



Engine Performance Curve

Cummins Fire Power
DePere, WI 54115
<http://www.cumminsfirepower.com>

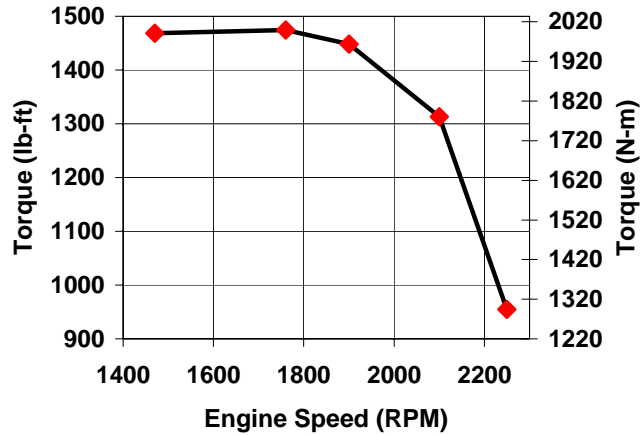
Basic Engine Model
CFP15E-F20

Curve Number: FR - 10663
Revision Date: June 2007

| | | | |
|------------------------------|-----------------------|-------------------------|--------------------------------------|
| Engine Family: | Industrial | CPL Code: | 8760-SC7 |
| Displacement - in.3 (litre): | 915 (15.0) | Emission Certification: | EPA/CARB Tier 3 |
| Dry Weight - lbs (kg): | 4029 (1813) | Aspiration: | Turbocharged, Chrg Air Cooled |
| Compression Ratio: | 17.0:1 | Engine Configuration: | D103007CX03 |
| No. of Cylinders: | 6 | Minimum rating: | 411 HP @ 1470 RPM |
| Fuel System: | HPI Electronic | Maximum rating: | 525 HP @ 2100 RPM |

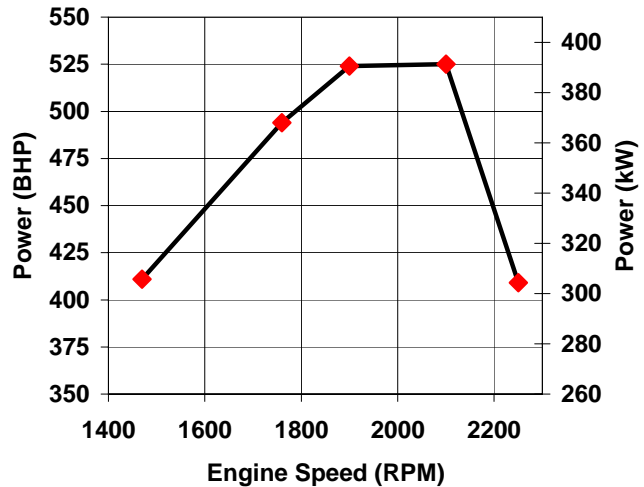
Torque Output

| RPM | lb-ft | N-m |
|------|-------|------|
| 1470 | 1468 | 1991 |
| 1760 | 1474 | 1999 |
| 1900 | 1448 | 1964 |
| 2100 | 1313 | 1780 |
| 2250 | 955 | 1294 |



Horsepower Output

| RPM | BHP | kW |
|------|-----|-----|
| 1470 | 411 | 306 |
| 1760 | 494 | 368 |
| 1900 | 524 | 391 |
| 2100 | 525 | 391 |
| 2250 | 409 | 305 |



1. Curves shown above represent mature gross engine performance capabilities obtained and corrected in accordance with SAE J1349 conditions of 29.61 in Hg (100 kPa) barometric pressure [300 ft. (91.4 m) altitude], 77 °F (25 °C) inlet air temperature, and 0.30 in. Hg (1 kPa) water vapor pressure with No. 2 diesel fuel.
2. The engine may be operated without changing the fuel setting up to 300 ft. (91.4 m) altitude and up to 77°F (25 °C) ambient temperature. For sustained operation at high altitudes, the fuel rate of the engine should be adjusted to limit performance by 3% per 1,000 ft. (305 m) above 300 ft. (91.4 m) altitude. For sustained operation at high ambient temperatures, the fuel rate of the engine should be adjusted to limit performance by 1% per 10 °F above 77 °F (2% per 11 °C above 25 °C).
3. Engine is certified at any speed between 1470 and 2250 RPM.

Cummins Fire Power, DePere, WI 54115 U.S.A.

Manager CFP Engineering:

Scott Danforth



Fire Power

Engine Datasheet

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Basic Engine Model
CFP15E-F40, F30, F20, F10

Curve Number: **FR - 10663**

CPL Code: **8760-SC7**

Configuration Number: **D103007CX03**

Installation Drawing: **11656**

Engine Family: **Industrial**

Revision Date: **January 2008**

General Engine Data

| | |
|--|-------------------------------|
| Type..... | 4 Cycle; In-Line; 6 Cylinder |
| Aspiration..... | Turbocharged, Chrg Air Cooled |
| Bore & Stroke - in. (mm)..... | 5.39 x 6.65 (137 x 169) |
| Displacement - in. ³ (litre)..... | 915 (15.0) |
| Compression Ratio..... | 17.0:1 |
| Valves per Cylinder - Intake..... | 2 |
| - Exhaust..... | 2 |
| Dry Weight - lb (kg)..... | 4029 (1813) |
| Wet Weight - lb (kg)..... | 4179 (1881) |
| Maximum Allowable Bending Moment @ Rear Face of Block - lb.-ft. (N-m)..... | 1500 (2034) |

Air Induction System

| | |
|---|--|
| Max. Temperature Rise Between Ambient Air and Engine Air Inlet - °F (°C)..... | 30 (16.7) |
| Maximum Inlet Restriction with Dirty Filter - in. H ₂ O (mm H ₂ O)..... | 25 (635) |
| Recommended Air Cleaner Element - (Standard)..... | K&N Serviceable/Disposable..... RC-7030 |
| - (Optional)..... | Fleetguard Housing AH19266..... AF25708M |

Lubrication System

| | |
|--|--|
| Oil Pressure Range at Rated - PSI (kPa) ... (Warm)..... | 35-40 (242-276) |
| Oil Capacity of Pan (High - Low) - U.S. quarts (litre) | 48-40 (45-38) |
| Total System Capacity - U.S. Gal. (litre) | 13 (49) |
| Recommended Lube Oil Filter | Fleetguard (Cummins)..... LF9000 (3101868) |

Cooling System

| | |
|---|------------------|
| Raw Water Working Pressure Range at Heat Exchanger - PSI (kPa) | 60 (413) MAX |
| Recommended Min. Water Supply Pipe Size to Heat Exchanger - in. (mm)..... | 1.25 (31.75) |
| Recommended Min. Water Disch. Pipe Size From Heat Exchanger - in. (mm)..... | 1.50 (38.10) |
| Coolant Water Capacity (Engine Side) - U.S. gal. (litre) | 13 (49.2) |
| Standard Thermostat - Type..... | Modulating |
| - Range - deg F (deg C) | 180-200 (82-93) |
| Normal Operating Temperature - °F (°C)..... | 180-212 (82-100) |
| Minimum Raw Water Flow | |
| with Water Temperatures to 50 °F (10 °C) - U.S. GPM (litre/s) | 20 (1.26) |
| with Water Temperatures to 75 °F (24 °C) - U.S. GPM (litre/s) | 25 (1.58) |
| with Water Temperatures to 90 °F (32 °C) - U.S. GPM (litre/s) | 30 (1.89) |
| Recommended Cooling Water Filter: Fleetguard (Cummins)..... | WF2126 (4907485) |
| A jacket water heater is mandatory on this engine. The recommended heater wattage is 3000 down to 40 °F (4 °C). | |

Exhaust System

| | |
|---|-------------|
| Max. Back Pressure Imposed by Complete Exhaust System in in. H ₂ O (kPa) | 40.8 (10.2) |
| Exhaust Pipe Size Normally Acceptable - in. (mm) | 6.0 (152) |

Noise Emissions

| | |
|-----------------|----------|
| Top..... | 97.7 dBa |
| Right Side..... | 98.3 dBa |
| Left Side..... | 99.6 dBa |
| Front..... | 98.9 dBa |
| Exhaust..... | 120 dBa |

The noise emission values are estimated sound pressure levels at 3.3 ft. (1 m.).

Fuel Supply / Drain System - RPM

| | 1470 | | 1760 | | 1900 | | 2100 | | 2250 | |
|--|---------------------------|------|-------------|-------|-------------|-------|-------------|-------|-------------|------|
| CFP15E-F40 Nominal Fuel Consumption - Gal./hr. (L/hr) | 24.9 | (94) | 28.1 | (106) | 29.6 | 112 | 30.8 | (117) | 24.5 | (93) |
| CFP15E-F30 Nominal Fuel Consumption - Gal./hr. (L/hr) | 23.5 | (89) | 26.5 | (100) | 27.9 | (105) | 29.1 | (110) | 23.1 | (87) |
| CFP15E-F20 Nominal Fuel Consumption - Gal./hr. (L/hr) | 21.4 | (81) | 24.1 | (91) | 25.4 | (96) | 26.5 | (100) | 21.1 | (80) |
| CFP15E-F10 Nominal Fuel Consumption - Gal./hr. (L/hr) | 19.9 | (75) | 22.5 | (85) | 23.6 | (90) | 24.7 | (93) | 19.6 | (74) |
| Fuel Type | Number 2 Diesel Only | | | | | | | | | |
| Minimum Supply Line Size - in. (mm) | 0.75 | | | | 0.75 | | (19.05) | | | |
| Minimum Drain Line Size - in. (mm) | 0.75 | | | | 0.75 | | (19.05) | | | |
| Maximum Fuel Line Length Between Supply Tank & Fuel Pump - ft. (m) | 40 | | | | 40 | | (12) | | | |
| Maximum Fuel Height above C/L Crankshaft - in. (mm) | 120 | | | | 120 | | (3048) | | | |
| Recommended Fuel Filter - Primary | Fleetguard (Cummins)..... | | FS1041 | | FS1041 | | (3104081) | | | |
| - Secondary | None Required..... | | NA | | NA | | | | | |
| Maximum Restriction @ Lift Pump-Inlet - With Clean Filter - in. Hg (mm Hg) | 6.0 | | | | 6.0 | | (152) | | | |
| Maximum Restriction @ Lift Pump-Inlet - With Dirty Filter - in. Hg (mm Hg) | 10.0 | | | | 10.0 | | (254) | | | |
| Maximum Return Line Restriction - Without Check Valves - in. Hg (mm Hg) | 9 | | | | 9 | | (229) | | | |
| Minimum Fuel Tank Vent Capability - ft ³ /hr (m ³ /hr) | 70 | | | | 70 | | (2.10) | | | |
| Maximum Fuel Temperature @ Lift Pump Inlet - °F (°C) | 160 | | | | 160 | | (71) | | | |

Starting and Electrical System

| | 12V | 24V |
|---|------------|------------|
| Min. Recommended Batt. Capacity - Cold Soak at 0°F (-18°C) or Above | | |
| Engine Only - Cold Cranking Amperes - (CCA) | 12 volt | 1400 |
| Engine Only - Reserve Capacity - Minutes | option is | 360 |
| Battery Cable Size (Maximum Cable Length Not to Exceed 5 ft. [1.5 m] AWG) | not | 00 |
| Maximum Resistance of Starting Circuit - Ohms | offered | 0.002 |
| Typical Cranking Speed - RPM | | 100 |
| Alternator (Standard), Internally Regulated - Ampere | | 70 |
| Wiring for Automatic Starting (Negative Ground) | Standard | |
| Reference Wiring Diagram | 10423 | |

Performance Data

All data is based on the engine operating with fuel system, water pump, lubricating oil pump, air cleaner, and alternator; not included are compressor, fan, optional equipment, and driven components. Data is based on operation at SAE standard J1394 conditions of 300 ft. (91.4 m) altitude, 29.61 in. (752 mm) Hg dry barometer, and 77 °F (25 °C) intake air temperature, using No.2 diesel or a fuel corresponding to ASTM-D2.

| | | |
|---|-----|--------|
| Altitude Above Which Output Should be Limited - ft. (m) | 300 | (91.4) |
| Correction Factor per 1000 ft. (305 m) above Altitude Limit | 3% | |
| Temperature Above Which Output Should be Limited - °F (°C) | 77 | (25) |
| Correction Factor per 10 °F (11 °C) Above Temperature Limit | 1% | (2%) |

Exhaust Emissions (EPA Tier T3) [Reference Emissions Data Doc. 9815]

| | g/kW-hr | g/BHP-hr |
|--|----------------|-----------------|
| Hydrocarbons (HC/OMHCE)..... | 0.14 | 0.10 |
| Oxides of Nitrogen (NOx)..... | 3.73 | 2.78 |
| Non-Methane Hydrocarbons + NOx (NMHC+NOx)..... | 3.87 | 2.89 |
| Carbon Monoxide (CO)..... | 0.90 | 0.67 |
| Particulate..... | 0.12 | 0.09 |

FM Approved and UL Listed Ratings for CFP15E-F40, F30, F20, F10

| Engine Speed - RPM | 1470 | 1760 | 1900 | 2100 | 2250 |
|---|------------------|------------------|------------------|------------------|------------------|
| CFP15E-F40 Output - BHP (kW) | 477 (356) | 575 (429) | 610 (455) | 610 (455) | 475 (354) |
| Ventilation Air Required for Combustion - CFM (litre/sec) . | 1116 (527) | 1345 (635) | 1442 (681) | 1563 (738) | 1641 (775) |
| Exhaust Gas Flow - CFM (litre/sec) | 2877 (1358) | 3268 (1542) | 3476 (1641) | 3672 (1733) | 3856 (1820) |
| Exhaust Gas Temperature - °F (°C) | 964 (518) | 908 (487) | 897 (481) | 888 (476) | 781.4 (416) |
| Engine Heat Rejection to Coolant- BTU/min. (kW) | 7503 (132) | 8332 (146) | 8897 (156) | 10077 (177) | 10178 (179) |
| Engine Heat Rejection to Ambient - BTU/min. (kW) | 1678 (29) | 1963 (34) | 2375 (42) | 2374 (42) | 2350 (41) |
| CFP15E-F30 Output - BHP (kW) | 450 (336) | 542 (404) | 575 (429) | 575 (429) | 448 (334) |
| Ventilation Air Required for Combustion - CFM (litre/sec) . | 1063 (502) | 1312 (619) | 1405 (663) | 1544 (729) | 1621 (765) |
| Exhaust Gas Flow - CFM (litre/sec) | 2740 (1293) | 3164 (1493) | 3328 (1571) | 3577 (1688) | 3756 (1773) |
| Exhaust Gas Temperature - °F (°C) | 969 (521) | 905 (485) | 906 (486) | 884 (473) | 777.9 (414) |
| Engine Heat Rejection to Coolant- BTU/min. (kW) | 7010 (123) | 7849 (138) | 8725 (153) | 9111 (160) | 9202 (162) |
| Engine Heat Rejection to Ambient - BTU/min. (kW) | 1568 (28) | 1849 (32) | 2330 (41) | 2147 (38) | 2125 (37) |
| CFP15E-F20 Output - BHP (kW) | 411 (306) | 494 (368) | 524 (391) | 525 (391) | 409 (305) |
| Ventilation Air Required for Combustion - CFM (litre/sec) . | 1018 (480) | 1258 (594) | 1382 (652) | 1515 (715) | 1591 (751) |
| Exhaust Gas Flow - CFM (litre/sec) | 2620 (1237) | 2991 (1412) | 3188 (1505) | 3474 (1640) | 3648 (1722) |
| Exhaust Gas Temperature - °F (°C) | 960 (516) | 895 (479) | 857 (458) | 851 (455) | 748.9 (398) |
| Engine Heat Rejection to Coolant- BTU/min. (kW) | 6683 (117) | 7303 (128) | 7954 (140) | 8789 (154) | 8877 (156) |
| Engine Heat Rejection to Ambient - BTU/min. (kW) | 1495 (26) | 1721 (30) | 2124 (37) | 2071 (36) | 2050 (36) |
| CFP15E-F10 Output - BHP (kW) | 382 (285) | 460 (343) | 488 (364) | 488 (364) | 380 (283) |
| Ventilation Air Required for Combustion - CFM (litre/sec) . | 970 (458) | 1217 (574) | 1357 (641) | 1469 (693) | 1542 (728) |
| Exhaust Gas Flow - CFM (litre/sec) | 2500 (1180) | 2881 (1360) | 3099 (1463) | 3308 (1561) | 3473 (1639) |
| Exhaust Gas Temperature - °F (°C) | 957 (514) | 883 (473) | 826 (441) | 844 (451) | 742.7 (395) |
| Engine Heat Rejection to Coolant- BTU/min. (kW) | 6361 (112) | 6947 (122) | 7730 (136) | 8085 (142) | 8166 (143) |
| Engine Heat Rejection to Ambient - BTU/min. (kW) | 1423 (25) | 1637 (29) | 2064 (36) | 1905 (33) | 1886 (33) |

All Data is Subject to Change Without Notice.

Cummins Fire Power, DePere, WI 54115 U.S.A.

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Scott Danforth