HINO MOTORS LIMITED

EXECUTIVE ORDER U-R-020-0018-01 New Off-Road Compression-Ignition Engines

Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-45-9;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engine and emission control system produced by the manufacturer are certified as described below for use in 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 (liters) | FUEL TYPE | USEFUL LIFE (hours) |
|---------------|-----------------------------|-----------------------|-----------------------------|------------------------|
| 2002 | 2HMXL06.7HTD | 6.7 | Diesel | 8,000 |
| SPECIAL | FEATURES & EMISSION | CONTROL SYSTEMS | TYPICAL EQUIPMENT | APPLICATION |
| ſ | Direct Diesel Injection, Tu | urbocharger | Crane, Compressor, Other In | ndustrial Equipment |

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kW-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

| RATED POWER | EMISSION STANDARD | | | E | XHAUST (g/kW- | hr) | | OF | PACITY (% | (o) |
|----------------|----------------------|------|-----|-----|---------------|------|------|-------|-----------|------|
| CLASS | CATEGORY | | HC | NOx | NMHC+NOx | co | РМ | ACCEL | LUG | PEAK |
| 130 ≤ kW < 225 | Tier 1 | STD | 1.3 | 9.2 | N/A | 11.4 | 0.54 | 20 | 15 | 50 |
| | | CERT | 0.5 | 8.4 | | 0.9 | 0.31 | 15 | 4 | 41 |

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (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.

This Executive Order hereby supersedes Executive Order U-R-020-0018 dated November 1, 2001.

Executed at El Monte, California on this _

R. B. Summerfield, Chief

Mobile Source Operations Division

day of November 2001.

U-R-020-0018-01

Engine Model Summary Form

ATTACHMENT Hino Motors, Ltd. Manufacturer:

2HMXL06.7HTD Nonroad Cl EPA Engine Family. Engine category:

Mfr Family Name:

Process Code:

Now Submission
Carry DVer

| 13 64.8 494@1600 102 54.2 • 18 69.9 508@1600 106 56.3 10 66.3 508@1600 101 53.6 10 65.6 488@1600 101 53.6 10 66.1 496@1600 104 55.1 11 78.4 499@1600 104 55.1 17 78.4 499@1600 104 55.1 | AA-H07C-TD 133 178@2100 93 64.8 494@1600 102 AB-H07C-TD 141 189@2150 98 69.9 508@1600 106 AC-H07C-TD 137 186@2200 100 68.3 508@1600 101 AD-H07C-TD 137 184@2100 95 65.6 489@1600 101 AE-H07C-TD 157 202@2500 92.5 76.6 499@1600 104 AC-H07C-TE 157 202@2500 91.78.4 499@1600 104 AG-H07C-TE 157 202@2500 91. 78.4 1499@1600 104 | 1.Engine Code | 3.BHP@RPM 2.Engine Model 收W (SAE Gross) | 3.BHP@RPM W (SAE Gross) | 4.Fuel Râte: mm/stroke @ peak HP (for diesel only) | 5.Fuel Rate: (lbs.hr) @ peak HP (for dlesels only) | 6.Torque @ RPM (SEA Gross) | 7.Fuel Rate: mm/stroke@peak t orque | 8.Fuel Rate: (fbs/frr)@peak torque | 9.Emission Control Device Per SAE J1930 |
|---|--|---------------|--|----------------------------|--|--|-------------------------------|--|--|--|
| AB-H07C-TD (4/1 189@2150 98 69.9 508@1600 106 56.3 AC-H07C-TD (3/4 186@2000 100 66.3 508@1600 106 56.3 AC-H07C-TD (3/4 186@2000 90 65.6 488@1600 101 53.6 AE-H07C-TD (3/7 184@2100 95 66.1 488@1600 102.5 54.4 AE-H07C-TE (5/1 202@2500 92.5 76.6 499@1600 104 55.1 AG-H07C-TE (5/2 204@2500 91 78.4 499@1600 104 55.1 | AB-H07C-TD (4) 189@2150 98 69.9 508@1600 106 56.3 AC-H07C-TD [3] 186@2200 100 66.3 508@1600 106 56.3 AC-H07C-TD [3] 4186@2200 90 65.5 488@1600 10.25 53.6 AE-H07C-TE [5] 202@2500 91 78.4 499@1600 104 55.1 AG-H07C-TE [\$\$\sumeboxed{\text{C}}\$\sumepox{\text{C}}\$\s | M | AA-H07C-TD 13 | 13 178@2100 | 93 | 64.8 | 494@1600 | 102 | 54.2 | TC, EM, DOT → |
| AC-HO7C-TD 137 186@2000 100 66.5 508@1600 101 53.6 AD-H07C-TD 13.8 185@2200 90 65.6 488@1600 101 53.6 AE-H07C-TD 13.7 184@2100 95.5 76.6 489@1600 104 55.1 AF-H07C-TE 15.2 224@2500 91 78.4 499@1600 104 55.1 AC-H07C-TE 15.2 224@2500 91 78.4 499@1600 104 55.1 | AC-H07C-TD 134 186@2000 100 66.5 488@1600 101 53.6 AD-H07C-TD 135 185@2200 90 65.6 488@1600 101 53.6 AE-H07C-TD 137 184@2100 95.5 66.1 496@1600 104 55.1 AF-H07C-TE S1 202@3500 92.5 76.6 499@1600 104 55.1 AG-H07C-TE S2 204@2600 91 78.4 499@1600 104 55.1 | | AB-H07C-TD 14 | 11 189@2150 | 86 | 6.69 | 508@1600 | 106 | 56.3 | TC, EM, DDI |
| AD-H07C-TD 13Å 185@2200 90 65.6 488@1600 101 53.6 AE-H07C-TD 13ී 7 184@2100 95 66.1 496@1600 102.5 54.4 AF-H07C-TE 15½ 202@2500 91 78.4 499@1600 104 55.1 AC-H07C-TE 15½ 204@2600 91 78.4 499@1600 104 55.1 | AD-H07C-TD 13Å 185@2200 90 65.6 488@1600 101 53.6 AE-H07C-TD 13 7 184@2100 95 66.1 496@1600 102.5 54.4 AF-H07C-TE 15 202@3560 97.5 76.6 499@1600 104 55.1 AG-H07C-TE 15 204@25600 91 78.4 499@1600 104 55.1 | 100 | AC-H07C-TD 13 | 9 186@2000 | 100 | 66.3 | 508@1600 | 106 | 56.3 | TC, EM, ⊅⊉ <u>T</u> |
| AE-H07C-TE \$\frac{3}{2}\$ 184@2100 95 66.1 496@1600 104 55.1 AF-H07C-TE \$\frac{5}{2}\$ 204@2800 92.5 76.6 499@1600 104 55.1 AG-H07C-TE \$\frac{5}{2}\$ 204@2800 91 78.4 499@1600 104 55.1 | AE-H07C-TD 37 184@2100 95 66.1 496@1600 102.5 54.4 AF-H07C-TE 51 202@2500 92.5 76.6 499@1600 104 55.1 AG-H07C-TE 52 204@2500 91 78.4 499@1600 104 55.1 | - | AD-H07C-TD 13 | δ 185@2200 | 06 | 65.6 | 488@1600 | 101 | 53.6 | TC, EM, DD∐ |
| AG-Ho7C-TE S1 202@2500 92.5 76.6 499@1600 104 55.1 AG-Ho7C-TE S2 204@2600 91 778.4 499@1600 104 55.1 | AF-H07C-TE S 202@2500 92.5 76.6 499@1600 104 55.1 AG-H07C-TE S 204@2600 91 78.4 499@1600 104 55.1 | | AE-H07C-TD 13 | 7 184@2100 | 95 | 66.1 | 496@1600 | 102.5 | 54.4 | TC, EM JDD <u>T</u> |
| AG-H07C-TE \$£.204@2600 91 78.4 499@1600 1044 55.1 | AG-H07C-TE I \$2,204@2600 91 78.4 499@1600 104 55,1 | | AF-H07C-TE IS | 1 202@2500 | 92.5 | 76.6 | 499@1600 | 104 | 55.1 | TC, EM, PDI |
| | | | AG-H07C-TE S | . 2. 204@2600 | 91 | 78.4 | 499@1600 | 104 | 55,1 | TC, EM, DPI |
| | | - 10 | | | | | | | | |
| | | | abilitime speciment for mitted tiple of the | | | | | And the second s | | The second section of the second section of the second second section of the second second second section second s |
| | | | | | | | | | | |
| | | | A Comment of the Comm | | | | | | | 2 |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | The state of the s |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | and the second second second second second second second second second | |