



## Certification Summary Information Report

<b>Test Group</b>	VASXV05.2AMV	<b>Evaporative/Refueling Family</b>	VASXR0160T3A				
<b>Evaporative/Refueling Family Information</b>							
<b>Evaporative Summary Information Type</b>	New	<b>Submission/Correction Date</b>	02/16/2026 08:37:10 AM				
<b>Integrated ORVR?</b>	Yes	<b>Fuel(s)</b>	Gasoline				
<b>Multiple Fuel Storage</b>	--						
<b>Bladder Fuel Tank?</b>	No						
<b>Fuel Tank Material</b>	Metal	<b>Fuel Tank Material Description</b>	Stainless Steel				
<b>Fill Pipe Seal Type</b>	Liquid seal						
<b>Air Intake System Vapor Storage Device?</b>	No	<b>Air Intake System Vapor Storage Device Description</b>	--				
<b>Fuel System Vapor Storage Canister?</b>	Yes	<b>Other Vapor Storage</b>	--				
<b>Fuel System Vapor Storage Canister(s) Total Working Capacity (grams)</b>	160	<b>Number of Primary Canisters</b>	1				
<b>Number of Bleed Canisters</b>	0	<b>Bleed Canister Total Working Capacity (grams)</b>	--				
<b>Mfr Evaporative/Refueling Family Comments</b>	LDV/PC Evap Family only						
<b>Leak Family Details</b>							
<b>Leak Family Indicator</b>	Yes						
<b>Canister Bleed Test Indicator</b>	Yes	<b>Applicability of Evaporative Canister Bleed Test</b>	50 State				
<b>Evaporative Canister Bleed Test Comments</b>	Common AML BETP data						
<b>CARB Fuel Only (Rig) Test Indicator</b>	No	<b>Applicability of CARB Fuel Only (Rig) Test</b>	--				
<b>CARB Fuel Only (Rig) Test Comments</b>	--						
<b>Leak Family Name</b>	<b>Applicability of Leak Family Requirements</b>	<b>Leak Family Standard (inches)</b>	<b>Leak Family Description</b>				
VASXR0160T3A-001	50 State	0.02	Common AML Leak Family				
<b>Models Covered by this Certificate</b>							
<b>Carline Manufacturer</b>	<b>Division</b>	<b>Carline</b>	<b>Certification Region Code(s)</b>	<b>Drive System</b>	<b>Trans - Type</b>	<b>- # of Gears</b>	<b>Trans - Lockup</b>
Aston Martin Lagonda	1 - Aston Martin Lagonda Ltd	382 - Vanquish Volante	Federal	2-Wheel Drive, Rear	Automatic	8	Yes
Aston Martin Lagonda	1 - Aston Martin Lagonda Ltd	370 - Vanquish	California + CAA Section 177 states	2-Wheel Drive, Rear	Automatic	8	Yes
Aston Martin Lagonda	1 - Aston Martin Lagonda Ltd	370 - Vanquish	Federal	2-Wheel Drive, Rear	Automatic	8	Yes
Aston Martin Lagonda	1 - Aston Martin Lagonda Ltd	382 - Vanquish Volante	California + CAA Section 177 states	2-Wheel Drive, Rear	Automatic	8	Yes
<b>Engine Description</b>							
<b>Hybrid Type</b>	--	<b>Hybrid Description</b>	--				
<b>Engine Type</b>	4-Stroke Spark Ignition	<b>Mfr Engine Description</b>	--				
<b>Engine Block Arrangement</b>	V-shaped engine	<b>Mfr Engine Block Arrangement Description</b>	--				
<b>Camless Valvetrain Indicator</b>	No	<b>Oil Viscosity/Classification</b>	0W40				
<b>Number of Cylinders/Rotors</b>	12	<b>Mechanically Variable Compression Ratio Indicator</b>	N				

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Test Group	VASXV05.2AMV	Evaporative/Refueling Family	VASXR0160T3A	
<b>After Treatment Device(s) (ATD)</b>				
ATD Number	ATD Type	ATD Precious Metal	Substrate Material	Substrate Construction
1	Three-way catalyst	Palladium + Rhodium	Ceramic	Monolith
2	Three-way catalyst	Palladium + Rhodium	Ceramic	Monolith
3	Three-way catalyst	Palladium + Rhodium	Ceramic	Monolith
4	Three-way catalyst	Palladium + Rhodium	Ceramic	Monolith
<b>Mfr After Treatment Device (ATD) Comments</b>				
		Single canister per bank containing a warm up primary element and a downstream secondary element.		
<b>Direct Ozone Reduction (DOR) Device</b>				
		Not Equipped		
<b>Mfr Emission Control Device Comments</b>				
--				
<b>Engine Configuration Number 1</b>				
<b>Engine Displacement (liters)</b>	5.2	<b>Engine Rated Horsepower</b>	825	
<b>Number of Inlet Valves Per Cylinder</b>	2	<b>Number of Exhaust Valves Per Cylinder</b>	2	
<b>Air Aspiration Method</b>	Turbocharged	<b>Number of Air Aspiration Devices</b>	2	
<b>Air Aspiration Device Configuration</b>	Parallel	<b>Charge Air Cooler Type</b>	Liquid	
<b>Air Aspiration Drive Method(s)</b>	Hydraulic			
<b>Cylinder Deactivation</b>	No			
<b>Cylinder Deactivation Description</b>	--			
<b>Variable Valve Timing</b>	Yes			
<b>Variable Valve Timing System Description</b>	Inlet and Exhaust Cam Phasing			
<b>Variable Valve Lift?</b>	No			
<b>Variable Valve Lift System Description</b>	--			
<b>Number of Knock Sensors</b>	4	<b>Number of Air/Fuel Sensors</b>	4	
<b>Air/Fuel Sensor # 1 Type</b>	Heated oxygen	<b>Air/Fuel Sensor # 1 Description</b>	--	
<b>Air/Fuel Sensor # 2 Type</b>	Heated oxygen	<b>Air/Fuel Sensor # 2 Description</b>	--	
<b>Air/Fuel Sensor # 3 Type</b>	Heated oxygen	<b>Air/Fuel Sensor # 3 Description</b>	--	
<b>Air/Fuel Sensor # 4 Type</b>	Heated oxygen	<b>Air/Fuel Sensor # 4 Description</b>	--	
<b>Mfr Air/Fuel Sensor Comments</b>	--			
<b>Exhaust Gas Recirculation</b>	No	<b>Cooled Exhaust Gas Recirculation</b>	No	
<b>EGR Type</b>	--	<b>Exhaust Gas Recirculation Description if 'Other'</b>	--	
<b>Closed Loop Air Injection System</b>	Yes			
<b>Air Injection Type</b>	Secondary Air Injection	<b>Air Injection Type if 'Other'</b>	--	
<b>Mfr Engine Configuration Comments</b>	Vanquish base engine spec			

### Certification Summary Information Report

<b>Test Group</b>		VASXV05.2AMV				<b>Evaporative/Refueling Family</b>			VASXR0160T3A		
<b>Official Test Numbers</b>											
<b>Test Group Fuel</b>	<b>FTP</b>	<b>US06</b>	<b>SC03</b>	<b>Cold CO</b>	<b>Highway</b>	<b>EPA City Litmus Value</b>	<b>EPA City Litmus Threshold</b>	<b>EPA Highway Litmus Value</b>	<b>EPA Highway Litmus Threshold</b>	<b>CREE Weighting Factor</b>	
Gasoline	SASX10087763	SASX10087765	SASX10087767	SASX10087766	SASX10087764	12.6	12.5	20.4	19.4	--	
<b>SFTP LEV-III Official Test Numbers</b>											
<b>Test Group Fuel</b>	<b>FTP</b>		<b>US06</b>			<b>SC03</b>					
Gasoline	SASX10087763		SASX10087765			SASX10087767					



## Certification Summary Information Report

Test Group		VASXV05.2AMV			Evaporative/Refueling Family			VASXR0160T3A
<b>Dynamometer Coefficients:</b>								
		Target Coefficients			Set Coefficients			EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients
Coefficient Category	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)		
City/Highway/Evap	49.17	0.3527	0.0226	-0.57	-0.0029	0.0128	16.4	
Cold CO	54.08	0.3879	0.0294	0.53	-0.0024	0.0144	N/A	
US06	49.17	0.3527	0.0226	-0.57	-0.0029	0.0128	N/A	
Emission Control Device Comments	--							
Manufacturer Test Vehicle Comments	2025MY Vanquish							

## Certification Summary Information Report

Test Group	VASXV05.2AMV	Evaporative/Refueling Family	VASXR0160T3A
<b>Test #</b>	<b>SASX10087763</b>	<b>Test Procedure</b>	<b>21 - Federal fuel 2-day exhaust (w/can load)</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
<b>Test Date</b>	09/04/2024	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	60626	<b>Fuel Calibration Number</b>	7774
<b>Vehicle Class</b>	LDV/Passenger Car	<b>DF Type</b>	EPA Assigned
<b>Verify Test Lab ID</b>	Bertrandt		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	3812	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	--		
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	<b>Road Speed Fan Usage</b>	Yes
<b>Test Results</b>			

## Certification Summary Information Report

Test Group	VASXV05.2AMV	Evaporative/Refueling Family	VASXR0160T3A
	<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated FE Equivalent Value (miles per gallon)</b>
	CO2 BAG 1 (Bag 1 Carbon Dioxide)	574.046	--
	CO BAG 1 (Bag 1 Carbon Monoxide)	2.459	--
	FE BAG 1 (Bag 1 Fuel Economy)	15.005	15.005
	CH4 BAG 1 (Bag 1 Methane)	0.037	--
	NMOG BAG 1 (Bag 1 Non-methane organic gases)	0.085	--
	CO2 BAG 2 (Bag 2 Carbon Dioxide)	571.373	--
	CO BAG 2 (Bag 2 Carbon Monoxide)	1.063	--
	FE BAG 2 (Bag 2 Fuel Economy)	15.141	15.141
	CH4 BAG 2 (Bag 2 Methane)	0.008	--
	NMOG BAG 2 (Bag 2 Non-methane organic gases)	0.001	--
	CO2 BAG 3 (Bag 3 Carbon Dioxide)	476.984	--
	CO BAG 3 (Bag 3 Carbon Monoxide)	0.258	--
	FE BAG 3 (Bag 3 Fuel Economy)	18.174	18.174
	CH4 BAG 3 (Bag 3 Methane)	0.006	--
	NMOG BAG 3 (Bag 3 Non-methane organic gases)	0.002	--
	METHANE (CH4 - Methane)	0.013	--
	CO (Carbon Monoxide)	1.13	--
	DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.937	--
	DT-EER (Drive Trace Energy Economy Rating)	0.204	--
	DT-IWRR (Drive Trace Inertia Work Ratio Rating)	1.38	--
	HCHO (Formaldehyde)	0.0003	--
	MFR FE (Manufacturer Fuel Economy)	15.837	15.837
	NOX (Nitrogen Oxide)	0.024	--
	N2O (Nitrous Oxide)	0.003	--
	HC-NM (Non-methane Hydrocarbon)	0.017	--
	NMOG (Non-methane organic gases)	0.0187	--
	PM (Particulate Matter)	0.00035	--
	HC-TOTAL (Total Hydrocarbon)	0.03	--
	<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated CREE/OPT-CREE</b>
	Carbon-Related Exhaust Emissions	547	548
	<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated CO2</b>
	Carbon dioxide	546.013	--

## Certification Summary Information Report

Test Group		VASXV05.2AMV			Evaporative/Refueling Family					VASXR0160T3A		
Manufacturer Test Comments		2025MY Vanquish EDV additional results required due to new business rules following the removal of the umlaut character from the lab address										
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Bin 125	CO	1.13	--	--	--	0.1	--	1.2	2.1	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	CO-COMP	0.87	--	--	--	0	--	0.9	4.2	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	CREE	548	--	--	--	0	--	548	--	--
Fed	150,000 miles	Federal Tier 3 Bin 125	METHANE	0.013	--	--	--	0	--	0.01	0.03	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	N2O	0.003	--	--	--	0	--	0	0.01	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NMOG	0.0187	1	1.1	--	0	--	0.019	999.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NMOG+NOX	0.0427	--	1.1	--	--	--	0.043	0.125	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NMOG+NOX-COMP	0.0545	--	1.1	--	0	--	0.054	0.060	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NOX	0.024	--	--	--	0	--	0.024	999.999	Pass
CA	150,000 miles	California LEV-IV ULEV125	CO	1.13	--	--	--	0.1	--	1.2	2.1	Pass
CA	150,000 miles	California LEV-IV ULEV125	CREE	548	--	--	--	0	--	548	--	--
CA	150,000 miles	California LEV-IV ULEV125	METHANE	0.013	--	--	--	0	--	0.01	0.03	Pass
CA	150,000 miles	California LEV-IV ULEV125	N2O	0.003	--	--	--	0	--	0	0.01	Pass
CA	150,000 miles	California LEV-IV ULEV125	NMOG	0.0187	1	1.1	--	0	--	0.019	999.999	Pass
CA	150,000 miles	California LEV-IV ULEV125	NMOG+NOX	0.0427	--	1.1	--	--	--	0.043	0.125	Pass
CA	150,000 miles	California LEV-IV ULEV125	NOX	0.024	--	--	--	0	--	0.024	999.999	Pass

**NOTE: For Non-charge depleting tests, the Rounded Result for CREE/OPT-CREE Emission names are Verify-calculated values.**

## Certification Summary Information Report

Test Group	VASXV05.2AMV	Evaporative/Refueling Family	VASXR0160T3A
<b>Test #</b>	<b>SASX10087766</b>	<b>Test Procedure</b>	<b>11 - Cold CO</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
<b>Test Date</b>	09/05/2024	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	60626	<b>Fuel Calibration Number</b>	7774
<b>Vehicle Class</b>	LDV/Passenger Car	<b>DF Type</b>	EPA Assigned
<b>Verify Test Lab ID</b>	Bertrandt		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	3908	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	--		
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	<b>Road Speed Fan Usage</b>	Yes
<b>Test Results</b>			

## Certification Summary Information Report

Test Group	VASXV05.2AMV	Evaporative/Refueling Family	VASXR0160T3A
	<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated FE Equivalent Value (miles per gallon)</b>
	CO2 BAG 1 (Bag 1 Carbon Dioxide)	765.776	--
	CO BAG 1 (Bag 1 Carbon Monoxide)	4.865	--
	FE BAG 1 (Bag 1 Fuel Economy)	11.174	11.174
	CH4 BAG 1 (Bag 1 Methane)	0.076	--
	NMOG BAG 1 (Bag 1 Non-methane organic gases)	1.049	--
	CO2 BAG 2 (Bag 2 Carbon Dioxide)	686.142	--
	CO BAG 2 (Bag 2 Carbon Monoxide)	0.536	--
	FE BAG 2 (Bag 2 Fuel Economy)	12.63	12.63
	CH4 BAG 2 (Bag 2 Methane)	0.001	--
	NMOG BAG 2 (Bag 2 Non-methane organic gases)	0.001	--
	CO2 BAG 3 (Bag 3 Carbon Dioxide)	537.276	--
	CO BAG 3 (Bag 3 Carbon Monoxide)	0.584	--
	FE BAG 3 (Bag 3 Fuel Economy)	16.121	16.121
	CH4 BAG 3 (Bag 3 Methane)	0.008	--
	NMOG BAG 3 (Bag 3 Non-methane organic gases)	0.008	--
	METHANE (CH4 - Methane)	0.019	--
	CO (Carbon Monoxide)	1.45	--
	DT-ASCR (Drive Trace Absolute Speed Change Rating)	1.468	--
	DT-EER (Drive Trace Energy Economy Rating)	0.197	--
	DT-IWRR (Drive Trace Inertia Work Ratio Rating)	1.993	--
	MFR FE (Manufacturer Fuel Economy)	13.054	13.054
	NOX (Nitrogen Oxide)	0.028	--
	HC-NM (Non-methane Hydrocarbon)	0.2	--
	NMOG (Non-methane organic gases)	0.219	--
	HC-TOTAL (Total Hydrocarbon)	0.217	--
	<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated CO2</b>
	Carbon dioxide	661.774	--
<b>Manufacturer Test Comments</b>	2025MY Vanquish EDV additional properties required due to new business rules following the removal of the umlaut character from the lab address		

### Certification Summary Information Report

Test Group		VASXV05.2AMV				Evaporative/Refueling Family				VASXR0160T3A		
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	50,000 miles	Federal Tier 3 Bin 125	CO	1.4	--	--	--	0	--	1	10	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	HC-NM	0.2	--	--	--	0	--	0.2	0.3	Pass
CA	50,000 miles	California LEV-IV ULEV125	CO	1.4	--	--	--	0	--	1	10	Pass
CA	150,000 miles	California LEV-IV ULEV125	HC-NM	0.2	--	--	--	0	--	0.2	0.3	Pass

## Certification Summary Information Report

<b>Test Group</b>	VASXV05.2AMV	<b>Evaporative/Refueling Family</b>	VASXR0160T3A
<b>Test #</b>	<b>SASX10087768</b>	<b>Test Procedure</b>	<b>51 - CA fuel 50 Deg(F) exhaust test</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
<b>Test Date</b>	09/10/2024	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	60626	<b>Fuel Calibration Number</b>	7774
<b>Vehicle Class</b>	LDV/Passenger Car	<b>DF Type</b>	EPA Assigned
<b>Verify Test Lab ID</b>	Bertrandt		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	3861	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	--		
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	<b>Road Speed Fan Usage</b>	Yes

## Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
<b>CO (Carbon Monoxide)</b>	1.159	--
<b>DT-ASCR (Drive Trace Absolute Speed Change Rating)</b>	1.19	--
<b>DT-EER (Drive Trace Energy Economy Rating)</b>	0.308	--
<b>DT-IWRR (Drive Trace Inertia Work Ratio Rating)</b>	1.996	--
<b>HCHO (Formaldehyde)</b>	0.0003	--
<b>MFR FE (Manufacturer Fuel Economy)</b>	15.198	15.198
<b>NOX (Nitrogen Oxide)</b>	0.026	--
<b>NMOG (Non-methane organic gases)</b>	0.052	--
<b>PM (Particulate Matter)</b>	0.0008	--
<b>HC-TOTAL (Total Hydrocarbon)</b>	0.061	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
<b>Carbon dioxide</b>	568.913	--

## Manufacturer Test Comments

2025MY Vanquish EDV additional fuel properties required due to new business rules following the removal of the umlaut character from the lab address

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Test Group		VASXV05.2AMV				Evaporative/Refueling Family				VASXR0160T3A		
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
CA	50,000 miles	California LEV-IV ULEV125	CO	1.16	--	--	--	0	--	1.2	2.1	Pass
CA	50,000 miles	California LEV-IV ULEV125	NMOG	0.052	--	1.1	--	0	--	0.052	999.999	Pass
CA	50,000 miles	California LEV-IV ULEV125	NMOG+NOX	0.078	1	1.1	--	--	--	0.08	0.25	Pass
CA	50,000 miles	California LEV-IV ULEV125	NOX	0.026	--	--	--	0	--	0.026	999.999	Pass

## Certification Summary Information Report

<b>Test Group</b>	VASXV05.2AMV	<b>Evaporative/Refueling Family</b>	VASXR0160T3A
<b>Test #</b>	<b>SASX10087764</b>	<b>Test Procedure</b>	<b>3 - HWFE</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
<b>Test Date</b>	09/04/2024	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	60626	<b>Fuel Calibration Number</b>	7774
<b>Vehicle Class</b>	LDV/Passenger Car	<b>DF Type</b>	EPA Assigned
<b>Verify Test Lab ID</b>	Bertrandt		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	3823	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	--		
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	<b>Road Speed Fan Usage</b>	Yes

## Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
METHANE (CH4 - Methane)	0	--
CO (Carbon Monoxide)	0.154	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.922	--
DT-EER (Drive Trace Energy Economy Rating)	-0.086	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	1.229	--
MFR FE (Manufacturer Fuel Economy)	28.207	28.207
NOX (Nitrogen Oxide)	0.003	--
NMOG (Non-methane organic gases)	0.001	--
HC-TOTAL (Total Hydrocarbon)	0.001	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	307	307

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	307.364	--

## Manufacturer Test Comments

2025MY Vanquish EDV additional fuel properties and Methane result required due to new business rules following the removal of the unlaut character from the lab address

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Test Group		VASXV05.2AMV				Evaporative/Refueling Family				VASXR0160T3A		
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Bin 125	CREE	307	--	--	--	0	--	307	--	--
Fed	150,000 miles	Federal Tier 3 Bin 125	NMOG	0.001	--	1.1	--	0	--	0.001	999.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NMOG+NOX	0.004	--	1.1	--	--	--	0.004	0.125	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NOX	0.003	--	--	--	0	--	0.003	999.999	Pass
CA	150,000 miles	California LEV-IV ULEV125	CREE	307	--	--	--	0	--	307	--	--
CA	150,000 miles	California LEV-IV ULEV125	NMOG	0.001	--	1.1	--	0	--	0.001	999.999	Pass
CA	150,000 miles	California LEV-IV ULEV125	NMOG+NOX	0.004	--	1.1	--	--	--	0.004	0.125	Pass
CA	150,000 miles	California LEV-IV ULEV125	NOX	0.003	--	--	--	0	--	0.003	999.999	Pass

**NOTE: For Non-charge depleting tests, the Rounded Result for CREE/OPT-CREE Emission names are Verify-calculated values.**

## Certification Summary Information Report

Test Group	VASXV05.2AMV	Evaporative/Refueling Family	VASXR0160T3A
<b>Test #</b>	<b>SASX10087765</b>	<b>Test Procedure</b>	<b>90 - US06</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
<b>Test Date</b>	09/04/2024	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	60626	<b>Fuel Calibration Number</b>	7774
<b>Vehicle Class</b>	LDV/Passenger Car	<b>DF Type</b>	EPA Assigned
<b>Verify Test Lab ID</b>	Bertrandt		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	3844	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	--		
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	<b>Road Speed Fan Usage</b>	Yes
<b>Test Results</b>			



### Certification Summary Information Report

<b>Test Group</b>	VASXV05.2AMV	Evaporative/Refueling Family	VASXR0160T3A
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Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Bin 125	CO	0.46	--	--	--	0	--	0.5	9.6	Pass
CA	150,000 miles	California LEV-IV ULEV125	CO	0.46	--	--	--	0	--	0.5	9.6	Pass

## Certification Summary Information Report

<b>Test Group</b>	VASXV05.2AMV	<b>Evaporative/Refueling Family</b>	VASXR0160T3A
<b>Test #</b>	<b>SASX10087767</b>	<b>Test Procedure</b>	<b>95 - SC03</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
<b>Test Date</b>	09/11/2024	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	60626	<b>Fuel Calibration Number</b>	7774
<b>Vehicle Class</b>	LDV/Passenger Car	<b>DF Type</b>	EPA Assigned
<b>Verify Test Lab ID</b>	Bertrandt		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	4040	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	--		
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	<b>Road Speed Fan Usage</b>	Yes

## Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
METHANE (CH4 - Methane)	0.009	--
CO (Carbon Monoxide)	0.831	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.045	--
DT-EER (Drive Trace Energy Economy Rating)	0.225	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0.272	--
MFR FE (Manufacturer Fuel Economy)	12.748	12.748
NOX (Nitrogen Oxide)	0.017	--
HC-NM (Non-methane Hydrocarbon)	0.016	--
NMOG (Non-methane organic gases)	0.0165	--
HC-NM+NOX (SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03)	0.033	--
HC-TOTAL (Total Hydrocarbon)	0.025	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	679.245	--

## Manufacturer Test Comments

2025MY Vanquish EDV additional fuel properties and Methane result required due to new business rules following the removal of the umlaut character from the lab address

## Certification Summary Information Report

Test Group		VASXV05.2AMV				Evaporative/Refueling Family				VASXR0160T3A		
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Bin 125	CO	0.83	--	--	--	0	--	0.8	2.1	Pass
CA	150,000 miles	California LEV-IV ULEV125	CO	0.83	--	--	--	0	--	0.8	2.1	Pass

## Certification Summary Information Report

Test Group	VASXV05.2AMV	Evaporative/Refueling Family	VASXR0160T3A						
<b>Emission Data Vehicle Information</b>									
Vehicle ID / Configuration	564TT5477 / 0	Manufacturer Vehicle Configuration Number	0						
Original Test Group Name	NASXV04.0AES	Original Evaporative/Refueling Family	NASXR0160T3A						
Original Test Vehicle Model Year	2022								
<b>Vehicle Model</b>									
Represented Test Vehicle Make	Aston Martin	Represented Test Vehicle Model	DB11 V8						
<b>Leak Family Details</b>									
Leak Family Identifier	001	Leak Family Name	NASXR0160T3A-001						
<b>Drive Sources and Fuel System Details</b>									
<table border="1"> <thead> <tr> <th>Drive Source and Fuel#</th> <th>Drive Source</th> <th>Fuel</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Combustion Engine</td> <td>Gasoline</td> </tr> </tbody> </table>				Drive Source and Fuel#	Drive Source	Fuel	1	Combustion Engine	Gasoline
Drive Source and Fuel#	Drive Source	Fuel							
1	Combustion Engine	Gasoline							
Hybrid Indicator	No								
Multiple Fuel Storage	--	Multiple Fuel Combustion	--						
Fuel Cell Indicator	--	Rechargeable Energy Storage System Indicator	--						
Rechargeable Energy Storage System	--	Rechargeable Energy Storage System, if 'Other'	--						
Off-board charge Capable Indicator	--								
Odometer Correction -- Initial	0	Odometer Correction Factor	0.9999						
Odometer Correction Sign	- = System Miles is equal to (Test odometer reading - Initial system miles) * Correction factor								
Odometer Correction Units	Miles								
Engine Code	177950	Rated Horsepower	535						
Displacement (liters)	4								
Air Aspiration Method	Turbocharged	Air Aspiration Method, if 'Other'							
Number of Air Aspiration Devices	2	Air Aspiration Device Configuration	Parallel						
Charge Air Cooler Type	Liquid	Drive Mode While Testing	2-Wheel Drive, Rear						
Shift Indicator Light Usage	Not equipped	Aged Emission Components	4,000 (mi)						
Curb Weight (lbs)	3891	Equivalent Test Weight (pounds)	4500						
GVWR (lbs)	--	N/V Ratio	22.2						
Axle Ratio	2.7								
Transmission Type	Semi-Automatic	# of Transmission Gears	8						
Transmission Lockup	Yes	Creeper Gear	No						

### Certification Summary Information Report

<b>Test Group</b>	VASXV05.2AMV	<b>Evaporative/Refueling Family</b>	VASXR0160T3A
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**Dynamometer Coefficients:**

Coefficient Category	Target Coefficients			Set Coefficients			EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients
	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	
<b>City/Highway/Evap</b>	40.94	0.0169	0.0271	11.26	0.0919	0.0251	14.6
<b>Cold CO</b>	45.51	0.0188	0.0301	15.8	0.0937	0.0281	N/A
<b>US06</b>	40.94	0.0169	0.0271	11.26	0.0919	0.0251	N/A

**Emission Control Device Comments**      --  
**Manufacturer Test Vehicle Comments**      2022MY DB11 V8 Coupe 8 speed auto

<b>Test #</b>	NASX10082352	<b>Test Procedure</b>	34 - Federal fuel 3-day evap
<b>Exhaust Test # for this Evap Test</b>	NASX10082350	<b>Test Fuel Type</b>	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
<b>Test Date</b>	06/29/2022	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	43987	<b>Fuel Calibration Number</b>	4216
<b>Vehicle Class</b>	N/A	<b>DF Type</b>	EPA Assigned
<b>Verify Test Lab ID</b>	IDIADA Automotive Technology SA		
<b>E10 Evaporative Test Measurement Method</b>	Calculated (1.08 x FID Total Hydrocarbons)		
<b>Test Start Odometer Reading</b>	4369	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	--		
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	<b>Road Speed Fan Usage</b>	Yes

**Test Results**

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
<b>HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)</b>	0.245	--

**Manufacturer Test Comments**      Common PC Evap 3DD Update for 24MY

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.245	0.0021	0.247	0.3	Pass

### Certification Summary Information Report

<b>Test Group</b>	VASXV05.2AMV	<b>Evaporative/Refueling Family</b>	VASXR0160T3A
<b>Test #</b>	<b>NASX10071584</b>	<b>Test Procedure</b>	<b>24 - Federal fuel refueling test (ORVR)</b>
<b>Exhaust Test # for this Evap Test</b>	NASX10071583	<b>Test Fuel Type</b>	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
<b>Test Date</b>	05/13/2021	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	38321	<b>Fuel Calibration Number</b>	2255
<b>Vehicle Class</b>	N/A	<b>DF Type</b>	EPA Assigned
<b>Verify Test Lab ID</b>	IDIADA Automotive Technology SA		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	4095	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	--		
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	<b>Road Speed Fan Usage</b>	Yes

**Test Results**

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
<b>HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)</b>	0.106	--

**Manufacturer Test Comments**                      2022MY T3A Common ORVR

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Evap	HC-TOTAL-EQUIV	0.11	0.0063	0.1	0.2	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.11	0.0063	0.1	0.2	Pass

### Certification Summary Information Report

<b>Test Group</b>	VASXV05.2AMV	<b>Evaporative/Refueling Family</b>	VASXR0160T3A
<b>Test #</b>	<b>NASX10082351</b>	<b>Test Procedure</b>	<b>32 - Federal Fuel Running Loss</b>
<b>Exhaust Test # for this Evap Test</b>	NASX10082350	<b>Test Fuel Type</b>	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
<b>Test Date</b>	06/29/2022	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	43987	<b>Fuel Calibration Number</b>	4216
<b>Vehicle Class</b>	N/A	<b>DF Type</b>	EPA Assigned
<b>Verify Test Lab ID</b>	IDIADA Automotive Technology SA		
<b>E10 Evaporative Test Measurement Method</b>	Calculated (1.08 x FID Total Hydrocarbons)		
<b>Test Start Odometer Reading</b>	4369	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	--	<b>Road Speed Fan Usage</b>	Yes
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)		

**Test Results**

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
<b>HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)</b>	0.001	--

**Manufacturer Test Comments**                      Common PC Evap RLS Update for 24MY

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Evap	HC-TOTAL-EQUIV	0.001	0	0	0.05	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.001	0	0	0.05	Pass

## Certification Summary Information Report

Test Group	VASXV05.2AMV	Evaporative/Refueling Family	VASXR0160T3A						
<b>Emission Data Vehicle Information</b>									
Vehicle ID / Configuration	8001PT8342 / 0	Manufacturer Vehicle Configuration Number	0						
Original Test Group Name	MASXJ04.0AEX	Original Evaporative/Refueling Family	MASXR0160P1Y						
Original Test Vehicle Model Year	2021								
<b>Vehicle Model</b>									
Represented Test Vehicle Make	Aston Martin	Represented Test Vehicle Model	DBX						
<b>Leak Family Details</b>									
Leak Family Identifier	--	Leak Family Name	--						
<b>Drive Sources and Fuel System Details</b>									
	<table border="1"> <thead> <tr> <th>Drive Source and Fuel#</th> <th>Drive Source</th> <th>Fuel</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Combustion Engine</td> <td>Gasoline</td> </tr> </tbody> </table>			Drive Source and Fuel#	Drive Source	Fuel	1	Combustion Engine	Gasoline
Drive Source and Fuel#	Drive Source	Fuel							
1	Combustion Engine	Gasoline							
Hybrid Indicator	No								
Multiple Fuel Storage	--	Multiple Fuel Combustion	--						
Fuel Cell Indicator	--	Rechargeable Energy Storage System Indicator	--						
Rechargeable Energy Storage System	--	Rechargeable Energy Storage System, if 'Other'	--						
Off-board charge Capable Indicator	--								
Odometer Correction -- Initial	0	Odometer Correction Factor	0.9999						
Odometer Correction Sign	- = System Miles is equal to (Test odometer reading - Initial system miles) * Correction factor								
Odometer Correction Units	Miles								
Engine Code	177950	Rated Horsepower	550						
Displacement (liters)	4								
Air Aspiration Method	Turbocharged	Air Aspiration Method, if 'Other'							
Number of Air Aspiration Devices	2	Air Aspiration Device Configuration	Parallel						
Charge Air Cooler Type	Liquid	Drive Mode While Testing	4-Wheel Drive						
Shift Indicator Light Usage	Not equipped	Aged Emission Components	4,000 (mi)						
Curb Weight (lbs)	5082	Equivalent Test Weight (pounds)	5500						
GVWR (lbs)	--	N/V Ratio	21						
Axle Ratio	3.06								
Transmission Type	Automatic	# of Transmission Gears	9						
Transmission Lockup	Yes	Creeper Gear	No						

### Certification Summary Information Report

<b>Test Group</b>	VASXV05.2AMV	<b>Evaporative/Refueling Family</b>	VASXR0160T3A
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**Dynamometer Coefficients:**

Coefficient Category	Target Coefficients			Set Coefficients			EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients
	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	
City/Highway/Evap	77.33	-0.2033	0.0347	51.64	-0.6349	0.0384	20.5
Cold CO	85.06	-0.2236	0.0382	51.8	-0.4548	0.0399	N/A
US06	77.33	-0.2033	0.0347	51.64	-0.6349	0.0384	N/A

**Emission Control Device Comments**      --  
**Manufacturer Test Vehicle Comments**    2022MY DBX LDT4

<b>Test #</b>	<b>MASX10071437</b>	<b>Test Procedure</b>	<b>65 - Evap Canister Bleed Test</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
<b>Test Date</b>	03/18/2020	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	HJ2103	<b>Fuel Calibration Number</b>	6606
<b>Vehicle Class</b>	N/A	<b>DF Type</b>	EPA Assigned
<b>Verify Test Lab ID</b>	IDIADA Automotive Technology SA		
<b>E10 Evaporative Test Measurement Method</b>	Calculated (1.08 x FID Total Hydrocarbons)		
<b>Test Start Odometer Reading</b>	4400	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	--	<b>Road Speed Fan Usage</b>	Yes
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)		

**Test Results**

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.0175	--

**Manufacturer Test Comments**      BETP AML result

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Evap	HC-TOTAL-EQUIV	0.018	0	0.02	0.02	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.018	0	0.02	0.02	Pass

### Certification Summary Information Report

<b>Test Group</b>	VASXV05.2AMV	<b>Evaporative/Refueling Family</b>	VASXR0160T3A
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<b>Test #</b>	MASX10071438	<b>Test Procedure</b>	<b>66 - Leak Test - Evap Fuel System OBD</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
<b>Test Date</b>	11/25/2020	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	HJ2103	<b>Fuel Calibration Number</b>	6606
<b>Vehicle Class</b>	N/A	<b>DF Type</b>	EPA Assigned
<b>Verify Test Lab ID</b>	IDIADA Automotive Technology SA		
<b>E10 Evaporative Test Measurement Method</b>	Calculated (1.08 x FID Total Hydrocarbons)		
<b>Test Start Odometer Reading</b>	5130	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	--		
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	<b>Road Speed Fan Usage</b>	Yes

**Test Results**

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
LEAK-DIA (Effective Leak Diameter (inches))	0.003	--

**Manufacturer Test Comments**                      AML common Leak Test result

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Evap	LEAK-DIA	0.003	0	0	0.02	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	LEAK-DIA	0.003	0	0	0.02	Pass

## Certification Summary Information Report

Test Group	VASXV05.2AMV	Evaporative/Refueling Family	VASXR0160T3A
<b>Fuel Properties</b>			
<b>Fuel Batch ID</b>	<b>60626</b>	<b>Fuel Calibration Number</b>	<b>7774</b>
<b>Test Fuel Type</b>	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)	<b>Fuel Batch Calibration Date</b>	08/24/2023
<b>Fuel Batch Calibration Effective Date</b>	09/21/2023	<b>Fuel Batch Calibration Ineffective Date</b>	09/21/2025
<b>Carbon Weight Fraction NMHC</b>	--	<b>Carbon Weight Fraction HC</b>	--
<b>Exhaust Carbon Weight Fraction</b>	0.825	<b>Fuel Methanol Volume Fraction</b>	--
<b>Fuel Density (grams/cubic ft)</b>	--	<b>Fuel Specific Gravity</b>	0.754
<b>Fuel Ethanol Volume Percent (%)</b>	9.7	<b>Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)</b>	--
<b>Fuel Net Heat of Combustion (E10) (MJ/kg)</b>	41.72	<b>Fuel Carbon Mass Fraction (E10)</b>	0.825
<b>Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)</b>	--	<b>Weight Fraction CO2</b>	--
<b>Fuel Batch ID</b>	<b>38321</b>	<b>Fuel Calibration Number</b>	<b>2255</b>
<b>Test Fuel Type</b>	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)	<b>Fuel Batch Calibration Date</b>	12/11/2020
<b>Fuel Batch Calibration Effective Date</b>	12/11/2020	<b>Fuel Batch Calibration Ineffective Date</b>	12/11/2023
<b>Carbon Weight Fraction NMHC</b>	--	<b>Carbon Weight Fraction HC</b>	--
<b>Exhaust Carbon Weight Fraction</b>	0.866	<b>Fuel Methanol Volume Fraction</b>	--
<b>Fuel Density (grams/cubic ft)</b>	--	<b>Fuel Specific Gravity</b>	0.754
<b>Fuel Ethanol Volume Percent (%)</b>	9.9	<b>Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)</b>	17921
<b>Fuel Net Heat of Combustion (E10) (MJ/kg)</b>	--	<b>Fuel Carbon Mass Fraction (E10)</b>	--
<b>Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)</b>	0.866	<b>Weight Fraction CO2</b>	--
<b>Fuel Batch ID</b>	<b>43987</b>	<b>Fuel Calibration Number</b>	<b>4216</b>
<b>Test Fuel Type</b>	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)	<b>Fuel Batch Calibration Date</b>	04/06/2022
<b>Fuel Batch Calibration Effective Date</b>	04/06/2022	<b>Fuel Batch Calibration Ineffective Date</b>	04/06/2024
<b>Carbon Weight Fraction NMHC</b>	--	<b>Carbon Weight Fraction HC</b>	--
<b>Exhaust Carbon Weight Fraction</b>	0.83	<b>Fuel Methanol Volume Fraction</b>	--
<b>Fuel Density (grams/cubic ft)</b>	--	<b>Fuel Specific Gravity</b>	0.752
<b>Fuel Ethanol Volume Percent (%)</b>	10	<b>Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)</b>	17807
<b>Fuel Net Heat of Combustion (E10) (MJ/kg)</b>	--	<b>Fuel Carbon Mass Fraction (E10)</b>	--
<b>Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)</b>	0.83	<b>Weight Fraction CO2</b>	--
<b>Fuel Batch ID</b>	<b>HJ2103</b>	<b>Fuel Calibration Number</b>	<b>6606</b>
<b>Test Fuel Type</b>	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)	<b>Fuel Batch Calibration Date</b>	11/14/2019

## Certification Summary Information Report

<b>Test Group</b>	VASXV05.2AMV	<b>Evaporative/Refueling Family</b>	VASXR0160T3A
<b>Fuel Batch Calibration Effective Date</b>	11/14/2019	<b>Fuel Batch Calibration Ineffective Date</b>	11/14/2022
<b>Carbon Weight Fraction NMHC</b>	--	<b>Carbon Weight Fraction HC</b>	--
<b>Exhaust Carbon Weight Fraction</b>	0.832	<b>Fuel Methanol Volume Fraction</b>	--
<b>Fuel Density (grams/cubic ft)</b>	--	<b>Fuel Specific Gravity</b>	0.753
<b>Fuel Ethanol Volume Percent (%)</b>	9.7	<b>Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)</b>	17996
<b>Fuel Net Heat of Combustion (E10) (MJ/kg)</b>	--	<b>Fuel Carbon Mass Fraction (E10)</b>	--
<b>Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)</b>	0.832	<b>Weight Fraction CO2</b>	--

### Certification Summary Information Report

<b>Test Group</b>	VASXV05.2AMV	<b>Evaporative/Refueling Family</b>	VASXR0160T3A
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#### Consolidated List of Standards

**Exhaust Standards**

<b>Cert Region</b>	Federal	<b>Cert/In-Use Code</b>	Cert
<b>Vehicle Class</b>	LDV/Passenger Car	<b>Standard Level</b>	Federal Tier 3 Bin 125
<b>Fuel</b>	Gasoline	<b>Test Procedure</b>	HWFE

Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CREE	--	--	--	--	--	--	0	999.999
150,000 miles	NMOG	--	--	1.1	--	--	--	0	999.999
150,000 miles	NMOG+NOX	--	--	1.1	--	--	--	0	0.125
150,000 miles	NOX	--	--	--	--	--	--	0	999.999

<b>Cert Region</b>	California + CAA Section 177 states	<b>Cert/In-Use Code</b>	Cert
<b>Vehicle Class</b>	LDV/Passenger Car	<b>Standard Level</b>	California LEV-IV ULEV125
<b>Fuel</b>	Gasoline	<b>Test Procedure</b>	US06

Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	--	0	9.6
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	0.15
150,000 miles	PM	--	--	--	--	--	--	--	0.006

<b>Cert Region</b>	California + CAA Section 177 states	<b>Cert/In-Use Code</b>	Cert
<b>Vehicle Class</b>	LDV/Passenger Car	<b>Standard Level</b>	California LEV-IV ULEV125
<b>Fuel</b>	Gasoline	<b>Test Procedure</b>	Federal fuel 2-day exhaust (w/can load)

Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	--	0.1	2.1
150,000 miles	CREE	--	--	--	--	--	--	0	999.999
150,000 miles	METHANE	--	--	--	--	--	--	0	0.03
150,000 miles	N2O	--	--	--	--	--	--	0	0.01
150,000 miles	NMOG	--	1	1.1	--	--	--	0	999.999
150,000 miles	NMOG+NOX	--	--	1.1	--	--	--	0	0.125
150,000 miles	NOX	--	--	--	--	--	--	0	999.999
150,000 miles	PM	--	--	--	--	--	--	--	0.003

### Certification Summary Information Report

<b>Test Group</b>		VASXV05.2AMV			<b>Evaporative/Refueling Family</b>			VASXR0160T3A		
<b>Cert Region</b>		Federal			<b>Cert/In-Use Code</b>			Cert		
<b>Vehicle Class</b>		LDV/Passenger Car			<b>Standard Level</b>			Federal Tier 3 Bin 125		
<b>Fuel</b>		Gasoline			<b>Test Procedure</b>			SC03		
<b>Useful Life</b>	<b>Emission Name</b>	<b>Rounded Result</b>	<b>RAF</b>	<b>NMOG / NMHC</b>	<b>Upward Diesel Adjustment Factor</b>	<b>Downward Diesel Adjustment Factor</b>	<b>Mult DF</b>	<b>Add DF</b>	<b>Std</b>	
150,000 miles	CO	--	--	--	--	--	--	0	2.1	
150,000 miles	NMOG+NOX-COMP	--	--	--	--	--	--	0	0.125	
<b>Cert Region</b>		Federal			<b>Cert/In-Use Code</b>			Cert		
<b>Vehicle Class</b>		LDV/Passenger Car			<b>Standard Level</b>			Federal Tier 3 Bin 125		
<b>Fuel</b>		Gasoline			<b>Test Procedure</b>			Federal fuel 2-day exhaust (w/can load)		
<b>Useful Life</b>	<b>Emission Name</b>	<b>Rounded Result</b>	<b>RAF</b>	<b>NMOG / NMHC</b>	<b>Upward Diesel Adjustment Factor</b>	<b>Downward Diesel Adjustment Factor</b>	<b>Mult DF</b>	<b>Add DF</b>	<b>Std</b>	
150,000 miles	CO	--	--	--	--	--	--	0.1	2.1	
150,000 miles	CO-COMP	--	--	--	--	--	--	0	4.2	
150,000 miles	CREE	--	--	--	--	--	--	0	999.999	
150,000 miles	METHANE	--	--	--	--	--	--	0	0.03	
150,000 miles	N2O	--	--	--	--	--	--	0	0.01	
150,000 miles	NMOG	--	1	1.1	--	--	--	0	999.999	
150,000 miles	NMOG+NOX	--	--	1.1	--	--	--	0	0.125	
150,000 miles	NMOG+NOX-COMP	--	--	1.1	--	--	--	0	0.060	
150,000 miles	NOX	--	--	--	--	--	--	0	999.999	
150,000 miles	PM	--	--	--	--	--	--	--	0.003	
<b>Cert Region</b>		California + CAA Section 177 states			<b>Cert/In-Use Code</b>			Cert		
<b>Vehicle Class</b>		LDV/Passenger Car			<b>Standard Level</b>			California LEV-IV ULEV125		
<b>Fuel</b>		Gasoline			<b>Test Procedure</b>			SC03		
<b>Useful Life</b>	<b>Emission Name</b>	<b>Rounded Result</b>	<b>RAF</b>	<b>NMOG / NMHC</b>	<b>Upward Diesel Adjustment Factor</b>	<b>Downward Diesel Adjustment Factor</b>	<b>Mult DF</b>	<b>Add DF</b>	<b>Std</b>	
150,000 miles	CO	--	--	--	--	--	--	0	2.1	
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	0.125	

### Certification Summary Information Report

<b>Test Group</b>		VASXV05.2AMV			<b>Evaporative/Refueling Family</b>			VASXR0160T3A		
<b>Cert Region</b>		California + CAA Section 177 states			<b>Cert/In-Use Code</b>			Cert		
<b>Vehicle Class</b>		LDV/Passenger Car			<b>Standard Level</b>			California LEV-IV ULEV125		
<b>Fuel</b>		Gasoline			<b>Test Procedure</b>			HWFE		
<b>Useful Life</b>	<b>Emission Name</b>	<b>Rounded Result</b>	<b>RAF</b>	<b>NMOG / NMHC</b>	<b>Upward Diesel Adjustment Factor</b>	<b>Downward Diesel Adjustment Factor</b>	<b>Mult DF</b>	<b>Add DF</b>	<b>Std</b>	
150,000 miles	CREE	--	--	--	--	--	--	0	999.999	
150,000 miles	NMOG	--	--	1.1	--	--	--	0	999.999	
150,000 miles	NMOG+NOX	--	--	1.1	--	--	--	0	0.125	
150,000 miles	NOX	--	--	--	--	--	--	0	999.999	

<b>Cert Region</b>		Federal			<b>Cert/In-Use Code</b>			Cert		
<b>Vehicle Class</b>		LDV/Passenger Car			<b>Standard Level</b>			Federal Tier 3 Bin 125		
<b>Fuel</b>		Gasoline			<b>Test Procedure</b>			US06		
<b>Useful Life</b>	<b>Emission Name</b>	<b>Rounded Result</b>	<b>RAF</b>	<b>NMOG / NMHC</b>	<b>Upward Diesel Adjustment Factor</b>	<b>Downward Diesel Adjustment Factor</b>	<b>Mult DF</b>	<b>Add DF</b>	<b>Std</b>	
150,000 miles	CO	--	--	--	--	--	--	0	9.6	
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	0.15	
150,000 miles	PM	--	--	--	--	--	--	--	0.006	

<b>Cert Region</b>		Federal			<b>Cert/In-Use Code</b>			Cert		
<b>Vehicle Class</b>		LDV/Passenger Car			<b>Standard Level</b>			Federal Tier 3 Bin 125		
<b>Fuel</b>		Gasoline			<b>Test Procedure</b>			Cold CO		
<b>Useful Life</b>	<b>Emission Name</b>	<b>Rounded Result</b>	<b>RAF</b>	<b>NMOG / NMHC</b>	<b>Upward Diesel Adjustment Factor</b>	<b>Downward Diesel Adjustment Factor</b>	<b>Mult DF</b>	<b>Add DF</b>	<b>Std</b>	
50,000 miles	CO	--	--	--	--	--	--	0	10	
150,000 miles	HC-NM	--	--	--	--	--	--	0	0.3	

### Certification Summary Information Report

<b>Test Group</b>	VASXV05.2AMV	<b>Evaporative/Refueling Family</b>	VASXR0160T3A
<b>Cert Region</b>	California + CAA Section 177 states	<b>Cert/In-Use Code</b>	Cert
<b>Vehicle Class</b>	LDV/Passenger Car	<b>Standard Level</b>	California LEV-IV ULEV125
<b>Fuel</b>	Gasoline	<b>Test Procedure</b>	CA fuel 50 Deg(F) exhaust test

  

Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
50,000 miles	CO	--	--	--	--	--	--	0	2.1
50,000 miles	NMOG	--	--	1.1	--	--	--	0	999.999
50,000 miles	NMOG+NOX	--	1	1.1	--	--	--	0	0.25
50,000 miles	NOX	--	--	--	--	--	--	0	999.999

<b>Cert Region</b>	California + CAA Section 177 states	<b>Cert/In-Use Code</b>	Cert
<b>Vehicle Class</b>	LDV/Passenger Car	<b>Standard Level</b>	California LEV-IV ULEV125
<b>Fuel</b>	Gasoline	<b>Test Procedure</b>	Cold CO

  

Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
50,000 miles	CO	--	--	--	--	--	--	0	10
150,000 miles	HC-NM	--	--	--	--	--	--	0	0.3

#### Evaporative/Refueling Standards

<b>Evaporative/Refueling Family</b>	VASXR0160T3A	<b>Cert Region</b>	Federal
<b>Cert/In-Use Code</b>	Cert	<b>Standard Level</b>	Federal Tier 3 Evap
<b>Test Procedure</b>	Federal fuel refueling test (ORVR)		

  

Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.2	0.0063

<b>Evaporative/Refueling Family</b>	VASXR0160T3A	<b>Cert Region</b>	Federal
<b>Cert/In-Use Code</b>	Cert	<b>Standard Level</b>	Federal Tier 3 Evap
<b>Test Procedure</b>	Federal Fuel Running Loss		

  

Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.05	0

### Certification Summary Information Report

<b>Test Group</b>	VASXV05.2AMV	<b>Evaporative/Refueling Family</b>	VASXR0160T3A		
<b>Evaporative/Refueling Family</b>	VASXR0160T3A	<b>Cert Region</b>	California + CAA Section 177 states California LEV-IV Zero Evap (Option 2)		
<b>Cert/In-Use Code</b>	Cert	<b>Standard Level</b>			
<b>Test Procedure</b>	Federal fuel 3-day evap				
<b>Fuel</b>	<b>Useful Life</b>	<b>Emission Name</b>	<b>Rounded Result</b>	<b>Std</b>	<b>Add DF</b>
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.300	0.0021
<b>Evaporative/Refueling Family</b>	VASXR0160T3A	<b>Cert Region</b>	California + CAA Section 177 states California LEV-IV Zero Evap (Option 2)		
<b>Cert/In-Use Code</b>	Cert	<b>Standard Level</b>			
<b>Test Procedure</b>	Leak Test - Evap Fuel System OBD				
<b>Fuel</b>	<b>Useful Life</b>	<b>Emission Name</b>	<b>Rounded Result</b>	<b>Std</b>	<b>Add DF</b>
Gasoline	150,000 miles	LEAK-DIA	--	0.02	0
<b>Evaporative/Refueling Family</b>	VASXR0160T3A	<b>Cert Region</b>	Federal Federal Tier 3 Evap		
<b>Cert/In-Use Code</b>	Cert	<b>Standard Level</b>			
<b>Test Procedure</b>	Leak Test - Evap Fuel System OBD				
<b>Fuel</b>	<b>Useful Life</b>	<b>Emission Name</b>	<b>Rounded Result</b>	<b>Std</b>	<b>Add DF</b>
Gasoline	150,000 miles	LEAK-DIA	--	0.02	0
<b>Evaporative/Refueling Family</b>	VASXR0160T3A	<b>Cert Region</b>	Federal Federal Tier 3 Evap		
<b>Cert/In-Use Code</b>	Cert	<b>Standard Level</b>			
<b>Test Procedure</b>	Evap Canister Bleed Test				
<b>Fuel</b>	<b>Useful Life</b>	<b>Emission Name</b>	<b>Rounded Result</b>	<b>Std</b>	<b>Add DF</b>
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.02	0
<b>Evaporative/Refueling Family</b>	VASXR0160T3A	<b>Cert Region</b>	California + CAA Section 177 states California LEV-IV Zero Evap (Option 2)		
<b>Cert/In-Use Code</b>	Cert	<b>Standard Level</b>			
<b>Test Procedure</b>	Federal Fuel Running Loss				
<b>Fuel</b>	<b>Useful Life</b>	<b>Emission Name</b>	<b>Rounded Result</b>	<b>Std</b>	<b>Add DF</b>
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.05	0

### Certification Summary Information Report

<b>Test Group</b>		VASXV05.2AMV		<b>Evaporative/Refueling Family</b>		VASXR0160T3A	
<b>Evaporative/Refueling Family</b>		VASXR0160T3A		<b>Cert Region</b>		Federal	
<b>Cert/In-Use Code</b>		Cert		<b>Standard Level</b>		Federal Tier 3 Evap	
<b>Test Procedure</b>		Federal fuel 3-day evap					
<b>Fuel</b>	<b>Useful Life</b>	<b>Emission Name</b>	<b>Rounded Result</b>	<b>Std</b>	<b>Add DF</b>		
Gasoline	150,000 miles	HC-TOTAL	--	0.300	0.0021		
<b>Evaporative/Refueling Family</b>		VASXR0160T3A		<b>Cert Region</b>		California + CAA Section 177 states California LEV-IV Zero Evap (Option 2)	
<b>Cert/In-Use Code</b>		Cert		<b>Standard Level</b>			
<b>Test Procedure</b>		Evap Canister Bleed Test					
<b>Fuel</b>	<b>Useful Life</b>	<b>Emission Name</b>	<b>Rounded Result</b>	<b>Std</b>	<b>Add DF</b>		
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.02	0		
<b>Evaporative/Refueling Family</b>		VASXR0160T3A		<b>Cert Region</b>		California + CAA Section 177 states California LEV-IV Zero Evap (Option 2)	
<b>Cert/In-Use Code</b>		Cert		<b>Standard Level</b>			
<b>Test Procedure</b>		Federal fuel refueling test (ORVR)					
<b>Fuel</b>	<b>Useful Life</b>	<b>Emission Name</b>	<b>Rounded Result</b>	<b>Std</b>	<b>Add DF</b>		
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.2	0.0063		

## Certification Summary Information Report

Test Group	VASXV05.2AMV	Evaporative/Refueling Family	VASXR0160T3A
<b>Glossary</b>			
<b>Useful Life</b>			
4	4,000 miles	120	120,000 miles
50	50,000 miles	150	150,000 miles
100	100,000 miles		
<b>Emission Name</b>			
HC-TOTAL	Total Hydrocarbon	COMB-CREE	Combined Carbon-Related Exhaust Emissions
CO	Carbon Monoxide	COMB-OPT-CREE	Combined Optional Carbon-Related Exhaust Emissions
CO2	Carbon dioxide	HC-TOTAL-EQUIV	Total Hydrocarbon equivalent - Evap only
CREE	Carbon-Related Exhaust Emissions	METHANE-COMB	Combined CH4 for HD 2b/3 vehicles only
OPT-CREE	Optional Carbon-Related Exhaust Emissions	N2O-COMB	Combined Nitrous Oxide for HD 2b/3 vehicles only
NOX	Nitrogen Oxide	LEAK-DIA	Effective Leak Diameter (inches)
PM	Particulate Matter	LEAK-GAS CAP	Gas Cap Leakage (cc/min)
PM-COMP	SFTP Composite Particulate Matter	CO2-COMB	Combined Carbon Dioxide for HD 2b/3 Vehicles Only
HC-NM	Non-methane Hydrocarbon	KW-HRS	Integrated DC KW-HRS
OMHCE	Organic material Hydrocarbon Equivalent	CH4 BAG 1	Bag 1 Methane
OMNMHCE	Organic material non-methane HC equivalent	CH4 BAG 2	Bag 2 Methane
NMOG	Non-methane organic gases	CH4 BAG 3	Bag 3 Methane
HCHO	Formaldehyde	CH4 BAG 4	Bag 4 Methane
H3C2HO	Acetaldehyde	CO BAG 1	Bag 1 Carbon Monoxide
HC-NM+NOX	SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03	CO BAG 2	Bag 2 Carbon Monoxide
HC-NM+NOX-COMP	SFTP Composite Non-methane Hydrocarbon + Nitrogen Oxides	CO BAG 3	Bag 3 Carbon Monoxide
CO-COMP	SFTP Composite Carbon Monoxide	CO BAG 4	Bag 4 Carbon Monoxide
ETHANOL	C2H5OH - Ethanol	NMOG BAG 1	Bag 1 Non-methane organic gases
FE BAG 1	Bag 1 Fuel Economy	NMOG BAG 2	Bag 2 Non-methane organic gases
FE BAG 2	Bag 2 Fuel Economy	NMOG BAG 3	Bag 3 Non-methane organic gases
FE BAG 3	Bag 3 Fuel Economy	NMOG BAG 4	Bag 4 Non-methane organic gases
FE BAG 4	Bag 4 Fuel Economy	ACT-DISTANCE BAG 1	Bag 1 Actual Distance
MFR FE	Manufacturer Fuel Economy	ACT-DISTANCE BAG 2	Bag 2 Actual Distance
HC	Hydrocarbon for Running Loss and ORVR	ACT-DISTANCE BAG 3	Bag 3 Actual Distance
METHANE	CH4 - Methane	ACT-DISTANCE BAG 4	Bag 4 Actual Distance
METHANOL	CH3OH - Methanol	HC-TOTAL BAG 1	Bag 1 Total Hydrocarbon
N2O	Nitrous Oxide	HC-TOTAL BAG 2	Bag 2 Total Hydrocarbon
SPITBACK	Spitback Hydrocarbon in grams	HC-TOTAL BAG 3	Bag 3 Total Hydrocarbon
AMP-HRS	Integrated Amp-hours	HC-TOTAL BAG 4	Bag 4 Total Hydrocarbon
START-SOC	System Start State of Charge Watt-hours	WATT-HRS BAG 1	Bag 1 Watt Hours
END-SOC	System End State of Charge Watt-hours	WATT-HRS BAG 2	Bag 2 Watt Hours

## Certification Summary Information Report

Test Group		VASXV05.2AMV	Evaporative/Refueling Family		VASXR0160T3A
ACT-DISTANCE	Actual Distance Driven (miles)		WATT-HRS BAG 3	Bag 3 Watt Hours	
AS-VOLT	Average System Voltage		WATT-HRS BAG 4	Bag 4 Watt Hours	
CO2 BAG 1	Bag 1 Carbon Dioxide		WATT-HRS	Watt Hours	
CO2 BAG 2	Bag 2 Carbon Dioxide		HC-NM BAG 1	Bag 1 Non-methane Hydrocarbon	
CO2 BAG 3	Bag 3 Carbon Dioxide		HC-NM BAG 2	Bag 2 Non-methane Hydrocarbon	
CO2 BAG 4	Bag 4 Carbon Dioxide		HC-NM BAG 3	Bag 3 Non-methane Hydrocarbon	
NMOG+NOX	Non-methane organic gases plus Nitrogen Oxides		HC-NM BAG 4	Bag 4 Non-methane Hydrocarbon	
NMOG+NOX-COMP	SFTP Composite Non-methane Organic Gases + Nitrogen Oxides		N2O BAG 1	Bag 1 Nitrous Oxide	
DT-IWRR	Drive Trace Inertia Work Ratio Rating		N2O BAG 2	Bag 2 Nitrous Oxide	
DT-ASCR	Drive Trace Absolute Speed Change Rating		N2O BAG 3	Bag 3 Nitrous Oxide	
DT-EER	Drive Trace Energy Economy Rating		N2O BAG 4	Bag 4 Nitrous Oxide	
<b>Certification Region</b>					
CA	California + CAA Section 177 states		FA	Federal	
<b>Exhaust Emission Standard Level</b>					
B1	Federal Tier 2 Bin 1		HDV2B340	Federal Tier 3 HD Class 2b Transitional Bin 340	
B2	Federal Tier 2 Bin 2		HDV2B250	Federal Tier 3 HD Class 2b Bin 250	
B3	Federal Tier 2 Bin 3		HDV2B200	Federal Tier 3 HD Class 2b Bin 200	
B4	Federal Tier 2 Bin 4		HDV2B170	Federal Tier 3 HD Class 2b Bin 170	
B5	Federal Tier 2 Bin 5		HDV2B150	Federal Tier 3 HD Class 2b Bin 150	
B6	Federal Tier 2 Bin 6		HDV2B0	Federal Tier 3 HD Class 2b Bin 0	
B7	Federal Tier 2 Bin 7		HDV3B630	Federal Tier 3 HD Class 3 Transitional Bin 630	
B8	Federal Tier 2 Bin 8		HDV3B570	Federal Tier 3 HD Class 3 Transitional Bin 570	
B9	Federal Tier 2 Bin 9		HDV3B400	Federal Tier 3 HD Class 3 Bin 400	
B10	Federal Tier 2 Bin 10		HDV3B270	Federal Tier 3 HD Class 3 Bin 270	
B11	Federal Tier 2 Bin 11		HDV3B230	Federal Tier 3 HD Class 3 Bin 230	
HDV1	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)		HDV3B200	Federal Tier 3 HD Class 3 Bin 200	
HDV2	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)		HDV3B0	Federal Tier 3 HD Class 3 Bin 0	
L2	California LEV-II LEV		L4SULEV100	California LEV-IV SULEV100	
L2OP	California LEV-II LEV Optional		L4SULEV125	California LEV-IV SULEV125	
U2	California LEV-II ULEV		L4SULEV15	California LEV-IV SULEV15	
S2	California LEV-II SULEV		L4SULEV150	California LEV-IV SULEV150	
ZEV	California ZEV		L4SULEV170	California LEV-IV SULEV170	
OT	Other		L4SULEV175	California LEV-IV SULEV175	
T1	Federal Tier 1		L4SULEV20	California LEV-IV SULEV20	
PZEV	California PZEV		L4SULEV200	California LEV-IV SULEV200	
L2LEV160	California LEV-II LEV160		L4SULEV230	California LEV-IV SULEV230	
L2ULEV125	California LEV-II ULEV125		L4SULEV25	California LEV-IV SULEV25	
L2SULEV30	California LEV-II SULEV30		L4SULEV30	California LEV-IV SULEV30	
L2LEV395	California LEV-II LEV395		L4SULEV75	California LEV-IV SULEV75	

## Certification Summary Information Report

Test Group	VASXV05.2AMV	Evaporative/Refueling Family	VASXR0160T3A
L2ULEV340	California LEV-II ULEV340	L4SULEV85	California LEV-IV SULEV85
L2LEV630	California LEV-II LEV630	L4ULEV125	California LEV-IV ULEV125
L2ULEV570	California LEV-II ULEV570	L4ULEV200	California LEV-IV ULEV200
L3LEV160	California LEV-III LEV160	L4ULEV250	California LEV-IV ULEV250
L3ULEV125	California LEV-III ULEV125	L4ULEV270	California LEV-IV ULEV270
L3ULEV70	California LEV-III ULEV70	L4ULEV40	California LEV-IV ULEV40
L3ULEV50	California LEV-III ULEV50	L4ULEV400	California LEV-IV ULEV400
L3SULEV30	California LEV-III SULEV30	L4ULEV50	California LEV-IV ULEV50
L3SULEV20	California LEV-III SULEV20	L4ULEV60	California LEV-IV ULEV60
L3LEV395	California LEV-III LEV395	L4ULEV70	California LEV-IV ULEV70
L3ULEV340	California LEV-III ULEV340	T4B170	Federal Tier 4 MDV Bin 170
L3ULEV250	California LEV-III ULEV250	T4B150	Federal Tier 4 MDV Bin 150
L3ULEV200	California LEV-III ULEV200	T4B125	Federal Tier 4 MDV Bin 125
L3SULEV170	California LEV-III SULEV170	T4B100	Federal Tier 4 MDV Bin 100
L3SULEV150	California LEV-III SULEV150	T4B85	Federal Tier 4 MDV Bin 85
L3LEV630	California LEV-III LEV630	T4B75	Federal Tier 4 MDV Bin 75
L3ULEV570	California LEV-III ULEV570	T4B70	Federal Tier 4 Bin 70
L3ULEV400	California LEV-III ULEV400	T4B65	Federal Tier 4 Bin 65
L3ULEV270	California LEV-III ULEV270	T4B60	Federal Tier 4 Bin 60
L3SULEV230	California LEV-III SULEV230	T4B55	Federal Tier 4 Bin 55
L3SULEV200	California LEV-III SULEV200	T4B50	Federal Tier 4 Bin 50
T3B160	Federal Tier 3 Bin 160	T4B45	Federal Tier 4 Bin 45
T3B125	Federal Tier 3 Bin 125	T4B40	Federal Tier 4 Bin 40
T3B110	Federal Tier 3 Transitional Bin 110	T4B35	Federal Tier 4 Bin 35
T3B85	Federal Tier 3 Transitional Bin 85	T4B30	Federal Tier 4 Bin 30
T3SULEV30	Federal Tier 3 Transitional LEV-II SULEV30 Carryover	T4B25	Federal Tier 4 Bin 25
T3B70	Federal Tier 3 Bin 70	T4B20	Federal Tier 4 Bin 20
T3B50	Federal Tier 3 Bin 50	T4B15	Federal Tier 4 Bin 15
T3B30	Federal Tier 3 Bin 30	T4B10	Federal Tier 4 Bin 10
T3B20	Federal Tier 3 Bin 20	T4B5	Federal Tier 4 Bin 5
T3B0	Federal Tier 3 Bin 0	T4B0	Federal Tier 4 Bin 0
HDV2B395	Federal Tier 3 HD Class 2b Transitional Bin 395		
<b>Transmission Type Code</b>			
AMS	Automated Manual- Selectable (e.g. Automated Manual with paddles)	M	Manual
A	Automatic	OT	Other
AM	Automated Manual	SA	Semi-Automatic
CVT	Continuously Variable	SCV	Selectable Continuously Variable (e.g. CVT with paddles)
<b>Drive System Code</b>			
4	4-Wheel Drive	P	Part-time 4-Wheel Drive

**Certification Summary Information Report**

<b>Test Group</b>	VASXV05.2AMV	<b>Evaporative/Refueling Family</b>	VASXR0160T3A
F	2-Wheel Drive, Front	A	All Wheel Drive
R	2-Wheel Drive, Rear		
<b>Additional Terms and Acronyms</b>			
AFC	Alternative Fuel Converter	ICI	Independent Commercial Importer
CSI	Certificate Summary Information	ORVR	Onboard Refueling Vapor Recovery
DF	Deterioration Factor	SIL	Shift Indicator Light
Evap	Evaporation, Evaporative	Trans	Transmission