Test Group: TRAXV03.8T12	

APPLICATION

FOR

2026 MODEL YEAR CERTIFICATION

OF LIGHT DUTY MOTOR VEHICLES

TO COMPLY WITH

2026 NEW GASOLINE-FUELED LIGHT DUTY VEHICLES

STANDARDS

RUF Automobile GmbH
Mindelheimer Str. 21
87772 Pfaffenhausen
GERMANY

Test Group: TRAXV03.8T12	

Application for Certification: Initial Part 1

Model Year: 2026

Test Group: TRAXV03.8T12

Evaporative/Refuelling Family: TRAXR0150CTR

Durability Group: TRAXGPGNN406

Summary Sheet Number: CSI-TRAXV03.8T12-TRAXR0150CTR

Durability Group Description: Four Stroke, Otto Cycle, Gasoline Direct Fuel Injection, Unheated Monolith Ceramic Catalyst

Test Group Description: 3.8/4.0 l LDV, Horizontally Opposed 6-cyl Turbo

Applicable Standards: Federal Tier 3 Bin 50 / Federal LEV III Evap

Carlines Covered: RUF TURBO 12 / CTR3 / CTR 2017 Anniversary / RODEO / SCR

Vehicle Tested: EC T12 / CTR Exhaust and Evap.

EPA Response Requested By: Feb 20th, 2026

Special Instructions: Exhaust: carry-over
Evap: carry-over

For Questions Contact:

RUF Automobile of America, Inc.
5000 East Spring Street, Suite 430
Long Beach, CA 90815-1270
USA

Mr. Alois Ruf
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Test Group: TRAXV03.8T12	

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Section 1: Correspondence and Communications

Persons Authorized to Contact Agencies:

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GERMANY

Test Group: TRAXV03.8T12	

Section 2: Durability Group Description

Durability Group Name: TRAXGPGNN406

Combustion Cycle: four stroke, Otto cycle piston

Engine Type: water-cooled Boxer 6-cylinder

Fuel Used: Gasoline

Basic Fuel Metering System: Direct fuel injection

Catalyst Construction: Monolith, one at each cylinder bank, coupled to exhaust manifold

Catalyst Type: Pd/Rh three way catalysts

Catalyst Grouping Statistics:

Model	3.6l CTR Anniversary / RODEO	3.8 l T12 / CTR3	4.0 l SCR
PM composition	(Pt/Pd/Rh) 0:7:1	(Pt/Pd/Rh) 0:7:1	(Pt/Pd/Rh) 0:7:1
PM loading	19.84 gr	19.84 gr	19.84 gr
GS	5,51	5,22	4.96
% of Max. GS	100%	100 %	95 %
Number of cans	2	2	2

Test Group: TRAXV03.8T12	

Section 3: Evaporative / Refueling Family Description

Evaporative/Refueling Family:	SRAXR0150CTR
Type of Vapor Storage Device:	canister
Basic Canister Design:	see ORVR application
Nominal Working Capacity:	150 g
System configuration:	see ORVR application
Canister Geometry, Construction and Materials:	see ORVR application
Type of Refueling Emission Control System:	integrated
Fillpipe Seal Mechanism:	liquid seal
Vapor Control System:	see ORVR application
Vapor Hose Material:	see ORVR application
Fuel Tank Material:	see ORVR application

ORVR Application:

The ORVR-system used on the RUF T12/CTR 3 is identical with Porsche's system to be found on all Porsche sports cars, model year 2018, originally approved by EPA 06/30/2004. The RUF T12/CTR 3 uses the original body, fuel system, including tank, lines, evaporative control system, filler inlet and ORVR system (including calibrations) of the Porsche Turbo, Turbo S, US-version.
Attached is a short description of the system as it was available from literature and service information. Details of the system are to be found in the corresponding Porsche Application for Certification.
Since each RUF T12/CTR 3 is based on an actual Porsche US car, it is assured that the RUF version is identical with the Porsche model of the time of production.
RUF is not aware of any in-use problems with the ORVR system.
We request carry-over of ORVR approval from model years 2018, 2019, 2020, 2021, 2022, 2023, 2024 and 2025.

Test Group: TRAXV03.8T12	

ORVR System

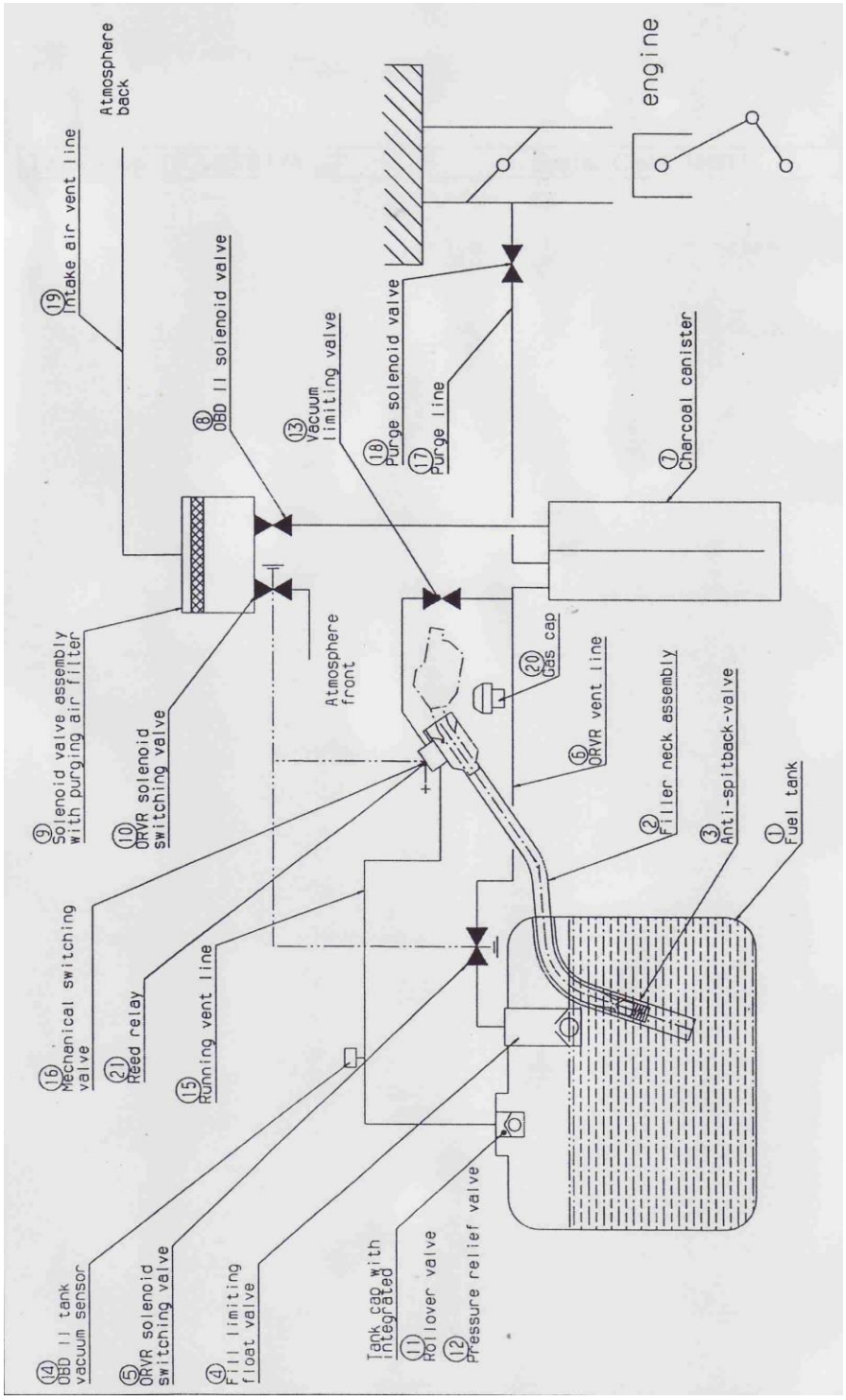
Evap/ Refueling family TRAXR0150T12

03.01 ORVR System

The ORVR-system used on the RUF T12 / CTR 3 is identical with Porsche's Evap family PPRXR0150R92.
The RUF T12 / CTR 3 uses the original body, fuel system, including tank, lines, evaporative control system, filler inlet and ORVR system (including calibrations) of the Porsche Turbo, Turbo S US-version.
Attached is a short description of the system as it was available from literature and service information. Details of the system are to be found in the corresponding Porsche Application for Certification.
Since each RUF T12 / CTR 3 is based on an actual Porsche U.S. car it is assured that the RUF version is identical with the Porsche model of the time of production. There have been no in use problems been reported for this engine family.

No changes to the original Porsche system which would affect the grounding path and the electrical discharge specifications have been made.

1. Schematic of the Porsche ORVR system



2. Components of the ORVR system

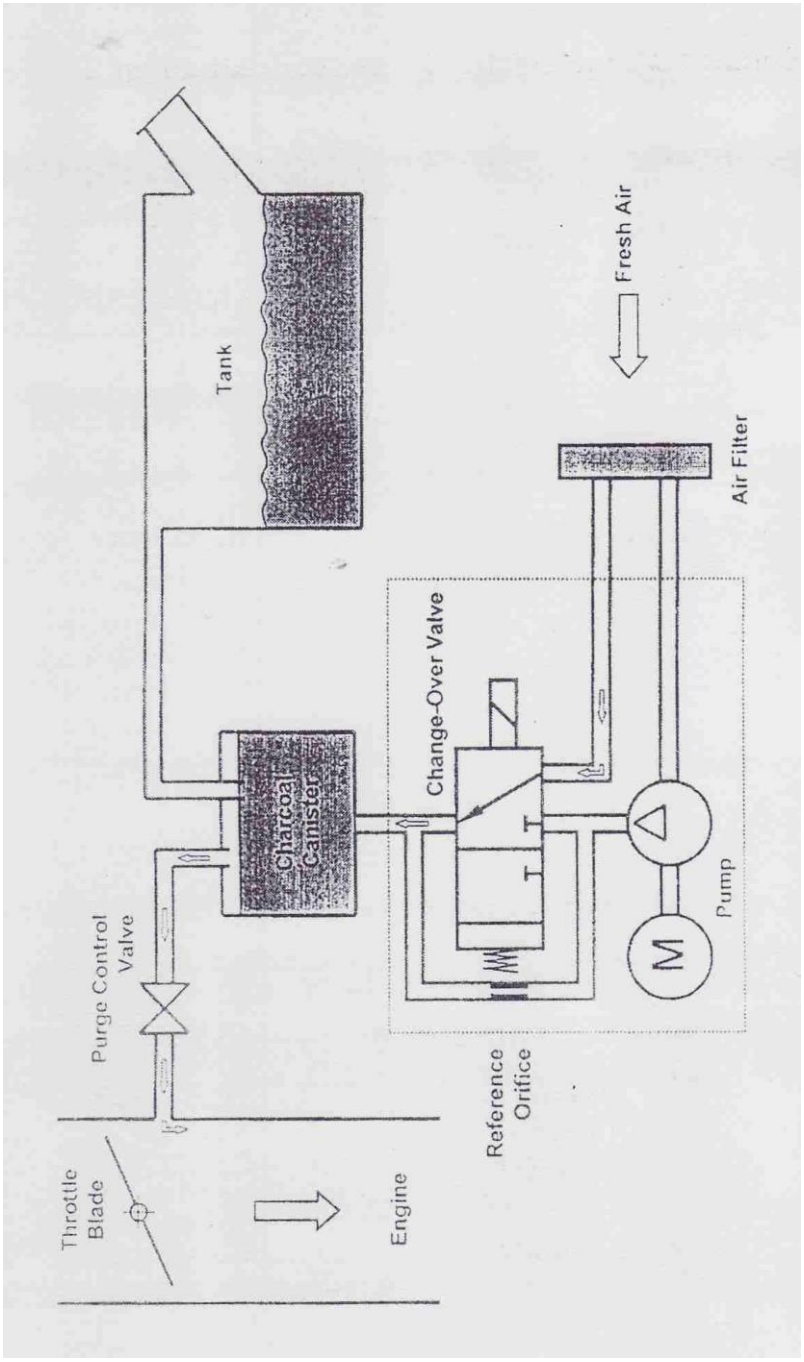
Item No. Ref. to schematic	Part name	Description
1	Fuel tank	Material: high-density-polyethylene (fluorinated) Nominal tank capacity: 64 L
2	Filler neck assembly	Material: aluminum (Filler neck main pipe) P A 12, conductive (Inner tube) POM 30 GF (filler neck inlet) Outer diameter filler neck main pipe: 36 mm Outer diameter filler neck inner tube: 24 mm Thickness filler neck main pipe: 1.5 mm Thickness filler neck inner tube: 1.5 mm
3	Anti-spitback valve	Spring preloaded valve
4	Fill limiting float valve	Material: high-density-polyethylene, polybutylene-terephthalate
5	ORVR solenoid switching valve	Material: P A 6 – GF 30
6	ORVR vent line	Material: P A 11 or P A 12 PVDF (inner coating) Outer diameter: 15 mm Thickness: 1.5 mm
7	Charcoal canister	Housing material: PP – GF 20 Charcoal volume: 2100 ccm Nominal working capacity: 110 g
8	OBD II solenoid valve	Material: P A 6 – GF 30
9	Solenoid valve assembly with purging air filter	Material: P A 66 – GB 30

Components of the ORVR system (continued)

Item No. Ref. to schematic	Part name	Description
10	**ORVR solenoid switching valve**	**Material: PA 6 – GF 30**
11	**Rollover valve**	**Gravity controlled valve, integrated in tank cap**
12	**Pressure relief valve**	**Spring preloaded valve, integrated into tank cap**
13	**Vacuum limiting valve**	**Diaphragm valve Material: POM**
14	**OBD II tank vacuum sensor**	**Material: PA 6 – GF 30**
15	**Running vent line**	**Material: PA 11 or PA 12 PVDF (inner coating) Outer diameter: 8 mm Thickness: 1 mm**
16	**Mechanical switching valve**	**Material: POM**
17	**Purge line**	**Material: PA 11 or PA 12 Outer diameter: 10 mm Thickness: 1 mm**
18	**Purge solenoid valve**	**Material: PA 66 GF 30**
19	**Intake air vent line**	**Material: PA 11 or PA 12 Outer diameter: 10 mm Thickness: 1 mm**
20	**Gas cap**	**Material: POM**
21	**Reed relay**	

3. View of the Porsche ORVR / Evaporative Control System

System overview



Test Group: TRAXV03.8T12	

Electrostatic discharge

RUF states that the ORVR system is properly designed with respect to electrostatic discharges. Electrostatic discharges in the filler neck inlet area during a refuelling operation are prevented by the system design. The fuel flow contacts the filler neck inner tube, which is made of conductive plastic material and which contacts the filler neck main pipe. The fuel nozzle contacts a metal closing flap in the filler neck inlet. Contact between the flap and the filler neck main pipe is ensured via a metal spring.

The total resistance from the inserted fuel nozzle to vehicle ground is approximately 0 Ohms.

The resistance of the tires is less than 10 ^{10} Ohms.

Grounding path 1 **Grounding path 2**

Closing flap	Filler neck inner tube
Spring	Filler neck main pipe
Filler neck main pipe	Attachment to body
Attachment to body	Body
Body	Parking brake lever
Engine ground strap	Parking brake cable
Engine	Brake shoe lever
Transmission	Brake disk
Rear axle differential	Rim
Output shafts	Tires
Wheel bearing	Ground
Brake disk	
Rim	
Tires	
Ground	

Section 4: Durability Procedure Description

Exhaust and Evaporative/Refueling Deterioration Factors

The use of EPA assigned deterioration factors (ADF's) for Tier 3 as provided by EPA, Jim Snyder in his Email of Feb. 23rd, 2022 will be applied.

Section 5: Test Group Description

Test Group Name:	TRAXV03.8T12
Summary Sheet Index Number:	CSI-TRAXV03.8T12-TRAXR0150CTR
Engine Displacements:	3.6 Liter, 3.8 Liter, 4.0 Liter
Arrangement and No. Cylinders:	Horizontally opposed 6-cylinder
Vehicle Class:	LDV
NLEV Participation:	No
Emissions Standards Class:	Federal Tier 3 Bin 50
Applicable Emissions Standards:	Please refer to the Certification Summary Information Report in Section 7

Section 6: Test Vehicle Description

06.01 Test Vehicle

For a description of the test vehicle EC T12/CTR see CSI report in Section 7.

Test Group: TRAXV03.8T12	

06.02 Test Parameters

						Target Coefficients			
Carline	**Transmis-sion**	**Con-fig.**	**Tire Comb.**	**Subcon-fig.**	**ETW**	**A(lbf)**	**B(lbf/mph)**	**C(lbf/mph²)**	**Road Load HP**
RUF CTR Anniversary / RODEO	M7	A	1	A.1	3750	40.644	0.32562	0.0151	12.6
RUF TURBO 12 / CTR 3	M7	A	1	A.1	4000	40.644	0.32562	0.0151	12.6
RUF SCR	M7	A	1	A.1	3750	40.644	0.32562	0.0151	12.6

Tire Comb: 1: 235/35ZR19 (Front) 305/30ZR19 (Rear)

06.03 Evaporative Parameters

The fuel system with all components, the evaporative control system as well as the vehicle ride height are identical with the Porsche 911 Turbo/Turbo S version. Therefore, the fuel tank temperature profile is identical to the profile to be found on the respective Porsche 911 Turbo/Turbo S, evaporative/refueling family.

Section 7: Test Results

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Certification Summary Information Report

Manufacturer	RUF Automobile GmbH	**Manufacturer Code**	RAX
Test Group	TRAXV03.8T12	**Evaporative/Refueling Family**	TRAXR0150CTR
Certificate Number	--	**CARB Executive Order #**	--
Certificate Issue Date	--	**Certificate Revision Date**	--
Certificate Effective Date	--	**Conditional Certificate**	--
CSI Revision #	--	**CSI Submission/Revision Date**	02/09/2026 02:40:54 AM
Model Year	2026		

Test Group Information

CSI Type	New	**Running Change Reference Number**	--
GHG Exempt Status	Small Business Administration Exemption		

Drive Sources and Fuel(s)

Drive Source #1: Combustion Engine

	Fuel	Basic Fuel Metering System	Lean Burn Strategy Indicator	
	Gasoline	Spark Ignition Direct fuel injection	No	
Hybrid Indicator	No			
Multiple Fuel Storage	--	**Rechargeable Energy Storage System Indicator**	--	
Multiple Fuel Combustion	--	**Off-board Charge Capable Indicator**	--	
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**	No	
Durability Group Name	TRAXGPGNN406	**Durability Group Equivalency Factor**	1	
Reduced Fee Test Group	No	**Certification Region Code(s)**	FA	
Complies with HD GHG 2b/3 regulations?	No			
Introduction into Commerce Date	--	**CAP2000 Conditional Certificate?**	N/A	
Independent Commercial Importer?	--	**Alternative Fuel Converter Certificate?**	--	
SFTP Federal Composite Compliance Identifier	Tier 3	**SFTP Tier 2 Composite CO Option**	No	
SFTP LEV-III Composite Compliance Indicator	No			
OBD Compliance Type	Federal	**OBD Demonstration Vehicle Test Group**	TRAXV03.8T12	
Test Group OBD Compliance Level	Full - no deficiencies	**Number of Test Group OBD Deficiencies**	0	
OBD Deficiencies Comments	--			
Mfr Test Group Comments	--			
Mfr Exhaust / Evap Standards Comments	--			

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Certification Summary Information Report

Test Group	TRAXV03.8T12	**Evaporative/Refueling Family**	TRAXR0150CTR

Evaporative/Refueling Family Information

Evaporative Summary Information Type	New	**Submission/Correction Date**	02/09/2026 02:25:32 AM
Integrated ORVR?	Yes	**Fuel(s)**	Gasoline
Multiple Fuel Storage	--		
Bladder Fuel Tank?	No		
Fuel Tank Material	Plastic	**Fuel Tank Material Description**	HDPE
Fill Pipe Seal Type	Liquid seal		
Air Intake System Vapor Storage Device?	No	**Air Intake System Vapor Storage Device Description**	--
Fuel System Vapor Storage Canister?	Yes	**Other Vapor Storage**	--
Fuel System Vapor Storage Canister(s) Total Working Capacity (grams)	150	**Number of Primary Canisters**	1
Number of Bleed Canisters	0	**Bleed Canister Total Working Capacity (grams)**	--
Mfr Evaporative/Refueling Family Comments	--		

Leak Family Details

Leak Family Indicator	No		
Canister Bleed Test Indicator	No	**Applicability of Evaporative Canister Bleed Test**	--
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	--		

Models Covered by this Certificate

Carline Manufacturer	Division	Carline	Certification Region Code(s)	Drive System	Trans - Type	- # of Gears	Trans - Lockup
RUF Automobile GmbH	1 - RUF Automobile GmbH	213 - RUF T12/CTR3/CTR Anniversary/SCR/ROD EO	Federal	2-Wheel Drive, Rear	Manual	7	No

Engine Description

Hybrid Type	--	**Hybrid Description**	--
Engine Type	4-Stroke Spark Ignition	**Mfr Engine Description**	--
Engine Block Arrangement	Horizontally Opposed	**Mfr Engine Block Arrangement Description**	--
Camless Valvetrain Indicator	No	**Oil Viscosity/Classification**	10W40
Number of Cylinders/Rotors	6	**Mechanically Variable Compression Ratio Indicator**	N

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Certification Summary Information Report

Test Group	TRAXV03.8T12	**Evaporative/Refueling Family**	TRAXR0150CTR

After Treatment Device(s) (ATD)

ATD Number	ATD Type	ATD Precious Metal	Substrate Material	Substrate Construction
1	Three-way catalyst	Palladium + Rhodium	Ceramic	Monolith
2	Three-way catalyst	Palladium + Rhodium	Ceramic	Monolith

Mfr After Treatment Device (ATD) Comments	--
Direct Ozone Reduction (DOR) Device	Not Equipped
Mfr Emission Control Device Comments	--

Engine Configuration Number 1

Engine Displacement (liters)	3.8	**Engine Rated Horsepower**	800
Number of Inlet Valves Per Cylinder	2	**Number of Exhaust Valves Per Cylinder**	2
Air Aspiration Method	Turbocharged	**Number of Air Aspiration Devices**	2
Air Aspiration Device Configuration	Parallel	**Charge Air Cooler Type**	Air
Air Aspiration Drive Method(s)	Mechanical		
Cylinder Deactivation	No		
Cylinder Deactivation Description	--		
Variable Valve Timing	Yes		
Variable Valve Timing System Description	Porsche VVT System		
Variable Valve Lift?	Yes		
Variable Valve Lift System Description	Porsche VVT System		
Number of Knock Sensors	1	**Number of Air/Fuel Sensors**	4
Air/Fuel Sensor # 1 Type	Heated oxygen	**Air/Fuel Sensor # 1 Description**	--
Air/Fuel Sensor # 2 Type	Heated oxygen	**Air/Fuel Sensor # 2 Description**	--
Air/Fuel Sensor # 3 Type	Heated oxygen	**Air/Fuel Sensor # 3 Description**	--
Air/Fuel Sensor # 4 Type	Heated oxygen	**Air/Fuel Sensor # 4 Description**	--
Mfr Air/Fuel Sensor Comments	--		
Exhaust Gas Recirculation	No	**Cooled Exhaust Gas Recirculation**	--
EGR Type	--	**Exhaust Gas Recirculation Description if 'Other'**	--
Closed Loop Air Injection System	No		
Air Injection Type	--	**Air Injection Type if 'Other'**	--
Mfr Engine Configuration Comments	Engine Configuration 1 for CTR3 models		

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Certification Summary Information Report

Test Group	TRAXV03.8T12	Evaporative/Refueling Family	TRAXR0150CTR
Engine Configuration Number 2			
Engine Displacement (liters)	4.0	**Engine Rated Horsepower**	520
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**	--
Air Aspiration Drive Method(s)	Mechanical		
Cylinder Deactivation	No		
Cylinder Deactivation Description	--		
Variable Valve Timing	Yes		
Variable Valve Timing System Description	Porsche VVT System		
Variable Valve Lift?	Yes		
Variable Valve Lift System Description	Porsche VVT System		
Number of Knock Sensors	1	**Number of Air/Fuel Sensors**	4
Air/Fuel Sensor # 1 Type	Heated oxygen	**Air/Fuel Sensor # 1 Description**	--
Air/Fuel Sensor # 2 Type	Heated oxygen	**Air/Fuel Sensor # 2 Description**	--
Air/Fuel Sensor # 3 Type	Heated oxygen	**Air/Fuel Sensor # 3 Description**	--
Air/Fuel Sensor # 4 Type	Heated oxygen	**Air/Fuel Sensor # 4 Description**	--
Mfr Air/Fuel Sensor Comments	--		
Exhaust Gas Recirculation	No	**Cooled Exhaust Gas Recirculation**	--
EGR Type	--	**Exhaust Gas Recirculation Description if 'Other'**	--
Closed Loop Air Injection System	No		
Air Injection Type	--	**Air Injection Type if 'Other'**	--
Mfr Engine Configuration Comments	Engine Configuration 2 for SCR model		

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Certification Summary Information Report

Test Group	TRAXV03.8T12	Evaporative/Refueling Family	TRAXR0150CTR

Engine Configuration Number 3

Engine Displacement (liters)	3.6	**Engine Rated Horsepower**	710
Number of Inlet Valves Per Cylinder	2	**Number of Exhaust Valves Per Cylinder**	2
Air Aspiration Method	Turbocharged	**Number of Air Aspiration Devices**	2
Air Aspiration Device Configuration	Parallel	**Charge Air Cooler Type**	Air
Air Aspiration Drive Method(s)	Mechanical		
Cylinder Deactivation	No		
Cylinder Deactivation Description	--		
Variable Valve Timing	Yes		
Variable Valve Timing System Description	Porsche VVT System		
Variable Valve Lift?	Yes		
Variable Valve Lift System Description	Porsche VVT System		
Number of Knock Sensors	1	**Number of Air/Fuel Sensors**	4
Air/Fuel Sensor # 1 Type	Heated oxygen	**Air/Fuel Sensor # 1 Description**	--
Air/Fuel Sensor # 2 Type	Heated oxygen	**Air/Fuel Sensor # 2 Description**	--
Air/Fuel Sensor # 3 Type	Heated oxygen	**Air/Fuel Sensor # 3 Description**	--
Air/Fuel Sensor # 4 Type	Heated oxygen	**Air/Fuel Sensor # 4 Description**	--
Mfr Air/Fuel Sensor Comments	--		
Exhaust Gas Recirculation	No	**Cooled Exhaust Gas Recirculation**	--
EGR Type	--	**Exhaust Gas Recirculation Description if 'Other'**	--
Closed Loop Air Injection System	No		
Air Injection Type	--	**Air Injection Type if 'Other'**	--
Mfr Engine Configuration Comments	Engine Configuration 3 for CTR Anniversary / RODEO models		

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	NRAX10073377	NRAX10073404	NRAX10073405	NRAX10073070	NRAX10073069	19.6	228.2	29.6	286.1	1

SFTP LEV-III Official Test Numbers

Test Group Fuel	FTP	US06	SC03
Gasoline	NRAX10073377	NRAX10073404	NRAX10073405

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Certification Summary Information Report

Test Group	TRAXV03.8T12	**Evaporative/Refueling Family**	TRAXR0150CTR

Emission Data Vehicle Information

Vehicle ID / Configuration	EC T12/CTR / 0	**Manufacturer Vehicle Configuration Number**	0
Original Test Group Name	NRAXV03.8T12	**Original Evaporative/Refueling Family**	NRAXR0150CTR
Original Test Vehicle Model Year	2022		

Vehicle Model

Represented Test Vehicle Make	RUF	**Represented Test Vehicle Model**	Turbo 12/CTR3/CTR Anniversary/SCR

Leak Family Details

Leak Family Identifier	--	**Leak Family Name**	--

Drive Sources and Fuel System Details

Drive Source and Fuel#	Drive Source	Fuel
1	Combustion Engine	Gasoline

Hybrid Indicator	No		
Multiple Fuel Storage	--	**Multiple Fuel Combustion**	--
Fuel Cell Indicator	No	**Rechargeable Energy Storage System Indicator**	No
Rechargeable Energy Storage System	--	**Rechargeable Energy Storage System, if 'Other'**	--
Off-board charge Capable Indicator	No		
Odometer Correction -- Initial	0	**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	Turbo 12/CTR3	**Rated Horsepower**	650
Displacement (liters)	3.8		
Air Aspiration Method	Turbocharged	**Air Aspiration Method, if 'Other'**	
Number of Air Aspiration Devices	2	**Air Aspiration Device Configuration**	Parallel
Charge Air Cooler Type	Air	**Drive Mode While Testing**	2-Wheel Drive, Rear
Shift Indicator Light Usage	Not eqipped	**Aged Emission Components**	4,000 (mi)
Curb Weight (lbs)	3570	**Equivalent Test Weight (pounds)**	4000
GVWR (lbs)	--	**N/V Ratio**	36.8
Axle Ratio	3.44		
Transmission Type	Manual	**# of Transmission Gears**	7
Transmission Lockup	No	**Creeper Gear**	No

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Certification Summary Information Report

Test Group	TRAXV03.8T12	Evaporative/Refueling Family	TRAXR0150CTR

Dynamometer Coefficients:

Coefficient Category	Target Coefficients A (lbf)	Target Coefficients B (lbf/mph)	Target Coefficients C (lbf/mph**2)	Set Coefficients A (lbf)	Set Coefficients B (lbf/mph)	Set Coefficients C (lbf/mph**2)	EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients
City/Highway/Evap	40.644	0.32562	0.0151	19.123	-0.11722	0.01883	12.6
Cold CO	40.644	0.32562	0.0151	19.123	-0.11722	0.01883	N/A
US06	40.644	0.32562	0.0151	19.123	-0.11722	0.01883	N/A

Emission Control Device Comments --

Manufacturer Test Vehicle Comments This vehicle configuration represents worst case emission level within the test group.

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Certification Summary Information Report

Test Group	TRAXV03.8T12	**Evaporative/Refueling Family**	TRAXR0150CTR
Test #	**NRAX10073070**	**Test Procedure**	**11 - Cold CO**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	29 - Cold CO E10 Premium Gasoline (Tier 3)
Test Date	05/27/2021	**Fuel**	Gasoline
Fuel Batch ID	--	**Fuel Calibration Number**	--
Vehicle Class	LDV/Passenger Car	**DF Type**	EPA Assigned
Verify Test Lab ID	FAKT GmbH		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	4231	**Odometer Units**	M
4WD Test Dyno	No	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	**Road Speed Fan Usage**	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	602.046	--
FE BAG 1 (Bag 1 Fuel Economy)	14.4	14.4
CO2 BAG 2 (Bag 2 Carbon Dioxide)	542.172	--
FE BAG 2 (Bag 2 Fuel Economy)	16.18	16.18
CO2 BAG 3 (Bag 3 Carbon Dioxide)	429.256	--
FE BAG 3 (Bag 3 Fuel Economy)	20.42	20.42
CO (Carbon Monoxide)	0.526	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0	--
DT-EER (Drive Trace Energy Economy Rating)	0	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0	--
MFR FE (Manufacturer Fuel Economy)	16.7	16.7
NOX (Nitrogen Oxide)	0.00624	--
HC-NM (Non-methane Hydrocarbon)	0.1053	--
NMOG (Non-methane organic gases)	0.1133	--
HC-TOTAL (Total Hydrocarbon)	0.1209	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	525	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	524.355	--

Manufacturer Test Comments --

Test Group: TRAXV03.8T12	

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Certification Summary Information Report

Test Group TRAXV03.8T12 **Evaporative/Refueling Family** TRAXR0150CTR

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	0.53	--	--	--	0.16	--	0.7	10.0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	HC-NM	0.11	--	--	--	0.0025	--	0.1	0.3	Pass

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Certification Summary Information Report

Test Group	TRAXV03.8T12	**Evaporative/Refueling Family**	TRAXR0150CTR
Test #	**NRAX10073377**	**Test Procedure**	**21 - Federal fuel 2-day exhaust (w/can load)**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
Test Date	04/20/2021	**Fuel**	Gasoline
Fuel Batch ID	--	**Fuel Calibration Number**	--
Vehicle Class	LDV/Passenger Car	**DF Type**	EPA Assigned
Verify Test Lab ID	FAKT GmbH		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	3780	**Odometer Units**	M
4WD Test Dyno	No	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	**Road Speed Fan Usage**	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	482.881	--
FE BAG 1 (Bag 1 Fuel Economy)	18.25	18.25
CO2 BAG 2 (Bag 2 Carbon Dioxide)	409.165	--
FE BAG 2 (Bag 2 Fuel Economy)	21.56	21.56
CO2 BAG 3 (Bag 3 Carbon Dioxide)	372.835	--
FE BAG 3 (Bag 3 Fuel Economy)	23.67	23.67
METHANE (CH4 - Methane)	0.0074	--
CO (Carbon Monoxide)	0.412	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0	--
DT-EER (Drive Trace Energy Economy Rating)	0	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0	--
HCHO (Formaldehyde)	0.00121	--
MFR FE (Manufacturer Fuel Economy)	21.21	21.21
NOX (Nitrogen Oxide)	0.0069	--
N2O (Nitrous Oxide)	0.00092	--
NMOG (Non-methane organic gases)	0.0124	--
PM (Particulate Matter)	0.000876	--
HC-TOTAL (Total Hydrocarbon)	0.014	--

Schließen

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	417	999

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Certification Summary Information Report

Test Group	TRAXV03.8T12	Evaporative/Refueling Family	TRAXR0150CTR

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	416.5	--

Manufacturer Test Comments CERT Test

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NMHC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	120,000 miles	Federal Tier 3 Bin 50	METHANE	0.0074	--	--	--	0.0026	--	0.010	0.030	Pass
Fed	120,000 miles	Federal Tier 3 Bin 50	N2O	0.0009	--	--	--	0.0011	--	0.002	0.010	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	CO	0.41	--	--	--	0.16	--	0.6	1.7	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	CO-COMP	0.38	--	--	--	0.151	--	0.4	4.2	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	HCHO	0.0012	--	--	--	0.0002	--	0.001	0.004	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG	0.01	--	--	--	0.0062	--	0.0	999.9	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG+NOX	0.02	--	--	--	--	--	0.031	0.050	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG+NOX-COMP	0.0238	--	--	--	0.0050	--	0.024	0.050	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NOX	0.01	--	--	--	0.0047	--	0.0	999.9	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	PM	0.0009	--	--	--	0.0	--	0.001	0.003	Pass

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Certification Summary Information Report

Test Group	TRAXV03.8T12	**Evaporative/Refueling Family**	TRAXR0150CTR
Test #	**NRAX10073411**	**Test Procedure**	**21 - Federal fuel 2-day exhaust (w/can load)**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
Test Date	05/14/2021	**Fuel**	Gasoline
Fuel Batch ID	--	**Fuel Calibration Number**	--
Vehicle Class	LDV/Passenger Car	**DF Type**	EPA Assigned
Verify Test Lab ID	FAKT GmbH		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	4050	**Odometer Units**	M
4WD Test Dyno	No	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	**Road Speed Fan Usage**	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
METHANE (CH4 - Methane)	0.00884	--
CO (Carbon Monoxide)	0.4732	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0	--
DT-EER (Drive Trace Energy Economy Rating)	0	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0	--
MFR FE (Manufacturer Fuel Economy)	20.96	20.96
NOX (Nitrogen Oxide)	0.0054	--
N2O (Nitrous Oxide)	0.00088	--
HC-NM (Non-methane Hydrocarbon)	0.0148	--
NMOG (Non-methane organic gases)	0.0161	--
PM (Particulate Matter)	0.000714	--
HC-TOTAL (Total Hydrocarbon)	0.0176	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	423	999

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	421.683	--

Manufacturer Test Comments Pre-Test FTP for 3Day Evap + R/L

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Certification Summary Information Report

Test Group	TRAXV03.8T12	Evaporative/Refueling Family	TRAXR0150CTR

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	120,000 miles	Federal Tier 3 Bin 50	METHANE	0.0088	--	--	--	0.0026	--	0.011	0.030	Pass
Fed	120,000 miles	Federal Tier 3 Bin 50	N2O	0.0009	--	--	--	0.0011	--	0.002	0.010	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	CO	0.47	--	--	--	0.16	--	0.6	1.7	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG	0.02	--	--	--	0.0062	--	0.0	999.9	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG+NOX	0.03	--	--	--	--	--	0.041	0.050	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NOX	0.01	--	--	--	0.0047	--	0.0	999.9	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	PM	0.0007	--	--	--	0.0	--	0.001	0.003	Pass

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Certification Summary Information Report

Test Group	TRAXV03.8T12	Evaporative/Refueling Family	TRAXR0150CTR
Test #	NRAX10073412	Test Procedure	21 - Federal fuel 2-day exhaust (w/can load)
Exhaust Test # for this Evap Test	--	Test Fuel Type	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
Test Date	05/21/2021	Fuel	Gasoline
Fuel Batch ID	--	Fuel Calibration Number	--
Vehicle Class	LDV/Passenger Car	DF Type	EPA Assigned
Verify Test Lab ID	FAKT GmbH		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	4127	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
METHANE (CH4 - Methane)	0.00804	--
CO (Carbon Monoxide)	0.5008	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0	--
DT-EER (Drive Trace Energy Economy Rating)	0	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0	--
MFR FE (Manufacturer Fuel Economy)	22.05	22.05
NOX (Nitrogen Oxide)	0.0061	--
N2O (Nitrous Oxide)	0.00061	--
HC-NM (Non-methane Hydrocarbon)	0.0121	--
NMOG (Non-methane organic gases)	0.0134	--
PM (Particulate Matter)	0.000777	--
HC-TOTAL (Total Hydrocarbon)	0.0152	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	402	999

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	400.633	--

Manufacturer Test Comments: Pre-Test FTP for ORVR

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Certification Summary Information Report

Test Group	TRAXV03.8T12	Evaporative/Refueling Family	TRAXR0150CTR

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NMHC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	120,000 miles	Federal Tier 3 Bin 50	METHANE	0.0080	--	--	--	0.0026	--	0.011	0.030	Pass
Fed	120,000 miles	Federal Tier 3 Bin 50	N2O	0.0006	--	--	--	0.0011	--	0.002	0.010	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	CO	0.50	--	--	--	0.16	--	0.7	1.7	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG	0.01	--	--	--	0.0062	--	0.0	999.9	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG+NOX	0.02	--	--	--	--	--	0.031	0.050	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NOX	0.01	--	--	--	0.0047	--	0.0	999.9	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	PM	0.0008	--	--	--	0.0	--	0.001	0.003	Pass

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Certification Summary Information Report

Test Group	TRAXV03.8T12	**Evaporative/Refueling Family**	TRAXR0150CTR
Test #	**NRAX10073413**	**Test Procedure**	**21 - Federal fuel 2-day exhaust (w/can load)**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
Test Date	05/25/2021	**Fuel**	Gasoline
Fuel Batch ID	--	**Fuel Calibration Number**	--
Vehicle Class	LDV/Passenger Car	**DF Type**	EPA Assigned
Verify Test Lab ID	FAKT GmbH		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	4164	**Odometer Units**	M
4WD Test Dyno	No	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	**Road Speed Fan Usage**	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
METHANE (CH4 - Methane)	0.0108	--
CO (Carbon Monoxide)	0.3971	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0	--
DT-EER (Drive Trace Energy Economy Rating)	0	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0	--
MFR FE (Manufacturer Fuel Economy)	21.18	21.18
NOX (Nitrogen Oxide)	0.0055	--
N2O (Nitrous Oxide)	0.00091	--
HC-NM (Non-methane Hydrocarbon)	0.0116	--
NMOG (Non-methane organic gases)	0.012	--
PM (Particulate Matter)	0.000865	--
HC-TOTAL (Total Hydrocarbon)	0.0132	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	417	999

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	415.9	--

Manufacturer Test Comments Pre-Test FTP for 2 day EVAP

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Certification Summary Information Report

Test Group	TRAXV03.8T12	Evaporative/Refueling Family	TRAXR0150CTR

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NMHC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	120,000 miles	Federal Tier 3 Bin 50	METHANE	0.0108	--	--	--	0.0026	--	0.013	0.030	Pass
Fed	120,000 miles	Federal Tier 3 Bin 50	N2O	0.0009	--	--	--	0.0011	--	0.002	0.010	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	CO	0.40	--	--	--	0.16	--	0.6	1.7	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG	0.01	--	--	--	0.0062	--	0.0	999.9	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG+NOX	0.02	--	--	--	--	--	0.031	0.050	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NOX	0.01	--	--	--	0.0047	--	0.0	999.9	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	PM	0.0009	--	--	--	0.0	--	0.001	0.003	Pass

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Certification Summary Information Report

Test Group	TRAXV03.8T12	**Evaporative/Refueling Family**	TRAXR0150CTR
Test #	**NRAX10073069**	**Test Procedure**	**3 - HWFE**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
Test Date	04/23/2021	**Fuel**	Gasoline
Fuel Batch ID	--	**Fuel Calibration Number**	--
Vehicle Class	LDV/Passenger Car	**DF Type**	EPA Assigned
Verify Test Lab ID	FAKT GmbH		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	3826	**Odometer Units**	M
4WD Test Dyno	No	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	**Road Speed Fan Usage**	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
METHANE (CH4 - Methane)	0.00032	--
CO (Carbon Monoxide)	0.034171	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0	--
DT-EER (Drive Trace Energy Economy Rating)	0	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0	--
MFR FE (Manufacturer Fuel Economy)	30.9935	30.9935
NOX (Nitrogen Oxide)	0.003214	--
HC-NM (Non-methane Hydrocarbon)	0.00064	--
NMOG (Non-methane organic gases)	0.00081	--
PM (Particulate Matter)	0.00096	--
HC-TOTAL (Total Hydrocarbon)	0.00096	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	285	999

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	284.7413	--

Manufacturer Test Comments --

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Certification Summary Information Report

Test Group	TRAXV03.8T12	Evaporative/Refueling Family	TRAXR0150CTR

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NMHC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG	0.00	--	--	--	0.0062	--	0.0	999.9	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG+NOX	0.00	--	--	--	--	--	0.011	0.050	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NOX	0.00	--	--	--	0.0047	--	0.0	999.9	Pass

Test #	**NRAX10073432**	**Test Procedure**	**34 - Federal fuel 3-day evap**
Exhaust Test # for this Evap Test	NRAX10073411	**Test Fuel Type**	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
Test Date	05/15/2021	**Fuel**	Gasoline
Fuel Batch ID	--	**Fuel Calibration Number**	--
Vehicle Class	N/A	**DF Type**	EPA Assigned
Verify Test Lab ID	FAKT GmbH		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	4080	**Odometer Units**	M
4WD Test Dyno	No	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	**Road Speed Fan Usage**	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)	0.1944	--

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	0.1944	0.0	0.194	0.300	Pass

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Certification Summary Information Report

Test Group	TRAXV03.8T12	**Evaporative/Refueling Family**	TRAXR0150CTR
Test #	**NRAX10073438**	**Test Procedure**	**23 - 2-day evap**
Exhaust Test # for this Evap Test	NRAX10073413	**Test Fuel Type**	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
Test Date	05/25/2021	**Fuel**	Gasoline
Fuel Batch ID	--	**Fuel Calibration Number**	--
Vehicle Class	N/A	**DF Type**	EPA Assigned
Verify Test Lab ID	FAKT GmbH		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	4183	**Odometer Units**	M
4WD Test Dyno	No	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	**Road Speed Fan Usage**	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)	0.2106	--

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	0.2106	0.0	0.211	0.300	Pass

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Certification Summary Information Report

Test Group	TRAXV03.8T12	Evaporative/Refueling Family	TRAXR0150CTR
Test #	**NRAX10073433**	**Test Procedure**	**32 - Federal Fuel Running Loss**
Exhaust Test # for this Evap Test	NRAX10073411	**Test Fuel Type**	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
Test Date	05/14/2021	**Fuel**	Gasoline
Fuel Batch ID	--	**Fuel Calibration Number**	--
Vehicle Class	N/A	**DF Type**	EPA Assigned
Verify Test Lab ID	FAKT GmbH		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	4070	**Odometer Units**	M
4WD Test Dyno	No	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	**Road Speed Fan Usage**	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)	0.00184	--

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	0.0018	0.0	0.002	0.050	Pass

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Certification Summary Information Report

Test Group	TRAXV03.8T12	**Evaporative/Refueling Family**	TRAXR0150CTR
Test #	**NRAX10073439**	**Test Procedure**	**24 - Federal fuel refueling test (ORVR)**
Exhaust Test # for this Evap Test	NRAX10073412	**Test Fuel Type**	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
Test Date	05/25/2021	**Fuel**	Gasoline
Fuel Batch ID	--	**Fuel Calibration Number**	--
Vehicle Class	N/A	**DF Type**	EPA Assigned
Verify Test Lab ID	FAKT GmbH		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	4139	**Odometer Units**	M
4WD Test Dyno	No	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	**Road Speed Fan Usage**	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)	0.0048	--

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	0.0	0.00	0.20	Pass

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Certification Summary Information Report

Test Group	TRAXV03.8T12	Evaporative/Refueling Family	TRAXR0150CTR
Test #	NRAX10073404	Test Procedure	90 - US06
Exhaust Test # for this Evap Test	--	Test Fuel Type	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
Test Date	05/07/2021	Fuel	Gasoline
Fuel Batch ID	--	Fuel Calibration Number	--
Vehicle Class	LDV/Passenger Car	DF Type	EPA Assigned
Verify Test Lab ID	FAKT GmbH		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	3983	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	564.762	--
FE BAG 1 (Bag 1 Fuel Economy)	15.612	15.612
CO2 BAG 2 (Bag 2 Carbon Dioxide)	359.385	--
FE BAG 2 (Bag 2 Fuel Economy)	24.52	24.52
METHANE (CH4 - Methane)	0.000418	--
CO (Carbon Monoxide)	0.0586	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0	--
DT-EER (Drive Trace Energy Economy Rating)	0	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0	--
HCHO (Formaldehyde)	0	--
MFR FE (Manufacturer Fuel Economy)	21.78	21.78
NOX (Nitrogen Oxide)	0.01717	--
HC-NM (Non-methane Hydrocarbon)	0.001056	--
NMOG (Non-methane organic gases)	0.001164	--
PM (Particulate Matter)	0.00415	--
HC-TOTAL (Total Hydrocarbon)	0.00232	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	405	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	403.085	--

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Certification Summary Information Report

Test Group	TRAXV03.8T12	Evaporative/Refueling Family	TRAXR0150CTR

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	150,000 miles	Federal Tier 3 Bin 50	CO	0.06	--	--	--	0.16	--	0.2	999.9	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG	0.00	--	--	--	0.0062	--	0.0	999.9	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NOX	0.02	--	--	--	0.0047	--	0.0	999.9	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	PM	0.0042	--	--	--	0.0	--	0.004	0.006	Pass

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Certification Summary Information Report

Test Group	TRAXV03.8T12	Evaporative/Refueling Family	TRAXR0150CTR
Test #	NRAX10073405	Test Procedure	95 - SC03
Exhaust Test # for this Evap Test	--	Test Fuel Type	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
Test Date	04/22/2021	Fuel	Gasoline
Fuel Batch ID	--	Fuel Calibration Number	--
Vehicle Class	LDV/Passenger Car	DF Type	EPA Assigned
Verify Test Lab ID	FAKT GmbH		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	3805	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO (Carbon Monoxide)	0.1667	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0	--
DT-EER (Drive Trace Energy Economy Rating)	0	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0	--
MFR FE (Manufacturer Fuel Economy)	15.716	15.716
NOX (Nitrogen Oxide)	0.000968	--
HC-NM (Non-methane Hydrocarbon)	0.00169	--
NMOG (Non-methane organic gases)	0.00155	--
HC-TOTAL (Total Hydrocarbon)	0.00208	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	561.183	--

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	150,000 miles	Federal Tier 3 Bin 50	CO	0.17	--	--	--	0.16	--	0.3	999.9	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG	0.00	--	--	--	0.0062	--	0.0	999.9	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NOX	0.00	--	--	--	0.0047	--	0.0	999.9	Pass

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Certification Summary Information Report

Test Group	TRAXV03.8T12	**Evaporative/Refueling Family**	TRAXR0150CTR
Test #	**NRAX10073441**	**Test Procedure**	**65 - Evap Canister Bleed Test**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
Test Date	05/25/2021	**Fuel**	Gasoline
Fuel Batch ID	--	**Fuel Calibration Number**	--
Vehicle Class	N/A	**DF Type**	EPA Assigned
Verify Test Lab ID	FAKT GmbH		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	4183	**Odometer Units**	M
4WD Test Dyno	No	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	**Road Speed Fan Usage**	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)	0.0087	--

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	0.0087	0.0	0.009	0.020	Pass

Fuel Properties

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Certification Summary Information Report

Test Group	TRAXV03.8T12	Evaporative/Refueling Family	TRAXR0150CTR

Consolidated List of Standards

Exhaust Standards

Cert Region	Federal	**Cert/In-Use Code**	Both
Vehicle Class	LDV/Passenger Car	**Standard Level**	Federal Tier 3 Bin 50
Fuel	Gasoline	**Test Procedure**	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
120,000 miles	METHANE	--	--	--	--	--	--	0.0026	0.030
120,000 miles	N2O	--	--	--	--	--	--	0.0011	0.010
150,000 miles	CO	--	--	--	--	--	--	0.16	1.7
150,000 miles	CO-COMP	--	--	--	--	--	--	0.151	4.2
150,000 miles	HCHO	--	--	--	--	--	--	0.0002	0.004
150,000 miles	NMOG	--	--	--	--	--	--	0.0062	999.9
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0.0109	0.050
150,000 miles	NMOG+NOX-COMP	--	--	--	--	--	--	0.0050	0.050
150,000 miles	NOX	--	--	--	--	--	--	0.0047	999.9
150,000 miles	PM	--	--	--	--	--	--	0.0	0.003

Cert Region	Federal	**Cert/In-Use Code**	Both
Vehicle Class	LDV/Passenger Car	**Standard Level**	Federal Tier 3 Bin 50
Fuel	Gasoline	**Test Procedure**	SC03

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	--	--	--	--	--	--	0.16	999.9
150,000 miles	NMOG	--	--	--	--	--	--	0.0062	999.9
150,000 miles	NOX	--	--	--	--	--	--	0.0047	999.9

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Certification Summary Information Report

Test Group	TRAXV03.8T12	Evaporative/Refueling Family	TRAXR0150CTR
Cert Region	Federal	Cert/In-Use Code	Both
Vehicle Class	LDV/Passenger Car	Standard Level	Federal Tier 3 Bin 50
Fuel	Gasoline	Test Procedure	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	NMOG	--	--	--	--	--	--	0.0062	999.9
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0.0109	0.050
150,000 miles	NOX	--	--	--	--	--	--	0.0047	999.9

Cert Region	Federal	Cert/In-Use Code	Both
Vehicle Class	LDV/Passenger Car	Standard Level	Federal Tier 3 Bin 50
Fuel	Gasoline	Test Procedure	Cold CO

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	--	--	--	--	--	--	0.16	10.0
150,000 miles	HC-NM	--	--	--	--	--	--	0.0025	0.3

Cert Region	Federal	Cert/In-Use Code	Both
Vehicle Class	LDV/Passenger Car	Standard Level	Federal Tier 3 Bin 50
Fuel	Gasoline	Test Procedure	US06

Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	--	0.16	999.9
150,000 miles	NMOG	--	--	--	--	--	--	0.0062	999.9
150,000 miles	NOX	--	--	--	--	--	--	0.0047	999.9
150,000 miles	PM	--	--	--	--	--	--	0.0	0.006

Evaporative/Refueling Standards

Evaporative/Refueling Family	TRAXR0150CTR	Cert Region	Federal
Cert/In-Use Code	Cert	Standard Level	Federal Tier 3 Evap
Test Procedure	Federal fuel 3-day evap		

Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.300	0.0

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Certification Summary Information Report

Test Group	TRAXV03.8T12		**Evaporative/Refueling Family**	TRAXR0150CTR	
Evaporative/Refueling Family	TRAXR0150CTR		**Cert Region**	Federal	
Cert/In-Use Code	Cert		**Standard Level**	Federal Tier 3 Evap	
Test Procedure	2-day evap				
Fuel	**Useful Life**	**Emission Name**	**Rounded Result**	**Std**	**Add DF**
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.300	0.0
Evaporative/Refueling Family	TRAXR0150CTR		**Cert Region**	Federal	
Cert/In-Use Code	Cert		**Standard Level**	Federal Tier 3 Evap	
Test Procedure	Evap Canister Bleed Test				
Fuel	**Useful Life**	**Emission Name**	**Rounded Result**	**Std**	**Add DF**
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.020	0.0
Evaporative/Refueling Family	TRAXR0150CTR		**Cert Region**	Federal	
Cert/In-Use Code	Cert		**Standard Level**	Federal Tier 3 Evap	
Test Procedure	Federal Fuel Running Loss				
Fuel	**Useful Life**	**Emission Name**	**Rounded Result**	**Std**	**Add DF**
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.050	0.0
Evaporative/Refueling Family	TRAXR0150CTR		**Cert Region**	Federal	
Cert/In-Use Code	Cert		**Standard Level**	Federal Tier 3 Evap	
Test Procedure	Federal fuel refueling test (ORVR)				
Fuel	**Useful Life**	**Emission Name**	**Rounded Result**	**Std**	**Add DF**
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.20	0.0

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Test Group	TRAXV03.8T12	Evaporative/Refueling Family		TRAXR0150CTR
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	AS-VOLT	Average System Voltage	
CO	Carbon Monoxide	CO2 BAG 1	Bag 1 Carbon Dioxide	
CO2	Carbon dioxide	CO2 BAG 2	Bag 2 Carbon Dioxide	
CREE	Carbon-Related Exhaust Emissions	CO2 BAG 3	Bag 3 Carbon Dioxide	
OPT-CREE	Optional Carbon-Related Exhaust Emissions	CO2 BAG 4	Bag 4 Carbon Dioxide	
NOX	Nitrogen Oxide	NMOG+NOX	Non-methane organic gases plus Nitrogen Oxides	
PM	Particulate Matter	NMOG+NOX-COMP	SFTP Composite Non-methane Organic Gases + Nitrogen Oxides	
PM-COMP	SFTP Composite Particulate Matter	DT-IWRR	Drive Trace Inertia Work Ratio Rating	
HC-NM	Non-methane Hydrocarbon	DT-ASCR	Drive Trace Absolute Speed Change Rating	
OMHCE	Organic material Hydrocarbon Equivalent	DT-EER	Drive Trace Energy Economy Rating	
OMNMHCE	Organic material non-methane HC equivalent	COMB-CREE	Combined Carbon-Related Exhaust Emissions	
NMOG	Non-methane organic gases	COMB-OPT-CREE	Combined Optional Carbon-Related Exhaust Emissions	
HCHO	Formaldehyde	HC-TOTAL-EQUIV	Total Hydrocarbon equivalent - Evap only	
H3C2HO	Acetaldehyde	METHANE-COMB	Combined CH4 for HD 2b/3 vehicles only	
HC-NM+NOX	SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03	N2O-COMB	Combined Nitrous Oxide for HD 2b/3 vehicles only	
HC-NM+NOX-COMP	SFTP Composite Non-methane Hydrocarbon + Nitrogen Oxides	LEAK-DIA	Effective Leak Diameter (inches)	
CO-COMP	SFTP Composite Carbon Monoxide	LEAK-GAS CAP	Gas Cap Leakage (cc/min)	
ETHANOL	C2H5OH - Ethanol	CO2-COMB	Combined Carbon Dioxide for HD 2b/3 Vehicles Only	
FE BAG 1	Bag 1 Fuel Economy	KW-HRS	Integrated DC KW-HRS	
FE BAG 2	Bag 2 Fuel Economy	CH4 BAG 1	Bag 1 Methane	
FE BAG 3	Bag 3 Fuel Economy	CH4 BAG 2	Bag 2 Methane	
FE BAG 4	Bag 4 Fuel Economy	CH4 BAG 3	Bag 3 Methane	
MFR FE	Manufacturer Fuel Economy	CH4 BAG 4	Bag 4 Methane	
HC	Hydrocarbon for Running Loss and ORVR	CO BAG 1	Bag 1 Carbon Monoxide	
METHANE	CH4 - Methane	CO BAG 2	Bag 2 Carbon Monoxide	
METHANOL	CH3OH - Methanol	CO BAG 3	Bag 3 Carbon Monoxide	
N2O	Nitrous Oxide	CO BAG 4	Bag 4 Carbon Monoxide	
SPITBACK	Spitback Hydrocarbon in grams	NMOG BAG 1	Bag 1 Non-methane organic gases	
AMP-HRS	Integrated Amp-hours	NMOG BAG 2	Bag 2 Non-methane organic gases	
START-SOC	System Start State of Charge Watt-hours	NMOG BAG 3	Bag 3 Non-methane organic gases	
END-SOC	System End State of Charge Watt-hours	NMOG BAG 4	Bag 4 Non-methane organic gases	
ACT-DISTANCE	Actual Distance Driven (miles)			

Certification Region

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Certification Summary Information Report

Test Group	TRAXV03.8T12	Evaporative/Refueling Family		TRAXR0150CTR
CA	California + CAA Section 177 states	FA	Federal	
Exhaust Emission Standard Level				
B1	Federal Tier 2 Bin 1	T3B160	Federal Tier 3 Bin 160	
B2	Federal Tier 2 Bin 2	T3B125	Federal Tier 3 Bin 125	
B3	Federal Tier 2 Bin 3	T3B110	Federal Tier 3 Transitional Bin 110	
B4	Federal Tier 2 Bin 4	T3B85	Federal Tier 3 Transitional Bin 85	
B5	Federal Tier 2 Bin 5	T3SULEV30	Federal Tier 3 Transitional LEV-II SULEV30 Carryover	
B6	Federal Tier 2 Bin 6	T3B70	Federal Tier 3 Bin 70	
B7	Federal Tier 2 Bin 7	T3B50	Federal Tier 3 Bin 50	
B8	Federal Tier 2 Bin 8	T3B30	Federal Tier 3 Bin 30	
B9	Federal Tier 2 Bin 9	T3B20	Federal Tier 3 Bin 20	
B10	Federal Tier 2 Bin 10	T3B0	Federal Tier 3 Bin 0	
B11	Federal Tier 2 Bin 11	HDV2B395	Federal Tier 3 HD Class 2b Transitional Bin 395	
HDV1	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	HDV2B340	Federal Tier 3 HD Class 2b Transitional Bin 340	
HDV2	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)	HDV2B250	Federal Tier 3 HD Class 2b Bin 250	
L2	California LEV-II LEV	HDV2B200	Federal Tier 3 HD Class 2b Bin 200	
L2OP	California LEV-II LEV Optional	HDV2B170	Federal Tier 3 HD Class 2b Bin 170	
U2	California LEV-II ULEV	HDV2B150	Federal Tier 3 HD Class 2b Bin 150	
S2	California LEV-II SULEV	HDV2B0	Federal Tier 3 HD Class 2b Bin 0	
ZEV	California ZEV	HDV3B630	Federal Tier 3 HD Class 3 Transitional Bin 630	
OT	Other	HDV3B570	Federal Tier 3 HD Class 3 Transitional Bin 570	
T1	Federal Tier 1	HDV3B400	Federal Tier 3 HD Class 3 Bin 400	
PZEV	California PZEV	HDV3B270	Federal Tier 3 HD Class 3 Bin 270	
L2LEV160	California LEV-II LEV160	HDV3B230	Federal Tier 3 HD Class 3 Bin 230	
L2ULEV125	California LEV-II ULEV125	HDV3B200	Federal Tier 3 HD Class 3 Bin 200	
L2SULEV30	California LEV-II SULEV30	HDV3B0	Federal Tier 3 HD Class 3 Bin 0	
L2LEV395	California LEV-II LEV395	L4SULEV100	California LEV-IV SULEV100	
L2ULEV340	California LEV-II ULEV340	L4SULEV125	California LEV-IV SULEV125	
L2LEV630	California LEV-II LEV630	L4SULEV15	California LEV-IV SULEV15	
L2ULEV570	California LEV-II ULEV570	L4SULEV150	California LEV-IV SULEV150	
L3LEV160	California LEV-III LEV160	L4SULEV170	California LEV-IV SULEV170	
L3ULEV125	California LEV-III ULEV125	L4SULEV175	California LEV-IV SULEV175	
L3ULEV70	California LEV-III ULEV70	L4SULEV20	California LEV-IV SULEV20	
L3ULEV50	California LEV-III ULEV50	L4SULEV200	California LEV-IV SULEV200	
L3SULEV30	California LEV-III SULEV30	L4SULEV230	California LEV-IV SULEV230	
L3SULEV20	California LEV-III SULEV20	L4SULEV25	California LEV-IV SULEV25	
L3LEV395	California LEV-III LEV395	L4SULEV30	California LEV-IV SULEV30	
L3ULEV340	California LEV-III ULEV340	L4SULEV75	California LEV-IV SULEV75	
L3ULEV250	California LEV-III ULEV250	L4SULEV85	California LEV-IV SULEV85	
L3ULEV200	California LEV-III ULEV200	L4ULEV125	California LEV-IV ULEV125	

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Certification Summary Information Report

Test Group	TRAXV03.8T12	Evaporative/Refueling Family	TRAXR0150CTR
L3SULEV170	California LEV-III SULEV170	L4ULEV200	California LEV-IV ULEV200
L3SULEV150	California LEV-III SULEV150	L4ULEV250	California LEV-IV ULEV250
L3LEV630	California LEV-III LEV630	L4ULEV270	California LEV-IV ULEV270
L3ULEV570	California LEV-III ULEV570	L4ULEV40	California LEV-IV ULEV40
L3ULEV400	California LEV-III ULEV400	L4ULEV400	California LEV-IV ULEV400
L3ULEV270	California LEV-III ULEV270	L4ULEV50	California LEV-IV ULEV50
L3SULEV230	California LEV-III SULEV230	L4ULEV60	California LEV-IV ULEV60
L3SULEV200	California LEV-III SULEV200	L4ULEV70	California LEV-IV ULEV70
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

Test Group: TRAXV03.8T12	

Section 8: Manufacturer Statements

8.1 Emission Testing Waiver Statements

Particulate Matter:

In accordance with 40CFR86.1829-01(b)(1)(iii)(B), RUF hereby certifies that the vehicles of this test group comply with the applicable standards for Particulate Matter.

Total Hydrocarbon:
In accordance with 40CFR86.1829-01(b)(1)(iii)(C), RUF hereby certifies that, based upon good engineering judgment, vehicles of this test group
comply with applicable total hydrocarbon emissions standards.

FTP High Altitude Compliance:
In accordance with 40 CFR 86.1810-09(f)(2) and 40 CFR 86.1829-01(b)(1)(ii)(B), RUF attests that emissions control strategies used at low altitude are similarly used across all altitudes, and that the vehicles in this test group comply with all applicable emissions standards at high altitude.

Evaporative/Refueling Emissions Testing at High Altitude:
In accordance with 40CFR86.1829-01(b)(2)(ii)(B), RUF hereby certifies that, based upon good engineering judgment and appropriate emissions tests, vehicles of this test group comply with applicable evaporative/refueling emissions standards at high altitude.

Certification Short Test and Idle CO Testing:
In accordance with 40 CFR 86.1829-01(b), RUF certifies that, based on good engineering judgment and previous testing, vehicles of this test group comply with applicable CST and Idle CO standards.

Fuel Spitback:
In accordance with 40 CFR 86.1810-01(1)(i) and (ii), RUF hereby certifies that the vehicles covered by this test group inherently meet the fuel dispensing spitback standard for the full useful life of the vehicles as part of compliance with the refueling emissions standards.

Formaldehyde (HCHO) Emissions:
Based on good engineering judgment, as allowed by 40 CFR 86.1829-01(b)(iii)(E), RUF attests that vehicles in this test group comply with applicable formaldehyde standards.

OBD Performance Warranty Test:
RUF certifies that the emission control diagnostic system for all vehicles in this test group comply with all the performance warranty test requirements of 40 CFR 86.1844-01(d)(9)(iv).

Test Group: TRAXV03.8T12	

N2O Compliance:
Compliance with the N2O standards on the FTP cycle is indicated in the CSI report in Section 7.

CH4 Compliance:
Compliance with the CH4 standards on the FTP cycle is indicated in the CSI report in Section 7.

Transmission modes:
N/A

Testing of sub-configurations:
N/A

8.2 Other Statements

SFTP Air/Fuel Ratio Requirements
In accordance with 40 CFR 86.1811-17(d), RUF hereby attests that for all vehicles of this test group, at no time is the air/fuel ratio richer than the leanest mixture required to obtain maximum torque, plus a tolerance of 4%.

Lean-on-Cruise Calibration Strategies:
In accordance with 40 CFR 86.1810-01(i)(14), RUF hereby attests that no lean-on-cruise calibration strategies are incorporated into the design of the vehicles in this test group.

91 RON:
As required by VPCD 97-01, RUF attests that calibrations are designed to operate on 91 RON gasoline with no need for spark adjustment. Knock sensors have no influence on fuel economy or emissions results, beyond normal test variability.

Adjustable Parameters and Tamper Resistance:
RUF attests that no calibration parameters are adjustable, and therefore no tamper resistance measures are required.

Cold CO/Cold NMHC Defeat Device:
Based on engineering evaluation of CO and NMHC emissions data at ambient, cold, and intermediate temperatures, RUF hereby attests that this test group complies with the prohibition of defeat device requirements described in 40 CFR 86.1809.

A/C Specific Calibrations:
As required by 40 CFR 86.1810-01(i)(13), RUF hereby attests that no A/C-ON specific calibrations are employed which unnecessarily reduce the effectiveness of NMHC+NOX emissions control under reasonably expected real world conditions.

Leak-Free Exhaust System:
RUF has conducted a thorough engineering analysis to ensure that the complete exhaust systems described in this Application for Certification are designed to facilitate leak-free assembly, installation and operation for the full useful life of the vehicles, as required by CFR 86.1844.01(d)(16). RUF further attests that such repairs as might be necessary on a properly maintained vehicle throughout its full useful life can be performed in such a manner as to maintain leak-free operation, using tools commonly available in a motor vehicle dealership or independent repair facility.

Test Group: TRAXV03.8T12	

Section 9: OBD Description

OBD

We refer to the letter from May 14th, 2018 from RUF to EPA, approved by Mr. Jim Snyder on June 21st, 2018.

We certify that the OBD system as approved by EPA on June 21st, 2018, complies with all the applicable requirements.

9.01 OBD Approval

Manufaktur für Hochleistungsautomobile

RUF Automobile GmbH · Mindelheimer Straße 21 · D-87772 Pfaffenhausen

U.S. EPA OTAQ
Mr. Robert Peavyhouse

REVIEWED AND ACCEPTED
DATE 6/21 EPA REP

Pfaffenhausen, May 4th, 2018

OBD Description

To whom it may concern:

The OBD system used on the TURBO12/CTR3 is identical with Porsche's system to be found on the Turbo and Turbo S, model year 2018 (original OBD validation was done on Porsche 911 turbo test group JPRXV04.0T91).
The TURBO12/CTR3 uses the original base engine, fuel system, engine management system (incl. calibration), exhaust and evaporative control system, sensors etc. of the Turbo and Turbo S, US version.

Since each TURBO12/CTR3 is based on an actual Porsche US car, it is assured that the RUF version is identical with the Porsche model at the time of production. There have been no in-use problems reported for this engine family.

Compared to the original Porsche model 911 turbo the TURBO12/CTR3 is different with respect to aerodynamics (lower cw) and higher boost at high load which results in higher top performance and max. speed. The changes however are not relevant in the load/rpm map which determines the exhaust emission characteristics and the OBD calibrations.

Sincerely,

RUF Automobile GmbH

Alois Ruf

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Geschäftsführer: Alois Ruf
Mitglied im VDA

Sparkasse Mindelheim IBAN: DE39 7315 0000 1001 3982 78 BIC / SWIFT: BYLADEM1MLM
Südwestbank Stuttgart IBAN: DE22 6009 0700 0569 9870 08 BIC / SWIFT: SWBSDESS
HypoVereinsbank Landsberg IBAN: DE73 7202 0070 0024 7178 95 BIC / SWIFT: HYVEDEMM408

Test Group: TRAXV03.8T12	

Section 10: Description of Alternate-Fueled Vehicles

n/a

Section 11: AECD Description

Control Device	Controlling Parameter	Controlled Parameter	Justification
Oxygen Sensors	oxygen partial pressure of exhaust gas	air/fuel ratio	operation included in FTP
Throttle Valve Sensor	1) throttle valve position 2) fuel flow 3) throttle valve position	1) air/fuel ratio 2) fuel flow 3) air/fuel ration	1) operation included in FTP 2) operation included in FTP 3) prevent engine damage
Engine Speed Sensor	Engine speed	1) injection time 2) air/fuel ratio 3) ignition timing	operation included in FTP
Camshaft Position Sensor (Hall)	camshaft position	1) injection time 2) air/fuel ratio 3) ignition timing	operation included in FTP
Coolant Temperature Sensor	coolant temperature	1) injection time 2) air/fuel ratio	operation included in FTP
Oil Temperature Sensor	engine oil temperature	1) injection time 2) air/fuel ratio	operation included in FTP
Idle Speed Control Valve	idle speed	idle speed	operation included in FTP
Knock Sensors I + II	engine knock	ignition timing	prevents engine damage
Full Throttle Switch			prevents engine damage

Test Group: TRAXV03.8T12	

Section 12: Description of Vehicles Covered by Certificate and Test Parameters

12.01 Vehicle Parameters:

Carline		RUF CTR Anniversary / RODEO	RUF T12 / CTR 3	RUF SCR
Sales Area		Federal	Federal	Federal
Vehicle Classification		LDV	LDV	LDV
Emission Control System Description	**Catalysts**	One each cyl. row: integrated CC and UB cat.	One each cyl. row: integrated CC and UB cat.	One each cyl. row: integrated CC and UB cat.
	EGR Type	Not applicable	Not applicable	Not applicable
	Air Pump Type	Electronically controlled	Electronically controlled	Electronically controlled
	Fuel System Type	Direct injection	Direct injection	Direct injection
	Intake Air Aspiration Method	Turbo charged	Turbo charged	Naturally aspirated
Engine Code		CTR Anniversary / RODEO	Turbo 12 / CTR 3	SCR
Valves per Cylinder		4	4	4
Engine Displacement		3.6 Liter	3.8 Liter	4.0 Liter
Transmissions (rear wheel drive)		M7	M7	M7
SIL		None	None	None
Tire Size	**Front**	235/35 ZR19	265/30 ZR19	235/35 ZR19
	Rear	305/30 ZR19	345/30 ZR20	305/30 ZR19
Axle Ratio		3.44	3.44	3.44
N/V Ratios		36.8	36.8	36.8
ETW/IWC (lbs)		3750	4000	3750
Fuel Tank Volume		18.6 Gallons	23.77 Gallons	18.6 Gallons

The fuel heating characteristics is identical with Porsche 911 turbo to be found in the Application section 6.03 Evaporative Parameters.

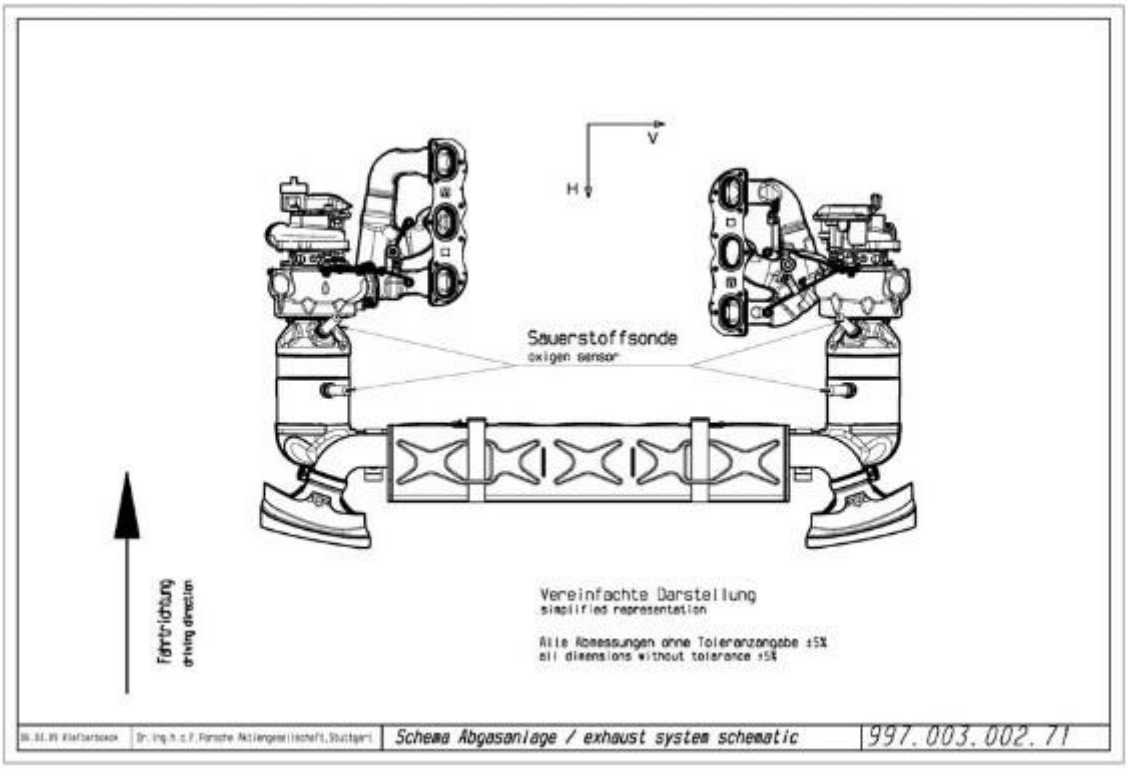
						Target Coefficients			
Carline	**Transmis-sion**	**Con-fig.**	**Tire Comb.**	**Subcon-fig.**	**ETW**	**A(lbf)**	**B(lbf/mph)**	**C(lbf/mph²)**	**Road Load HP**
RUF CTR Anniversary / RODEO	M7	A	1	A.1	3750	40.644	0.32562	0.0151	12.6
RUF TURBO 12 / CTR 3	M7	A	1	A.1	4000	40.644	0.32562	0.0151	12.6
RUF SCR	M7	A	1	A.1	3750	40.644	0.32562	0.0151	12.6

Tire Comb: 1: 235/35ZR19 (Front) 305/30ZR19 (Rear)

12.02 Exhaust System

Leak-Free Exhaust System:

RUF has conducted a thorough engineering analysis to ensure that the complete exhaust system is designed to facilitate leak-free assembly, installation and operation for the full useful life of the vehicle, as required by CFR 86.1844.01(d)(16). RUF further attests that such repairs as might be necessary on a properly maintained vehicle throughout its full useful life can be performed in such a manner as to maintain leak-free operation, using tools commonly available in a motor vehicle dealership or independent repair facility.



Section 13: Request for Certification

Statement of Compliance

RUF states that any element of design, system, or emission control device installed on or incorporated in RUF's new motor vehicles or new motor vehicle engines for the purpose of complying with standards prescribed under section 202 of the Clean Air Act, will not, to the best of RUF's information and belief, cause the emission into the ambient air of pollutants in the operation of its motor vehicles or motor vehicle engines which cause or contribute to an unreasonable risk to public health or welfare except as specifically permitted by the standards prescribed under section 202 of the Clean Air Act. RUF further states that any element of design, system, or emission control device installed or incorporated in RUF's new motor vehicles or motor vehicle engines for the purpose of complying with standards prescribed under section 202 of the clean Air Act, will not, to the best of RUF's information and belief, cause or contribute to an unreasonable risk to public safety.

The term pollutants means:

a. Diesel particulates
b. Nickel
c. MMT combustion products
d. Ammonia
e. Sulfates
f. Hydrogen sulfide
g. Hydrogen cyanide
h. Ruthenium combustion products
i. Nitrosamines,

or any other pollutant, which RUF has identified, which can reasonably be expected to be emitted from these vehicles.

All vehicles have been tested in accordance with good engineering practice to ascertain that such test vehicles meet the requirements of this section for the useful life of the vehicle.

Section 13: Request for Certification

Statement of compliance (continued):

The test vehicles with respect to which data are submitted are in all materials respects as described in the application for certification, have been tested in accordance with the applicable test procedures utilizing the fuels and equipment described in the application for certification, they meet the requirements of such tests, and on the basis of such tests, they conform to the requirements of the regulations in 40 CFR, Part 86, Subpart A.

Signed and dated by:

February 09th, 2026 .....

Alois Ruf (President)

Section 14: Other information

Section 14.1
GHG

Manufaktur für Hochleistungsautomobile

RUF Automobile GmbH · Mindelheimer Straße 21 · D-87772 Pfaffenhausen

Mr. Snyder
EPA/OAR/OTAQ
Compliance Division
USA

Pfaffenhausen, June 1st, 2015 / cm

GHG

To whom it may concern:

In accordance with 40 CFR 86.1818-12, manufacturers qualifying as a small business according to 86-1801-12(J), with reference to 13 CFR 121.201, are exempt from the emissions standards of this section. The company RUF Automobile GmbH has fewer than 1000 employees and is therefore exempt from GHG requirements contained within 86-1818-12.

Sincerely,

Alois Ruf
Owner and CEO

RUF Automobile GmbH
Mindelheimer Straße 21 · D-87772 Pfaffenhausen
Fon +49 (0) 82 65/911 911
info@ruf-automobile.de
Fax +49 (0) 82 65/911 912
www.ruf-automobile.de
Ust-ID Nr. DE 129 094 085
Sitz der Gesellschaft: Pfaffenhausen, HRB 5597 AG MM
Geschäftsführer: Alois Ruf
Mitglied im VDA

Sparkasse Mindelheim — Konto 1 001 398 278 — BLZ 731 500 00 — IBAN: DE39 7315 0000 1001 3982 78, BIC / SWIFT: BYLADEM1MLM
Südwestbank Stuttgart — Konto 569 987 008 — BLZ 600 907 00 — IBAN: DE22 6009 0700 0569 9870 08, BIC / SWIFT: SWBSDESS
Raiffeisenbank Pfaffenhausen — Konto 11 169 — BLZ 720 697 89 — IBAN: DE50 7206 9769 0000 0111 69, BIC / SWIFT: GENODEF1PFA

Section 14.2: Fee Filing Form

EPA_MVECP_v1

US EPA Fee Form

Help and EPA Instructions

* Required Field

General Information

Date: 12/15/2025

Process Code *

Submit New Fee Filing Form

Manufacturer Code *

RAX

Manufacturer Name *

RUF Automobile GmbH

Contact Name *

Alois Ruf

Contact Email Address *

nina.renz@ruf-automobile.de

Contact Phone *

00498265911911

Calendar Year complete application submitted to EPA *

2026

PLEASE NOTE: These fees apply to complete certification applications received by EPA from January 1, 2026, through December 31, 2026. The applicable fee is determined by the

year.

Engine Family / Evaporative Family / Test Group *

TRAXV03.8T12

Certificate Request Type (Industry Sector Code)

Certificate Request Type *

- (●) 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? *

No

Payment Information

Amount Owed

$32,317.00

Payment Type *

Offline Wire

Comments

EPA Form Number 3520-29
OMB Control No. 2060-0545
Approval expires 7/31/2027
Ti public reporting and recordkeeping burden for this collection of information is estimated to average 12 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.

The content of this document may contain Sensitive But Unclassified (SBU) data and/or Controlled Unclassified Information (CUI).

Section 14.3 VECI Label

RUF Automobile GmbH
Mindelheimer Str. 21
87772 Pfaffenhausen
GERMANY

T12/CTR3	**VEHICLE EMISSION CONTROL INFORMATION** RUF AUTOMOBILE GMBH PFAFFENHAUSEN – GERMANY

TEST GROUP **EVAPORATIVE/ORVR FAMILY**
TRAXV03.8T12 **TRAXR0150CTR**

EMISSION CONTROL SYSTEM. DFI / AIR / H02S / 2TWC

Conforms to regulations: 2026 MY

U.S. EPA T3B50 Federal OBD Fuel: T3

Federal only, not selling to CAL plus section 177 states

No adjustments needed

Test Group: TRAXV03.8T12	

Section 15: Confidential information

None