Manufacturer Product Plan Template
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General							
Vehicle Number	**Manufacturer**	**Model**	**Nameplate**	**Primary Fuel**	**Fuel Economy on Primary Fuel**	**Secondary Fuel**	**Fuel Economy on Secondary Fuel**

Vehicle Number	Tertiary Fuel	Fuel Economy on Tertiary Fuel	CAFE Fuel Economy	Engine Code	Transmission Code	Origin	General Notes

Vehicle Number	**MY2010**	**MY2011**	**MY2012**	**MY2013**	**MY2014**	**MY2015**	**MY2016**	**MY2017**	**MY2018**	**MY2019**	**MY2020**	**MY2021**	**MY2022**	**MY2023**

Production									
Vehicle Number	**MY2024**	**MY2025**	**MY2010 Regulated By Carb Standards**	**MY2011 Regulated By Carb Standards**	**MY2012 Regulated By Carb Standards**	**MY2013 Regulated By Carb Standards**	**MY2014 Regulated By Carb Standards**	**MY2015 Regulated By Carb Standards**	**MY2016 Regulated By Carb Standards**

Vehicle Number	MY2017 Regulated By Carb Standards	MY2018 Regulated By Carb Standards	MY2019 Regulated By Carb Standards	MY2020 Regulated By Carb Standards	MY2021 Regulated By Carb Standards	MY2022 Regulated By Carb Standards	MY2023 Regulated By Carb Standards	MY2024 Regulated By Carb Standards

			MSRP									
Vehicle Number	**MY2025 Regulated By Carb Standards**	**Production Notes**	**MY2010**	**MY2011**	**MY2012**	**MY2013**	**MY2014**	**MY2015**	**MY2016**	**MY2017**	**MY2018**	**MY2019**

Vehicle Number	**MY2020**	**MY2021**	**MY2022**	**MY2023**	**MY2024**	**MY2025**	**MSRP Notes**	**Subclass**	**Style**	**Light Truck Indicator**

Vehicle Number	**Structure**	**Drive**	**Axle Ratio**	**Length**	**Width**	**Wheelbase**	**Track Width (Front)**	**Track Width (Rear)**	**Footprint**	**Base Tire**

Vehicle Number	**Running Clearance**	**Front Axle Clearance**	**Rear Axle Clearance**	**Angle of Approach**	**Breakover Angle**	**Angle of Departure**	**Curb Weight**	**Test Weight**	**GVWR**	**Towing Capacity (Maximum)**

Vehicle										
Vehicle Number	**Payload**	**Cargo Volume Behind The Front Row**	**Cargo Volume Behind The Second Row**	**Cargo Volume Behind The Third Row**	**Enclosed Volume**	**Passenger Volume**	**Cargo Volume Index**	**Luggage Capacity**	**Seating (Max)**	**Standard Rows of Seating**

Vehicle Number	**Frontal Area**	**Aero. Drag Coefficient, Cd**	**Coefficient of Rolling Resistance, Crr**	**Fuel Capacity**	**Electrical System Voltage**	**Power Steering**	**Percent of Production Volume Equipped With A/C**	**A/C Refrigerant Type**	**A/C Compressor Displacement**

Vehicle Number	**A/C Carb Credit**	**N2O Emission Rate**	**CH4 Emission Rate**	**Estimated Total Carb Credits**	**Vehicle Notes**	**Type of Hybrid/ Electric Vehicle**	**Driving Range**	**Voltage or Pressure**	**Battery Type**

								Hybridization		
Vehicle Number	**Battery 100% Discharge Energy**	**Fraction of Usable Energy**	**Battery Chemistry for Cathode**	**Battery Chemistry for Anode**	**Nominal Voltage for Battery**	**Weight of All Battery Packs**	**Battery Manufacturer**	**Primary Motor Size**	**Secondary Motor Size**	**Primary Inverter Size**

Vehicle Number	**Secondary Inverter Size**	**Battery Only Range (Charge-Depleting PHEV)**	**Maximum Battery Only Vehicle Speed**	**Percentage of Braking Energy Recovered And Stored Over Weighted FTP+Highway Drive Cycle**	**Percentage of Maximum Motive Power Provided by Stored Energy System**	**Electrified Accessories**	**Hybridization/ Electrification Notes**

	Energy Consumption					
Vehicle Number	**System Irreversibility**	**Exhaust and Coolant Heat Loss**	**Engine Friction**	**Pumping Losses**	**Accessory Losses**	**Transmission Losses**

Vehicle Number	**Aerodynamic Drag**	**Tire Rolling Resistance**	**Vehicle Work**	**Energy Consumption Notes**	**U.S. Content**	**Canadian Content**	**Mexican Content**	**Domestic Content**

Planning and Assembly								
Vehicle Number	**Final Assembly City**	**Final Assembly State/Province (If Applicable)**	**Final Assembly Country**	**Predecessor**	**Refresh Years**	**Redesign Years**	**Employment Hours per Vehicle**	**Planning & Assembly Notes**

Engine Code	Manufacturer	Name	Configuration	Primary Fuel	Secondary Fuel	Country of Origin	Engine Oil Viscosity	Cycle	Air/Fuel Ratio

Engine Code	Fuel Delivery System	Aspiration	Exhaust Gas Recirculation (EGR)	EGR Pressure	EGR Cooler Type	EGR Coolant Type	Engine Brake Mean Effective Pressure	Valvetrain Design	Valve Actuation/Timing	Valve Lift

Engine Code	Cylinders	Valves/Cylinder	Deactivation	Displacement	Compression Ratio (Min)	Compression Ratio (Max)	Max. Horsepower	Max. Horsepower RPM	Max. Torque

Engine Code	Max. Torque RPM	Engine Notes

Transmission Code	Transmission Notes

Instructions	Vehicles		Check Vehicles	Engine		Check Engines			Check Transmissions
	Row	Col.	Comment	Row	Col.	Comment	Row	Col.	Comment

Col.	Cat.	Field	Units	Typical Values	Description
A	General	Vehicle Number	integer		unique number assigned to each model
B		Manufacturer	text		manufacturer's name
C		Model	text		name of model (i.e., Camry)
D		Nameplate	text		vehicle nameplate (i.e., Camry Solara)
E		Primary Fuel	text	CNG = compressed natural gas; D = diesel; E = electricity; E85 = ethanol; E100 = neat ethanol; G = gasoline; H = hydrogen; LNG = liquefied natural gas; LPG = Propane; M85 = methanol; M100 = neat methanol	= IF(L6 = "MSRP", H5+1,MA
F		Fuel Economy on Primary Fuel	mpg		laboratory fuel economy (weighted FTP+highway gasoline-equivalent gallon (GEG), exclusive of any calculation under 49 U.S.C. 32905)
G		Secondary Fuel	text	CNG = compressed natural gas; D = diesel; E = electricity; E85 = ethanol; E100 = neat ethanol; G = gasoline; H = hydrogen; LNG = liquefied natural gas; LPG = Propane; M85 = methanol; M100 = neat methanol	= IF(L8 = "MSRP", H7+1,MA
H		Fuel Economy on Secondary Fuel	mpg		laboratory fuel economy (weighted FTP+highway GEG, exclusive of any calculation under 49 U.S.C. 32905)
I		Tertiary Fuel	text	CNG = compressed natural gas; D = diesel; E = electricity; E85 = ethanol; E100 = neat ethanol; G = gasoline; H = hydrogen; LNG = liquefied natural gas; LPG = Propane; M85 = methanol; M100 = neat methanol	= IF(L10 = "MSRP", H9+1,MA
J		Fuel Economy on Tertiary Fuel	mpg		laboratory fuel economy (weighted FTP+highway GEG, exclusive of any calculation under 49 U.S.C. 32905)
K		CAFE Fuel Economy	mpg		fuel economy for CAFE (weighted FTP+highway, inclusive of any calculation under 49 U.S.C. 32905)
L		Engine Code	integer		unique number assigned to each engine
M		Transmission Code	integer		unique number assigned to each transmission
N		Origin	text	D = domestic, I = import	classification as domestic or import
O		General Notes	text		explanatory notes

Col.	Cat.	Field	Units	Typical Values	Description
P	Production	MY2010	number	125000	projected production for sale in U.S.
Q		MY2011	number		projected production for sale in U.S.
R		MY2012	number		projected production for sale in U.S.
S		MY2013	number		projected production for sale in U.S.
T		MY2014	number		projected production for sale in U.S.
U		MY2015	number		projected production for sale in U.S.
V		MY2016	number		projected production for sale in U.S.
W		MY2017	number		projected production for sale in U.S.
X		MY2018	number		projected production for sale in U.S.
Y		MY2019	number		projected production for sale in U.S.
Z		MY2020	number		projected production for sale in U.S.
AA		MY2021	number		projected production for sale in U.S.
AB		MY2022	number		projected production for sale in U.S.
AC		MY2023	number		projected production for sale in U.S.
AD		MY2024	number		projected production for sale in U.S.
AE		MY2025	number		projected production for sale in U.S.
AF		MY2010 regulated by CARB standards	percent		projected portion of production regulated by California ARB's AB 1493 standards
AG		MY2011 regulated by CARB standards	percent		projected portion of production regulated by California ARB's AB 1493 standards
AH		MY2012 regulated by CARB standards	percent		projected portion of production regulated by California ARB's AB 1493 standards
AI		MY2013 regulated by CARB standards	percent		projected portion of production regulated by California ARB's AB 1493 standards
AJ		MY2014 regulated by CARB standards	percent		projected portion of production regulated by California ARB's AB 1493 standards
AK		MY2015 regulated by CARB standards	percent		projected portion of production regulated by California ARB's AB 1493 standards
AL		MY2016 regulated by CARB standards	percent		projected portion of production regulated by California ARB's AB 1493 standards
AM		MY2017 regulated by CARB standards	percent		projected portion of production regulated by California ARB's AB 1493 standards
AN		MY2018 regulated by CARB standards	percent		projected portion of production regulated by California ARB's AB 1493 standards
AO		MY2019 regulated by CARB standards	percent		projected portion of production regulated by California ARB's AB 1493 standards
AP		MY2020 regulated by CARB standards	percent		projected portion of production regulated by California ARB's AB 1493 standards
AQ		MY2021 regulated by CARB standards	percent		projected portion of production regulated by California ARB's AB 1493 standards
AR		MY2022 regulated by CARB standards	percent		projected portion of production regulated by California ARB's AB 1493 standards
AS		MY2023 regulated by CARB standards	percent		projected portion of production regulated by California ARB's AB 1493 standards
AT		MY2024 regulated by CARB standards	percent		projected portion of production regulated by California ARB's AB 1493 standards
AU		MY2025 regulated by CARB standards	percent		projected portion of production regulated by California ARB's AB 1493 standards
AV		Production Notes	text		explanatory notes

Col.	Cat.	Field	Units	Typical Values	Description
AW	MSRP	MY2010	dollars (2008)		projected average MSRP (sales-weighted, including options)
AX		MY2011	dollars (2008)		projected average MSRP (sales-weighted, including options)
AY		MY2012	dollars (2008)		projected average MSRP (sales-weighted, including options)
AZ		MY2013	dollars (2008)		projected average MSRP (sales-weighted, including options)
BA		MY2014	dollars (2008)		projected average MSRP (sales-weighted, including options)
BB		MY2015	dollars (2008)		projected average MSRP (sales-weighted, including options)
BC		MY2016	dollars (2008)		projected average MSRP (sales-weighted, including options)
BD		MY2017	dollars (2008)		projected average MSRP (sales-weighted, including options)
BE		MY2018	dollars (2008)		projected average MSRP (sales-weighted, including options)
BF		MY2019	dollars (2008)		projected average MSRP (sales-weighted, including options)
BG		MY2020	dollars (2008)		projected average MSRP (sales-weighted, including options)
BH		MY2021	dollars (2008)		projected average MSRP (sales-weighted, including options)
BI		MY2022	dollars (2008)		projected average MSRP (sales-weighted, including options)
BJ		MY2023	dollars (2008)		projected average MSRP (sales-weighted, including options)
BK		MY2024	dollars (2008)		projected average MSRP (sales-weighted, including options)
BL		MY2025	dollars (2008)		projected average MSRP (sales-weighted, including options)
BM		MSRP Notes	text		explanatory notes

Col.	Cat.	Field	Units	Typical Values	Description
BN		Subclass	text	Subcompact, Subcompact Performance, Compact, Compact Performance, Midsize, Midsize Performance, Large, Large Performance, Minivan, Small LT, Midsize LT, Large LT; (LT = SUV/Pickup/Van)	for technology appplication purposes only and should not be confused with vehicle classification for regulatory purposes. see associated "Request for Product Plan Information" document for a list of representative vehicles for each class
BO		Style	text	Convertible; Coupe; Hatchback; Sedan; Minivan; Pickup; Sport Utility; Van; Wagon	= IF(L83 = "MSRP", H82+1,M
BP		Light Truck Indicator	integer(s)	0, 1i, 1ii, 2i, 2ii, 2iii, 2iv, 2v, 3, 4, 5, 6, 7i, 7ii	(0) The vehicle neither has off-road design features (defined under 49 CFR § 523.5(b) and described by numbers 1 and 2 below) nor has functional characteristics (defined under 49 CFR § 523.5(a) and described by numbers 3 through 7 below) that would allow it to be properly classified as a light truck, thus the vehicle is properly classified as a passenger car. > An automobile capable of off-highway operation, as indicated by the fact that it: (1) (i) Has 4-wheel drive; or (ii) Is rated at more than 6,000 pounds gross vehicle weight; and (2) Has at least four of the following characteristics calculated when the automobile is at curb weight, on a level surface, with the front wheels parallel to the automobile's longitudinal centerline, and the tires inflated to the manufacturer's recommended pressure— (i) Approach angle of not less than 28 degrees. (ii) Breakover angle of not less than 14 degrees. (iii) Departure angle of not less than 20 degrees. (iv) Running clearance of not less than 20 centimeters. (v) Front and rear axle clearances of not less than 18 centimeters each. > An automobile designed to perform at least one of the following functions: (3) Transport more than 10 persons; (4) Provide temporary living quarters; (5) Transport property on an open bed; (6) Provide, as sold to the first retail purchaser, greater cargo-carrying than passenger-carrying volume, such as in a cargo van; if a vehicle is sold with a second-row seat, its cargo-carrying volume is determined with that seat installed, regardless of whether the manufacturer has described that seat as optional; or (7) Permit expanded use of the automobile for cargo-carrying purposes or other nonpassenger-carrying purposes through: (i) For non-passenger automobiles manufactured prior to model year 2012, the removal of seats by means installed for that purpose by the automobile's manufacturer or with simple tools, such as screwdrivers and wrenches, so as to create a flat, floor level, surface extending from the forwardmost point of installation of those seats to the rear of the automobile's interior; or (ii) For non-passenger automobiles manufactured in model year 2008 and beyond, for vehicles equipped with at least 3 rows of designated seating positions as standard equipment, permit expanded use of the automobile for cargo-carrying purposes or other nonpassenger-carrying purposes through the removal or stowing of foldable or pivoting seats so as to create a flat, leveled cargo surface extending from the forwardmost point of installation of those seats to the rear of the automobile's interior.
BQ		Structure	text	L = Ladder, U = Unibody	= IF(L85 = "MSRP", H84+1,M
BR		Drive	text	A = all-wheel drive; F = front-wheel drive; R = rear-wheel-drive; 4 = 4-wheel drive	= IF(L86 = "MSRP", H85+1,M
BS		Axle Ratio	number		= IF(L87 = "MSRP", H86+1,M
BT		Length	inches		per SAE J1100, L103 (Sept. 2005)
BU		Width	inches		per SAE J1100, W116 (Sept. 2005)
BV		Wheelbase	inches		per SAE J1100, L101 (Sept. 2005)
BW		Track Width (front)	inches		per SAE J1100, W101-1 (Sept. 2005)
BX		Track Width (rear)	inches		per SAE J1100, W101-2 (Sept. 2005)
BY	Vehicle	Footprint	square feet	41	per 49 CFR 523.2 (wheelbase times average track width)
BZ		Base Tire	text	275/40R17	the tire specified as standard equipment by a manufacturer on each vehicle configuration of a model type.
CA		Running Clearance	centimeters		per 49 CFR 523.5
CB		Front Axle Clearance	centimeters		per 49 CFR 523.5
CC		Rear Axle Clearance	centimeters		per 49 CFR 523.5
CD		Angle of Approach	degrees		per 49 CFR 523.5
CE		Breakover Angle	degrees		per 49 CFR 523.5
CF		Angle of Departure	degrees		per 49 CFR 523.5
CG		Curb Weight	pounds		total weight of vehicle including batteries, lubricants, and other expendable supplies but excluding the driver, passengers, and other payloads (SAE J1100)
CH		Test Weight	pounds		weight of vehicle as tested, including the driver, operator (if necessary), and all instrumentation (SAE J1263)
CI		GVWR	pounds		Gross Vehicle Weight Rating; weight of loaded vehicle, including passengers and cargo
CJ		Towing Capacity (maximum)	pounds		= IF(L104 = "MSRP", H103+1,M
CK		Payload	pounds		= IF(L105 = "MSRP", H104+1,M
CL		Cargo Volume Behind the Front Row	cubic feet		defined per Table 28 of SAE J1100 (Sept. 2005)
CM		Cargo Volume Behind the Second Row	cubic feet		defined per Table 28 of SAE J1100 (Sept. 2005)
CN		Cargo Volume Behind the Third Row	cubic feet		defined per Table 28 of SAE J1100 (Sept. 2005)
CO		Enclosed Volume	cubic feet		= IF(L109 = "MSRP", H108+1,M
CP		Passenger Volume	cubic feet		measured using SAE J1100 as per EPA Fuel Economy regulations (40 CFR 600.315-82, “Classes of Comparable Automobiles”)
CQ		Cargo Volume Index	number		defined per Table 28 of SAE J1100 (Sept. 2005)
CR		Luggage Capacity	cubic feet		defined SAE J1100, V1 (Sept. 2005)
CS		Seating (max)	integer		number of usable seat belts before folding and removal of seats (where accomplished without special tools)

Col.	Cat.	Field	Units	Typical Values	Description
CT		Standard Rows of Seating	integer		= IF(L114 = "MSRP", H113+1,M
CU		Frontal Area	square feet	35	Width of a vehicle's frontal area times its height
CV		Aero. Drag Coefficient, C_d	decimal	0.25 to 0.40	Vehicle's coefficient of drag
CW		Coefficient of Rolling Resistance, C_{rr}	decimal	0.008 to 0.020	Tire rolling resistance. Normalized on (pound force/1000 pound) basis.
CX		Fuel Capacity	gallons		gallons of diesel fuel or gasoline; MJ (LHV) of other fuels
CY		Electrical System Voltage	volts	12, 42	= IF(L119 = "MSRP", H118+1,M
CZ		Power Steering	text	H = hydraulic; E = electric; EH = electro-hydraulic	= IF(L120 = "MSRP", H119+1,M
DA		Percent of Production Volume Equipped with A/C	percent		= IF(L121 = "MSRP", H120+1,M
DB		A/C Refrigerant Type	text	HFC-134a; HFC-152a; C02	= IF(L122 = "MSRP", H121+1,M
DC		A/C Compressor Displacement	cc		= IF(L123 = "MSRP", H122+1,M
DD		A/C CARB credit	g/mile		g/mile CO2 equivalent as reportable under California ARB's AB 1493 Regulation
DE		N2O Emission Rate	g/mile		as reportable under California ARB's AB 1493 Regulation
DF		CH4 Emission Rate	g/mile		as reportable under California ARB's AB 1493 Regulation
DG		Estimated Total CARB Credits	g/mile		g/mile CO2 equivalent as reportable under California ARB's AB 1493 Regulation
DH		Vehicle Notes	text		explanatory notes
DI	Hybridization/Electrification	Type of Hybrid/Electric Vehicle	text	MHEV = 12V micro hybrid; BISG = belt mounted integrated starter generator; CISG = crank mounted integrated starter generator; PSHEV = power-split hybrid; P2HEV = P2hybrid, 2MHEV = 2-mode hybrid; PHEV = plug-in hybrid; EV = electric vehicle; H = hydraulic hybrid; P = pneumatic hybrid	type of hybridization, if any
DJ		Driving range	miles		= IF(L130 = "MSRP", H129+1,M
DK		Voltage or Pressure	volts or psi		Voltage for HEV/PHEV/EV, pressure for hydraulic hybrid.
DL		Battery Type	text	NiMH = Nickel Metal Hydride; Li-ion = Lithium Ion	= IF(L131 = "MSRP",#REF!+ 1,M
DM		Battery 100% Discharge Energy	kWh		Battery energy when the battery is 100% discharged.
DN		Fraction of Usable Energy	%		Percent of usable energy for the battery
DO		Battery Chemestry for Cathode	text	NCA, LFP, MSS (spinel), MS, O = other	= IF(L134 = "MSRP", H132+1,M
DP		Battery Chemestry for Anode	text	G = Graphite, AC = Amorphous Carbon, LT = Lithium Titanate, LA = Lithium Alloys, LO = Lithium Oxide, O = other	= IF(L135 = "MSRP", H134+1,M
DQ		Nominal Voltage for Battery	volts		= IF(L136 = "MSRP", H135+1,M
DR		Weight of All Battery Packs	kg		
DS		Battery Manufacturer	text		
DT		Primary Motor Size	kW		= IF(L138 = "MSRP", H137+1,M
DU		Secondary Motor Size	kW		= IF(L139 = "MSRP", H138+1,M
DV		Primary Inverter Size	kW		= IF(L140 = "MSRP", H139+1,M
DW		Secondary Inverter Size	kW		= IF(L141 = "MSRP", H140+1,M
DX		Battery Only Range (charge-depleting PHEV)	miles		
DY		Maximum Battery Only Speed	mph		MaximumBatt
DZ		Percentage of braking energy recovered and stored over weighted FTP+highway drive cycle	percent		
EA		Percentage of maximum motive power provided by stored energy system	percent		
EB		Electrified Accessories	text	WP=water (coolant) pump; OP=oil pump; AC=air conditioning compressor; F=engine cooling fan	
EC		Hybridization/Electrification Notes	text		= IF(L147 = "MSRP", H146+1,M
ED	Energy Consumption	System Irreversibility	numeric		System irreversibility governed by the second law of thermodynamics
EE		Exhaust and Coolant Heat Loss	numeric		Heat lost to the exhaust and coolant streams
EF		Engine Friction	numeric		The part of mechanical efficiency lost to friction in such engine components as bearings and rods, as could be estimated from engine dynamometer test results
EG		Pumping Losses	numeric		The part of mechanical efficiency lost to work done on gases inside the cylinder, as could be estimated from engine dynamometer test results
EH		Accessory Losses	numeric		The part of fuel efficiency lost to work done by engine-driven accessories, as could be estimated from bench test results for the individual components
EI		Transmission Losses	numeric		The part of driveline efficiency lost to friction in such transmission components as gears, bearings, and hydraulics, as could be estimated from chassis dynamometer test results
EJ		Aerodynamic Drag	numeric		Aerodynamic drag on the vehicle, as could be estimated from coastdown test results
EK		Tire Rolling Resistance	numeric		Rolling resistance in the tires, as could be estimated from coastdown test results

Col.	Cat.	Field	Units	Typical Values	Description
EL		Vehicle Work	numeric		Work done on the vehicle itself, as could be estimated from the vehicle's inertia weight and the fuel economy driving cycles
EM		Energy Consumption Notes	text		= IF(L147 = "MSRP", H146+1,M
EN	Planning & Assembly	US Content	percent		overall percentage, by value, that originated in U.S.
EO		Canadian Content	percent		overall percentage, by value, that originated in Canada
EP		Mexican Content	percent		overall percentage, by value, that originated in Mexico
EQ		Domestic Content	percent		overall percentage, by value, that originated in U.S., Canada and Mexico
ER		Final Assembly City	text		Location of the city where the vehicle's final assembly occurs
ES		Final Assembly State/Province (if applicable)	text		Location of the State/province where the vehicle's final assembly occurs
ET		Final Assembly Country	text		Location of the country where the vehicle's final assembly occurs
EU		Predecessor	integer		number of model upon which current model is based
EV		Refresh Years	model year	2010, 2015, 2020	model years of most recent and future refreshes through the 2021 time period
EW		Redesign Years	model year	2007, 2012, 2017	model years of most recent and future redesigns through the 2021 time period
EX		Employment Hours Per Vehicle	hours		number of hours of U.S. labor applied per vehicle produced
EY		Planning & Assembly Notes	text		explanatory notes

Col.	Field	Units	Typical Values	Description
A	Engine Code	integer		unique number assigned to each engine
B	Manufacturer	text		manufacturer's name
C	Name	text		name of engine
D	Configuration	text	V=V-shaped; I=inline; R=rotary; W=W shaped; H=horizontally opposed (boxer)	configuration of the engine
E	Primary Fuel	text	CNG=compressed natural gas; D=diesel; E85=ethanol; E100=neat ethanol; G=gasoline; H=hydrogen; LNG=liquefied natural gas; LPG=Propane; M85=methanol; M100=neat methanol	primary fuel with which engine is compatible
F	Secondary Fuel	text	CNG=compressed natural gas; D=diesel; E85=ethanol; E100=neat ethanol; G=gasoline; H=hydrogen; LNG=liquefied natural gas; LPG=Propane; M85=methanol; M100=neat methanol	secondary fuel with which engine is compatible
G	Country of Origin	text		name of country where engine is manufactured
H	Engine Oil Viscosity	text	0W20; 5W20; etc.	ratio between the applied shear stress and the rate of shear, which measures the resistance of flow of the engine oil (as per SAE Glossary of Automotive Terms)
I	Cycle	text	A=Atkinson; AM=Atkinson/Miller; D=Diesel; M=Miller; O=Otto; OA=Otto/Atkinson	combustion cycle
J	Air/Fuel Ratio	number	14.7 (for gasoline engines)	weighted (FTP+highway) air/fuel ratio (mass)
K	Fuel Delivery System	text	SGDI =Stoichiometric gasoline direct injection; LBGDI=Lean-burn gasoline direct injection; MPFI=multipoint fuel injection; SFI=sequential fuel injection; TBI=throttle body fuel injection; CRDI=common rail direct injection (diesel); UDI=unit injector direct injection (diesel)	mechanism that delivers fuel to engine
L	Aspiration	text	NA=naturally aspirated; S=supercharged; T=turbocharged; T2=twin-turbocharged; T4=quad-turbocharged; ST=supercharged and turbocharged	breathing or induction process of engine (as per SAE Automotive Dictionary)
M	Exhaust Gas Recirculation (EGR)	text	SSSL = single stage - single loop, SSDL = single stage - dual loop, DSSL = dual stage - single loop, DSDL = dual stage - dual loop, NA = not applicable	recirculation of some of the exhaust gases back into the engine
N	EGR Pressure	number		pressure in psi
O	EGR Cooler Type	text	AC = air cooled, LC = liquid cooled	type of cooling for EGR
P	EGR Coolant Type	text		if EGR is liquid cooled, enter type of coolant.
Q	Engine Brake Mean Effective Pressure	number		average engine effective pressure, measured as bar
R	Valvetrain Design	text	CVA=camless valve actuation; DOHC=dual overhead cam; OHV=overhead valve; SOHC=single overhead cam	design of the total mechanism from camshaft to valve of an engine that actuates the lifting and closing of a valve (as per SAE Automotive Dictionary)
S	Valve Actuation/Timing	text	F=fixed; CCP=coupled cam phasing; ICP=intake cam phasing; DCP=dual cam phasing	valve opening and closing points in the operating cycle (SAE J604)
T	Valve Lift	text	F=fixed; DVVL=discrete variable valve lift; CVVL=continuously variable valve lift	the manner in which the valve is raised during combustion (as per SAE Automotive Dictionary)
U	Cylinders	integer	2, 3, 4, 5, 6, 8, 10, 12	number of engine cylinders
V	Valves/Cylinder	integer	2, 3, 4	number of valves per cylinder
W	Deactivation	text	Y=cylinder deactivation applied; N=cylinder deactivation not applied	presence of cylinder deactivation mechanism
X	Displacement	liters	3.5	total volume displaced by a piston in a single stroke multiplied by the number of cylinders
Y	Compression Ratio (min)	number	8 ~ 11	for fixed CR engines, should be identical to maximum CR
Z	Compression Ratio (max)	number	8 ~ 20	for fixed CR engines, should be identical to minimum CR
AA	Max. Horsepower	hp		maximum power (horsepower)
AB	Max. Horsepower RPM	rpm		RPM at which max horsepower is developed
AC	Max. Torque	lb-ft.		maximum torque (pound-feet)
AD	Max. Torque RPM	rpm		RPM at which max torque is developed
AE	Engine Notes	text		explanatory notes

Col.	Field	Units	Typical Values	Description
A	Transmission Code	integer		unique number assigned to each transmission
B	Manufacturer	text		manufacturer's name
C	Name	text		name of transmission
D	Country of Origin	text		name of country where transmission is manufactured
E	Type	text	M=manual; A=automatic (torque converter) AMT=automated manual transmission (single clutch w/ torque interrupt); DCT=dual clutch transmission; CVT1=belt or chain CVT; CVT2=other CVT (i.e. toroidal); HEVT=hybrid/electric vehicle transmission	type of transmission; for a BISG or CISG type hybrid please define the actual transmission used not HEVT
F	Clutch Type	text	D=dry; W=wet	type of clutch used in AMT or DCT type transmissions
G	Number of Forward Gears	integer	4,5,6,7 or 8; CVT; n/a	
H	Logic	text	A=aggressive bias toward improving fuel economy; C=conventional shifting	aggressivity of automatic shifting; provide rationale for selection in the transmission notes column
I	Transmission Notes	text		explanatory notes