



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

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OFFICE OF
AIR AND RADIATION

CISD-07-03 (LDV/LDT/MDPV/LIMO/HD-HWY/CI-DIESEL/
MC/ICI/LARGE SI/MARINE/<25 HP LOCOMOTIVE)

Dear Manufacturer:

SUBJECT: EPA Standardized Naming Conventions for Model Year 2009 and Later Engine Family and Test Group Names, Evaporative/Refueling Family Names, and Permeation Family Names

The purpose of this letter is to inform you of changes being made to EPA's naming conventions for engine family and test group names and evaporative and refueling family names and to introduce the naming convention for the new permeation families which are now required for highway motorcycles and recreational vehicles. First, we are updating the list of model year codes which is used in position 1 of all the family names to include codes for model years beyond 2009. Second, we are making changes to the list of industry sector codes which is in position 5 of all the family names. Third, we are providing the naming convention for the new EPA Permeation Family names for highway motorcycles and recreational vehicles including nonroad motorcycles, all-terrain vehicles, and snowmobiles.

A complete description of all 12 characters of engine family/test group names, evaporative/refueling family names, and permeation family names for all industries is included with this letter for your reference. Examples of the various family names can be found in the enclosure with this letter.

The California Air Resources Board (ARB) has indicated a need for additional information to be included in the family names to help identify industry sectors that have unique requirements. This will be accomplished by reserving position 10 of the family names for California-unique codes. These additional codes for position 10 will be identified by ARB in a separate ARB guidance letter.

If you have any questions, please contact your certification team representative.

Sincerely,

A handwritten signature in black ink, appearing to read "Karl J. Simon".

Karl J. Simon
Acting Director
Compliance and Innovative Strategies Division

Enclosure

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I. Standardized Naming Convention for Engine Family Names (referred to as Test Groups for light-duty vehicles and trucks)

Position 1: Model Year Codes

1- 2001	A- 2010	K- 2019
2- 2002	B- 2011	L- 2020
3- 2003	C- 2012	M- 2021
4- 2004	D- 2013	N- 2022
5- 2005	E- 2014	P- 2023
6- 2006	F- 2015	R- 2024
7- 2007	G- 2016	S- 2025
8- 2008	H- 2017	T- 2026
9- 2009	J - 2018	V- 2027

Positions 2-4: Code Assigned by EPA for Each Manufacturer

Insert the 3-character alphanumeric EPA manufacturer code assigned to your company in positions two through four of the engine family name.

Position 5: Industry Sector Codes (Formerly called "Family Type Code")

- A - California-Only Medium-Duty Vehicles
- B - Large Nonroad Spark-Ignition Engines (>19 kiloWatts)
- C - Highway Motorcycles
- D - Complete Heavy-Duty Highway Vehicles (8,500 to 14,000 pounds GVWR; tested on chassis dynamometer)
- E - Heavy-Duty Highway Otto-Cycle Engines (>8500 pounds GVWR)
- F - *(Reserved for Heavy-duty Evaporative Families)*
- G - Locomotives (freshly manufactured)
- H - Heavy-Duty Highway Diesel-Cycle Engines (>8,500 pounds GVWR)
- I - *(Reserved- not to be used)*
- J - Light-Duty Vehicles and Light-Duty Trucks/Medium-Duty Passenger Vehicles
- K - Locomotives (remanufacture system)
- L - Nonroad Compression-Ignition Engines
- M - Marine Spark-Ignition Engines
- N - Marine Compression-Ignition Engines
- O - *(Reserved- not to be used)*
- P - *(Reserved for EPA Permeation Families)*
- Q - *(Reserved- not to be used)*
- R - *(Reserved for Light-Duty Evaporative/Refueling Families)*
- S - Small Nonroad Spark-Ignition Engines (≤ 19 kiloWatts)
- T - Light-Duty Trucks / Medium-Duty Passenger Vehicles
- U - *(Reserved for California ARB's Highway Motorcycle Evaporative Families)*
- V - Light-Duty Vehicles
- W - Marine IMO
- X - Nonroad Motorcycles / All-Terrain Vehicles
- Y - Snowmobiles
- Z - *(Reserved- not to be used)*
- 0 - California ARB's Zero-Emission Vehicles
- 1 - California ARB's Complete Heavy-duty Highway Vehicles (>14,000 pounds GVWR; tested on chassis dynamometer; for example, California's hybrid urban bus and heavy-duty vehicle option)

Positions 6-9: Engine Displacement

Insert the applicable engine displacement for each engine family/test group. Engine displacement units may be in liters (XX.X or .XXX), cubic inches (XXXX), or cubic centimeters (XXXX) according to the industry sectors below. For dual or variable displacement families, enter the maximum displacement. If the displacement is given in liters, the decimal point counts as a digit. In all cases the displacement will be read in liters if a decimal point is included and it will be read in cubic inches or cubic centimeters if there is no decimal point.

- Engine displacement should be provided in Liters for the following industry sectors:
 - A - California-Only Medium-Duty Vehicles
 - B - Large Nonroad Spark-Ignited Engines (>19 kiloWatts)
 - D - Complete Heavy-Duty Highway Vehicles (8,500 to 14,000 GVWR; tested on chassis dynamometer)
 - J - Light-Duty Vehicles and Trucks/Medium-Duty Passenger Vehicles
 - N - Marine Compression-Ignition Engines
 - T - Light-Duty Trucks / Medium-Duty Passenger Vehicles
 - V - Light-Duty Vehicles
 - W - Marine IMO
 - Y - Snowmobiles
 - 1 - California ARB's Complete Heavy-duty Highway Vehicles (>14,000 pounds GVWR; tested on chassis dynamometer; for example, California's hybrid urban bus and heavy-duty vehicle option)

- Engine displacement should be provided in Liters or Cubic Inches for the following industry sectors:
 - E - Heavy-Duty Highway Otto-Cycle Engines (>8500 pounds GVWR)
 - G - Locomotives (freshly manufactured) – liters (engine total) or cubic inches (per cylinder)
 - H - Heavy-Duty Highway Diesel-Cycle Engines (>8,500 pounds GVWR)
 - K - Locomotives (remanufacture system) – liters (engine total) or cubic inches (per cylinder)
 - L - Nonroad Compression-Ignition Engines
 - M - Marine Spark-Ignition Engines

- Engine displacement should be provided in Liters or Cubic Centimeters for the following industry sectors:
 - C - Highway Motorcycles
 - S - Small Nonroad Spark-Ignition Engines (≤19 kiloWatts)
 - X - Nonroad Motorcycles / All-Terrain Vehicles

Position 10: Engine Class (Only when Position 5 equals “S”)

If the engine family name is for a small nonroad spark-ignited engine, with “S” in the 5th position of the engine family name, insert into position 10 the applicable code from the following list designating the engine class as specified at 40 CFR 90.116(b). All other industry sectors should follow the instructions for Positions 10 through 12 below.

- A - Class IA: Nonhandheld equipment engines less than 66 cc in displacement
- B - Class IB: Nonhandheld equipment engines greater than or equal to 66 cc but less than 100 cc
- 1 - Class I: Nonhandheld equipment engines greater than or equal to 100 cc and less than 225 cc in displacement
- 2 - Class II: Nonhandheld equipment engines greater than or equal to 225 cc in displacement
- 3 - Class III: Handheld equipment engines less than 20 cc in displacement
- 4 - Class IV: Handheld equipment engines greater than or equal to 20 cc but less than 50 cc in displacement
- 5 - Class V: Hand held equipment engines greater than or equal to 50 cc in displacement

Position 10: Reserved For Use By California ARB For Select Industry Sectors

The California ARB intends to issue separate guidance that will designate codes for position 10 of the engine family name for some industry sectors in order to help identify those industry sectors that have unique ARB requirements. Only positions 11 and 12 will then be available for the manufacturer-designated sequence characters as described below.

Positions 10-12: Sequence Characters (Only Positions 11-12 When Position 5 Equals “S” Or For Any Industry Sectors With ARB-Designated Codes For Position 10)

Enter any combination of valid characters in positions 10 through 12 in order to provide a unique identification for an engine family name. At a minimum, the sequence characters, in combination with the other characters in the engine family name, must provide a unique identifier for each engine family name for a manufacturer for each model year. Further, it is recommended that numbers and letters be selected that minimize possible confusion. The sequence characters themselves could be used to represent other information such as the applicable EPA or California emission standards, however EPA will treat these as simple sequence characters with no additional meaning.

If the engine family name is for small, nonroad spark-ignition engines, with “S” in the 5th position of the engine family name or is for an industry sector for which ARB has designated codes for position 10, only two characters will be available for the sequence characters.

II. Standardized Naming Convention for Evaporative and Refueling Family Names

Position 1: Model Year Codes

1- 2001	A- 2010	K- 2019
2- 2002	B- 2011	L- 2020
3- 2003	C- 2012	M- 2021
4- 2004	D- 2013	N- 2022
5- 2005	E- 2014	P- 2023
6- 2006	F- 2015	R- 2024
7- 2007	G- 2016	S- 2025
8- 2008	H- 2017	T- 2026
9- 2009	J - 2018	V- 2027

Positions 2-4: Code Assigned by EPA for Each Manufacturer

Insert the 3-character alphanumeric EPA manufacturer code assigned to your company into positions 2 through 4 of the evaporative/refueling family name.

Positions 5: Industry Sector Codes (Formerly called “Family Type Code”)

- F - Heavy-Duty Evaporative Family
- R - Light-Duty Evaporative / Refueling Family
- U - California ARB’s Highway Motorcycle Evaporative Family

Positions 6-9: Canister work capacity

Identify the total capacity in grams of all canisters

Position 10: Reserved For Use By California ARB For Select Industry Sectors

The California ARB intends to issue separate guidance that will be applicable for some industry sectors that will designate codes for position 10 of the evaporative family name in order to help identify those industry sectors that have unique ARB requirements. Only positions 11 and 12 will then be available for the manufacturer-designated sequence characters as described below.

Positions 10-12: Sequence Characters (Only Positions 11-12 For Any Industry Sectors With ARB-Designated Codes For Position 10)

Enter any combination of valid characters in order to provide a unique identification for the evaporative/refueling name. At a minimum, the sequence characters, in combination with the other characters in the evaporative family name, must provide a unique identifier for each evaporative family name for a manufacturer for each model year. Further, it is recommended that numbers and letters be selected that minimize possible confusion. The sequence characters themselves could be used to represent other information such as the applicable EPA or California evaporative emission standards, however EPA will treat these as simple sequence characters with no additional meaning.

If the evaporative family name is for an industry sector for which ARB has designated values for position 10, only two characters will be available for the sequence characters.

III. Standardized Naming Convention for Permeation Family Names

Beginning with model year 2008, new permeation emission standards are now required by EPA for highway motorcycles and recreational vehicles which include nonroad motorcycles, all-terrain vehicles, and snowmobiles. This is in addition to evaporative families which are required by California ARB. Permeation emissions are fuel emissions that result from permeation of fuel through the fuel system components, such as fuel tanks and fuel hoses or tubing designed to contain liquid fuel or fuel vapor. Below is EPA's naming convention for permeation family names for model year 2009 and later. It is optional for model year 2008.

Position 1: Model Year Codes

1- 2001	A- 2010	K- 2019
2- 2002	B- 2011	L- 2020
3- 2003	C- 2012	M- 2021
4- 2004	D- 2013	N- 2022
5- 2005	E- 2014	P- 2023
6- 2006	F- 2015	R- 2024
7- 2007	G- 2016	S- 2025
8- 2008	H- 2017	T- 2026
9- 2009	J- 2018	V- 2027

Positions 2-4: Code Assigned by EPA for Each Manufacturer

Insert the 3-character alphanumeric EPA manufacturer code assigned to your company into positions two through four of the permeation family name.

Position 5: Industry Sector Codes (Formerly called "Family Type Code")

P - EPA Permeation Family

Positions 6-10: For Metal Fuel Tanks Only

METAL – Metal fuel tank

If this permeation family has a metal fuel tank, insert "METAL" into positions 6 through 10 of the Permeation Family name and proceed to Position 11 of the permeation family naming convention. If the fuel tank is any other material than metal, proceed to the description of position 6 below.

Position 6: Fuel Tank Material Type (For all materials except for Metal)

P - Plastic

F - Fiberglass

Position 7: Fuel Tank Evaporative/Permeation Emission Control Strategy (For all materials except for Metal)

- 0 - No Barrier
- 1 - Inherently Low/Zero Permeation Material
- 2 - Continuous multi-Layer with Permeation Barrier
- 3 - Non-Continuous Barrier Platelets
- 4 - Barrier Surface Treatment (e.g. fluorination, sulfonation)
- 5 - Other Permeation Control Technology

Positions 8-9: Least Thickness of Tank Wall or Least Weight Percentage (%) of Barrier materials within the Group of Fuel Tanks (For all tank materials except Metal)

For tanks with no barrier (i.e., values of 0, 1, 4, or 5 for Position 7: Control Strategy), enter the least nominal tank wall thickness, rounded to the nearest millimeter (mm) in the format of 01 to 99.

For tanks with a barrier (i.e., values of 2 or 3 for Position 7: Control Strategy), enter the least weight percentage (wt.%) of barrier material within the group of fuel tanks in the format of 01 to 99.

Position 10: Fuel Tank Production Method (For all tank materials except Metal)

- B - Blow-Molded Tank
- T - Thermoformed Tank
- R - Rotational Molded Tank
- J - Injection Molded Tank
- O - Other Production Method

Positions 11-12: Sequence Characters

Enter any combination of valid characters (letters and/or numbers) to provide a unique identification for the permeation family name. At a minimum, the sequence characters, in combination with the other characters in the permeation family name, must provide a unique identifier for each permeation family name for a manufacturer and model year. It is recommended that numbers and letters be selected that minimize possible confusion.

IV. Examples**A. Sample Engine Family/Test Group Names:**

9XYXS01451AB = Company XY has a 2009 model 145.2-cc, gasoline-fueled, Otto-cycle engine that will power a walk-behind mower.

9 = 2009 model year

XYX = EPA manufacturer code for XY engine corporation

S = Small nonroad spark-ignited engine

0145 = Displacement in cubic centimeters

1 = Engine Class I non-hand held, less than 225 cc.

AB = 2-character code which uniquely identifies the family name.

9XYXV03.2ABC = Company XY has a 2009 model light-duty vehicle with a 3.2 liter engine.

9 = 2009 model year

XYX = EPA manufacturer code for XY corporation

V = Light-duty vehicle

03.2 = Displacement in liters

ABC = 3-character code which uniquely identifies the family name.

B. Sample Evaporative/Refueling Family Name:

9XYXF0150DC4 = Company XY has a 2009 heavy-duty gas evaporative family with a canister working capacity of XXXX grams.

9 = 2009 model year

XYX = EPA manufacturer code for XY engine corporation

F = Heavy-duty gas evaporative family

0150 = Canister working capacity in grams

DC4 = 3-character code which helps to uniquely identify this family.

9XYXR0150AA1 = Company XY has a 2009 light-duty evaporative/refueling family with a canister working capacity of 150 grams.

9 = 2009 model year

XYX = EPA manufacturer code for XY corporation

R = Light-duty evaporative/refueling family

0150 = Canister working capacity in grams

AA1 = 3-character code which helps to uniquely identify this family.

C. Sample Permeation Family Names:**Metal Tanks:**

9XYLPMETALA1 = Company XY has a 2009 permeation family with a metal fuel tank.

9 = 2009 model year

XYL = EPA manufacturer code for XY corporation

P = Permeation family

METAL = Metal fuel tank

A1 = 2-character code which is used by the manufacturer to uniquely identify the permeation family name.

Plastic Tanks

9XYLPP202TC1 = Company XY has a 2009 permeation family that consists of a multi-layer plastic fuel tank with 2% weight of permeation barrier of EVOH material and manufactured by thermoforming.

9 = 2009 model year

XYL = EPA manufacturer code for XY engine corporation

P = Permeation family

P = Plastic fuel tank

2 = Continuous multi-layer with permeation barrier

02 = Least barrier weight % of 2%

T = Thermoformed fuel tank

C1 = 2-character code which is used by the manufacturer to uniquely identify the permeation family name.