| CALIFORNIA AIR RESOURCES BOARD | KOHLER COMPANY | **EXECUTIVE ORDER U-U-005-0694**<br>New Off-Road Small Spark-Ignition Engines at or Below 19 Kilowatts |
|---|---|---|

Pursuant to the authority vested in California 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-19-095;

**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) |
|---|---|---|---|---|
| 2021 | MKHXS.1731GF | 149, 173 | 4-stroke, > 80 cc - < 225 cc | Gasoline |

| DURABILITY HOURS | SPECIAL FEATURES & EMISSION CONTROL SYSTEMS | TYPICAL EQUIPMENT APPLICATION |
|---|---|---|
| 125 | EM | Walk-Behind Lawnmower, Riding Mower and Pressure Washer |

| 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 1054.115(a) of the "California Exhaust Emission Standards and Test Procedures for New 2013 and Later Small Off-Road Engines," adopted October 25, 2012.

| *=not applicable | HC+NOx (g/kW-hr) | CO (g/kW-hr) | PM (g/kW-hr) |
|---|---|---|---|
| **STANDARD** | 10.0 | 549 | * |
| **FAMILY EMISSION LEVEL** | 10.5 | * | * |
| **CERTIFICATION LEVEL** | 7.3 | 302 | * |

**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 on this 23rd day of December 2020.

Allen Lyons, Chief
Emissions Certification and Compliance Division

SORE Exhaust Model Summary Template (rev. 2020)

For CARB Use Only
Executive Order: U-U-005-0694
Attachment __1__ of __1__

Date: __11/09/2020_____
Engine Family: _MKHXS.1731GF__

Model Summary

| Worst Case (Check One) | 47. Model Designation | 48. Sales Code | 49. Displacement (cc) | 50. Bore/Stroke | 51. Ignition Timing | 52. Max Power | 52. Rated Speed (RPM) | 54. Rated Torque | 55. Torque Speed (RPM) | 56. Emission Control System |
|---|---|---|---|---|---|---|---|---|---|---|
| | XTX775 | 50- State | 173 | 70/45mm | 21°BTDC | 3.6 Kw | 3600 | 10.4 N-m | 2800 | EM |
| | XTX675 | 50- State | 149 | 65/45mm | 21°BTDC | 2.8 Kw | 3600 | 8.9 N-m | 2600 | EM |
| | XTX650 | 50- State | 149 | 65/45mm | 21°BTDC | 2.7 Kw | 3200 | 8.8 N-m | 2600 | EM |
| | XT775 | 50- State | 173 | 70/45mm | 21°BTDC | 3.6 Kw | 3600 | 10.4 N-m | 2800 | EM |
| | XT675 | 50- State | 149 | 65/45mm | 21°BTDC | 2.8 Kw | 3600 | 8.9 N-m | 2600 | EM |
| X | XT650 | 50- State | 149 | 65/45mm | 21°BTDC | 2.7 Kw | 3200 | 8.8 N-m | 2600 | EM |