable to secure an emissions report on HC and CO.

After the **Power Tech 2000** is installed, it may take 1,000 miles of driving for the reactions to remove excessive carbon build-up. During this period emissions may be expected to go up as the internal engine cleaning process is going on. Following this period, you should find improved combustion and engine efficiency.

Your oil will need to be changed at 1,000 miles after installation due to the removed carbon. Resume oil changes according to manufacturers suggested intervals.

Note: Installation should be done by a qualified diesel mechanic familiar with fuel delivery systems.

Use one of the two methods to determine the best location for the **Power Tech 2000**.

Standard Multiple Line System: After the fuel pump there is a separate fuel line running to each individual cylinder. The **Power Tech 2000** installs on the in-flow (supply line) after the fuel filter and before the fuel pump. The **Power Tech 2000** should be installed as close to the pump as possible.

Loop Rail System: After the fuel pump, there is one supply line that runs to the engine block. After reaching the engine block this line goes by each cylinder and connects back to itself to form a loop. The **Power Tech 2000** installs on the in-flow (supply line) after the fuel pump and before the line goes into the engine.

On Loop Rail Systems be sure the fuel pump pressure has not been turned up over manufacturers specifications. The **Power Tech 2000** should not be installed on a line containing more than 250 psi constant pressure. If constant operating pressure is more than 250 psi the **Power Tech 2000** should be installed before the injector pump.

Points to Consider:

1. The **Power Tech 2000** comes with a 5/8" jic #10 female fitting on fuel inlet end and a 5/8" male fitting on the outlet end.
2. Double check to see that you are installing the unit on the supply (in-flow) side of the fuel system.
3. Clean the **Power Tech 2000** with carburetor spray of fuel to remove any dust of foreign material. Make sure fuel lines are extremely clean before cutting rubber or teflon line. Use a tubing cutter when cutting through metal fuel lines; not a hacksaw.
4. The **Power Tech 2000** is designed for a particular fuel direction flow! Be sure to install according to label on the unit indicating fuel flow direction, or inspect internal bar the end with the hole in the Reactor bar is the fuel inlet end.
5. The unit may be longer than the section of fuel line you are installing it on. In this case, the unit runs past either the filter or pump and is pigtailed back by means of the appropriate hose and connections.

INTRODUCTION TO FUEL CATALYST "Power Tech 2000"

The Power Tech 2000 is a patented catalytic fuel treatment unit that substantially improves fuel economy while reducing engine emissions. It is installed in the fuel line of gasoline or diesel engines between the fuel tank and the carburetor or injector pump.

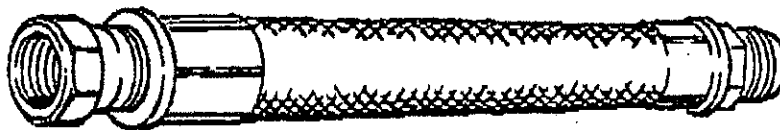
The unit has a specially designed reactor bar of nonferrous metals contained within a housing that allows easy installation in the fuel line of any production vehicle. Several models are made for a wide range of vehicles from passenger cars to light and heavy duty trucks.



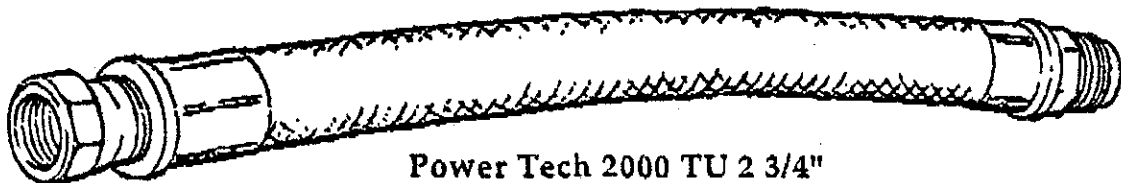
Power Tech 2000 CU 1/2"
Standard duty unit; up to 350 cid,
5.7 liters



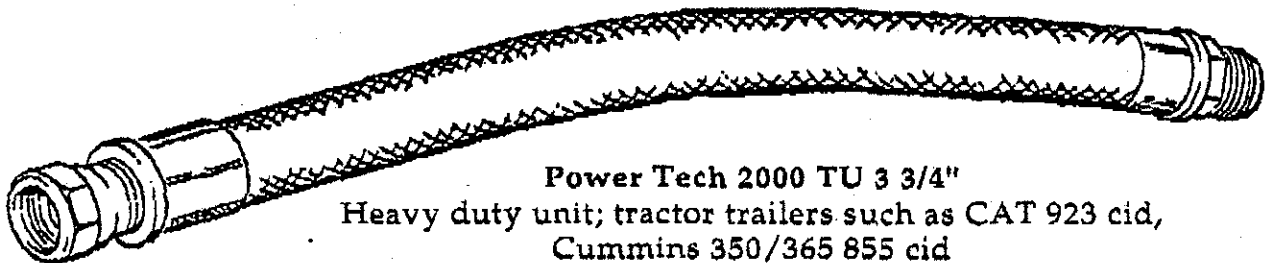
Power Tech 2000 MU 3/4"
Light duty unit; trucks and vans to
1 ton 350 - 454 cid, 5.7 - 7.4 liters



Power Tech 2000 TU 1 3/4"
Medium duty unit; trucks 350 - 454 cid, 5.7 - 7.4 liters



Power Tech 2000 TU 2 3/4"
Large diesel trucks, buses, CAT 3208,
Cummins 240 - 300, International 9 liters, large Mercedes and Volvo trucks



Power Tech 2000 TU 3 3/4"
Heavy duty unit; tractor trailers such as CAT 923 cid,
Cummins 350/365 855 cid

Power Tech 2000 provides several models for a wide range of vehicles.