



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

INDEPENDENT ENGINEERING LABORATORIES, INC.

145 West Monroe Street
Jackson, MI 49202

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MECHANICAL

Valid To: August 31, 2016

Certificate Number: 1492.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests (using technologies such as Durability/Performance of Fuel Delivery Modules, Pumps, Regulators, Filters, Rails, Tanks, Injectors, Senders, PPRV Valves, Check Valves, Carbon Canisters, Hoses, “O” Rings, Pressure Transducers, Solenoids, Dampers, Throttle Bodies, and Intake Manifolds) on automotive fuel systems:

Tests:

Fire Resistance/Flammability Testing

Test Methods:

DOT/FAA AC 20-135;
DOT/FAA Power Plant Engineering Report No. 3A;
ISO 2685;
Rolls-Royce Spec. JES 314-1;
RTCA/DO-160, Section 26;
SAE AIR 1377A;
SAE AS 1055;
SAE AS 4273

Vibration with Combined Environment¹:

Frequency: (5 to 5000) Hz
Combined Temperature: (-40 to 350) °F; (-40 to 1000) °C
Humidity: (5 to 95) % RH

Random: 30,000 lbs force

MIL-STD-810 (F, G) Method 514; PF 9699;
RTCA/DO-160D, E, F

Sine: 30,000 lbs force

SAE J2044; ES-4L8E-9F792-AB

Shock: up to 100 Gs, 100 msec

MIL-STD-810 (F, G) Method 516

Sine on Random: 30,000 lbs force

RTCA/DO-160D, E, F

Permeation:

LEV Capable /ULEV Capable /Capable to 0 Emissions
Hydrocarbon Emissions

GMN-10029SOP; GM CG1752; SAE J2044;
Ford CETP 10.00-E-400, 10.00-E-401

Tests:

Test Methods:

Load Testing¹:

(0 to 5000) lbs Tension or Compression
Travel: Pull apart, Assembly Effort, Side Load

SAE J2044

Environmental Simulation:

High / Low Temperature¹: (-65 to 450) °F

PF 9699; ES-F8DE-9C968-AA

Relative Humidity¹: (5 to 95) % RH

ES-4L8E-9F792-AB

Thermal Shock¹: (-40 to 350) °F
Air-to-Air / Liquid-to-Liquid

PF 9699

Burst High Pressure¹: (0 to 25,000) psi
Combined Temperature: (-40 to 350) °F
Relative Humidity: (5 to 95) % RH

SAE J2044

Leak Testing¹: Pressure Decay (-40 to 350) °F

SAE J2044; ES-4L8E-9F792-AB

High Pressure Testing¹: Nitrogen or Natural Gas,
up to 25,000 psi

Eaton 45153

Fuel Tank Capacity: Filling Performance
(Pressure, Temperature, Flow Rate, Weight)

CETP 10.01-L-600; GM 14508 (2008)

External Chemical and Environmental Resistance
ATF, Motor Oil, Brake Fluid, Antifreeze, Diesel,
Engine Degreaser, Zinc Chloride

SAE J2044

Fuel Compatibility

SAE J2044

Using the following types of specifications and standards: ASTM, Ford, Mazda, Chrysler, Honda, Delphi, GM, SAE, Toyota, Aerospace and directly related to the above tests furnished by the customer on the test methods for the parameters listed above and the equipment capabilities.

¹ Also using customer specified test methods directly related to the tests and parameters listed above.



Accredited Laboratory

A2LA has accredited

INDEPENDENT ENGINEERING LABORATORIES, INC.

Jackson, MI

for technical competence in the field of

Mechanical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).



Presented this 5th day of December 2014.

A handwritten signature in blue ink, appearing to read "J. C. Bunt".

Senior Director of Quality and Communications
For the Accreditation Council
Certificate Number 1492.01
Valid to August 31, 2016
Revised: June 30, 2016

For the tests to which this accreditation applies, please refer to the laboratory's Mechanical Scope of Accreditation.