

ISHIKAWAJIMA-SHIBAURA MACHINERY CO., LTD.

EXECUTIVE ORDER U-R-026-0176 New Off-Road Compression-Ignition Engines

Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engine and emission control system produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)		
2007	7H3XL.507E2C	0.507 & 0.761	Diesel	3000		
	FEATURES & EMISSION	CONTROL SYSTEMS	TYPICAL EQUIPMENT AP	PLICATION		
	Indirect Diesel Inje	ection	Generator			

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED	EMISSION		EXHAUST (g/kw-hr)				OF	PACITY (%	i)	
POWER	STANDARD CATEGORY		HC	NOx	NMHC+NOx	со	PM	ACCEL	LUG	PEAK
KW< 8	Tier 2	STD	N/A	N/A	7.5	8.0	0.80	NA	NA	NA
		CERT	<u></u>		6.8	1.6	0.25			

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Rephael Somowitz

Executed at El Monte, California on this ______ day of December 2006.

Annette Hebert, Chief

Mobile Source Operations Division

Engine Model Summary Form

ATT ACMMENT 1 OF 1

Manufacturer: Ishikawajima-Shibaura Machinery Co., Ltd.

Engine category: Nonroad CI

EPA Engine Family: 7H3XL.507E2C

Mfr Family Name: N/A

Process Code: New Submission

U-R-026-0176

9.Emission Control			<u></u>	——————————————————————————————————————	<u> </u>		
8.Fue (lbs/hr)@	N/A	42		42		4 2	
7.Fue mm/stro tor	AZ	A'N	A/Z	A/N	4 Z	NA	
6.Torqu (SEA	Α'N	A/Z	Ϋ́N	N/A	Ϋ́Α	N/A	
5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	3.1+/-0.2	3.1+/-0.2	4.1+/-0.2	4.6+/-0.2	4.6+/-0.2	4.6+/-0.2	
4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	15.9+/-0.8	15,9+/-0.8	13.9+/-0.8	15.4+/-0.8	15.4+/-0.8	15.4+/-0.8	
3.BHP@RPM (SAE Gross)	6.8@1800	6.8@1800	10.0@1800	10.3@1800	10.3@1800	9.9@1800	
2.Engine Model	HB7//1800C	GG7/1800C	HD10/1800C	HD11/1800C	GH11/1800C	10/1800C	
1.Engine Code	402G-05	402D-05	403C-07	403C-07	403D-07	E673L-C	

Engine Model Summary Form

Manufacturer: Ishikawajima-Shibaura Machinery Co., Ltd.

Engine category: Nonroad CI

EPA Engine Family: 7H3XL.507E2C

Mfr Family Name:

Process Code: Running Change

7.Fuel Rate: mrn/stroke@peak 8.Fuel Rate: 9.Emission Control torque (lbs/hr)@peak torque Device Per SAE J1930	N/A	NIA		N/A N/A	NA NA	N/A. N/A	N/A
6.Torque @ RPM (SEA Gross)	The NA	N/A	N/A	N/A	N/A	N/A	NA
5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	3.1+/-0.2	3.1+/-0.2	4.4+/-0.4	4,1+/-0.2	4.6+/-0.2	4.6+/-0.2	4.6+/-0.2
4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	15.9+/-0.8	15.9+/-0.8	15,34/-1.2	13.9+/-0.8	15,4+/-0.8	15.4+/-0.8	15,4+/-0.8
3.BHP@RPM (SAE Gross)	6.8@1800	6.8@1800	9.9@1750	10.0@1800	10.3@1800	10.3@1800	9.9@1800
1.Engine Code 2.Engine Model	402C-05 HB7/1800C 6.8@1800	GG7/1800C	HD10/1750C	HD10/1800C	HD11/1800C	GH11/1800C	10/1800C
Engine Code	402C-05	402D-05	403C-07	403C-07	403C-07	403D-07	E673L-C