

**Certification Summary Information Report**

<b>Manufacturer</b>	Toyota Motor Corporation	<b>Manufacturer Code</b>	TYX
<b>Test Group</b>	KTYXV01.8P33	<b>Evaporative/Refueling Family</b>	KTYXR0130J72
<b>Certificate Number</b>	KTYXV01.8P33-041	<b>CARB Executive Order #</b>	--
<b>Certificate Issue Date</b>	11/27/2018	<b>Certificate Revision Date</b>	--
<b>Certificate Effective Date</b>	11/27/2018	<b>Conditional Certificate</b>	No
<b>CSI Revision #</b>	--	<b>CSI Submission/Revision Date</b>	10/01/2018 02:10:35 AM
<b>Model Year</b>	2019		

## Certification Summary Information Report

<b>Test Group</b>	KTYXV01.8P33	<b>Evaporative/Refueling Family</b>	KTYXR0130J72
<b>Test Group Information</b>			
<b>CSI Type</b>	New	<b>Running Change Reference Number</b>	--
<b>GHG Exempt Status</b>	Not Exempt		
<b>Drive Sources and Fuel(s)</b>			
<b>Drive Source #1:</b>	Electric Motor		
	<b>Fuel</b>	<b>Basic Fuel Metering System</b>	<b>Lean Burn Strategy Indicator</b>
	Electricity	--	No
<b>Drive Source #2:</b>	Combustion Engine		
	<b>Fuel</b>	<b>Basic Fuel Metering System</b>	<b>Lean Burn Strategy Indicator</b>
	Gasoline	Multipoint/sequential fuel injection	No
<b>Hybrid Indicator</b>	Yes		
<b>Multiple Fuel Storage</b>	--	<b>Rechargeable Energy Storage System Indicator</b>	Yes
<b>Multiple Fuel Combustion</b>	--	<b>Off-board Charge Capable Indicator</b>	No
<b>Fuel Cell Indicator</b>	No	<b>EPA Vehicle Class</b>	LDV
<b>Federal Clean Fuel Vehicle</b>	No	<b>Federal Clean Fuel Vehicle Standard</b>	--
<b>Federal Clean Fuel Vehicle ILEV</b>	No	<b>California Partial Zero Emissions Vehicle Indicator</b>	No
<b>Durability Group Name</b>	KTYXHHGNNB26	<b>Durability Group Equivalency Factor</b>	1.0
<b>Reduced Fee Test Group</b>	No	<b>Certification Region Code(s)</b>	FA, CA
<b>Complies with HD GHG 2b/3 regulations?</b>	No		
<b>Introduction into Commerce Date</b>	12/01/2018	<b>CAP2000 Conditional Certificate?</b>	No
<b>Independent Commercial Importer?</b>	No	<b>Alternative Fuel Converter Certificate?</b>	No
<b>SFTP Federal Composite Compliance Identifier</b>	Tier 3	<b>SFTP Tier 2 Composite CO Option</b>	No
<b>SFTP LEV-III Composite Compliance Indicator</b>	Yes		
<b>OBD Compliance Type</b>	CARB	<b>OBD Demonstration Vehicle Test Group</b>	KTYXT05.7M5W
<b>Test Group OBD Compliance Level</b>	Full - no deficiencies	<b>Number of Test Group OBD Deficiencies</b>	0
<b>OBD Deficiencies Comments</b>	--		
<b>Mfr Test Group Comments</b>	--		
<b>Mfr Exhaust / Evap Standards Comments</b>	--		

## Certification Summary Information Report

<b>Test Group</b>	KTYXV01.8P33	<b>Evaporative/Refueling Family</b>	KTYXR0130J72				
<b>Evaporative/Refueling Family Information</b>							
<b>Evaporative Summary Information Type</b>	New	<b>Submission/Correction Date</b>	07/22/2018 10:22:39 PM				
<b>Integrated ORVR?</b>	No	<b>Fuel(s)</b>	Electricity, Gasoline				
<b>Multiple Fuel Storage</b>	Fuels Stored Together						
<b>Bladder Fuel Tank?</b>	No						
<b>Fuel Tank Material</b>	Plastic	<b>Fuel Tank Material Description</b>	EVOH				
<b>Fill Pipe Seal Type</b>	Liquid seal						
<b>Air Intake System Vapor Storage Device?</b>	Yes	<b>Air Intake System Vapor Storage Device Description</b>	Carbon filter in the air cleaner box				
<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>	130	<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>	--						
<b>Leak Family Details</b>							
<b>Leak Family Indicator</b>	No						
<b>Canister Bleed Test Indicator</b>	No	<b>Applicability of Evaporative Canister Bleed Test</b>	--				
<b>Evaporative Canister Bleed Test Comments</b>	--						
<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>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>
Toyota Motor Corporation	1 - TOYOTA	63 - PRIUS AWD	Federal	Part-time 4-Wheel Drive	Continuously Variable	1	No
Toyota Motor Corporation	1 - TOYOTA	63 - PRIUS AWD	California + CAA Section 177 states	Part-time 4-Wheel Drive	Continuously Variable	1	No
<b>Engine Description</b>							
<b>Hybrid Type</b>	IC Engine/Electric Motor	<b>Hybrid Description</b>	--				
<b>Engine Type</b>	4-Stroke Spark Ignition	<b>Mfr Engine Description</b>	--				
<b>Engine Block Arrangement</b>	Inline	<b>Mfr Engine Block Arrangement Description</b>	--				
<b>Camless Valvetrain Indicator</b>	No	<b>Oil Viscosity/Classification</b>	0W-16				
<b>Number of Cylinders/Rotors</b>	4	<b>Mechanically Variable Compression Ratio Indicator</b>	N				

## Certification Summary Information Report

Test Group	KTYXV01.8P33				Evaporative/Refueling Family	KTYXR0130J72					
<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	Platinum + Rhodium	Ceramic	Monolith							
<b>Mfr After Treatment Device (ATD) Comments</b>											
--											
<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>											
1.8											
<b>Engine Rated Horsepower</b>											
96											
<b>Number of Inlet Valves Per Cylinder</b>											
2											
<b>Number of Exhaust Valves Per Cylinder</b>											
2											
<b>Air Aspiration Method</b>											
Naturally Aspirated											
<b>Number of Air Aspiration Devices</b>											
--											
<b>Air Aspiration Device Configuration</b>											
--											
<b>Charge Air Cooler Type</b>											
N/A											
<b>Air Aspiration Drive Method(s)</b>											
--											
<b>Cylinder Deactivation</b>											
No											
<b>Cylinder Deactivation Description</b>											
--											
<b>Variable Valve Timing</b>											
Yes											
<b>Variable Valve Timing System Description</b>											
Intake											
<b>Variable Valve Lift?</b>											
No											
<b>Variable Valve Lift System Description</b>											
--											
<b>Number of Knock Sensors</b>											
1											
<b>Number of Air/Fuel Sensors</b>											
2											
<b>Air/Fuel Sensor # 1 Type</b>											
Heated oxygen											
<b>Air/Fuel Sensor # 1 Description</b>											
--											
<b>Air/Fuel Sensor # 2 Type</b>											
Heated air fuel											
<b>Air/Fuel Sensor # 2 Description</b>											
--											
<b>Mfr Air/Fuel Sensor Comments</b>											
--											
<b>Exhaust Gas Recirculation</b>											
Yes											
<b>Cooled Exhaust Gas Recirculation</b>											
Yes											
<b>EGR Type</b>											
Electronic/Electric											
<b>Exhaust Gas Recirculation Description if 'Other'</b>											
--											
<b>Closed Loop Air Injection System</b>											
No											
<b>Air Injection Type</b>											
Not Applicable											
<b>Air Injection Type if 'Other'</b>											
--											
<b>Mfr Engine Configuration Comments</b>											
--											
<b>Official Test Numbers</b>											
Test Group	Fuel	FTP	US06	SC03	Cold CO	Highway	EPA City Litmus Value	EPA City Litmus Threshold	EPA Highway Litmus Value	EPA Highway Litmus Threshold	CREE Weighting Factor
Electricity		KTYX10055057	KTYX10055070	KTYX10055069	KTYX10055058	KTYX10055056	--	--	--	--	--
Gasoline		KTYX10055057	KTYX10055070	KTYX10055069	KTYX10055058	KTYX10055056	999.9	228.2	999.9	286.1	--

## Certification Summary Information Report

<b>Test Group</b>	KTYXV01.8P33	<b>Evaporative/Refueling Family</b>	KTYXR0130J72
<b>SFTP LEV-III Official Test Numbers</b>			
<b>Test Group Fuel</b>	<b>FTP</b>	<b>US06</b>	<b>SC03</b>
Electricity	KTYX10055057	KTYX10055070	KTYX10055069
Gasoline	KTYX10055057	KTYX10055070	KTYX10055069
<b>Hybrid Electric Vehicle And Fuel Cell Information</b>			
<b>Rechargeable Energy Storage System</b>	Battery(s)	<b>Rechargeable Energy Storage System, if Other</b>	--
<b>Battery Type</b>	NiMH	<b>Number of Battery Packs</b>	1
<b>Total Voltage of Battery Packs</b>	202	<b>Battery Energy Capacity</b>	6.5
<b>Battery Specific Energy</b>	46.4	<b>Battery Charger Type</b>	On-Board
<b>Number of Capacitors</b>	--	<b>Capacitor Rating (In Farads)</b>	--
<b>Mfr Capacitor Comments</b>	--		
<b>Hydraulic System Description</b>	--		
<b>Regenerative Braking Type</b>	Electrical Regen Brake		
<b>Regenerative Braking Source</b>	Front Wheels	<b>Driver Controlled Regenerative Braking</b>	No
<b>Mfr Regenerative Braking Description</b>	--		
<b>Drive Motor(s)/Generator(s)</b>	2		
<b>Motor/Generator Type 1</b>	AC Synchronous	<b>Rated Motor/Generator Power</b>	5
<b>Motor/Generator Type 2</b>	AC Synchronous	<b>Rated Motor/Generator Power</b>	53
<b>Mfr Fuel Cell Description</b>	--		
<b>Fuel Cell On-Board H2 Storage Capacity (kg)</b>	--	<b>Usable H2 Fill Capacity (kg)</b>	--
<b>Mfr Hybrid Electric/ Electric Vehicle Comments</b>	"5kWatt" of Rated Motor/Generator Power is only for AWD.		

## Certification Summary Information Report

<b>Test Group</b>	KTYXV01.8P33	<b>Evaporative/Refueling Family</b>	KTYXR0130J72									
<b>Emission Data Vehicle Information</b>												
<b>Vehicle ID / Configuration</b>	16-ZV1H / 0	<b>Manufacturer Vehicle Configuration Number</b>	0									
<b>Original Test Group Name</b>	GTYXV01.8PC4	<b>Original Evaporative/Refueling Family</b>	GTYXR0130J72									
<b>Original Test Vehicle Model Year</b>	2016											
<b>Vehicle Model</b>												
<b>Represented Test Vehicle Make</b>	TOYOTA	<b>Represented Test Vehicle Model</b>	PRIUS									
<b>Leak Family Details</b>												
<b>Leak Family Identifier</b>	--	<b>Leak Family Name</b>	--									
<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>Electric Motor</td> <td>Electricity</td> </tr> <tr> <td>2</td> <td>Combustion Engine</td> <td>Gasoline</td> </tr> </tbody> </table>				Drive Source and Fuel#	Drive Source	Fuel	1	Electric Motor	Electricity	2	Combustion Engine	Gasoline
Drive Source and Fuel#	Drive Source	Fuel										
1	Electric Motor	Electricity										
2	Combustion Engine	Gasoline										
<b>Hybrid Indicator</b>	Yes											
<b>Multiple Fuel Storage</b>	--	<b>Multiple Fuel Combustion</b>	--									
<b>Fuel Cell Indicator</b>	No	<b>Rechargeable Energy Storage System Indicator</b>	Yes									
<b>Rechargeable Energy Storage System</b>	Battery(s)	<b>Rechargeable Energy Storage System, if 'Other'</b>	--									
<b>Off-board charge Capable Indicator</b>	No											
<b>Odometer Correction -- Initial</b>	43	<b>Odometer Correction Factor</b>	1									
<b>Odometer Correction Sign</b>	- = System Miles is equal to (Test odometer reading - Initial system miles) * Correction factor											
<b>Odometer Correction Units</b>	Miles											
<b>Engine Code</b>	01	<b>Rated Horsepower</b>	96									
<b>Displacement (liters)</b>	1.798											
<b>Air Aspiration Method</b>	Naturally Aspirated	<b>Air Aspiration Method, if 'Other'</b>										
<b>Number of Air Aspiration Devices</b>	--	<b>Air Aspiration Device Configuration</b>	--									
<b>Charge Air Cooler Type</b>	N/A	<b>Drive Mode While Testing</b>	2-Wheel Drive, Front									
<b>Shift Indicator Light Usage</b>	Not equipped	<b>Aged Emission Components</b>	4,000 (mi)									
<b>Curb Weight (lbs)</b>	3080	<b>Equivalent Test Weight (pounds)</b>	3375									
<b>GVWR (lbs)</b>	--	<b>N/V Ratio</b>	20.1									
<b>Axle Ratio</b>	2.83											
<b>Transmission Type</b>	Continuously Variable	<b># of Transmission Gears</b>	1									
<b>Transmission Lockup</b>	No	<b>Creeper Gear</b>	No									

### Certification Summary Information Report

<b>Test Group</b>	KTYXV01.8P33	<b>Evaporative/Refueling Family</b>	KTYXR0130J72
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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>	24.153	0.33502	0.014096	10.116	0.1598	0.015033	10.2
<b>US06</b>	24.153	0.33502	0.014096	10.116	0.1598	0.015033	N/A

**Emission Control Device Comments**                    --  
**Manufacturer Test Vehicle Comments**            POWER SHIFT PATTERN

<b>Test #</b>	<b>GTYX10037860</b>	<b>Test Procedure</b>	<b>27 - California fuel 2-day evap</b>
<b>Exhaust Test # for this Evap Test</b>	GTYX10037853	<b>Test Fuel Type</b>	46 - CARB LEV3 E10 Regular Gasoline
<b>Test Date</b>	09/08/2015	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	WC5B05	<b>Fuel Calibration Number</b>	1
<b>Vehicle Class</b>	N/A	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	Higashifuji Technical Center		
<b>E10 Evaporative Test Measurement Method</b>	Actual Total Hydrocarbon Equivalent Measurement (with speciation)		
<b>Test Start Odometer Reading</b>	4034	<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>	No
<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>	0.117004	--

**Manufacturer Test Comments**                    HSL=0.0088, 1ST DBL=0.1083, 2ND DBL=0.0953, 1ST DBL IS ADDED KEY OFF MONITOR LOSS(0.0018GRAM)

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	0.117	0	0.117	0.3	Pass
CA	150,000 miles	California LEV-III Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.117	0	0.117	0.3	Pass

**Certification Summary Information Report**

<b>Test Group</b>	KTYXV01.8P33	<b>Evaporative/Refueling Family</b>	KTYXR0130J72
<b>Test #</b>	<b>GTYX10037861</b>	<b>Test Procedure</b>	<b>38 - CA fuel 3-day evap.</b>
<b>Exhaust Test # for this Evap Test</b>	GTYX10037852	<b>Test Fuel Type</b>	46 - CARB LEV3 E10 Regular Gasoline
<b>Test Date</b>	09/15/2015	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	WC5B04	<b>Fuel Calibration Number</b>	1
<b>Vehicle Class</b>	N/A	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	Higashifuji Technical Center		
<b>E10 Evaporative Test Measurement Method</b>	Actual Total Hydrocarbon Equivalent Measurement (with speciation)		
<b>Test Start Odometer Reading</b>	3979	<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>	No

**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>	0.1308488	--

**Manufacturer Test Comments**

HSL=0.0223, 1ST DBL=0.1085, 2ND DBL=0.0875, 3RD DBL=0.0844, 1ST DBL IS ADDED KEY OFF MONITOR LOSS(0.0018GRAM)

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	0.1308	0	0.131	0.3	Pass
CA	150,000 miles	California LEV-III Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.1308	0	0.131	0.3	Pass



## Certification Summary Information Report

<b>Test Group</b>	KTYXV01.8P33	<b>Evaporative/Refueling Family</b>	KTYXR0130J72
<b>Test #</b>	<b>GTYX10037899</b>	<b>Test Procedure</b>	<b>37 - California Fuel Running Loss</b>
<b>Exhaust Test # for this Evap Test</b>	GTYX10037852	<b>Test Fuel Type</b>	46 - CARB LEV3 E10 Regular Gasoline
<b>Test Date</b>	09/15/2015	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	WC5B05	<b>Fuel Calibration Number</b>	1
<b>Vehicle Class</b>	N/A	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	Higashifuji Technical Center		
<b>E10 Evaporative Test Measurement Method</b>	Calculated (1.08 x FID Total Hydrocarbons)		
<b>Test Start Odometer Reading</b>	4657	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	Yes		
<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)
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0	--

## Manufacturer Test Comments

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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	0	0	0.05	Pass
CA	150,000 miles	California LEV-III Zero Evap (Option 2)	HC-TOTAL-EQUIV	0	0	0	0.05	Pass

## Certification Summary Information Report

Test Group	KTYXV01.8P33	Evaporative/Refueling Family	KTYXR0130J72									
<b>Emission Data Vehicle Information</b>												
Vehicle ID / Configuration	17-ZW3H / 0	Manufacturer Vehicle Configuration Number	0									
Original Test Group Name	HTYXV01.8P35	Original Evaporative/Refueling Family	HTYXR0130J72									
Original Test Vehicle Model Year	2017											
<b>Vehicle Model</b>												
Represented Test Vehicle Make	TOYOTA	Represented Test Vehicle Model	PRIUS PRIME									
<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>Electric Motor</td> <td>Electricity</td> </tr> <tr> <td>2</td> <td>Combustion Engine</td> <td>Gasoline</td> </tr> </tbody> </table>				Drive Source and Fuel#	Drive Source	Fuel	1	Electric Motor	Electricity	2	Combustion Engine	Gasoline
Drive Source and Fuel#	Drive Source	Fuel										
1	Electric Motor	Electricity										
2	Combustion Engine	Gasoline										
Hybrid Indicator	Yes											
Multiple Fuel Storage	--	Multiple Fuel Combustion	--									
Fuel Cell Indicator	No	Rechargeable Energy Storage System Indicator	Yes									
Rechargeable Energy Storage System	Battery(s)	Rechargeable Energy Storage System, if 'Other'	--									
Off-board charge Capable Indicator	Yes											
Odometer Correction -- Initial	11	Odometer Correction Factor	1									
Odometer Correction Sign	- = System Miles is equal to (Test odometer reading - Initial system miles) * Correction factor											
Odometer Correction Units	Miles											
Engine Code	01	Rated Horsepower	96									
Displacement (liters)	1.798											
Air Aspiration Method	Naturally Aspirated	Air Aspiration Method, if 'Other'										
Number of Air Aspiration Devices	--	Air Aspiration Device Configuration	--									
Charge Air Cooler Type	N/A	Drive Mode While Testing	2-Wheel Drive, Front									
Shift Indicator Light Usage	Not equipped	Aged Emission Components	4,000 (mi)									
Curb Weight (lbs)	3365	Equivalent Test Weight (pounds)	3625									
GVWR (lbs)	--	N/V Ratio	19.9									
Axle Ratio	3.22											
Transmission Type	Continuously Variable	# of Transmission Gears	1									
Transmission Lockup	No	Creep Gear	No									

## Certification Summary Information Report

<b>Test Group</b>	KTYXV01.8P33	<b>Evaporative/Refueling Family</b>	KTYXR0130J72
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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	18.816	0.38689	0.012501	10.591	0.0846	0.014573	9.3
US06	18.816	0.38689	0.012501	10.591	0.0846	0.014573	N/A

Emission Control Device Comments

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Manufacturer Test Vehicle Comments

POWER SHIFT PATTERN

<b>Test #</b>	<b>HTYX10042567</b>	<b>Test Procedure</b>	<b>24 - Federal fuel refueling test (ORVR)</b>
<b>Exhaust Test # for this Evap Test</b>	HTYX10042560	<b>Test Fuel Type</b>	46 - CARB LEV3 E10 Regular Gasoline
<b>Test Date</b>	04/08/2016	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	WL5-22	<b>Fuel Calibration Number</b>	3
<b>Vehicle Class</b>	N/A	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	Higashifuji Technical Center		
<b>E10 Evaporative Test Measurement Method</b>	Calculated (1.08 x FID Total Hydrocarbons)		
<b>Test Start Odometer Reading</b>	3843	<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>	No

**Test Results**

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
HC (Hydrocarbon for Running Loss and ORVR)	0.0012283	--

Manufacturer Test Comments

--

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	0.001	0	0	0.2	Pass
CA	150,000 miles	California LEV-III Zero Evap (Option 2)	HC	0.001	0	0	0.2	Pass



## Certification Summary Information Report

Test Group		KTYXV01.8P33			Evaporative/Refueling Family			KTYXR0130J72
<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	25.59	0.15868	0.015074	14.253	-0.20167	0.018734	9.5	
Cold CO	28.149	0.17455	0.016581	12.84	-0.11406	0.018614	N/A	
US06	25.59	0.15868	0.015074	14.253	-0.20167	0.018734	N/A	
Emission Control Device Comments	--							
Manufacturer Test Vehicle Comments	T/M MODE IS POWER.							

## Certification Summary Information Report

<b>Test Group</b>	KTYXV01.8P33	<b>Evaporative/Refueling Family</b>	KTYXR0130J72
<b>Test #</b>	<b>KTYX10055057</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>	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
<b>Test Date</b>	06/28/2018	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	1D8-03	<b>Fuel Calibration Number</b>	1
<b>Vehicle Class</b>	LDV/Passenger Car	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	Higashifuji Technical Center		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	4065	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	Yes		
<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)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	180.0008	--
FE BAG 1 (Bag 1 Fuel Economy)	999	999
CO2 BAG 2 (Bag 2 Carbon Dioxide)	76.0174	--
FE BAG 2 (Bag 2 Fuel Economy)	999	999
CO2 BAG 3 (Bag 3 Carbon Dioxide)	149.4226	--
FE BAG 3 (Bag 3 Fuel Economy)	999	999
CO2 BAG 4 (Bag 4 Carbon Dioxide)	76.0111	--
FE BAG 4 (Bag 4 Fuel Economy)	999	999
METHANE (CH4 - Methane)	0.0017867	--
CO (Carbon Monoxide)	0.0565387	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.32	--
DT-EER (Drive Trace Energy Economy Rating)	-0.34	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0.51	--
MFR FE (Manufacturer Fuel Economy)	999	999
NOX (Nitrogen Oxide)	0.0023776	--
N2O (Nitrous Oxide)	0.000431	--
HC-NM (Non-methane Hydrocarbon)	0.0101795	--
NMOG (Non-methane organic gases)	0.0111975	--
PM (Particulate Matter)	0.0001692	--
HC-TOTAL (Total Hydrocarbon)	0.0118381	--

## Certification Summary Information Report

Test Group	KTYXV01.8P33		Evaporative/Refueling Family				KTYXR0130J72					
	<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated CREE/OPT-CREE</b>									
	Carbon-Related Exhaust Emissions	0	999									
	<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated CO2</b>									
	Carbon dioxide	117.7239749	--									
<b>Manufacturer Test Comments</b>	NMOG = HC-NM x 1.10											
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 30	CO	0.06	--	--	--	0.09	--	0.2	1.0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	CO-COMP	0.24	--	--	--	0.09	--	0.2	4.2	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	CREE	999	--	--	--	0.095	--	999	--	--
Fed	150,000 miles	Federal Tier 3 Bin 30	METHANE	0.0018	--	--	--	0.0013	--	0.003	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	N2O	0.0004	--	--	--	0.0004	--	0.001	0.010	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0112	1	1.1	--	0.0043	--	0.016	999.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0136	1	1.1	--	--	--	0.019	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX-COMP	0.0179	1	1.03	--	0.0056	--	0.018	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0024	--	--	--	0.0013	--	0.004	999.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	PM	0.0002	--	--	--	0	--	0	0.003	Pass
CA	150,000 miles	California LEV-III SULEV30	CO	0.06	--	--	--	0.09	--	0.2	1.0	Pass
CA	150,000 miles	California LEV-III SULEV30	CO-COMP	0.24	--	--	--	0.09	--	0.2	4.2	Pass
CA	150,000 miles	California LEV-III SULEV30	NMOG	0.0112	1	1.1	--	0.0043	--	0.016	999.999	Pass
CA	150,000 miles	California LEV-III SULEV30	NMOG+NOX	0.0136	1	1.1	--	--	--	0.019	0.030	Pass
CA	150,000 miles	California LEV-III SULEV30	NMOG+NOX-COMP	0.0179	1	1.03	--	0.0056	--	0.018	0.030	Pass
CA	150,000 miles	California LEV-III SULEV30	NOX	0.0024	--	--	--	0.0013	--	0.004	999.999	Pass
CA	150,000 miles	California LEV-III SULEV30	PM	0.0002	--	--	--	0	--	0	0.003	Pass

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

## Certification Summary Information Report

<b>Test Group</b>	KTYXV01.8P33	<b>Evaporative/Refueling Family</b>	KTYXR0130J72
<b>Test #</b>	<b>KTYX10055058</b>	<b>Test Procedure</b>	<b>11 - Cold CO</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	28 - Cold CO E10 Regular Gasoline (Tier 3)
<b>Test Date</b>	07/04/2018	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	1M7-02	<b>Fuel Calibration Number</b>	5
<b>Vehicle Class</b>	LDV/Passenger Car	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	Higashifuji Technical Center		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	4147	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	Yes		
<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)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	248.9729	--
FE BAG 1 (Bag 1 Fuel Economy)	999	999
CO2 BAG 2 (Bag 2 Carbon Dioxide)	125.5344	--
FE BAG 2 (Bag 2 Fuel Economy)	999	999
CO2 BAG 3 (Bag 3 Carbon Dioxide)	175.2353	--
FE BAG 3 (Bag 3 Fuel Economy)	999	999
CO2 BAG 4 (Bag 4 Carbon Dioxide)	101.5241	--
FE BAG 4 (Bag 4 Fuel Economy)	999	999
CO (Carbon Monoxide)	0.8545932	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	1.13	--
DT-EER (Drive Trace Energy Economy Rating)	0.48	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	1.71	--
MFR FE (Manufacturer Fuel Economy)	999	999
NOX (Nitrogen Oxide)	0.0205398	--
HC-NM (Non-methane Hydrocarbon)	0.1527824	--
HC-TOTAL (Total Hydrocarbon)	0.1641198	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	0	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	157.71148	--



## Certification Summary Information Report

Test Group		KTYXV01.8P33		Evaporative/Refueling Family				KTYXR0130J72				
Manufacturer Test Comments		--										
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 30	CO	0.85	--	--	--	0.03	--	0.9	10.0	Pass
Fed	120,000 miles	Federal Tier 3 Bin 30	HC-NM	0.15	--	--	--	0	--	0.2	0.2	Pass
CA	50,000 miles	California LEV-III SULEV30	CO	0.85	--	--	--	0.03	--	0.9	10.0	Pass

## Certification Summary Information Report

<b>Test Group</b>	KTYXV01.8P33	<b>Evaporative/Refueling Family</b>	KTYXR0130J72
<b>Test #</b>	<b>KTYX10055248</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>	46 - CARB LEV3 E10 Regular Gasoline
<b>Test Date</b>	08/01/2018	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	1E8-05	<b>Fuel Calibration Number</b>	3
<b>Vehicle Class</b>	LDV/Passenger Car	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	Higashifuji Technical Center		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	4771	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	Yes		
<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)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	999	--
FE BAG 1 (Bag 1 Fuel Economy)	999	999
CO2 BAG 2 (Bag 2 Carbon Dioxide)	999	--
FE BAG 2 (Bag 2 Fuel Economy)	999	999
CO2 BAG 3 (Bag 3 Carbon Dioxide)	999	--
FE BAG 3 (Bag 3 Fuel Economy)	999	999
CO2 BAG 4 (Bag 4 Carbon Dioxide)	999	--
FE BAG 4 (Bag 4 Fuel Economy)	999	999
METHANE (CH4 - Methane)	0.0047557	--
CO (Carbon Monoxide)	0.2234814	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	1.19	--
DT-EER (Drive Trace Energy Economy Rating)	0.5	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	1.78	--
MFR FE (Manufacturer Fuel Economy)	999	999
NOX (Nitrogen Oxide)	0.0026159	--
N2O (Nitrous Oxide)	0.0000323	--
HC-NM (Non-methane Hydrocarbon)	0.0335681	--
NMOG (Non-methane organic gases)	0.0369249	--
HC-TOTAL (Total Hydrocarbon)	0.0380616	--

## Certification Summary Information Report

<b>Test Group</b>	KTYXV01.8P33	Evaporative/Refueling Family	KTYXR0130J72
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<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated CREE/OPT-CREE</b>
Carbon-Related Exhaust Emissions	0	--

<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated CO2</b>
Carbon dioxide	137.7205056	--

## Manufacturer Test Comments

NMOG = HC-NM x 1.10

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	4,000 miles	California LEV-III SULEV30	CO	0.22	--	--	--	--	--	0.2	1.0	Pass
CA	4,000 miles	California LEV-III SULEV30	NMOG	0.0369	1	1.1	--	--	--	0.037	999.999	Pass
CA	4,000 miles	California LEV-III SULEV30	NMOG+NOX	0.0395	1	1.1	--	--	--	0.04	0.060	Pass
CA	4,000 miles	California LEV-III SULEV30	NOX	0.0026	--	--	--	--	--	0.003	999.999	Pass

## Certification Summary Information Report

<b>Test Group</b>	KTYXV01.8P33	<b>Evaporative/Refueling Family</b>	KTYXR0130J72
<b>Test #</b>	<b>KTYX10055056</b>	<b>Test Procedure</b>	<b>3 - HWFE</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
<b>Test Date</b>	06/28/2018	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	1D8-03	<b>Fuel Calibration Number</b>	1
<b>Vehicle Class</b>	LDV/Passenger Car	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	Higashifuji Technical Center		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	4080	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	Yes		
<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)	0.000087	--
CO (Carbon Monoxide)	0.0132405	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.02	--
DT-EER (Drive Trace Energy Economy Rating)	-0.25	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0.32	--
MFR FE (Manufacturer Fuel Economy)	999	999
NOX (Nitrogen Oxide)	0.000734	--
N2O (Nitrous Oxide)	0	--
HC-NM (Non-methane Hydrocarbon)	0.0001383	--
NMOG (Non-methane organic gases)	0.0001424	--
HC-TOTAL (Total Hydrocarbon)	0.0002191	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	0	999

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	123.018794	--

## Manufacturer Test Comments

NMOG = HC-NM x 1.03

## Certification Summary Information Report

Test Group		KTYXV01.8P33			Evaporative/Refueling Family					KTYXR0130J72		
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 30	CREE	999	--	--	--	0.095	--	999	--	--
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0001	1	1.03	--	0.0043	--	0.004	999.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0008	1	1.03	--	--	--	0.006	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0007	--	--	--	0.0013	--	0.002	999.999	Pass
CA	150,000 miles	California LEV-III SULEV30	NMOG	0.0001	1	1.03	--	0.0043	--	0.004	999.999	Pass
CA	150,000 miles	California LEV-III SULEV30	NMOG+NOX	0.0008	1	1.03	--	--	--	0.006	0.030	Pass
CA	150,000 miles	California LEV-III SULEV30	NOX	0.0007	--	--	--	0.0013	--	0.002	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

<b>Test Group</b>	KTYXV01.8P33	<b>Evaporative/Refueling Family</b>	KTYXR0130J72
<b>Test #</b>	<b>KTYX10055070</b>	<b>Test Procedure</b>	<b>90 - US06</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
<b>Test Date</b>	06/28/2018	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	1D8-03	<b>Fuel Calibration Number</b>	1
<b>Vehicle Class</b>	LDV/Passenger Car	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	Higashifuji Technical Center		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	4100	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	Yes		
<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)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	261.9172	--
FE BAG 1 (Bag 1 Fuel Economy)	999	999
CO2 BAG 2 (Bag 2 Carbon Dioxide)	168.6161	--
FE BAG 2 (Bag 2 Fuel Economy)	999	999
METHANE (CH4 - Methane)	0.0019534	--
CO (Carbon Monoxide)	0.1000005	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.14	--
DT-EER (Drive Trace Energy Economy Rating)	-0.71	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-0.43	--
MFR FE (Manufacturer Fuel Economy)	999	999
NOX (Nitrogen Oxide)	0.0036689	--
N2O (Nitrous Oxide)	0.0002915	--
HC-NM (Non-methane Hydrocarbon)	0.0152628	--
NMOG (Non-methane organic gases)	0.0157207	--
PM (Particulate Matter)	0.0004138	--
HC-TOTAL (Total Hydrocarbon)	0.0170761	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	0	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	189.3170325	--

## Certification Summary Information Report

Test Group		KTYXV01.8P33		Evaporative/Refueling Family				KTYXR0130J72				
Manufacturer Test Comments		NMOG = HC-NM x 1.03										
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 30	PM	0.0004	--	--	--	0	--	0	0.006	Pass
CA	150,000 miles	California LEV-III SULEV30	PM	0.0004	--	--	--	0	--	0	0.006	Pass

## Certification Summary Information Report

Test Group	KTYXV01.8P33	Evaporative/Refueling Family	KTYXR0130J72
<b>Test #</b>	<b>KTYX10055069</b>	<b>Test Procedure</b>	<b>95 - SC03</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
<b>Test Date</b>	06/29/2018	<b>Fuel</b>	N/A
<b>Fuel Batch ID</b>	1D8-03	<b>Fuel Calibration Number</b>	1
<b>Vehicle Class</b>	N/A	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	Higashifuji Technical Center		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	4117	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	Yes		
<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>			
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated FE Equivalent Value (miles per gallon)</b>	
<b>CO (Carbon Monoxide)</b>	0.2576015	--	
<b>DT-ASCR (Drive Trace Absolute Speed Change Rating)</b>	1.19	--	
<b>DT-EER (Drive Trace Energy Economy Rating)</b>	0.42	--	
<b>DT-IWRR (Drive Trace Inertia Work Ratio Rating)</b>	1.54	--	
<b>MFR FE (Manufacturer Fuel Economy)</b>	999	999	
<b>NOX (Nitrogen Oxide)</b>	0.0037663	--	
<b>HC-NM (Non-methane Hydrocarbon)</b>	0.0018301	--	
<b>NMOG (Non-methane organic gases)</b>	0.001885	--	
<b>HC-TOTAL (Total Hydrocarbon)</b>	0.0040629	--	
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated CREE/OPT-CREE</b>	
<b>Carbon-Related Exhaust Emissions</b>	0	--	
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated CO2</b>	
<b>Carbon dioxide</b>	167.3276766	--	
<b>Manufacturer Test Comments</b>	NMOG = HC-NM x 1.03		



## Certification Summary Information Report

Test Group	KTYXV01.8P33	Evaporative/Refueling Family	KTYXR0130J72
<b>Fuel Properties</b>			
<b>Fuel Batch ID</b>	<b>1D8-03</b>	<b>Fuel Calibration Number</b>	<b>1</b>
<b>Test Fuel Type</b>	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	<b>Fuel Batch Calibration Date</b>	04/30/2018
<b>Fuel Batch Calibration Effective Date</b>	06/21/2018	<b>Fuel Batch Calibration Ineffective Date</b>	06/30/2018
<b>Carbon Weight Fraction NMHC</b>	--	<b>Carbon Weight Fraction HC</b>	--
<b>Exhaust Carbon Weight Fraction</b>	--	<b>Fuel Methanol Volume Fraction</b>	--
<b>Fuel Density (grams/cubic ft)</b>	--	<b>Fuel Specific Gravity</b>	0.74
<b>Fuel Ethanol Volume Percent (%)</b>	9.8	<b>Fuel Net Heating Value (BTU / lb)</b>	17838
<b>Fuel Blend Carbon Weight Fraction</b>	0.826	<b>Weight Fraction CO2</b>	--
<b>Fuel Batch ID</b>	<b>WC5B05</b>	<b>Fuel Calibration Number</b>	<b>1</b>
<b>Test Fuel Type</b>	46 - CARB LEV3 E10 Regular Gasoline	<b>Fuel Batch Calibration Date</b>	03/29/2015
<b>Fuel Batch Calibration Effective Date</b>	06/01/2015	<b>Fuel Batch Calibration Ineffective Date</b>	06/30/2015
<b>Carbon Weight Fraction NMHC</b>	--	<b>Carbon Weight Fraction HC</b>	--
<b>Exhaust Carbon Weight Fraction</b>	0.86	<b>Fuel Methanol Volume Fraction</b>	--
<b>Fuel Density (grams/cubic ft)</b>	--	<b>Fuel Specific Gravity</b>	0.742
<b>Fuel Ethanol Volume Percent (%)</b>	--	<b>Fuel Net Heating Value (BTU / lb)</b>	17867
<b>Fuel Blend Carbon Weight Fraction</b>	0.825	<b>Weight Fraction CO2</b>	--
<b>Fuel Batch ID</b>	<b>1M7-02</b>	<b>Fuel Calibration Number</b>	<b>5</b>
<b>Test Fuel Type</b>	28 - Cold CO E10 Regular Gasoline (Tier 3)	<b>Fuel Batch Calibration Date</b>	12/26/2017
<b>Fuel Batch Calibration Effective Date</b>	07/01/2018	<b>Fuel Batch Calibration Ineffective Date</b>	07/31/2018
<b>Carbon Weight Fraction NMHC</b>	--	<b>Carbon Weight Fraction HC</b>	--
<b>Exhaust Carbon Weight Fraction</b>	--	<b>Fuel Methanol Volume Fraction</b>	--
<b>Fuel Density (grams/cubic ft)</b>	--	<b>Fuel Specific Gravity</b>	0.738
<b>Fuel Ethanol Volume Percent (%)</b>	9.7	<b>Fuel Net Heating Value (BTU / lb)</b>	17834
<b>Fuel Blend Carbon Weight Fraction</b>	0.826	<b>Weight Fraction CO2</b>	--
<b>Fuel Batch ID</b>	<b>WC5B04</b>	<b>Fuel Calibration Number</b>	<b>1</b>
<b>Test Fuel Type</b>	46 - CARB LEV3 E10 Regular Gasoline	<b>Fuel Batch Calibration Date</b>	03/15/2015
<b>Fuel Batch Calibration Effective Date</b>	05/11/2015	<b>Fuel Batch Calibration Ineffective Date</b>	05/31/2015
<b>Carbon Weight Fraction NMHC</b>	--	<b>Carbon Weight Fraction HC</b>	--
<b>Exhaust Carbon Weight Fraction</b>	0.861	<b>Fuel Methanol Volume Fraction</b>	--
<b>Fuel Density (grams/cubic ft)</b>	--	<b>Fuel Specific Gravity</b>	0.742
<b>Fuel Ethanol Volume Percent (%)</b>	--	<b>Fuel Net Heating Value (BTU / lb)</b>	17861
<b>Fuel Blend Carbon Weight Fraction</b>	0.825	<b>Weight Fraction CO2</b>	--
<b>Fuel Batch ID</b>	<b>WL5-22</b>	<b>Fuel Calibration Number</b>	<b>3</b>
<b>Test Fuel Type</b>	46 - CARB LEV3 E10 Regular Gasoline	<b>Fuel Batch Calibration Date</b>	11/12/2015
<b>Fuel Batch Calibration Effective Date</b>	04/01/2016	<b>Fuel Batch Calibration Ineffective Date</b>	04/30/2016

## Certification Summary Information Report

<b>Test Group</b>	<b>KTYXV01.8P33</b>	<b>Evaporative/Refueling Family</b>	<b>KTYXR0130J72</b>
<b>Carbon Weight Fraction NMHC</b>	--	<b>Carbon Weight Fraction HC</b>	--
<b>Exhaust Carbon Weight Fraction</b>	--	<b>Fuel Methanol Volume Fraction</b>	--
<b>Fuel Density (grams/cubic ft)</b>	--	<b>Fuel Specific Gravity</b>	0.744
<b>Fuel Ethanol Volume Percent (%)</b>	--	<b>Fuel Net Heating Value (BTU / lb)</b>	17828
<b>Fuel Blend Carbon Weight Fraction</b>	0.825	<b>Weight Fraction CO2</b>	--
<b>Fuel Batch ID</b>	<b>1E8-05</b>	<b>Fuel Calibration Number</b>	<b>3</b>
<b>Test Fuel Type</b>	46 - CARB LEV3 E10 Regular Gasoline	<b>Fuel Batch Calibration Date</b>	05/10/2018
<b>Fuel Batch Calibration Effective Date</b>	08/01/2018	<b>Fuel Batch Calibration Ineffective Date</b>	08/31/2018
<b>Carbon Weight Fraction NMHC</b>	--	<b>Carbon Weight Fraction HC</b>	--
<b>Exhaust Carbon Weight Fraction</b>	--	<b>Fuel Methanol Volume Fraction</b>	--
<b>Fuel Density (grams/cubic ft)</b>	--	<b>Fuel Specific Gravity</b>	0.742
<b>Fuel Ethanol Volume Percent (%)</b>	9.7	<b>Fuel Net Heating Value (BTU / lb)</b>	17848
<b>Fuel Blend Carbon Weight Fraction</b>	0.826	<b>Weight Fraction CO2</b>	--

## Certification Summary Information Report

Test Group		KTYXV01.8P33			Evaporative/Refueling Family			KTYXR0130J72		
Consolidated List of Standards										
Exhaust Standards										
<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-III SULEV30		
<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	--	--	--	--	--	--	0.09	1.0	
150,000 miles	CO-COMP	--	--	--	--	--	--	0.09	4.2	
150,000 miles	HCHO	--	--	--	--	--	--	--	0.004	
150,000 miles	NMOG	--	1	1.1	--	--	--	0.0043	999.999	
150,000 miles	NMOG+NOX	--	1	1.1	--	--	--	0.0056	0.030	
150,000 miles	NMOG+NOX-COMP	--	1	1.03	--	--	--	0.0056	0.030	
150,000 miles	NOX	--	--	--	--	--	--	0.0013	999.999	
150,000 miles	PM	--	--	--	--	--	--	0	0.003	
<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 30		
<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	--	--	--	--	--	--	0.09	1.0	
150,000 miles	CO-COMP	--	--	--	--	--	--	0.09	4.2	
150,000 miles	CREE	--	--	--	--	--	--	0.095	999.9999	
150,000 miles	HCHO	--	--	--	--	--	--	--	0.004	
150,000 miles	METHANE	--	--	--	--	--	--	0.0013	0.030	
150,000 miles	N2O	--	--	--	--	--	--	0.0004	0.010	
150,000 miles	NMOG	--	1	1.1	--	--	--	0.0043	999.999	
150,000 miles	NMOG+NOX	--	1	1.1	--	--	--	0.0056	0.030	
150,000 miles	NMOG+NOX-COMP	--	1	1.03	--	--	--	0.0056	0.030	
150,000 miles	NOX	--	--	--	--	--	--	0.0013	999.999	
150,000 miles	PM	--	--	--	--	--	--	0	0.003	

## Certification Summary Information Report

<b>Test Group</b>	KTYXV01.8P33		<b>Evaporative/Refueling Family</b>				KTYXR0130J72			
<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 30			
<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	--	--	--	--	--	--	0.095	999.9999	
150,000 miles	NMOG	--	1	1.03	--	--	--	0.0043	999.999	
150,000 miles	NMOG+NOX	--	1	1.03	--	--	--	0.0056	0.030	
150,000 miles	NOX	--	--	--	--	--	--	0.0013	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-III SULEV30			
<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	PM	--	--	--	--	--	--	0	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-III SULEV30			
<b>Fuel</b>	Gasoline		<b>Test Procedure</b>				CA fuel 50 Deg(F) exhaust test			
<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>	
4,000 miles	CO	--	--	--	--	--	--	--	1.0	
4,000 miles	HCHO	--	--	--	--	--	--	--	0.008	
4,000 miles	NMOG	--	1	1.1	--	--	--	--	999.999	
4,000 miles	NMOG+NOX	--	1	1.1	--	--	1	--	0.060	
4,000 miles	NOX	--	--	--	--	--	--	--	999.999	

## Certification Summary Information Report

<b>Test Group</b>	KTYXV01.8P33				<b>Evaporative/Refueling Family</b>			KTYXR0130J72		
<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-III SULEV30		
<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	NMOG	--	1	1.03	--	--	--	0.0043	999.999	
150,000 miles	NMOG+NOX	--	1	1.03	--	--	--	0.0056	0.030	
150,000 miles	NOX	--	--	--	--	--	--	0.0013	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 30		
<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	--	--	--	--	--	--	0.03	10.0	
120,000 miles	HC-NM	--	--	--	--	--	--	0	0.2	

<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-III SULEV30		
<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	--	--	--	--	--	--	0.03	10.0	

<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 30		
<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	PM	--	--	--	--	--	--	0	0.006	

## Evaporative/Refueling Standards

## Certification Summary Information Report

<b>Test Group</b>	KTYXV01.8P33		<b>Evaporative/Refueling Family</b>	KTYXR0130J72	
<b>Evaporative/Refueling Family</b>	KTYXR0130J72		<b>Cert Region</b>	Federal	
<b>Cert/In-Use Code</b>	Cert		<b>Standard Level</b>	Federal Tier 3 Evap	
<b>Test Procedure</b>	California fuel 2-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
<b>Evaporative/Refueling Family</b>	KTYXR0130J72		<b>Cert Region</b>	Federal	
<b>Cert/In-Use Code</b>	Cert		<b>Standard Level</b>	Federal Tier 3 Evap	
<b>Test Procedure</b>	Spitback				
<b>Fuel</b>	<b>Useful Life</b>	<b>Emission Name</b>	<b>Rounded Result</b>	<b>Std</b>	<b>Add DF</b>
Gasoline	4,000 miles	SPITBACK	--	1.0	0
<b>Evaporative/Refueling Family</b>	KTYXR0130J72		<b>Cert Region</b>	Federal	
<b>Cert/In-Use Code</b>	Cert		<b>Standard Level</b>	Federal Tier 3 Evap	
<b>Test Procedure</b>	California 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
<b>Evaporative/Refueling Family</b>	KTYXR0130J72		<b>Cert Region</b>	Federal	
<b>Cert/In-Use Code</b>	Cert		<b>Standard Level</b>	Federal Tier 3 Evap	
<b>Test Procedure</b>	CA 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
<b>Evaporative/Refueling Family</b>	KTYXR0130J72		<b>Cert Region</b>	California + CAA Section 177 states	
<b>Cert/In-Use Code</b>	Cert		<b>Standard Level</b>	California LEV-III Zero Evap (Option 2)	
<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	--	0.20	0
<b>Evaporative/Refueling Family</b>	KTYXR0130J72		<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)				
<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	--	0.20	0

## Certification Summary Information Report

<b>Test Group</b>	KTYXV01.8P33		<b>Evaporative/Refueling Family</b>	KTYXR0130J72	
<b>Evaporative/Refueling Family</b>	KTYXR0130J72		<b>Cert Region</b>	California + CAA Section 177 states California LEV-III Zero Evap (Option 2)	
<b>Cert/In-Use Code</b>	Cert		<b>Standard Level</b>		
<b>Test Procedure</b>	California 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
<b>Evaporative/Refueling Family</b>	KTYXR0130J72		<b>Cert Region</b>	California + CAA Section 177 states California LEV-III Zero Evap (Option 2)	
<b>Cert/In-Use Code</b>	Cert		<b>Standard Level</b>		
<b>Test Procedure</b>	California fuel 2-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
<b>Evaporative/Refueling Family</b>	KTYXR0130J72		<b>Cert Region</b>	California + CAA Section 177 states California LEV-III Zero Evap (Option 2)	
<b>Cert/In-Use Code</b>	Cert		<b>Standard Level</b>		
<b>Test Procedure</b>	CA 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

## Certification Summary Information Report

Test Group	KTYXV01.8P33	Evaporative/Refueling Family	KTYXR0130J72
<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	METHANOL	CH3OH - Methanol
CO	Carbon Monoxide	N2O	Nitrous Oxide
CO2	Carbon dioxide	SPITBACK	Spitback Hydrocarbon in grams
CREE	Carbon-Related Exhaust Emissions	AMP-HRS	Integrated Amp-hours
OPT-CREE	Optional Carbon-Related Exhaust Emissions	START-SOC	System Start State of Charge Watt-hours
NOX	Nitrogen Oxide	END-SOC	System End State of Charge Watt-hours
PM	Particulate Matter	ACT-DISTANCE	Actual Distance Driven (miles)
PM-COMP	SFTP Composite Particulate Matter	AS-VOLT	Average System Voltage
HC-NM	Non-methane Hydrocarbon	CO2 BAG 1	Bag 1 Carbon Dioxide
OMHCE	Organic material Hydrocarbon Equivalent	CO2 BAG 2	Bag 2 Carbon Dioxide
OMNMHCE	Organic material non-methane HC equivalent	CO2 BAG 3	Bag 3 Carbon Dioxide
NMOG	Non-methane organic gases	CO2 BAG 4	Bag 4 Carbon Dioxide
HCHO	Formaldehyde	NMOG+NOX	Non-methane organic gases plus Nitrogen Oxides
H3C2HO	Acetaldehyde	NMOG+NOX-COMP	SFTP Composite Non-methane Organic Gases + Nitrogen Oxides
HC-NM+NOX	SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03	DT-IWRR	Drive Trace Inertia Work Ratio Rating
HC-NM+NOX-COMP	SFTP Composite Non-methane Hydrocarbon + Nitrogen Oxides	DT-ASCR	Drive Trace Absolute Speed Change Rating
CO-COMP	SFTP Composite Carbon Monoxide	DT-EER	Drive Trace Energy Economy Rating
ETHANOL	C2H5OH - Ethanol	COMB-CREE	Combined Carbon-Related Exhaust Emissions
FE BAG 1	Bag 1 Fuel Economy	COMB-OPT-CREE	Combined Optional Carbon-Related Exhaust Emissions
FE BAG 2	Bag 2 Fuel Economy	HC-TOTAL-EQUIV	Total Hydrocarbon equivalent - Evap only
FE BAG 3	Bag 3 Fuel Economy	METHANE-COMB	Combined CH4 for HD 2b/3 vehicles only
FE BAG 4	Bag 4 Fuel Economy	N2O-COMB	Combined Nitrous Oxide for HD 2b/3 vehicles only
MFR FE	Manufacturer Fuel Economy	LEAK-DIA	Effective Leak Diameter (inches)
HC	Hydrocarbon for Running Loss and ORVR	LEAK-GAS CAP	Gas Cap Leakage (cc/min)
METHANE	CH4 - Methane	CO2-COMB	Combined Carbon Dioxide for HD 2b/3 Vehicles Only
<b>Certification Region</b>			
CA	California + CAA Section 177 states	FA	Federal
<b>Exhaust Emission Standard Level</b>			
B1	Federal Tier 2 Bin 1	L3ULEV340	California LEV-III ULEV340
B2	Federal Tier 2 Bin 2	L3ULEV250	California LEV-III ULEV250
B3	Federal Tier 2 Bin 3	L3ULEV200	California LEV-III ULEV200
B4	Federal Tier 2 Bin 4	L3SULEV170	California LEV-III SULEV170
B5	Federal Tier 2 Bin 5	L3SULEV150	California LEV-III SULEV150



## Certification Summary Information Report

Test Group	KTYXV01.8P33	Evaporative/Refueling Family	KTYXR0130J72
B6	Federal Tier 2 Bin 6	L3LEV630	California LEV-III LEV630
B7	Federal Tier 2 Bin 7	L3ULEV570	California LEV-III ULEV570
B8	Federal Tier 2 Bin 8	L3ULEV400	California LEV-III ULEV400
B9	Federal Tier 2 Bin 9	L3ULEV270	California LEV-III ULEV270
B10	Federal Tier 2 Bin 10	L3SULEV230	California LEV-III SULEV230
B11	Federal Tier 2 Bin 11	L3SULEV200	California LEV-III SULEV200
HDV1	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	T3B160	Federal Tier 3 Bin 160
HDV2	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)	T3B125	Federal Tier 3 Bin 125
L2	California LEV-II LEV	T3B110	Federal Tier 3 Transitional Bin 110
L2OP	California LEV-II LEV Optional	T3B85	Federal Tier 3 Transitional Bin 85
U2	California LEV-II ULEV	T3SULEV30	Federal Tier 3 Transitional LEV-II SULEV30 Carryover
S2	California LEV-II SULEV	T3B70	Federal Tier 3 Bin 70
ZEV	California ZEV	T3B50	Federal Tier 3 Bin 50
OT	Other	T3B30	Federal Tier 3 Bin 30
T1	Federal Tier 1	T3B20	Federal Tier 3 Bin 20
PZEV	California PZEV	T3B0	Federal Tier 3 Bin 0
L2LEV160	California LEV-II LEV160	HDV2B395	Federal Tier 3 HD Class 2b Transitional Bin 395
L2ULEV125	California LEV-II ULEV125	HDV2B340	Federal Tier 3 HD Class 2b Transitional Bin 340
L2SULEV30	California LEV-II SULEV30	HDV2B250	Federal Tier 3 HD Class 2b Bin 250
L2LEV395	California LEV-II LEV395	HDV2B200	Federal Tier 3 HD Class 2b Bin 200
L2ULEV340	California LEV-II ULEV340	HDV2B170	Federal Tier 3 HD Class 2b Bin 170
L2LEV630	California LEV-II LEV630	HDV2B150	Federal Tier 3 HD Class 2b Bin 150
L2ULEV570	California LEV-II ULEV570	HDV2B0	Federal Tier 3 HD Class 2b Bin 0
L3LEV160	California LEV-III LEV160	HDV3B630	Federal Tier 3 HD Class 3 Transitional Bin 630
L3ULEV125	California LEV-III ULEV125	HDV3B570	Federal Tier 3 HD Class 3 Transitional Bin 570
L3ULEV70	California LEV-III ULEV70	HDV3B400	Federal Tier 3 HD Class 3 Bin 400
L3ULEV50	California LEV-III ULEV50	HDV3B270	Federal Tier 3 HD Class 3 Bin 270
L3SULEV30	California LEV-III SULEV30	HDV3B230	Federal Tier 3 HD Class 3 Bin 230
L3SULEV20	California LEV-III SULEV20	HDV3B200	Federal Tier 3 HD Class 3 Bin 200
L3LEV395	California LEV-III LEV395	HDV3B0	Federal Tier 3 HD Class 3 Bin 0
<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
F	2-Wheel Drive, Front	A	All Wheel Drive
R	2-Wheel Drive, Rear		

## Certification Summary Information Report

Test Group	KTYXV01.8P33	Evaporative/Refueling Family	KTYXR0130J72
<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