California Environmental Protection Agency AIR RESOURCES BOARD	MITSUBISHI HEAVY INDUSTRIES, LTD.	EXECUTIVE ORDER U-U-028-0158 New Off-Road Small Spark-Ignition Equipment

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 equipment produced by the manufacturer is certified as described below. Production equipment shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE/EVAPORATIVE FAMILY	DISPLACEMENT (cc)	ENGINE CLASS	FUEL TYPE (CNG/LNG=compressed/liquefied natural gas LPG=liquefied petroleum gas)
2006	6MVXS.2972AA	296.6	4-stroke, > 225 cc	Gasoline

DURABILITY HOURS	SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
500	Engine Modification	Pump, Generator

ENGINE CODES/MODELS (rated power in kilowatt, kW)	GM291 (4.48, 4.13 kW), GM301 (5.6, 5.0 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

The following are the exhaust 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 in grams per kilowatt-hour (g/kW-hr), and permeation standard (13 CCR Section 2754(b)), and certification level in grams per square meter per day ($g/m^2/day$) for this engine/evaporative family or the component Executive Order. Engines or equipment models powered exclusively with alternative fuel as defined in Section 2751(b)(1) are exempt from complying with evaporative emission requirements. 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 September, 2003.

NA=not applicable	HC+NOx (g/kW-hr)	CO (g/kW-hr)	PM (g/kW-hr)	FUEL HOSE PERMEATION ($g/m^2/day$)	
STANDARD	12.1	549	NA	STANDARD	CERTIFICATION LEVEL OR COMPONENT EXECUTIVE ORDER
FAMILY EMISSION LEVEL	NA	NA	NA		
CERTIFICATION LEVEL	6.2	237	NA	15	G-05-018

BE IT FURTHER RESOLVED: That for the listed equipment, the manufacturer has submitted, and the Executive Officer hereby approves, the information and materials to demonstrate certification compliance with 13 CCR Section 2404 and 2759 (labeling) and 13 CCR Sections 2405, 2406, 2760, and 2764 (emission control system warranty).

Equipment 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/evaporative family and model-year listed above. Equipment in this family that is produced for any other model-year is not covered by this Executive Order.

Executed at El Monte, California on this 26TH day of April 2006.

Allen Lyons, Chief
Mobile Source Operations Division

ATTACHMENT 1 OF 1

Model Year: 2006
Manufacturer: Mitsubishi Heavy Industries, Ltd.
Engine Family: 6MVXS.2972AA

Issued: 11/6/98
Revised: 4/6/2006
E.O. Number: U-U-028-0158

Main Menu

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
	GM291	Calif. Only	296.6	80/59	25 deg btdc	4.48	3600			EM
X	GM291	Calif. Only	296.6	80/59	25 deg btdc	4.13	3060			EM
	GM301	Calif. Only	296.6	80/59	25 deg btdc	5.60	3600			EM
	GM301	Calif. Only	296.6	80/59	25 deg btdc	5.0	3060			EM
	GM291	Calif. Only	296.6	80/59	25 deg btdc	4.13	3060			EM
	GM291	Calif. Only	296.6	80/59	25 deg btdc	4.48	3600			EM
	GM291	Calif. Only	296.6	80/59	25 deg btdc	4.48	3600			EM
	GM301	Calif. Only	296.6	80/59	25 deg btdc	5.0	3060			EM
	GM301	Calif. Only	296.6	80/59	25 deg btdc	5.0	3060			EM
	GM301	Calif. Only	296.6	80/59	25 deg btdc	5.60	3600			EM
	GM301	Calif. Only	296.6	80/59	25 deg btdc	5.60	3600			EM

ATTACHMENT 1 OF 1

DRAFT

Small Off-Road Evaporative Certification Database Form (Supplementary Information)

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MODEL SUMMARY

S1. Worst Case (Check One)	S2. Engine or Equipment Model	S3. Sales Codes (check all appropriate)			S4. Engine Class (I or II)	S5. Fuel System (FI or CARB)	S6. Fuel Tank Vol. (Liters)	S7. Fuel Tank Internal Surface Area (m^2)	S8. Fuel Line Type	S9. Nominal Fuel Line Length (mm)	S10. Fuel Line Inside Diameter (mm)	S11. Exhaust Family	S12. Fuel Tank Executive Order	S13. Fuel Line Executive Order	S14. Carbon Canister or Other Venting Control Executive Order
		CA Only	49-State	50-State											
N/A	GM291			×	II	CARB	N/A	N/A	J30R7	160	4.75 6.35 7.90	N/A	N/A	G-05-018	N/A