## **KUBOTA CORPORATION**

EXECUTIVE ORDER U-L-016-0138

New Off-Road Large Spark-Ignition
Engines Above 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-19-095;

IT IS ORDERED AND RESOLVED: That the following new large spark-ignition engines and emission control systems produced by the manufacturer are certified for use in off-road equipment as described below. Production engines shall be in all material respects the same as those for which certification is granted.

| MODEL<br>YEAR       | ENGINE FAMILY                      | DISPLACEMENT (liters)  | FUEL TYPE  |  |  |  |  |  |
|---------------------|------------------------------------|--|--|--|--|--|--|--|
| 2021                | MKBXB01.5CFA                       | 1.5  | Gasoline, LPG, NG,<br>Gasoline-LPG Dual Fuel,<br>LPG-NG Dual Fuel,<br>Gasoline-LPG-NG Multi Fuel |  |  |  |  |  |
| DURABILITY<br>HOURS |                                    | IAL FEATURES &<br>I CONTROL SYSTEMS                                  | TYPICAL EQUIPMENT USAGE  Forklift, Sweeper, Tractor/Tug, Generator, Pump                         |  |  |  |  |  |
| 5000                | Heated                             | ay Catalytic Converter,<br>Oxygen Sensor (2),<br>port Fuel Injection |  |  |  |  |  |  |
|                     | INE MODELS<br>ver in kilowatt, kW) |  | See Attachment   |  |  |  |  |  |

The following are the hydrocarbon plus oxides of nitrogen (HC+NOx) and carbon monoxide (CO) exhaust certification emission standards (Title 13, California Code of Regulations, (13 CCR) Section 2433(b)(1)) 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 13 CCR Section 2433(b)(3).

|                     | HC+NOx (g/kW-hr) | CO (g/kW-hr) |  |  |  |  |  |
|---------------------|------------------|--------------|--|--|--|--|--|
| EXHAUST STANDARD    | 0.8              | 20.6         |  |  |  |  |  |
| CERTIFICATION LEVEL | 0.2              | 3.2          |  |  |  |  |  |

The following is the evaporative hydrocarbon emission standard (13 CCR Section 2433(b)(4)) and certification emission level for this engine family in grams per gallon of fuel tank capacity (g/gallon).

| Evaporative Certification Method | HC Certification Level (g/gallon) | HC Certification Standard (g/gallon) |  |  |  |  |  |
|----------------------------------|-----------------------------------|--------------------------------------|--|--|--|--|--|
| Design Based                     | N/A                               | 0.2                                  |  |  |  |  |  |

**BE IT FURTHER RESOLVED:** That for the listed engines for the aforementioned model-year, the manufacturer has submitted, and the Executive Officer hereby approves, the information and materials to demonstrate certification compliance with 13 CCR Section 2433(c) (certification and test procedures), 13 CCR Section 2434 (emission control labels), and 13 CCR Sections 2435 and 2436 (emission control system warranty).

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

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 <u>24th</u> day of November 2020.

Allen Lyons, Chief

**Emissions Certification and Compliance Division** 

LSIE Exhaust Model Summary Template (rev. 2020)

For CARB Use Only Executive Order: U-L-016-0138

Attachment \_\_1\_ of \_\_1\_

MKBXB01.5CFA Date: Engine Family:

Model Summary

| S20.  | Peak Torque            | Speed (RPM)                      |                         | 2160          | 2160           | 2160            | 2160          | 2160           | 2160          |  |  |  |  |  |  |  |  |  |  |
|-------|------------------------|----------------------------------|-------------------------|---------------|----------------|-----------------|---------------|----------------|---------------|--|--|--|--|--|--|--|--|--|--|
| S19.  | Peak Torque (FT-       | LB)                              |                         | 79,95         | 79,95          | 79,95           | 77.08         | 77.08          | 71.47         |  |  |  |  |  |  |  |  |  |  |
| S18.  | Rated Speed            | (RPM)                            |                         | 3600          | 3600           | 3600            | 3600          | 3600           | 3600          |  |  |  |  |  |  |  |  |  |  |
| S17.  | Rated Power (kW)       |                                  |                         | 39.20         | 39.20          | 39.20           | 35.60         | 35.60          | 35.30         |  |  |  |  |  |  |  |  |  |  |
| S16.  | Engine                 | Displacement                     | (Liters)                | 1.537         | 1.537          | 1.537           | 1,537         | 1.537          | 1.537         |  |  |  |  |  |  |  |  |  |  |
|       | k all                  |                                  | 50-State                | ×             | ×              | ×               | ×             | ×              | ×             |  |  |  |  |  |  |  |  |  |  |
| S15.  | Sales Codes (Check all | appropriate)                     | 49-State                |               |                |                 |               |                |               |  |  |  |  |  |  |  |  |  |  |
| Solos | Sales                  | в                                | CA Only                 |               |                |                 |               |                |               |  |  |  |  |  |  |  |  |  |  |
| S14.  | Engine Code            |                                  |                         | WG1605-G-ET01 | WG1605-GL-ET01 | WG1605-GLN-ET01 | WG1605-L-ET01 | WG1605-LN-ET01 | WG1605-N-ET01 |  |  |  |  |  |  |  |  |  |  |
| S13.  | Engine Model           | (Use an asterisk (*) to identify | certification testing.) | WG1605-G-ET   | WG1605-GL-ET   | WG1605-GLN-ET*  | WG1605-L-ET   | WG1605-LN-ET   | WG1605-N-ET   |  |  |  |  |  |  |  |  |  |  |