



ANDREAS STIHL

EXECUTIVE ORDER U-U-015-1039  
New Zero-Emission Small Off-Road Equipment

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 new zero-emission small off-road 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.

| PROFESSIONAL LEVEL ZERO-EMISSION EQUIPMENT |                     |                                 |                       |
|--|---------------------|---------------------------------|-----------------------|
| MODEL YEAR                                 | ENGINE FAMILY NAME  | EQUIVALENT ENGINE CLASS         | EMISSION STANDARD     |
| 2020                                       | LA8XS.0004AC        | < 50 cc                         | ZERO-EMISSION         |
| DURABILITY HOURS                           | POWER SOURCE        | STANDARD BATTERY PACKAGE        | EQUIPMENT APPLICATION |
| 300  | Lithium-ion Battery | 1124 Wh (four 281 Wh batteries) | Chainsaw              |
| EQUIPMENT MODEL                            | See Attachment      |                                 |                       |

The following are the hydrocarbon plus oxides of nitrogen (HC+NOx), and particulate matter (PM) emission standards (Title 13, California Code of Regulations, (13 CCR) Section 2403(b)), and family emission levels for this engine family in grams per kilowatt-hour (g/kW-hr).

| *=not applicable      | HC+NOx (g/kW-hr) | PM (g/kW-hr) |
|-----------------------|------------------|--------------|
| STANDARD              | 50               | 2            |
| FAMILY EMISSION LEVEL | 0                | 0            |


**BE IT FURTHER RESOLVED:** That the listed equipment models shall meet all applicable requirements specified in 13 CCR Section 2408.1 including the minimum requirements for professional level zero-emission equipment listed in Table 1 of that Section.

**BE IT FURTHER RESOLVED:** That for the listed zero-emission equipment, 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).

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

**This Executive Order is only granted to the equipment models and model-year listed above. Equipment models that are produced for any other model-year are not covered by this Executive Order.**

Executed at El Monte, California on this 12<sup>th</sup> day of February 2020.

  
Allen Lyons, Chief  
Emissions Certification and Compliance Division

Model Year: 2020  
 Manufacturer: ANDREAS STIHL AG & Co. KG  
 ZEE Engine Family: LA8XS.0004AC

Issued: 11/06/2019  
 Revised:  
 E.O. Number:

**Small Off-Road ZEE Model Summary Form**

12. ZEE Model Summary Sheet:

| Worst Case Durability Model? (mark one) | ZEE Model Name | Meets minimum professional-level requirements as specified in CCR 2408.1(D)(1)? (Yes/No) | Durability Test Power Load (kW) | Standard Battery Package for One-Hr Continuous Operation <sup>(a)</sup> |  |                                 | Additional Batteries Provided <sup>(b)</sup> (if applicable) |                                 | Comments |
|---|----------------|--|---------------------------------|---|--|---------------------------------|--|---------------------------------|----------|
|   |                |  |                                 | Total Supplied Battery Capacity (Wh)                                    | Are the # of Individual Batteries ≤4? (Yes/No) | Battery Specific Energy (Wh/kg) | Total Supplied Battery Capacity (Wh)                         | Battery Specific Energy (Wh/kg) |          |
| X                                       | MSA 160 C      | Yes  | 0.79                            | 1124  | Yes  | 156.1                           | --   | --                              |          |
|   |                |  |                                 |   |  |                                 |  |                                 |          |
|   |                |  |                                 |   |  |                                 |  |                                 |          |
|   |                |  |                                 |   |  |                                 |  |                                 |          |
|   |                |  |                                 |   |  |                                 |  |                                 |          |
|   |                |  |                                 |   |  |                                 |  |                                 |          |
|   |                |  |                                 |   |  |                                 |  |                                 |          |

- a) The total supplied battery capacity (attributed to the standard battery package necessary for one-hour continuous operation) is used to calculate ZEE credits specified in CCR 2408.1 (f).
- b) Additional batteries beyond the standard battery package, if applicable, supplied by manufacturer for battery exchanges to accomplish an eight-hour workday.