2015 Ford 2.7L EcoBoost V6 Tier 2 Fuel HD1 - Test Data Plots

SUGGESTED CITATION: *2015 Ford 2.7L EcoBoost V6 Engine Tier 2 Fuel HD1 - Test Data Package*. Version 2019-11. Ann Arbor, MI: US EPA, National Vehicle and Fuel Emissions Laboratory, National Center for Advanced Technology, 2019.

- ♦ Black diamonds indicate rated torque & power points advertised by the manufacturer
- ● Black dots indicate speed/load points at which steady state data was acquired
- △ Blue triangles indicate speed/load points at which initial data from the transient high load method was acquired
- ▲ Green triangles indicate speed/load points at which final data from the transient high load method was acquired
- × Red Xs indicate speed/load points where data was not collected or did not meet quality standards

Note: In these contour plots, individual data points may be ignored or removed, using our best engineering judgment, to correct irregularities in the visual presentation of the contour lines; additional details are contained in the test report.

Published maximum torque data from:
2015 FORD F-150 TECHNICAL SPECIFICATIONS. (n.d.). Retrieved from
https://media.ford.com/content/dam/fordmedia/North%20America/US/2015_Specs/2015_F150_Specs.pdf

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2015 Ford 2.7L EcoBoost V6 Engine Tier 2 Fuel HD1 - Test Data Plots
Test Data Points

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2015 Ford 2.7L EcoBoost V6 Tier 2 Fuel HD1 - Test Data Plots
Injector Calibration

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2015 Ford 2.7L EcoBoost V6 Engine Tier 2 Fuel HD1 - Test Data Plots
Steady State and High Load Initial
BSFC (g/kW-hr) - Brake Specific Fuel Consumption

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2015 Ford 2.7L EcoBoost V6 Engine Tier 2 Fuel HD1 - Test Data Plots
Steady State and High Load Final
BSFC (g/kW-hr) - Brake Specific Fuel Consumption

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2015 Ford 2.7L EcoBoost V6 Engine Tier 2 Fuel HD1 - Test Data Plots
Steady State and High Load Initial
BTE (%) - Brake Thermal Efficiency

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Steady State and High Load Final
BTE (%) - Brake Thermal Efficiency

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2015 Ford 2.7L EcoBoost V6 Engine Tier 2 Fuel HD1 - Test Data Plots
Steady State and High Load Initial
Fuel Meter Flow (g/s) - Fuel Flow Measured with Flow Meter

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2015 Ford 2.7L EcoBoost V6 Engine Tier 2 Fuel HD1 - Test Data Plots
Steady State and High Load Final
Fuel Meter Flow (g/s) - Fuel Flow Measured with Flow Meter

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2015 Ford 2.7L EcoBoost V6 Engine Tier 2 Fuel HD1 - Test Data Plots
Steady State and High Load Initial
Injector Fuel Flow (g/s) - Fuel Flow Estimate from Injector Calibration

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2015 Ford 2.7L EcoBoost V6 Engine Tier 2 Fuel HD1 - Test Data Plots
Steady State and High Load Final
Injector Fuel Flow (g/s) - Fuel Flow Estimate from Injector Calibration

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2015 Ford 2.7L EcoBoost V6 Engine Tier 2 Fuel HD1 - Test Data Plots
Steady State and High Load Initial
Fuel Rail Press (MPaG) - Fuel Rail Pressure*

* Reference Only- Voltage Measurement

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2015 Ford 2.7L EcoBoost V6 Engine Tier 2 Fuel HD1 - Test Data Plots
Steady State and High Load Final
Fuel Rail Press (MPaG) - Fuel Rail Pressure*

* Reference Only- Voltage Measurement

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2015 Ford 2.7L EcoBoost V6 Engine Tier 2 Fuel HD1 - Test Data Plots
Steady State and High Load Initial
Spark Timing (CAD BTDC) - Average Spark Timing Across all Cylinders*

* Reference Only- Voltage Measurement

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2015 Ford 2.7L EcoBoost V6 Engine Tier 2 Fuel HD1 - Test Data Plots
Steady State and High Load Final
Spark Timing (CAD BTDC) - Average Spark Timing Across all Cylinders*

* Reference Only- Voltage Measurement

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2015 Ford 2.7L EcoBoost V6 Engine Tier 2 Fuel HD1 - Test Data Plots
Steady State and High Load Initial
Coolant Temp (degC) - Coolant Temperature

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2015 Ford 2.7L EcoBoost V6 Engine Tier 2 Fuel HD1 - Test Data Plots
Steady State and High Load Final
Coolant Temp (degC) - Coolant Temperature

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2015 Ford 2.7L EcoBoost V6 Engine Tier 2 Fuel HD1 - Test Data Plots
Steady State and High Load Initial
Oil Sump Temp (degC) - Oil Temperature

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2015 Ford 2.7L EcoBoost V6 Engine Tier 2 Fuel HD1 - Test Data Plots
Steady State and High Load Final
Oil Sump Temp (degC) - Oil Temperature

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2015 Ford 2.7L EcoBoost V6 Engine Tier 2 Fuel HD1 - Test Data Plots
Steady State and High Load Initial
Intake Manifold Press (kPaA) - Pressure Measured in the Intake Manifold

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2015 Ford 2.7L EcoBoost V6 Engine Tier 2 Fuel HD1 - Test Data Plots
Steady State and High Load Final
Intake Manifold Press (kPaA) - Pressure Measured in the Intake Manifold

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2015 Ford 2.7L EcoBoost V6 Engine Tier 2 Fuel HD1 - Test Data Plots
Steady State and High Load Initial
Intake Manifold Temp (degC) - Temperature Measured in the Intake Manifold

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2015 Ford 2.7L EcoBoost V6 Engine Tier 2 Fuel HD1 - Test Data Plots
Steady State and High Load Final
Intake Manifold Temp (degC) - Temperature Measured in the Intake Manifold

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2015 Ford 2.7L EcoBoost V6 Engine Tier 2 Fuel HD1 - Test Data Plots
Steady State and High Load Initial
Turbine Inlet Press (kPaA) - Pressure Measured at Turbocharger Turbine Inlet

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2015 Ford 2.7L EcoBoost V6 Engine Tier 2 Fuel HD1 - Test Data Plots
Steady State and High Load Final
Turbine Inlet Press (kPaA) - Pressure Measured at Turbocharger Turbine Inlet

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2015 Ford 2.7L EcoBoost V6 Engine Tier 2 Fuel HD1 - Test Data Plots
Steady State and High Load Initial
Turbine Inlet Temp (degC) - Temperature Measured at Turbocharger Turbine Inlet

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2015 Ford 2.7L EcoBoost V6 Engine Tier 2 Fuel HD1 - Test Data Plots
Steady State and High Load Final
Turbine Inlet Temp (degC) - Temperature Measured at Turbocharger Turbine Inlet

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2015 Ford 2.7L EcoBoost V6 Engine Tier 2 Fuel HD1 - Test Data Plots
Steady State and High Load Initial
Catalyst Inlet Press (kPaA) - Pressure Measured at the Inlet to the Catalyst

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2015 Ford 2.7L EcoBoost V6 Engine Tier 2 Fuel HD1 - Test Data Plots
Steady State and High Load Final
Catalyst Inlet Press (kPaA) - Pressure Measured at the Inlet to the Catalyst

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2015 Ford 2.7L EcoBoost V6 Engine Tier 2 Fuel HD1 - Test Data Plots
Steady State and High Load Initial
Catalyst Inlet Temp (degC) - Temperature Measured at the Inlet to the Catalyst

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2015 Ford 2.7L EcoBoost V6 Engine Tier 2 Fuel HD1 - Test Data Plots
Steady State and High Load Final
Catalyst Inlet Temp (degC) - Temperature Measured at the Inlet to the Catalyst

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2015 Ford 2.7L EcoBoost V6 Engine Tier 2 Fuel HD1 - Test Data Plots
Steady State and High Load Initial
Exhaust Lambda Left (LAMBDA) - Measured via Wideband Exhaust Oxygen Sensor*

* Reference Only- Uncalibrated Sensor

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Steady State and High Load Final
Exhaust Lambda Left (LAMBDA) - Measured via Wideband Exhaust Oxygen Sensor*

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Steady State and High Load Initial
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