

# TOYOTA

## Application For Certification - Part 1 2021 Model Year

**Durability Group** : MTYXGPGNN62M  
**Evap/refueling Families** : MTYXR0130P72  
**Test Group** : MTYXJ02.5N4L  
**Durability Group Description** : Four Stroke, Otto Cycle, Gasoline Fueled,  
Ported FI, Catalyst code : 3-IIZ43 + 3-IIml  
**Test Group Description** : 2.5 Liter I4 LDT1(RAV4),  
LDT2(RAV4, RAV4 AWD),  
LDV (AVALON AWD, ES 250 AWD)  
**Applicable Standards** : Federal State: Tier3-Bin50- LDV/LDT1  
California: LEVIII-ULEV50-PC/LDT1  
**Carlines Covered** : RAV4, RAV4 AWD, RAV4 AWD LE,  
RAV4 AWD TRD OFFROAD,  
AVALON AWD, ES 250 AWD  
**Engine Series** : A25A-FKS  
**Vehicles Tested** :

Vehicle I.D.	Config.	Test	Test Number
19-AA1A	06	FTP	LTYSX10059992
19-AA1A	06	HWY	LTYSX10059996
19-AA1A	06	SFTP (US06)	LTYSX10059997
19-AA1A	06	SFTP (SC03)	LTYSX10059999
18-AV1A	01	EVAP	JTYX10046254
18-AV1A	01	Running Loss	JTYX10046252
18-AV1A	01	Refueling	JTYX10046255
18-AV1A	01	Canister Bleed	JTYX10046336
19-AA1A	06	C.CO, C.HC	LTYSX10059990

**EPA Response Requested By : July 17, 2020**

**For Questions, Contact** : Lisa Florida 734-995-1151

**Note** :

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1. **Correspondence and Communications**

Please refer to the FOI common file.

2. **Durability Group Description**

Durability Group Name : MTYXGPGNN62M

Please refer to the common file for details.

3. **Evaporative/Refueling Family Description**

Evaporative/Refueling Family Name : MTYXR0130P72

Please refer to the FOI common file for details.

4. **Durability Procedure Description**

4.1 Exhaust Durability Test Procedure

4.2 Durability Showing

4.3 Evap/refueling Durability Test Procedure

Please refer to the CBI common file.

4.4 Exhaust Emission Deterioration Factors

4.5 Evap/refueling Emission Deterioration Factors

4.6 Equivalency Factor

Please refer to Certification Summary Information Report in Section 7 or FOI common file.

**5. Test Group Description**

- 5.1 Test group name : MTYXJ02.5N4L
- 5.2 Engine displacements covered : 2,487 cm<sup>3</sup> (151.8 CID)
- 5.3 Arrangement and number of cylinders : I4
- 5.4 Vehicle class (es) covered : LDT1(RAV4<sup>\*1</sup>), LDT2(RAV4<sup>\*2</sup>, RAV4 AWD),  
LDV(AVALON AWD, ES 250 AWD)
- 5.5 Federal emission standards class : Tier3-Bin50 – LDV/LDT1
- 5.6 California emission standards class : LEVIII-ULEV50 – PC/LDT1
- 5.7 Applicable emission standards

Please refer to Certification Summary Information Report in Section 7.

\*1: AXAA52L-ANZMBA, AXAA52L-ANZXBA, AXAA52L-CNZMBA, AXAA52L-CNZXBA

\*2: AXAA52L-ANZGBA, AXAA52L-CNZGBA

**6. Test Vehicle Description**

Vehicle Type	Vehicle ID	Config.	Tests Performed
Durability Data Vehicle	19B-AA1A	01	FTP
Emission Data Vehicle	18-AV1A	01	3-Day Evap., Refueling, Canister Bleed
	19-AA1A	06	FTP, HwFET, SFTP, Cold CO, Cold HC

Please refer to the next page for Durability Data Vehicle and section 7 for Emission Data Vehicle.



## 6. Test Vehicle Description

### Durability Data Vehicle Description Details

#### Verify Processing Report

**Total Datasets Submitted:** 1  
**Accepted Datasets:** 1  
**Rejected Datasets:** 0

The original datasets are listed below. In addition, any information generated by the Verify system is also included. For any rejected datasets, the reason(s) the dataset was rejected is provided below in the Transaction Report for that particular dataset.

#### Test Vehicle Information Submission

##### Test Vehicle Information Details

**Information Process Code :** N  
**EPA Manufacturer Code :** TYX  
**Vehicle Identification Text :** 19B-AA1A  
**Vehicle Configuration Number :** 1

##### Vehicle Configuration Details

##### Vehicle Description Details

**Manufacturer Vehicle Configuration Number :** 1  
**Test Group Name :** LTYXJ02.5N4L  
**Evaporative Refueling Family Name :** LTYXR0130P72  
**Model Year :** 2020  
**Actual Test Vehicle Make Text :** TOYOTA  
**Actual Test Vehicle Model Text :** RAV4 AWD TRD OFFROAD

##### Drive Source Details

**Drive Source Identifier :** C  
**Fuel Identifier :** G

**Test Drive Code :** F  
**Shift Indicator Light Usage Identifier :** 1  
**Aged Component Usage Identifier :** 150

##### Odometer Correction Details

**Correction Initial Value :** 17  
**Correction Factor Value :** 1.00  
**Correction Sign Identifier :** -  
**Correction Units Code :** M

**Engine Code Text :** 01  
**Engine Rated Horsepower Value :** 203  
**Engine Displacement Value :** 2.487

##### Air Aspiration Details

**Air Aspiration Method Identifier :** NA

**Charge Air Cooler Identifier :** N

##### Vehicle Specifications Details

**Curb Weight Value :** 3655  
**Equivalent Test Weight Value :** 4000

6. **Test Vehicle Description**

**Gross Vehicle Weight Rating Value** : 4705  
**NV Ratio Value** : 26.2  
**Axle Ratio Value** : 3.18

**Transmission Specifications Details**

**Light Duty Transmission Type Identifier** : A  
**Transmission Lockup Indicator** : Y  
**Transmission Creeper Gear Indicator** : N  
**Transmission Gear Count** : 8

**Target Set Coefficient Details**

**Test Procedure Dynamometer Coefficients Category** : C-H-E  
**Target CoefficientA Value** : 38.136  
**Target CoefficientB Value** : 0.14034  
**Target CoefficientC Value** : 0.024933  
**Set CoefficientA Value** : 16.671  
**Set CoefficientB Value** : -0.18881  
**Set CoefficientC Value** : 0.027674

**Manufacturer Comment Text** : Normal shift pattern. Extra ballast of 100kg (220lbs) added to the front axle to prevent slipping for the test. This is not included in the VI test weights.

**EPA Generated Test Vehicle Details**

**Original Receipt Date** : 20190617  
**Hybrid Vehicle Indicator** : N  
**Adjusted Loaded Vehicle Weight Value** : 4180  
**Loaded Vehicle Weight Value** : 3955  
**Total Road Load Horsepower Value** : 14.3

**Transaction Status Details**

**Transaction Status Identifier** : ACCEPTED



## Certification Summary Information Report

Test Group	MTYXJ02.5N4L	Evaporative/Refueling Family	MTYXR0130P72
<b>Evaporative/Refueling Family Information</b>			
Evaporative Summary Information Type	New	Submission/Correction Date	02/02/2020 11:44:23 PM
Integrated ORVR?	Yes	Fuel(s)	Gasoline
Multiple Fuel Storage	--		
Bladder Fuel Tank?	No		
Fuel Tank Material	Plastic	Fuel Tank Material Description	EVOH
Fill Pipe Seal Type	Liquid seal		
Air Intake System Vapor Storage Device?	Yes	Air Intake System Vapor Storage Device Description	Carbon filter in the air cleaner box
Fuel System Vapor Storage Canister?	Yes	Other Vapor Storage	--
Fuel System Vapor Storage Canister(s) Total Working Capacity (grams)	130	Number of Primary Canisters	1
Number of Bleed Canisters	1	Bleed Canister Total Working Capacity (grams)	2
Mfr Evaporative/Refueling Family Comments	--		
<b>Leak Family Details</b>			
Leak Family Indicator	No		
Canister Bleed Test Indicator	Yes	Applicability of Evaporative Canister Bleed Test	50 State
Evaporative Canister Bleed Test Comments	--		
CARB Fuel Only (Rig) Test Indicator	No	Applicability of CARB Fuel Only (Rig) Test	--
CARB Fuel Only (Rig) Test Comments	--		

## Certification Summary Information Report

Test Group	MTYXJ02.5N4L		Evaporative/Refueling Family		MTYXR0130P72		
<b>Models Covered by this Certificate</b>							
Carline Manufacturer	Division	Carline	Certification Region Code(s)	Drive System	Trans - Type	- # of Gears	Trans - Lockup
Toyota Motor Corporation	1 - TOYOTA	160 - RAV4	California + CAA Section 177 states	2-Wheel Drive, Front	Semi-Automatic	8	Yes
Toyota Motor Corporation	1 - TOYOTA	168 - RAV4 AWD LE	Federal	All Wheel Drive	Semi-Automatic	8	Yes
Toyota Motor Corporation	1 - TOYOTA	23 - AVALON AWD	California + CAA Section 177 states	All Wheel Drive	Semi-Automatic	8	Yes
Toyota Motor Corporation	1 - TOYOTA	167 - RAV4 AWD TRD OFFROAD	California + CAA Section 177 states	All Wheel Drive	Semi-Automatic	8	Yes
Toyota Motor Corporation	1 - TOYOTA	168 - RAV4 AWD LE	California + CAA Section 177 states	All Wheel Drive	Semi-Automatic	8	Yes
Toyota Motor Corporation	1 - TOYOTA	160 - RAV4	Federal	2-Wheel Drive, Front	Semi-Automatic	8	Yes
Toyota Motor Corporation	2 - LEXUS	38 - ES 250 AWD	Federal	All Wheel Drive	Semi-Automatic	8	Yes
Toyota Motor Corporation	1 - TOYOTA	165 - RAV4 AWD	California + CAA Section 177 states	All Wheel Drive	Semi-Automatic	8	Yes
Toyota Motor Corporation	1 - TOYOTA	23 - AVALON AWD	Federal	All Wheel Drive	Semi-Automatic	8	Yes
Toyota Motor Corporation	1 - TOYOTA	165 - RAV4 AWD	Federal	All Wheel Drive	Semi-Automatic	8	Yes
Toyota Motor Corporation	2 - LEXUS	38 - ES 250 AWD	California + CAA Section 177 states	All Wheel Drive	Semi-Automatic	8	Yes
Toyota Motor Corporation	1 - TOYOTA	167 - RAV4 AWD TRD OFFROAD	Federal	All Wheel Drive	Semi-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>	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		
<b>After Treatment Device(s) (ATD)</b>							
ATD Number	ATD Type	ATD Precious Metal	Substrate Material	Substrate Construction			
1	Three-way catalyst	Platinum + Rhodium	Ceramic	Monolith			
2	Three-way catalyst	Palladium + 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>							
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## Certification Summary Information Report

Test Group	MTYXJ02.5N4L	Evaporative/Refueling Family	MTYXR0130P72
<b>Engine Configuration Number 1</b>			
Engine Displacement (liters)	2.5	Engine Rated Horsepower	203
Number of Inlet Valves Per Cylinder	2	Number of Exhaust Valves Per Cylinder	2
Air Aspiration Method	Naturally Aspirated	Number of Air Aspiration Devices	--
Air Aspiration Device Configuration	--	Charge Air Cooler Type	N/A
Air Aspiration Drive Method(s)	--		
Cylinder Deactivation	No		
Cylinder Deactivation Description	--		
Variable Valve Timing	Yes		
Variable Valve Timing System Description	Intake and exhaust		
Variable Valve Lift?	No		
Variable Valve Lift System Description	--		
Number of Knock Sensors	1	Number of Air/Fuel Sensors	2
Air/Fuel Sensor # 1 Type	Heated air fuel	Air/Fuel Sensor # 1 Description	--
Air/Fuel Sensor # 2 Type	Heated air fuel	Air/Fuel Sensor # 2 Description	--
Mfr Air/Fuel Sensor Comments	--		
Exhaust Gas Recirculation	Yes	Cooled Exhaust Gas Recirculation	Yes
EGR Type	Electronic/Electric	Exhaust Gas Recirculation Description if 'Other'	--
Closed Loop Air Injection System	No		
Air Injection Type	Not Applicable	Air Injection Type if 'Other'	--
Mfr Engine Configuration Comments	APPLIED TO RAV4.		

## Certification Summary Information Report

Test Group	MTYXJ02.5N4L	Evaporative/Refueling Family	MTYXR0130P72
<b>Engine Configuration Number 2</b>			
Engine Displacement (liters)	2.5	Engine Rated Horsepower	202
Number of Inlet Valves Per Cylinder	2	Number of Exhaust Valves Per Cylinder	2
Air Aspiration Method	Naturally Aspirated	Number of Air Aspiration Devices	--
Air Aspiration Device Configuration	--	Charge Air Cooler Type	N/A
Air Aspiration Drive Method(s)	--		
Cylinder Deactivation	No		
Cylinder Deactivation Description	--		
Variable Valve Timing	Yes		
Variable Valve Timing System Description	Intake and exhaust		
Variable Valve Lift?	No		
Variable Valve Lift System Description	--		
Number of Knock Sensors	1	Number of Air/Fuel Sensors	2
Air/Fuel Sensor # 1 Type	Heated air fuel	Air/Fuel Sensor # 1 Description	--
Air/Fuel Sensor # 2 Type	Heated air fuel	Air/Fuel Sensor # 2 Description	--
Mfr Air/Fuel Sensor Comments	--		
Exhaust Gas Recirculation	Yes	Cooled Exhaust Gas Recirculation	Yes
EGR Type	Electronic/Electric	Exhaust Gas Recirculation Description if 'Other'	--
Closed Loop Air Injection System	No		
Air Injection Type	Not Applicable	Air Injection Type if 'Other'	--
Mfr Engine Configuration Comments	APPLIED TO ES 250 AWD.		

**Certification Summary Information Report**

<b>Test Group</b>	MTYXJ02.5N4L	<b>Evaporative/Refueling Family</b>	MTYXR0130P72
<b>Engine Configuration Number 3</b>			
<b>Engine Displacement (liters)</b>	2.5	<b>Engine Rated Horsepower</b>	205
<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 and exhaust		
<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 air fuel	<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>	APPLIED TO AVALON AWD.		

**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
Gasoline		LTYX10059992	LTYX10059997	LTYX10059999	LTYX10059990	LTYX10059996	999.9	228.2	999.9	286.1	--

**SFTP LEV-III Official Test Numbers**

Test Group Fuel	FTP	US06	SC03
Gasoline	LTYX10059992	LTYX10059997	LTYX10059999



## Certification Summary Information Report

<b>Test Group</b>	MTYXJ02.5N4L		<b>Evaporative/Refueling Family</b>	MTYXR0130P72							
<b>Emission Data Vehicle Information</b>											
<b>Vehicle ID / Configuration</b>	18-AV1A / 1		<b>Manufacturer Vehicle Configuration Number</b>	1							
<b>Original Test Group Name</b>	JTYXV02.5P3A		<b>Original Evaporative/Refueling Family</b>	JTYXR0130P72							
<b>Original Test Vehicle Model Year</b>	2018										
<b>Vehicle Model</b>											
<b>Represented Test Vehicle Make</b>	TOYOTA		<b>Represented Test Vehicle Model</b>	CAMRY XLE/XSE							
<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>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									
<b>Hybrid Indicator</b>	No		<b>Multiple Fuel Combustion</b>	--							
<b>Multiple Fuel Storage</b>	--		<b>Rechargeable Energy Storage System Indicator</b>	--							
<b>Fuel Cell Indicator</b>	--		<b>Rechargeable Energy Storage System, if 'Other'</b>	--							
<b>Rechargeable Energy Storage System</b>	--										
<b>Off-board charge Capable Indicator</b>	--		<b>Odometer Correction Factor</b>	1							
<b>Odometer Correction -- Initial</b>	11										
<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>	02		<b>Rated Horsepower</b>	206							
<b>Displacement (liters)</b>	2.487		<b>Air Aspiration Method, if 'Other'</b>								
<b>Air Aspiration Method</b>	Naturally Aspirated		<b>Air Aspiration Device Configuration</b>	--							
<b>Number of Air Aspiration Devices</b>	--		<b>Drive Mode While Testing</b>	2-Wheel Drive, Front							
<b>Charge Air Cooler Type</b>	N/A		<b>Aged Emission Components</b>	4,000 (mi)							
<b>Shift Indicator Light Usage</b>	Not equipped		<b>Equivalent Test Weight (pounds)</b>	3750							
<b>Curb Weight (lbs)</b>	3415		<b>N/V Ratio</b>	24.7							
<b>GVWR (lbs)</b>	--										
<b>Axle Ratio</b>	2.8		<b># of Transmission Gears</b>	8							
<b>Transmission Type</b>	Automatic		<b>Creeper Gear</b>	No							
<b>Transmission Lockup</b>	Yes										
<b>Dynamometer Coefficients:</b>											
<b>Target Coefficients</b>			<b>Set Coefficients</b>								
<b>Coefficient Category</b>	<b>A (lbf)</b>	<b>B (lbf/mph)</b>	<b>C (lbf/mph**2)</b>	<b>A (lbf)</b>	<b>B (lbf/mph)</b>	<b>C (lbf/mph**2)</b>	<b>EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients</b>				
<b>City/Highway/Evap</b>	32.527	0.22484	0.017128	12.884	0.07426	0.017856	11.5				
<b>US06</b>	32.527	0.22484	0.017128	12.884	0.07426	0.017856	N/A				

## Certification Summary Information Report

<b>Test Group</b>	MTYXJ02.5N4L	<b>Evaporative/Refueling Family</b>	MTYXR0130P72
<b>Emission Control Device Comments</b>	--		
<b>Manufacturer Test Vehicle Comments</b>	POWER SHIFT PATTERN		
<b>Test #</b>	<b>JTYX10046254</b>	<b>Test Procedure</b>	<b>34 - Federal fuel 3-day evap</b>
<b>Exhaust Test # for this Evap Test</b>	JTYX10046248	<b>Test Fuel Type</b>	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
<b>Test Date</b>	12/23/2016	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	1K6-06	<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>	3969	<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)	0.1995678	--

**Manufacturer Test Comments** HSL=0.0381, 1ST DBL=0.1615, 2ND DBL=0.1297, 3rd DBL=0.1280 1ST DBL IS ADDED KEY OFF MONITOR LOSS(0.0002GRAM)

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	0.1996	0.0000	0.200	0.300	Pass
CA	150,000 miles	California LEV-III Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.1996	0.0000	0.200	0.300	Pass

## Certification Summary Information Report

<b>Test Group</b>	MTYXJ02.5N4L	<b>Evaporative/Refueling Family</b>	MTYXR0130P72
<b>Test #</b>	<b>JTYX10046252</b>	<b>Test Procedure</b>	<b>32 - Federal Fuel Running Loss</b>
<b>Exhaust Test # for this Evap Test</b>	JTYX10046248	<b>Test Fuel Type</b>	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
<b>Test Date</b>	12/23/2016	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	1K6-06	<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>	3969	<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)
<b>HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)</b>	0.0052584	--

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-TOTAL-EQUIV	0.005	0.000	0.00	0.05	Pass
CA	150,000 miles	California LEV-III Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.005	0.000	0.00	0.05	Pass

**Certification Summary Information Report**

<b>Test Group</b>	MTYXJ02.5N4L	<b>Evaporative/Refueling Family</b>	MTYXR0130P72
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<b>Test #</b>	<b>JTYX10046255</b>	<b>Test Procedure</b>	<b>24 - Federal fuel refueling test (ORVR)</b>
<b>Exhaust Test # for this Evap Test</b>	JTYX10046251	<b>Test Fuel Type</b>	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
<b>Test Date</b>	01/07/2016	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	1L6-07	<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>	4013	<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)
<b>HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)</b>	0.0029655	--

**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-TOTAL-EQUIV	0.003	0.000	0.00	0.20	Pass
CA	150,000 miles	California LEV-III Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.003	0.000	0.00	0.20	Pass

### Certification Summary Information Report

<b>Test Group</b>	MTYXJ02.5N4L	<b>Evaporative/Refueling Family</b>	MTYXR0130P72
<b>Test #</b>	<b>JTYX10046336</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>	46 - CARB LEV3 E10 Regular Gasoline
<b>Test Date</b>	12/23/2016	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	--	<b>Fuel Calibration Number</b>	--
<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>	3969	<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>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
<b>HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)</b>	0.012096	--

**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-TOTAL-EQUIV	0.0121	0.0000	0.012	0.020	Pass
CA	150,000 miles	California LEV-III Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.0121	0.0000	0.012	0.020	Pass

## Certification Summary Information Report

Test Group	MTYXJ02.5N4L	Evaporative/Refueling Family	MTYXR0130P72						
<b>Emission Data Vehicle Information</b>									
Vehicle ID / Configuration	19-AA1A / 6	Manufacturer Vehicle Configuration Number	6						
Original Test Group Name	LTYXJ02.5N4L	Original Evaporative/Refueling Family	LTYXR0130P72						
Original Test Vehicle Model Year	2020								
<b>Vehicle Model</b>									
Represented Test Vehicle Make	TOYOTA	Represented Test Vehicle Model	RAV4 AWD TRD OFFROAD						
<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	14	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	203						
Displacement (liters)	2.487								
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)	3655	Equivalent Test Weight (pounds)	4000						
GVWR (lbs)	4705	N/V Ratio	26.2						
Axle Ratio	3.18								
Transmission Type	Automatic	# of Transmission Gears	8						
Transmission Lockup	Yes	Creeper Gear	No						

## Certification Summary Information Report

Test Group		MTYXJ02.5N4L			Evaporative/Refueling Family			MTYXR0130P72
<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	36.043	0.20534	0.025119	18.517	-0.01429	0.026679	14.5	
Cold CO	39.647	0.22588	0.027631	16.732	-0.06057	0.029245	N/A	
US06	36.043	0.20534	0.025119	18.517	-0.01429	0.026679	N/A	
<b>Emission Control Device Comments</b>	--							
<b>Manufacturer Test Vehicle Comments</b>	T/M mode is SPORTS. Extra ballast of 100kg(220lbs) added to the front axle to prevent slipping for the test. This is not included in the VI test weights.							

## Certification Summary Information Report

<b>Test Group</b>	MTYXJ02.5N4L	<b>Evaporative/Refueling Family</b>	MTYXR0130P72
<b>Test #</b>	<b>LTYX10059990</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>	06/13/2019	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	1K8-12	<b>Fuel Calibration Number</b>	3
<b>Vehicle Class</b>	LDT1 (LVW-3750, GVW 0-6000)	<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>	5141	<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)	426.9063	--
FE BAG 1 (Bag 1 Fuel Economy)	999	999
CO2 BAG 2 (Bag 2 Carbon Dioxide)	343.715	--
FE BAG 2 (Bag 2 Fuel Economy)	999	999
CO2 BAG 3 (Bag 3 Carbon Dioxide)	313.4106	--
FE BAG 3 (Bag 3 Fuel Economy)	999	999
METHANE (CH4 - Methane)	0.0125335	--
CO (Carbon Monoxide)	1.3884456	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.75	--
DT-EER (Drive Trace Energy Economy Rating)	0.71	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	1.1	--
MFR FE (Manufacturer Fuel Economy)	999	999
NOX (Nitrogen Oxide)	0.0152903	--
N2O (Nitrous Oxide)	0.0053437	--
HC-NM (Non-methane Hydrocarbon)	0.1481117	--
HC-TOTAL (Total Hydrocarbon)	0.1598009	--

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	352.6397347	--



## Certification Summary Information Report

Test Group		MTYXJ02.5N4L			Evaporative/Refueling Family					MTYXR0130P72		
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 50	CO	1.39	--	--	--	0.05	--	1.4	10.0	Pass
Fed	120,000 miles	Federal Tier 3 Bin 50	HC-NM	0.15	--	--	--	0.01	--	0.2	0.3	Pass
CA	50,000 miles	California LEV-III ULEV50	CO	1.39	--	--	--	0.05	--	1.4	10.0	Pass

## Certification Summary Information Report

<b>Test Group</b>	MTYXJ02.5N4L	<b>Evaporative/Refueling Family</b>	MTYXR0130P72
<b>Test #</b>	<b>LTYX10059992</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>	06/04/2019	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	1A9-02	<b>Fuel Calibration Number</b>	2
<b>Vehicle Class</b>	LDT1 (LVW-3750, GVW 0-6000)	<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>	5037	<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)	309.2313	--
FE BAG 1 (Bag 1 Fuel Economy)	999	999
CO2 BAG 2 (Bag 2 Carbon Dioxide)	311.0834	--
FE BAG 2 (Bag 2 Fuel Economy)	999	999
CO2 BAG 3 (Bag 3 Carbon Dioxide)	280.0915	--
FE BAG 3 (Bag 3 Fuel Economy)	999	999
METHANE (CH4 - Methane)	0.0022127	--
CO (Carbon Monoxide)	0.1665756	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.01	--
DT-EER (Drive Trace Energy Economy Rating)	0.23	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-0.05	--
MFR FE (Manufacturer Fuel Economy)	999	999
NOX (Nitrogen Oxide)	0.0062672	--
N2O (Nitrous Oxide)	0.0004358	--
HC-NM (Non-methane Hydrocarbon)	0.0100169	--
NMOG (Non-methane organic gases)	0.011	--
PM (Particulate Matter)	0.0002375	--
HC-TOTAL (Total Hydrocarbon)	0.0120607	--

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

## Certification Summary Information Report

Test Group		MTYXJ02.5N4L			Evaporative/Refueling Family					MTYXR0130P72		
Test Result Name		Unrounded Test Result			Verify Calculated CO2							
Carbon dioxide		302.1867989			--							
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
Fed	150,000 miles	Federal Tier 3 Bin 50	CO	0.17	--	--	--	0.14	--	0.3	1.7	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	CO-COMP	0.43	--	--	--	0.14	--	0.4	4.2	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	CREE	999	--	--	--	0.158	--	999	--	--
Fed	150,000 miles	Federal Tier 3 Bin 50	METHANE	0.0022	--	--	--	0.0116	--	0.014	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	N2O	0.0004	--	--	--	0.0018	--	0.002	0.010	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG	0.0110	1	1.10	--	0.0089	--	0.020	999.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG+NOX	0.0173	1	1.10	--	--	--	0.030	0.050	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG+NOX-COMP	0.0333	1	1.03	--	0.0132	--	0.033	0.060	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NOX	0.0063	--	--	--	0.0043	--	0.011	999.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	PM	0.0002	--	--	--	0.0011	--	0.001	0.003	Pass
CA	150,000 miles	California LEV-III ULEV50	CO	0.17	--	--	--	0.14	--	0.3	1.7	Pass
CA	150,000 miles	California LEV-III ULEV50	CO-COMP	0.43	--	--	--	0.14	--	0.4	4.2	Pass
CA	150,000 miles	California LEV-III ULEV50	NMOG	0.0110	1	1.10	--	0.0089	--	0.020	999.999	Pass
CA	150,000 miles	California LEV-III ULEV50	NMOG+NOX	0.0173	1	1.10	--	--	--	0.030	0.050	Pass
CA	150,000 miles	California LEV-III ULEV50	NMOG+NOX-COMP	0.0333	1	1.03	--	0.0132	--	0.033	0.060	Pass
CA	150,000 miles	California LEV-III ULEV50	NOX	0.0063	--	--	--	0.0043	--	0.011	999.999	Pass
CA	150,000 miles	California LEV-III ULEV50	PM	0.0002	--	--	--	0.0011	--	0.001	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>	MTYXJ02.5N4L	<b>Evaporative/Refueling Family</b>	MTYXR0130P72
<b>Test #</b>	<b>LTYX10059996</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>	06/04/2019	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	1A9-02	<b>Fuel Calibration Number</b>	2
<b>Vehicle Class</b>	LDT1 (LVW-3750, GVW 0-6000)	<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>	5048	<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)	0.0004968	--
CO (Carbon Monoxide)	0.0938548	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.33	--
DT-EER (Drive Trace Energy Economy Rating)	-0.05	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0.45	--
MFR FE (Manufacturer Fuel Economy)	999	999
NOX (Nitrogen Oxide)	0.0005899	--
N2O (Nitrous Oxide)	0	--
HC-NM (Non-methane Hydrocarbon)	0.0004888	--
NMOG (Non-methane organic gases)	0.0005035	--
HC-TOTAL (Total Hydrocarbon)	0.0009476	--

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	227.9251416	--

## Manufacturer Test Comments

NMOG = HC-NM x 1.03

## Certification Summary Information Report

Test Group		MTYXJ02.5N4L				Evaporative/Refueling Family				MTYXR0130P72		
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 50	CREE	999	--	--	--	0.158	--	999	--	--
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG	0.0005	1	1.03	--	0.0089	--	0.009	999.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG+NOX	0.0011	1	1.03	--	--	--	0.014	0.050	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NOX	0.0006	--	--	--	0.0043	--	0.005	999.999	Pass
CA	150,000 miles	California LEV-III ULEV50	NMOG	0.0005	1	1.03	--	0.0089	--	0.009	999.999	Pass
CA	150,000 miles	California LEV-III ULEV50	NMOG+NOX	0.0011	1	1.03	--	--	--	0.014	0.050	Pass
CA	150,000 miles	California LEV-III ULEV50	NOX	0.0006	--	--	--	0.0043	--	0.005	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>	MTYXJ02.5N4L	<b>Evaporative/Refueling Family</b>	MTYXR0130P72
<b>Test #</b>	<b>LTYX10059997</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>	06/04/2019	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	1A9-02	<b>Fuel Calibration Number</b>	2
<b>Vehicle Class</b>	LDT1 (LVW-3750, GVW 0-6000)	<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>	5068	<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)	471.8803	--
FE BAG 1 (Bag 1 Fuel Economy)	999	999
CO2 BAG 2 (Bag 2 Carbon Dioxide)	285.227	--
FE BAG 2 (Bag 2 Fuel Economy)	999	999
METHANE (CH4 - Methane)	0.003904	--
CO (Carbon Monoxide)	0.3205167	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.07	--
DT-EER (Drive Trace Energy Economy Rating)	-0.45	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0.25	--
MFR FE (Manufacturer Fuel Economy)	999	999
NOX (Nitrogen Oxide)	0.007737	--
N2O (Nitrous Oxide)	0.0004119	--
HC-NM (Non-methane Hydrocarbon)	0.0245532	--
NMOG (Non-methane organic gases)	0.0252898	--
PM (Particulate Matter)	0.000375	--
HC-TOTAL (Total Hydrocarbon)	0.028159	--

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	326.5682105	--

## Certification Summary Information Report

Test Group		MTYXJ02.5N4L		Evaporative/Refueling Family				MTYXR0130P72				
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 50	PM	0.0004	--	--	--	0.0011	--	0.002	0.006	Pass
CA	150,000 miles	California LEV-III ULEV50	PM	0.0004	--	--	--	0.0011	--	0.002	0.006	Pass





## Certification Summary Information Report

Test Group	MTYXJ02.5N4L	Evaporative/Refueling Family	MTYXR0130P72
<b>Fuel Properties</b>			
<b>Fuel Batch ID</b>	<b>1A9-02</b>	<b>Fuel Calibration Number</b>	<b>2</b>
<b>Test Fuel Type</b>	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	<b>Fuel Batch Calibration Date</b>	01/30/2019
<b>Fuel Batch Calibration Effective Date</b>	06/01/2019	<b>Fuel Batch Calibration Ineffective Date</b>	06/30/2019
<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>	9.9	<b>Fuel Net Heating Value (BTU / lb)</b>	17824
<b>Fuel Blend Carbon Weight Fraction</b>	0.826	<b>Weight Fraction CO2</b>	--
<b>Fuel Batch ID</b>	<b>1K6-06</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>	10/19/2016
<b>Fuel Batch Calibration Effective Date</b>	12/19/2016	<b>Fuel Batch Calibration Ineffective Date</b>	12/31/2016
<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>	0.739
<b>Fuel Ethanol Volume Percent (%)</b>	9.8	<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>1K8-12</b>	<b>Fuel Calibration Number</b>	<b>3</b>
<b>Test Fuel Type</b>	28 - Cold CO E10 Regular Gasoline (Tier 3)	<b>Fuel Batch Calibration Date</b>	10/30/2018
<b>Fuel Batch Calibration Effective Date</b>	06/01/2019	<b>Fuel Batch Calibration Ineffective Date</b>	06/30/2019
<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>	0.736
<b>Fuel Ethanol Volume Percent (%)</b>	9.8	<b>Fuel Net Heating Value (BTU / lb)</b>	17829
<b>Fuel Blend Carbon Weight Fraction</b>	0.826	<b>Weight Fraction CO2</b>	--
<b>Fuel Batch ID</b>	<b>1L6-07</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>	11/12/2016
<b>Fuel Batch Calibration Effective Date</b>	01/07/2017	<b>Fuel Batch Calibration Ineffective Date</b>	01/31/2017
<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>	0.739
<b>Fuel Ethanol Volume Percent (%)</b>	9.8	<b>Fuel Net Heating Value (BTU / lb)</b>	17843
<b>Fuel Blend Carbon Weight Fraction</b>	0.825	<b>Weight Fraction CO2</b>	--

### Certification Summary Information Report

<b>Test Group</b>	MTYXJ02.5N4L	<b>Evaporative/Refueling Family</b>	MTYXR0130P72
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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>	LDT1 (LVW-3750, GVW 0-6000)	<b>Standard Level</b>	Federal Tier 3 Bin 50
<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	--	--	--	--	--	--	0.14	1.7
150,000 miles	CO-COMP	--	--	--	--	--	--	0.14	4.2
150,000 miles	CREE	--	--	--	--	--	--	0.158	999.9999
150,000 miles	HCHO	--	--	--	--	--	--	--	0.004
150,000 miles	METHANE	--	--	--	--	--	--	0.0116	0.030
150,000 miles	N2O	--	--	--	--	--	--	0.0018	0.010
150,000 miles	NMOG	--	1	1.10	--	--	--	0.0089	999.999
150,000 miles	NMOG+NOX	--	1	1.10	--	--	--	0.0132	0.050
150,000 miles	NMOG+NOX-COMP	--	1	1.03	--	--	--	0.0132	0.060
150,000 miles	NOX	--	--	--	--	--	--	0.0043	999.999
150,000 miles	PM	--	--	--	--	--	--	0.0011	0.003

<b>Cert Region</b>	Federal	<b>Cert/In-Use Code</b>	Cert
<b>Vehicle Class</b>	LDT1 (LVW-3750, GVW 0-6000)	<b>Standard Level</b>	Federal Tier 3 Bin 50
<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	--	--	--	--	--	--	0.158	999.9999
150,000 miles	NMOG	--	1	1.03	--	--	--	0.0089	999.999
150,000 miles	NMOG+NOX	--	1	1.03	--	--	--	0.0132	0.050
150,000 miles	NOX	--	--	--	--	--	--	0.0043	999.999

## Certification Summary Information Report

<b>Test Group</b>	MTYXJ02.5N4L				<b>Evaporative/Refueling Family</b>			MTYXR0130P72		
<b>Cert Region</b>	California + CAA Section 177 states				<b>Cert/In-Use Code</b>			Cert		
<b>Vehicle Class</b>	LDT1 (LVW-3750, GVW 0-6000)				<b>Standard Level</b>			California LEV-III ULEV50		
<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	--	--	--	--	--	--	0.14	1.7	
150,000 miles	CO-COMP	--	--	--	--	--	--	0.14	4.2	
150,000 miles	HCHO	--	--	--	--	--	--	--	0.004	
150,000 miles	NMOG	--	1	1.10	--	--	--	0.0089	999.999	
150,000 miles	NMOG+NOX	--	1	1.10	--	--	--	0.0132	0.050	
150,000 miles	NMOG+NOX-COMP	--	1	1.03	--	--	--	0.0132	0.060	
150,000 miles	NOX	--	--	--	--	--	--	0.0043	999.999	
150,000 miles	PM	--	--	--	--	--	--	0.0011	0.003	
<b>Cert Region</b>	California + CAA Section 177 states				<b>Cert/In-Use Code</b>			Cert		
<b>Vehicle Class</b>	LDT1 (LVW-3750, GVW 0-6000)				<b>Standard Level</b>			California LEV-III ULEV50		
<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	--	--	--	0.0089	999.999	
150,000 miles	NMOG+NOX	--	1	1.03	--	--	--	0.0132	0.050	
150,000 miles	NOX	--	--	--	--	--	--	0.0043	999.999	
<b>Cert Region</b>	California + CAA Section 177 states				<b>Cert/In-Use Code</b>			Cert		
<b>Vehicle Class</b>	LDT1 (LVW-3750, GVW 0-6000)				<b>Standard Level</b>			California LEV-III ULEV50		
<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	--	--	--	--	--	--	0.0011	0.006	

**Certification Summary Information Report**

<b>Test Group</b>	MTYXJ02.5N4L				<b>Evaporative/Refueling Family</b>			MTYXR0130P72		
<b>Cert Region</b>	California + CAA Section 177 states				<b>Cert/In-Use Code</b>			Cert		
<b>Vehicle Class</b>	LDT1 (LVW-3750, GVW 0-6000)				<b>Standard Level</b>			California LEV-III ULEV50		
<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	--	--	--	--	--	--	0.05	10.0	

<b>Cert Region</b>	Federal				<b>Cert/In-Use Code</b>			Cert		
<b>Vehicle Class</b>	LDT1 (LVW-3750, GVW 0-6000)				<b>Standard Level</b>			Federal Tier 3 Bin 50		
<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	--	--	--	--	--	--	0.0011	0.006	

<b>Cert Region</b>	California + CAA Section 177 states				<b>Cert/In-Use Code</b>			Cert		
<b>Vehicle Class</b>	LDT1 (LVW-3750, GVW 0-6000)				<b>Standard Level</b>			California LEV-III ULEV50		
<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	--	--	--	--	--	--	--	1.7	
4,000 miles	HCHO	--	--	--	--	--	--	--	0.016	
4,000 miles	NMOG	--	1	1.10	--	--	--	--	999.999	
4,000 miles	NMOG+NOX	--	1	1.10	--	--	1	--	0.100	
4,000 miles	NOX	--	--	--	--	--	--	--	999.999	

<b>Cert Region</b>	Federal				<b>Cert/In-Use Code</b>			Cert		
<b>Vehicle Class</b>	LDT1 (LVW-3750, GVW 0-6000)				<b>Standard Level</b>			Federal Tier 3 Bin 50		
<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	--	--	--	--	--	--	0.05	10.0	
120,000 miles	HC-NM	--	--	--	--	--	--	0.01	0.3	

## Certification Summary Information Report

Test Group	MTYXJ02.5N4L	Evaporative/Refueling Family	MTYXR0130P72		
<b>Evaporative/Refueling Standards</b>					
<b>Evaporative/Refueling Family</b>	MTYXR0130P72	<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	--
<b>Evaporative/Refueling Family</b>					
<b>Evaporative/Refueling Family</b>	MTYXR0130P72	<b>Cert Region</b>	Federal		
<b>Cert/In-Use Code</b>	Cert	<b>Standard Level</b>	Federal Tier 3 Evap		
<b>Test Procedure</b>	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	--
<b>Evaporative/Refueling Family</b>					
<b>Evaporative/Refueling Family</b>	MTYXR0130P72	<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-TOTAL-EQUIV	--	0.20	0.000
<b>Evaporative/Refueling Family</b>					
<b>Evaporative/Refueling Family</b>	MTYXR0130P72	<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>	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	--
<b>Evaporative/Refueling Family</b>					
<b>Evaporative/Refueling Family</b>	MTYXR0130P72	<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>	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	--	0.020	0.0000

## Certification Summary Information Report

<b>Test Group</b>	MTYXJ02.5N4L		<b>Evaporative/Refueling Family</b>	MTYXR0130P72	
<b>Evaporative/Refueling Family</b>	MTYXR0130P72		<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				
<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	0.000
<b>Evaporative/Refueling Family</b>	MTYXR0130P72		<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>	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	--	0.20	0.000
<b>Evaporative/Refueling Family</b>	MTYXR0130P72		<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-EQUIV	--	0.300	0.0000
<b>Evaporative/Refueling Family</b>	MTYXR0130P72		<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>	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	0.0000
<b>Evaporative/Refueling Family</b>	MTYXR0130P72		<b>Cert Region</b>	Federal	
<b>Cert/In-Use Code</b>	Cert		<b>Standard Level</b>	Federal Tier 3 Evap	
<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	--	0.020	0.0000

### Certification Summary Information Report

<b>Test Group</b>	MTYXJ02.5N4L	<b>Evaporative/Refueling Family</b>	MTYXR0130P72		
<b>Evaporative/Refueling Family</b>	MTYXR0130P72	<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>	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	0.000

## Certification Summary Information Report

Test Group	MTYXJ02.5N4L	Evaporative/Refueling Family	MTYXR0130P72
<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	MTYXJ02.5N4L	Evaporative/Refueling Family	MTYXR0130P72
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**

<b>Test Group</b>	MTYXJ02.5N4L	<b>Evaporative/Refueling Family</b>	MTYXR0130P72
<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

## 1. Litmus test result

Test Group Fuel	FTP	US06	SC03	Cold CO	Highway	City Litmus Value	City Litmus Threshold	Highway Litmus Value	Highway Litmus Threshold
Gasoline	LTYX10059992	LTYX10059997	LTYX10059999	LTYX10059990	LTYX10059996	22.8	21.5	28.0	25.4

## 2. Interim/In-Use Standard

	Federal	California
FTP	NMOG + NOx and PM	Not Applicable
SFTP	PM	PM

8. **Emission testing waiver statements**

Please refer to the FOI common file for the following test waiver statements:

- High Altitude Exhaust Emissions
- High Altitude Evap/Refueling Emissions
- 91 RON fuel testing
- Formaldehyde (HCHO)
- Spitback
- Tier 3/LEVIII Evaporative Leak Standard
- 2DBL Evap Emissions

9. **OBD System Description**

Please refer to the CBI common file for the common information.

The representative test group OBD application is uploaded into EV-CIS system..

Please refer to the file named below.

***File name: OBD\_MTYXV02.0P3A\_A-P.pdf***

Toyota states that the OBD application meets the requirements of 40 CFR 86.1806-17 and 86.1844-01(d)(9) and is considered part of the Part 1 certification application.

10. **Description of Alternate-fueled Vehicles**

Please refer to the FOI common file.

**11. AECD Descriptions**

11.1 AECD and EI-AECD Descriptions

11.2 SFTP / Lean Best Torque (LBT) Air fuel Ratio Information

Please refer to the CBI common file.

**12. Description of Vehicles Covered by Certificate and Test Parameters**

## 12.1 Vehicle parameters

Durability Group : MTYXGPGNN62M  
 Test Group : MTYXJ02.5N4L  
 Evap./Refueling Family : MTYXR0130P72  
 Emission Control System : DFI+SFI,EGR,EGRC,WR-HO2S(2),TWC(2)

Carline	Model name	Model code	Engine Code	Valves/cyl	Engine Disp. (L)	Sales Area	Transmission*2/Overdrive	SIL	Tire*1	N/V	ETW (lb.)	Fuel tank vol. (L)	Rated HP
RAV4	TOYOTA RAV4 LIMITED L4 2.5 FWD	AXAA52L-ANZGBA	02	4	2.487	50	UB80E-B (S8-3) / Yes	N/A	235/55R19 AS	25.7	3750	55	203@6600
			02	4	2.487	50	UB80E-B (S8-3) / Yes	N/A	235/55R19 SM	25.7	3750	55	203@6600
		AXAA52L-CNZGBA	02	4	2.487	50	UB80E-B (S8-3) / Yes	N/A	235/55R19 AS	25.7	3750	55	203@6600
	TOYOTA RAV4 LE L4 2.5 FWD	AXAA52L-ANZXBA	02	4	2.487	50	UB80E-B (S8-3) / Yes	N/A	225/65R17 AS	26.5	3625	55	203@6600
			02	4	2.487	50	UB80E-B (S8-3) / Yes	N/A	225/65R17 SM	26.5	3625	55	203@6600
		AXAA52L-CNZXBA	02	4	2.487	50	UB80E-B (S8-3) / Yes	N/A	225/65R17 AS	26.5	3625	55	203@6600

Note\*1: AS : All-season tire

SM : Summer tire

\*2: The number after “-” indicates the number of transmission mode.



## 12.1 Vehicle parameters

Carline	Model name	Model code	Engine Code	Valves/cyl	Engine Disp. (L)	Sales Area	Transmission*2/ Overdrive	SIL	Tire*1	N/V	ETW (lb.)	Fuel tank vol. (L)	Rated HP
RAV4	TOYOTA RAV4 XLE L4 2.5 FWD/ TOYOTA RAV4 XLE PREMIUM L4 2.5 FWD	AXAA52L-ANZMBA	04	4	2.487	50	UB80E-B (S8-3 SS) / Yes	N/A	225/65R17 AS	26.5	3750	55	203@6600
			04	4	2.487	50	UB80E-B (S8-3 SS) / Yes	N/A	225/65R17 SM	26.5	3750	55	203@6600
			04	4	2.487	50	UB80E-B (S8-3 SS) / Yes	N/A	235/55R19 AS	25.7	3750	55	203@6600
			04	4	2.487	50	UB80E-B (S8-3 SS) / Yes	N/A	235/55R19 SM	25.7	3750	55	203@6600
		AXAA52L-CNZMBA	04	4	2.487	50	UB80E-B (S8-3 SS) / Yes	N/A	225/65R17 AS	26.5	3750	55	203@6600
			04	4	2.487	50	UB80E-B (S8-3 SS) / Yes	N/A	235/55R19 AS	25.7	3750	55	203@6600

Note\*1: AS : All-season tire

SM : Summer tire

\*2: The number after "--" indicates the number of transmission mode.

## 12.1 Vehicle parameters

Carline	Model name	Model code	Engine Code	Valves/cyl	Engine Disp. (L)	Sales Area	Transmission*2/ Overdrive	SIL	Tire*1	N/V	ETW (lb.)	Fuel tank vol. (L)	Rated HP
RAV4 AWD	TOYOTA RAV4 LIMITED L4 2.5 AWD	AXAA54L-ANZGBA	01	4	2.487	50	UB80F-A (S8-3) / Yes	N/A	235/55R19 AS	25.7	4000	55	203@6600
			01	4	2.487	50	UB80F-A (S8-3) / Yes	N/A	235/55R19 SM	25.7	4000	55	203@6600
		AXAA54L-CNZGBA	01	4	2.487	50	UB80F-A (S8-3) / Yes	N/A	235/55R19 AS	25.7	4000	55	203@6600
	TOYOTA RAV4 XLE L4 2.5 AWD/ TOYOTA RAV4 XLE PREMIUM L4 2.5 AWD	AXAA54L-ANZMBA	03	4	2.487	50	UB80F-A (S8-3 SS) / Yes	N/A	225/65R17 AS	26.5	3875	55	203@6600
			03	4	2.487	50	UB80F-A (S8-3 SS) / Yes	N/A	225/65R17 SM	26.5	3875	55	203@6600
			03	4	2.487	50	UB80F-A (S8-3 SS) / Yes	N/A	235/55R19 AS	25.7	3875	55	203@6600
			03	4	2.487	50	UB80F-A (S8-3 SS) / Yes	N/A	235/55R19 SM	25.7	3875	55	203@6600
		AXAA54L-CNZMBA	03	4	2.487	50	UB80F-A (S8-3 SS) / Yes	N/A	225/65R17 AS	26.5	3875	55	203@6600
			03	4	2.487	50	UB80F-A (S8-3 SS) / Yes	N/A	235/55R19 AS	25.7	3875	55	203@6600

Note\*1: AS : All-season tire

SM : Summer tire

\*2: The number after “-“ indicates the number of transmission mode.

## 12.1 Vehicle parameters

Carline	Model name	Model code	Engine Code	Valves/ cyl	Engine Disp. (L)	Sales Area	Trans- mission*2/ Overdrive	SIL	Tire*1	N/V	ETW (lb.)	Fuel tank vol. (L)	Rated HP
RAV4 AWD	TOYOTA RAV4 ADVENTURE L4 2.5 AWD	AXAA54L-ANZVBA	01	4	2.487	50	UB80F-A (S8-3) / Yes	N/A	235/55R19 AS	25.7	3875	55	203@ 6600
			01	4	2.487	50	UB80F-A (S8-3) / Yes	N/A	235/55R19 SM	25.7	3875	55	203@ 6600
		AXAA54L-CNZVBA	01	4	2.487	50	UB80F-A (S8-3) / Yes	N/A	235/55R19 AS	25.7	3875	55	203@ 6600
RAV4 AWD LE	TOYOTA RAV4 LE L4 2.5 AWD	AXAA54L-ANZXBA	03	4	2.487	50	UB80F-A (S8-3 SS) / Yes	N/A	225/65R17 AS	26.5	3750	55	203@ 6600
			03	4	2.487	50	UB80F-A (S8-3 SS) / Yes	N/A	225/65R17 SM	26.5	3750	55	203@ 6600
		AXAA54L-CNZXBA	03	4	2.487	50	UB80F-A (S8-3 SS) / Yes	N/A	225/65R17 AS	26.5	3750	55	203@ 6600
RAV4 AWD TRD OFFROAD	TOYOTA RAV4 TRD OFF ROAD L4 2.5 AWD	AXAA54L-CNZVBA	01	4	2.487	50	UB80F-A (S8-3) / Yes	N/A	225/60R18 AS	26.2	4000	55	203@ 6600

Note\*1: AS: All-season tire

SM : Summer tire

\*2: The number after “-“ indicates the number of transmission mode

12.1 Vehicle parameters

Carline	Model name	Model code	Engine Code	Valves/ cyl	Engine Disp. (L)	Sales Area	Trans-mission*2/ Overdrive	SIL	Tire*1	N/V	ETW (lb.)	Fuel tank vol. (L)	Rated HP
ES 250 AWD	LEXUS ES 250 AWD	AXZA15L-BEZGBA	07	4	2.487	50	UB80F-C (S8-3) / Yes	N/A	215/55R17 AS	28.5	4000	54.5	202@6600
			07	4	2.487	50	UB80F-C (S8-3) / Yes	N/A	235/40R19 AS	28.0	4000	54.5	202@6600
			07	4	2.487	50	UB80F-C (S8-3) / Yes	N/A	235/45R18 AS	28.1	4000	54.5	202@6600
AVALON AWD	TOYOTA AVALON XLE L4 AWD	AXXA55L-AEZGBA	06	4	2.487	50	UB80F-D (S8-3) / Yes	N/A	215/55R17 AS	28.5	3875	54.5	205@6600
	TOYOTA AVALON LIMITED L4 AWD	AXXA55L-AEZPBA	06	4	2.487	50	UB80F-D (S8-3) / Yes	N/A	235/40R19 AS	28.0	4000	54.5	205@6600
			06	4	2.487	50	UB80F-D (S8-3) / Yes	N/A	235/45R18 AS	28.1	4000	54.5	205@6600

Note\*1: AS: All-season tire

\*2: The number after “-“ indicates the number of transmission mode

12.2 Test Parameters

Please refer to the FOI common file.

13. **Projected Sales and Compliance Plans**

Please refer to the CBI common file.

14. Request for Certificate

Test group : MTYXJ02.5N4L  
 Evap/refueling family : MTYXR0130P72

TOYOTA MOTOR CORPORATION requests that EPA issue a 2021 model year certificate of conformity for the above specified test group/evaporative family combination more fully described in this application. This combination complies with the following emission standards:

		low-altitude	high altitude	Bin No
Federal:	Interim Tier3	<u>          </u>	<u>          </u>	<u>          </u>
	Tier3	<u>      X      </u>	<u>      X      </u>	<u>      50      </u>
California:	LEVII : LEV	<u>          </u>	LEVIII : LEV160	<u>          </u>
	ULEV	<u>          </u>	ULEV125	<u>          </u>
	SULEV	<u>          </u>	ULEV70	<u>          </u>
	PZEV	<u>          </u>	ULEV50	<u>      X      </u>
			SULEV30	<u>          </u>
			SULEV20	<u>          </u>

This combination meet all applicable regulations contained within 40 CFR Part 85, 86, and 600, the application is current as of this date.




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Kevin Webber  
 General Manager  
 Product Regulatory Affairs  
 Toyota Motor North America, Inc.

15. **Other Information**

15.1 Fee filing form

US EPA Fee Form

Tracking ID 26LHOB2H

General Information

Date:  (5)  
 Process Code:   
 Manufacturer Code:   
 Manufacturer Name:

Manufacturer Contact

Name:   
 Email Address:   
 Phone:   
 Calendar Year complete application submitted to EPA:   
 Engine Family / Evaporative Family / Test Group:

Certificate Request Type (Industry Sector Code)

- On-Highway LDV, LTD, MDVPV, HDV Chassis Cert (Federal) (A, B, D, J, T, V)
- On-Highway HDE Dyno Cert (Federal) (E, H)
- On-Highway LD ICI, MDPV ICI, HDV ICI (A, B, D, J, T, V)
- On-Highway Motorcycle (C)
- On-Highway HDV Evap (F)
- On-Highway LDV, LTD, MDVPV, HDV Chassis Cert (California-Only) (A, B, D, J, T, V)
- On-Highway HDE Dyno Cert (California-Only) (E, H)
- Nonroad CI (L)
- Nonroad SI (B, S)
- Locomotive (G, K)
- All Nonroad Recreational, excluding Marine engines (X, Y)
- All Marine (Including IMO) (M, N, W)
- Component Certification for Evaporative Emissions (P)

IMO Name (Required for dual US/IMO Marine Only):

ICI VIN Number (Required for ICIs Only):

Do you qualify for a Reduced Fee (RF)?

What is the total number of vehicles, engines, or units covered?:

What is the aggregate total retail value of the vehicles, engines or units covered?:

Payment Information

Amount Owed:   
 Payment Type:

Comments:

EPA Form Number 3520-29

OMB Control No. 2060-0545

Approval expires 12/31/2019

The public reporting and recordkeeping burden for this collection of information is estimated to average 20 minutes per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed forms to this address.

**16**      **Confidential Information**

Please refer to the CBI common file.



**17**        **California ARB Information**

- 17.1        Statement of Compliance
- 17.2        High-Altitude Test Requirements
- 17.3        Compliance with fuel fill pipe specifications
- 17.4        Compliance with the location requirement of the vent tube opening in the fill pipe
- 17.5        Supplemental information and data for compliance with the enhanced evaporative requirements for California
- 17.6        New unique or changed emission control technology
- 17.7        Service literature
- 17.8        Emission Control Information Labels
- 17.9        Service Information Availability
- 17.10      Identification of AB71-Qualified Vehicles (Mail-Out #MSO-2000-04)

Please refer to the FOI common file.

2021 MODEL-YEAR AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET  
PASSENGER CARS, LIGHT-DUTY TRUCKS AND MEDIUM-DUTY VEHICLES

Manufacturer: TOYOTA Exh Test Group: MTYXJ02.5N4L Evap Fam: MTYXR0130P72  
 All Eng Codes in Eng Fam: CA     49S     50S   x   AB965     , ORVR: YES   x   NO      
 Exh Std: CA LEVII: LEV     ULEV     SULEV     US EPA Interim Tier3      
           LEVIII: LEV160     ULEV125     ULEV70     Tier3   x    
                   ULEV50   x   SULEV30     SULEV20      
 Evap Std: LEV II     LEV II Zero-Evap     LEV III(Option 1)     LEV III(Option 2)   x    
 Veh Class(es): PC   x  <sup>\*5\*6</sup> LDT1   x  <sup>\*1</sup> LDT2   x  <sup>\*2</sup> MDV1     MDV2     MDV3     MDV4     MDV5      
 Single Cert Std for Multi-Class Eng Fam:   LDT1   (specify: N/A, LDT1, MDV1, MDV2, MDV3, MDV4)  
 Fuel Type(s): Dedicated   x   Flex-Fuel     Dual-Fuel     Bi-Fuel     Gasoline   x   Diesel      
                   CNG     LNG     LPG     M85     Other (specify) \_\_\_\_\_  
 Exh Emiss Test Fuel(s): Indo     CBG   x   CNG     LPG     M85     Other (specify) \_\_\_\_\_  
                           Diesel: 13 CCR 2282     40 CFR 86.113-90     40 CFR 86.113-94      
 Evaporative Emission Test Procedure: California     Federal   x    
 Service Accum: Std AMA     Mod AMA     Mfr ADP   x   Other (specify) \_\_\_\_\_  
 NMOG Test Procedure: N/A     Std     Equip   x   R/L Test Proc: SHED   x   Pt Source      
 Engine Configuration:   I4   Displacement:   2.5 Liters     151.8 Cubic Inches    
 Valves per Cylinder:   4   Rated HP1:   203@6600<sup>\*3\*4</sup>, 202@660<sup>\*6</sup>, 205@6600<sup>\*5</sup>   RPM  
 Engine: Front   x   Mid     Rear     Drive: FWD   x  <sup>\*3</sup> RWD     4WD-FT   x  <sup>\*4\*5\*6</sup> 4WD-PT      
 Exhaust ECS (e.g., MFI, EGR, TC, CAC):   DFI+SFI,EGR,EGRC,WR-HO2S(2),TWC(2)    
 (use abbreviations per SAE J1930 JUN93)

- Note \*1 : RAV4(2WD) except for AXAA52L-CNZGBA and AXAA52L-ANZGBA  
 \*2 : RAV4 (AXAA52L-CNZGBA and AXAA52L-ANZGBA) and RAV4 AWD  
 \*3 : RAV4  
 \*4 : RAV4 AWD  
 \*5 : AVALON AWD  
 \*6 : ES 250 AWD

Engine Code (also list CA/49S/50ST)	Vehicle Models (if coded see attachment)	Trans. (M5, A4, etc.)*	ETW or Test Wt	GVWR	DPA or RLHP
01	AXAA54L-ANZGBA	S8-3	4000	4705	13.1
	AXAA54L-ANZVBA	S8-3	3875	4705	13.1/13.2
	AXAA54L-CNZGBA	S8-3	4000	4705	13.1
	AXAA54L-CNZVBA	S8-3	3875	4705	13.2
	AXAA54L-CNZVBA	S8-3	4000	4705	14.0
02	AXAA52L-ANZGBA	S8-3	3750	4610	12.7 /12.9
	AXAA52L-ANZXBA	S8-3	3625	4610	12.2/12.8
	AXAA52L-CNZGBA	S8-3	3750	4610	12.9
	AXAA52L-CNZXBA	S8-3	3625	4610	12.2
03	AXAA54L-ANZMBA	S8-3 SS	3875	4610	13.5/14.1/14.2
	AXAA54L-ANZXBA	S8-3 SS	3750	4610	13.3/14.0
	AXAA54L-CNZMBA	S8-3 SS	3875	4610	13.5/14.1
	AXAA54L-CNZXBA	S8-3 SS	3750	4610	13.3
04	AXAA52L-ANZMBA	S8-3 SS	3750	4610	12.4/12.9/13.0
	AXAA52L-CNZMBA	S8-3 SS	3750	4610	12.4/13.0

2021 MODEL-YEAR AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET  
PASSENGER CARS, LIGHT-DUTY TRUCKS AND MEDIUM-DUTY VEHICLES

Manufacturer: TOYOTA

Exh Test Group: MTYXJ02.5N4L

Evap Fam MTYXR0130P72

Engine Code (also list CA/49S/50ST)	Vehicle Models (if coded see attachment)	Trans. (M5, A4, etc.)*	ETW or Test Wt	GVWR	DPA or RLHP
06	AXXA55L-AEZGBA	S8-3	3875	4730	12.3
	AXXA55L-AEZPBA	S8-3	4000	4730	12.8/13.4
07	AXZA15L-BEZGBA	S8-3	4000	4740	12.3/12.8/13.4

Comments :Please refer to manufacturer’s HP list for correct dyno test HP setting based on model and equipment.  
Note \*: The number after “-“ indicates the number of transmission mode.

VEHICLE MODELS:

<u>RAV4</u>	<u>RAV4 AWD</u>	<u>RAV4 AWD LE</u>	<u>RAV4 AWD TRD OFFROAD</u>
AXAA52L-ANZGBA	AXAA54L-ANZGBA	AXAA54L-ANZXBA	AXAA54L-CNZVBA
AXAA52L-ANZMBA	AXAA54L-ANZMBA	AXAA54L-CNZXBA	
AXAA52L-ANZXBA	AXAA54L-ANZVBA		
AXAA52L-CNZGBA	AXAA54L-CNZGBA		
AXAA52L-CNZMBA	AXAA54L-CNZMBA		
AXAA52L-CNZXBA	AXAA54L-CNZVBA		
<u>AVALON AWD</u>	<u>ES 250 AWD</u>		
AXXA55L-AEZGBA	AXZA15L-BEZGBA		
AXXA55L-AEZPBA			

**2021 MODEL-YEAR AIR RESOURCES BOARD CERTIFICATION REVIEW SHEET  
PASSENGER CARS, LIGHT-DUTY TRUCKS AND MEDIUM-DUTY VEHICLES**

Manufacturer: TOYOTA Exh Test Group: MTYXJ02.5N4L Evap Fam: MTYXR0130P72  
 All Eng Codes in Eng Fam: CA \_\_\_ 49S \_\_\_ 50S x AB965 \_\_\_ , ORVR: YES x NO \_\_\_  
 Exh Std: CA LEVII: LEV \_\_\_ ULEV \_\_\_ SULEV \_\_\_ US EPA Interim Tier3 \_\_\_  
                     LEVIII: LEV160 \_\_\_ ULEV125 \_\_\_ ULEV70 \_\_\_ Tier3 x  
                                     ULEV50 x SULEV30 \_\_\_ SULEV20 \_\_\_  
 Evap Std: LEV II \_\_\_ LEV II Zero-Evap \_\_\_ LEV III(OPTION 1) \_\_\_ LEV III(OPTION 2) x  
 Veh Class(es): PC x\*5\*6 LDT1 x\*1 LDT2 x\*2 MDV1 \_\_\_ MDV2 \_\_\_ MDV3 \_\_\_ MDV4 \_\_\_ MDV5 \_\_\_  
 Single Cert Std for Multi-Class Eng Fam: LDT1 (specify: N/A, LDT1, MDV1, MDV2, MDV3, MDV4)  
 Fuel Type(s): Dedicated x Flex-Fuel \_\_\_ Dual-Fuel \_\_\_ Bi-Fuel \_\_\_ Gasoline x Diesel \_\_\_  
                     CNG \_\_\_ LNG \_\_\_ LPG \_\_\_ M85 \_\_\_ Other (specify) \_\_\_  
 Exh Emiss Test Fuel(s): Indo \_\_\_ CBG x CNG \_\_\_ LPG \_\_\_ M85 \_\_\_ Other (specify) \_\_\_  
                             Diesel: 13 CCR 2282 \_\_\_ 40 CFR 86.113-90 \_\_\_ 40 CFR 86.113-94 \_\_\_  
 Evaporative Emission Test Procedure: California \_\_\_ Federal x  
 Service Accum: Std AMA \_\_\_ Mod AMA \_\_\_ Mfr ADP x Other (specify) \_\_\_  
 NMOG Test Procedure: N/A \_\_\_ Std \_\_\_ Equip x R/L Test Proc: SHED x Pt Source \_\_\_  
 Engine Configuration: I4 Displacement: 2.5 Liters 151.8 Cubic Inches  
 Valves per Cylinder: 4 Rated HP1: 203@6600\*3\*4, 202@660\*6, 205@6600\*5 RPM  
 Engine: Front x Mid \_\_\_ Rear \_\_\_ Drive: FWD x\*3 RWD \_\_\_ 4WD-FT x\*4\*5\*6 4WD-PT \_\_\_  
 Exhaust ECS (e.g., MFI, EGR, TC, CAC): DFI+SFI,EGR,EGRC,WR-HO2S(2),TWC(2)  
 (use abbreviations per SAE J1930 JUN93)

- Note \*1 : RAV4(2WD) except for AXAA52L-CNZGBA and AXAA52L-ANZGBA  
 \*2 : RAV4 (AXAA52L-CNZGBA and AXAA52L-ANZGBA) and RAV4 AWD  
 \*3 : RAV4  
 \*4 : RAV4 AWD  
 \*5 : AVALON AWD  
 \*6 : ES 250 AWD

<u>Section #</u>		<u>Section #</u>	
1	Authorized Representative	FOI-1.2	22 Gen std, increase in Emiss, Safety, Meets all Reqm
2	Fuel Specifications	-	FOI-8
3	Test Equipment	-	23 Driveability Statement
4	Test Procedure	-	24 Adjustable Parameters
5	Mileage Accumulation Route	CBI-4	25 Tamper Resistance Method(s)
6	Emission Warranty Statement	Part2 FOI-6.00.01	26 Fill Pipe Specifications
7	Maint: Cert/Req'd/Recm'd	-	27 High Altitude Compliance
8	Emiss Label/Vac Hose Diag	-	28 OBD Sys incl Marked Revisions
9	Evap Control System	FOI-3	29 I & M Test Procedure & Data
10	Engine Parameters	5	30 50 Degree F Compliance
11	Fuel System	-	31 Manufacturer's RAF
12	Ignition System	-	32 Phase-In Plans
13	Exhaust Control System	FOI-5	33 NMOG+NOx Fleet Average Calculation
14	Proj Sales(LDT/MDV Split)	CBI-17.1	34 AB965 Credits/Withdrawals
15	Vehicle Description	12.1	35 EPA Certificate
16	Evap Bench Test Procedure	-	to follow
17	R/L Temp & Press Profiles	FOI-4.3	36 Equip NMOG Proc-ARB Approval
18	EDV Selection	-	NMOG/NMHC=
19	Prod Veh same as Test Veh	FOI-17.1	FTP=1.10, SFTP&HWY=1.03
20	Emission Label Durability	-	
21	Test Vehicle Information	Durability	Emission
	C/O or C/A MY & ID	Data Vehicle	Data Vehicle
	Vehicle Log Page(s)	C/O <u>19B-AA1A</u>	C/O <u>19-AA1A</u>
	Zero Mile Book Page(s)	-	<u>6</u>
	Maint Logs & Engr Eval	-	<u>7</u>
		-	-

Continued on next page

2021 MODEL-YEAR AIR RESOURCES BOARD CERTIFICATION REVIEW SHEET  
PASSENGER CARS, LIGHT-DUTY TRUCKS AND MEDIUM-DUTY VEHICLES

Manufacturer: TOYOTA Exhaust Test Group: MTYXJ02.5N4L Evaporative Family: MTYXR0130P72

PROJECTED EMISSIONS

(grams/mile, except, grams/test for D+HS, and grams/gallon for ORVR) (1)

Emission Data	E/G Code	Test Loc	Trans	ETW	RLHP	MPG City/Hwy	NMOG Mile	NMOG +NOx	CO	PM	20°F CO	Hwy NMOG +NOx	City CO2	Hwy CO2	EVAPORATIVE					
															Whole Vehicle 3-day D+HS*1	R/L	Whole Vehicle 2-day D+HS*3	ORVR	Canister Bleed	
18-AV1A (01)	02	MFR	L8	3750	11.5	-	50k	N/A	N/A	N/A	-	N/A	-	-	N/A	N/A	N/A	N/A	N/A	N/A
						-	120k	N/A	N/A	N/A	N/A	N/A			N/A	N/A	N/A	N/A	N/A	N/A
							150k	-	-	-	N/A	-			0.1996	0.005	-	0.003	0.0121	
19-AA1A (06)	01	MFR	L8	4000	14.5	-	50k	N/A	N/A	N/A	1.44	N/A	302	228	N/A	N/A	N/A	N/A	N/A	N/A
						-	120k	N/A	N/A	N/A	N/A	N/A			N/A	N/A	N/A	N/A	N/A	N/A
							150k	0.0305	0.31	0.0013	N/A	0.0143			-	-	-	-	-	
(1) The EDV(s) above comply with standards of (@50k):							N/A	N/A	N/A	10.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
							(@120k):	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
							(@150k):	0.050	1.7	0.003	N/A	0.050	N/A	N/A	0.300	0.05	0.300	0.20	0.020	
Deterioration Factors(DFs) of (@50k):							N/A	N/A	N/A	0.05	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
							(@120k):	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
							(@150k):	0.0132	0.14	0.0011	N/A	0.0132	N/A	N/A	N/A*2	N/A*2	N/A*2	N/A*2	N/A*2	N/A*2
50°F emissions (w/o DFs):							-	-	-	-	-	-	-	-	-	-	-	-	-	-
50°F standards:							0.100	1.7												

SFTP Test results:

Emission Data	E/G Code	Test Loc	Trans	ETW	RLHP	US06 Mile	US06 CO2	PM	SC03 CO2	NMOG +NOx-Comp	CO-Comp
19-AA1A (06)	01	MFR	L8	4000	14.5	150k	327	0.0015	359	0.0333	0.43
(1) The EDV(s) above comply with standards of (@150k):							N/A	0.006	N/A	0.060	4.2
Deterioration Factors(DFs) of (@150k):							N/A	0.0011	N/A	0.0132	0.14

Remarks \*1: 1st DBL is added key off monitor loss (0.0002 GRAM)  
\*2: DFs are not applicable because aged components were adopted to EDV.  
\*3: In lieu of testing, Toyota is providing a compliance statement in §8.2.

Application Processed \_\_\_\_\_ Date: \_\_\_\_\_ Reviewed by: \_\_\_\_\_ Date: \_\_\_\_\_  
 by Data Issued:

Attestation of compliance with California Inspection and Maintenance emission standards

Toyota states that the models in this test group comply with the California Inspection and Maintenance emission requirements base on our good engineering evaluation.

- 17.12 Test group and Evaporative family sales for California
- 17.13 California Phase-in Compliance
- 17.14 Compliance with OBD-II Phase-in Requirements
- 17.15 Hybrid Electric Vehicle information (if applicable)

Please refer to the CBI common file.

**18. Information on Service of Process**

Please refer to Section 1 of the FOI common file.