California Environmental Protection Agency AIR RESOURCES BOARD	PIONEER ECLIPSE CORPORATION	EXECUTIVE ORDER U-U-045-0027 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
2005	52PXS.4372K1	437	4-Stroke, 225 cc and greater	Liquefied Petroleum Gas

DURABILITY HOURS	SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
500	Three-Way Catalytic Converter	Floor Buffing And Scrubbing Equipment

ENGINE MODELS (rated power in kilowatt, kW)	FD501V (6.9 kW)

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 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 25, 2003.

(g/kW-hr)	HC+NOx	CO	PM
STANDARD	12.1	549	N/A
FAMILY EMISSION LEVEL	N/A	N/A	N/A
CERTIFICATION LEVEL	9.3	40	N/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 23RD day of June 2005.

Allen Lyons, Chief
Mobile Source Operations Division

Model Year: 2005
Manufacturer: PIONEER ECLIPSE CORPORATION
Engine Family: 52PXS.4372K1

Issued:
Revised: 5/6/2005
E.O. Number: U-U-045-0027

Small Off-Road Engine Model Summary Form

Units for Table: ~~bhp~~ 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
X	FD501V	Calif. Only	437	67 X 62 mm	N/A	~~0.24~~ 6.9	3206	15.14	3206	EM, TWC