



## ADVANCED POWER SYSTEMS INTERNATIONAL INC.

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### FITCH CREDENTIALS

1. Technology Proven – as a result of collaboration between U.S. Department of Defense & University of Connecticut – 10 Patents
2. Peer Reviewed – Experimental results Fitch technology published by ACS Publications relating to the Journal of American Chemical Society – Sept. 24, 2005
3. UL (Underwriters Laboratory) Certified
4. ABS Certificate (American Bureau of Shipping) ABS Type Approval dated 11/18/09
5. BBB – Better Business Bureau Accredited
6. Name behind Fitch product – John Cooper Fitch – raced for Mercedes, Inducted into the Corvette Hall of Fame, won Sebring and LeMans races and designed the inertia road crash barriers that grace our U.S. highways
7. Head of Research at Fitch – Dr. Alvin Berlin – was on the team of scientists that developed the catalytic converter
8. Executive Order No. D-352-2 (The Fitch Fuel Catalyst has been granted exemption from the prohibitions of California Vehicle Code Section (VC) 27156 by California Air Resources Board)
9. GSA Contract # GS07F0479V – Fitch is a supplier to the US Military
10. Independent Fuel Test Reports
  - ASTM Test Series on Diesel – Results: Fitch treated fuel demonstrates superior characteristics in Cetane & Lubricity in comparison to untreated fuel
  - ASTM Test Series on Gasoline – Results: Fitch treated fuel demonstrates superior characteristics in Octane Index in comparison to untreated fuel
  - University of Connecticut Chemistry Department – Fitch Fuel Catalyst suppresses bacteria growth in Diesel Fuel and B20.
11. 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
  - Federal Test Procedure – FTP CVS 75 – Test Vehicle – Chevrolet 350 Impala – **Results:** 34.52% fuel economy improvement, 25.47% reduction in CO, 23.96% reduction in NOx, 25.90% reduction in CO2.
  - 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
  - Center for Emissions Research & Analysis – Test Engine - Tecumseh – **Results:** 48% reduction in Carbon Monoxide, 35% in HC, 11% in NOx 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% NOx & THC reduction
  - New York City Housing Authority Test Report – Test Engine – Johnson Commercial Oil Burner – **Results:** 5% reduction in fuel consumption, 98% reduction in CO, 15% in NOx, & 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.

12. U.S. Department of Air Force Report – December 3, 2007 – Test Vehicles – Chevy Colorado & G30 Van – **Results:** 3 – 5 mpg average fuel economy increase & 66% decrease in O2 sensors from previous year.
13. Department of Defense (customer since 2002)
  - a. \$4.5M Government Contract – 2002
  - b. US Navy requests Fitch installed on Fire Trucks directly from OEMs (Crash Rescue, Pierce Manufacturer, Oshkosh Trucks, E-One)
  - c. \$800,000 Line Item for 2009 Defense Bill (Air National Guard to retrofit vehicles with Fitch Fuel Catalyst – The Green Retrofit Program)
14. Fitch Customers - Fortune 500 Companies, Institutions, Municipalities
  - i. New York City Housing Authority
  - ii. Verizon Communications
  - iii. Phillips Electronic
  - iv. Conoco Philips
  - v. Grand Hyatt Resort
  - vi. Sheraton Resort
  - vii. Constellation Energy Power Plant
  - viii. City of Torrington
  - ix. Town of Sharon
15. Independent Magazine Evaluations & Editorials (others available)
  - 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 rejuvenated 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), 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.

An engine operates most efficiently and produces maximum horsepower 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, the fuel quality drastically diminishes. Sacrificed horsepower/torque and efficiency of an engine may be the result of this poorer fuel quality. A less than optimal fuel will also produce more emissions, soot build up, and deposits in engine oil and injectors. The Fitch Permanent Fuel Treatment will boost octane in gasoline, increase cetane in diesel and re-refine the fuel quality, returning it to a superior “refinery” fresh state guaranteeing maximum performance and efficiency from the engine. Remember, Fitch is NOT an additive – it is long term fuel treatment.