

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
2021	MEDIB02.5MSG	2.5	Gasoline, LPG, CNG, Gasoline-LPG Dual Fuel
DURABILITY HOURS	SPECIAL FEATURES & EMISSION CONTROL SYSTEMS		TYPICAL EQUIPMENT USAGE
5000	Three-Way Catalytic Converter, Heated Oxygen Sensor, Sequential Multipoint Fuel Injection (Gas), Gaseous Fuel Mixer (LPG, CNG)		Forklift, Aerial Lift, Generator, Compressor, Pump, Other
<b>ENGINE MODELS</b> (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)
<b>EXHAUST STANDARD</b>	0.8	20.6
<b>CERTIFICATION LEVEL</b>	0.7	4.7

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 9th day of March 2021.



Allen Lyons, Chief  
 Emissions Certification and Compliance Division

Date: **12/2/2020**  
 Engine Family: **MEDIB02.5MSG**

Model Summary

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					
MSG425-DF	MSG425-DF			X	2.5L	64.3	3200	203	2400
MSG425-GAS*	MSG425-GAS*			X	2.5L	64.3	3200	203	2400
MSG425-LPG	MSG425-LPG			X	2.5L	59.8	3200	195	2400
MSG425-LP VAPOR	MSG425-LP VAPOR			X	2.5L	59.8	3200	195	2400
MSG425-NG	MSG425-NG			X	2.5L	57.3	3200	187	2500
MSG425-DF	MSG425-DF (3100RPM)			X	2.5L	61.1	3100	203	2400
MSG425-DF	MSG425-DF (3000RPM)			X	2.5L	60	3000	203	2400
MSG425-DF	MSG425-DF (2900RPM)			X	2.5L	58.9	2900	203	2400
MSG425-DF	MSG425-DF (2800RPM)			X	2.5L	56.8	2800	203	2400
MSG425-DF	MSG425-DF (2700RPM)			X	2.5L	55.5	2700	203	2400
MSG425-DF	MSG425-DF (2600RPM)			X	2.5L	52.9	2600	203	2400
MSG425-DF	MSG425-DF (2500RPM)			X	2.5L	52.2	2500	203	2400
MSG425-DF	MSG425-DF (2400RPM)			X	2.5L	49.9	2400	203	2400
MSG425-DF	MSG425-DF (2300RPM)			X	2.5L	46.6	2300	198	2200
MSG425-DF	MSG425-DF (2200RPM)			X	2.5L	45.6	2200	198	2200
MSG425-DF	MSG425-DF (2100RPM)			X	2.5L	41.5	2100	192	1800
MSG425-DF	MSG425-DF (2000RPM)			X	2.5L	39.7	2000	192	1800
MSG425-DF	MSG425-DF (1900RPM)			X	2.5L	36.9	1900	192	1800
MSG425-DF	MSG425-DF (1800RPM)			X	2.5L	35.8	1800	192	1800
MSG425-GAS	MSG425-GAS (3100RPM)			X	2.5L	61.1	3100	203	2400
MSG425-GAS	MSG425-GAS (3000RPM)			X	2.5L	60	3000	203	2400
MSG425-GAS	MSG425-GAS (2900RPM)			X	2.5L	58.9	2900	203	2400
MSG425-GAS	MSG425-GAS (2800RPM)			X	2.5L	56.8	2800	203	2400
MSG425-GAS	MSG425-GAS (2700RPM)			X	2.5L	55.5	2700	203	2400
MSG425-GAS	MSG425-GAS (2600RPM)			X	2.5L	52.9	2600	203	2400
MSG425-GAS	MSG425-GAS (2500RPM)			X	2.5L	52.2	2500	203	2400
MSG425-GAS	MSG425-GAS (2400RPM)			X	2.5L	49.9	2400	203	2400
MSG425-GAS	MSG425-GAS (2300RPM)			X	2.5L	46.6	2300	198	2200
MSG425-GAS	MSG425-GAS (2200RPM)			X	2.5L	45.6	2200	198	2200
MSG425-GAS	MSG425-GAS (2100RPM)			X	2.5L	41.5	2100	190	1800
MSG425-GAS	MSG425-GAS (2000RPM)			X	2.5L	39.7	2000	190	1800
MSG425-GAS	MSG425-GAS (1900RPM)			X	2.5L	36.9	1900	190	1800
MSG425-GAS	MSG425-GAS (1800RPM)			X	2.5L	35.8	1800	190	1800
MSG425-LPG	MSG425-LPG (3100RPM)			X	2.5L	58.3	3100	195	2400
MSG425-LPG	MSG425-LPG (3000RPM)			X	2.5L	56.9	3000	195	2400
MSG425-LPG	MSG425-LPG (2900RPM)			X	2.5L	55.7	2900	195	2400
MSG425-LPG	MSG425-LPG (2800RPM)			X	2.5L	54	2800	195	2400
MSG425-LPG	MSG425-LPG (2700RPM)			X	2.5L	53.5	2700	195	2400
MSG425-LPG	MSG425-LPG (2600RPM)			X	2.5L	52	2600	195	2400
MSG425-LPG	MSG425-LPG (2500RPM)			X	2.5L	50.6	2500	195	2400
MSG425-LPG	MSG425-LPG (2400RPM)			X	2.5L	48.7	2400	195	2400

Date: **12/2/2020**  
 Engine Family: **MEDIB02.5MSG**

Model Summary

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					
MSG425-LPG	MSG425-LPG (2300RPM)			X	2.5L	46.6	2300	194	2300
MSG425-LPG	MSG425-LPG (2200RPM)			X	2.5L	43.9	2200	192	1800
MSG425-LPG	MSG425-LPG (2100RPM)			X	2.5L	41.6	2100	192	1800
MSG425-LPG	MSG425-LPG (2000RPM)			X	2.5L	39.6	2000	192	1800
MSG425-LPG	MSG425-LPG (1900RPM)			X	2.5L	37.7	1900	192	1800
MSG425-LPG	MSG425-LPG (1800RPM)			X	2.5L	36.2	1800	192	1800
MSG425-LP VAPOR	MSG425-LP VAPOR (3100RPM)			X	2.5L	58.3	3100	195	2400
MSG425-LP VAPOR	MSG425-LP VAPOR (3000RPM)			X	2.5L	56.9	3000	195	2400
MSG425-LP VAPOR	MSG425-LP VAPOR (2900RPM)			X	2.5L	55.7	2900	195	2400
MSG425-LP VAPOR	MSG425-LP VAPOR (2800RPM)			X	2.5L	54	2800	195	2400
MSG425-LP VAPOR	MSG425-LP VAPOR (2700RPM)			X	2.5L	53.5	2700	195	2400
MSG425-LP VAPOR	MSG425-LP VAPOR (2600RPM)			X	2.5L	52	2600	195	2400
MSG425-LP VAPOR	MSG425-LP VAPOR (2500RPM)			X	2.5L	50.6	2500	195	2400
MSG425-LP VAPOR	MSG425-LP VAPOR (2400RPM)			X	2.5L	48.7	2400	195	2400
MSG425-LP VAPOR	MSG425-LP VAPOR (2300RPM)			X	2.5L	46.6	2300	194	2300
MSG425-LP VAPOR	MSG425-LP VAPOR (2200RPM)			X	2.5L	43.9	2200	192	1800
MSG425-LP VAPOR	MSG425-LP VAPOR (2100RPM)			X	2.5L	41.6	2100	192	1800
MSG425-LP VAPOR	MSG425-LP VAPOR (2000RPM)			X	2.5L	39.6	2000	192	1800
MSG425-LP VAPOR	MSG425-LP VAPOR (1900RPM)			X	2.5L	37.7	1900	192	1800
MSG425-LP VAPOR	MSG425-LP VAPOR (1800RPM)			X	2.5L	36.2	1800	192	1800
MSG425-NG	MSG425-NG (3100RPM)			X	2.5L	56	3100	187	2500
MSG425-NG	MSG425-NG (3000RPM)			X	2.5L	54.2	3000	187	2500
MSG425-NG	MSG425-NG (2900RPM)			X	2.5L	53.7	2900	187	2500
MSG425-NG	MSG425-NG (2800RPM)			X	2.5L	52.7	2800	187	2500
MSG425-NG	MSG425-NG (2700RPM)			X	2.5L	50.5	2700	187	2500
MSG425-NG	MSG425-NG (2600RPM)			X	2.5L	49.4	2600	187	2500
MSG425-NG	MSG425-NG (2500RPM)			X	2.5L	48.9	2500	187	2500
MSG425-NG	MSG425-NG (2400RPM)			X	2.5L	46.7	2400	186	2400
MSG425-NG	MSG425-NG (2300RPM)			X	2.5L	44.5	2300	185	2300
MSG425-NG	MSG425-NG (2200RPM)			X	2.5L	42	2200	183	1800
MSG425-NG	MSG425-NG (2100RPM)			X	2.5L	39.7	2100	183	1800
MSG425-NG	MSG425-NG (2000RPM)			X	2.5L	37.8	2000	183	1800

