

## SAE J2723 AUG2007

SAE Power Certification  
Form J2723 B

|                                      |                                                                                                                                           |
|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Manufacturer Name                    | General Motors Powertrain                                                                                                                 |
| Address:                             | 895 Joslyn Ave.                                                                                                                           |
| City:                                | Pontiac                                                                                                                                   |
| State                                | MI                                                                                                                                        |
| Country:                             | United States                                                                                                                             |
| Postal Code                          | 48340-2920                                                                                                                                |
| Engine:                              | 2.4L LUK Ecotec                                                                                                                           |
| Type of Certification:               | Single Engine Certification                                                                                                               |
| Model Year & Vehicle Application(s). | 2012MY Buick Regal eAssist;<br>2012MY Buick LaCrosse eAssist;<br>2013MY Chevrolet Malibu eAssist;<br>(Via ISOPower certification process) |
| Test Standard:                       | J1349:Aug2007                                                                                                                             |
| Test Location:                       | Powertrain Warren Dyno lab E11N                                                                                                           |
| Engine Serial Number:                | P0AFG146AJ                                                                                                                                |
| Test/Run Number:                     | NST_027-34P0AFG146AJ                                                                                                                      |
| Test Date:                           | December 5, 2008                                                                                                                          |

## RESULTS:

The engine described herein was tested on December 5, 2008 according to the requirements prescribed in J1349:Aug2007, Engine Power Test Code in the presence of a qualified SAE Witness, and was determined to produce the following results:

| Parameter      | Rated Speed | Rated Output | Measured Speed | Measured Output | % Difference |
|----------------|-------------|--------------|----------------|-----------------|--------------|
| Power (hp)     | 6,700 rpm   | 180 bhp      | 6,700 rpm      | 181.43          | -0.31%       |
| Torque (lb-ft) | 4,900 rpm   | 171 ft-lb    | 4,900 rpm      | 174.18          | 1.27%        |

|                       |  |
|-----------------------|--|
| SAE Certified Witness |  |
| Date                  |  |

## APPROVALS:

General Motors Powertrain declares that the engine tested for this report is representative of engines in series production. General Motors Powertrain further declares that the performance of engines in series production will characteristically be at least 98% of the rated torque and power values indicated on this report.

|        |                                 |
|--------|---------------------------------|
| Name:  | <i>Cheryl Lass</i>              |
| Title: | <i>Assistant Chief Engineer</i> |
| Date:  | <i>7/15/2011</i>                |

## WOT ENGINE POWER PLOT (as tested)



|                                          | Input Exhaust BP | Estimated Power via ISO Power | Difference to Feb1609 Declared Power |
|------------------------------------------|------------------|-------------------------------|--------------------------------------|
| GMX353 ISO Power Declared Rating Feb1609 | 62.1             | 182.00                        | N/A                                  |
| GMX353 ISO Power Measured Rating Feb1609 | 62.1             | 180.47                        | -0.84%                               |
| Global Epsilon Single Exhaust - BAS+     | 57.8             | 181.43                        | -0.31%                               |
| Global Epsilon Dual Exhaust              | 49.5             | 183.17                        | 0.64%                                |

## Summary:

- Exhaust backpressure with single outlet system equal or lower than LAF rating run (57.8 kPa vs 62.1)
- FEAD losses equal or lower than LAF rating run due to BAS+ setup and MGU contribution (Original run included alternator losses)
- Declared power to remain unchanged from original rating run

## Feb1609 Rating

| Parameter      | Rated Speed | Rated Output | Measured Speed | Measured Output | % Difference |
|----------------|-------------|--------------|----------------|-----------------|--------------|
| Power (hp)     | 6,700 rpm   | 182 bhp      | 6,711 rpm      | 180.47          | -0.84%       |
| Torque (lb-ft) | 4,900 rpm   | 172 ft-lb    | 4,901 rpm      | 174.18          | 1.27%        |

## Jun2311 eAssist Rating

| Parameter      | Rated Speed | Rated Output | Measured Speed | Measured Output | % Difference |
|----------------|-------------|--------------|----------------|-----------------|--------------|
| Power (hp)     | 6,700 rpm   | 182 bhp      | 6,711 rpm      | 181.43          | -0.31%       |
| Torque (lb-ft) | 4,900 rpm   | 172 ft-lb    | 4,901 rpm      | 174.18          | 1.27%        |

LAF(MY 2011/12) Inlet and Exhaust Restriction Sensitivity Study  
GT-Power Engine Simulation - 6700 RPM, Regular Fuel  
GM Powertrain March 18th, 2010

**MUST CORRECT FOR ACCESSORY AND FAN LOSSES**

