



ATDS Emission Lab Test Report

for Exhaust Emission Test Procedures according

Date:	10/25/2023	Start Time:	13:10:56
Test Number:	ONT3_006010	End Time:	14:07:08
Test Vehicle:	3225_GCRXT03.05PV-512		
Test Legislation:	EPA1066		
Test Cycle:	US06+US06		
Test Purpose:	Certification		
Test Cell:	iGEM-V-TC1		
Order Number:	3225		
Remark:	CONSENT DECREE		

AD QUALITY ASSURANCE
REDACTED

INSPECTED BY: _____

DATE: 10/30/2023

COMMENTS: _____
REDACTED

General Data

Test Number	ONT3_006010	CH ₄ Response Factor	
Test Name	US06_US06	Odometer Position ^[mi]	116982
Test Cell	iGEM-V-TC1	Delay Time Method	
Test Type	US06_US06	Air Condition	OFF
Legislation	EPA1066	Particle Measurement	USUAL
Requirements (Bag)	CERTIFICATION		
Requirements (Modal)	CERTIFICATION		
Date	10/25/2023		
Test Start	13:10:56		
Start Time Cycle	2023-10-25 13 37-23-(000)		
Test End	14:07:08		
Operator	REDACTED		
Driver	REDACTED		
Shifttable	Auto		
Flow Stream	ModalDirty		
Calibrated Ranges	autorange		
Remark	CONSENT DECREE		

Vehicle Data **3225_GCRXT03.05PV-512**

Manufacturer	RAM 1500	Displacement	
Vehicle Model	REDACTED	Engine Family	GCRXT03.05PV
Order Number	3225	Manufacturer	DODGE
Test Group	3225_GCRXT03.05PV-512	Transmission	Automatic
Evaporative Family		Engine Code	
Made Date	2016	License Plate	
Tire Manufacturer		Trim Level	
Tire Model		Axle Ratio	1
Tire Size		Drive Axle Weight ^[lbs]	
Tire Pressure ^[psi]	0	Tank Volume ^[gal]	0
Engine Code	GCRXT03.05PV	Tank Material	
Number of Cylinders	6		

Dyno Data **3225**

Dyno Type	SVOR	Inertia ^[lb]	6000.00
	A ^[lbf]	B ^[lb/mph]	C ^[lb/mph²]
Street Load	41.990	0.08760	0.036520
Road Load	5.900	0.42700	0.031900

Fuel Data **Diesel-S-000266**

Fuel Type	DIESEL	Fuel Temperature ^[°C]	15.00
Fuel Analyze Date		Fuel Density ^[kg/l]	0.8540
Fuel Manufacturer		Net Heat. Val. ^[BTU/lb]	18382
Fuel Tank Number		Carb. Weight Frac.	0.8700
Fuel Charge		HC Ratio	1.7945
Remarks:		OC Ratio	-1.0000

Weather Limit Data

Temp Min ^[deg F]	68.00	Dew Point Max ^[deg F]	100.00
Temp Max ^[deg F]	86.00	Pressure Min ^[mbar]	800.0
Dew Point Min ^[deg F]	15.01	Pressure Max ^[mbar]	1100.0

Fan Speed Data **RoadSpeed**

F1 ^[%]	F2 ^[%/mph]	F3 ^[%/mph²]
5	0.745999992	0.0031

Test Data US06_US06 Operator **REDACTED** Speed Table Date: 10/25/2023
Test Number ONT3_006010 Driver **REDACTED** Shift Table Auto Cold Start

Vehicle	REDACTED	Dyno	Fuel	Test Timing
Vehicle #	REDACTED	Inertia ^[lb] 6000.00	Diesel-S-000266	Start Time 13:10:56
		A ^[ft/min] 5.900	Fuel type DIESEL	End Time 14:07:08
Model	RAM 1500	B ^[ft/min] 0.42700	Density 0.8540	
Year	2016	C ^[lb/ft/min²] 0.031900	NHV 18382	Soak Time
Displacement:			CWF 0.8700	
Engine Family	GCRXT03.05PV			
Trans	Automatic	Flow Stream ModalDirty		
Odometer ^[mile]	116982	Remark CONSENT DECREE		

Bag Analysis

PHASE 1	THC ^[ppmC]	CO ^[ppm]	CO ₂ ^[%]	NO _x ^[ppm]	N ₂ O ^[ppm]	CH ₄ ^[ppm]	NMHC ^[ppm]	Temp. ^[°F]	77.35	Volume ^[scf]	7681
Range	100	50	1	30		30		Press. ^[inHg]	28.98	D.F.	18.11
Zero Read	0.00	0.0	0.0	0.0		0.0		RH ^[%]	36.64	Ph. Start ^[s]	680.3
Span Read	93.31	46.74	0.930	27.520		27.620		AH ^[°K]	7.944	Ph. End ^[s]	1287.1
Sample	-1.48	0.30	0.801	4.428		0.092	-1.476	Dist. ^[m]	7.99	Ph. Length ^[s]	596.0
Mass.	0.000	0.078	3322.683	1.760		0.014	0.000	NO _x Corr.	0.9166	Bag An. Del	640
Mass per Dist.	0.0000	0.0098	415.909	0.2203		0.0017	0.0000	Dr. Viola.	0	Vio. Durat. ^[s]	0.0
								Crank ^[s]	0.00	FE ^[miles/gal]	24.5
PSS Massflow Particles [g/h]	0.0353										
			PSS Mass per Dist. [g/mile]				0.0007				

Total Result

actual	THC ^[g/mile]	CO ^[g/mile]	CO ₂ ^[g/mile]	NO _x ^[g/mile]	N ₂ O ^[g/mile]	CH ₄ ^[g/mile]	NMHC ^[g/mile]	HC+NO _x ^[g/mile]	Fuel Economy
Mass per Dist.	0.0000	0.0098	415.91	0.2203		0.0017	0.0000	0.2203	mile/gal 24.47
Mass per Dist. (rounded)	0.0000	0.0098	415.9	0.2203		0.0017	0.0000	0.2203	Dist. ^[m] 7.99

Mass per Dist. - Particulate PSS 0.0007

Test Data: US06_US06
Test Number: ONT3_006010

Operator: REDACTED
Driver: REDACTED

Date: 10/25/2023

Driver Violations

	<u>P1</u>	<u>I1</u>	<u>Phase1</u>
Number of Violations	-	0	0
Duration of Violations	(s)	0.0	0.0

Number	Phase	Violation Begin (s)	Violation End (s)	Violation Duration (s)	Scheduled Speed (mph)	Max Speed Deviation (mph)
No Violations In This Test				0.0		

**Phase 1
Analyzer Adjust**

	Range Number	Range ppm	Zero Value ppm	Zero Set Value ppm	Zero Offset %	Span Value ppm	Span Set Value ppm	Span Offset %	ReZero Value ppm
CO ₂ (%)	1	1	0.00	0.00	-0.01	0.93	0.93	-0.02	0.00
CO	1	50	0.00	0.00	0.00	46.74	46.71	0.06	0.01
NO _x	1	30	-0.01	0.00	-0.03	27.52	27.51	0.03	0.01
THC (ppmC1)	2	30	0.00	0.00	0.01	28.41	28.41	0.00	0.22
CH ₄	1	30	0.00	0.00	0.00	27.62	27.60	0.07	0.00

Analyzer Check

	Range Number	Range ppm	Zero Value ppm	Zero Set Value ppm	Zero Drift %	Span Value ppm	Span Set Value ppm	Span Drift %
CO ₂ (%)	1	1	0.00	0.00	0.01	0.93	0.93	-0.31
CO	1	50	0.04	0.00	0.07	46.67	46.71	-0.13
NO _x	1	30	0.00	0.00	-0.01	27.47	27.51	-0.15
THC (ppmC1)	2	30	0.21	0.00	-0.02	28.73	28.41	1.06
CH ₄	1	30	0.00	0.00	0.00	27.59	27.60	-0.10

Operator **REDACTED** Driver **REDACTED** Customer : 3225
 Test Purpose: Certification Legislation: EPA1066 Requirements (Bag) CERTIFICATION
 Conditioning: Emission Standards Default
 Test Intent: CONSENT DECREE

VIN **REDACTED**

DYNO Data

	Road Load	Street Load	Phase1	Phase2	Phase3	Phase4	Weighted
Inertia ^[lb]	6000.00						
A ^[N]	26.244	186.781					
B ^[N/km/h]	1.18023	0.24213					
C ^[N/km2/h2]	0.054787	0.062722					
Distance (m)							
Target		12887.54					12887.54
Driven		12855.11					12855.11
Distance Rating (%)		-0.2516					-0.2516
Cycle Energy (MJ)							
Target		15.12					15.12
Driven		14.85					14.85
Distance per Energy Cycle (m/MJ)							
Target		15.12					852.30
Driven		14.85					865.93
Road Load Work Fraction							
Target		0.5246					0.5246
Driven		0.5479					0.5479
Inertial Work (MJ)							
Target		7.19					7.19
Driven		6.71					6.71
Inertial Work Fraction							
Target		0.4754					0.4754
Driven		0.4521					0.4521
Inertial Work Rating (%)		-6.6430					-6.6430
Absolute Speed Change (m/s)							
Target		360.03					360.03
Driven		345.57					345.57
Absolute Speed Change Rating (%)		-4.0158					-4.0158
Energy Rating (%)		-1.8219					-1.8219
Energy Economy Rating (%)		-1.5994					-1.5994

Operator **REDACTED** Driver **REDACTED** Customer : 3225
 Test Purpose: Certification Legislation: EPA1066 Requirements (Bag) CERTIFICATION
 Conditioning: Emission Default

Overall Status **Passed**

Phase 1

Test Record #: ONT3_006010

Vehicle ID: **REDACTED**

	<u>Average</u>	<u>Min</u>	<u>Max</u>	<u>Low Limit</u>	<u>Upper Limit</u>	<u>Status</u>
General						
Cell Temperature (°C)	25.19	23.00	26.20	20.00	30.00	Passed
Barometer (mbar)	981.40	981.30	981.60	800.00	1100.00	Passed
Dew Point Temperature (°C)	10.08	7.70	11.70	-9.44	37.78	Passed
Specific Humidity Test Cell (gr/lb)	55.61	46.87	62.09	38.50	87.50	Passed
Dilution Air Temperature (°C)	35.82	35.45	36.15	15.00	52.00	Passed
Weighted Test Dilution Factor (-)	16.11			7.00	20.00	Passed
Dilution Factor (-)	16.11			7.00	20.00	Passed
Fuel Economy (mpg)	24.47			10.00	50.00	Passed
Zero Offset (%)	-	-0.03	0.01	-2.00	2.00	Passed
Span Offset (%)	-	-0.02	0.07	-2.00	2.00	Passed
Zero Check Drift (%)	-	-0.02	0.07	-2.00	2.00	Passed
Span Check Drift (%)	-	-0.31	1.06	-2.00	2.00	Passed
Bag vs. Modal Validation (CO2) (%)	n.a.	-	-	-10.00	10.00	Passed
Ambient Concentrations						
HC (ppm)	5.08			2.00	10.00	Passed
NO _x (ppm)	0.01			-0.10	10.00	Passed
CO (ppm)	1.17			0.00	15.00	Passed
CO ₂ (ppm)	465.65			300.00	650.00	Passed
CH ₄ (ppm)	2.08			1.30	10.00	Passed
N ₂ O (ppm)				0.20	0.50	
PM Filter Parameters						
Particulate Filter Temperature (°C)	52.10	44.75	53.25	42.00	60.00	Passed
Filter Face Velocity (cm/s)	91.58			0.00	100.00	Passed
Particulate Result Validation (ug)	14.00			1.00	600.00	Passed
Test-Cycle Specific Validations						
Phase Distance (miles)	7.99			7.85	8.17	Passed
Sample Phase Time (s)	596.0			594.8	598.8	Passed
Duration Phase 1 (s)	596.80					NA
Crank Time Phase1 (s)	0.00			0	5	Passed
Crank Time Phase3 (s)				0	5	
Crank Counts	0			0	1	Passed
Shutdown Time Phase 1				0	5	
Shutdown Time Phase 3				0	5	
Hot Soak Time (s)				540.00	660.00	
Test Hold Counts	0					Passed
Duration Test Hold (s)	0.00			0	60	Passed