



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) |
|---|--------------------------|-----------------------|---|---------------------|
| 2001 | 1DZXL04.8007 | 3.19, 4.79 | Diesel | 8000 |
| SPECIAL FEATURES & EMISSION CONTROL SYSTEMS | | | TYPICAL EQUIPMENT APPLICATION | |
| Direct Diesel Injection, Turbocharger, Smoke Puff Limiter | | | Pump, Generator Set, Other Industrial Equipment | |
| ENGINE MODELS (rated power in kilowatts, kw) | See Attachment (4 pages) | | | |

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 CLASS | EMISSION STANDARD CATEGORY | | EXHAUST (g/kw-hr) | | | | | OPACITY (%) | | |
|-------------------|----------------------------|------|-------------------|-----|----------|-----|-----|-------------|-----|------|
| | | | HC | NOx | NMHC+NOx | CO | PM | ACCEL | LUG | PEAK |
| 37≤KW<130 | Tier 1 | STD | N/A | 9.2 | N/A | N/A | N/A | 20 | 15 | 50 |
| | | CERT | -- | 8.8 | -- | -- | -- | 3 | 3 | 3 |

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.

Executed at El Monte, California on this 31ST day of May 2001.


R. B. Summerfield, Chief
Mobile Source Operations Division

| Engine type | Displacement | Engine code | Nominal Power ± 5% | | Nominal speed ± 50 rpm | Mean effective pressure | Injection rate at nom. speed, ±4mm ³ /stroke | Peak torque ± 5% | | | Injection rate at peak torque ±4mm ³ /stroke | Torque at 1000 rpm | | Injection rate at 1000 rpm | Low idle (+ 800rpm, dep. on engine applic.) | High idle (+300 rpm, dep. on engine applic.) | Fuel injection pump | Fuel injection nozzle | Camshaft | Injection timing (±1°) | Speed governor | Speed governor, optionally | Smoke limiter, part of speed governor, -5mm ³ /stroke - rpm | Turbocharger |
|-------------|--------------|-------------|--------------------|----|------------------------|-------------------------|---|------------------|-------|-------|---|--------------------|-----|----------------------------|---|--|---------------------|-----------------------|----------|-------------------------|----------------|----------------------------|--|--------------|
| | | | HP | KW | | | | Nm | rpm | bar | | Nm | rpm | | | | | | | | | | | |
| BF6M1012 | 4788 | C98 | 131 | 98 | 2500 | 9.82 | 63 | 447 | 1500 | 11.73 | 68 | | | 650 | 2600 | 02111636KZ | 02126844KZ | 04195607UA | 7 | 02111252UA | | | | |
| BF6M1012 | 4788 | C93 | 125 | 93 | 2500 | 9.32 | 60 | 424 | 1500 | 11.13 | 64 | | | 650 | 2600 | 02111636KZ | 02126844KZ | 04195607UA | 7 | 02111252UA | | | 58-800 | S2A150E |
| BF6M1012 | 4788 | C88 | 118 | 88 | 2500 | 8.82 | 57 | 402 | 1500 | 10.55 | 60 | | | 650 | 2600 | 02111636KZ | 02126844KZ | 04195607UA | 7 | 02111252UA | | | 58-800 | S2A150E |
| BF6M1012 | 4788 | C83 | 111 | 83 | 2500 | 8.32 | 54 | 379 | 1500 | 9.95 | 57 | | | 650 | 2600 | 02111636KZ | 02126844KZ | 04195607UA | 7 | 02111252UA | | | 58-800 | S2A150E |
| BF6M1012 | 4788 | C95/1 | 127 | 95 | 2400 | 9.92 | 62 | 447 | 1500 | 11.73 | 68 | | | 650 | 2500 | 02111636KZ | 02126844KZ | 04195607UA | 7 | 02111252UA | | | 58-800 | S2A150E |
| BF6M1012 | 4788 | C92 | 123 | 92 | 2300 | 10.02 | 63 | 447 | 1500 | 11.73 | 68 | | | 650 | 2400 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | | 58-800 | S2A150E |
| BF6M1012 | 4788 | C87 | 117 | 87 | 2300 | 9.48 | 60 | 424 | 1500 | 11.13 | 64 | | | 650 | 2400 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | | 58-800 | S2A150E |
| BF6M1012 | 4788 | C83/1 | 111 | 83 | 2300 | 9.04 | 57 | 402 | 1500 | 10.55 | 60 | | | 650 | 2400 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | | 58-800 | S2A150E |
| BF6M1012 | 4788 | C78 | 105 | 78 | 2300 | 8.50 | 54 | 379 | 1500 | 9.95 | 57 | | | 650 | 2400 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | | 58-800 | S2A150E |
| BF6M1012 | 4788 | C89 | 119 | 89 | 2200 | 10.14 | 63 | 447 | 1500 | 11.73 | 68 | | | 650 | 2400 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | | 58-800 | S2A150E |
| BF6M1012 | 4788 | C84 | 113 | 84 | 2200 | 9.57 | 59 | 424 | 1500 | 11.13 | 64 | | | 650 | 2290 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | | 58-800 | S2A150E |
| BF6M1012 | 4788 | C80 | 107 | 80 | 2200 | 9.11 | 56 | 402 | 1500 | 10.55 | 60 | | | 650 | 2290 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | | 58-800 | S2A150E |
| BF6M1012 | 4788 | C76 | 102 | 76 | 2200 | 8.66 | 53 | 379 | 1500 | 9.95 | 57 | | | 650 | 2290 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | | 58-800 | S2A150E |
| BF6M1012 | 4788 | C85 | 114 | 85 | 2100 | 10.14 | 61 | 447 | 1500 | 11.73 | 68 | | | 650 | 2290 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | | 58-800 | S2A150E |
| BF6M1012 | 4788 | C82 | 110 | 82 | 2100 | 9.79 | 58 | 424 | 1500 | 11.13 | 64 | | | 650 | 2190 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | | 58-800 | S2A150E |
| BF6M1012 | 4788 | C78/1 | 105 | 78 | 2100 | 9.31 | 56 | 402 | 1500 | 10.55 | 60 | | | 650 | 2190 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | | 58-800 | S2A150E |
| BF6M1012 | 4788 | C74 | 99 | 74 | 2100 | 8.83 | 53 | 379 | 1500 | 9.95 | 57 | | | 650 | 2190 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | | 58-800 | S2A150E |
| BF6M1012 | 4788 | C82/1 | 110 | 82 | 2000 | 10.27 | 60 | 447 | 1500 | 11.73 | 68 | | | 650 | 2190 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | | 58-800 | S2A150E |
| BF6M1012 | 4788 | C79 | 106 | 79 | 2000 | 9.90 | 59 | 424 | 1500 | 11.13 | 64 | | | 650 | 2080 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | | 58-800 | S2A150C |
| BF6M1012 | 4788 | C75 | 101 | 75 | 2000 | 9.40 | 56 | 402 | 1500 | 10.55 | 60 | | | 650 | 2080 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | | 58-800 | S2A150C |
| BF6M1012 | 4788 | C71 | 95 | 71 | 2000 | 8.90 | 53 | 379 | 1500 | 9.95 | 57 | | | 650 | 2080 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | | 58-800 | S2A150C |
| BF6M1012 | 4788 | D95 | 127 | 95 | 2400 | 9.92 | 62 | n. a. | n. a. | n. a. | n. a. | | | n. a. | n. a. | 02111636KZ | 02126844KZ | 04195607UA | 7 | 02111252UA | | | 58-800 | S2A150C |
| BF6M1012 | 4788 | D86 | 115 | 86 | 2400 | 8.98 | 56 | n. a. | n. a. | n. a. | n. a. | | | n. a. | n. a. | 02111636KZ | 02126844KZ | 04195607UA | 7 | 02111252UA | | | n. a. | S2A150E |
| BF6M1012 | 4788 | D88 | 118 | 88 | 2000 | 11.03 | 65 | n. a. | n. a. | n. a. | n. a. | | | n. a. | n. a. | 02111636KZ | 02126844KZ | 04195607UA | 7 | 02111252UA | | | n. a. | S2A150E |
| BF6M1012 | 4788 | D80 | 107 | 80 | 2000 | 10.02 | 59 | n. a. | n. a. | n. a. | n. a. | | | n. a. | n. a. | 02111636KZ | 02126844KZ | 04195607UA | 6 | 02111252UA | | | n. a. | S2A150C |
| BF6M1012 | 4788 | D83 | 111 | 83 | 1846 | 11.27 | 65 | n. a. | n. a. | n. a. | n. a. | | | n. a. | n. a. | 02111636KZ | 02126844KZ | 04195607UA | 6 | 02111252UA | | | n. a. | S2A150C |
| BF6M1012 | 4788 | D75 | 101 | 75 | 1846 | 10.18 | 59 | n. a. | n. a. | n. a. | n. a. | | | n. a. | n. a. | 02111636KZ | 02126844KZ | 04195607UA | 6 | 02111252UA | | | n. a. | S2A150C |
| BF6M1012 | 4788 | D78 | 105 | 78 | 1800 | 10.86 | 63 | n. a. | n. a. | n. a. | n. a. | | | n. a. | n. a. | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | | n. a. | S2A150C |
| BF6M1012 | 4788 | D76 | 102 | 76 | 1800 | 10.58 | 61 | n. a. | n. a. | n. a. | n. a. | | | n. a. | n. a. | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | | n. a. | S2A157B |
| BF6M1012 | 4788 | D72/1 | 96 | 72 | 1800 | 10.02 | 58 | n. a. | n. a. | n. a. | n. a. | | | n. a. | n. a. | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | | n. a. | S2A157B |
| BF4M1012 | 3192 | C65 | 87 | 65 | 2500 | 9.77 | 64 | 298 | 1500 | 11.73 | 70 | | | 650 | 2600 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | | n. a. | S2A157B |
| BF4M1012 | 3192 | C62 | 83 | 62 | 2500 | 9.32 | 61 | 284 | 1500 | 11.18 | 66 | | | 650 | 2600 | 02111636KZ | 02126844KZ | 04195607UA | 7 | 02111252UA | | | 58-800 | S1BS010F |
| BF4M1012 | 3192 | C58/2 | 78 | 58 | 2500 | 8.72 | 57 | 266 | 1500 | 10.47 | 61 | | | 650 | 2600 | 02111636KZ | 02126844KZ | 04195607UA | 7 | 02111252UA | | | 58-800 | S1BS010F |
| BF4M1012 | 3192 | C55 | 74 | 55 | 2500 | 8.27 | 54 | 252 | 1500 | 9.92 | 58 | | | 650 | 2600 | 02111636KZ | 02126844KZ | 04195607UA | 7 | 02111252UA | | | 58-800 | S1BS010F |
| BF4M1012 | 3192 | C63/1 | 84 | 63 | 2400 | 9.87 | 64 | 298 | 1500 | 11.73 | 70 | | | 650 | 2600 | 02111636KZ | 02126844KZ | 04195607UA | 7 | 02111252UA | | | 58-800 | S1BS010F |
| BF4M1012 | 3192 | C61 | 82 | 61 | 2300 | 9.97 | 62 | 298 | 1500 | 11.73 | 70 | | | 650 | 2400 | 02111636KZ | 02126844KZ | 04195607UA | 7 | 02111252UA | | | 58-800 | S1BS010F |
| BF4M1012 | 3192 | C58/1 | 78 | 58 | 2300 | 9.48 | 59 | 284 | 1500 | 11.18 | 66 | | | 650 | 2400 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | | 58-800 | S1BS010F |
| BF4M1012 | 3192 | C55/1 | 74 | 55 | 2300 | 8.99 | 56 | 266 | 1500 | 10.47 | 61 | | | 650 | 2400 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | | 58-800 | S1BS010F |
| BF4M1012 | 3192 | C52 | 70 | 52 | 2300 | 8.50 | 53 | 252 | 1500 | 9.92 | 58 | | | 650 | 2400 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | | 58-800 | S1BS010F |

Models Appendix (pg 2 of 4)

List of emission related components

ED# U-R-13-36

1D7 8007

| Engine type | Displacement | Engine code | Nominal Power ± 5% | Nominal Power ± 5% | Nominal speed ± 50 rpm | Mean effective pressure | Injection rate at nom. speed, ±4mm ³ | Peak torque ± 5% | Speed at peak torque ± 100 rpm | Mean effective pressure at peak torque | Injection rate at peak torque ±4mm ³ | Torque at 1000 rpm | | Mean effective pressure at 1000 rpm | Injection rate at 1000 rpm | Low idle (+ 800rpm, dep. on engine applic.) | High idle (+300 rpm, dep. on engine applic.) | Fuel injection pump | Fuel injection nozzle | Camshaft | Injection timing (±1°) | Speed governor | Speed governor, optionally | Smoke limiter, part of speed governor, -5mm ³ | Turbocharger |
|-------------|--------------|-------------|--------------------|--------------------|------------------------|-------------------------|---|------------------|--------------------------------|--|---|--------------------|-----|-------------------------------------|----------------------------|---|--|---------------------|-----------------------|----------|------------------------|----------------|----------------------------|--|--------------|
| | | | | | | | | | | | | Nm | bar | | | | | | | | | | | | |
| BF4M1012 | 3192 | C59 | 79 | 59 | 2200 | 10.08 | 62 | 298 | 1500 | 11.73 | 70 | | | | 650 | 2290 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | 58-800 | S1BS010F | |
| BF4M1012 | 3192 | C56 | 75 | 56 | 2200 | 9.57 | 58 | 284 | 1500 | 11.18 | 66 | | | | 650 | 2290 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | 58-800 | S1BS010F | |
| BF4M1012 | 3192 | C53 | 71 | 53 | 2200 | 9.06 | 55 | 266 | 1500 | 10.47 | 61 | | | | 650 | 2290 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | 58-800 | S1BS010F | |
| BF4M1012 | 3192 | C51 | 68 | 51 | 2200 | 8.71 | 53 | 252 | 1500 | 9.92 | 58 | | | | 650 | 2290 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | 58-800 | S1BS010F | |
| BF4M1012 | 3192 | C57 | 76 | 57 | 2100 | 10.20 | 62 | 298 | 1500 | 11.73 | 70 | | | | 650 | 2190 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | 58-800 | S1BS010F | |
| BF4M1012 | 3192 | C54 | 72 | 54 | 2100 | 9.67 | 58 | 284 | 1500 | 11.18 | 66 | | | | 650 | 2190 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | 58-800 | S1BS010F | |
| BF4M1012 | 3192 | C52/1 | 70 | 52 | 2100 | 9.31 | 56 | 266 | 1500 | 10.47 | 61 | | | | 650 | 2190 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | 58-800 | S1BS010F | |
| BF4M1012 | 3192 | C49 | 66 | 49 | 2100 | 8.77 | 53 | 252 | 1500 | 9.92 | 58 | | | | 650 | 2190 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | 58-800 | S1BS010F | |
| BF4M1012 | 3192 | C46 | 62 | 46 | 2100 | 8.23 | 53 | 252 | 1500 | 9.92 | 58 | | | | 650 | 2190 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | 58-800 | S1BS010F | |
| BF4M1012 | 3192 | C55/2 | 74 | 55 | 2000 | 10.34 | 62 | 298 | 1500 | 11.73 | 70 | | | | 650 | 2080 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | 58-800 | S1BS010F | |
| BF4M1012 | 3192 | C52/2 | 70 | 52 | 2000 | 9.77 | 59 | 284 | 1500 | 11.18 | 66 | | | | 650 | 2080 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | 58-800 | S1BS010D | |
| BF4M1012 | 3192 | C50 | 67 | 50 | 2000 | 9.40 | 57 | 266 | 1500 | 10.47 | 61 | | | | 650 | 2080 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | 58-800 | S1BS010D | |
| BF4M1012 | 3192 | C47 | 63 | 47 | 2000 | 8.83 | 54 | 252 | 1500 | 9.92 | 58 | | | | 650 | 2080 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | 58-800 | S1BS010D | |
| BF4M1012 | 3192 | D63 | 84 | 63 | 2400 | 9.87 | 66 | n. a. | n. a. | n. a. | n. a. | | | | n. a. | n. a. | 02111636KZ | 02126844KZ | 04195607UA | 6 | 02111252UA | | 58-800 | S1BS010D | |
| BF4M1012 | 3192 | D57 | 76 | 57 | 2400 | 8.93 | 60 | n. a. | n. a. | n. a. | n. a. | | | | n. a. | n. a. | 02111636KZ | 02126844KZ | 04195607UA | 7 | 02111252UA | | n. a. | S1BS010F | |
| BF4M1012 | 3192 | D58 | 78 | 58 | 2000 | 10.90 | 65 | n. a. | n. a. | n. a. | n. a. | | | | n. a. | n. a. | 02111636KZ | 02126844KZ | 04195607UA | 7 | 02111252UA | | n. a. | S1BS010F | |
| BF4M1012 | 3192 | D53 | 71 | 53 | 2000 | 9.96 | 60 | n. a. | n. a. | n. a. | n. a. | | | | n. a. | n. a. | 02111636KZ | 02126844KZ | 04195607UA | 6 | 02111252UA | | n. a. | S1BS010D | |
| BF4M1012 | 3192 | D55 | 74 | 55 | 1846 | 11.20 | 67 | n. a. | n. a. | n. a. | n. a. | | | | n. a. | n. a. | 02111636KZ | 02126844KZ | 04195607UA | 6 | 02111252UA | | n. a. | S1BS010D | |
| BF4M1012 | 3192 | D50 | 67 | 50 | 1846 | 10.18 | 61 | n. a. | n. a. | n. a. | n. a. | | | | n. a. | n. a. | 02111636KZ | 02126844KZ | 04195607UA | 6 | 02111252UA | | n. a. | S1BS010D | |
| BF4M1012 | 3192 | D52 | 70 | 52 | 1800 | 10.86 | 65 | n. a. | n. a. | n. a. | n. a. | | | | n. a. | n. a. | 02111636KZ | 02126844KZ | 04195607UA | 6 | 02111252UA | | n. a. | S1BS010D | |
| BF4M1012 | 3192 | D49 | 66 | 49 | 1800 | 10.23 | 61 | n. a. | n. a. | n. a. | n. a. | | | | n. a. | n. a. | 02111636KZ | 02126846KZ | 04195607UA | 7 | 02111252UA | | n. a. | S1BS010D | |
| BF4M1012 | 3192 | D47 | 63 | 47 | 1800 | 9.82 | 59 | n. a. | n. a. | n. a. | n. a. | | | | n. a. | n. a. | 02111636KZ | 02126846KZ | 04195607UA | 7 | 02111252UA | | n. a. | S1BS010D | |
| BF6M1012E | 4788 | C100 | 134 | 100 | 2500 | 10.02 | 63 | 450 | 1500 | 11.81 | 68 | | | | 650 | 2600 | 02111636KZ | 02126844KZ | 04195607UA | 7 | 02111252UA | | n. a. | S1BS010D | |
| BF6M1012E | 4788 | C95 | 127 | 95 | 2500 | 9.52 | 60 | 427 | 1500 | 11.21 | 64 | | | | 650 | 2600 | 02111636KZ | 02126844KZ | 04195607UA | 7 | 02111252UA | | 58-800 | S2A150E | |
| BF6M1012E | 4788 | C90 | 121 | 90 | 2500 | 9.02 | 57 | 405 | 1500 | 10.63 | 60 | | | | 650 | 2600 | 02111636KZ | 02126844KZ | 04195607UA | 7 | 02111252UA | | 58-800 | S2A150E | |
| BF6M1012E | 4788 | C85/1 | 114 | 85 | 2500 | 8.52 | 54 | 382 | 1500 | 10.03 | 57 | | | | 650 | 2600 | 02111636KZ | 02126844KZ | 04195607UA | 7 | 02111252UA | | 58-800 | S2A150E | |
| BF6M1012E | 4788 | C92/1 | 123 | 92 | 2400 | 9.61 | 60 | 427 | 1500 | 11.21 | 64 | | | | 650 | 2600 | 02111636KZ | 02126844KZ | 04195607UA | 7 | 02111252UA | | 58-800 | S2A150E | |
| BF6M1012E | 4788 | C94 | 126 | 94 | 2300 | 10.24 | 63 | 450 | 1500 | 11.81 | 68 | | | | 650 | 2400 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | 58-800 | S2A150E | |
| BF6M1012E | 4788 | C89/1 | 119 | 89 | 2300 | 9.70 | 60 | 427 | 1500 | 11.21 | 64 | | | | 650 | 2400 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | 58-800 | S2A150E | |
| BF6M1012E | 4788 | C85/2 | 114 | 85 | 2300 | 9.26 | 57 | 439 | 1500 | 11.52 | 60 | | | | 650 | 2400 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | 58-800 | S2A150E | |
| BF6M1012E | 4788 | C80/1 | 107 | 80 | 2300 | 8.72 | 54 | 382 | 1500 | 10.03 | 57 | | | | 650 | 2400 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | 58-800 | S2A150E | |
| BF6M1012E | 4788 | C74/1 | 99 | 74 | 2300 | 8.06 | 50 | 400 | 1600 | 10.50 | 60 | | | | 650 | 2400 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | 58-800 | S2A150E | |
| BF6M1012E | 4788 | C90/1 | 121 | 90 | 2200 | 10.25 | 63 | 450 | 1500 | 11.81 | 68 | | | | 650 | 2290 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | 58-800 | S2A150C | |
| BF6M1012E | 4788 | C85/3 | 114 | 85 | 2200 | 9.68 | 59 | 427 | 1500 | 11.21 | 64 | | | | 650 | 2290 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | 58-800 | S2A150E | |
| BF6M1012E | 4788 | C85/4 | 114 | 85 | 2200 | 9.68 | 59 | 430 | 1300 | 11.29 | 65 | | | | 650 | 2290 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | 58-800 | S2A150E | |
| BF6M1012E | 4788 | C81 | 109 | 81 | 2200 | 9.23 | 56 | 405 | 1500 | 10.63 | 60 | | | | 650 | 2290 | 02111246KZ | 02126842KZ | 04195607UA | 6 | 02111252UA | | 58-800 | S2A159B | |
| BF6M1012E | 4788 | C77/1 | 103 | 77 | 2200 | 8.77 | 53 | 382 | 1500 | 10.03 | 57 | | | | 650 | 2290 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | 58-800 | S2A150E | |
| BF6M1012E | 4788 | C86 | 115 | 86 | 2100 | 10.26 | 61 | 450 | 1500 | 11.81 | 68 | | | | 650 | 2190 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | 58-800 | S2A150E | |
| BF6M1012E | 4788 | C83/2 | 111 | 83 | 2100 | 9.90 | 58 | 427 | 1500 | 11.21 | 64 | | | | 650 | 2190 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | | 58-800 | S2A150E | |

2/21/01

Models Attachment (pg 3 of 4)

List of emission components

ED# 4-R-13-310

1D7 1.8007

| Engine type | Displacement | Engine code | Nominal Power ± 5% | Nominal Power ± 5% | Nominal speed ± 50 rpm | Mean effective pressure | Injection rate at nom. speed, ±4mm ³ | Peak torque ± 5% | Speed at peak torque ± 100 rpm | Mean effective pressure at peak torque | Injection rate at peak torque ±4mm ³ | Torque at 1000 rpm | | Mean effective pressure at 1000 rpm | Injection rate at 1000 rpm | Low idle (+ 800rpm, dep. on engine applic.) | High idle (+300 rpm, dep. on engine applic.) | Fuel injection pump | Fuel injection nozzle | Camshaft | Injection timing (±1°) | Speed governor | Speed governor, optionally | Smoke limiter, part of speed governor, - 5mm ³ | Turbocharger |
|-------------|--------------|-------------|--------------------|--------------------|------------------------|-------------------------|---|------------------|--------------------------------|--|---|--------------------|-----|-------------------------------------|----------------------------|---|--|---------------------|-----------------------|----------|-------------------------|----------------|----------------------------|---|--------------|
| | | | | | | | | | | | | Nm | bar | | | | | | | | | | | | |
| BF6M1012E | 4788 | C79/1 | 106 | 79 | 2100 | 9.43 | 56 | 405 | 1500 | 10.63 | 60 | | | | 650 | 2190 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | 58-800 | S2A150E | | |
| BF6M1012E | 4788 | C75/1 | 101 | 75 | 2100 | 8.95 | 53 | 382 | 1500 | 10.03 | 57 | | | | 650 | 2190 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | 58-800 | S2A150E | | |
| BF6M1012E | 4788 | C80/2 | 107 | 80 | 2000 | 10.02 | 59 | 427 | 1500 | 11.21 | 64 | | | | 650 | 2080 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | 58-800 | S2A150C | | |
| BF6M1012E | 4788 | C76/1 | 102 | 76 | 2000 | 9.52 | 56 | 405 | 1500 | 10.63 | 60 | | | | 650 | 2080 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | 58-800 | S2A150C | | |
| BF6M1012E | 4788 | C72 | 96 | 72 | 2000 | 9.02 | 53 | 382 | 1500 | 10.03 | 57 | | | | 650 | 2080 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | 58-800 | S2A150C | | |
| BF6M1012E | 4788 | D97/1 | 130 | 97 | 2400 | 10.13 | 63 | n. a. | n. a. | n. a. | n. a. | | | | n. a. | n. a. | 02111636KZ | 02126844KZ | 04195607UA | 6 | 02111252UA | 58-800 | S2A150C | | |
| BF6M1012E | 4788 | D88/1 | 118 | 88 | 2400 | 9.19 | 57 | n. a. | n. a. | n. a. | n. a. | | | | n. a. | n. a. | 02111636KZ | 02126844KZ | 04195607UA | 7 | 02111252UA | n. a. | S2A150E | | |
| BF6M1012E | 4788 | D89 | 119 | 89 | 2000 | 11.15 | 66 | n. a. | n. a. | n. a. | n. a. | | | | n. a. | n. a. | 02111636KZ | 02126844KZ | 04195607UA | 7 | 02111252UA | n. a. | S2A150E | | |
| BF6M1012E | 4788 | D81 | 109 | 81 | 2000 | 10.15 | 60 | n. a. | n. a. | n. a. | n. a. | | | | n. a. | n. a. | 02111636KZ | 02126844KZ | 04195607UA | 6 | 02111252UA | n. a. | S2A150C | | |
| BF6M1012E | 4788 | D84 | 113 | 84 | 1846 | 11.40 | 66 | n. a. | n. a. | n. a. | n. a. | | | | n. a. | n. a. | 02111636KZ | 02126844KZ | 04195607UA | 6 | 02111252UA | n. a. | S2A150C | | |
| BF6M1012E | 4788 | D76/1 | 102 | 76 | 1846 | 10.32 | 60 | n. a. | n. a. | n. a. | n. a. | | | | n. a. | n. a. | 02111636KZ | 02126844KZ | 04195607UA | 6 | 02111252UA | n. a. | S2A150C | | |
| BF6M1012E | 4788 | D79 | 106 | 79 | 1800 | 11.00 | 64 | n. a. | n. a. | n. a. | n. a. | | | | n. a. | n. a. | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | n. a. | S2A150C | | |
| BF6M1012E | 4788 | D76/2 | 102 | 76 | 1800 | 10.58 | 61 | n. a. | n. a. | n. a. | n. a. | | | | n. a. | n. a. | 02111636KZ | 02126846KZ | 04195607UA | 7 | 02111252UA | n. a. | S2A157B | | |
| BF6M1012E | 4788 | D72 | 96 | 72 | 1800 | 10.02 | 58 | n. a. | n. a. | n. a. | n. a. | | | | n. a. | n. a. | 02111636KZ | 02126846KZ | 04195607UA | 7 | 02111252UA | n. a. | S2A157B | | |
| BF4M1012E | 3192 | C66 | 88 | 66 | 2500 | 9.92 | 64 | 300 | 1500-1700 | 11.81 | 70 | | | | 650 | 2600 | 02111636KZ | 02126844KZ | 04195607UA | 7 | 02111252UA | n. a. | S2A157B | | |
| BF4M1012E | 3192 | C63 | 84 | 63 | 2500 | 9.47 | 61 | 286 | 1500 | 11.26 | 66 | | | | 650 | 2600 | 02111636KZ | 02126844KZ | 04195607UA | 7 | 02111252UA | 58-800 | S1BS010F | | |
| BF4M1012E | 3192 | C59/1 | 79 | 59 | 2500 | 8.87 | 57 | 268 | 1500 | 10.55 | 61 | | | | 650 | 2600 | 02111636KZ | 02126844KZ | 04195607UA | 7 | 02111252UA | 58-800 | S1BS010F | | |
| BF4M1012E | 3192 | C56/1 | 75 | 56 | 2500 | 8.42 | 54 | 254 | 1600 | 10.00 | 58 | | | | 650 | 2600 | 02111636KZ | 02126844KZ | 04195607UA | 7 | 02111252UA | 58-800 | S1BS010F | | |
| BF4M1012E | 3192 | C62/2 | 83 | 62 | 2300 | 10.13 | 62 | 324 | 1500 | 11.81 | 75 | | | | 650 | 2400 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | 58-800 | S1BS010D | | |
| BF4M1012E | 3192 | C62/1 | 83 | 62 | 2300 | 10.13 | 62 | 300 | 1500 | 11.81 | 70 | | | | 650 | 2400 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | 58-800 | S1BS010F | | |
| BF4M1012E | 3192 | C59,5 | 80 | 59.5 | 2300 | 9.72 | 62 | 286 | 1500 | 11.26 | 66 | | | | 650 | 2400 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | 58-800 | S1BS010F | | |
| BF4M1012E | 3192 | C59/2 | 79 | 59 | 2300 | 9.64 | 59 | 286 | 1500 | 11.26 | 66 | | | | 650 | 2400 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | 58-800 | S1BS010F | | |
| BF4M1012E | 3192 | C58/3 | 78 | 58 | 2300 | 9.48 | 58 | 286 | 1500 | 11.26 | 66 | | | | 650 | 2400 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | 58-800 | S1BS010F | | |
| BF4M1012E | 3192 | C56/2 | 75 | 56 | 2300 | 9.15 | 56 | 268 | 1500 | 10.55 | 61 | | | | 650 | 2400 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | 58-800 | S1BS010F | | |
| BF4M1012E | 3192 | C55/6 | 74 | 55 | 2300 | 8.99 | 55 | 292 | 1600 | 11.50 | 66 | | | | 650 | 2400 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | 58-800 | S1BS010F | | |
| BF4M1012E | 3192 | C60/1 | 80 | 60 | 2200 | 10.25 | 62 | 300 | 1500 | 11.81 | 70 | | | | 650 | 2400 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | 58-800 | S1BS010D | | |
| BF4M1012E | 3192 | C60 | 80 | 60 | 2200 | 10.25 | 62 | 300 | 1500 | 11.81 | 70 | | | | 650 | 2290 | 02111246KZ | 02126846KZ | 04195607UA | 10 | 02111252UA | 58-800 | S1BS010F | | |
| BF4M1012E | 3192 | C60/2 | 80 | 60 | 2200 | 10.25 | 62 | 300 | 1500 | 11.81 | 70 | | | | 650 | 2290 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | 58-800 | S1BS010F | | |
| BF4M1012E | 3192 | C57/1 | 76 | 57 | 2200 | 9.74 | 58 | 286 | 1500 | 11.26 | 66 | | | | 650 | 2290 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | 58-800 | S1BS010D | | |
| BF4M1012E | 3192 | C54/1 | 72 | 54 | 2200 | 9.23 | 55 | 268 | 1500 | 10.55 | 61 | | | | 650 | 2290 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | 58-800 | S1BS010F | | |
| BF4M1012E | 3192 | C53/5 | 71 | 53 | 2200 | 9.06 | 55 | 241 | 1500 | 9.49 | 56 | | | | 650 | 2290 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | 58-800 | S1BS010F | | |
| BF4M1012E | 3192 | C53/4 | 71 | 53 | 2200 | 9.06 | 55 | 268 | 1500 | 10.55 | 61 | | | | 650 | 2290 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | 58-800 | S1BS010D | | |
| BF4M1012E | 3192 | C52/3 | 70 | 52 | 2200 | 8.89 | 53 | 254 | 1500 | 10.00 | 58 | | | | 650 | 2290 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | 58-800 | S1BS010F | | |
| BF4M1012E | 3192 | C58 | 78 | 58 | 2100 | 10.38 | 62 | 300 | 1500 | 11.81 | 70 | | | | 650 | 2190 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | 58-800 | S1BS010F | | |
| BF4M1012E | 3192 | C55/5 | 74 | 55 | 2100 | 9.85 | 58 | 286 | 1500 | 11.26 | 66 | | | | 650 | 2190 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | 58-800 | S1BS010F | | |
| BF4M1012E | 3192 | C53/2 | 71 | 53 | 2100 | 9.49 | 56 | 286 | 1500 | 11.26 | 61 | | | | 650 | 2190 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | 58-800 | S1BS010F | | |
| BF4M1012E | 3192 | C50/1 | 67 | 50 | 2100 | 8.95 | 53 | 268 | 1500 | 10.55 | 58 | | | | 650 | 2190 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | 58-800 | S1BS010F | | |
| BF4M1012E | 3192 | C53/3 | 71 | 53 | 2000 | 9.96 | 59 | 286 | 1500 | 11.26 | 66 | | | | 650 | 2080 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | 58-800 | S1BS010F | | |
| BF4M1012E | 3192 | C51/1 | 68 | 51 | 2000 | 9.59 | 57 | 268 | 1500 | 10.55 | 61 | | | | 650 | 2080 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | 58-800 | S1BS010D | | |

| Engine type | Displacement | Engine code | Nominal Power ± 5% HP | Nominal Power ± 5% kW | Nominal speed ± 50 rpm rpm | Mean effective pressure bar | Injection rate at nom. speed, ±4mm³ mm³/stroke | Peak torque ± 5% Nm | Speed at peak torque ± 100 rpm rpm | Mean effective pressure at peak torque bar | Injection rate at peak torque ±4mm³ mm³/stroke | Torque at 1000 rpm Nm | Mean effective pressure at 1000 rpm bar | Injection rate at 1000 rpm mm³/stroke | Low idle (+800rpm, dep. on engine, applic.) rpm | High idle (+300 rpm, dep. on engine, applic.) rpm | Fuel injection pump part number | Fuel injection nozzle description | Camshaft draw. numb. | Injection timing (±1°) °btcd | Speed governor description | Speed governor, optionally mm³/stroke - rpm | Smoke limiter, part of speed governor, -5mm³ description | Turbocharger description |
|-------------|--------------|-------------|--------------------------|--------------------------|-------------------------------|--------------------------------|---|------------------------|---------------------------------------|---|---|--------------------------|--|--|--|--|------------------------------------|--------------------------------------|-------------------------|---------------------------------|-------------------------------|--|---|-----------------------------|
| BF4M1012E | 3192 | C48 | 64 | 48 | 2000 | 9.02 | 54 | 254 | 1500 | 10.00 | 58 | | | | 650 | 2080 | 02111636KZ | 02126846KZ | 04195607UA | 6 | 02111252UA | 58-800 | S1BS010D | |
| BF4M1012E | 3192 | D64 | 86 | 64 | 2400 | 10.02 | 67 | n. a. | n. a. | n. a. | n. a. | | | | n. a. | n. a. | 02111636KZ | 02126844KZ | 04195607UA | 7 | 02111252UA | n. a. | S1BS010F | |
| BF4M1012E | 3192 | D58/1 | 78 | 58 | 2400 | 9.08 | 61 | n. a. | n. a. | n. a. | n. a. | | | | n. a. | n. a. | 02111636KZ | 02126844KZ | 04195607UA | 7 | 02111252UA | n. a. | S1BS010F | |
| BF4M1012E | 3192 | D59/1 | 79 | 59 | 2000 | 11.09 | 67 | n. a. | n. a. | n. a. | n. a. | | | | n. a. | n. a. | 02111636KZ | 02126844KZ | 04195607UA | 6 | 02111252UA | n. a. | S1BS010D | |
| BF4M1012E | 3192 | D54/1 | 72 | 54 | 2000 | 10.15 | 61 | n. a. | n. a. | n. a. | n. a. | | | | n. a. | n. a. | 02111636KZ | 02126844KZ | 04195607UA | 6 | 02111252UA | n. a. | S1BS010D | |
| BF4M1012E | 3192 | D56/1 | 75 | 56 | 1846 | 11.40 | 68 | n. a. | n. a. | n. a. | n. a. | | | | n. a. | n. a. | 02111636KZ | 02126844KZ | 04195607UA | 6 | 02111252UA | n. a. | S1BS010D | |
| BF4M1012E | 3192 | D51 | 68 | 51 | 1846 | 10.39 | 62 | n. a. | n. a. | n. a. | n. a. | | | | n. a. | n. a. | 02111636KZ | 02126844KZ | 04195607UA | 6 | 02111252UA | n. a. | S1BS010D | |
| BF4M1012E | 3192 | D61 | 82 | 61 | 1800 | 12.74 | 76 | n. a. | n. a. | n. a. | n. a. | | | | n. a. | n. a. | 02111636KZ | 02126844KZ | 04195607UA | 6 | 02111252UA | n. a. | S1BS010D | |
| BF4M1012E | 3192 | D59/2 | 79 | 59 | 1800 | 12.32 | 74 | n. a. | n. a. | n. a. | n. a. | | | | n. a. | n. a. | 02111636KZ | 02126844KZ | 04195607UA | 6 | 02111252UA | n. a. | S1B012C | |
| BF4M1012E | 3192 | D59/3 | 79 | 59 | 1800 | 12.32 | 74 | n. a. | n. a. | n. a. | n. a. | | | | n. a. | n. a. | 02111636KZ | 02126844KZ | 04195607UA | 6 | 02111252UA | n. a. | S1B012C | |
| BF4M1012E | 3192 | D56/2 | 75 | 56 | 1800 | 11.69 | 70 | n. a. | n. a. | n. a. | n. a. | | | | n. a. | n. a. | 02111636KZ | 02126844KZ | 04195607UA | 6 | EMR | n. a. | S1B012C | |
| BF4M1012E | 3192 | D54/2 | 72 | 54 | 1800 | 11.28 | 68 | n. a. | n. a. | n. a. | n. a. | | | | n. a. | n. a. | 02111636KZ | 02126844KZ | 04195607UA | 6 | 02111252UA | n. a. | S1B012C | |
| BF4M1012E | 3192 | D53/2 | 71 | 53 | 1800 | 11.07 | 66 | n. a. | n. a. | n. a. | n. a. | | | | n. a. | n. a. | 02111636KZ | 02126844KZ | 04195607UA | 6 | 02111252UA | n. a. | S1B012C | |
| BF4M1012E | 3192 | D50/2 | 67 | 50 | 1800 | 10.44 | 63 | n. a. | n. a. | n. a. | n. a. | | | | n. a. | n. a. | 02111636KZ | 02126846KZ | 04195607UA | 7 | 02111252UA | n. a. | S1BS010D | |
| BF4M1012E | 3192 | D48/1 | 64 | 48 | 1800 | 10.02 | 60 | n. a. | n. a. | n. a. | n. a. | | | | n. a. | n. a. | 02111636KZ | 02126846KZ | 04195607UA | 7 | 02111252UA | n. a. | S1BS010D | |