



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)
2007	7FJXS.7202GA	653 & 720	4-stroke, > 225 cc	Gasoline
DURABILITY HOURS	SPECIAL FEATURES & EMISSION CONTROL SYSTEMS		TYPICAL EQUIPMENT APPLICATION	
500	EM		Riding Mower, Tractor, Pump, Pressure Washer, Stump Beater, Generator, Compressor, Non-Backpack Blower, Leaf Blower, Commercial Turf and Industrial Equipment	
ENGINE CODES/MODELS (rated power in kilowatt, kW)	EH650Y [4, 11, 15] ( 13.1 kW), EH650Y [5, 6, 7, 8, 9, 10, 12, 13, 14] (14.5, 15.1, 11.9, 13.3, 13.8, 14.5, 14.5, 15.1, 15.1 kW), EH720Y [1,2] (15.3, 14.1 kW)			
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 1995 and Later Small Off-Road Engines," adopted September 25, 2003.

*=not applicable	HC+NOx (g/kW-hr)	CO (g/kW-hr)	PM (g/kW-hr)
STANDARD	12.1	549	*
FAMILY EMISSION LEVEL	*	*	*
CERTIFICATION LEVEL	7.9	442	*

**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 30<sup>th</sup> day of May 2006.

  
Allen Lyons, Chief  
Mobile Source Operations Division

**CARB****Small Off-Road Engine Model Summary Form**

Units for Table: kW

47. Worst Case?	48. Model Designation	49. Sales Code	50. Displ (cc)	50. Bore/ Stroke	51. Ignition Timing	52. Max Power	53. Rated Speed (rpm)	54. Rated Torque	55. Torque Speed (rpm)	56. Emission Control Sys.
	EH650Y4	50-State	653	80/65	26 deg.	13.1	3600	43.3	2000	EM
	EH650Y5	50-State	653	80/65	26 deg.	14.5	3600	44.3	2200	EM
	EH650Y6	50-State	653	80/65	26 deg.	15.1	3600	45.6	2500	EM
	EH650Y7	50-State	653	80/65	26 deg.	11.9	3600	40.4	2000	EM
	EH650Y8	50-State	653	80/65	26 deg.	13.3	3600	41.4	2000	EM
	EH650Y9	50-State	653	80/65	26 deg.	13.8	3600	42.5	2000	EM
	EH650Y10	50-State	653	80/65	26 deg.	14.5	3600	44.3	2200	EM
	EH650Y11	50-State	653	80/65	26 deg.	13.1	3600	43.3	2000	EM
	EH650Y12	50-State	653	80/65	26 deg.	14.5	3600	44.3	2200	EM
	EH650Y13	50-State	653	80/65	26 deg.	15.1	3600	45.6	2500	EM
	EH650Y14	50-State	653	80/65	26 deg.	15.1	3600	45.6	2500	EM
	EH650Y15	50-State	653	80/65	26 deg.	13.1	3600	43.3	2000	EM
x	EH720Y1	50-State	720	84/65	26.5deg.	15.3	3600	47.6	2400	EM
	EH720Y2	50-State	720	84/65	26.5deg.	14.1	3600	47.1	2400	EM

(mm)(BTDC)(kW)(N-m)