

40 CFR part 60, subpart JJJJ
Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

Summary of Requirements for Owners and Operators¹

Engine Category	Date Constructed/ Reconstructed/ Manufactured	Size/Engine Type/Fuel	Emission Standards	Fuel Requirements	Importing/Installing Requirements ²	Monitoring Requirements	Compliance Requirements				Notification, Reports, and Records Requirements	General Provisions (40 CFR part 60)
							Engines being operated and maintained in a certified manner ³		Engines being operated and maintained in a non-certified manner ³			
							General Compliance	Performance Testing	General Compliance	Performance Testing		
SI ICE <500 HP	Commenced construction after 6/12/2006 and manufactured on or after 7/1/2008	≥25 HP	60.4231(a) 60.4233(a)	If using gasoline: 60.4235	60.4236(a),(d)	No Requirements	60.4234 60.4243(a)(1) If using AFRC: 60.4243(g) 40 CFR part 1068, subparts A-D, as applicable.	No Requirements	60.4234 60.4243(a)(2)(i) If using AFRC: 60.4243(g)	No Requirements	60.4245(a)	60.4246 Table 3
		25-HP-500 Gasoline	60.4231(b) 60.4233(b)	60.4235	60.4236(a),(d)		60.4234 60.4243(a)(1) If using AFRC: 60.4243(g) 40 CFR part 1068, subparts A-D, as applicable.	No Requirements	All Engines: 60.4234 If using AFRC: 60.4243(g) Non-Certified Engine: 60.4243(a)(2)(i) If using AFRC: 60.4243(g)	<100 HP: No performance testing required. 100-HP-500: 60.4243(a)(2)(i) 60.4244	60.4245(a),(d)	60.4246 Table 3
		25-HP-500 Rich Burn LPG	60.4231(c) 60.4233(c)	No Requirements	60.4236(a),(d)		60.4234 60.4243(a)(1) If using AFRC: 60.4243(g) 40 CFR part 1068, subparts A-D, as applicable.	No Requirements	All Engines: 60.4234 If using AFRC: 60.4243(g) Non-Certified Engine: 60.4243(a)(2)(i) If using AFRC: 60.4243(g)	<100 HP: No performance testing required. 100-HP-500: 60.4243(a)(2)(i) 60.4244	60.4245(a),(d)	60.4246 Table 3
		25-HP-100 (except gasoline and rich burn LPG)	60.4233(d) ⁴	No Requirements	60.4236(a)		All Engines: 60.4234 If using AFRC: 60.4243(g) If purchasing certified engine: 60.4243(b)(1) If purchasing non-certified engine: 60.4243(b)(2)	Certified Engine: 60.4243(a)(1) Non-Certified Engine: 60.4243(b)(2) ⁵ , 60.4244	60.4234 60.4243(a)(2)(i) If using AFRC: 60.4243(g)	All Engines: 60.4234 Certified Engine: ≥100 HP: 60.4243(a)(2)(i) Non-Certified Engine: 60.4243(b)(2)(i)	60.4245(a),(d)	60.4246 Table 3
		100-HP-500 (except gasoline and rich burn LPG)	60.4233(e) ² Table 1	No Requirements	60.4236(a)		All Engines: 60.4234 If using AFRC: 60.4243(g) If purchasing certified engine: 60.4243(b)(1) If purchasing non-certified engine: 60.4243(b)(2)	Certified Engine: 60.4243(a)(1) Non-Certified Engine: 60.4243(b)(2) ⁵ , 60.4244	60.4234 60.4243(a)(2)(i) If using AFRC: 60.4243(g)	All Engines: 60.4234 Certified Engine: 60.4243(a)(2)(i) Non-Certified Engine: 60.4243(b)(2)(i)	60.4245(a),(d)	60.4246 Table 3
SI lean burn ICE 500≥HP<1,350	Commenced construction after 6/12/2006 and manufactured on or after 7/1/2008	500≥HP<1,350	60.4233(e)	If using gasoline: 60.4235	60.4236(b)	No Requirements	60.4234 60.4243(a)(1) If using AFRC: 60.4243(g) 40 CFR part 1068, subparts A-D, as applicable.	No Requirements	60.4234 60.4243(a)(2)(ii) If using AFRC: 60.4243(g)	60.4243(a)(2)(ii) ⁶ 60.4244	All Engines: 60.4245(a),(d) If engine is not certified: 60.4245(c)	60.4246 Table 3
SI ICE ≥500 HP (except lean burn 500≥HP<1,350)	Commenced construction after 6/12/2006 and manufactured on or after 7/1/2007 ⁷	≥500 HP Gasoline	60.4231(b) 60.4233(b)	60.4235	60.4236(b),(d)		All Engines: 60.4234 If using AFRC: 60.4243(g) If manufactured after 7/1/2007 and before 7/1/2008: 60.4243(b) If manufactured after 7/1/2008: 60.4243(a)(1) 40 CFR part 1068, subparts A-D, as applicable.	No Requirements	All Engines: 60.4234 If using AFRC: 60.4243(g) If manufactured after 7/1/2007 and before 7/1/2008: 60.4243(b) If manufactured after 7/1/2008: 60.4243(a)(1) 40 CFR part 1068, subparts A-D, as applicable.	If manufactured after 7/1/2007 and before 7/1/2008: No performance testing required. If manufactured after 7/1/2008: 60.4243(a)(2)(ii) ⁶ 60.4244	All Engines: 60.4245(a),(d) If engine is not certified: 60.4245(c)	60.4246 Table 3
		≥500 HP Rich Burn LPG	60.4231(c) 60.4233(c)	No Requirements	60.4236(b),(d)		All Engines: 60.4234 If using AFRC: 60.4243(g) If manufactured after 7/1/2007 and before 7/1/2008: 60.4243(b) If manufactured after 7/1/2008: 60.4243(a)(1) 40 CFR part 1068, subparts A-D, as applicable.	No Requirements	All Engines: 60.4234 If using AFRC: 60.4243(g) If manufactured after 7/1/2007 and before 7/1/2008: 60.4243(b) If manufactured after 7/1/2008: 500 HP: 60.4243(a)(2)(ii)	If manufactured after 7/1/2007 and before 7/1/2008: No performance testing required. If manufactured after 7/1/2008: 60.4243(a)(2)(ii) ⁶ 60.4244	All Engines: 60.4245(a),(d) If engine is not certified: 60.4245(c)	60.4246 Table 3
		≥800 HP (except gasoline and rich burn LPG)	60.4233(e)	No Requirements	60.4236(b)	All Engines: 60.4234 If using AFRC: 60.4243(g) If purchasing certified engine: 60.4243(b)(1) If purchasing non-certified engine: 60.4243(b)(2)	Non-Certified Engine: 60.4243(b)(2)(i), 60.4244 Certified Engine: No Requirements	60.4234 60.4243(a)(2)(ii) If using AFRC: 60.4243(g)	60.4243(a)(2)(ii) 60.4244	All Engines: 60.4245(a),(d) If engine is not certified: 60.4245(c)	60.4246 Table 3	

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							Engines being operated and maintained in a certified manner ³		Engines being operated and maintained in a non-certified manner ⁴								
							General Compliance	Performance Testing	General Compliance	Performance Testing							
Emergency SI ICE >25 HP	Commenced construction after 6/12/2006 and manufactured on or after 1/1/2009	>25 HP Gasoline	60.4231(b) 60.4233(b)	60.4235	60.4236(j)(6)	If <130 HP built on or after 7/1/2008, or 130/HP-500 built on or after 1/1/2011, or >500 HP built on or after 7/1/2010 does not meet standards applicable to non-emergency engines: 60.4237	No Requirements	All Engines: 60.4234 60.4233(a)(1) If using AFRC: 60.4243(g) 40 CFR part 1068, subparts A-D, as applicable. 60.4243(d)	No Requirements	All Engines: 60.4234 60.4233(g) If using AFRC: 60.4243(g) 40 CFR part 1068, subparts A-D, as applicable. 60.4243(d)	No performance testing required. 100-HP-500: 60.4243(a)(2)(i) ⁵ 60.4244 >500 HP: 60.4243(a)(2)(ii) ⁵ 60.4244	60.4245(a), (b)	60.4246 Table 3				
		>25 HP Rich Burn LPG	60.4231(c) 60.4233(c)	No Requirements	60.4236(j)(6)			All Engines: 60.4234 60.4233(a)(1) If using AFRC: 60.4243(g) 40 CFR part 1068, subparts A-D, as applicable. 60.4243(d)		All Engines: 60.4234 60.4233(g) If using AFRC: 60.4243(g) 40 CFR part 1068, subparts A-D, as applicable. 60.4243(d)				No performance testing required. 100-HP-500: 60.4243(a)(2)(i) ⁵ 60.4244 >500 HP: 60.4243(a)(2)(ii) ⁵ 60.4244	60.4245(a), (b)	60.4246 Table 3	
		25-HP-100 (except gasoline and rich burn LPG)	60.4233(d) ⁶	No Requirements	60.4236(c)			All Engines: 60.4234 60.4243(d) If using AFRC: 60.4243(g) 60.4243(e) If purchasing certified engine: 60.4243(b)(1) If purchasing non-certified engine: 60.4243(b)(2)		If natural gas engine and using propane as alternative fuel for more than 100 hrs/yr: 60.4243(e) Non-Certified Engine: 60.4243(b)(2)(i) ⁷ , 60.4244				All Engines: 60.4234 60.4243(a)(2)(i) If using AFRC: 60.4243(g) 60.4243(e)	No performance testing required Non-Certified Engine: All Non-Certified Engines >25 HP: 60.4244 25-HP-500: 60.4243(b)(2)(i) ⁷ All Engines: If natural gas engine and using propane as alternative fuel for more than 100 hrs/yr: 60.4243(e)	60.4245(a), (b)	60.4246 Table 3
		≥100 HP (except gasoline and rich burn LPG)	60.4233(e) ⁷ Table 1	No Requirements	60.4236(c)			All Engines: 60.4234 60.4243(d) If using AFRC: 60.4243(g) 60.4243(e) If purchasing certified engine: 60.4243(b)(1) If purchasing non-certified engine: 60.4243(b)(2)		If natural gas engine and using propane as alternative fuel for more than 100 hrs/yr: 60.4243(e) Non-Certified Engine: 25-HP-500: 60.4243(b)(2)(i) ⁷ , 60.4244 >500 HP: 60.4243(b)(2)(ii), 60.4244				All Engines: 60.4234 60.4243(a)(2)(i) If using AFRC: 60.4243(g) 60.4243(e)	If natural gas engine and using propane as alternative fuel for more than 100 hrs/yr: 60.4243(e) Certified Engine: All Certified Engines <100 HP: 60.4244 100/HP-500: 60.4243(a)(2)(i) >500 HP: 60.4243(a)(2)(ii) Non-Certified Engine: All Non-Certified Engines >25 HP: 60.4244 25-HP-500: 60.4243(b)(2)(i) ⁷ >500 HP: 60.4243(b)(2)(ii)	60.4245(a), (b)	60.4246 Table 3
Modified/ Reconstructed SI ICE	Modified or reconstructed after 6/12/2006	>25 HP	60.4233(f)(1)	If using gasoline: 60.4235		If <130 HP built on or after 7/1/2008, or 130/HP-500 built on or after 1/1/2011, or >500 HP built on or after 7/1/2010 does not meet standards applicable to non-emergency engines: 60.4237	No requirements		If using AFRC: 60.4243(g) 60.4243(k)		60.4245(a) If emergency: 60.4245(b)	60.4246 Table 3					
		>25 HP Gasoline	60.4233(g)(2)	60.4235						60.4234 If using AFRC: 60.4243(g) 60.4243(k)		60.4245(a)(d) If emergency: 60.4245(b)	60.4246 Table 3				
		>25 HP Rich Burn LPG	60.4233(g)(3)	No Requirements						60.4234 If using AFRC: 60.4243(g) 60.4243(k)		60.4245(a)(d) If emergency: 60.4245(b)	60.4246 Table 3				
		>25 HP SI natural gas and lean burn LPG	60.4233(g)(4)	No Requirements						60.4234 If using AFRC: 60.4243(g) 60.4243(k)		60.4245(a)(d) If emergency: 60.4245(b)	60.4246 Table 3				
		>25 HP Landfill Digester Gas	60.4233(g)(5)	No Requirements						60.4234 If using AFRC: 60.4243(g) 60.4243(k)		60.4245(a)(d) If emergency: 60.4245(b)	60.4246 Table 3				

NOTE: For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.

¹Owners and operators of facilities with internal combustion engines that are acting as temporary replacement units and that are located at a stationary source for less than 1 year and that have been properly certified as meeting the standards that would be applicable to such engine under the appropriate nonroad engine provisions, are not required to meet any other provisions under this subpart with regard to such engines.

²If you operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, you are operating in a certified manner.

³If you do not operate and maintain the certified stationary SI internal combustion engine and control device according to manufacturer's emission-related written instructions, your engine will be considered a non-certified engine.

⁴Owners and operators of stationary SI ICEs with a maximum engine power greater than 19 kW (25 HP) and less than 75 kW (100 HP) manufactured prior to January 1, 2011, that were certified to the standards in Table 1 to this subpart applicable to engines with a maximum engine power greater than or equal to 100 HP and less than 500 HP, may optionally choose to meet those standards.

⁵If you are an owner or operator of a stationary SI internal combustion engine that is less than or equal to 500 HP and you purchase a non-certified engine or you do not operate and maintain your certified stationary SI internal combustion engine and control device according to the manufacturer's written emission-related instructions, you are required to perform initial performance testing as indicated in this section, but you are not required to conduct subsequent performance testing unless the stationary engine is rebuilt or undergoes major repair or maintenance. A rebuilt stationary SI ICE means an engine that has been rebuilt as that term is defined in 40 CFR 94.11(a).

⁶The requirements of this section do not apply to owners and operators of stationary SI ICE that have been modified or reconstructed, and they do not apply to engines that were removed from one existing location and reinstalled at a new location.

Abbreviations

AFRC-Air-to-Fuel Ratio Controller
CO-Carbon Monoxide
HP-Horsepower
ICE-Internal Combustion Engine
LPG-Liquefied Petroleum Gas
SI-Spark Ignition