



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

MGA RESEARCH CORPORATION<sup>4</sup>  
446 Executive Drive  
Troy, MI 48083  
Helen Kaleto Phone: 248 577 5001  
Email: [helen.kaleto@mgaresearch.com](mailto:helen.kaleto@mgaresearch.com)  
Website: [www.mgaresearch.com](http://www.mgaresearch.com)

MECHANICAL

Valid Until: May 31, 2019

Certificate Number: 0850.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory at the location listed above as well as the satellite laboratory location listed below to perform the following tests on seating systems, instrument panels, glove boxes, storage doors, steering columns, floor and overhead consoles, auto/manual shifter, doors, door panels, windows, hoods, liftgates, decklids/trunks, swing metal components, roof systems, closure systems, structural components and other interior and exterior components including exhaust, drive-train and suspension for the automotive industry and other transportation-related industries including aerospace, rail, train, bus, and defense:

**Test Description/Equipment Parameter:<sup>5</sup>**

**Test Method(s):**

Load Testing / Life Cycle Testing  
(0 to 1000) lbs

GMW 14497; DC-10859, DC-10254; PF-8401

Drop Tower  
Drop Mass (0 to 3500) lbs  
Impact Velocity (0 to 30) mph  
Impact Pulse (0 to 400) G's

MGATP\_DTLM

Environmental Conditioning / Extreme Temperature Testing  
Reach-In (2 x 2 x 2) ft. Up to Full-Vehicle Chambers  
(19 x 24 x 10) ft.  
(-40 to +140) °C

GMW 3172, GMW 14124; PF-11365,  
PF-10952, PF-12610, PF-11029, PF-11084;  
Ford WSS-M15P4-F

Multiple Axis Vibration Testing (6 DOF MAST)  
4' x 6' to 6' x 8' Table Size  
10 in. Vertical, 6 in. Horizontal  
(0 to 5) G's  
(0 to 50) Hz  
Conditioning (-40 to +85) °C

ST-0009; DC-10859 (Heidedauerlauf);  
IP-0008 (Key Life Test)

**Test Description/Equipment Parameter:<sup>5</sup>**

Electrical Performance/Characteristics

**Output:**

Sine (peak to peak): (0 to 21.5) MHz  
(0 to 10) V

DC V: (0 to 42) V / DC A: (0 to 10) A

**Measure:**

Voltage (DC): 1 mV to 1000V

Voltage (AC): 1 mV to 1000V (3 Hz to 300 kHz)

Current (DC): 1 mA to 100 A

Current (AC): 1 mA to 10 A (3 Hz to 300 kHz)

Resistance: 0.003 Ω to 2 GΩ

**Test Method(s):**

PF 9590; GMW 3172, GMW 3431

**FMVSS/CMVSS/MIL-STD Test Procedures:**

Door Lock and Retention Components

**Test Method(s):**

FMVSS 206 (NHTSA) Compliance;  
CMVSS 206;  
MIL-STD-1180B Section 6

**Safety Development Testing:**

Drop Tower

**Test Method(s):**

MGATP\_DTLM

Occupant Seating Location H-Point (SAE /ICBC/IIHS)

SAE J826 Rev 95; ST-0007; FMVSS 202a

Dynamic Sled Testing

Dynamic Environment Simulation (i.e., Front Crash,  
Side Impact, Rear Impact, Unoccupied Acceleration,  
IIHS/IIWPG/RCAR Protocol)

FMVSS 202a, FMVSS 208 Simulation;  
ECE-17, Annex 9, Luggage Retention;  
FMVSS 207 / ECE-17 P6.3 Acceleration

**Environmental/Durability/Life Cycle:**

Life Cycle Durability of Various Interior and Exterior  
Components

**Test Method(s):**

PF-11365, PF-10952, PF-11084, PF-12610,  
PF-11029, PF-10254, PF-12063;  
Ford Seat SDS (ST), Ford Interior SDS  
(IP and IT); GMW 14575, GMW 14576,  
GMW 14117, GMW 14189, GMW 14493,  
GMW 14367, GMW 14518

Multi-Axis Simulation Table Vibration  
Vibration Testing of Various Interior and Exterior  
Components

ST-0009; DC-10859 (Heidedauerlauf);  
IP-0008 (Key Life Test)

**Material Test Procedures:**

Salt Fog/Spray

**Test Method(s):**

ASTM B117;  
MIL-STD-810 Method 509;  
RCTA/DO-160F Section 14;  
FMVSS 209 S1c; SAE J386 Section 5.3.1



**Material Test Procedures:**

Materials Characteristics (Plastics, Foams, Fabrics) –  
Tension, Compression, Seam Strength, Stitch Strength,  
Stretch & Set, Tear Strength

**Test Method(s):**

PF.90912 S6.3.4, PF.11365;  
Custom Weld Strength

Dust Exposure

SAE J575 Section 3.3;  
ISO 20653:2006

**Dimensional Testing<sup>1</sup>:**

Parameter	Range	CMC <sup>2</sup> (±)	Technique / Method
Length <sup>3</sup> - 1D	Up to 305 mm (0-12")	0.102 mm (0.004 in)	Calipers
	Up to 36 in Up to 914 mm	0.07 in 1.78 mm	Ruler
- 3D	2 ft. measuring zone 12 ft. measuring zone	0.102 mm (0.004 in) 0.61 mm (0.024 in)	CMM – Faro

<sup>1</sup>This laboratory offers commercial dimensional testing service only.

<sup>2</sup>Calibration and Measurement Capability Uncertainty (CMC) is the smallest uncertainty of measurement that a laboratory can achieve within its scope of accreditation when performing more or less routine calibrations of nearly ideal measurement standards of nearly ideal measuring equipment. CMC's represent expanded uncertainties expressed at approximately the 95 % level of confidence, usually using a coverage factor of  $k = 2$ . The actual measurement uncertainty of a specific calibration performed by the laboratory may be greater than the CMC due to the behavior of the customer's device and to influences from the circumstances of the specific calibration.

<sup>3</sup>This test is not equivalent to that of a calibration.

<sup>4</sup>This accreditation also covers testing performed at the following satellite laboratory listed below:



MGA Research Corporation  
2807 – 2927A Elliott Avenue  
33653 Dequindre Road  
Troy, Michigan 48083

**Test Description/Equipment Parameter<sup>5</sup>:**

**Test Method(s):**

Load Fatigue Testing  
(0 to 160,000) lbs.

ST-0019; GMW 14497;  
DC-10859, DC-10254; PF-840; SAE  
J2638

Static Crush Testing  
(0 to 160,000) lbs.

FMVSS 214, FMVSS 216A; IIHS;  
SAE J2258

Linear Impact Testing  
Impact Velocity (0 to 30) mph  
Impact Pulse (0 to 400) G's

FMVSS 201, FMVSS 202A; ECE-17/25;  
GM 9685P; ST-0047

Thermal Shock Testing  
Size: (28 x 24 x 20) in  
(-60 to +150) °C

GMW 3172; ISO 16750-4; IEC 60068 2-  
14; MIL-STD-202G Method 107G

Semi-Anechoic Chamber w/Sound Measurement

GMW 7293, GMW 14011, GMN 5160,  
GMW 14628, GMW 14629, GMW 14188;  
Ford 01.01-L-407

Size: 9'4" W x 9'4" L x 10' H  
Ambient noise level 29 dBA  
30 dBA (1.0-1.2 Sones) Vibration System in Chamber  
Zwicker Loudness (Sones) DB (SPL/A/B/C/D)  
Frequency Range of Microphone (20 Hz to 20 kHz)  
Sampling Rate (44.1 kHz & 48 kHz)  
Sound Data Analysis using Head Acoustics Artemis  
Analyzer

Semi-Anechoic Chamber w/Sound Measurement and  
Pitch and Roll (5 DOF) BSR System

ST-0009;  
CETP 01.10-L-413, CETP 01.10-L-302

Size: 24'9" W x 21" L x 12" H  
Ambient Noise Level: 31 dBA  
33 dBA (1.0-1.2 Sones) Vibration System in Chamber  
Zwicker Loudness (Sones) DB (SPL/A/B/C/D)  
Frequency Range of Microphone (20 Hz-20 kHz)  
Sampling Rate (44.1 kHz & 48 kHz)  
Sound Data Analysis Using Head Acoustics Artemis  
Analyzer  
Table Frequency (5 to 300 Hz)

Multiple Axis Vibration Testing (6 DOF MAST)

ST-0009; DC-10859 (Heidedauerlauf);  
IP-0008 (Key Life Test)

4'x 6' to 6'x 8' Table Size  
10 in. Vertical, 6 in. Horizontal  
(0 to 5) G's  
(0 to 50) Hz  
Conditioning (-40 to +85) °C



**Test Description/Parameter:**

Vibration Testing (Electro-dynamic, ED)  
Sine, Random, Mechanical Shock, and Time-History  
Load Capacity (0 to 17,500) lbs  
Frequency (2-3000 Hz)  
Displacement 2 in (PK to PK)  
Acceleration (0 to 140) G's  
Combined Environments (-60 to +150)° C  
Universal Fixture/Support for Various Components

Dual MAST Exhaust Durability  
5'x 7' Tables  
12 Actuator MTS RPC Real-Time Simulation Control  
Thermal Hot Exhaust Simulation  
Hot Gas Simulation (0 to 1000) °C  
Diesel Particulate Filter (DPF) Simulation

**Durability/Life Cycle:**

Durability Cycling of Seat Backs and Cushions

Durability Cycling of Seat Backs, Cushions, Bolsters

**FMVSS/ECE Test Procedures:**

Occupant Protection in Interior Impact

Head Restraint/Seat Back Impact

Head Restraint Strength

Steering Wheel Impact

Seating Systems

Seat Belt Assembly Anchorages

**Test Method(s):**

PF-8243, PF-10827; IP-0001;  
RCTA/D0-160E Section 8; GMW 3172;  
MIL-STD 810, Method 516.6; GMW  
14319; MIL-STD-167-1A

ST-0009; CETP 00.00-R-379

**Test Method(s):**

Jounce and Squirm ST-0036; PF-10859,  
PF-8401

Ingress/Egress ST-0035; GMW 14364; PF-  
10254

**Test Method(s):**

FMVSS 201U (NHTSA) Compliance  
FMVSS 201 (NHTSA) Compliance;  
CMVSS 201; ECE-21 Compliance;  
MIL-STD-1180B Section 6

FMVSS 201; ECE-17/21/25 Compliance  
TRIAS 32/36 Compliance

FMVSS 202 (NHTSA) Compliance,  
FMVSS 202a (NHTSA) Compliance;  
ECE-17/25 Compliance; CMVSS 202;  
TRIAS 32/36 Compliance

FMVSS 203 (NHTSA) Compliance;  
ECE-12 Compliance; CMVSS 203;  
MIL-STD-1180B Section 6

FMVSS 207 (NHTSA) Compliance;  
ECE-14-Compliance; CMVSS 207;  
MIL-STD-1180B Section 6

FMVSS 210 (NHTSA) Compliance,  
FMVSS 210 NPRM (FAD); CMVSS 210;  
ECE-14-Compliance; MIL-STD-1180B  
Section 6



**FMVSS/ECE Test Procedures (cont'd):**

Side Impact Protection

**Test Method(s):**

FMVSS 214 (NHTSA) Compliance;  
CMVSS 214

Roof Crush Resistance

FMVSS 216a (NHTSA) Compliance;  
IIHS Roof Strength; ROPS Testing;  
CMVSS 216

Rear Impact Guards

FMVSS 223 (NHTSA) Compliance;  
CMVSS 223

Child Restraint Anchorage System Tether and Lower

FMVSS 225 (NHTSA) Compliance;  
ECE-14 Compliance  
CMVSS 210.1 and 210.2

Ejection Mitigation

FMVSS 226 (NHTSA) Compliance

Child Seat Installation, Annex 17,  
Appendix 1 and 2

ECE-16 Compliance

Head Restraints, Whether or Not Incorporated in Vehicle  
Seats

ECE-25 Compliance

**Safety Development Testing:**

**Test Method(s):**

Occupant Seating Location H-Point  
(SAE /ICBC/IIHS)

SAE J826 Rev 95; ST-0007; FMVSS 202a

Airbag Static Deployment or Dynamic Impact

GMW 3118, GMW 3112, GMW 3115;  
PF-10827;  
AA-0013, Airbag Deployment

Quasi-static Force vs. Deflection Characteristics

Custom Quasi-Static Loading;  
GMW 16418; SAE J2258

Dynamic Force vs. Deflection Characteristics

Custom Dynamic Impact; GMW 16610;  
TSM 5725G

**Pedestrian Protection Testing:**

**Test Method(s):**

Pedestrian Protection  
Adult and Child Headform  
Upper legform (TRL)  
Lower leg (TRL)  
Sensing (Small Animal, Various Object)  
Temperature Range: (-40 to +80) °C  
Voltage: ±5V

EC Directive: 2003/102/EEC; EuroNCAP:  
Pedestrian Testing Protocol, v6.2;  
EEVC Working Group 17 Report;  
GTR No. 9;  
EC 631/2009, EC 78/2009;  
MGATP\_PED\_Sensing

<sup>5</sup> This laboratory also uses customer supplied specifications and/or methods developed by the lab and approved by the client directly related to the types of tests and within the parameters listed above.





## *Accredited Laboratory*

A2LA has accredited

# **MGA RESEARCH CORPORATION**

*Troy, 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 6<sup>th</sup> day of June 2017.

A handwritten signature in black ink, written over a horizontal line.

President and CEO  
For the Accreditation Council  
Certificate Number 0850.01  
Valid to May 31, 2019

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