

EXHAUST CREDIT SUMMARY		
AVERAGING SET		CREDIT TOTALS (kg)
Nonhandheld	Standard Credits - Class I&II (POSITIVE)	0
	Standard Credits - Class I&II (NEGATIVE)	0
	Standard Credits - HH Used in NHH Equipment (POSITIVE)	0
	Standard Credits - HH Used in NHH Equipment (NEGATIVE)	0
Handheld	Standard Credits - Class III, IV, and V (POSITIVE)	0
	Standard Credits - Class III, IV, and V (NEGATIVE)	0

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Emission Family Name of Equipment	Permeation Family Name for Fuel Tank	Equipment Category	Small Volume Emission Family?	Useful Life (years)	Total Area (m ²)	Production Volume (all fuel tanks) ¹	FEL (g/m ² /day) ²	Test Temperature (°C)	Adjustment Factor	Standard (g/m ² /day)	Credit Balance (kg)	Messages

¹ If the Engine Class is NHH equipment using HH engines, the production volume should include only the engines in the family used in NHH equipment. A separate line item must be entered for the HH equipment using HH engines from the same family.

² If Standard and FEL are based on testing at 28° C, an FEL below 5.0 g/m²/day must be based on emission measurements. If FEL is at or above 5.0 g/m²/day, then FEL must either be based on emission measurements for all such families, or the FEL must be an assigned value of 10.4 g/m²/day. If Standard and FEL are based on testing at 40° C, an FEL below 8.3 g/m²/day must be based on emission measurements. If FEL is at or above 8.3 g/m²/day, then FEL must either be based on emission measurements for all such families, or the FEL must be an assigned value of 17.3 g/m²/day.

EVAPORATIVE CREDIT SUMMARY	
AVERAGING SET	CREDIT TOTALS (kg)
Equipment using Nonhandheld Engines: Standard Credits	0
Equipment Using Handheld Engines: Standard Credits	0

Messages

This category includes Nonhandheld Equipment using Handheld Engines as indicated in 1054.701(c)(4).

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United States
Environmental Protection Agency
Office of Transportation and Air Quality

Manufacturer Averaging, Banking, and Trading Report for Small Spark Ignition Engines

Last Revision: February 2018 Version Number: 2.3

Field Descriptions (Exhaust and Evaporative Current MY Credit Calculations)

FIELD	DESCRIPTION	
	EXHAUST	EVAP
Engine Family Name/ Emission Family Name of Equipment	Enter the 12-character emission family name for the engine.	Enter the 12-character emission family name for the equipment.
Permeation Family Name for Fuel Tank	NA	Enter the permeation family name for the fuel tank for which your evaporative emission ABT credits are being generated or used.
Engine Class	Select the applicable engine class from the drop-down menu. For Nonhandheld (NHH) engines, select Class I or Class II. For Handheld (HH) engines, select Class III, Class IV or Class V. If the engine family includes handheld engines with a displacement at or below 80 cc that are used in Nonhandheld equipment (and thus, would generate or use NHH credits), select the option "HH Used in NHH Equip."	NA
Equipment Category	NA	Select the applicable category from the drop-down menu: NHH Class I, NHH Class II, NHH Equipment using HH Engine, HH Equip using NHH Engine, or HH (Other).
Small Volume Emission Family		Indicate whether or not the emission family is small volume.
Credit Type	Autopopulated with Standard Phase 3.	Autopopulated with Standard Phase 3.
Engine Displacement	Enter the displacement for the engine family. This value is used to determine the applicable FEL cap for Class I engines, which differs for engines below 100 cc and engines at or above 100 cc.	NA
Load Factor	Select either 0.47 (if NHH) or 0.85 (if HH). An alternate load factor (a constant dependent on the test cycle over which the engine is certified) may be entered as specified by EPA based on approved use of special test procedures for a family under 40 CFR 1065.10(c)(2).	NA
Maximum Power (kW)	Enter the maximum modal power of the emission data test engine over the certification test cycle.	NA
Useful Life (hours)	Select the useful life of the engine family in hours (see 40 CFR 1054.107). The options for Class I engines are 125, 250, or 500 hours. The options for Class II are 250, 500, or 1,000 hours. The options for Class III, IV, and V engines are 50, 125, and 300 hours. You may enter a different value for nonhandheld engine families only if you have a longer useful life approved by EPA under 40 CFR 1054.107.	Select either 5 or 10 years for all emission families.
Total Area (m ²)	NA	Enter the internal surface area of a fuel tank in the family, in m ² .
Production Volume	Enter the applicable production volume for the engine family. Include only the number of engines that are eligible to participate in the ABT program within the family during the model year, as described in 40 CFR 1054.701(i). If the Engine Class is HH Used in NHH Equip, the production volume should include only the engines in the family used in NHH equipment. A separate line item must be entered for the HH engines used in HH equipment.	Enter the applicable production volume for the engine family. Include only the number of engines that are eligible to participate in the ABT program within the family during the model year, as described in 40 CFR 1054.701(i). If the Engine Class is NHH Equip using HH Engine, the production volume should include only the engines in the family used in NHH equipment. A separate line item must be entered for the HH equipment using HH engines of the same family.
FEL (g/kW-hr)	Enter the applicable family emission limit in g/kW-hr. If the FEL exceeds the applicable cap, an error message will be displayed in the far right column.	Enter the applicable FEL for the engine family in g/m ² /day. Note that FEL caps for Small SI equipment are 5.0 g/m ² /day (for 28°C) and 8.3 g/m ² /day (for 40°C). For small volume emission families, the FEL caps are 8.0 g/m ² /day (for 28°C) and 13.3 g/m ² /day (for 40°C).
Test Temperature	NA	Select the applicable test temperature from the drop-down menu (28° C or 40° C). This selection will determine the value for the adjustment factor and standard.
Adjustment Factor	NA	This field will be automatically populated based on the test temperature selected as described above. If the test temperature is 28° C, then the Adjustment Factor is 1.0; if the test temperature is 40° C, then the Adjustment Factor is 0.6.
Standard (g/kW-hr)	This field will be automatically populated with the applicable HC+NOx standard (in g/kW-hr), based on the entries for "Class" and "Displacement."	This field will be automatically populated based on the test temperature selected as described above. If the test temperature is 28° C, then the Standard is 1.5 g/m ² /day; if the test temperature is 40° C, then the Standard is 2.5.
Credit Balance (kg)	This field will be automatically populated with the applicable HC+NOx exhaust credit balance for the engine family based on the following formula: Credits (kg) = (Std - FEL) x (Volume) x (Power) x (Useful Life) x (Load Factor) x (10 ⁻³)	This field will be automatically populated based on the following credit calculation formula: Credits (kg) = (STD - FEL) x (Total Area) x (Production Volume) x (Useful Life) x (Adjustment Factor) x (365) x (10 ⁻³)

Field Descriptions (Credit Summary)

FIELD	DESCRIPTION	
	EXHAUST	EVAP
Banked: Total Standard and Enduring Phase 3 Credits / Standard Phase 3 Credits	Enter the sum of previous model years' banked Standard Phase 3 credits and Enduring Phase 3 credits. Credits for handheld engines used in nonhandheld equipment are considered nonhandheld credits.	Enter the sum of previous model years' banked Standard Phase 3 credits, handheld and nonhandheld.
Phase 2 (Part 90) Banked Credits	Handheld engines only - Enter the sum of previous model years' banked Phase 2 credits.	NA
Total Standard and Enduring Phase 3 Credits you Received via a Credit Trade	Enter the sum of Phase 3 Credits you received via a credit trade in this model year. You will also be required to specify the manufacturer from whom you received these credits.	Enter the sum of Phase 3 Credits you received via a credit trade in this model year. You will also be required to specify the manufacturer from whom you received these credits.
Phase 2 (Part 90) Credits you received via a Credit Trade	Enter the sum of Phase 2 Credits you received via a credit trade in this model year (handheld only). You will also be required to specify the manufacturer from whom you received these credits.	NA
Credits Applied to Current MY Balance for Standard Phase 3 Credits	Handheld engines only - If you have a combination of Phase 2 and Phase 3 credits, then allocate how many Phase 2 and Phase 3 credits you will use to offset the negative credits in this model year. You must allocate credits equal to the negative credits in this model year (value in Cell D19 of the Credit Summary tab).	NA
Credits you Traded to Another Manufacturer	Enter the sum of Phase 2 (handheld engines only) and Phase 3 credits you traded to another manufacturer. You will also be required to specify the manufacturer(s) to whom you traded these credits.	Enter the sum of Phase 3 credits you traded to another manufacturer. You will also be required to specify the manufacturer(s) to whom you traded these credits.

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Last Revision: February 2018 Version Number: 2.3

Credit Summary for the Part 1054 Small SI ABT Programs

MODEL YEAR: _____
MANUFACTURER: _____

EMISSION CREDITS - EXHAUST				
		Handheld (HH)	Nonhandheld Class I & Class 2 Class I&II	HH Engine Used in NHH Equip
Credit Balances before Averaging:				
Current MY	Total Standard Phase 3 Credits - POSITIVE	0	0	0
	Total Standard Phase 3 Credits - NEGATIVE	0	0	0
Banked	Total Standard and Enduring Phase 3 Credits			
	Phase 2 (Part 90) Banked Credits			
Traded	Total Standard and Enduring Phase 3 Credits you Received via a Credit Trade			
	Phase 2 (Part 90) Credits you received via a Credit Trade			
Mfr(s) who provided you credits via a trade				
Credits Applied to Current MY Balance for Standard Phase 3 Credits:				
Current MY	Apply Standard Handheld Phase 3 Credits			
	Apply Standard Handheld Phase 3 Credits			
Banked	Apply Handheld Phase 2 (Part 90) Credits			
	Standard Handheld Phase 3 Credits			
Credits you Traded to Another Manufacturer	Standard Handheld Phase 2 (Part 90) Credits			
	Standard Nonhandheld Phase 3 Credits			
Mfr(s) to whom you provided credits via a trade				
Credit Balances after Averaging:				
TOTALS	Standard Phase 3 Credits	0	0	
	Phase 2 HH (Part 90) Credits	0		
Comments:				

Messages

3. Phase 2 and Phase 3 credits from Nonhandheld engines may be used to demonstrate compliance with the Phase 3 standards for handheld engines, subject to the restrictions under 40 CFR §1054.740(e).

EMISSION CREDITS - EVAP			
		Handheld (HH)	Nonhandheld (NHH)
Credit Balances before Averaging:			
Current MY	Standard Phase 3 Credits	0	0
Banked	Standard Phase 3 Credits		
Traded	Standard Phase 3 Credits you received via a credit trade		
Mfr(s) who provided you credits via a trade			
Credits Applied to Current MY Balance for Standard Phase 3 Credits:			
Traded	Standard Phase 3 Credits you traded to another manufacturer		
Mfr(s) to whom you provided credits via a trade			
Credit Balances after Averaging:			
TOTALS	Standard Phase 3 Credits	0	0

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