

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 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 YEAR | ENGINE FAMILY | DISPLACEMENT (liters) | FUEL TYPE] |
|---|---|-----------------------|---|
| 2023 | PEDIB03.5LSG | 3.5 | Gasoline, LPG, CNG, LPG-CNG Dual Fuel, Gasoline-LPG Dual Fuel, Gasoline-CNG Dual Fuel |
| DURABILITY HOURS | SPECIAL FEATURES & EMISSION CONTROL SYSTEMS | | TYPICAL EQUIPMENT USAGE |
| 5000 | Three-Way Catalytic Converter, Heated Oxygen Sensor, Sequential Multiport Fuel Injection, Gaseous Fuel Mixer (LPG, CNG) | | Forklift, Generator, Compressor, Pump, Other |
| ENGINE MODELS (rated power 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 | 0.4 | 6.5 |

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 29th day of November 2022.



Robin U. Lang, Chief
 Emissions Certification and Compliance Division

Date: **10/3/2022**
 Engine Family: **PEDIB03.5LSG**

Model Summary
 (Use an asterisk (*) to identify worst-case engine model used for certification testing.)

| S13. Engine Model | S14. Engine Code | S15. Sales Codes (Check all appropriate) | | | S16. Engine Displacement (Liters) | S17. Rated Power (kW) | S18. Rated Speed (RPM) | S19. Peak Torque (FT-LB) | S20. Peak Torque Speed (RPM) |
|----------------------|---------------------|---|----------|----------|---|--------------------------|---------------------------|-----------------------------|---------------------------------|
| | | CA Only | 49-State | 50-State | | | | | |
| LSG635* | LPG-S* | | | X | 3.5L | 100.8 | 3600 | 268.0 | 2000 |
| LSG635* | NG-S* | | | X | 3.5L | 90.5 | 3600 | 247.5 | 2800 |
| LSG635* | LPG-T* | | | X | 3.5L | 86.1 | 3200 | 268.0 | 2000 |
| LSG635* | NG-T* | | | X | 3.5L | 79.2 | 3200 | 247.5 | 2800 |
| LSG635* | Gas-S* | | | X | 3.5L | 87.9 | 3200 | 262.4 | 3200 |
| LSG635* | Gas-T* | | | X | 3.5L | 87.9 | 3200 | 262.4 | 3200 |
| LSG635 | LPV-S | | | X | 3.5L | 100.8 | 3600 | 268.0 | 2000 |
| LSG635 | LPV-T | | | X | 3.5L | 86.1 | 3200 | 268.0 | 2000 |
| LSG635 | Gas-LPG-S | | | X | 3.5L | 87.9 | 3200 | 262.4 | 3200 |
| LSG635 | Gas-NG-S | | | X | 3.5L | 87.9 | 3200 | 262.4 | 3200 |
| LSG635 | NG-LPV-S | | | X | 3.5L | 86.1 | 3200 | 268.0 | 2000 |
| LSG635 | Gas-LPG-T | | | X | 3.5L | 87.9 | 3200 | 262.4 | 3200 |
| LSG635 | Gas-NG-T | | | X | 3.5L | 87.9 | 3200 | 262.4 | 3200 |
| LSG635 | LPG-S(3500 RPM) | | | X | 3.5L | 96.5 | 3500 | 268.0 | 2000 |
| LSG635 | LPG-S(3400 RPM) | | | X | 3.5L | 92.2 | 3400 | 268.0 | 2000 |
| LSG635 | LPG-S(3300 RPM) | | | X | 3.5L | 89.1 | 3300 | 268.0 | 2000 |
| LSG635 | LPG-S(3200 RPM) | | | X | 3.5L | 86.1 | 3200 | 268.0 | 2000 |
| LSG635 | LPG-S(3100 RPM) | | | X | 3.5L | 83.3 | 3100 | 268.0 | 2000 |
| LSG635 | LPG-S(3000 RPM) | | | X | 3.5L | 80.5 | 3000 | 268.0 | 2000 |
| LSG635 | LPG-S(2900 RPM) | | | X | 3.5L | 79.1 | 2900 | 268.0 | 2000 |
| LSG635 | LPG-S(2800 RPM) | | | X | 3.5L | 77.8 | 2800 | 268.0 | 2000 |
| LSG635 | LPG-S(2700 RPM) | | | X | 3.5L | 75.1 | 2700 | 268.0 | 2000 |
| LSG635 | LPG-S(2600 RPM) | | | X | 3.5L | 72.4 | 2600 | 268.0 | 2000 |
| LSG635 | LPG-S(2500 RPM) | | | X | 3.5L | 69.9 | 2500 | 268.0 | 2000 |
| LSG635 | LPG-S(2400 RPM) | | | X | 3.5L | 67.3 | 2400 | 268.0 | 2000 |
| LSG635 | LPG-S(2300 RPM) | | | X | 3.5L | 64.2 | 2300 | 268.0 | 2000 |
| LSG635 | LPG-S(2200 RPM) | | | X | 3.5L | 61.1 | 2200 | 268.0 | 2000 |
| LSG635 | LPG-S(2100 RPM) | | | X | 3.5L | 58.6 | 2100 | 268.0 | 2000 |
| LSG635 | LPG-S(2000 RPM) | | | X | 3.5L | 56.1 | 2000 | 268.0 | 2000 |
| LSG635 | LPG-S(1900 RPM) | | | X | 3.5L | 52.9 | 1900 | 265.9 | 1900 |
| LSG635 | LPG-S(1800 RPM) | | | X | 3.5L | 49.7 | 1800 | 260.0 | 1700 |
| LSG635 | LPG-S(1700 RPM) | | | X | 3.5L | 46.0 | 1700 | 259.9 | 1700 |
| LSG635 | LPG-S(1600 RPM) | | | X | 3.5L | 42.2 | 1600 | 252.0 | 1600 |
| LSG635 | LPG-S(1500 RPM) | | | X | 3.5L | 38.1 | 1500 | 249.9 | 1500 |
| LSG635 | NG-S(3500 RPM) | | | X | 3.5L | 87.3 | 3500 | 247.5 | 2800 |
| LSG635 | NG-S(3400 RPM) | | | X | 3.5L | 84.2 | 3400 | 247.5 | 2800 |
| LSG635 | NG-S(3300 RPM) | | | X | 3.5L | 81.7 | 3300 | 247.5 | 2800 |
| LSG635 | NG-S(3200 RPM) | | | X | 3.5L | 79.2 | 3200 | 247.5 | 2800 |
| LSG635 | NG-S(3100 RPM) | | | X | 3.5L | 76.9 | 3100 | 247.5 | 2800 |
| LSG635 | NG-S(3000 RPM) | | | X | 3.5L | 74.7 | 3000 | 247.5 | 2800 |
| LSG635 | NG-S(2900 RPM) | | | X | 3.5L | 73.6 | 2900 | 247.5 | 2800 |
| LSG635 | NG-S(2800 RPM) | | | X | 3.5L | 72.6 | 2800 | 247.5 | 2800 |
| LSG635 | NG-S(2700 RPM) | | | X | 3.5L | 69.7 | 2700 | 247.4 | 2000 |

Date: **10/3/2022**
 Engine Family: **PEDIB03.5LSG**

Model Summary
 (Use an asterisk (*) to identify worst-case engine model used for certification testing.)

| S13. Engine Model | S14. Engine Code | S15. Sales Codes (Check all appropriate) | | | S16. Engine Displacement (Liters) | S17. Rated Power (kW) | S18. Rated Speed (RPM) | S19. Peak Torque (FT-LB) | S20. Peak Torque Speed (RPM) |
|----------------------|---------------------|---|----------|----------|---|--------------------------|---------------------------|-----------------------------|---------------------------------|
| | | CA Only | 49-State | 50-State | | | | | |
| LSG635 | NG-S(2600 RPM) | | | X | 3.5L | 66.9 | 2600 | 247.4 | 2000 |
| LSG635 | NG-S(2500 RPM) | | | X | 3.5L | 64.3 | 2500 | 247.4 | 2000 |
| LSG635 | NG-S(2400 RPM) | | | X | 3.5L | 61.6 | 2400 | 247.4 | 2000 |
| LSG635 | NG-S(2300 RPM) | | | X | 3.5L | 59.2 | 2300 | 247.4 | 2000 |
| LSG635 | NG-S(2200 RPM) | | | X | 3.5L | 56.9 | 2200 | 247.4 | 2000 |
| LSG635 | NG-S(2100 RPM) | | | X | 3.5L | 54.3 | 2100 | 247.4 | 2000 |
| LSG635 | NG-S(2000 RPM) | | | X | 3.5L | 51.8 | 2000 | 247.4 | 2000 |
| LSG635 | NG-S(1900 RPM) | | | X | 3.5L | 48.7 | 1900 | 244.7 | 1900 |
| LSG635 | NG-S(1800 RPM) | | | X | 3.5L | 45.6 | 1800 | 238.1 | 1700 |
| LSG635 | NG-S(1700 RPM) | | | X | 3.5L | 42.4 | 1700 | 238.1 | 1700 |
| LSG635 | NG-S(1600 RPM) | | | X | 3.5L | 39.3 | 1600 | 234.4 | 1600 |
| LSG635 | NG-S(1500 RPM) | | | X | 3.5L | 35.2 | 1500 | 229.0 | 1500 |
| LSG635 | Gas-S(3100 RPM) | | | X | 3.5L | 84.5 | 3100 | 260.3 | 3100 |
| LSG635 | Gas-S(3000 RPM) | | | X | 3.5L | 80.4 | 3000 | 255.9 | 3000 |
| LSG635 | Gas-S(2900 RPM) | | | X | 3.5L | 76.1 | 2900 | 250.6 | 2700 |
| LSG635 | Gas-S(2800 RPM) | | | X | 3.5L | 73.6 | 2800 | 251.0 | 2700 |
| LSG635 | Gas-S(2700 RPM) | | | X | 3.5L | 70.9 | 2700 | 250.9 | 2700 |
| LSG635 | Gas-S(2600 RPM) | | | X | 3.5L | 66.8 | 2600 | 249.7 | 2400 |
| LSG635 | Gas-S(2500 RPM) | | | X | 3.5L | 64.6 | 2500 | 249.7 | 2400 |
| LSG635 | Gas-S(2400 RPM) | | | X | 3.5L | 62.8 | 2400 | 249.7 | 2400 |
| LSG635 | Gas-S(2300 RPM) | | | X | 3.5L | 58.7 | 2300 | 247.0 | 2100 |
| LSG635 | Gas-S(2200 RPM) | | | X | 3.5L | 56.5 | 2200 | 247.0 | 2100 |
| LSG635 | Gas-S(2100 RPM) | | | X | 3.5L | 54.3 | 2100 | 247.0 | 2100 |
| LSG635 | Gas-S(2000 RPM) | | | X | 3.5L | 50.3 | 2000 | 240.4 | 2000 |
| LSG635 | Gas-S(1900 RPM) | | | X | 3.5L | 46.8 | 1900 | 235.0 | 1900 |
| LSG635 | Gas-S(1800 RPM) | | | X | 3.5L | 42.8 | 1800 | 226.9 | 1800 |
| LSG635 | Gas-S(1700 RPM) | | | X | 3.5L | 37.8 | 1700 | 212.5 | 1700 |
| LSG635 | Gas-S(1600 RPM) | | | X | 3.5L | 33.9 | 1600 | 202.4 | 1600 |
| LSG635 | Gas-S(1500 RPM) | | | X | 3.5L | 30.5 | 1500 | 194.0 | 1500 |
| LSG635 | LPV-S(3500 RPM) | | | X | 3.5L | 96.5 | 3500 | 268.0 | 2000 |
| LSG635 | LPV-S(3400 RPM) | | | X | 3.5L | 92.2 | 3400 | 268.0 | 2000 |
| LSG635 | LPV-S(3300 RPM) | | | X | 3.5L | 89.1 | 3300 | 268.0 | 2000 |
| LSG635 | LPV-S(3200 RPM) | | | X | 3.5L | 86.1 | 3200 | 268.0 | 2000 |
| LSG635 | LPV-S(3100 RPM) | | | X | 3.5L | 83.3 | 3100 | 268.0 | 2000 |
| LSG635 | LPV-S(3000 RPM) | | | X | 3.5L | 80.5 | 3000 | 268.0 | 2000 |
| LSG635 | LPV-S(2900 RPM) | | | X | 3.5L | 79.1 | 2900 | 268.0 | 2000 |
| LSG635 | LPV-S(2800 RPM) | | | X | 3.5L | 77.8 | 2800 | 268.0 | 2000 |
| LSG635 | LPV-S(2700 RPM) | | | X | 3.5L | 75.1 | 2700 | 268.0 | 2000 |
| LSG635 | LPV-S(2600 RPM) | | | X | 3.5L | 72.4 | 2600 | 268.0 | 2000 |
| LSG635 | LPV-S(2500 RPM) | | | X | 3.5L | 69.9 | 2500 | 268.0 | 2000 |
| LSG635 | LPV-S(2400 RPM) | | | X | 3.5L | 67.3 | 2400 | 268.0 | 2000 |
| LSG635 | LPV-S(2300 RPM) | | | X | 3.5L | 64.2 | 2300 | 268.0 | 2000 |
| LSG635 | LPV-S(2200 RPM) | | | X | 3.5L | 61.1 | 2200 | 268.0 | 2000 |

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|----------------------|---------------------|---|----------|----------|---|--------------------------|---------------------------|-----------------------------|---------------------------------|
| | | CA Only | 49-State | 50-State | | | | | |
| LSG635 | LPV-S(2100 RPM) | | | X | 3.5L | 58.6 | 2100 | 268.0 | 2000 |
| LSG635 | LPV-S(2000 RPM) | | | X | 3.5L | 56.1 | 2000 | 268.0 | 2000 |
| LSG635 | LPV-S(1900 RPM) | | | X | 3.5L | 52.9 | 1900 | 265.9 | 1900 |
| LSG635 | LPV-S(1800 RPM) | | | X | 3.5L | 49.7 | 1800 | 260.0 | 1700 |
| LSG635 | LPV-S(1700 RPM) | | | X | 3.5L | 46.0 | 1700 | 259.9 | 1700 |
| LSG635 | LPV-S(1600 RPM) | | | X | 3.5L | 42.2 | 1600 | 252.0 | 1600 |
| LSG635 | LPV-S(1500 RPM) | | | X | 3.5L | 38.1 | 1500 | 249.9 | 1500 |
| LSG635 | Gas-LPG(3100 RPM) | | | X | 3.5L | 84.5 | 3100 | 260.3 | 3100 |
| LSG635 | Gas-LPG(3000 RPM) | | | X | 3.5L | 80.4 | 3000 | 255.9 | 3000 |
| LSG635 | Gas-LPG(2900 RPM) | | | X | 3.5L | 76.1 | 2900 | 250.6 | 2700 |
| LSG635 | Gas-LPG(2800 RPM) | | | X | 3.5L | 73.6 | 2800 | 251.0 | 2700 |
| LSG635 | Gas-LPG(2700 RPM) | | | X | 3.5L | 70.9 | 2700 | 250.9 | 2700 |
| LSG635 | Gas-LPG(2600 RPM) | | | X | 3.5L | 66.8 | 2600 | 249.7 | 2400 |
| LSG635 | Gas-LPG(2500 RPM) | | | X | 3.5L | 64.6 | 2500 | 249.7 | 2400 |
| LSG635 | Gas-LPG(2400 RPM) | | | X | 3.5L | 62.8 | 2400 | 249.7 | 2400 |
| LSG635 | Gas-LPG(2300 RPM) | | | X | 3.5L | 58.7 | 2300 | 247.0 | 2100 |
| LSG635 | Gas-LPG(2200 RPM) | | | X | 3.5L | 56.5 | 2200 | 247.0 | 2100 |
| LSG635 | Gas-LPG(2100 RPM) | | | X | 3.5L | 54.3 | 2100 | 247.0 | 2100 |
| LSG635 | Gas-LPG(2000 RPM) | | | X | 3.5L | 50.3 | 2000 | 240.4 | 2000 |
| LSG635 | Gas-LPG(1900 RPM) | | | X | 3.5L | 46.8 | 1900 | 235.0 | 1900 |
| LSG635 | Gas-LPG(1800 RPM) | | | X | 3.5L | 42.8 | 1800 | 226.9 | 1800 |
| LSG635 | Gas-LPG(1700 RPM) | | | X | 3.5L | 37.8 | 1700 | 212.5 | 1700 |
| LSG635 | Gas-LPG(1600 RPM) | | | X | 3.5L | 33.9 | 1600 | 202.4 | 1600 |
| LSG635 | Gas-LPG(1500 RPM) | | | X | 3.5L | 30.5 | 1500 | 194.0 | 1500 |
| LSG635 | Gas-NG(3100 RPM) | | | X | 3.5L | 84.5 | 3100 | 260.3 | 3100 |
| LSG635 | Gas-NG(3000 RPM) | | | X | 3.5L | 80.4 | 3000 | 255.9 | 3000 |
| LSG635 | Gas-NG(2900 RPM) | | | X | 3.5L | 76.1 | 2900 | 250.6 | 2700 |
| LSG635 | Gas-NG(2800 RPM) | | | X | 3.5L | 73.6 | 2800 | 251.0 | 2700 |
| LSG635 | Gas-NG(2700 RPM) | | | X | 3.5L | 70.9 | 2700 | 250.9 | 2700 |
| LSG635 | Gas-NG(2600 RPM) | | | X | 3.5L | 66.8 | 2600 | 249.7 | 2400 |
| LSG635 | Gas-NG(2500 RPM) | | | X | 3.5L | 64.6 | 2500 | 249.7 | 2400 |
| LSG635 | Gas-NG(2400 RPM) | | | X | 3.5L | 62.8 | 2400 | 249.7 | 2400 |
| LSG635 | Gas-NG(2300 RPM) | | | X | 3.5L | 58.7 | 2300 | 247.0 | 2100 |
| LSG635 | Gas-NG(2200 RPM) | | | X | 3.5L | 56.5 | 2200 | 247.0 | 2100 |
| LSG635 | Gas-NG(2100 RPM) | | | X | 3.5L | 54.3 | 2100 | 247.0 | 2100 |
| LSG635 | Gas-NG(2000 RPM) | | | X | 3.5L | 50.3 | 2000 | 240.4 | 2000 |
| LSG635 | Gas-NG(1900 RPM) | | | X | 3.5L | 46.8 | 1900 | 235.0 | 1900 |
| LSG635 | Gas-NG(1800 RPM) | | | X | 3.5L | 42.8 | 1800 | 226.9 | 1800 |
| LSG635 | Gas-NG(1700 RPM) | | | X | 3.5L | 37.8 | 1700 | 212.5 | 1700 |
| LSG635 | Gas-NG(1600 RPM) | | | X | 3.5L | 33.9 | 1600 | 202.4 | 1600 |
| LSG635 | Gas-NG(1500 RPM) | | | X | 3.5L | 30.5 | 1500 | 194.0 | 1500 |
| LSG635 | NG-LPV(3100 RPM) | | | X | 3.5L | 83.3 | 3100 | 268.0 | 2000 |
| LSG635 | NG-LPV(3000 RPM) | | | X | 3.5L | 80.5 | 3000 | 268.0 | 2000 |

Date: **10/3/2022**

Engine Family: **PEDIB03.5LSG**

Model Summary

(Use an asterisk (*) to identify worst-case engine model used for certification testing.)

| S13. Engine Model | S14. Engine Code | S15. Sales Codes (Check all appropriate) | | | S16. Engine Displacement (Liters) | S17. Rated Power (kW) | S18. Rated Speed (RPM) | S19. Peak Torque (FT-LB) | S20. Peak Torque Speed (RPM) |
|----------------------|---------------------|---|----------|----------|---|--------------------------|---------------------------|-----------------------------|---------------------------------|
| | | CA Only | 49-State | 50-State | | | | | |
| LSG635 | NG-LPV(2900 RPM) | | | X | 3.5L | 79.1 | 2900 | 268.0 | 2000 |
| LSG635 | NG-LPV(2800 RPM) | | | X | 3.5L | 77.8 | 2800 | 268.0 | 2000 |
| LSG635 | NG-LPV(2700 RPM) | | | X | 3.5L | 75.1 | 2700 | 268.0 | 2000 |
| LSG635 | NG-LPV(2600 RPM) | | | X | 3.5L | 72.4 | 2600 | 268.0 | 2000 |
| LSG635 | NG-LPV(2500 RPM) | | | X | 3.5L | 69.9 | 2500 | 268.0 | 2000 |
| LSG635 | NG-LPV(2400 RPM) | | | X | 3.5L | 67.3 | 2400 | 268.0 | 2000 |
| LSG635 | NG-LPV(2300 RPM) | | | X | 3.5L | 64.2 | 2300 | 268.0 | 2000 |
| LSG635 | NG-LPV(2200 RPM) | | | X | 3.5L | 61.1 | 2200 | 268.0 | 2000 |
| LSG635 | NG-LPV(2100 RPM) | | | X | 3.5L | 58.6 | 2100 | 268.0 | 2000 |
| LSG635 | NG-LPV(2000 RPM) | | | X | 3.5L | 56.1 | 2000 | 268.0 | 2000 |
| LSG635 | NG-LPV(1900 RPM) | | | X | 3.5L | 52.9 | 1900 | 265.9 | 1900 |
| LSG635 | NG-LPV(1800 RPM) | | | X | 3.5L | 49.7 | 1800 | 260.0 | 1700 |
| LSG635 | NG-LPV(1700 RPM) | | | X | 3.5L | 46.0 | 1700 | 259.9 | 1700 |
| LSG635 | NG-LPV(1600 RPM) | | | X | 3.5L | 42.2 | 1600 | 252.0 | 1600 |
| LSG635 | NG-LPV(1500 RPM) | | | X | 3.5L | 38.1 | 1500 | 249.9 | 1500 |