California Environmental Protection Agency AIR RESOURCES BOARD	Honda Motor Co., Ltd.	EXECUTIVE ORDER U-U-001-0359 New Off-Road Small Spark-Ignition Engines at or Below 19 Kilowatts

Pursuant to the authority vested in the Air Resources Board by the Health and Safety Code, Division 26, Part 5, Chapters 1 and 2; and

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

IT IS ORDERED AND RESOLVED: That the following engine and emission control systems produced by the manufacturer are certified for use in small 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 (cc)	ENGINE CLASS	FUEL TYPE (CNG/LNG=compressed/liquefied natural gas LPG=liquefied petroleum gas)
2008	8HNXS.671A5A	615, 671	4-stroke, ≥ 225 cc	Gasoline

DURABILITY HOURS	SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
500	EM	Walk-Behind Lawnmower, Riding Mower, Compressor, Pressure Washer, Generator Set, Commercial Turf
ENGINE CODES/MODELS (rated power in kilowatt, kW)	SEE ATTACHMENT	

ABBREVIATIONS: EM=engine modification TWC/OC=three-way/oxidizing catalyst WUTWC/WUOC=warm-up TWC/OC O2S=oxygen sensor HO2S=heated O2S EGR=exhaust gas recirculation AIR=secondary air injection PAIR=pulsed AIR MFI=multi port fuel injection SFI=sequential MFI TBI=throttle body fuel injection DFI=direct fuel injection TC/SC=turbo/super charger CAC=charge air cooler 2(prefix)=parallel (2)(suffix)=in series ECM=engine control module

The following are the hydrocarbon plus oxides of nitrogen (HC+NOx), carbon monoxide (CO), and particulate matter (PM) emission standards (Title 13, California Code of Regulations, (13 CCR) Section 2403(b)), and certification emission levels for this engine family in grams per kilowatt-hour (g/kW-hr). Engines within this engine family shall have closed crankcases in conformance with Section 90.109 of the "California Exhaust Emission Standards and Test Procedures for 2005 and Later Small Off-Road Engines," adopted July 26, 2004.

*=not applicable	HC+NOx (g/kW-hr)	CO (g/kW-hr)	PM (g/kW-hr)
STANDARD	8.0	549	*
FAMILY EMISSION LEVEL	8.9	*	*
CERTIFICATION LEVEL	6.9	328	*

BE IT FURTHER RESOLVED: That the family emission level(s) (FELs), as applicable, is an emission limit declared by the manufacturer for use in the averaging, banking and trading program and in lieu of an emission standard for certification. It serves as the applicable emission standard for determining compliance of any engine within this engine family under 13 CCR Sections 2403(e)(1) and 2407(a).

BE IT FURTHER RESOLVED: That for the listed engines, the manufacturer has submitted, and the Executive Officer hereby approves, the information and materials to demonstrate certification compliance with 13 CCR Section 2404 (emission control labels) and 13 CCR Sections 2405 and 2406 (emission control system warranty).

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

Quarterly reports of engines produced in this engine family for sale in California shall be submitted to the Executive Officer no later than 45 days after the end of each calendar quarter.

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.

Executed at El Monte, California on this 5 day of November 2007.

Annette Hebert, Chief
Mobile Source Operations Division

Attachment 1 of 9

Model Year: 2008
Manufacturer: Honda Motor Co., Ltd.
Engine Family: 8HNXS.671A5A

Issued: 10/12/2007
Revised:
E.O. Number: U-U-1-359

Small Off-Road Engine Model Summary Form

Units for Table: kw

Worst Case?	47. Model Designation	48. Sales Code	49. Displ (cc)	50. Bore/ Stroke	51. Ignition Timing	52. Max Power	53. Rated Speed (RPM)	54. Rated Torque	55. Torque Speed (RPM)	56. Emiss Control Sys
	8615HA01B	50-State	614.7	77.0/66.0	20° BTDC	12.4	3600	39.6 N.m	2500	EM
	8615HA04B	50-State	614.7	77.0/66.0	20° BTDC	12.4	3600	39.6 N.m	2500	EM
	8615HA06B	50-State	614.7	77.0/66.0	20° BTDC	12.4	3600	39.6 N.m	2500	EM
	8615HA07B	50-State	614.7	77.0/66.0	20° BTDC	12.4	3600	39.6 N.m	2500	EM
	8615HA08B	50-State	614.7	77.0/66.0	20° BTDC	12.4	3600	39.6 N.m	2500	EM
	8615HA09B	50-State	614.7	77.0/66.0	20° BTDC	12.4	3600	39.6 N.m	2500	EM
	8615HA10B	50-State	614.7	77.0/66.0	20° BTDC	12.4	3600	39.6 N.m	2500	EM
	8615HA11B	50-State	614.7	77.0/66.0	20° BTDC	12.4	3600	39.6 N.m	2500	EM
	8615HA12B	50-State	614.7	77.0/66.0	20° BTDC	12.4	3600	39.6 N.m	2500	EM
	8615HA13B	50-State	614.7	77.0/66.0	20° BTDC	12.4	3600	39.6 N.m	2500	EM
	8615HA14B	50-State	614.7	77.0/66.0	20° BTDC	12.4	3600	39.6 N.m	2500	EM

Attachment 2 of 9

Model Year: 2008
Manufacturer: Honda Motor Co., Ltd.
Engine Family: 8HNXS.671A5A

Issued: 10/12/2007
Revised:
E.O. Number: U-U-1-359

Small Off-Road Engine Model Summary Form

Units for Table:

Worst Case?	47. Model Designation	48. Sales Code	49. Displ (cc)	50. Bore/ Stroke	51. Ignition Timing	52. Max Power	53. Rated Speed (RPM)	54. Rated Torque	55. Torque Speed (RPM)	56. Emiss Control Sys
X	8615HA51B	50-State	614.7	77.0/66.0	20° BTDC	12.4	3600	39.6 N.m	2500	EM
	8615HA52B	50-State	614.7	77.0/66.0	20° BTDC	12.4	3600	39.6 N.m	2500	EM
	8615HA53B	50-State	614.7	77.0/66.0	20° BTDC	12.4	3600	39.6 N.m	2500	EM
	8615HA55B	50-State	614.7	77.0/66.0	20° BTDC	12.4	3600	39.6 N.m	2500	EM

Attachment 3 of 9

Model Year: 2008
Manufacturer: Honda Motor Co., Ltd.
Engine Family: 8HNXS.671A5A

Issued: 10/12/2007
Revised:
E.O. Number: U-U-1-359

Small Off-Road Engine Model Summary Form

Units for Table:

Worst Case?	47. Model Designation	48. Sales Code	49. Displ (cc)	50. Bore/ Stroke	51. Ignition Timing	52. Max Power	53. Rated Speed (RPM)	54. Rated Torque	55. Torque Speed (RPM)	56. Emiss Control Sys
	8615HB03B	50-State	614.7	77.0/66.0	20° BTDC	13.5	3600	40.6 N.m	2500	EM
	8615HB08B	50-State	614.7	77.0/66.0	20° BTDC	13.5	3600	40.6 N.m	2500	EM
	8615HB09B	50-State	614.7	77.0/66.0	20° BTDC	13.5	3600	40.6 N.m	2500	EM
	8615HB13B	50-State	614.7	77.0/66.0	20° BTDC	13.5	3600	40.6 N.m	2500	EM
	8615HB14B	50-State	614.7	77.0/66.0	20° BTDC	13.5	3600	40.6 N.m	2500	EM
	8615HB15B	50-State	614.7	77.0/66.0	20° BTDC	13.5	3600	40.6 N.m	2500	EM
	8615HB16B	50-State	614.7	77.0/66.0	20° BTDC	13.5	3600	40.6 N.m	2500	EM
	8615HB17B	50-State	614.7	77.0/66.0	20° BTDC	13.5	3600	40.6 N.m	2500	EM
	8615HB18B	50-State	614.7	77.0/66.0	20° BTDC	13.5	3600	40.6 N.m	2500	EM

Attachment 4 of 9

Model Year: 2008
Manufacturer: Honda Motor Co., Ltd.
Engine Family: 8HNXS.671A5A

Issued: 10/12/2007
Revised:
E.O. Number: U-U-1-359

Small Off-Road Engine Model Summary Form

Units for Table:

Worst Case?	47. Model Designation	48. Sales Code	49. Displ (cc)	50. Bore/ Stroke	51. Ignition Timing	52. Max Power	53. Rated Speed (RPM)	54. Rated Torque	55. Torque Speed (RPM)	56. Emiss Control Sys
	8615HB51B	50-State	614.7	77.0/66.0	20° BTDC	13.5	3600	40.6 N.m	2500	EM
	8615HB53B	50-State	614.7	77.0/66.0	20° BTDC	13.5	3600	40.6 N.m	2500	EM
	8615HB54B	50-State	614.7	77.0/66.0	20° BTDC	13.5	3600	40.6 N.m	2500	EM
	8615HB56B	50-State	614.7	77.0/66.0	20° BTDC	13.5	3600	40.6 N.m	2500	EM
	8615HB57B	50-State	614.7	77.0/66.0	20° BTDC	13.5	3600	40.6 N.m	2500	EM
	8615HB58B	50-State	614.7	77.0/66.0	20° BTDC	13.5	3600	40.6 N.m	2500	EM

Attachment 5 of 9

Model Year: 2008
Manufacturer: Honda Motor Co., Ltd.
Engine Family: 8HNXS.671A5A

Issued: 10/12/2007
Revised:
E.O. Number: U-U-1-359

Small Off-Road Engine Model Summary Form

Units for Table:

Worst Case?	47. Model Designation	48. Sales Code	49. Displ (cc)	50. Bore/ Stroke	51. Ignition Timing	52. Max Power	53. Rated Speed (RPM)	54. Rated Torque	55. Torque Speed (RPM)	56. Emiss Control Sys
	8615HB5BB	50-State	614.7	77.0/66.0	20° BTDC	13.5	3600	40.6 N.m	2500	EM
	8615HB5DB	50-State	614.7	77.0/66.0	20° BTDC	13.5	3600	40.6 N.m	2500	EM
	8615HB5EB	50-State	614.7	77.0/66.0	20° BTDC	13.5	3600	40.6 N.m	2500	EM
	8615HB5FB	50-State	614.7	77.0/66.0	20° BTDC	13.5	3600	40.6 N.m	2500	EM
	8615HB5GB	50-State	614.7	77.0/66.0	20° BTDC	13.5	3600	40.6 N.m	2500	EM
	8615HB5HB	50-State	614.7	77.0/66.0	20° BTDC	13.5	3600	40.6 N.m	2500	EM
	8615HB5JB	50-State	614.7	77.0/66.0	20° BTDC	13.5	3600	40.6 N.m	2500	EM
	8615HB5KB	50-State	614.7	77.0/66.0	20° BTDC	13.5	3600	40.6 N.m	2500	EM
	8615HB5LB	50-State	614.7	77.0/66.0	20° BTDC	13.5	3600	40.6 N.m	2500	EM
	8615HB5MB	50-State	614.7	77.0/66.0	20° BTDC	13.5	3600	40.6 N.m	2500	EM

Attachment 6 of 9

Model Year: 2008
Manufacturer: Honda Motor Co., Ltd.
Engine Family: 8HNXS.671A5A

Issued: 10/12/2007
Revised:
E.O. Number: U-U-1-359

Small Off-Road Engine Model Summary Form

Units for Table:

Worst Case?	47. Model Designation	48. Sales Code	49. Displ (cc)	50. Bore/ Stroke	51. Ignition Timing	52. Max Power	53. Rated Speed (RPM)	54. Rated Torque	55. Torque Speed (RPM)	56. Emiss Control Sys
	8671H01B	50-State	670.6	77.0/72.0	20° BTDC	15.3	3600	46.0 N.m	2500	EM
	8671H02B	50-State	670.6	77.0/72.0	20° BTDC	15.3	3600	46.0 N.m	2500	EM
	8671H03B	50-State	670.6	77.0/72.0	20° BTDC	15.3	3600	46.0 N.m	2500	EM
	8671H04B	50-State	670.6	77.0/72.0	20° BTDC	15.3	3600	46.0 N.m	2500	EM
	8671H51B	50-State	670.6	77.0/72.0	20° BTDC	15.3	3600	46.0 N.m	2500	EM
	8671H52B	50-State	670.6	77.0/72.0	20° BTDC	15.3	3600	46.0 N.m	2500	EM
	8671H53B	50-State	670.6	77.0/72.0	20° BTDC	15.3	3600	46.0 N.m	2500	EM
	8671H54B	50-State	670.6	77.0/72.0	20° BTDC	15.3	3600	46.0 N.m	2500	EM

Attachment 7 of 9

Model Year: 2008
Manufacturer: Honda Motor Co., Ltd.
Engine Family: 8HNXS.671A5A

Issued: 10/9/2007
Revised:
E.O. Number: U-U-1-359

Small Off-Road Engine Model Summary Form

Units for Table:

Worst Case?	47. Model Designation	48. Sales Code	49. Displ (cc)	50. Bore/ Stroke	51. Ignition Timing	52. Max Power	53. Rated Speed (RPM)	54. Rated Torque	55. Torque Speed (RPM)	56. Emiss Control Sys
	8615VA01B	50-State	670.6	77.0/66.0	20° BTDC	12.1	3600	39.4 N.m	2500	EM
	8615VA02B	50-State	670.6	77.0/66.0	20° BTDC	12.1	3600	39.4 N.m	2500	EM

Attachment 8 of 9

Model Year: 2008
Manufacturer: Honda Motor Co., Ltd.
Engine Family: 8HNXS.671A5A

Issued: 10/9/2007
Revised:
E.O. Number: U-U-1-359

Small Off-Road Engine Model Summary Form

Units for Table:

Worst Case?	47. Model Designation	48. Sales Code	49. Displ (cc)	50. Bore/ Stroke	51. Ignition Timing	52. Max Power	53. Rated Speed (RPM)	54. Rated Torque	55. Torque Speed (RPM)	56. Emiss Control Sys
	8615VB01B	50-State	614.7	77.0/66.0	20° BTDC	13.3	3600	41.1 N.m	2500	EM
	8615VB02B	50-State	614.7	77.0/66.0	20° BTDC	13.3	3600	41.1 N.m	2500	EM
	8615VB03B	50-State	614.7	77.0/66.0	20° BTDC	13.3	3600	41.1 N.m	2500	EM
	8615VB04B	50-State	614.7	77.0/66.0	20° BTDC	13.3	3600	41.1 N.m	2500	EM

Attachment 9 of 9

Model Year: 2008
Manufacturer: Honda Motor Co., Ltd.
Engine Family: 8HNXS.671A5A

Issued: 10/9/2007
Revised:
E.O. Number: U-4-1-359

Small Off-Road Engine Model Summary Form

Units for Table:

Worst Case?	47. Model Designation	48. Sales Code	49. Displ (cc)	50. Bore/ Stroke	51. Ignition Timing	52. Max Power	53. Rated Speed (RPM)	54. Rated Torque	55. Torque Speed (RPM)	56. Emiss Control Sys
	8671V051B	50-State	670.6	77.0/72.0	20° BTDC	15.5	3600	44.4 N.m	2500	EM
	8671V052B	50-State	670.6	77.0/72.0	20° BTDC	15.5	3600	44.4 N.m	2500	EM
	8671V053B	50-State	670.6	77.0/72.0	20° BTDC	15.5	3600	44.4 N.m	2500	EM
	8671V054B	50-State	670.6	77.0/72.0	20° BTDC	15.5	3600	44.4 N.m	2500	EM
	8671V055B	50-State	670.6	77.0/72.0	20° BTDC	15.5	3600	44.4 N.m	2500	EM