



**ADVANCED POWER SYSTEMS INTERNATIONAL INC.**  
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Website – [www.fitchfuelcatalyst.com](http://www.fitchfuelcatalyst.com)

1. **Science Proven in both laboratory and in field evaluation – Funded by Department of Energy and conducted by the University of CT. The research team confirmed: a molecular reformulation of the fuel does take place when passing through the Fitch Fuel Catalyst and that this reformulation positively affects the combustion.**
2. **Proven Technology – The Fitch Fuel Catalyst is a result of a research program between the manufacturer APSI the University of Ct Department of Chemical Engineering, funded in part by U.S. Department of Defense and Department of Energy - 10 Patents issued or applied for.**
3. **Pursuant to State of Connecticut 63 Public Act 09-07 Test Bed Legislation for Energy Efficiency Technologies, a Standardization Transaction has been approved and administered by the DAS (Dept. of Administrative Services) for the purchase and installation of Fitch fuel Catalysts at CT Dept of Environmental Protection.**
4. **Fuel Catalyst Contract Award 8/24/2010 – Funds were allocated to the City of Allentown, PA through the Energy Efficiency and Conservation Block Grant (EECBG) Program, funded by the American Recovery and Reinvestment Act (Recovery Act) of 2009. These funds are to assist U.S. cities, counties, states, - develop, promote, implement, and manage energy efficiency and conservation projects and programs designed to Reduce fossil fuel emissions, Reduce the total energy use of the eligible entities, improve energy efficiency in the transportation, building and other appropriate sectors and create and retain jobs.**
5. **Scientific Peer Reviewed Published Papers – Journal of American Chemical Society – Sept. 24, 2005**
6. **UL (Underwriters Laboratory) Listed MH45234**
7. **CARB (California Air Resources Board) - Executive Order No. D-352-2**
8. **Lloyds' Register approved**
9. **American Bureau of Shipping (ABS) approved**
10. **New York City Buildings OTCR code classified AC28-113.4**
11. **Accredited standards of BBB (Better Business Bureau)**
12. **GSA Contract Awarded - GS-07F-0479V**
13. **Independent Fuel Test Reports**
  - **ASTM Test Series on Diesel – Results: Fitch treated fuel demonstrates superior characteristics in Cetane & Lubricity and molecular composition compared to untreated fuel**
  - **ASTM Test Series on Gasoline – Results: Fitch treated fuel increased Octane in comparison to untreated fuel**
14. **Independent Engine Test Reports**
  - **Federal Test Procedure - FTP CVS- 75 – Test Vehicle – 2002 6.6 Duramax Diesel Results: Reduced fuel consumption by just under 15% and reduced NOx, CO, CO2, & Particulates**
  - **Heavy Duty Vehicle Emissions & Fuel Economy Test – Test Vehicle: DT466 Results: 5.75% Fuel Economy Improvement & 23% reduction in opacity**
  - **Heavy Duty Vehicle Emissions & Fuel Economy Test – Test Vehicle: Detroit Series 60 – Results: 5.8% Fuel Economy Improvement & 68% Opacity Reduction**

- **Millbrook Proving Grounds – Test Vehicle DAF 85 - RX54 CPO European Heavy Duty Truck Test cycle - CO<sub>2</sub> and fuel consumption were reduced with the Fitch Fuel Catalyst fitted.**  
Reduction of 5.3% during Phase 1 (urban cycle) of the FIGE cycle.  
Reduction of 4% during Phase 2 (suburban cycle) of the FIGE cycle and,  
Reduction of 1.8% during Phase 3 (motorway cycle) of the FIGE cycle
- **Center for Emissions Research & Analysis – Test Engine - Tecumseh – Results: 48% reduction in Carbon Monoxide, 35% in HC, 11% in NO<sub>x</sub> and 36.5 % improvement in fuel efficiency**
- **EPA test procedure - Emissions & Fuel Economy Report – Test Vehicle – EMD 1200 Locomotive & Marine Cycle – Results: 11.83% Fuel Economy Gain & 12.75% NO<sub>x</sub> & THC reduction**

**15. New York City Housing Authority Test Report – Johnson Commercial Oil Burner – Results: 5% reduction in fuel consumption, 98% reduction in CO, 15% in NO<sub>x</sub>, & 1.2% increase in efficiency. Other Comments: Boiler combustion chamber & heat exchanger surfaces showed marked reduction in soot. Carbon deposits were reduced by as much as 70%, which facilitates better heat transfer, efficiency and reduced maintenance.**

**16. U.S. Department of Air Force Report – VEMSO -December 3, 2007 – Test Vehicles – Chevy Colorado & G30 Van – Results: 3 – 5 mpg average fuel economy increase & 66% decrease in O<sub>2</sub> sensor replacement from previous year.**

**17. Department of Defense (customer since 2002)**

- **USN fits Fitch on Fire Trucks from OEMs (Crash Rescue, Pierce Manufacturer, Oshkosh Trucks, E-one)**
- **Air National Guard installs on ground equipment at 65 bases**

**18. Fitch Customers - Fortune 500 Companies, Institutions, Municipalities**

- i. **New York City Housing Authority & New York City Schools**
- ii. **Verizon Communications**
- iii. **Marquette Transportation**
- iv. **Phillips Electronic**
- v. **Conoco Philips**
- vi. **Grand Hyatt Resort**
- vii. **Sheraton Resort**
- viii. **Constellation Energy Power Plant**
- ix. **Municipalities - City of Torrington, Town of Sharon, City of Allentown**

**19. Independent Magazine Evaluations & Editorials**

- **Sport Truck – reported: 2.5 mpg increase in fuel economy**
- **JP magazine – reported: 2.7 mpg increase in fuel economy**
- **Musclecar Review - reported: 2.9 mpg increase in fuel economy**
- **Four Wheeler – reported: 1.2 mpg increase in fuel economy**
- **Diesel Power – reported: 1.15 mpg increase in fuel economy**
- **8 Lug Diesel – reported: 1.5 mpg increase in fuel economy**
- **Musclecar.blog –reported: 3 mpg increase in fuel economy**
- **4 Wheel & Sport Utility – reported: 2.6 mpg increase in fuel economy**
- **Off Road – reported: 2.11 mpg increase in fuel economy**

**The Fitch Fuel Catalyst is a patented metallic alloy that reformulates fuel on board a vehicle prior to combustion. Placed in the fuel tank or housed in a canister and connected into an engines fuel system between the fuel tank and the engine, the molecular structure of fuel is modified by the catalyst alloy to a state where it is capable of more complete combustion. As a result the engine converts the chemical energy in the fuel to mechanical energy in a more efficient and complete manner. The engine power is increased and toxic emissions per unit of fuel are decreased. As fuel passes over the catalyst, gasoline or diesel are reformulated into a superior quality of fuel allowing a combustion engine to extract the maximum amount of energy with minimal emissions. Warranted for 250,000 miles (consumer applications) or 500,000 miles (commercial applications), or equivalent operating hours, the FFC is a permanent treatment that does not lose its potency and never dissolves or deteriorates which is why it differs from additives that require replenishing.**

**All engines will benefit from the use of the Fitch Fuel Catalyst. An engine operates most efficiently and produces maximum power and torque when it is running on the highest quality fuel. Gasoline and diesel is at its most optimal quality when it is first refined but unfortunately during storage and transportation, fuel quality diminishes. Sacrificed power/torque and efficiency of an engine may be the result of this less than optimal fuel. A less than optimal fuel will also produce emissions, soot build up, and deposits in engine oil and injectors. The Fitch is NOT an additive – it is long term fuel treatment.**