

Certification Summary Information Report

Manufacturer	Toyota Motor Corporation	Manufacturer Code	TYX
Test Group	ETYXV00.0DA9	Evaporative/Refueling Family	N/A
Certificate Number	N/A	CARB Executive Order #	N/A
Certificate Issue Date	N/A	Certificate Revision Date	N/A
Certificate Effective Date	N/A	Conditional Certificate	--
CSI Revision #	0	CSI Submission/Revision Date	08/19/2013
Model Year	2014		

Test Group Information

CSI Type	New	Running Change Reference Number	N/A
GHG Exempt Status	Not Exempt		

Drive Sources and Fuel(s)

Drive Source #1: Electric Motor

Fuel	Basic Fuel Metering System	Lean Burn Strategy Indicator
Electricity	--	--

Hybrid Indicator	No		
Multiple Fuel Storage	--	Rechargeable Energy Storage System Indicator	Yes
Multiple Fuel Combustion	--	Off-board Charge Capable Indicator	Yes
Fuel Cell Indicator	No	EPA Vehicle Class	LDV
Federal Clean Fuel Vehicle	No	Federal Clean Fuel Vehicle Standard	--
Federal Clean Fuel Vehicle ILEV	--	California Partial Zero Emissions Vehicle Indicator	--
Durability Group Name	ETYXEEENZZZ	Durability Group Equivalency Factor	1.0
Reduced Fee Test Group	No	Certification Region Code(s)	FA, CA
Complies with HD GHG 2b/3 regulations?	No		
Introduction into Commerce Date	09/03/2013	CAP2000 Conditional Certificate?	N/A
Independent Commercial Importer?	--	Alternative Fuel Converter Certificate?	--
SFTP Compliance Indicator	No	SFTP Composite CO Option	--
OBD Compliance Type	CARB	OBD Demonstration Vehicle Test Group	ETYXV00.0DA9
Mfr Test Group Comments	--		
Mfr Exhaust / Evap Standards Comments	--		

Models Covered by this Certificate

Carline Manufacturer	Division	Carline	Certification Region Code(s)	Drive System	Trans - Type	- # of Gears	Trans - Lockup
Toyota Motor Corporation	1 - TOYOTA	310 - RAV4 EV	Federal	2-Wheel Drive, Front	Continuously Variable	1	No

Certification Summary Information Report

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Engine Description											
Hybrid Type	--				Hybrid Description			--			
Engine Type	--				Mfr Engine Description			--			
Engine Block Arrangement	--				Mfr Engine Block Arrangement Description			--			
Camless Valvetrain Indicator	--				Oil Viscosity/Classification						
Number of Cylinders/Rotors	--										
After Treatment Device(s) (ATD)											
Mfr After Treatment Device (ATD) Comments	--										
Direct Ozone Reduction (DOR) Device											
Mfr Emission Control Device Comments	--										
Official Test Numbers											
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		--	--	--	--	--	N/A	N/A	--	N/A	N/A
Hybrid Electric Vehicle And Fuel Cell Information											
Rechargeable Energy Storage System	Battery(s)				Rechargeable Energy Storage System, if Other			--			
Battery Type	Lithium Ion				Number of Battery Packs			1			
Total Voltage of Battery Packs	386				Battery Energy Capacity			130			
Battery Specific Energy	110.3				Battery Charger Type			On-Board			
Number of Capacitors	N/A				Mfr Capacitor Comments			--			
Capacitor Rating (In Farads)	--										
Hydraulic System Description											
Regenerative Braking Type	Electrical Regen Brake				Driver Controlled Regenerative Braking			No			
Regenerative Braking Source	Both										
Mfr Regenerative Braking Description	--										
Drive Motor(s)/Generator(s)											
Mfr Fuel Cell Description											
Fuel Cell On-Board H2 Storage Capacity (kg)	--				Usable H2 Fill Capacity (kg)			--			
Mfr Hybrid Electric/ Electric Vehicle Comments	Actual Battery Energy Capacity (Ah) is equal to 130.										

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Emission Data Vehicle Information

Vehicle ID / Configuration 12-QA1E / 0

Vehicle Model

Represented Test Vehicle Make Toyota **Represented Test Vehicle Model** RAV4 EV

Drive Sources and Fuel System Details

Drive Source and Fuel#	Drive Source	Fuel
1	Electric Motor	Electricity

Hybrid Indicator	N	Multiple Fuel Combustion	--
Multiple Fuel Storage	--	Rechargeable Energy Storage System Indicator	Y
Fuel Cell Indicator	N	Rechargeable Energy Storage System, if 'Other'	--
Rechargeable Energy Storage System	Battery(s)	# of Transmission Gears	1
Off-board charge Capable Indicator	Y	Axle Ratio	9.73
Transmission Type	Continuously Variable	Rated Horsepower	1
Engine Code	01	Air Aspiration Method	Naturally Aspirated
Displacement (liters)	0.001	SIL Usage	Not equipped
Equivalent Test Weight (pounds)	4250		
Drive Mode While Testing	2-Wheel Drive, Front		
Aged Emission Components	4,000 (mi)		

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	32.246	0.27335	0.022058	5.9	0.3094	0.02145	13.5

Manufacturer Test Vehicle Comments RAV4 Electric Vehicle - Extended Range Charging Mode

Certification Summary Information Report

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Test #	CTYX10022452	Test Procedure	81 - Charge Depleting UDDS
Exhaust Test # for this Evap Test	N/A	Test Fuel Type	62 - Electricity
Test Date	08/21/2012	Fuel	N/A
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	Higashifuji Technical Center		
PHEV/EV TEST INFO			
Recharge Event Voltage	235.2	Recharge Event Energy (kiloWatt-hours)	49.5778
Charge Depleting Range (Calculated miles)	171.957	Charge Depleting Range (Actual miles)	171.957
Equivalent All Electric Range	171.957		
Number of Charge Depleting Bags/Phases Conducted	1		
Charge Depleting Bag/Phase			
	Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
	1	Actual Distance Driven (miles)	171.957
	1	Average System Voltage	0
	1	Carbon Monoxide	0
	1	Carbon dioxide	0
	1	Carbon-Related Exhaust Emissions	0
	1	Integrated Amp-hours	0
	1	Manufacturer Fuel Economy	28.8315
	1	Nitrogen Oxide	0
	1	System End State of Charge Watt-hours	0
	1	System Start State of Charge Watt-hours	0
	1	Total Hydrocarbon	0
Manufacturer Test Comments	Extended Charge Mode. EPA Confirmatory Test. Data entered into Verify by Toyota per EPA direction. Amp-hrs, SOC, Voltage and CREE set to default of 0.		

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Consolidated List of Standards									
Exhaust Standards									
Cert Region	Federal		Cert/In-Use Code		Cert				
Vehicle Class	LDV/Passenger Car		Standard Level		Federal Tier 2 Bin 1				
Fuel	Electricity		Test Procedure		CVS 75 and later (w/o can. load)				
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
120,000 miles	CO	--	--	--	--	--	--	--	0.0
120,000 miles	CREE	--	--	--	--	--	--	0	0.0
120,000 miles	HC-TOTAL	--	--	--	--	--	--	--	0.0
120,000 miles	NOX	--	--	--	--	--	--	--	0.0

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Glossary			
Useful Life			
4	4,000 miles	120	120,000 miles
50	50,000 miles	150	150,000 miles
100	100,000 miles		
Emission Name			
HC-TOTAL	Total Hydrocarbon	FE BAG 4	Bag 4 Fuel Economy
CO	Carbon Monoxide	MFR FE	Manufacturer Fuel Economy
CO2	Carbon dioxide	HC	Hydrocarbon for Running Loss and ORVR
CREE	Carbon-Related Exhaust Emissions	METHANE	CH4 - Methane
OPT-CREE	Optional Carbon-Related Exhaust Emissions	METHANOL	CH3OH - Methanol
NOX	Nitrogen Oxide	N2O	Nitrous Oxide
PM	Particulate Matter	SPITBACK	Spitback Hydrocarbon in grams
PM-COMP	SFTP Composite Particulate Matter	AMP-HRS	Integrated Amp-hours
HC-NM	Non-methane Hydrocarbon	START-SOC	System Start State of Charge Watt-hours
OMHCE	Organic material Hydrocarbon Equivalent	END-SOC	System End State of Charge Watt-hours
OMNMHCE	Organic material non-methane HC equivalent	ACT-DISTANCE	Actual Distance Driven (miles)
NMOG	Non-methane organic gas (California)	AS-VOLT	Average System Voltage
HCHO	Formaldehyde	CO2 BAG 1	Bag 1 Carbon Dioxide
H3C2HO	Acetaldehyde	CO2 BAG 2	Bag 2 Carbon Dioxide
HC-NM+NOX	SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03	CO2 BAG 3	Bag 3 Carbon Dioxide
HC-NM+NOX-COMP	SFTP Composite Non-methane Hydrocarbon + Nitrogen Oxides	CO2 BAG 4	Bag 4 Carbon Dioxide
CO-COMP	SFTP Composite Carbon Monoxide	NMOG+NOX	Non-methane organic gases plus Nitrogen Oxides
ETHANOL	C2H5OH - Ethanol	NMOG+NOX-COMP	SFTP Composite Non-methane Organic Gases + Nitrogen Oxides
FE BAG 1	Bag 1 Fuel Economy	DT-IWRR	Drive Trace Inertia Work Ratio Rating
FE BAG 2	Bag 2 Fuel Economy	DT-ASCR	Drive Trace Absolute Speed Change Rating
FE BAG 3	Bag 3 Fuel Economy	DT-EER	Drive Trace Energy Economy Rating
Certification Region			
CA	California + CAA Section 177 states	FA	Federal
Exhaust Emission Standard Level			
B1	Federal Tier 2 Bin 1	L2SULEV30	California LEV-II SULEV30
B2	Federal Tier 2 Bin 2	L2LEV395	California LEV-II LEV395
B3	Federal Tier 2 Bin 3	L2ULEV340	California LEV-II ULEV340
B4	Federal Tier 2 Bin 4	L2LEV630	California LEV-II LEV630
B5	Federal Tier 2 Bin 5	L2ULEV570	California LEV-II ULEV570
B6	Federal Tier 2 Bin 6	L3LEV160	California LEV-III LEV160
B7	Federal Tier 2 Bin 7	L3ULEV125	California LEV-III ULEV125
B8	Federal Tier 2 Bin 8	L3ULEV70	California LEV-III ULEV70
B9	Federal Tier 2 Bin 9	L3ULEV50	California LEV-III ULEV50

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B10	Federal Tier 2 Bin 10	L3SULEV30	California LEV-III SULEV30
B11	Federal Tier 2 Bin 11	L3SULEV20	California LEV-III SULEV20
HDV1	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	L3LEV395	California LEV-III LEV395
HDV2	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)	L3ULEV340	California LEV-III ULEV340
L2	California LEV-II LEV	L3ULEV250	California LEV-III ULEV250
L2OP	California LEV-II LEV Optional	L3ULEV200	California LEV-III ULEV200
U2	California LEV-II ULEV	L3SULEV170	California LEV-III SULEV170
S2	California LEV-II SULEV	L3SULEV150	California LEV-III SULEV150
ZEV	California ZEV	L3LEV630	California LEV-III LEV630
OT	Other	L3ULEV570	California LEV-III ULEV570
T1	Federal Tier 1	L3ULEV400	California LEV-III ULEV400
PZEV	California PZEV	L3ULEV270	California LEV-III ULEV270
L2LEV160	California LEV-II LEV160	L3SULEV230	California LEV-III SULEV230
L2ULEV125	California LEV-II ULEV125	L3SULEV200	California LEV-III SULEV200
Transmission Type Code			
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)
Drive System Code			
4	4-Wheel Drive	P	Part-time 4-Wheel Drive
F	2-Wheel Drive, Front	A	All Wheel Drive
R	2-Wheel Drive, Rear		
Additional Terms and Acronyms			
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