

December 8, 2011

AEM Induction Systems
2205 126th Street, Unit A
Hawthorne CA, 90250
USA

Attention: Andrew Flores

RE: Honda CRZ

Configuration: AEM Intake / AEM Exhaust
AEM Exhaust PN: 600-0200 / AEM Intake: PN: 21-700

VEHICLE NOISE TEST REPORT

SAE J1169 / SAE 1492
(Stationary)

Manufacturer: Honda

Test Date: December 2, 2011

1. Vehicle type: 2 Door

Model: CRZ

Engine: 4 Cylinder Gasoline - Hybrid

VIN: XXXXXXXXXX

Maximum rated RPM: 6,100

Gear used for testing: N

2. Names of persons conducting test:

Instruments: C. Real
Data: C. Real

Driver: C. Real
Observer: V. Real

3. Test location:

DPS Technical Inc. 1160 Dewey Way, Suite D, Upland, CA 91786 USA

The test site utilized is a flat level open area paved in asphalt concrete.
There are no large sound reflecting surfaces within the required distance.
Test site conforms to test protocol.

4. Environmental Conditions:

Wind speed and ambient noise level measured on the same day as the test and representative of conditions during the test.

Wind speed: Variable, 0-1 MPH Temperature: 70° (F)

Ambient sound level: Less than 55 dBA (S)

5. Description of the sound level meter:

Primary

Type: Larson Davis LxT1

Serial #: 0001009

Calibrated: 4/21/11

Performance Level: ANSI S1.4-1985, S1.43-1997, S1.25 -1991, S1.11-2004,
IEC61672-2002, 60651-2001, 60804 -2000, 61260-2001, 61252-2002

Calibration verified: 12/2/11 Pre test / Post test

Verification procedure as per DPS Technical Inc. 94 dB / 114 dB @ 1000 Hz.

Additional accuracy verification @ 74, 84, 94, 104, 114 dB, frequency sweep of
125 Hz – 4000 Hz. Maximum observed variation on 12-2-11 = .1 dB

Microphone Cartridge Assembly

Primary

Type: PCB 377A02

Serial #: 100009

Calibrated: 4/21/11

Windscreen: Bruel & Kjaer # UA 0237 (90mm)

Calibration Note: Sound meter, microphone, preamplifier, extension cable & computer display performance verified as individually as well as an assembly prior to testing and after testing.

6. Description of the external acoustic calibrator:

Primary

Type: Quest

Model: CA-15

Multi frequency calibrator 110 dB @

125,250,500,1000,2000 HZ

Serial#: S9100025

Calibrated: 4/21/11

Instruments Calibrated by: Odin Metrology

See attached information.

7. The engine speed indication / tachometer were calibrated and meet the requirements of SAE J1169 and SAE J1492 verification of accuracy was confirmed utilizing DPS Technical calibrated instrumentation. (See Appendix 1, equipment list)

8. Vehicle preparation:

Vehicle tested as delivered. Air cleaner and all body work in place.

The vehicle and each exhaust system was given a minimum of 2 minute warm up exhaust canister temperatures, minimum of 90° F.

The sound measurement microphone was placed in a tripod mounted fixture with the location verified prior to each test.

Reported sound readings are the result of multiple confirmatory sound readings taken within seconds of each other.

Reported sound level measurements dB, A-weighted, sampling rate as specified in test procedure, minimum of 7 samples taken.

Data reported is confirmed accurate without corrections.

9. Measurements

Microphone location was as specified as per section 7.3 of SAE J1169, and Section 6.0 SAE 1492.

The microphone was oriented per manufacturer's instructions. It is a free field microphone.

All measurement procedures were performed exactly as specified in SAE J1169, rev. May 1998., SAE J1492, revised October, 2008.

DATA SAE J1169

Model: Honda

VIN: XXXXXXXXXX

Test Date: December 2, 2011

Results SAE J1169

** Additionally reported engine speeds for engineering purposes only.

Configuration AEM Exhaust PN: 600-0200 AEM Intake PN: 21-700	Engine Test Speed RPM	Reported Sound Level dBA (S) SAE 1169	Reported Sound Level dBA (S) SAE1169	Ambient Sound Level dBA (S) 55	Temp (°F) 70	Wind (MPH) 0-1
	Idle					
	750 RPM	61.9				
	1000	74.5				
	1500	76.3				
	2000	85.5				
	2500	87.4				
	3000	80.1		Resonation Rattle		
	3500	76.5		Resonation Rattle		
	3750	78.9				
	4000	79.6				
	4500	84.9				
	4875	84.2	84.2			

Reported sound level as specified by SAE J1169: 84.2dBA (S) (Section 7.3)

** Additionally reported engine speeds for engineering purposes only.

DATA SAE J 1492

Model: Honda

VIN: [REDACTED]

Test Date: December 2, 2011

Results: SAE 1492

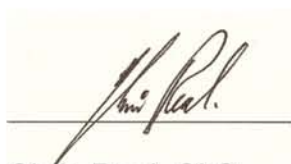
dB A Fast Rev, back to Idle

Configuration AEM Exhaust PN: 600-0200 AEM Intake PN: 21-700	Engine Test Speed RPM	Reported Sound Level dBA (F)	Reported Sound Level dBA (F)	Ambient Sound Level dBA (S) 55	Temp (°F) 70	Wind (MPH) 0-1
	Idle					
	750 RPM	65.3				
	1000	76.4				
	1500	77.1				
	2000	86.1				
	2500	87.0				
	3000	83.7		Resonation Rattle		
	3500	83.5		Resonation Rattle		
	3750	80				
	4000	79.1				
	4500	83.4				
	4875	84.2	84.0			

Reported Sound level as specified by SAE 1492: 84.0 dBA (F) (Section 8.2)

** Additionally reported engine speeds for engineering purposes only.

I certify that I have personally conducted the tests described herein, and reviewed the test results, and verify that this report is a true recordation of the results obtained.



Chris Real, CLS
President
DPS Technical, Inc.

Date: December 8, 2011

Appendix I

Instrumentation

Primary Instrumentation

Sound Level Meter

Type: Larson Davis LxT1 Serial #: 0001009 Calibrated: 4/21/11

Performance Level: ANSI S1.4-1985, S1.43-1997, S1.25 -1991, S1.11-2004,
IEC61672-2002, 60651-2001, 60804 -2000, 61260-2001, 61252-2002

Calibration verified: 12/2/11 Pre test / Post test

Verification procedure as per DPS Technical Inc. 94 dB / 114 dB @ 1000 Hz.

Additional accuracy verification @ 74, 84, 94, 104, 114 dB, frequency sweep of 250 Hz
– 4000 Hz.

Microphone Cartridge Assembly

Primary

Type: PCB 377A02 Serial #: 100009 Calibrated: 4/21/11

Windscreen: Bruel & Kjaer # UA 0237

Primary Calibrator

Type: Quest Model: CA-15 Serial#: S9100025
Calibrated: 4/21/11

Confirming Instrumentation:

Confirming Sound Level Meter:

Type: Quest 1100 Serial #: DBB110006
Calibrated: 12/2/11

Calibration Verified: 12/2/11 Pre test / Post test as per DPS Technical Inc.

Confirming Calibrator

Model: Quest QC-20 Serial QoB100020 Calibrated: 12/2/11
Calibration Verified: 12/2/11 Pre test / Post test

Engine Speed Indicator

Primary:
OBD II Autotray Ez-scan 4000 DPS ID# 70437

Confirming
Type: Treysit Resonating Reed Tachometer Serial # DPS N4R

Treysit factory calibration checked and certified by the Federal Standards Laboratory,
Braunschweig, Germany Tolerance 1-2%.

Factory calibration verified by DPS Technical, Inc.

Calibrated: 9/1/10 Confirmed: 12/2/11

Environmental

Air Temperature / Wind Speed
Type: Extech Model: 45158 Serial #: 08474
Type: Extech Model: 407113 Serial #: Z186714

Appendix II

Photos

Front



Rear



Left



Right



VIN



Engine



Intake



Exhaust



Test Site / Instruments

