

# ENGINE SPECIFICATION DATA

|                                                                               | 1800           | 1500           | 1200           |      |      |
|-------------------------------------------------------------------------------|----------------|----------------|----------------|------|------|
| <b>Air System</b>                                                             |                |                |                |      |      |
| Maximum Allowable Temperature Rise<br>(Ambient Air to Engine Inlet)-°F(°C)... | 30(16.7)       | 30(16.7)       | 30(16.7)       |      |      |
| Air Intake Restriction Maximum Limit                                          |                |                |                |      |      |
| Dirty Air Cleaner-In H <sub>2</sub> O(kPa).....                               | 25(6.2)        | 18(4.5)        | 12(3.0)        |      |      |
| Clean Air Cleaner-Ig H <sub>2</sub> O(kPa).....                               | 13.4(3.3)      | 11(2.7)        | 8.5(2.1)       |      |      |
| Engine Air Flow - ft <sup>3</sup> /min(m <sup>3</sup> /min).....              | 380(10.8)      | 320(9.1)       | 260(7.4)       |      |      |
| Engine Air Box/Manifold Pressure-                                             |                |                |                |      |      |
| In Hg(kPa).....                                                               | 7.5(25.3)      | 5.0(16.9)      | 2.8(9.5)       |      |      |
| Recommended Intake Pipe Dia.-In(mm)....                                       | 5.0(127)       | 5.0(127)       | 5.0(127)       |      |      |
| <b>Exhaust System</b>                                                         |                |                |                |      |      |
| Exhaust Flow-ft <sup>3</sup> /min(m <sup>3</sup> /min).....                   | 910(25.8)      | 760(21.5)      | 610(17.3)      |      |      |
| Exhaust Temperature-°F(°C).....                                               | 820(438)       | 810(432)       | 785(418)       |      |      |
| Maximum Allowable Back Pressure-                                              |                |                |                |      |      |
| In Hg(kPa).....                                                               | 3.3(11.2)      | 2.3(7.8)       | 1.5(5.1)       |      |      |
| Recommended Exhaust Pipe Diameter                                             |                |                |                |      |      |
| Single-In(mm).....                                                            | 3.5(89)        | 3.5(89)        | 3.5(89)        |      |      |
| Dual-In(mm).....                                                              | NOT APPLICABLE | NOT APPLICABLE | NOT APPLICABLE |      |      |
| <b>Performance</b>                                                            |                |                |                |      |      |
| Power Output-bhp(kW).....                                                     | 128(95)        | 110(82)        | 89(66)         |      |      |
| Full Load Speed-r/min.....                                                    | 1800           | 1500           | 1200           |      |      |
| BMEP-lbf/in <sup>2</sup> (kPa).....                                           | 99.1(684)      | 102.6(707)     | 103.4(713)     |      |      |
| Piston Speed-ft/min(m <sup>3</sup> /min).....                                 | 1500(457)      | 1250(381)      | 1000(305)      |      |      |
| Friction Power-bhp(kW).....                                                   | 29(22)         | 22(16)         | 16(12)         |      |      |
| Altitude Capability-ft(m).....                                                | 16000(4880)    | 14000(4270)    | 12000(3660)    |      |      |
| Noise - dB(A) @ 1m.....                                                       | 99.7           | 98.2           | 96.9           |      |      |
| Smoke - Bosch Number.....                                                     | 1.7            | 0.9            | 1.0            |      |      |
| <b>Part Load Fuel Consumption</b>                                             |                |                |                |      |      |
| Fuel-lb/hr(kg/hr) - 0% Power.....                                             | 8.5(3.9)       | 6.5(2.9)       | 5.0(2.3)       |      |      |
| 25% Power.....                                                                | 16.3(7.4)      | 13.3(6.0)      | 10.5(4.8)      |      |      |
| 50% Power.....                                                                | 25.5(11.6)     | 21.5(9.8)      | 17.7(8.0)      |      |      |
| 75% Power.....                                                                | 35.8(16.2)     | 31.0(14.1)     | 25.4(11.5)     |      |      |
| 100% Power.....                                                               | 48.4(22.0)     | 42.3(19.2)     | 35.4(16.1)     |      |      |
| <b>Emissions - gm/hr (at percent load) - 1800 r/min</b>                       |                |                |                |      |      |
| 0%      25%      50%      75%      100%                                       |                |                |                |      |      |
| NO <sub>x</sub>                                                               | 120            | 420            | 790            | 1300 | 1470 |
| CO <sub>x</sub>                                                               | 83             | 44             | 41             | 116  | 1366 |
| HC                                                                            | 50             | 48             | 46             | 47   | 50   |
| SO <sub>2</sub>                                                               | 39             | 74             | 116            | 162  | 220  |
| <b>Emissions - gm/hr (at percent load) - 1500 r/min</b>                       |                |                |                |      |      |
| 0%      25%      50%      75%      100%                                       |                |                |                |      |      |
| NO <sub>x</sub>                                                               | 100            | 410            | 770            | 1230 | 1350 |
| CO <sub>x</sub>                                                               | 78             | 36             | 33             | 71   | 1410 |
| HC                                                                            | 41             | 39             | 38             | 39   | 42   |
| SO <sub>2</sub>                                                               | 29             | 60             | 98             | 140  | 190  |
| <b>Emissions - gm/hr (at percent load) - 1200 r/min</b>                       |                |                |                |      |      |
| 0%      25%      50%      75%      100%                                       |                |                |                |      |      |
| NO <sub>x</sub>                                                               | 81             | 380            | 720            | 1100 | 1190 |
| CO <sub>x</sub>                                                               | 71             | 30             | 25             | 36   | 1370 |
| HC                                                                            | 33             | 31             | 30             | 31   | 35   |
| SO <sub>2</sub>                                                               | 23             | 48             | 80             | 115  | 160  |

All values at rated speed and power and with standard engine hardware unless otherwise noted.

Curve No. E4-1045-52-4  
Date: 10-28-80  
Rev./Date: 1/5-17-85  
Sht. 4 of 4



# ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

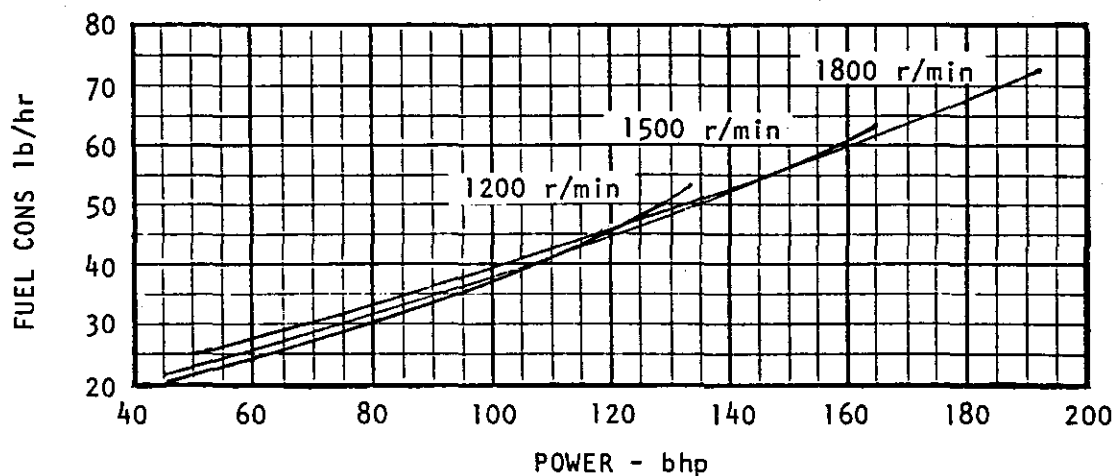
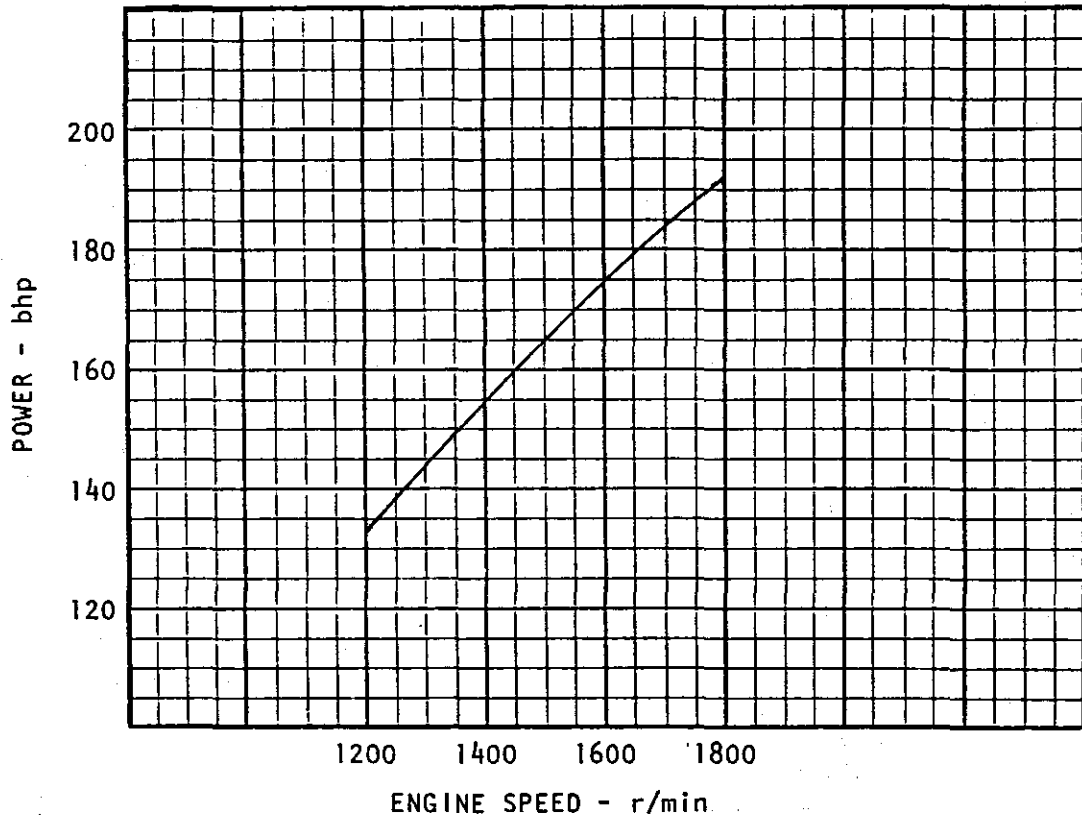
APPLICATION: GENERATOR  
PRIME POWER

MODEL: 6-71N

192 bhp @ 1800 r/min

165 bhp @ 1500 r/min

133 bhp @ 1200 r/min



AIR INTAKE RESTRICTION - in. H<sub>2</sub>O (kPa) . . . 10 (2.5)  
EXHAUST BACK PRESSURE - in. H<sub>2</sub>O (kPa) . . . 15 (3.7)

- POWER OUTPUT GUARANTEED WITHIN 5% AT SAE J1349 CONDITIONS:  
77°F (25°C) AIR INLET TEMPERATURE; 29.31 in. Hg (99kPa) DRY BAROMETER;  
100°F (39°C) FUEL INLET TEMPERATURE (.853 SPECIFIC GRAVITY AT 60°F).
- CONVERSION FACTORS: POWER: kW = bhp x 0.746  
FUEL: kg/hr = lb/hr x 0.454
- VALUES DERIVED ARE FROM CURRENTLY AVAILABLE DATA AND SUBJECT TO CHANGE WITHOUT NOTICE.

CERTIFIED BY:

*[Signature]*  
STAFF ENGINEER

CURVE NO.

E4-1065-52-3

DATE: 8-18-72

REV./DATE: 6/5-17-85

SHT. 1 OF 4

## ENGINE SPECIFICATION DATA

### General Engine Description

|                                       |                    |
|---------------------------------------|--------------------|
| Model.....                            | 1065-7005          |
| Number of Cylinders.....              | 6                  |
| Bore and Stroke-in(mm).....           | 4.25x5.00(108x127) |
| Displacement-in <sup>3</sup> (L)..... | 426(6.99)          |
| Compression Ratio.....                | 18.7:1             |
| Valves per Cylinder                   |                    |
| Intake.....                           | NOT APPLICABLE     |
| Exhaust.....                          | 4                  |
| Combustion System.....                | DIRECT INJECTION   |
| Engine Type.....                      | INLINE - 2 CYCLE   |
| Aspiration.....                       | NATURAL            |

### Configuration

|                                                |                |
|------------------------------------------------|----------------|
| Turbocharger.....                              | NOT APPLICABLE |
| Charge Air Cooling System.....                 | NONE           |
| Blower Type.....                               | STANDARD       |
| Blower Drive Ratio.....                        | 2.00:1         |
| Thrust Bearing Load Limit                      |                |
| Continuous-lbf(N).....                         | 400(1780)      |
| Intermittent-lbf(N).....                       | 1200(5340)     |
| Engine Crankcase Vent System.....              | OPEN           |
| Maximum Pressure-in H <sub>2</sub> O(kPa)..... | 1.9(0.47)      |

### Physical Data

|                                          |            |
|------------------------------------------|------------|
| Dimensions and Weight                    |            |
| Length-in(mm).....                       | 56.3(1429) |
| Width-in(mm).....                        | 30.4(771)  |
| Height-in(mm).....                       | 46.4(1178) |
| Weight,dry-lb(kg).....                   | 2190(993)  |
| Center of Gravity Distance               |            |
| From R.F.O.B. (x axis)-in(mm).....       | 18.2(462)  |
| Above Crankshaft (y axis)-in(mm).....    | 7.28(185)  |
| Right of Crankshaft (z axis)-in(mm)..... | 0.47(11.9) |
| Installation Drawing.....                | 5144880    |
| Maximum Allowable Static Bending Moment  |            |
| at Rear Face of FW Hsg-lbf ft(N m).....  | 0          |

### Electrical System

|                                               |        |
|-----------------------------------------------|--------|
| Recommended Battery Capacity(CCA @ 0°F)       |        |
| 12 Volt System                                |        |
| Above 32°F(0°C)-A.....                        | 950    |
| Below 32°F(0°C)-A.....                        | 1250   |
| 24 Volt System                                |        |
| Above 32°F(0°C)-A.....                        | 475    |
| Below 32°F(0°C)-A.....                        | 625    |
| Max. Allowable Resistance of Starting Circuit |        |
| 12 Volt System - ohm.....                     | 0.0012 |
| 24 Volt System - ohm.....                     | 0.002  |

All values at rated speed and power and with  
standard engine hardware unless otherwise noted.

Curve No. E4-1065-52-3  
Date: 8-18-72  
Rev./Date: 6/5-17-85

# ENGINE SPECIFICATION DATA

|                                                                                                    | 1800                   | 1500             | 1200             |
|----------------------------------------------------------------------------------------------------|------------------------|------------------|------------------|
| <b>Fuel System</b>                                                                                 |                        |                  |                  |
| Fuel Injector/Timing.....                                                                          | N60/1.460              | N60/1.460        | N60/1.460        |
| Fuel Injection Pump/Timing.....                                                                    | NOT APPLICABLE         | NOT APPLICABLE   | NOT APPLICABLE   |
| Fuel Consumption-lb/hr (kg/hr).....                                                                | 72.7 (33.0)            | 63.4 (28.8)      | 53.2 (24.1)      |
| Fuel Consumption-gal/hr (L/hr).....                                                                | 10.4 (39.4)            | 9.1 (34.4)       | 7.6 (28.8)       |
| Fuel Spill Rate-lb/hr (kg/hr).....                                                                 | 496.3 (225.1)          | 468.3 (212.4)    | 384.5 (174.4)    |
| Fuel Spill Rate-gal/hr (L/hr).....                                                                 | 71 (268.8)             | 67 (253.6)       | 55 (208.2)       |
| Total Fuel Flow-lb/hr (kg/hr).....                                                                 | 569.0 (258.1)          | 531.7 (241.2)    | 437.7 (198.5)    |
| Total Fuel Flow-gal/hr (L/hr).....                                                                 | 81.4 (308.1)           | 76.1 (287.9)     | 62.6 (237.0)     |
| Maximum Allowable Fuel Pump Suction                                                                |                        |                  |                  |
| Clean System-in Hg (kPa).....                                                                      | 6 (20)                 | 6 (20)           | 6 (20)           |
| Dirty System-in Hg (kPa).....                                                                      | 12 (41)                | 12 (41)          | 12 (41)          |
| Fuel Filter Micron Size - Primary.....                                                             | 30                     | 30               | 30               |
|                                                                                                    | Secondary....          | 10               | 10               |
| <b>Lubrication System</b>                                                                          |                        |                  |                  |
| Oil Pressure - normal-lbf/in <sup>2</sup> (kPa).....                                               | 54 (372)               | 50 (345)         | 45 (310)         |
| In Pan Oil Temperature-F (°C).....                                                                 | 200-225 (93-107)       | 200-225 (93-107) | 200-225 (93-107) |
| Oil Flow-gal/min (L/min).....                                                                      | 28 (106)               | 23 (87)          | 18 (68)          |
| Oil Pan Capacity - High-qt (L).....                                                                | 26 (24.6)              | 26 (24.6)        | 26 (24.6)        |
|                                                                                                    | Low-qt (L).....        | 22 (20.8)        | 22 (20.8)        |
| Total Engine Oil Capacity with                                                                     |                        |                  |                  |
| Filters-qt (L).....                                                                                | 28 (26.5)              | 28 (26.5)        | 28 (26.5)        |
| Bypass Oil Filter Orifice-in (mm).....                                                             | 0.062 (1.57)           | 0.062 (1.57)     | 0.062 (1.57)     |
| Engine Angularity Limits                                                                           |                        |                  |                  |
| Front up - degrees.....                                                                            | 13                     | 13               | 13               |
| Front Down - degrees.....                                                                          | 4                      | 4                | 4                |
| Side tilt - degrees.....                                                                           | NOT AVAILABLE          | NOT AVAILABLE    | NOT AVAILABLE    |
| <b>Cooling System</b>                                                                              |                        |                  |                  |
| Engine Heat Rejection-Btu/min (kW).....                                                            | 6050 (106.3)           | 5280 (92.8)      | 4790 (84.2)      |
| Engine Radiated Heat-Btu/min (kW).....                                                             | 1180 (20.8)            | 1100 (19.4)      | 1020 (17.8)      |
| Coolant Flow-gal/min (L/min).....                                                                  | 68 (257)               | 58 (220)         | 45 (170)         |
| Thermostat - Start to Open-F (°C).....                                                             | 173 (78)               | 173 (78)         | 173 (78)         |
|                                                                                                    | Fully Open-F (°C)..... | 186 (86)         | 186 (86)         |
| Maximum Water Pump Inlet                                                                           |                        |                  |                  |
| Restriction-in Hg (kPa).....                                                                       | 3.0 (10.2)             | 2.0 (6.7)        | 1.0 (3.4)        |
| Engine Coolant Capacity-qt (L).....                                                                | 23.0 (21.8)            | 23.0 (21.8)      | 23.0 (21.8)      |
| Minimum Pressure Cap-lbf/in <sup>2</sup> (kPa).....                                                | 9.0 (62.1)             | 9.0 (62.1)       | 9.0 (62.1)       |
| Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in <sup>2</sup> (kPa).....                |                        |                  |                  |
|                                                                                                    | 20 (138)               | 20 (138)         | 20 (138)         |
| Maximum Allowable Cooling System                                                                   |                        |                  |                  |
| Static Head W/Vented Cap-ft H <sub>2</sub> O (kPa).....                                            | 50 (149)               | 50 (149)         | 50 (149)         |
| Maximum Top Tank Temperature-F (°C).....                                                           | 210 (99)               | 210 (99)         | 210 (99)         |
| Minimum Top Tank Temperature-F (°C).....                                                           | 163 (73)               | 163 (73)         | 163 (73)         |
| Min. Coolant Fill Rate-gal/min (L/min).....                                                        | 3.0 (11.4)             | 3.0 (11.4)       | 3.0 (11.4)       |
| Cooling Index                                                                                      |                        |                  |                  |
| Minimum Air to Boil-F (°C).....                                                                    | 117 (47.2)             | 117 (47.2)       | 117 (47.2)       |
| Maximum Air to Water Diff.-F (°C).....                                                             | 95 (52.8)              | 95 (52.8)        | 95 (52.8)        |
| Deaeration - <sub>3</sub> Air Injection                                                            |                        |                  |                  |
| Capacity-ft <sup>3</sup> /min (m <sup>3</sup> /min).....                                           | 0.64 (0.017)           | 0.6 (0.017)      | 0.6 (0.017)      |
| Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever is Larger)-qt (L)..... |                        |                  |                  |
|                                                                                                    | 4.0 (3.8)              | 4.0 (3.8)        | 4.0 (3.8)        |

All values at rated speed and power and with standard engine hardware unless otherwise noted.

Curve No. E4-1065-52-3  
Date: 8-18-72  
Rev./Date: 6/5-17-85  
Sht. 3 of 4

# ENGINE SPECIFICATION DATA

|                                                                              | 1800           | 1500           | 1200           |      |      |
|------------------------------------------------------------------------------|----------------|----------------|----------------|------|------|
| <u>Air System</u>                                                            |                |                |                |      |      |
| Maximum Allowable Temperature Rise<br>(Ambient Air to Engine Inlet)-F(°C)... | 30(16.7)       | 30(16.7)       | 30(16.7)       |      |      |
| Air Intake Restriction Maximum Limit                                         |                |                |                |      |      |
| Dirty Air Cleaner-in H <sub>2</sub> O(kPa).....                              | 25(6.2)        | 18(4.5)        | 12(3.0)        |      |      |
| Clean Air Cleaner-in H <sub>2</sub> O(kPa).....                              | 13.4(3.3)      | 11(2.7)        | 8.5(2.1)       |      |      |
| Engine Air Flow - ft <sup>3</sup> /min(m <sup>3</sup> /min).....             | 570(16.1)      | 480(13.6)      | 390(11.0)      |      |      |
| Engine Air Box/Manifold Pressure-<br>in Hg(kPa).....                         | 7.5(25.3)      | 5.0(16.9)      | 2.8(9.5)       |      |      |
| Recommended Intake Pipe Dia.-in(mm)....                                      | 5.0(127)       | 5.0(127)       | 5.0(127)       |      |      |
| <u>Exhaust System</u>                                                        |                |                |                |      |      |
| Exhaust Flow-ft <sup>3</sup> /min(m <sup>3</sup> /min).....                  | 1360(38.5)     | 1140(32.3)     | 910(25.8)      |      |      |
| Exhaust Temperature-F(°C).....                                               | 820(438)       | 810(432)       | 785(418)       |      |      |
| Maximum Allowable Back Pressure-<br>in Hg(kPa).....                          | 3.3(11.2)      | 2.3(7.8)       | 1.5(5.1)       |      |      |
| Recommended Exhaust Pipe Diameter                                            |                |                |                |      |      |
| Single-in(mm).....                                                           | 4.0(102)       | 4.0(102)       | 4.0(102)       |      |      |
| Dual-in(mm).....                                                             | NOT APPLICABLE | NOT APPLICABLE | NOT APPLICABLE |      |      |
| <u>Performance</u>                                                           |                |                |                |      |      |
| Power Output-bhp(kW).....                                                    | 192(143)       | 165(123)       | 133(100)       |      |      |
| Full Load Speed-r/min.....                                                   | 1800           | 1500           | 1200           |      |      |
| BMEP-lbf/in <sup>2</sup> (kPa).....                                          | 99.1(683)      | 102.4(707)     | 103.5(714)     |      |      |
| Piston Speed-ft/min(m <sup>3</sup> /min).....                                | 1500(457)      | 1250(381)      | 1000(305)      |      |      |
| Friction Power-bhp(kW).....                                                  | 42(31)         | 34(25)         | 23(17)         |      |      |
| Altitude Capability-ft(m).....                                               | 16000(4880)    | 14000(4270)    | 12000(3660)    |      |      |
| Noise - dB(A) @ 1m.....                                                      | 102.2          | 100.1          | 99.2           |      |      |
| Smoke - Bosch Number.....                                                    | 1.4            | 1.2            | 1.0            |      |      |
| <u>Part Load Fuel Consumption</u>                                            |                |                |                |      |      |
| Fuel-lb/hr(kg/hr) - 0% Power.....                                            | 12.8(5.8)      | 10.0(4.5)      | 7.2(3.3)       |      |      |
| 25% Power.....                                                               | 24.3(11.0)     | 19.8(9.0)      | 15.5(7.0)      |      |      |
| 50% Power.....                                                               | 38.4(17.4)     | 32.6(14.8)     | 26.4(12.0)     |      |      |
| 75% Power.....                                                               | 53.3(24.2)     | 46.1(20.9)     | 37.7(17.1)     |      |      |
| 100% Power.....                                                              | 72.7(33.0)     | 63.4(28.8)     | 53.2(24.2)     |      |      |
| <u>Emissions - gm/hr (at percent load) - 1800 r/min</u>                      |                |                |                |      |      |
| 0% 25% 50% 75% 100%                                                          |                |                |                |      |      |
| NO <sub>x</sub>                                                              | 180            | 630            | 1190           | 1950 | 2210 |
| CO <sub>x</sub>                                                              | 124            | 66             | 62             | 174  | 2040 |
| HC                                                                           | 75             | 72             | 69             | 71   | 75   |
| SO <sub>2</sub>                                                              | 58             | 110            | 174            | 242  | 330  |
| <u>Emissions - gm/hr (at percent load) - 1500 r/min</u>                      |                |                |                |      |      |
| 0% 25% 50% 75% 100%                                                          |                |                |                |      |      |
| NO <sub>x</sub>                                                              | 150            | 620            | 1160           | 1840 | 2020 |
| CO <sub>x</sub>                                                              | 117            | 55             | 49             | 106  | 2120 |
| HC                                                                           | 62             | 58             | 57             | 59   | 63   |
| SO <sub>2</sub>                                                              | 45             | 90             | 148            | 210  | 290  |
| <u>Emissions - gm/hr (at percent load) - 1200 r/min</u>                      |                |                |                |      |      |
| 0% 25% 50% 75% 100%                                                          |                |                |                |      |      |
| NO <sub>x</sub>                                                              | 122            | 565            | 1075           | 1650 | 1780 |
| CO <sub>x</sub>                                                              | 106            | 45             | 37             | 54   | 2050 |
| HC                                                                           | 50             | 46             | 45             | 47   | 52   |
| SO <sub>2</sub>                                                              | 33             | 70             | 120            | 170  | 240  |

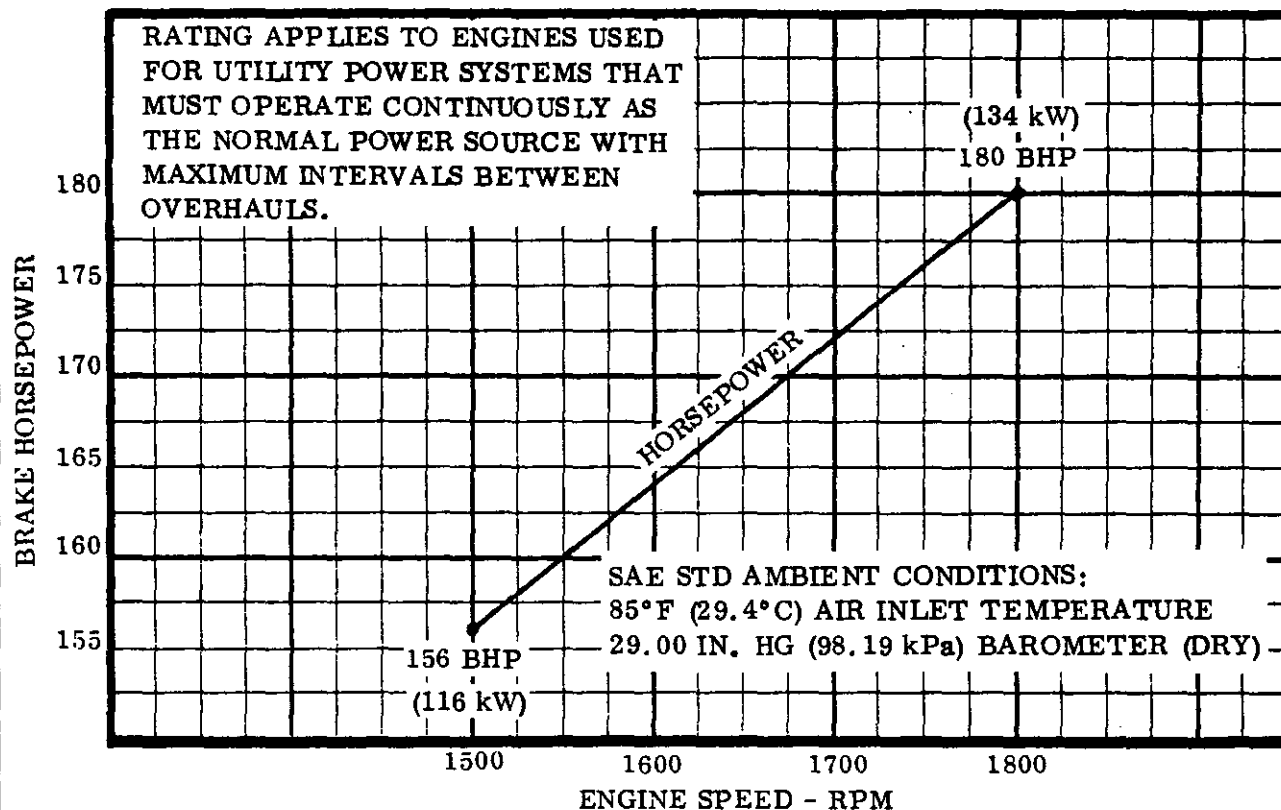
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Date: 8-18-72  
Rev./Date: 6/5-17-85  
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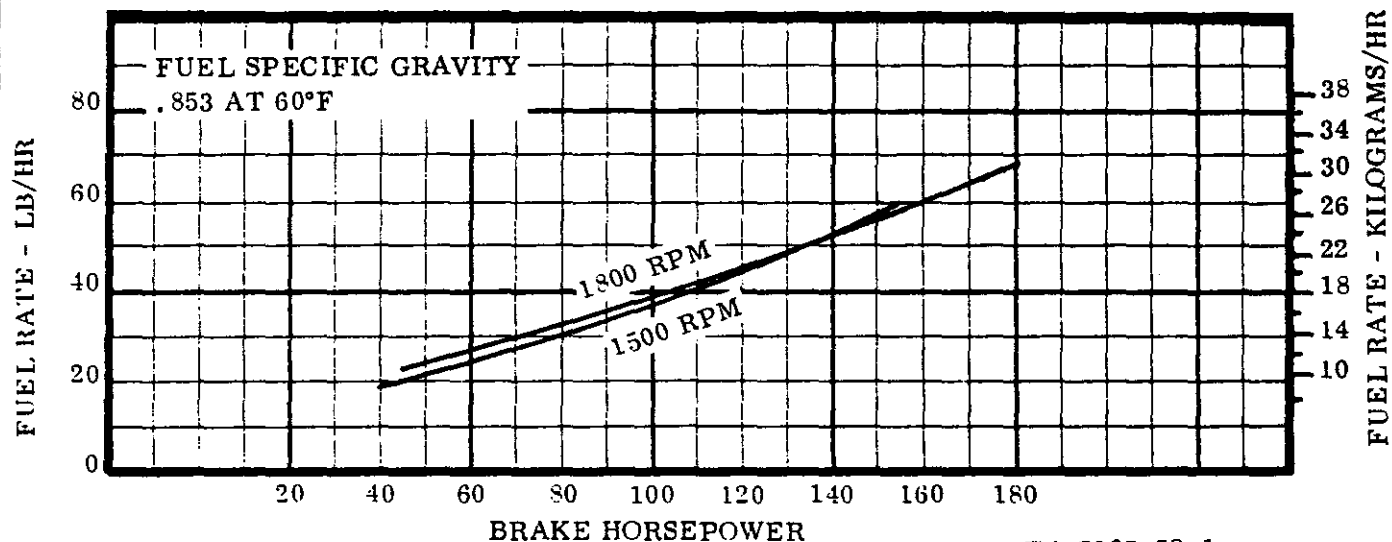


**Detroit Diesel Allison**  
Division of General Motors Corporation

6V-71N ENGINE  
DIESEL ELECTRIC PRIME POWER  
(WITHOUT FAN)  
N55 INJECTORS



#### AVERAGE FUEL CONSUMPTION







# ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

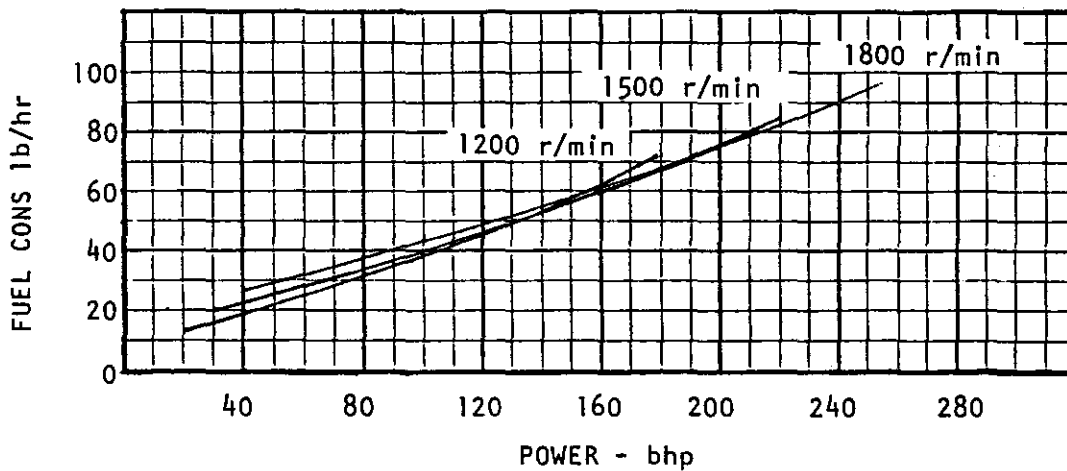
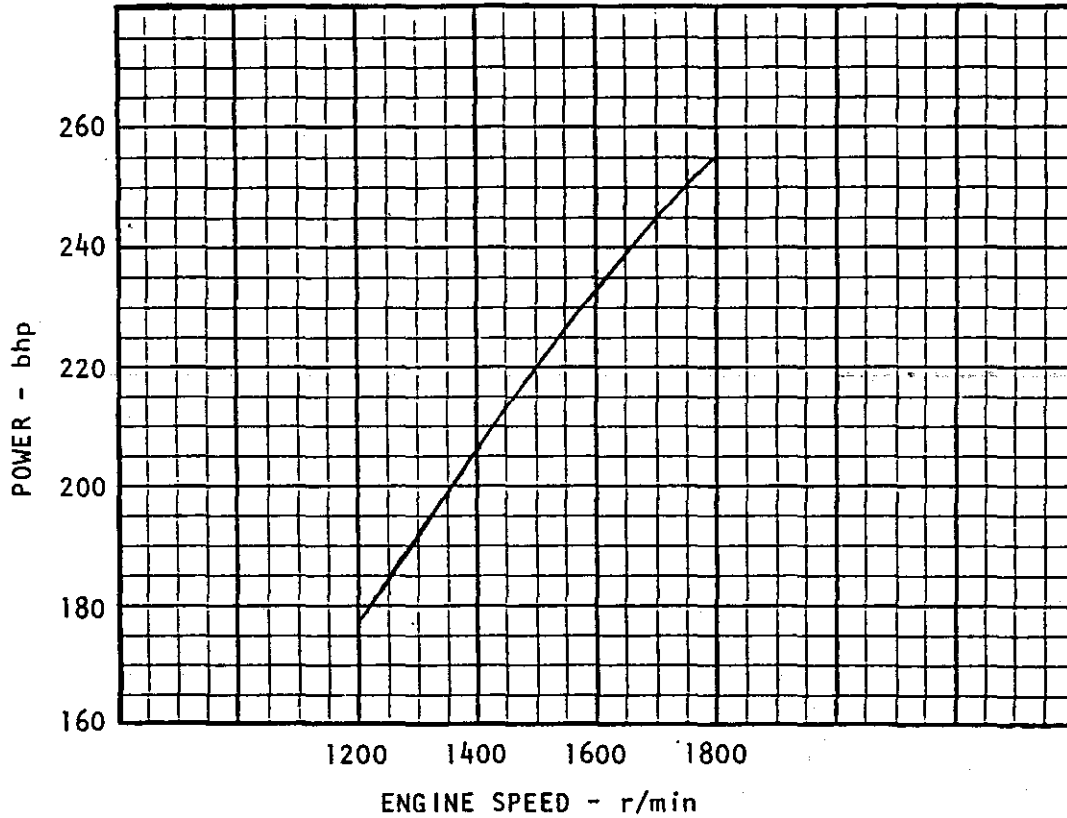
MODEL: 8V-71N

APPLICATION: GENERATOR  
PRIME POWER

255 bhp @ 1800 r/min

220 bhp @ 1500 r/min

178 bhp @ 1200 r/min



AIR INTAKE RESTRICTION - in. H<sub>2</sub>O (kPa) . . . 10 (2.5)

EXHAUST BACK PRESSURE - in. H<sub>2</sub>O (kPa) . . . 15 (3.7)

- POWER OUTPUT GUARANTEED WITHIN 5% AT SAE J1349 CONDITIONS:  
77°F (25°C) AIR INLET TEMPERATURE; 29.31 in. Hg (99kPa) DRY BAROMETER;  
100°F (39°C) FUEL INLET TEMPERATURE (.853 SPECIFIC GRAVITY AT 60°F).
- CONVERSION FACTORS: POWER: kW = bhp x 0.746  
FUEL: kg/hr = lb/hr x 0.454
- VALUES DERIVED ARE FROM CURRENTLY AVAILABLE DATA AND SUBJECT TO CHANGE WITHOUT NOTICE.

CERTIFIED BY:

*[Signature]*  
STAFF ENGINEER

CURVE NO.

E4-7085-52-5

DATE: 5-20-85

REV./DATE:

SHT. 1 OF 4

## ENGINE SPECIFICATION DATA

### General Engine Description

|                                       |                     |
|---------------------------------------|---------------------|
| Model.....                            | 7085-7005           |
| Number of Cylinders.....              | 8                   |
| Bore and Stroke-in(mm).....           | 4.25x5.00(108x127)  |
| Displacement-in <sup>3</sup> (L)..... | 568(9.32)           |
| Compression Ratio.....                | 18.7:1              |
| Valves per Cylinder                   |                     |
| Intake.....                           | NOT APPLICABLE      |
| Exhaust.....                          | 4                   |
| Combustion System.....                | DIRECT INJECTION    |
| Engine Type.....                      | 63.5° VEE - 2 CYCLE |
| Aspiration.....                       | NATURAL             |

### Configuration

|                                                |                |
|------------------------------------------------|----------------|
| Turbocharger.....                              | NOT APPLICABLE |
| Charge Air Cooling System.....                 | NONE           |
| Blower Type.....                               | STANDARD       |
| Blower Drive Ratio.....                        | 2.00:1         |
| Thrust Bearing Load Limit                      |                |
| Continuous-lbf(N).....                         | 600(2670)      |
| Intermittent-lbf(N).....                       | 1800(8000)     |
| Engine Crankcase Vent System.....              | OPEN           |
| Maximum Pressure-in H <sub>2</sub> O(kPa)..... | 1.9(0.47)      |

### Physical Data

|                                          |            |
|------------------------------------------|------------|
| Dimensions and Weight                    |            |
| Length-in(mm).....                       | 48.3(1228) |
| Width-in(mm).....                        | 47.7(1212) |
| Height-in(mm).....                       | 36.0(915)  |
| Weight,dry-lb(kg).....                   | 2310(1048) |
| Center of Gravity Distance               |            |
| From R.F.O.B. (x axis)-in(mm).....       | 11.1(281)  |
| Above Crankshaft (y axis)-in(mm).....    | 6.28(160)  |
| Right of Crankshaft (z axis)-in(mm)..... | 1.47(37.3) |
| Installation Drawing.....                | 5146035    |
| Maximum Allowable Static Bending Moment  |            |
| at Rear Face of FW Hsg-lbf ft(N m).....  | 0          |

### Electrical System

|                                               |        |
|-----------------------------------------------|--------|
| Recommended Battery Capacity(CCA @ 0°F)       |        |
| 12 Volt System                                |        |
| Above 32°F(0°C)-A.....                        | 1900   |
| Below 32°F(0°C)-A.....                        | 2500   |
| 24 Volt System                                |        |
| Above 32°F(0°C)-A.....                        | 950    |
| Below 32°F(0°C)-A.....                        | 1250   |
| Max. Allowable Resistance of Starting Circuit |        |
| 12 Volt System - ohm.....                     | 0.0012 |
| 24 Volt System - ohm.....                     | 0.002  |

All values at rated speed and power and with  
standard engine hardware unless otherwise noted.

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# ENGINE SPECIFICATION DATA

|                                                         | 1800                   | 1500            | 1200            |
|---------------------------------------------------------|------------------------|-----------------|-----------------|
| <u>Fuel System</u>                                      |                        |                 |                 |
| Fuel Injector/Timing.....                               | N60/1.460              | N60/1.460       | N60/1.460       |
| Fuel Injection Pump/Timing.....                         | NOT APPLICABLE         | NOT APPLICABLE  | NOT APPLICABLE  |
| Fuel Consumption-lb/hr(kg/hr).....                      | 96.9(44.0)             | 84.6(38.4)      | 70.9(32.2)      |
| Fuel Consumption-gal/hr(L/hr).....                      | 13.9(52.5)             | 12.1(45.8)      | 10.1(38.4)      |
| Fuel Spill Rate-lb/hr(kg/hr).....                       | 496.3(225.1)           | 468.3(212.4)    | 384.5(174.4)    |
| Fuel Spill Rate-gal/hr(L/hr).....                       | 71(268.8)              | 67(253.6)       | 55(208.2)       |
| Total Fuel Flow-lb/hr(kg/hr).....                       | 593.2(269.1)           | 552.9(250.8)    | 455.4(206.6)    |
| Total Fuel Flow-gal/hr(L/hr).....                       | 84.9(321.2)            | 79.1(299.4)     | 65.2(246.6)     |
| Maximum Allowable Fuel Pump Suction                     |                        |                 |                 |
| Clean System-in Hg(kPa).....                            | 6(20)                  | 6(20)           | 6(20)           |
| Dirty System-in Hg(kPa).....                            | 12(41)                 | 12(41)          | 12(41)          |
| Fuel Filter Micron Size - Primary.....                  | 30                     | 30              | 30              |
|                                                         | Secondary....          | 10              | 10              |
| <u>Lubrication System</u>                               |                        |                 |                 |
| Oil Pressure - normal-lbf/in <sup>2</sup> (kPa).....    | 60(414)                | 56(386)         | 45(310)         |
| In Pan Oil Temperature-°F(°C).....                      | 200-250(93-121)        | 200-250(93-121) | 200-250(93-121) |
| Oil Flow-gal/min(L/min).....                            | 34(129)                | 31(117)         | 27(102)         |
| Oil Pan Capacity - High-qt(L).....                      | 23(21.8)               | 23(21.8)        | 23(21.8)        |
|                                                         | Low-qt(L).....         | 17(16.1)        | 17(16.1)        |
| Total Engine Oil Capacity with                          |                        |                 |                 |
| Filters-qt(L).....                                      | 25(23.7)               | 25(23.7)        | 25(23.7)        |
| Bypass Oil Filter Orifice-in(mm).....                   | 0.101(2.57)            | 0.101(2.57)     | 0.101(2.57)     |
| Engine Angularity Limits                                |                        |                 |                 |
| Front up - degrees.....                                 | 15                     | 15              | 15              |
| Front Down - degrees.....                               | 18                     | 18              | 18              |
| Side tilt - degrees.....                                | NOT AVAILABLE          | NOT AVAILABLE   | NOT AVAILABLE   |
| <u>Cooling System</u>                                   |                        |                 |                 |
| Engine Heat Rejection-Btu/min(kW).....                  | 8030(141.2)            | 7040(123.8)     | 6410(112.7)     |
| Engine Radiated Heat-Btu/min(kW).....                   | 1570(27.6)             | 1480(26.0)      | 1350(23.7)      |
| Coolant Flow-gal/min(L/min).....                        | 110(416)               | 92(348)         | 73(276)         |
| Thermostat - Start to Open-°F(°C).....                  | 170(77)                | 170(77)         | 170(77)         |
|                                                         | Fully Open-°F(°C)..... | 187(86)         | 187(86)         |
| Maximum Water Pump Inlet                                |                        |                 |                 |
| Restriction-in Hg(kPa).....                             | 3.0(10.2)              | 2.0(6.7)        | 1.0(3.4)        |
| Engine Coolant Capacity-qt(L).....                      | 31.0(29.3)             | 31.0(29.3)      | 31.0(29.3)      |
| Minimum Pressure Cap-lbf/in <sup>2</sup> (kPa).....     | 9.0(62.1)              | 9.0(62.1)       | 9.0(62.1)       |
| Maximum Coolant Pressure <sub>2</sub> (Exclusive        |                        |                 |                 |
| of Pressure Cap)-lbf/in <sup>2</sup> (kPa).....         | 20(138)                | 20(138)         | 20(138)         |
| Maximum Allowable Cooling System                        |                        |                 |                 |
| Static Head W/Vented Cap-ft H <sub>2</sub> O(kPa)..<    | 50(149)                | 50(149)         | 50(149)         |
| Maximum Top Tank Temperature-°F(°C)....                 | 210(99)                | 210(99)         | 210(99)         |
| Minimum Top Tank Temperature-°F(°C)....                 | 160(70)                | 160(70)         | 160(70)         |
| Min. Coolant Fill Rate-gal/min(L/min)..<                | 3.0(11.4)              | 3.0(11.4)       | 3.0(11.4)       |
| Cooling Index                                           |                        |                 |                 |
| Minimum Air to Boil-°F(°C).....                         | 117(47.2)              | 117(47.2)       | 117(47.2)       |
| Maximum Air to Water Diff.-°F(°C).....                  | 95(52.8)               | 95(52.8)        | 95(52.8)        |
| Deaeration - Air Injection                              |                        |                 |                 |
| Capacity-ft <sup>3</sup> /min(m <sup>3</sup> /min)..... | 0.8(0.023)             | 0.8(0.023)      | 0.8(0.023)      |
| Drawdown - Minimum Requirement (or 10%                  |                        |                 |                 |
| of Cooling System Capacity-Whichever                    |                        |                 |                 |
| is Larger)-qt(L).....                                   | 4.0(3.8)               | 4.0(3.8)        | 4.0(3.8)        |

All values at rated speed and power and with standard engine hardware unless otherwise noted.

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# ENGINE SPECIFICATION DATA

|                                                                               | 1800        | 1500        | 1200        |      |      |
|-------------------------------------------------------------------------------|-------------|-------------|-------------|------|------|
| <u>Air System</u>                                                             |             |             |             |      |      |
| Maximum Allowable Temperature Rise<br>(Ambient Air to Engine Inlet)-°F(°C)... | 30(16.7)    | 30(16.7)    | 30(16.7)    |      |      |
| Air Intake Restriction Maximum Limit                                          |             |             |             |      |      |
| Dirty Air Cleaner-in H <sub>2</sub> O(kPa).....                               | 25(6.2)     | 18(4.5)     | 12(3.0)     |      |      |
| Clean Air Cleaner-in H <sub>2</sub> O(kPa).....                               | 13.4(3.3)   | 11(2.7)     | 8.5(2.1)    |      |      |
| Engine Air Flow - ft <sup>3</sup> /min(m <sup>3</sup> /min).....              | 760(21.4)   | 630(17.8)   | 510(14.4)   |      |      |
| Engine Air Box/Manifold Pressure-                                             |             |             |             |      |      |
| in Hg(kPa).....                                                               | 7.5(25.3)   | 5.0(16.9)   | 2.8(9.5)    |      |      |
| Recommended Intake Pipe Dia.-in(mm)....                                       | 5.0(127)    | 5.0(127)    | 5.0(127)    |      |      |
| <u>Exhaust System</u>                                                         |             |             |             |      |      |
| Exhaust Flow-ft <sup>3</sup> /min(m <sup>3</sup> /min).....                   | 1800(51.0)  | 1490(42.2)  | 1180(33.4)  |      |      |
| Exhaust Temperature-°F(°C).....                                               | 820(438)    | 810(432)    | 785(418)    |      |      |
| Maximum Allowable Back Pressure-                                              |             |             |             |      |      |
| in Hg(kPa).....                                                               | 3.3(11.2)   | 2.3(7.8)    | 1.5(5.1)    |      |      |
| Recommended Exhaust Pipe Diameter                                             |             |             |             |      |      |
| Single-in(mm).....                                                            | 5.0(127)    | 5.0(127)    | 5.0(127)    |      |      |
| Dual-in(mm).....                                                              | 3.5(89)     | 3.5(89)     | 3.5(89)     |      |      |
| <u>Performance</u>                                                            |             |             |             |      |      |
| Power Output-bhp(kW).....                                                     | 255(191)    | 220(164)    | 178(133)    |      |      |
| Full Load Speed-r/min.....                                                    | 1800        | 1500        | 1200        |      |      |
| BMEP-lbf/in <sup>2</sup> (kPa).....                                           | 99.0(683)   | 102.5(707)  | 103.4(713)  |      |      |
| Piston Speed-ft/min(m <sup>3</sup> /min).....                                 | 1500(457)   | 1250(381)   | 1000(305)   |      |      |
| Friction Power-bhp(kW).....                                                   | 60(45)      | 44(33)      | 31(23)      |      |      |
| Altitude Capability-ft(m).....                                                | 16000(4880) | 14000(4270) | 12000(3660) |      |      |
| Noise - dB(A) @ 1m.....                                                       | 98.4        | 96.9        | 96.5        |      |      |
| Smoke - Bosch Number.....                                                     | 0.6         | 0.7         | 1.0         |      |      |
| <u>Part Load Fuel Consumption</u>                                             |             |             |             |      |      |
| Fuel-lb/hr(kg/hr) - 0% Power.....                                             | 17.0(7.7)   | 13.0(5.9)   | 9.5(4.3)    |      |      |
| 25% Power.....                                                                | 32.6(14.8)  | 26.5(12.0)  | 21.1(9.6)   |      |      |
| 50% Power.....                                                                | 51.1(23.2)  | 43.3(19.7)  | 35.2(15.9)  |      |      |
| 75% Power.....                                                                | 71.6(32.5)  | 61.4(27.8)  | 50.5(22.9)  |      |      |
| 100% Power.....                                                               | 96.9(44.0)  | 84.6(38.4)  | 70.9(32.2)  |      |      |
| <u>Emissions - gm/hr (at percent load) - 1800 r/min</u>                       |             |             |             |      |      |
| 0%      25%      50%      75%      100%                                       |             |             |             |      |      |
| NO <sub>x</sub>                                                               | 200         | 1130        | 2250        | 3400 | 3920 |
| CO <sub>x</sub>                                                               | 200         | 145         | 130         | 170  | 1960 |
| HC                                                                            | 100         | 150         | 92          | 93   | 104  |
| SO <sub>2</sub>                                                               | 77          | 150         | 230         | 325  | 440  |
| <u>Emissions - gm/hr (at percent load) - 1500 r/min</u>                       |             |             |             |      |      |
| 0%      25%      50%      75%      100%                                       |             |             |             |      |      |
| NO <sub>x</sub>                                                               | 126         | 1020        | 1940        | 2930 | 3300 |
| CO <sub>x</sub>                                                               | 205         | 134         | 114         | 130  | 2640 |
| HC                                                                            | 84          | 77          | 75          | 76   | 86   |
| SO <sub>2</sub>                                                               | 60          | 120         | 200         | 280  | 385  |
| <u>Emissions - gm/hr (at percent load) - 1200 r/min</u>                       |             |             |             |      |      |
| 0%      25%      50%      75%      100%                                       |             |             |             |      |      |
| NO <sub>x</sub>                                                               | 75          | 900         | 1630        | 2460 | 2720 |
| CO <sub>x</sub>                                                               | 200         | 120         | 100         | 100  | 2960 |
| HC                                                                            | 68          | 60          | 58          | 60   | 70   |
| SO <sub>2</sub>                                                               | 43          | 96          | 160         | 230  | 320  |

All values at rated speed and power and with standard engine hardware unless otherwise noted.

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# ENGINE PERFORMANCE CURVE

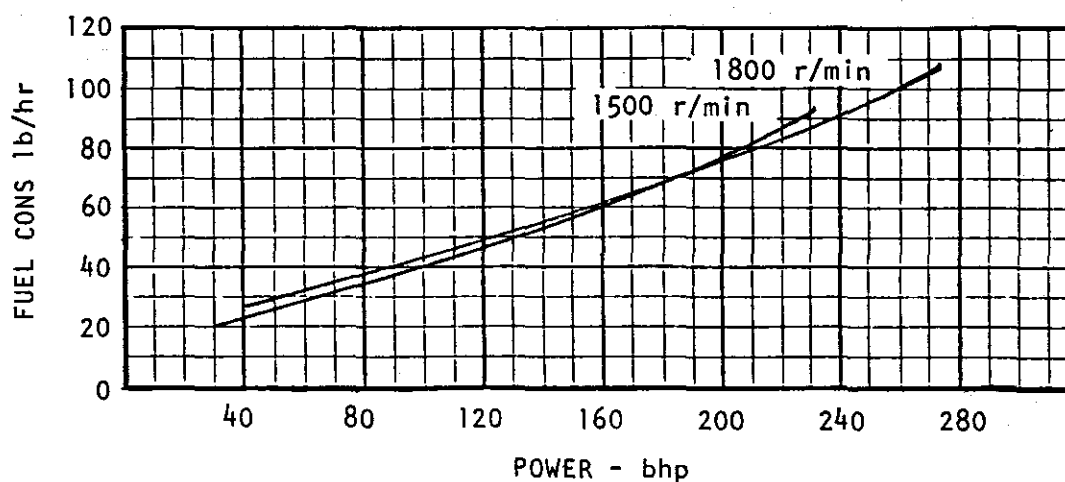
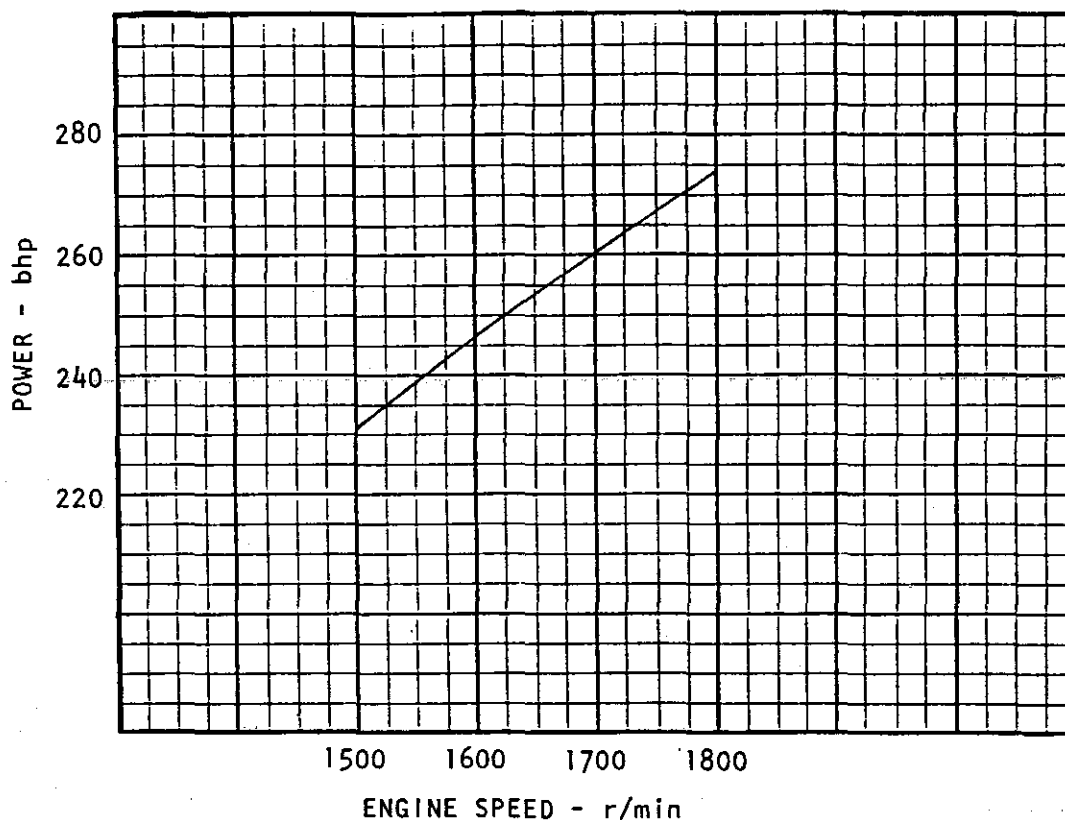
RATING: RATED BRAKE POWER

APPLICATION: GENERATOR  
PRIME POWER

MODEL: 8V-71N

274 bhp @ 1800 r/min

231 bhp @ 1500 r/min



AIR INTAKE RESTRICTION - in. H<sub>2</sub>O (kPa) . . . 10 (2.5)

EXHAUST BACK PRESSURE - in. H<sub>2</sub>O (kPa) . . . 15 (3.7)

- POWER OUTPUT GUARANTEED WITHIN 5% AT SAE J1349 CONDITIONS:  
77°F (25°C) AIR INLET TEMPERATURE; 29.31 in. Hg (99kPa) DRY BAROMETER;  
100°F (39°C) FUEL INLET TEMPERATURE (.853 SPECIFIC GRAVITY AT 60°F).
- CONVERSION FACTORS: POWER: kW = bhp x 0.746  
FUEL: kg/hr = lb/hr x 0.454
- VALUES DERIVED ARE FROM CURRENTLY AVAILABLE DATA AND SUBJECT TO  
CHANGE WITHOUT NOTICE.

CERTIFIED BY:

*[Signature]*  
STAFF ENGINEER

CURVE NO.

E4-7085-52-6

DATE: 5-20-85

REV./DATE:

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## ENGINE SPECIFICATION DATA

### General Engine Description

|                                       |                     |
|---------------------------------------|---------------------|
| Model.....                            | 7085-7005           |
| Number of Cylinders.....              | 8                   |
| Bore and Stroke-in(mm).....           | 4.25x5.00(108x127)  |
| Displacement-in <sup>3</sup> (L)..... | 568(9.32)           |
| Compression Ratio.....                | 18.7:1              |
| Valves per Cylinder                   |                     |
| Intake.....                           | NOT APPLICABLE      |
| Exhaust.....                          | 4                   |
| Combustion System.....                | DIRECT INJECTION    |
| Engine Type.....                      | 63.5° VEE - 2 CYCLE |
| Aspiration.....                       | NATURAL             |

### Configuration

|                                                |                |
|------------------------------------------------|----------------|
| Turbocharger.....                              | NOT APPLICABLE |
| Charge Air Cooling System.....                 | NONE           |
| Blower Type.....                               | STANDARD       |
| Blower Drive Ratio.....                        | 2.00:1         |
| Thrust Bearing Load Limit                      |                |
| Continuous-lbf(N).....                         | 600(2670)      |
| Intermittent-lbf(N).....                       | 1800(8000)     |
| Engine Crankcase Vent System.....              | OPEN           |
| Maximum Pressure-in H <sub>2</sub> O(kPa)..... | 1.9(0.47)      |

### Physical Data

|                                          |            |
|------------------------------------------|------------|
| Dimensions and Weight                    |            |
| Length-in(mm).....                       | 48.3(1228) |
| Width-in(mm).....                        | 47.7(1212) |
| Height-in(mm).....                       | 36.0(915)  |
| Weight,dry-lb(kg).....                   | 2310(1048) |
| Center of Gravity Distance               |            |
| From R.F.O.B. (x axis)-in(mm).....       | 11.1(281)  |
| Above Crankshaft (y axis)-in(mm).....    | 6.28(160)  |
| Right of Crankshaft (z axis)-in(mm)..... | 1.47(37.3) |
| Installation Drawing.....                | 5146035    |
| Maximum Allowable Static Bending Moment  |            |
| at Rear Face of FW Hsg-lbf ft(N m).....  | 0          |

### Electrical System

|                                               |        |
|-----------------------------------------------|--------|
| Recommended Battery Capacity(CCA @ 0°F)       |        |
| 12 Volt System                                |        |
| Above 32°F(0°C)-A.....                        | 1900   |
| Below 32°F(0°C)-A.....                        | 2500   |
| 24 Volt System                                |        |
| Above 32°F(0°C)-A.....                        | 950    |
| Below 32°F(0°C)-A.....                        | 1250   |
| Max. Allowable Resistance of Starting Circuit |        |
| 12 Volt System - ohm.....                     | 0.0012 |
| 24 Volt System - ohm.....                     | 0.002  |

All values at rated speed and power and with standard engine hardware unless otherwise noted.

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# ENGINE SPECIFICATION DATA

|                                        | 1800           | 1500           |
|----------------------------------------|----------------|----------------|
| <b>Fuel System</b>                     |                |                |
| Fuel Injector/Timing.....              | 7N65/1.460     | 7N65/1.460     |
| Fuel Injection Pump/Timing.....        | NOT APPLICABLE | NOT APPLICABLE |
| Fuel Consumption-lb/hr(kg/hr).....     | 108.4(49.2     | 94.4(42.8)     |
| Fuel Consumption-gal/hr(L/hr).....     | 15.5(58.7)     | 13.5(51.1)     |
| Fuel Spill Rate-lb/hr(kg/hr).....      | 496.3(225.1)   | 468.3(212.4)   |
| Fuel Spill Rate-gal/hr(L/hr).....      | 71(268.8)      | 67(253.6)      |
| Total Fuel Flow-lb/hr(kg/hr).....      | 604.7(274.3)   | 562.7(255.2)   |
| Total Fuel Flow-gal/hr(L/hr).....      | 86.5(327.5)    | 80.5(304.7)    |
| Maximum Allowable Fuel Pump Suction    |                |                |
| Clean System-in Hg(kPa).....           | 6(20)          | 6(20)          |
| Dirty System-in Hg(kPa).....           | 12(41)         | 12(41)         |
| Fuel Filter Micron Size - Primary..... | 30             | 30             |
|                                        |                |                |

All values at rated speed and power and with  
standard engine hardware unless otherwise noted.

Curve No. E4-7085-52-6  
Date: 5-20-85  
Rev./Date:  
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# ENGINE SPECIFICATION DATA

|                                                                                   | 1800        | 1500       |
|-----------------------------------------------------------------------------------|-------------|------------|
| <u>Air System</u>                                                                 |             |            |
| Maximum Allowable Temperature Rise<br>(Ambient Air to Engine Inlet) - °F(°C)..... | 30(16.7)    | 30(16.7)   |
| Air Intake Restriction Maximum Limit                                              |             |            |
| Dirty Air Cleaner-in H <sub>2</sub> O(kPa).....                                   | 25(6.2)     | 18(4.5)    |
| Clean Air Cleaner-in H <sub>2</sub> O(kPa).....                                   | 13.4(3.3)   | 11(2.7)    |
| Engine Air Flow - ft <sup>3</sup> /min(m <sup>3</sup> /min).....                  | 760(21.4)   | 630(17.8)  |
| Engine Air Box/Manifold Pressure-<br>in Hg(kPa).....                              | 7.5(25.3)   | 5.0(16.9)  |
| Recommended Intake Pipe Dia.-in(mm).....                                          | 5.0(127)    | 5.0(127)   |
| <u>Exhaust System</u>                                                             |             |            |
| Exhaust Flow-ft <sup>3</sup> /min(m <sup>3</sup> /min).....                       | 1870(53.0)  | 1540(43.6) |
| Exhaust Temperature-°F(°C).....                                                   | 870(466)    | 850(434)   |
| Maximum Allowable Back Pressure-<br>in Hg(kPa).....                               | 3.3(11.2)   | 2.3(7.8)   |
| Recommended Exhaust Pipe Diameter                                                 |             |            |
| Single-in(mm).....                                                                | 5.0(127)    | 5.0(127)   |
| Dual-in(mm).....                                                                  | 3.5(89)     | 3.5(89)    |
| <u>Performance</u>                                                                |             |            |
| Power Output-bhp(kW).....                                                         | 274(204)    | 231(172)   |
| Full Load Speed-r/min.....                                                        | 1800        | 1500       |
| BMEP-lbf/in <sup>2</sup> (kPa).....                                               | 106.2(732)  | 107.5(741) |
| Piston Speed-ft/min(m/min).....                                                   | 1500(457)   | 1250(381)  |
| Friction Power-bhp(kW).....                                                       | 60(45)      | 44(33)     |
| Altitude Capability-ft(m).....                                                    | 6000(1830)  | 4000(1220) |
| Noise - dB(A) @ 1m.....                                                           | 98.5        | 97.0       |
| Smoke - Bosch Number.....                                                         | 0.8         | 0.9        |
| <u>Part Load Fuel Consumption</u>                                                 |             |            |
| Fuel-lb/hr(kg/hr) - 0% Power.....                                                 | 17.0(7.7)   | 13.0(5.9)  |
| 25% Power.....                                                                    | 35.5(16.1)  | 28.3(12.8) |
| 50% Power.....                                                                    | 54.4(24.7)  | 45.4(20.6) |
| 75% Power.....                                                                    | 77.0(34.9)  | 65.2(29.6) |
| 100% Power.....                                                                   | 108.4(49.2) | 94.4(42.8) |
| <u>Emissions - gm/hr (at percent load) - 1800 r/min</u>                           |             |            |
| 0%      25%      50%      75%      100%                                           |             |            |
| NO <sub>x</sub> 195     1260     2360     5130     3840                           |             |            |
| CO <sub>x</sub> 200      170      140      205     3470                           |             |            |
| HC        102      95      92      93      104                                    |             |            |
| SO <sub>2</sub> 77      160      250      350     490                             |             |            |
| <u>Emissions - gm/hr (at percent load) - 1500 r/min</u>                           |             |            |
| 0%      25%      50%      75%      100%                                           |             |            |
| NO <sub>x</sub> 126     1090     2060     3680     3220                           |             |            |
| CO <sub>x</sub> 205      160      105      160     4030                           |             |            |
| HC        84      77      75      75      87                                      |             |            |
| SO <sub>2</sub> 60      130      210      300     430                             |             |            |

All values at rated speed and power and with  
standard engine hardware unless otherwise noted.

Curve No. E4-7085-52-6  
Date: 5-20-85  
Rev./Date:  
Sht. 4 of 4



# ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

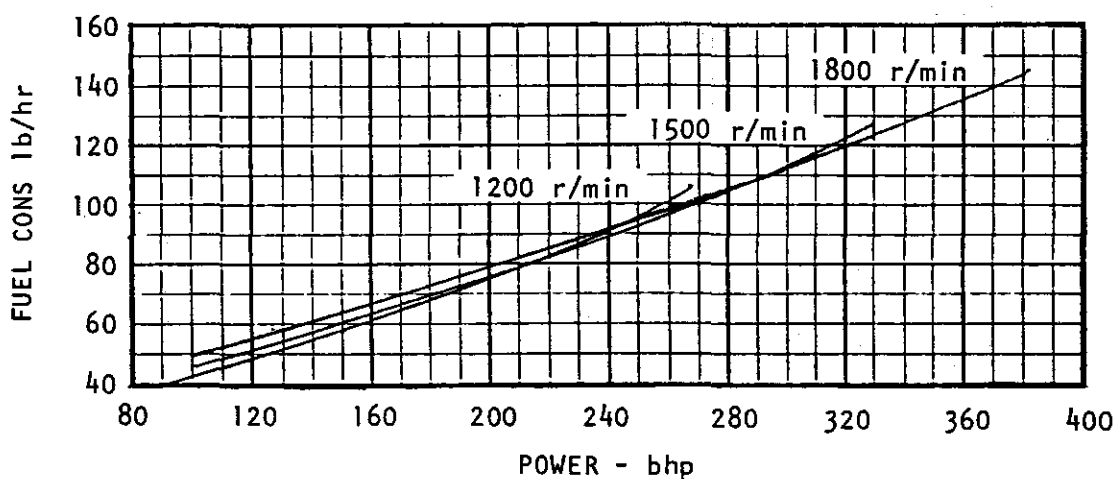
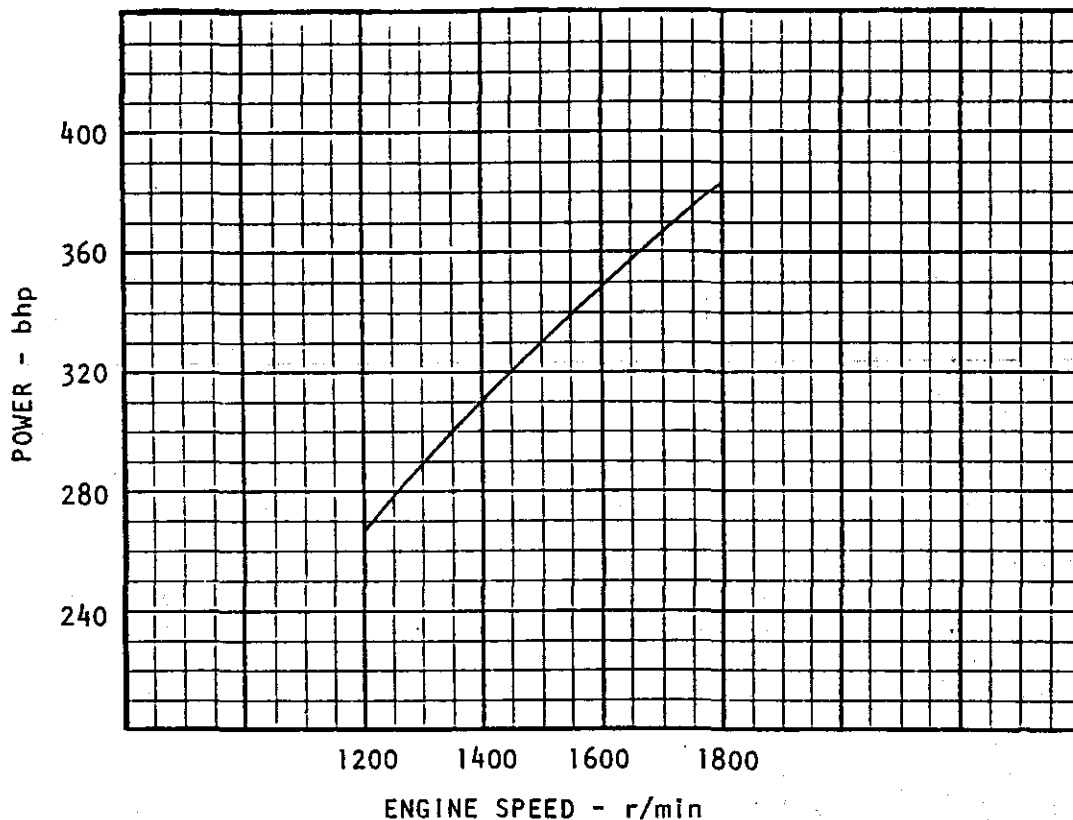
APPLICATION: GENERATOR  
PRIME POWER

MODEL: 12V-71N

382 bhp @ 1800 r/min

330 bhp @ 1500 r/min

268 bhp @ 1200 r/min



AIR INTAKE RESTRICTION - in. H<sub>2</sub>O (kPa) . . . 10 (2.5)

EXHAUST BACK PRESSURE - in. H<sub>2</sub>O (kPa) . . . 15 (3.7)

- POWER OUTPUT GUARANTEED WITHIN 5% AT SAE J1349 CONDITIONS:  
77°F (25°C) AIR INLET TEMPERATURE; 29.31 in. Hg (99kPa) DRY BAROMETER;  
100°F (39°C) FUEL INLET TEMPERATURE (.853 SPECIFIC GRAVITY AT 60°F).
- CONVERSION FACTORS: POWER: kW = bhp x 0.746  
FUEL: kg/hr = lb/hr x 0.454
- VALUES DERIVED ARE FROM CURRENTLY AVAILABLE DATA AND SUBJECT TO CHANGE WITHOUT NOTICE.

CERTIFIED BY:

STAFF ENGINEER

CURVE NO.

E4-7125-52-2

DATE: 8-18-72

REV./DATE: 6/5-20-85

SHT. 1 OF 4

## ENGINE SPECIFICATION DATA

### General Engine Description

|                                       |                     |
|---------------------------------------|---------------------|
| Model.....                            | 7125-7005           |
| Number of Cylinders.....              | 12                  |
| Bore and Stroke-in(mm).....           | 4.25x5.00(108x127)  |
| Displacement-in <sup>3</sup> (L)..... | 852(13.97)          |
| Compression Ratio.....                | 18.7:1              |
| Valves per Cylinder                   |                     |
| Intake.....                           | NOT APPLICABLE      |
| Exhaust.....                          | 4                   |
| Combustion System.....                | DIRECT INJECTION    |
| Engine Type.....                      | 63.5° VEE - 2 CYCLE |
| Aspiration.....                       | NATURAL             |

### Configuration

|                                                |                |
|------------------------------------------------|----------------|
| Turbocharger.....                              | NOT APPLICABLE |
| Charge Air Cooling System.....                 | NONE           |
| Blower Type.....                               | STANDARD       |
| Blower Drive Ratio.....                        | 2.00:1         |
| Thrust Bearing Load Limit                      |                |
| Continuous-lbf(N).....                         | 600(2670)      |
| Intermittent-lbf(N).....                       | 1800(8000)     |
| Engine Crankcase Vent System.....              | OPEN           |
| Maximum Pressure-in H <sub>2</sub> O(kPa)..... | 1.9(0.47)      |

### Physical Data

|                                          |            |
|------------------------------------------|------------|
| Dimensions and Weight                    |            |
| Length-in(mm).....                       | 59.3(1505) |
| Width-in(mm).....                        | 50.6(1286) |
| Height-in(mm).....                       | 45.9(1165) |
| Weight,dry-lb(kg).....                   | 3210(1456) |
| Center of Gravity Distance               |            |
| From R.F.O.B. (x axis)-in(mm).....       | 17.1(435)  |
| Above Crankshaft (y axis)-in(mm).....    | 8.5(216)   |
| Right of Crankshaft (z axis)-in(mm)..... | 1.38(35.2) |
| Installation Drawing.....                | 5145663    |
| Maximum Allowable Static Bending Moment  |            |
| at Rear Face of FW Hsg-lbf ft(N m).....  | 0          |

### Electrical System

|                                               |        |
|-----------------------------------------------|--------|
| Recommended Battery Capacity(CCA @ 0°F)       |        |
| 12 Volt System                                |        |
| Above 32°F(0°C)-A.....                        | 1900   |
| Below 32°F(0°C)-A.....                        | 2500   |
| 24 Volt System                                |        |
| Above 32°F(0°C)-A.....                        | 950    |
| Below 32°F(0°C)-A.....                        | 1250   |
| Max. Allowable Resistance of Starting Circuit |        |
| 12 Volt System - ohm.....                     | 0.0012 |
| 24 Volt System - ohm.....                     | 0.002  |

All values at rated speed and power and with standard engine hardware unless otherwise noted.

Curve No. E4-7125-52-2  
Date: 8-18-72  
Rev./Date: 6/5-20-85  
Sht. 2 of 4

# ENGINE SPECIFICATION DATA

|                                                                                                   | 1800            | 1500            | 1200            |
|---------------------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|
| <u>Fuel System</u>                                                                                |                 |                 |                 |
| Fuel Injector/Timing.....                                                                         | N60/1.460       | N60/1.460       | N60/1.460       |
| Fuel Injection Pump/Timing.....                                                                   | NOT APPLICABLE  | NOT APPLICABLE  | NOT APPLICABLE  |
| Fuel Consumption-lb/hr(kg/hr).....                                                                | 145.3(65.9)     | 126.9(57.6)     | 106.3(48.2)     |
| Fuel Consumption-gal/hr(L/hr).....                                                                | 20.8(78.7)      | 18.2(68.7)      | 15.2(57.6)      |
| Fuel Spill Rate-lb/hr(kg/hr).....                                                                 | 759.1(344.3)    | 759.1(344.3)    | 641.7(291.1)    |
| Fuel Spill Rate-gal/hr(L/hr).....                                                                 | 108.6(411.1)    | 108.6(411.1)    | 91.80347.5      |
| Total Fuel Flow-lb/hr(kg/hr).....                                                                 | 904.4(410.2)    | 886.0(401.9)    | 748.0(339.3)    |
| Total Fuel Flow-gal/hr(L/hr).....                                                                 | 129.4(489.8)    | 126.8(479.8)    | 107.0(405.1)    |
| Maximum Allowable Fuel Pump Suction                                                               |                 |                 |                 |
| Clean System-in Hg(kPa).....                                                                      | 6(20)           | 6(20)           | 6(20)           |
| Dirty System-in Hg(kPa).....                                                                      | 12(41)          | 12(41)          | 12(41)          |
| Fuel Filter Micron Size - Primary.....                                                            | 30              | 30              | 30              |
| Secondary.....                                                                                    | 10              | 10              | 10              |
| <u>Lubrication System</u>                                                                         |                 |                 |                 |
| Oil Pressure - normal-lbf/in <sup>2</sup> (kPa).....                                              | 60(414)         | 56(386)         | 45(310)         |
| In Pan Oil Temperature-°F(°C).....                                                                | 200-250(93-121) | 200-250(93-121) | 200-250(93-121) |
| Oil Flow-gal/min(L/min).....                                                                      | 54(204)         | 47(178)         | 40(151)         |
| Oil Pan Capacity - High-qt(L).....                                                                | 34(32.2)        | 34(32.2)        | 34(32.2)        |
| Low-qt(L).....                                                                                    | 26(24.6)        | 26(24.6)        | 26(24.6)        |
| Total Engine Oil Capacity with                                                                    |                 |                 |                 |
| Filters-qt(L).....                                                                                | 38(36.0)        | 38(36.0)        | 38(36.0)        |
| Bypass Oil Filter Orifice-in(mm).....                                                             | 0.101(2.57)     | 0.101(2.57)     | 0.101(2.57)     |
| Engine Angularity Limits                                                                          |                 |                 |                 |
| Front up - degrees.....                                                                           | 1               | 1               | 1               |
| Front Down - degrees.....                                                                         | 0               | 0               | 0               |
| Side tilt - degrees.....                                                                          | NOT AVAILABLE   | NOT AVAILABLE   | NOT AVAILABLE   |
| <u>Cooling System</u>                                                                             |                 |                 |                 |
| Engine Heat Rejection-Btu/min(kW).....                                                            | 12030(211.6)    | 10580(196.0)    | 9650(169.7)     |
| Engine Radiated Heat-Btu/min(kW).....                                                             | 1570(27.6)      | 1480(26.0)      | 2020(35.5)      |
| Coolant Flow-gal/min(L/min).....                                                                  | 173(655)        | 144(545)        | 114(432)        |
| Thermostat - Start to Open-°F(°C).....                                                            | 170(77)         | 170(77)         | 170(77)         |
| Fully Open-°F(°C).....                                                                            | 187(86)         | 187(86)         | 187(86)         |
| Maximum Water Pump Inlet                                                                          |                 |                 |                 |
| Restriction-in Hg(kPa).....                                                                       | 3.0(10.2)       | 2.0(6.7)        | 1.0(3.4)        |
| Engine Coolant Capacity-qt(L).....                                                                | 55(52)          | 55(52)          | 55(52)          |
| Minimum Pressure Cap-lbf/in <sup>2</sup> (kPa).....                                               | 9.0(62.1)       | 9.0(62.1)       | 9.0(62.1)       |
| Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in <sup>2</sup> (kPa).....               |                 |                 |                 |
|                                                                                                   | 20(138)         | 20(138)         | 20(138)         |
| Maximum Allowable Cooling System                                                                  |                 |                 |                 |
| Static Head W/Vented Cap-ft H <sub>2</sub> O(kPa).....                                            | 50(149)         | 50(149)         | 50(149)         |
| Maximum Top Tank Temperature-°F(°C).....                                                          | 210(99)         | 210(99)         | 210(99)         |
| Minimum Top Tank Temperature-°F(°C).....                                                          | 160(70)         | 160(70)         | 160(70)         |
| Min. Coolant Fill Rate-gal/min(L/min).....                                                        | 3.0(11.4)       | 3.0(11.4)       | 3.0(11.4)       |
| Cooling Index                                                                                     |                 |                 |                 |
| Minimum Air to Boil-°F(°C).....                                                                   | 117(47.2)       | 117(47.2)       | 117(47.2)       |
| Maximum Air to Water Diff.-°F(°C).....                                                            | 95(52.8)        | 95(52.8)        | 95(52.8)        |
| Deaeration - Air Injection                                                                        |                 |                 |                 |
| Capacity-ft <sup>3</sup> /min(m <sup>3</sup> /min).....                                           | 1.2(0.03)       | 1.2(0.03)       | 1.2(0.03)       |
| Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever is Larger)-qt(L)..... |                 |                 |                 |
|                                                                                                   | 5.5(5.2)        | 5.5(5.2)        | 5.5(5.2)        |

All values at rated speed and power and with standard engine hardware unless otherwise noted.

Curve No. E4-7125-52-2  
Date: 8-18-72  
Rev./Date: 6/5-20-85  
Sht. 3 of 4

# ENGINE SPECIFICATION DATA

|                                                                               | 1800        | 1500        | 1200        |      |      |
|-------------------------------------------------------------------------------|-------------|-------------|-------------|------|------|
| <u>Air System</u>                                                             |             |             |             |      |      |
| Maximum Allowable Temperature Rise<br>(Ambient Air to Engine Inlet)- F(°C)... | 30(16.7)    | 30(16.7)    | 30(16.7)    |      |      |
| Air Intake Restriction Maximum Limit                                          |             |             |             |      |      |
| Dirty Air Cleaner-in H <sub>2</sub> O(kPa).....                               | 25(6.2)     | 18(4.5)     | 12(3.0)     |      |      |
| Clean Air Cleaner-in H <sub>2</sub> O(kPa).....                               | 13.4(3.3)   | 11(2.7)     | 8.5(2.1)    |      |      |
| Engine Air Flow - ft <sup>3</sup> /min(m <sup>3</sup> /min).....              | 1130(32.0)  | 950(26.9)   | 770(21.8)   |      |      |
| Engine Air Box/Manifold Pressure-<br>in Hg(kPa).....                          | 7.5(25.3)   | 5.0(16.9)   | 2.8(9.5)    |      |      |
| Recommended Intake Pipe Dia.-in(mm)....                                       | 6.0(152)    | 6.0(152)    | 6.0(152)    |      |      |
| <u>Exhaust System</u>                                                         |             |             |             |      |      |
| Exhaust Flow-ft <sup>3</sup> /min(m <sup>3</sup> /min).....                   | 2690(76.2)  | 2250(63.7)  | 1790(50.7)  |      |      |
| Exhaust Temperature- F(°C).....                                               | 820(438)    | 810(432)    | 785(418)    |      |      |
| Maximum Allowable Back Pressure-<br>in Hg(kPa).....                           | 3.3(11.2)   | 2.3(7.8)    | 1.5(5.1)    |      |      |
| Recommended Exhaust Pipe Diameter                                             |             |             |             |      |      |
| Single-in(mm).....                                                            | 6.0(152)    | 6.0(152)    | 6.0(152)    |      |      |
| Dual-in(mm).....                                                              | 4.0(102)    | 4.0(102)    | 4.0(102)    |      |      |
| <u>Performance</u>                                                            |             |             |             |      |      |
| Power Output-bhp(kW).....                                                     | 382(285)    | 330(247)    | 268(200)    |      |      |
| Full Load Speed-r/min.....                                                    | 1800        | 1500        | 1200        |      |      |
| BMEP-lbf/in <sup>2</sup> (kPa).....                                           | 98.8(681)   | 102.5(707)  | 103.9(717)  |      |      |
| Piston Speed-ft/min(m <sup>3</sup> /min).....                                 | 1500(457)   | 1250(381)   | 1000(305)   |      |      |
| Friction Power-bhp(kW).....                                                   | 90(67)      | 67(50)      | 47(35)      |      |      |
| Altitude Capability-ft(m).....                                                | 16000(4880) | 14000(4270) | 12000(3660) |      |      |
| Noise - dB(A) @ 1m.....                                                       | 101.2       | 99.9        | 99.5        |      |      |
| Smoke - Bosch Number.....                                                     | 0.6         | 0.7         | 1.0         |      |      |
| <u>Part Load Fuel Consumption</u>                                             |             |             |             |      |      |
| Fuel-lb/hr(kg/hr) - 0% Power.....                                             | 25.6(11.6)  | 20.0(9.1)   | 14.4(6.5)   |      |      |
| 25% Power.....                                                                | 48.5(22.0)  | 39.7(18.0)  | 31.3(14.2)  |      |      |
| 50% Power.....                                                                | 76.4(34.7)  | 64.8(29.4)  | 52.8(23.9)  |      |      |
| 75% Power.....                                                                | 107.0(48.5) | 92.5(42.0)  | 75.8(34.4)  |      |      |
| 100% Power.....                                                               | 145.3(65.9) | 126.9(57.6) | 106.3(48.2) |      |      |
| <u>Emissions - gm/hr (at percent load) - 1800 r/min</u>                       |             |             |             |      |      |
| 0%      25%      50%      75%      100%                                       |             |             |             |      |      |
| NO <sub>x</sub>                                                               | 300         | 1700        | 3380        | 5100 | 5880 |
| CO <sub>x</sub>                                                               | 300         | 220         | 200         | 260  | 2940 |
| HC                                                                            | 150         | 230         | 140         | 140  | 160  |
| SO <sub>2</sub>                                                               | 120         | 220         | 350         | 490  | 660  |
| <u>Emissions - gm/hr (at percent load) - 1500 r/min</u>                       |             |             |             |      |      |
| 0%      25%      50%      75%      100%                                       |             |             |             |      |      |
| NO <sub>x</sub>                                                               | 190         | 1530        | 2910        | 4400 | 4950 |
| CO <sub>x</sub>                                                               | 310         | 200         | 170         | 200  | 3960 |
| HC                                                                            | 130         | 120         | 110         | 110  | 130  |
| SO <sub>2</sub>                                                               | 90          | 180         | 290         | 420  | 580  |
| <u>Emissions - gm/hr (at percent load) - 1200 r/min</u>                       |             |             |             |      |      |
| 0%      25%      50%      75%      100%                                       |             |             |             |      |      |
| NO <sub>x</sub>                                                               | 110         | 1350        | 2450        | 3960 | 4080 |
| CO <sub>x</sub>                                                               | 300         | 180         | 150         | 150  | 4440 |
| HC                                                                            | 100         | 90          | 90          | 90   | 110  |
| SO <sub>2</sub>                                                               | 70          | 140         | 240         | 340  | 480  |

All values at rated speed and power and with standard engine hardware unless otherwise noted.

Curve No. E4-7125-52-2  
Date: 8-18-72  
Rev./Date: 6/5-20-85  
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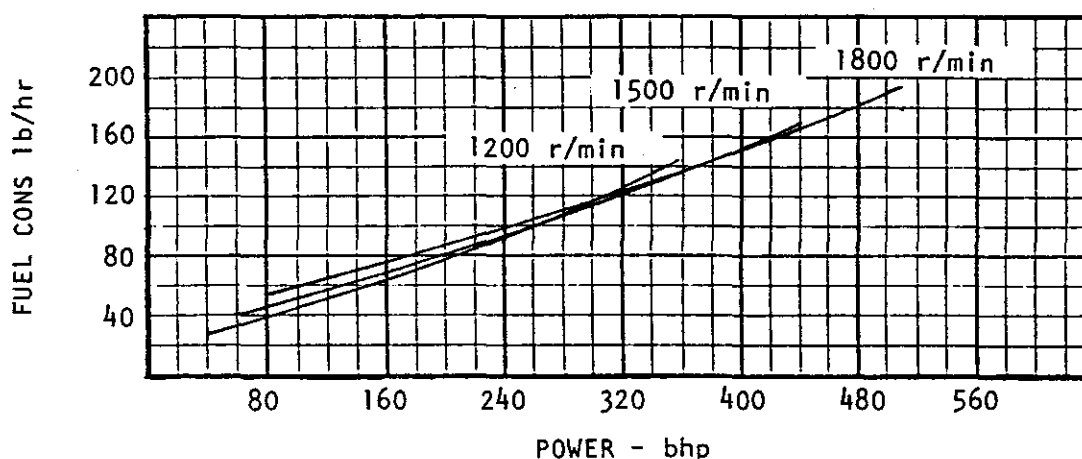
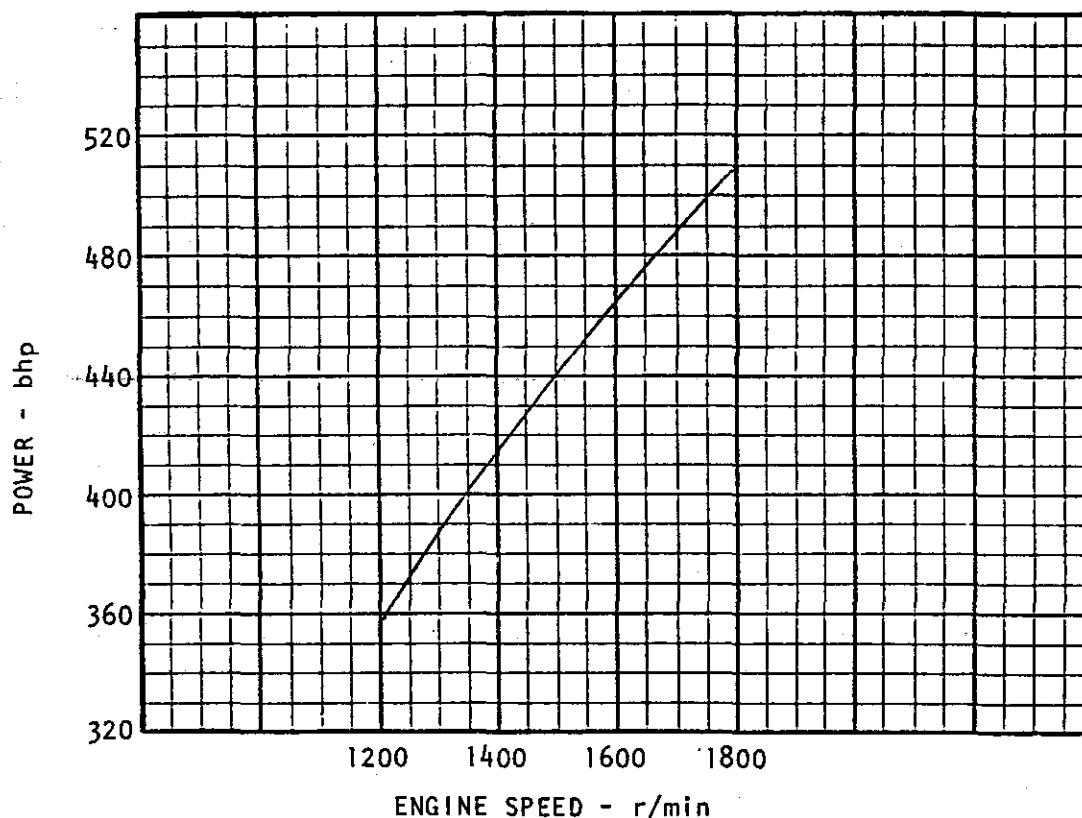
# ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

MODEL: 16V-71N

APPLICATION: GENERATOR  
PRIME POWER

509 bhp @ 1800 r/min  
440 bhp @ 1500 r/min  
357 bhp @ 1200 r/min



AIR INTAKE RESTRICTION - in. H<sub>2</sub>O (kPa) . . . 10 (2.5)  
EXHAUST BACK PRESSURE - in. H<sub>2</sub>O (kPa) . . . 15 (3.7)

- POWER OUTPUT GUARANTEED WITHIN 5% AT SAE J1349 CONDITIONS:  
77°F (25°C) AIR INLET TEMPERATURE; 29.31 in. Hg (99kPa) DRY BAROMETER;  
100°F (39°C) FUEL INLET TEMPERATURE (.853 SPECIFIC GRAVITY AT 60°F).
- CONVERSION FACTORS: POWER: kW = bhp x 0.746  
FUEL: kg/hr = lb/hr x 0.454
- VALUES DERIVED ARE FROM CURRENTLY AVAILABLE DATA AND SUBJECT TO  
CHANGE WITHOUT NOTICE.

CERTIFIED BY

*[Signature]*  
STAFF ENGINEER

CURVE NO.

E4-7165-52-4

DATE: 9-25-80

REV./DATE: 2/5-21-85

SHT. 1 OF 4

## ENGINE SPECIFICATION DATA

### General Engine Description

|                                       |                     |
|---------------------------------------|---------------------|
| Model.....                            | 7165-7005           |
| Number of Cylinders.....              | 16                  |
| Bore and Stroke-in(mm).....           | 4.25x5.00(108x127)  |
| Displacement-in <sup>3</sup> (L)..... | 1136(18.63)         |
| Compression Ratio.....                | 18.7:1              |
| Valves per Cylinder                   |                     |
| Intake.....                           | NOT APPLICABLE      |
| Exhaust.....                          | 4                   |
| Combustion System.....                | DIRECT INJECTION    |
| Engine Type.....                      | 63.5° VEE - 2 CYCLE |
| Aspiration.....                       | NATURAL             |

### Configuration

|                                                |                |
|------------------------------------------------|----------------|
| Turbocharger.....                              | NOT APPLICABLE |
| Charge Air Cooling System.....                 | NONE           |
| Blower Type.....                               | STANDARD       |
| Blower Drive Ratio.....                        | 2.00:1         |
| Thrust Bearing Load Limit                      |                |
| Continuous-lbf(N).....                         | 600(2670)      |
| Intermittent-lbf(N).....                       | 1800(8000)     |
| Engine Crankcase Vent System.....              | OPEN           |
| Maximum Pressure-in H <sub>2</sub> O(kPa)..... | 1.9(0.47)      |

### Physical Data

|                                          |            |
|------------------------------------------|------------|
| Dimensions and Weight                    |            |
| Length-in(mm).....                       | 79.4(2017) |
| Width-in(mm).....                        | 57.4(1457) |
| Height-in(mm).....                       | 46.7(1185) |
| Weight,dry-lb(kg).....                   | 4600(2087) |
| Center of Gravity Distance               |            |
| From R.F.O.B. (x axis)-in(mm).....       | 27.8(705)  |
| Above Crankshaft (y axis)-in(mm).....    | 6.5(165)   |
| Right of Crankshaft (z axis)-in(mm)..... | 1.5(38.1)  |
| Installation Drawing.....                | 5146078    |
| Maximum Allowable Static Bending Moment  |            |
| at Rear Face of FW Hsg-lbf ft(N m).....  | 0          |

### Electrical System

|                                               |                  |
|-----------------------------------------------|------------------|
| Recommended Battery Capacity(CCA @ 0°F)       |                  |
| 12 Volt System                                |                  |
| Above 32°F(0°C)-A.....                        | NOT APPLICABLE   |
| Below 32°F(0°C)-A.....                        | NOT APPLICABLE   |
| 24 Volt System                                |                  |
| Above 32°F(0°C)-A.....                        | 950 PER STARTER  |
| Below 32°F(0°C)-A.....                        | 1250 PER STARTER |
| Max. Allowable Resistance of Starting Circuit |                  |
| 12 Volt System - ohm.....                     | 0.0012           |
| 24 Volt System - ohm.....                     | 0.002            |

All values at rated speed and power and with  
standard engine hardware unless otherwise noted.

Curve No. E4-7165-52-4  
Date: 9-25-80  
Rev./Date: 2/5-21-85  
Sht. 2 of 4

# ENGINE SPECIFICATION DATA

|                                                                                                   | 1800            | 1500            | 1200            |
|---------------------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|
| <b>Fuel System</b>                                                                                |                 |                 |                 |
| Fuel Injector/Timing.....                                                                         | N60/1.460       | N60/1.460       | N60/1.460       |
| Fuel Injection Pump/Timing.....                                                                   | NOT APPLICABLE  | NOT APPLICABLE  | NOT APPLICABLE  |
| Fuel Consumption-lb/hr(kg/hr).....                                                                | 193.8(87.9)     | 169.2(76.7)     | 141.7(64.3)     |
| Fuel Consumption-gal/hr(L/hr).....                                                                | 27.7(105.0)     | 24.2(91.6)      | 20.3(76.7)      |
| Fuel Spill Rate-lb/hr(kg/hr).....                                                                 | 759.1(344.3)    | 759.1(344.3)    | 641.7(291.1)    |
| Fuel Spill Rate-gal/hr(L/hr).....                                                                 | 108.6(411.1)    | 108.6(411.1)    | 91.8(347.5)     |
| Total Fuel Flow-lb/hr(kg/hr).....                                                                 | 952.9(432.2)    | 928.3(421.1)    | 783.4(355.3)    |
| Total Fuel Flow-gal/hr(L/hr).....                                                                 | 136.3(516.0)    | 132.8(502.7)    | 112.1(424.2)    |
| Maximum Allowable Fuel Pump Suction                                                               |                 |                 |                 |
| Clean System-in Hg(kPa).....                                                                      | 6(20)           | 6(20)           | 6(20)           |
| Dirty System-in Hg(kPa).....                                                                      | 12(41)          | 12(41)          | 12(41)          |
| Fuel Filter Micron Size - Primary.....                                                            |                 |                 |                 |
| Secondary.....                                                                                    | 30              | 30              | 30              |
|                                                                                                   | 10              | 10              | 10              |
| <b>Lubrication System</b>                                                                         |                 |                 |                 |
| Oil Pressure - normal-lbf/in <sup>2</sup> (kPa).....                                              | 60(414)         | 56(386)         | 45(310)         |
| In Pan Oil Temperature-°F(°C).....                                                                | 200-250(93-121) | 200-250(93-121) | 200-250(93-121) |
| Oil Flow-gal/min(L/min).....                                                                      | 76(288)         | 76(288)         | 76(288)         |
| Oil Pan Capacity - High-qt(L).....                                                                |                 |                 |                 |
| Low-qt(L).....                                                                                    | 65(61.5)        | 65(61.5)        | 65(61.5)        |
|                                                                                                   | 53(50.2)        | 53(50.2)        | 53(50.2)        |
| Total Engine Oil Capacity with                                                                    |                 |                 |                 |
| Filters-qt(L).....                                                                                | 69(65.3)        | 69(65.3)        | 69(65.3)        |
| Bypass Oil Filter Orifice-in(mm).....                                                             | 0.101(2.57)     | 0.101(2.57)     | 0.101(2.57)     |
| Engine Angularity Limits                                                                          |                 |                 |                 |
| Front up - degrees.....                                                                           | 33              | 33              | 33              |
| Front Down - degrees.....                                                                         | 7               | 7               | 7               |
| Side tilt - degrees.....                                                                          | NOT AVAILABLE   | NOT AVAILABLE   | NOT AVAILABLE   |
| <b>Cooling System</b>                                                                             |                 |                 |                 |
| Engine Heat Rejection-Btu/min(kW).....                                                            | 16030(281.9)    | 15000(247.9)    | 12850(226.0)    |
| Engine Radiated Heat-Btu/min(kW).....                                                             | 3140(55.2)      | 2960(52.0)      | 2700(47.4)      |
| Coolant Flow-gal/min(L/min).....                                                                  | 266(1007)       | 224(848)        | 178(674)        |
| Thermostat - Start to Open-°F(°C).....                                                            |                 |                 |                 |
| Fully Open-°F(°C).....                                                                            | 170(77)         | 170(77)         | 170(77)         |
|                                                                                                   | 187(86)         | 187(86)         | 187(86)         |
| Maximum Water Pump Inlet                                                                          |                 |                 |                 |
| Restriction-in Hg(kPa).....                                                                       | 3.0(10.2)       | 2.0(6.7)        | 1.0(3.4)        |
| Engine Coolant Capacity-qt(L).....                                                                | 79(74.8)        | 79(74.8)        | 79(74.8)        |
| Minimum Pressure Cap-lbf/in <sup>2</sup> (kPa).....                                               | 9.0(62.1)       | 9.0(62.1)       | 9.0(62.1)       |
| Maximum Coolant Pressure <sub>2</sub> (Exclusive of Pressure Cap)-lbf/in <sup>2</sup> (kPa).....  |                 |                 |                 |
|                                                                                                   | 20(138)         | 20(138)         | 20(138)         |
| Maximum Allowable Cooling System                                                                  |                 |                 |                 |
| Static Head W/Vented Cap-ft H <sub>2</sub> O(kPa) ..                                              | 50(149)         | 50(149)         | 50(149)         |
| Maximum Top Tank Temperature-°F(°C) ..                                                            | 210(99)         | 210(99)         | 210(99)         |
| Minimum Top Tank Temperature-°F(°C) ..                                                            | 160(70)         | 160(70)         | 160(70)         |
| Min. Coolant Fill Rate-gal/min(L/min) ..                                                          | 3.0(11.4)       | 3.0(11.4)       | 3.0(11.4)       |
| Cooling Index                                                                                     |                 |                 |                 |
| Minimum Air to Boil-°F(°C) ..                                                                     | 117(47.2)       | 117(47.2)       | 117(47.2)       |
| Maximum Air to Water Diff.-°F(°C) ..                                                              | 95(52.8)        | 95(52.8)        | 95(52.8)        |
| Deaeration - <sub>3</sub> Air Injection                                                           |                 |                 |                 |
| Capacity-ft <sup>3</sup> /min(m <sup>3</sup> /min).....                                           | 1.6(0.045)      | 1.6(0.045)      | 1.6(0.045)      |
| Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever is Larger)-qt(L)..... |                 |                 |                 |
|                                                                                                   | 7.9(7.5)        | 7.9(7.5)        | 7.9(7.5)        |

All values at rated speed and power and with standard engine hardware unless otherwise noted.

Curve No. E4-7165-52-4  
Date: 9-25-80  
Rev./Date: 2/5-21-85  
Sht. 3 of 4

# ENGINE SPECIFICATION DATA

|                                                                               | 1800        | 1500        | 1200        |      |      |
|-------------------------------------------------------------------------------|-------------|-------------|-------------|------|------|
| <u>Air System</u>                                                             |             |             |             |      |      |
| Maximum Allowable Temperature Rise<br>(Ambient Air to Engine Inlet)- F(°C)... | 30(16.7)    | 30(16.7)    | 30(16.7)    |      |      |
| Air Intake Restriction Maximum Limit                                          |             |             |             |      |      |
| Dirty Air Cleaner-in H <sub>2</sub> O(kPa).....                               | 25(6.2)     | 18(4.5)     | 12(3.0)     |      |      |
| Clean Air Cleaner-in H <sub>2</sub> O(kPa).....                               | 13.4(3.3)   | 11(2.7)     | 8.5(2.1)    |      |      |
| Engine Air Flow - ft <sup>3</sup> /min(m <sup>3</sup> /min).....              | 1510(42.8)  | 1260(35.7)  | 1020(28.9)  |      |      |
| Engine Air Box/Manifold Pressure-<br>in Hg(kPa).....                          | 7.5(25.3)   | 5.0(16.9)   | 2.8(9.5)    |      |      |
| Recommended Intake Pipe Dia.-in(mm)....                                       | 8.5(216)    | 8.5(216)    | 8.5(216)    |      |      |
| <u>Exhaust System</u>                                                         |             |             |             |      |      |
| Exhaust Flow-ft <sup>3</sup> /min(m <sup>3</sup> /min).....                   | 3600(1020)  | 2980(84.4)  | 2370(67.1)  |      |      |
| Exhaust Temperature- F(°C).....                                               | 820(438)    | 810(432)    | 785(418)    |      |      |
| Maximum Allowable Back Pressure-<br>in Hg(kPa).....                           | 3.3(11.2)   | 2.3(7.8)    | 1.5(5.1)    |      |      |
| Recommended Exhaust Pipe Diameter                                             |             |             |             |      |      |
| Single-in(mm).....                                                            | 8.0(203)    | 8.0(203)    | 8.0(203)    |      |      |
| Dual-in(mm).....                                                              | 5.0(127)    | 5.0(127)    | 5.0(127)    |      |      |
| <u>Performance</u>                                                            |             |             |             |      |      |
| Power Output-bhp(kW).....                                                     | 509(380)    | 440(328)    | 357(266)    |      |      |
| Full Load Speed-r/min.....                                                    | 1800        | 1500        | 1200        |      |      |
| BMEP-lbf/in <sup>2</sup> (kPa).....                                           | 98.7(680)   | 102.5(707)  | 103.9(717)  |      |      |
| Piston Speed-ft/min(m <sup>3</sup> /min).....                                 | 1500(457)   | 1250(381)   | 1000(305)   |      |      |
| Friction Power-bhp(kW).....                                                   | 119(89)     | 87(65)      | 62(46)      |      |      |
| Altitude Capability-ft(m).....                                                | 16000(4880) | 14000(4270) | 12000(3660) |      |      |
| Noise - dB(A) @ 1m.....                                                       | 100.5       | 100.0       | 99.5        |      |      |
| Smoke - Bosch Number.....                                                     | 0.6         | 0.7         | 1.0         |      |      |
| <u>Part Load Fuel Consumption</u>                                             |             |             |             |      |      |
| Fuel-lb/hr(kg/hr) - 0% Power.....                                             | 34.0(15.4)  | 26.0(11.8)  | 19.0(8.6)   |      |      |
| 25% Power.....                                                                | 65.2(29.6)  | 53.0(24.0)  | 42.2(19.1)  |      |      |
| 50% Power.....                                                                | 102.2(46.4) | 86.6(39.3)  | 70.4(31.9)  |      |      |
| 75% Power.....                                                                | 143.2(65.0) | 122.8(55.7) | 101.0(45.8) |      |      |
| 100% Power.....                                                               | 193.8(87.9) | 169.2(76.7) | 141.8(64.3) |      |      |
| <u>Emissions - gm/hr (at percent load) - 1800 r/min</u>                       |             |             |             |      |      |
| 0% 25% 50% 75% 100%                                                           |             |             |             |      |      |
| NO <sub>x</sub>                                                               | 400         | 2260        | 4500        | 6800 | 7840 |
| CO <sub>x</sub>                                                               | 400         | 290         | 260         | 340  | 3920 |
| HC                                                                            | 200         | 300         | 180         | 190  | 210  |
| SO <sub>2</sub>                                                               | 150         | 300         | 460         | 650  | 880  |
| <u>Emissions - gm/hr (at percent load) - 1500 r/min</u>                       |             |             |             |      |      |
| 0% 25% 50% 75% 100%                                                           |             |             |             |      |      |
| NO <sub>x</sub>                                                               | 250         | 2040        | 3880        | 5860 | 6600 |
| CO <sub>x</sub>                                                               | 410         | 270         | 230         | 260  | 5280 |
| HC                                                                            | 170         | 150         | 150         | 150  | 170  |
| SO <sub>2</sub>                                                               | 120         | 240         | 400         | 560  | 770  |
| <u>Emissions - gm/hr (at percent load) - 1200 r/min</u>                       |             |             |             |      |      |
| 0% 25% 50% 75% 100%                                                           |             |             |             |      |      |
| NO <sub>x</sub>                                                               | 150         | 1800        | 3260        | 4920 | 5440 |
| CO <sub>x</sub>                                                               | 400         | 240         | 200         | 200  | 5920 |
| HC                                                                            | 140         | 120         | 120         | 120  | 140  |
| SO <sub>2</sub>                                                               | 86          | 200         | 320         | 460  | 640  |

All values at rated speed and power and with standard engine hardware unless otherwise noted.

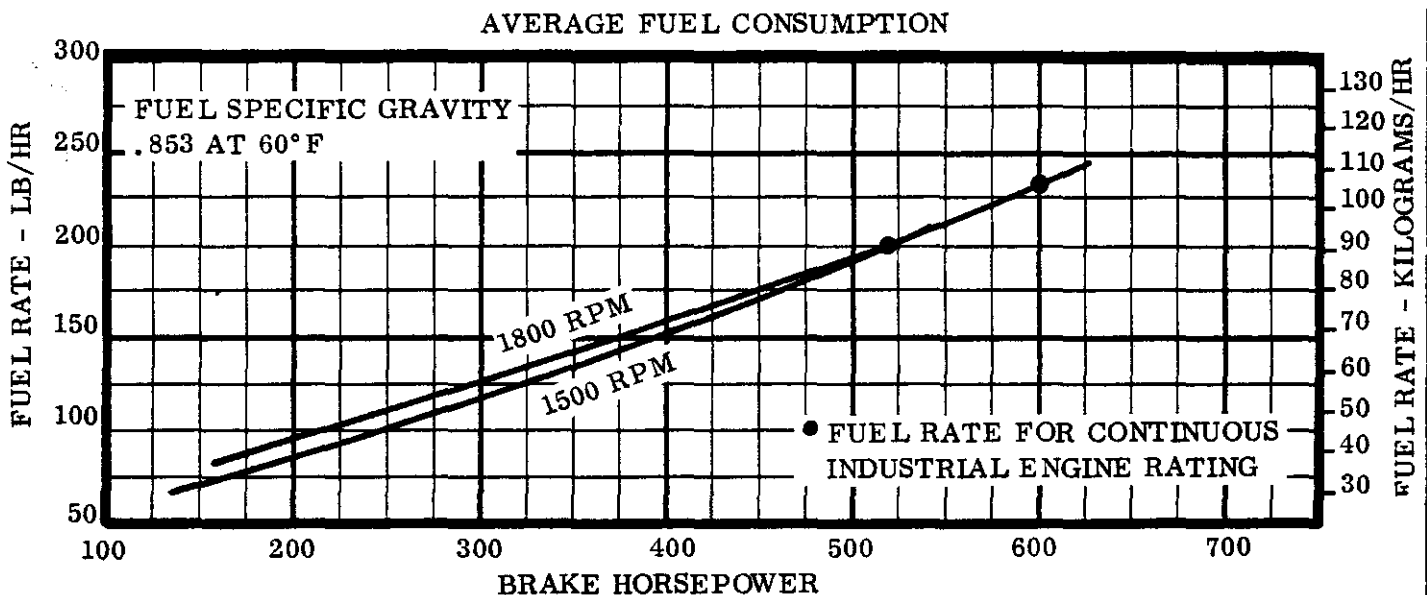
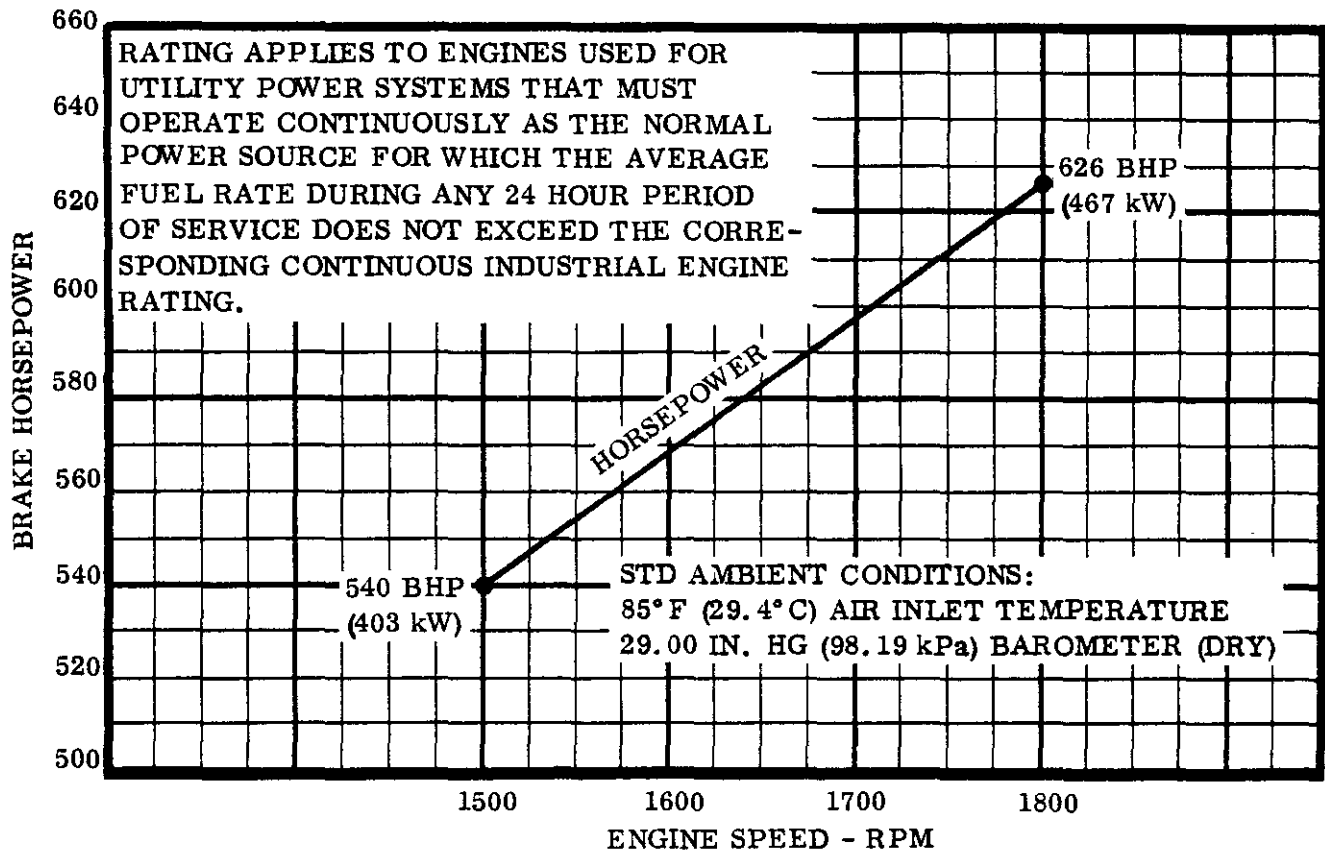
Curve No. E4-7165-52-4  
Date: 9-25-80  
Rev./Date: 2/5-21-85  
Sht. 4 of 4



**Detroit Diesel Allison**  
Division of General Motors Corporation

### BASIC ENGINE PERFORMANCE

MODEL: 16V-92  
APPLICATION: GENERATOR SET  
INJECTOR: 9280  
RATING: PRIME POWER



DE 4033

ENGINEERING-TECHNICAL DATA DEPT.

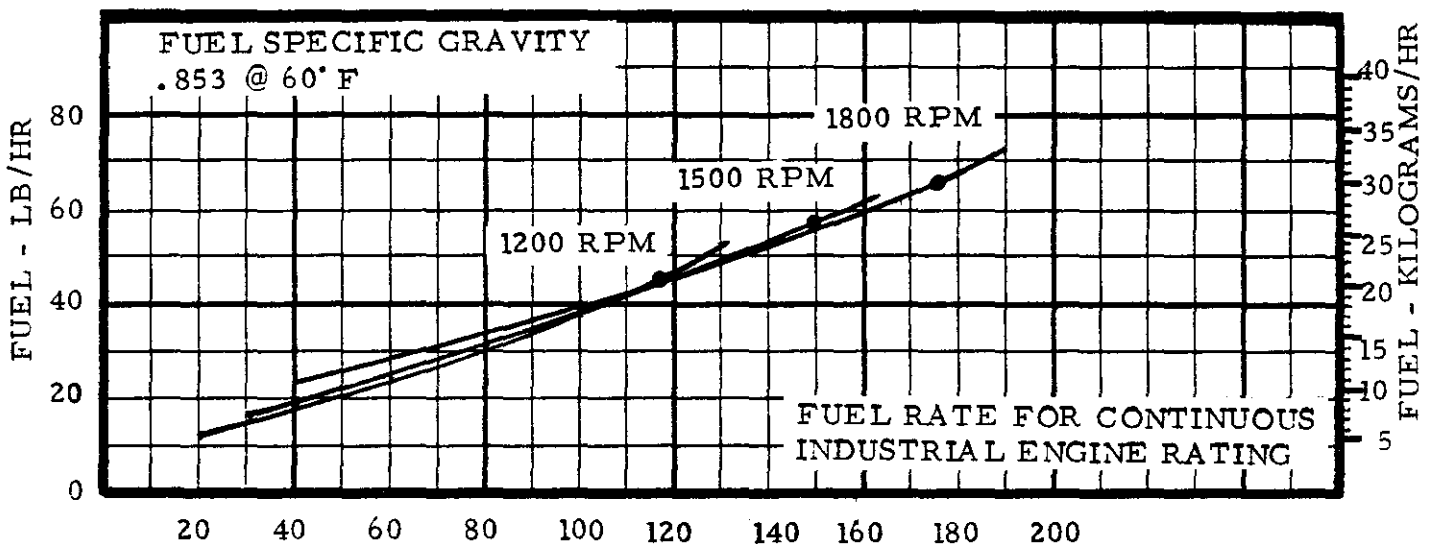
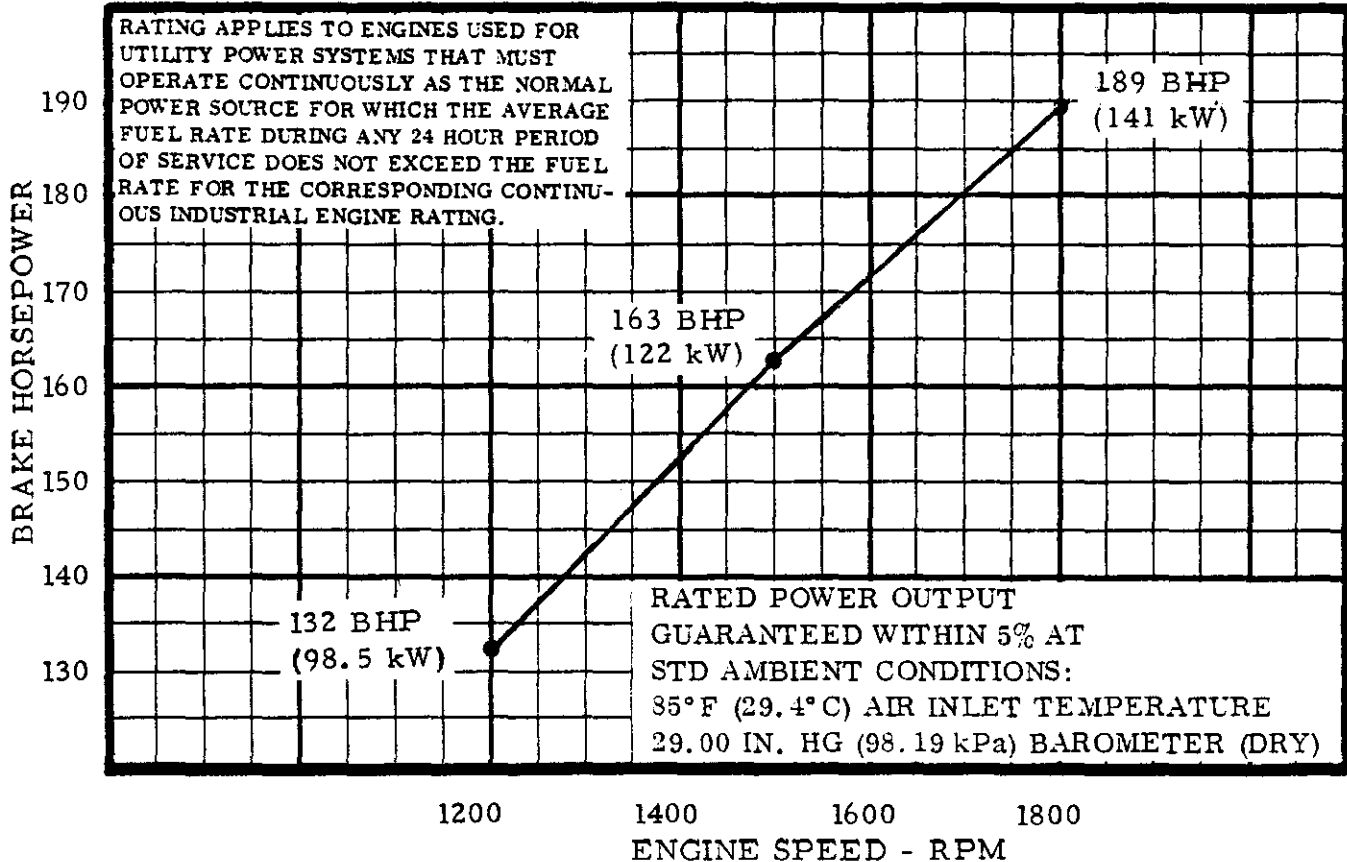
E4-8165-12-1  
Rev. 11-6-79



**Detroit Diesel Allison**  
Division of General Motors Corporation

## GENERATOR ENGINE PERFORMANCE

MODEL: 6-71N  
APPLICATION: Electric Prime Power  
INJECTORS: N60 (1.460 Timing)  
RATING: Without Fan

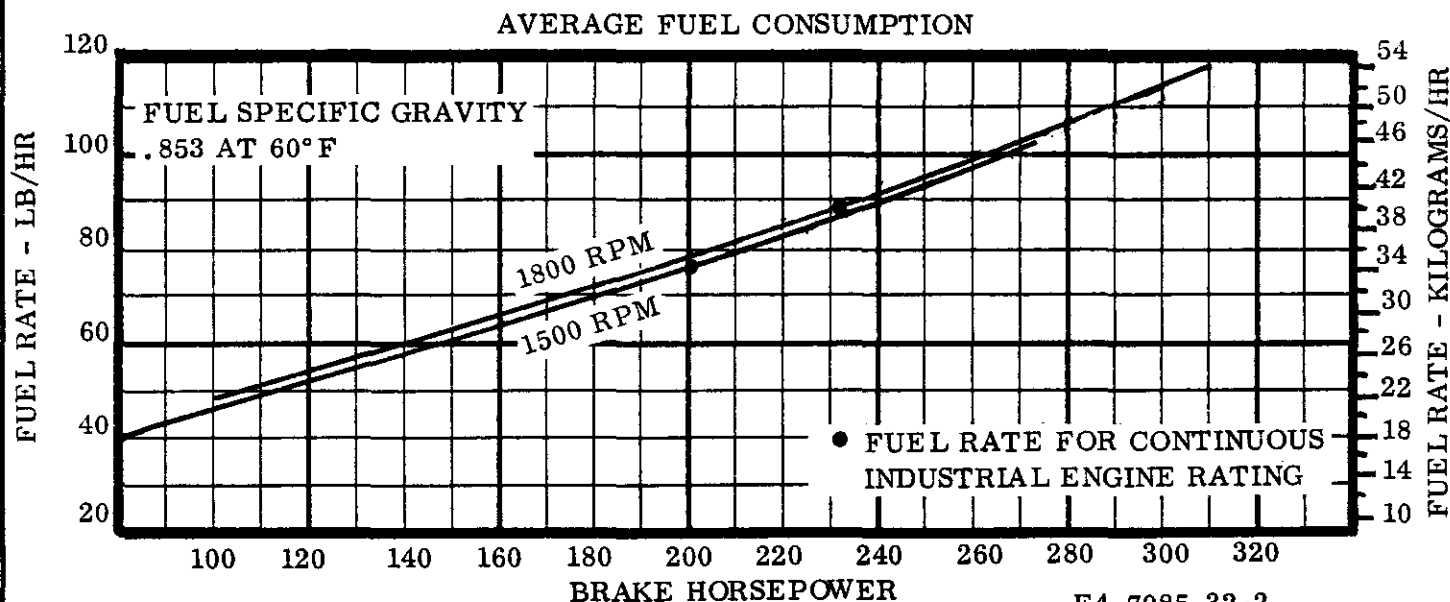
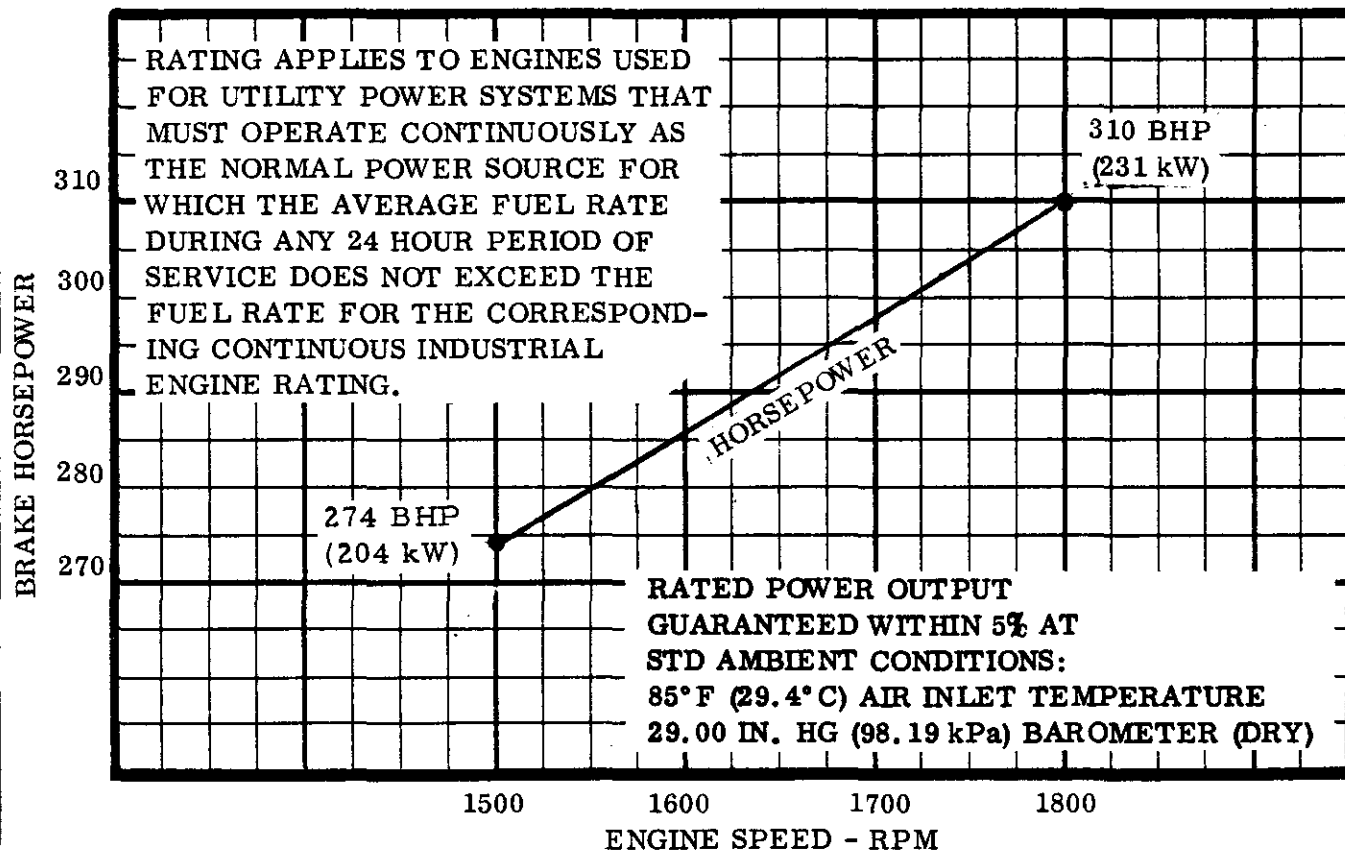




**Detroit Diesel Allison**  
Division of General Motors Corporation

## GENERATOR ENGINE PERFORMANCE

MODEL: 8V-71T  
APPLICATION: Electric Prime Power  
INJECTORS: N70(1.460 Timing)  
TURBOCHARGER: TV8101(1.39 A/R HSG)  
RATING: Without Fan

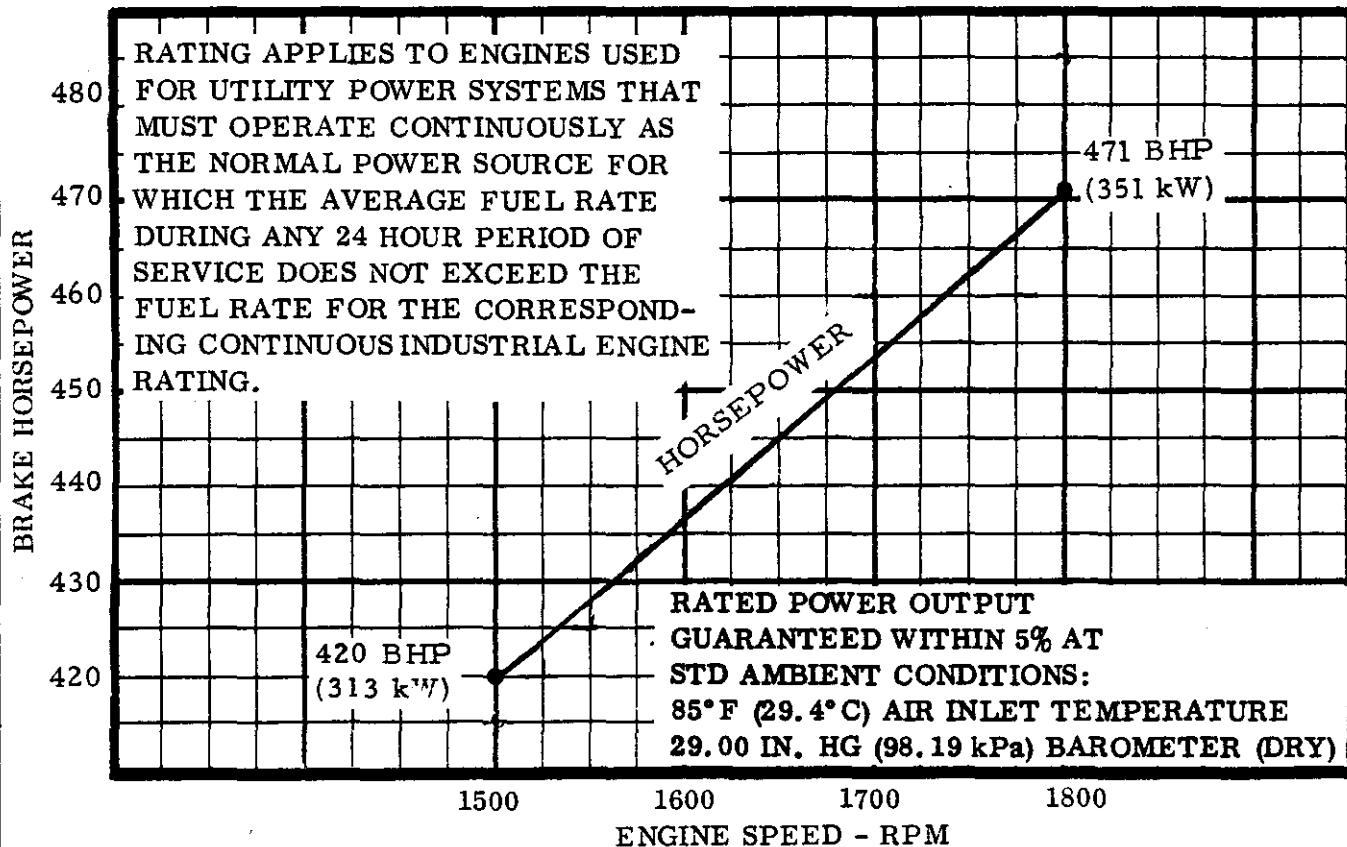




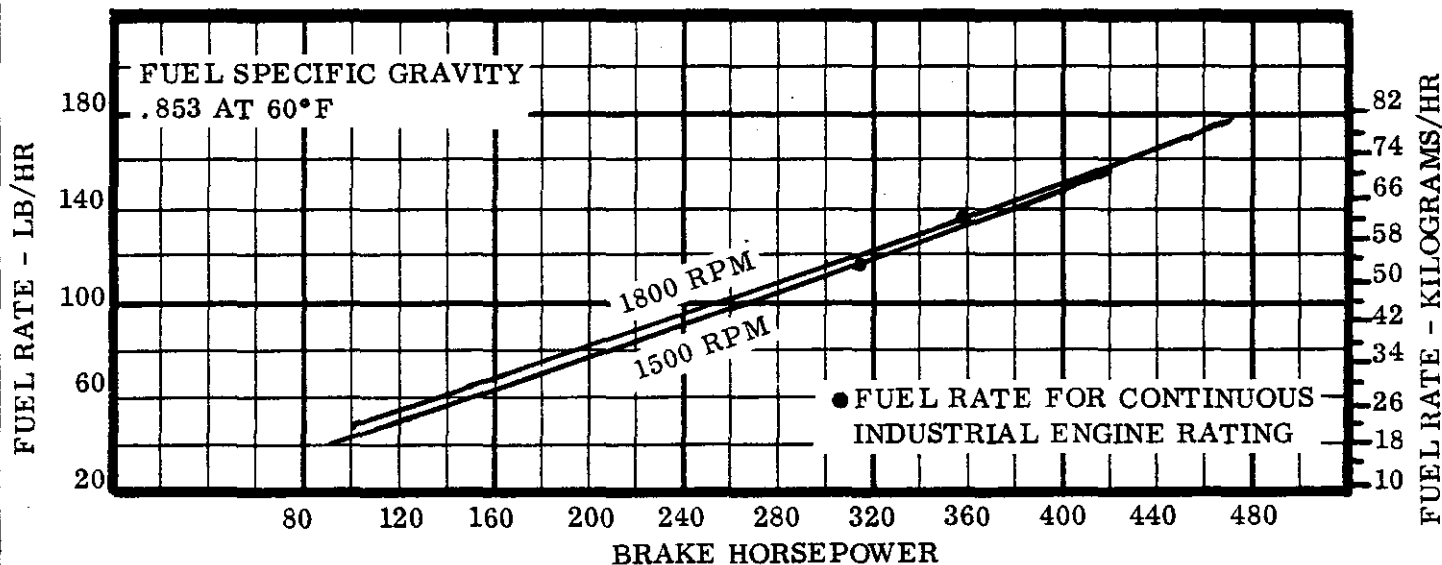
**Detroit Diesel Allison**  
Division of General Motors Corporation

## GENERATOR ENGINE PERFORMANCE

MODEL: 12V-71T  
APPLICATION: Electric Prime Power  
INJECTORS: N70(1.460 Timing)  
TURBOCHARGER: TV7101(1.39 A/R HSG)  
RATING: Without Fan



## AVERAGE FUEL CONSUMPTION

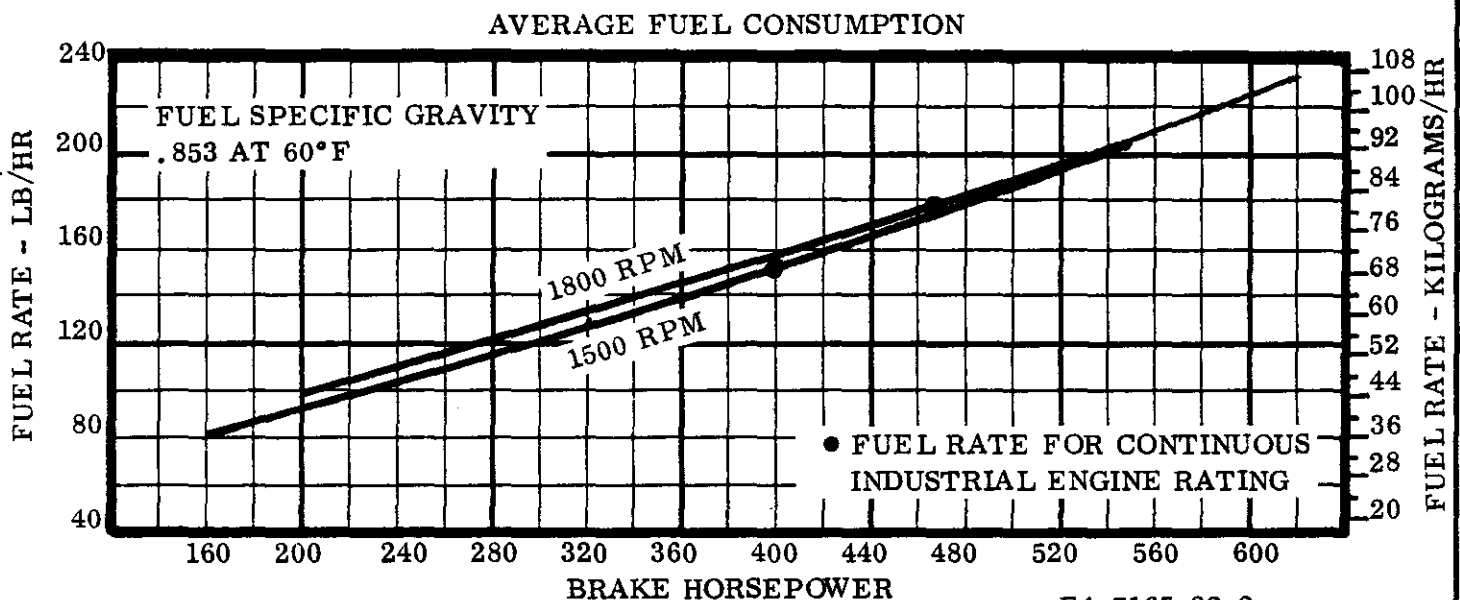
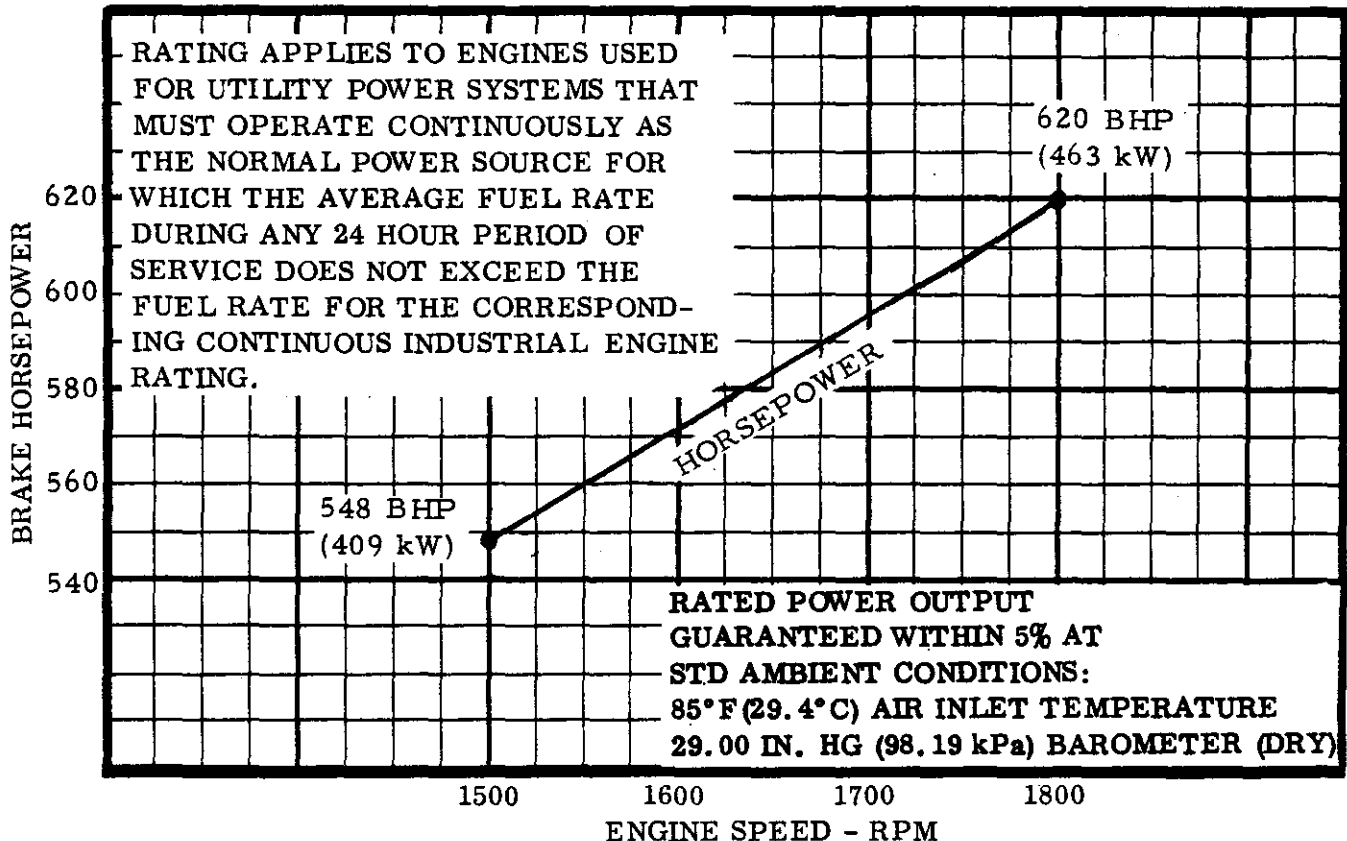




**Detroit Diesel Allison**  
Division of General Motors Corporation

### GENERATOR ENGINE PERFORMANCE

MODEL: 16V-71T  
APPLICATION: Electric Prime Power  
INJECTORS: N70(1.460 Timing)  
TURBOCHARGER: TV8101(1.39 A/R HSG)  
RATING: Without Fan





# ENGINE PERFORMANCE CURVE

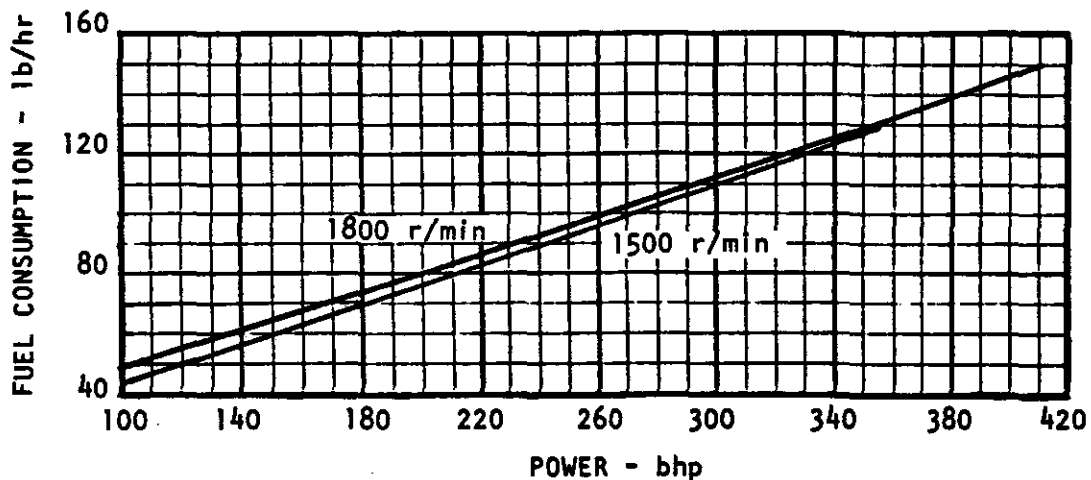
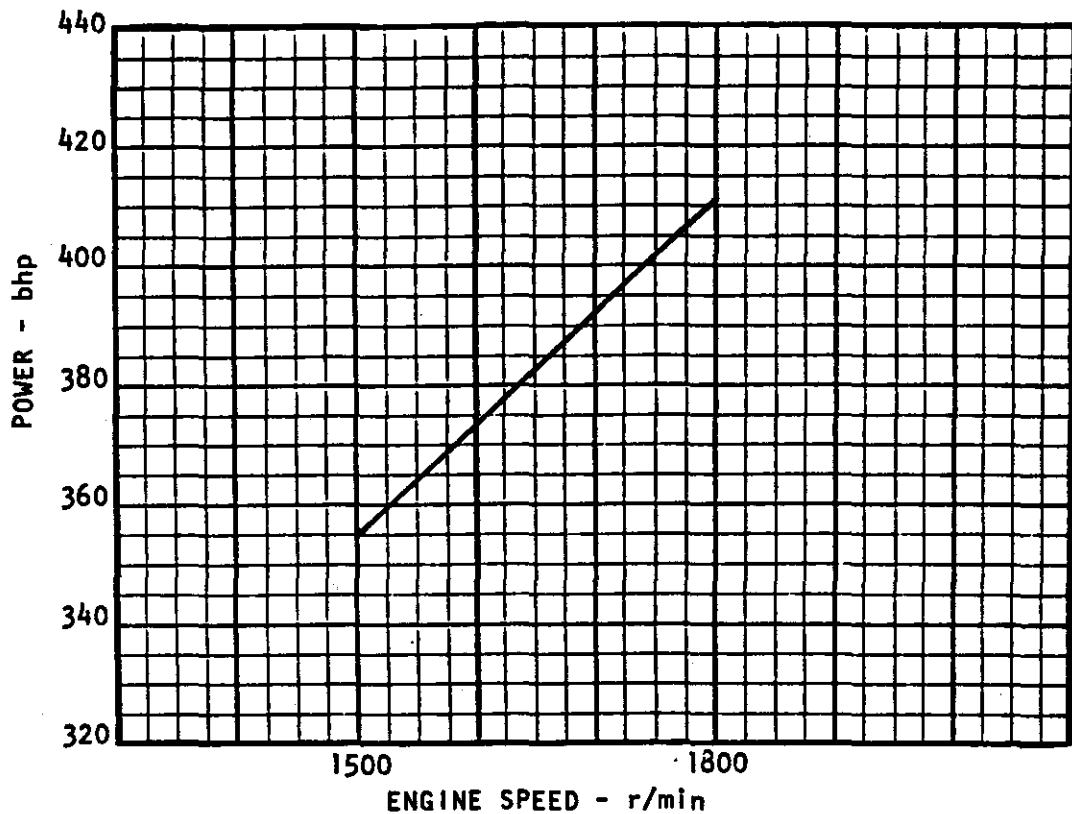
RATING: RATED BRAKE POWER

APPLICATION: GENERATOR SET -  
PRIME POWER

MODEL: 8V-92T

411 bhp @ 1800 r/min

355 bhp @ 1500 r/min



AIR INTAKE RESTRICTION - in. H<sub>2</sub>O (mm H<sub>2</sub>O) . . . 10 (250)

EXHAUST RESTRICTION - in. H<sub>2</sub>O (mm H<sub>2</sub>O) . . . 15 (380)

- POWER OUTPUT GUARANTEED WITHIN 5% AT SAE J1349 CONDITIONS:  
77°F (25°C) AIR INLET TEMPERATURE; 29.31 in. Hg (994Pa) DRY BAROMETER;  
100°F (39°C) FUEL INLET TEMPERATURE (.853 SPECIFIC GRAVITY AT 60°F).
- CONVERSION FACTORS: POWER: kW = bhp × 0.746  
FUEL: kg/hr = lb/hr × 0.454
- VALUES DERIVED ARE FROM CURRENTLY AVAILABLE DATA AND SUBJECT TO  
CHANGE WITHOUT NOTICE.

CERTIFIED BY:

*B. Henrich*

STAFF ENGINEER

CURVE NO.

E4-8085-32-2

DATE: 9-17-74

REV./DATE: 7/3-7-84

SHT. 1 OF 3

## ENGINE SPECIFICATION

### General Engine Description:

|                                        |                         |
|----------------------------------------|-------------------------|
| Model                                  | 8083-7305               |
| Number of cylinders                    | 8                       |
| Bore and stroke - in (mm)              | 4.84 x 5.00 (123 x 127) |
| Displacement - in <sup>3</sup> (litre) | 736 (12.1)              |
| Compression ratio                      | 17.0:1                  |
| Firing order - Clockwise rotation (RH) | 1L-3R-3L-4R-4L-2R-2L-1R |
| Dimensions & weight (approx.)          |                         |
| Length - in (mm)                       | 108 (2740)              |
| Width - in (mm)                        | 48 (1220)               |
| Height - in (mm)                       | 64 (1630)               |
| Weight - lbs (kg)                      | 6200 (2810)             |

### Technical Engine Specifications:

|                                                           |                                                        |
|-----------------------------------------------------------|--------------------------------------------------------|
| Injector (timing)                                         | 9215 (1.484)                                           |
| Turbocharger                                              | TV8101 (1.39 A/R HSG)                                  |
| Engine speed - r/min                                      | 1800                                                   |
| Brake horsepower - bhp (kW)                               | 411 (307)                                              |
| Bmep - lb/in <sup>2</sup> (kPa)                           | 123 (848)                                              |
| Fuel consumption - lb/hr (kg/hr)                          | 149.8 (67.9)                                           |
| Specific fuel cons. - lb/bhp hr (g/kW hr)                 | .364 (221)                                             |
| Fuel pump suction at pump inlet                           |                                                        |
| Maximum - in Hg (kPa)                                     | 6 (20)                                                 |
| Clean system                                              | 12 (41)                                                |
| Dirty system                                              | 1385 (39.2)                                            |
| Airflow - ft <sup>3</sup> /min (m <sup>3</sup> /min)      | 40.8 (138)                                             |
| Airbox pressure - in Hg (kPa)                             |                                                        |
| Air intake restriction, max. - in H <sub>2</sub> O (kPa)  |                                                        |
| (Dry type air cleaner)                                    |                                                        |
| Full load - dirty                                         | 14.4 (3.6)                                             |
| - clean                                                   | 8.7 (2.2)                                              |
| Exhaust temp. - °F (°C)                                   | 700 (371)                                              |
| Exhaust flow - ft <sup>3</sup> /min (m <sup>3</sup> /min) | 2990 (84.7)                                            |
| Exhaust back press., max. - in Hg (kPa)                   |                                                        |
| Full load                                                 | 2.0 (6.8)                                              |
| Coolant flow - gal/min (litre/min)                        | 158 (598)                                              |
| Coolant normal operating temp. - °F (°C)                  | 160-185 (71-85)                                        |
| Engine heat rejection - Btu/min (kW)                      | 12740 (224)                                            |
| Engine radiated heat - Btu/min (kW)                       | 1650 (29.0)                                            |
| Coolant inlet restriction, max. - in Hg (kPa)             | 3.0 (10.1)                                             |
| Lubricating oil press., normal - lb/in <sup>2</sup> (kPa) | 49-70 (338-483)                                        |
| Lubricating oil temp., in-pan - °F (°C)                   | 200-250 (93-121)                                       |
| Emissions - gm/hr (at per cent load)                      |                                                        |
|                                                           | <u>0%</u> <u>25%</u> <u>50%</u> <u>75%</u> <u>100%</u> |
| NO <sub>x</sub>                                           | 275    730    1680    3200    4970                     |
| CO <sub>x</sub>                                           | 240    130    150    190    350                        |
| HC                                                        | 131    101    105    109    113                        |

All values at rated speed and power and with standard engine hardware unless otherwise noted.

Curve No. E4-8085-32-2  
Sht. 2 of 3

## ENGINE SPECIFICATION

### General Engine Description:

|                                        |                         |
|----------------------------------------|-------------------------|
| Model                                  | 8083-7305               |
| Number of cylinders                    | 8                       |
| Bore and stroke - in (mm)              | 4.84 x 5.00 (123 x 127) |
| Displacement - in <sup>3</sup> (litre) | 736 (12.1)              |
| Compression ratio                      | 17.0:1                  |
| Firing order - Clockwise rotation (RH) | 1L-3R-3L-4R-4L-2R-2L-1R |
| Dimensions & weight (approx.)          |                         |
| Length - in (mm)                       | 108 (2740)              |
| Width - in (mm)                        | 48 (1220)               |
| Height - in (mm)                       | 64 (1630)               |
| Weight - lbs (kg)                      | 6200 (2810)             |

### Technical Engine Specifications:

|                                                           |                        |
|-----------------------------------------------------------|------------------------|
| Injector (timing)                                         | 9215 (1,484)           |
| Turbocharger                                              | TV8101 (1.39 A/R HSG)  |
| Engine speed - r/min                                      | 1500                   |
| Brake horsepower - bhp (kW)                               | 355 (265)              |
| Bmep - lb/in <sup>2</sup> (kPa)                           | 127 (876)              |
| Fuel consumption - lb/hr (kg/hr)                          | 129.4 (58.7)           |
| Specific fuel cons. - lb/bhp hr (g/kW hr)                 | .365 (222)             |
| Fuel pump suction at pump inlet                           |                        |
| Maximum - in Hg (kPa)                                     |                        |
| Clean system                                              | 6 (20)                 |
| Dirty system                                              | 12 (41)                |
| Airflow - ft <sup>3</sup> /min (m <sup>3</sup> /min)      | 1155 (32.7)            |
| Airbox pressure - in Hg (kPa)                             | 30.7 (104)             |
| Air intake restriction, max. - in H <sub>2</sub> O (kPa)  |                        |
| (Dry type air cleaner)                                    |                        |
| Full load - dirty                                         | 10.3 (2.6)             |
| - clean                                                   | 6.2 (1.5)              |
| Exhaust temp. - °F (°C)                                   | 710 (377)              |
| Exhaust flow - ft <sup>3</sup> /min (m <sup>3</sup> /min) | 2515 (71.2)            |
| Exhaust back press., max. - in Hg (kPa)                   |                        |
| Full load                                                 | 1.4 (4.7)              |
| Coolant flow - gal/min (litre/min)                        | 131 (496)              |
| Coolant normal operating temp. - °F (°C)                  | 160-185 (71-85)        |
| Engine heat rejection - Btu/min (kW)                      | 11360 (200)            |
| Engine radiated heat - Btu/min (kW)                       | 1580 (27.8)            |
| Coolant inlet restriction, max. - in Hg (kPa)             | 2.0 (6.8)              |
| Lubricating oil press., normal - lb/in <sup>2</sup> (kPa) | 41-61 (283-421)        |
| Lubricating oil temp., in-pan - °F (°C)                   | 200-250 (93-121)       |
| Emissions - gm/hr (at per cent load)                      |                        |
|                                                           | 0% 25% 50% 75% 100%    |
| NO <sub>x</sub>                                           | 215 580 1580 2660 3840 |
| CO                                                        | 250 100 100 310 1030   |
| HC                                                        | 115 74 74 80 79        |

All values at rated speed and power and with standard engine hardware unless otherwise noted.

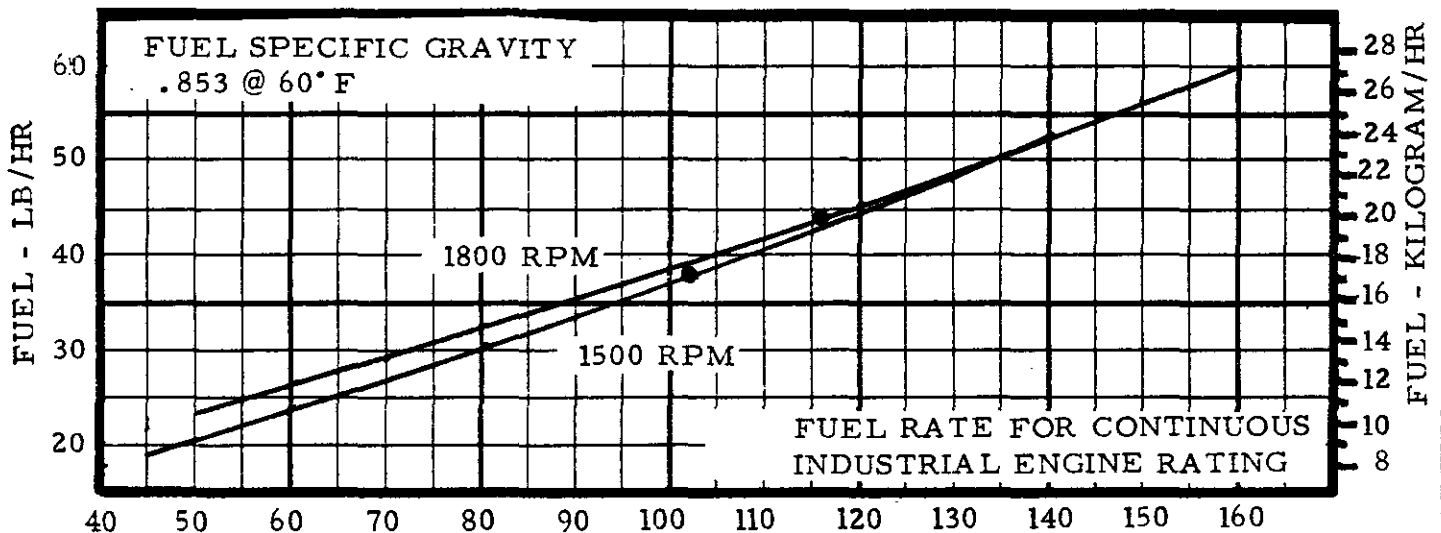
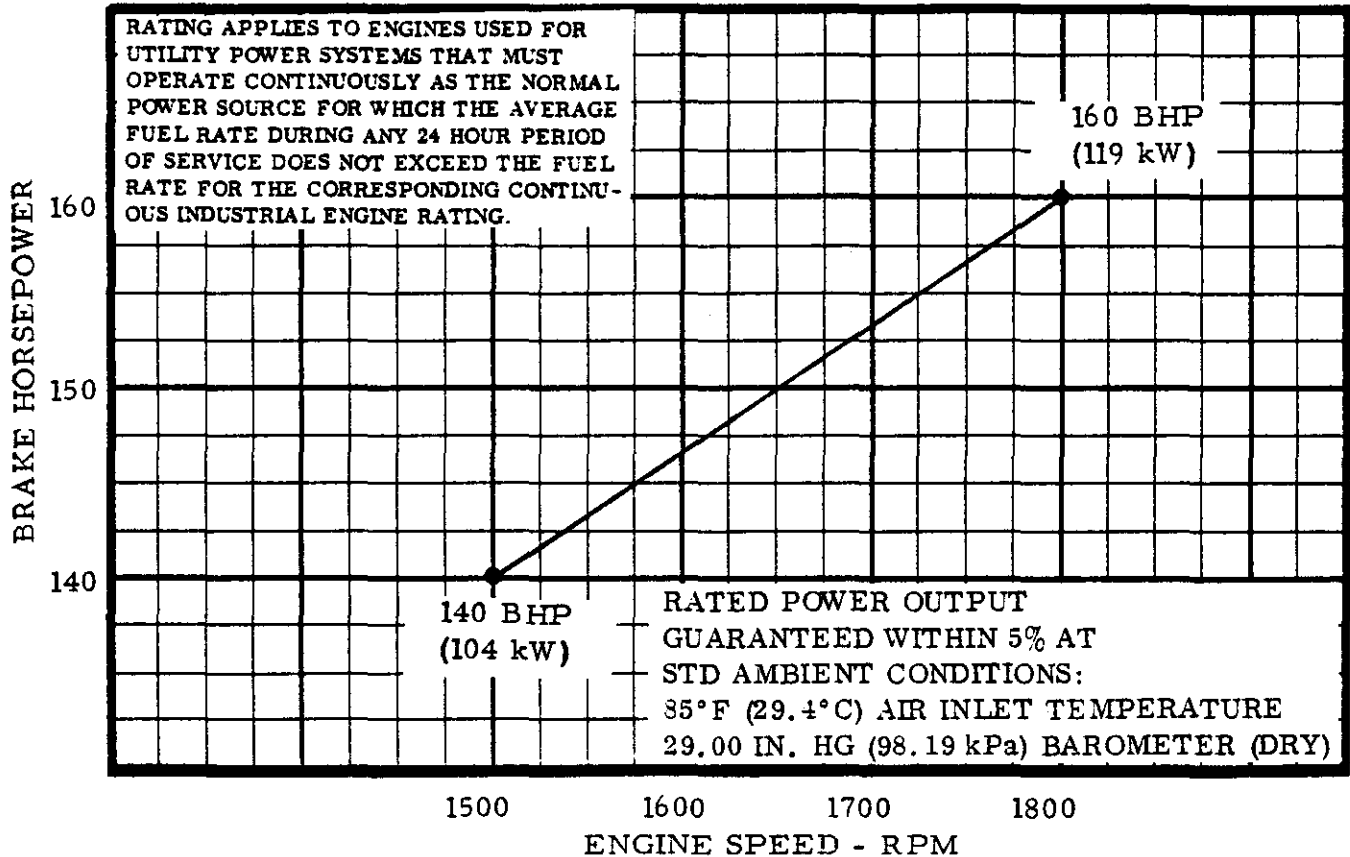
Curve No. E4-8085-32-2  
Sht. 3 of 3



**Detroit Diesel Allison**  
Division of General Motors Corporation

### GENERATOR ENGINE PERFORMANCE

MODEL: 4-71T  
APPLICATION: Electric Prime Power  
INJECTORS: N70  
TURBOCHARGER: T04B 98 (1.14A/R Hsg.)  
RATING: Without Fan



DE 4033

ENGINEERING-TECHNICAL DATA DEPT.

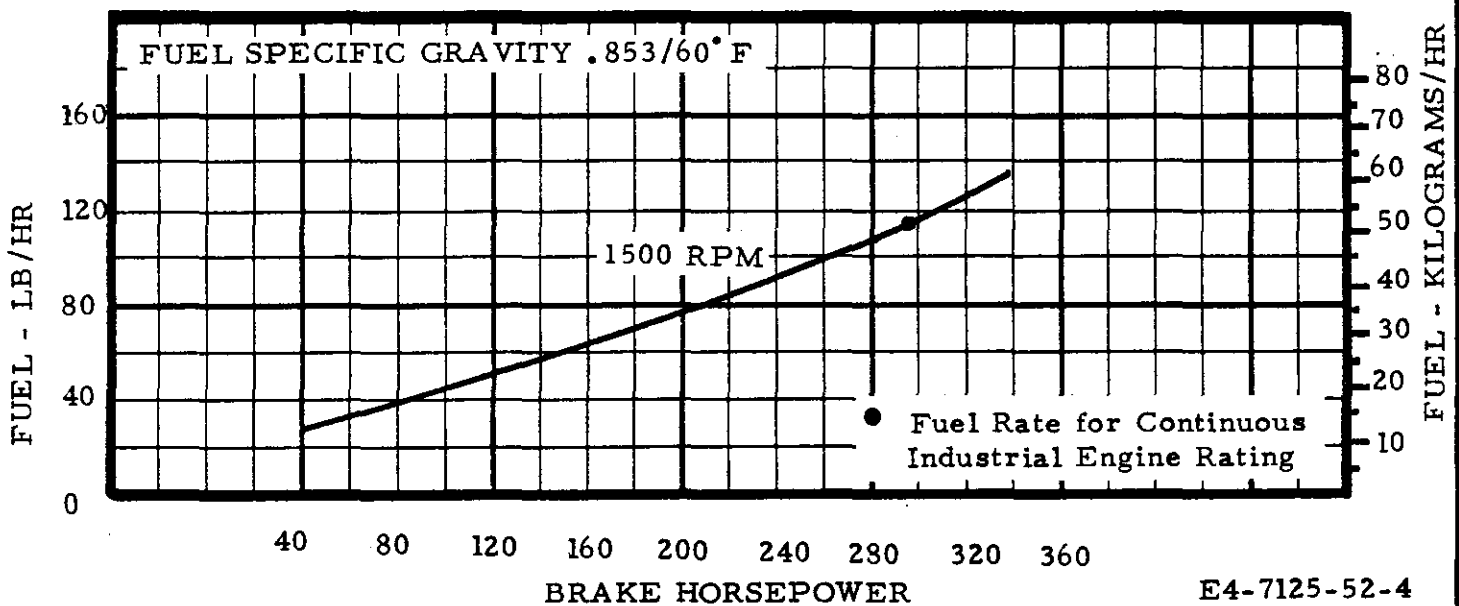
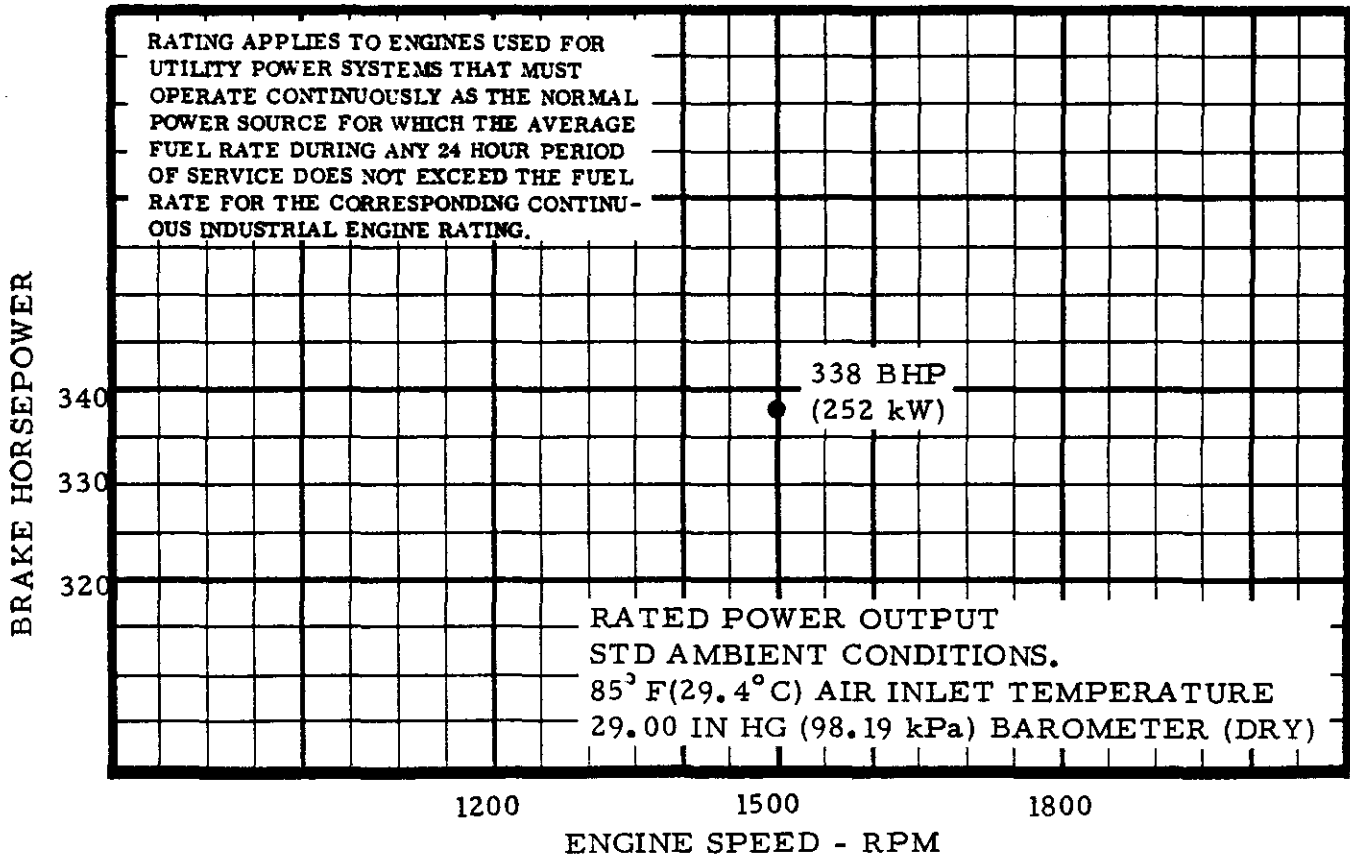
E4-1045-32-6  
10-28-80



**Detroit Diesel Allison**  
Division of General Motors Corporation

## GENERATOR ENGINE PERFORMANCE

Model: 12V-71N  
Application: Electric Prime Power  
Injectors: N65 (1.460 Timing)  
Rating: Without Fan



ENGINEERING-TECHNICAL DATA DEPT.

E4-7125-52-4  
10-31-80



# ENGINE PERFORMANCE CURVE

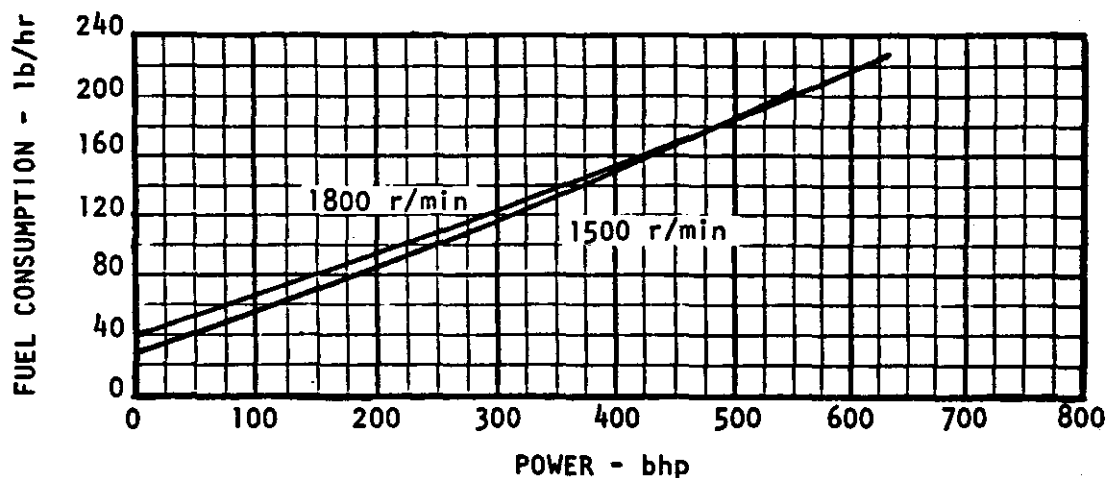
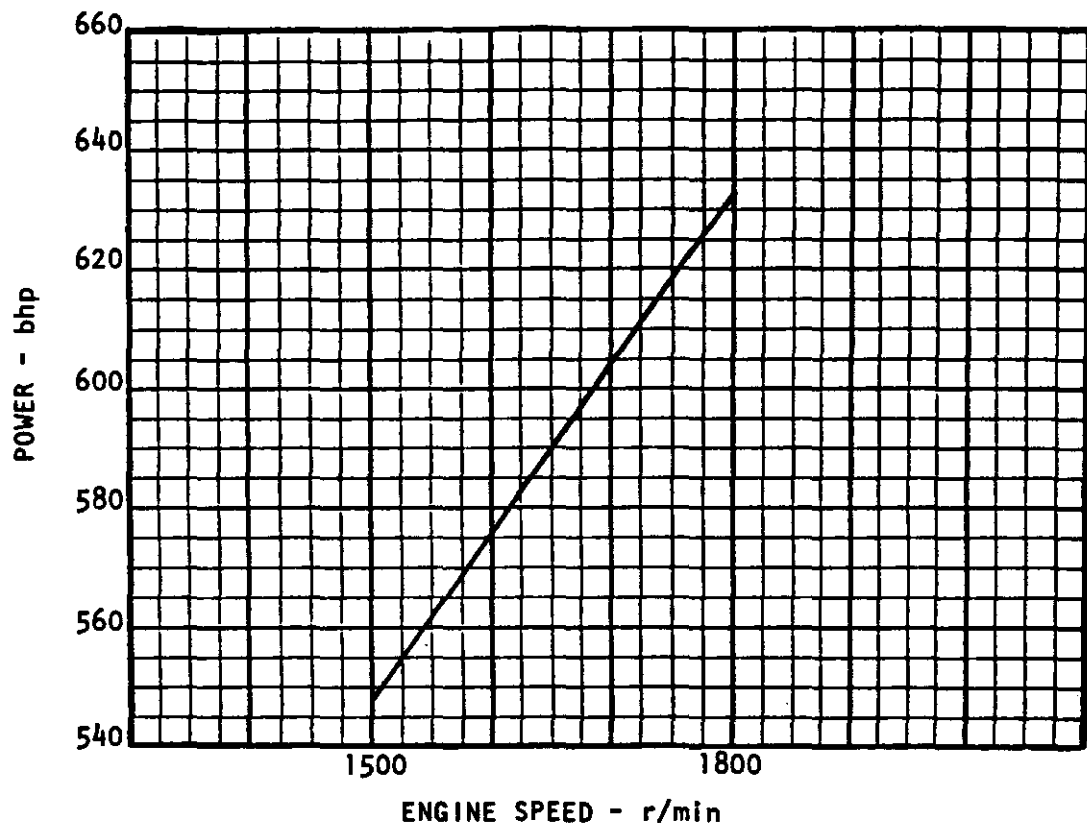
RATING: RATED BRAKE POWER

APPLICATION: GENERATOR SET -  
PRIME POWER

MODEL: 12V-92T

633 bhp @ 1800 r/min

548 bhp @ 1500 r/min



AIR INTAKE RESTRICTION - in. H<sub>2</sub>O (mm H<sub>2</sub>O) . . . 10 (250)

EXHAUST RESTRICTION - in. H<sub>2</sub>O (mm H<sub>2</sub>O) . . . 15 (380)

- POWER OUTPUT GUARANTEED WITHIN 5% AT SAE J1349 CONDITIONS:  
77°F (25°C) AIR INLET TEMPERATURE; 29.31 in. Hg (99kPa) DRY BARMETER;  
100°F (39°C) FUEL INLET TEMPERATURE (.853 SPECIFIC GRAVITY AT 60°F).
- CONVERSION FACTORS: POWER: kW = bhp × 0.746  
FUEL: kg/hr = lb/hr × 0.454
- VALUES DERIVED ARE FROM CURRENTLY AVAILABLE DATA AND SUBJECT TO  
CHANGE WITHOUT NOTICE.

CERTIFIED BY:

*B. H. H. H.*

STAFF ENGINEER

CURVE NO.

E4-8125-32-2

DATE: 10-2-80

REV./DATE: 1/3-7-84

SHT. 1 OF 3

## ENGINE SPECIFICATION

### General Engine Description:

|                                        |                         |
|----------------------------------------|-------------------------|
| Model                                  | 8123-7305               |
| Number of cylinders                    | 12                      |
| Bore and stroke - in (mm)              | 4.84 x 5.00 (123 x 127) |
| Displacement - in <sup>3</sup> (litre) | 1104 (18.1)             |
| Compression ratio                      | 17.0:1                  |
| Firing order - Clockwise rotation (RH) | 1L-6L-3R-5R-3L-5L       |
|                                        | 2R-4R-2L-4L-1R-6R       |
| Dimensions & weight (approx.)          |                         |
| Length - in (mm)                       | 132 (3350)              |
| Width - in (mm)                        | 53 (1350)               |
| Height - in (mm)                       | 75 (1910)               |
| Weight - lbs (kg)                      | 10760 (4880)            |

### Technical Engine Specifications:

|                                                           |                         |
|-----------------------------------------------------------|-------------------------|
| Injector (timing)                                         | 9215 (1.460)            |
| Turbocharger                                              | TV8102 (1.23 A/R HSG)   |
| Engine speed - r/min                                      | 1800                    |
| Brake horsepower - bhp (kW)                               | 633 (472)               |
| Bmep - lb/in <sup>2</sup> (kPa)                           | 126 (869)               |
| Fuel consumption - lb/hr (kg/hr)                          | 227.5 (103.2)           |
| Specific fuel cons. - lb/bhp hr (g/kW hr)                 | .359 (218)              |
| Fuel pump suction at pump inlet                           |                         |
| Maximum - in Hg (kPa)                                     |                         |
| Clean system                                              | 6 (20)                  |
| Dirty system                                              | 12 (41)                 |
| Airflow - ft <sup>3</sup> /min (m <sup>3</sup> /min)      | 2020 (57.2)             |
| Airbox pressure - in Hg (kPa)                             | 34.7 (117)              |
| Air intake restriction, max. - in H <sub>2</sub> O (kPa)  |                         |
| (Dry type air cleaner)                                    |                         |
| Full load - dirty                                         | 14.4 (3.6)              |
| - clean                                                   | 8.7 (2.2)               |
| Exhaust temp. - °F (°C)                                   | 720 (382)               |
| Exhaust flow - ft <sup>3</sup> /min (m <sup>3</sup> /min) | 4440 (126)              |
| Exhaust back press., max. - in Hg (kPa)                   |                         |
| Full load                                                 | 2.0 (6.8)               |
| Coolant flow - gal/min (litre/min)                        | 228 (863)               |
| Coolant normal operating temp. - °F (°C)                  | 160-185 (71-85)         |
| Engine heat rejection - Btu/min (kW)                      | 19620 (345)             |
| Engine radiated heat - Btu/min (kW)                       | 2510 (44.1)             |
| Coolant inlet restriction, max. - in Hg (kPa)             | 3.0 (10.1)              |
| Lubricating oil press., normal - lb/in <sup>2</sup> (kPa) | 49-70 (338-483)         |
| Lubricating oil temp., in-pan - °F (°C)                   | 200-250 (93-121)        |
| Emissions - gm/hr (at per cent load)                      |                         |
|                                                           | 0% 25% 50% 75% 100%     |
| NO <sub>x</sub>                                           | 430 1390 3080 4850 6700 |
| CO <sub>x</sub>                                           | 290 240 280 610 3220    |
| HC                                                        | 163 152 166 162 145     |

All values at rated speed and power and with standard engine hardware unless otherwise noted.

Curve No. E4-8125-32-2  
Sht. 2 of 3

## ENGINE SPECIFICATION

### General Engine Description:

|                                        |                                        |
|----------------------------------------|----------------------------------------|
| Model                                  | 8123-7305                              |
| Number of cylinders                    | 12                                     |
| Bore and stroke - in (mm)              | 4.84 x 5.00 (123 x 127)                |
| Displacement - in <sup>3</sup> (litre) | 1104 (18.1)                            |
| Compression ratio                      | 17.0:1                                 |
| Firing order - Clockwise rotation (RH) | 1L-6L-3R-5R-3L-5L<br>2R-4R-2L-4L-1R-6R |
| Dimensions & weight (approx.)          |                                        |
| Length - in (mm)                       | 132 (3350)                             |
| Width - in (mm)                        | 53 (1350)                              |
| Height - in (mm)                       | 75 (1910)                              |
| Weight - lbs (kg)                      | 10760 (4880)                           |

### Technical Engine Specifications:

|                                                           |                                                        |
|-----------------------------------------------------------|--------------------------------------------------------|
| Injector (timing)                                         | 9215 (1.460)                                           |
| Turbocharger                                              | TV8102 (1.23 A/R HSG)                                  |
| Engine speed - r/min                                      | 1500                                                   |
| Brake horsepower - bhp (kW)                               | 548 (409)                                              |
| Bmep - lb/in <sup>2</sup> (kPa)                           | 131 (903)                                              |
| Fuel consumption - lb/hr (kg/hr)                          | 203.5 (92.3)                                           |
| Specific fuel cons. - lb/bhp hr (g/kW hr)                 | .371 (226)                                             |
| Fuel pump suction at pump inlet                           |                                                        |
| Maximum - in Hg (kPa)                                     |                                                        |
| Clean system                                              | 6 (20)                                                 |
| Dirty system                                              | 12 (41)                                                |
| Airflow - ft <sup>3</sup> /min (m <sup>3</sup> /min)      | 1640 (46.4)                                            |
| Airbox pressure - in Hg (kPa)                             | 25.5 (86.1)                                            |
| Air intake restriction, max. - in H <sub>2</sub> O (kPa)  |                                                        |
| (Dry type air cleaner)                                    |                                                        |
| Full load - dirty                                         | 10.3 (2.6)                                             |
| - clean                                                   | 6.2 (1.5)                                              |
| Exhaust temp. - °F (°C)                                   | 765 (407)                                              |
| Exhaust flow - ft <sup>3</sup> /min (m <sup>3</sup> /min) | 3740 (106)                                             |
| Exhaust back press., max. - in Hg (kPa)                   |                                                        |
| Full load                                                 | 1.4 (4.7)                                              |
| Coolant flow - gal/min (litre/min)                        | 185 (700)                                              |
| Coolant normal operating temp. - °F (°C)                  | 160-185 (71-85)                                        |
| Engine heat rejection - Btu/min (kW)                      | 17540 (308)                                            |
| Engine radiated heat - Btu/min (kW)                       | 2490 (43.8)                                            |
| Coolant inlet restriction, max. - in Hg (kPa)             | 2.0 (6.8)                                              |
| Lubricating oil press., normal - lb/in <sup>2</sup> (kPa) | 41-61 (283-421)                                        |
| Lubricating oil temp., in-pan - °F (°C)                   | 200-250 (93-121)                                       |
| Emissions - gm/hr (at per cent load)                      |                                                        |
|                                                           | <u>0%</u> <u>25%</u> <u>50%</u> <u>75%</u> <u>100%</u> |
| NO <sub>x</sub>                                           | 350    990    2520    4240    5690                     |
| CO <sub>x</sub>                                           | 280    180    240    720    4640                       |
| HC                                                        | 132    108    122    118    98                         |

All values at rated speed and power and with standard engine hardware unless otherwise noted.

Curve No. E4-8125-32-2  
Sht. 3 of 3



# ENGINE PERFORMANCE CURVE

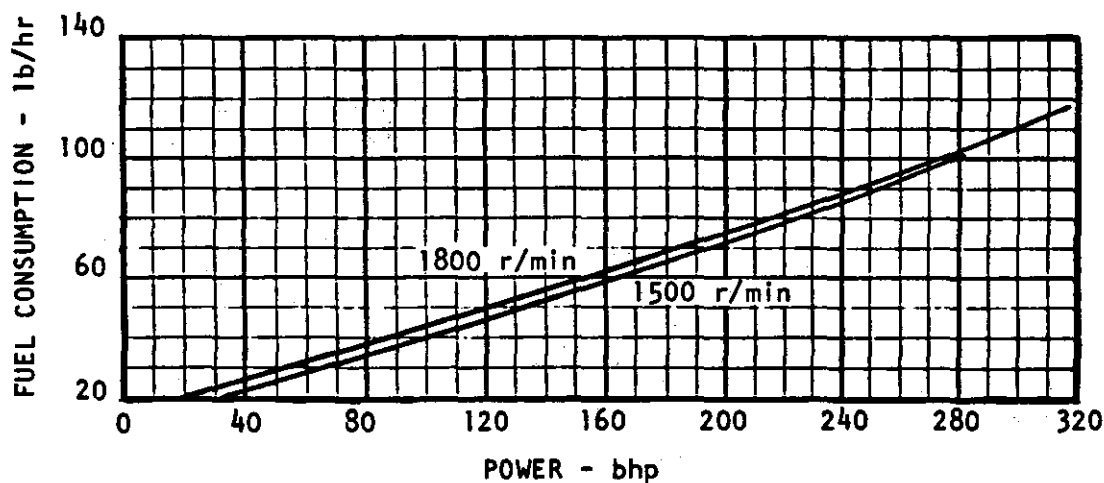
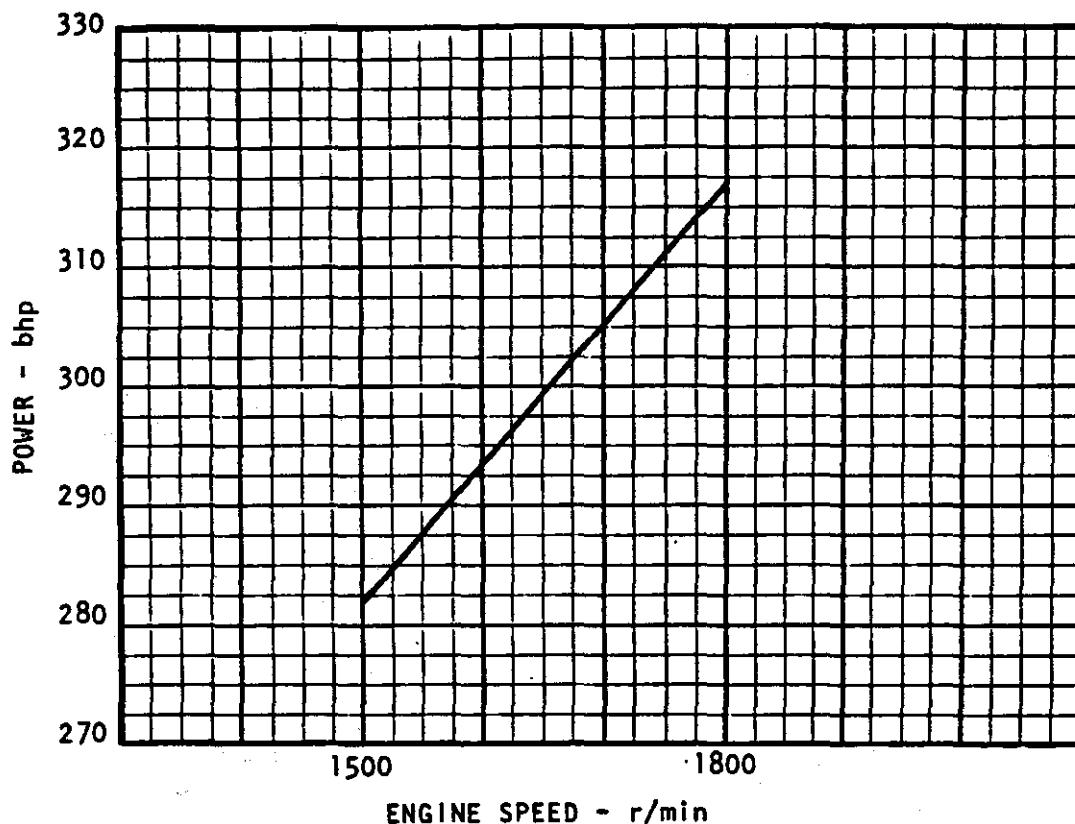
RATING: RATED BRAKE POWER

APPLICATION: GENERATOR SET -  
PRIME POWER

MODEL: 6V-92TA

317 bhp @ 1800 r/min

282 bhp @ 1500 r/min



AIR INTAKE RESTRICTION - in. H<sub>2</sub>O (mm H<sub>2</sub>O) . . . 10 (250)

EXHAUST RESTRICTION - in. H<sub>2</sub>O (mm H<sub>2</sub>O) . . . 15 (380)

- POWER OUTPUT GUARANTEED WITHIN 5% AT SAE J1349 CONDITIONS:  
77°F (25°C) AIR INLET TEMPERATURE; 29.31 in. Hg (99kPa) DRY BAROMETER;  
100°F (39°C) FUEL INLET TEMPERATURE (.853 SPECIFIC GRAVITY AT 60°F).
- CONVERSION FACTORS: POWER: kW = bhp × 0.746  
FUEL: kg/hr = lb/hr × 0.454
- VALUES DERIVED ARE FROM CURRENTLY AVAILABLE DATA AND SUBJECT TO  
CHANGE WITHOUT NOTICE.

CERTIFIED BY:

STAFF ENGINEER

CURVE NO.

E4-8065-32-3

DATE: 8-14-80

REV./DATE: 1/2-16-84

SHT. 1 OF 3

## ENGINE SPECIFICATION

### General Engine Description:

Model  
Number of cylinders  
Bore and stroke - in (mm)  
Displacement - in<sup>3</sup> (litre)  
Compression ratio  
Firing order - Clockwise rotation (RH)  
Dimensions & weight (approx.)  
Length - in (mm)  
Width - in (mm)  
Height - in (mm)  
Weight - lbs (kg)

8063-7405  
6  
4.84 x 5.00 (123 x 127)  
552 (9.05)  
17.0:1  
1L-3R-3L-2R-2L-1R  
102 (2590)  
48 (1220)  
63 (1600)  
5180 (2350)

### Technical Engine Specifications:

Injector (timing)  
Turbocharger  
Engine speed - r/min  
Brake horsepower - bhp (kW)  
Bmep - lb/in<sup>2</sup> (kPa)  
Fuel consumption - lb/hr (kg/hr)  
Specific fuel cons. - lb/bhp hr (g/kW hr)  
Fuel pump suction at pump inlet  
Maximum - in Hg (kPa)  
Clean system  
Dirty system  
Airflow - ft<sup>3</sup>/min (m<sup>3</sup>/min)  
Airbox pressure - in Hg (kPa)  
Air intake restriction, max. - in H<sub>2</sub>O (kPa)  
(Dry type air cleaner)  
Full load - dirty  
- clean  
Exhaust temp. - °F (°C)  
Exhaust flow - ft<sup>3</sup>/min (m<sup>3</sup>/min)  
Exhaust back press., max. - in Hg (kPa)  
Full load  
Coolant flow - gal/min (litre/min)  
Coolant normal operating temp. - °F (°C)  
Engine heat rejection - Btu/min (kW)  
Engine radiated heat - Btu/min (kW)  
Coolant inlet restriction, max. - in Hg (kPa)  
Lubricating oil press., normal - lb/in<sup>2</sup> (kPa)  
Lubricating oil temp., in-pan - °F (°C)  
Emissions - gm/hr (at per cent load)

|                 | 0%  | 25% | 50%  | 75%  | 100% |
|-----------------|-----|-----|------|------|------|
| NO <sub>x</sub> | 210 | 600 | 1190 | 2070 | 3290 |
| CO              | 140 | 110 | 110  | 210  | 400  |
| HC              | 88  | 77  | 79   | 79   | 93   |

9215 (1,460) PRIME  
TV7101 (1.23 A/R HSG)  
1800  
317 (236)  
126 (869)  
116.7 (52.9)  
.368 (224)  
6 (20)  
12 (41)  
1125 (31.9)  
43.2 (146)  
14.4 (3.6)  
8.7 (2.2)  
645 (341)  
2315 (65.6)  
2.0 (6.8)  
140 (530)  
160-185 (71-85)  
10140 (178)  
1610 (28.3)  
3.0 (10.1)  
49-70 (338-483)  
200-250 (93-121)

All values at rated speed and power and with  
standard engine hardware unless otherwise noted.

Curve No. E4-8065-32-3  
Sht. 2 of 3

## ENGINE SPECIFICATION

### General Engine Description:

|                                        |                         |
|----------------------------------------|-------------------------|
| Model                                  | 8063-7405               |
| Number of cylinders                    | 6                       |
| Bore and stroke - in (mm)              | 4.84 x 5.00 (123 x 127) |
| Displacement - in <sup>3</sup> (litre) | 552 (9.05)              |
| Compression ratio                      | 17.0:1                  |
| Firing order - Clockwise rotation (RH) | 1L-3R-3L-2R-2L-1R       |
| Dimensions & weight (approx.)          |                         |
| Length - in (mm)                       | 102 (2590)              |
| Width - in (mm)                        | 48 (1220)               |
| Height - in (mm)                       | 63 (1600)               |
| Weight - lbs (kg)                      | 5180 (2350)             |

### Technical Engine Specifications:

|                                                           |                        |
|-----------------------------------------------------------|------------------------|
| Injector (timing)                                         | 9215 (1,460) PRIME     |
| Turbocharger                                              | TV7101 (1.23 A/R HSG)  |
| Engine speed - r/min                                      | 1500                   |
| Brake horsepower - bhp (kW)                               | 282 (210)              |
| Bmep - lb/in <sup>2</sup> (kPa)                           | 135 (931)              |
| Fuel consumption - lb/hr (kg/hr)                          | 100.8 (45.7)           |
| Specific fuel cons. - lb/bhp hr (g/kW hr)                 | .357 (217)             |
| Fuel pump suction at pump inlet                           |                        |
| Maximum - in Hg (kPa)                                     |                        |
| Clean system                                              | 6 (20)                 |
| Dirty system                                              | 12 (41)                |
| Airflow - ft <sup>3</sup> /min (m <sup>3</sup> /min)      | 920 (26.1)             |
| Airbox pressure - in Hg (kPa)                             | 32.0 (108)             |
| Air intake restriction, max. - in H <sub>2</sub> O (kPa)  |                        |
| (Dry type air cleaner)                                    |                        |
| Full load - dirty                                         | 10.3 (2.6)             |
| - clean                                                   | 6.2 (1.5)              |
| Exhaust temp. - °F (°C)                                   | 660 (349)              |
| Exhaust flow - ft <sup>3</sup> /min (m <sup>3</sup> /min) | 1920 (54.4)            |
| Exhaust back press., max. - in Hg (kPa)                   |                        |
| Full load                                                 | 1.4 (4.7)              |
| Coolant flow - gal/min (litre/min)                        | 117 (443)              |
| Coolant normal operating temp. - °F (°C)                  | 160-185 (71-85)        |
| Engine heat rejection - Btu/min (kW)                      | 9020 (159)             |
| Engine radiated heat - Btu/min (kW)                       | 1390 (24.4)            |
| Coolant inlet restriction, max. - in Hg (kPa)             | 2.0 (6.8)              |
| Lubricating oil press., normal - lb/in <sup>2</sup> (kPa) | 41-61 (283-421)        |
| Lubricating oil temp., in-pan - °F (°C)                   | 200-250 (93-121)       |
| Emissions - gm/hr (at per cent load)                      |                        |
|                                                           | 0% 25% 50% 75% 100%    |
| NO <sub>x</sub>                                           | 180 570 1160 1960 3000 |
| CO                                                        | 110 80 110 280 1000    |
| HC                                                        | 74 60 65 68 70         |

All values at rated speed and power and with standard engine hardware unless otherwise noted.

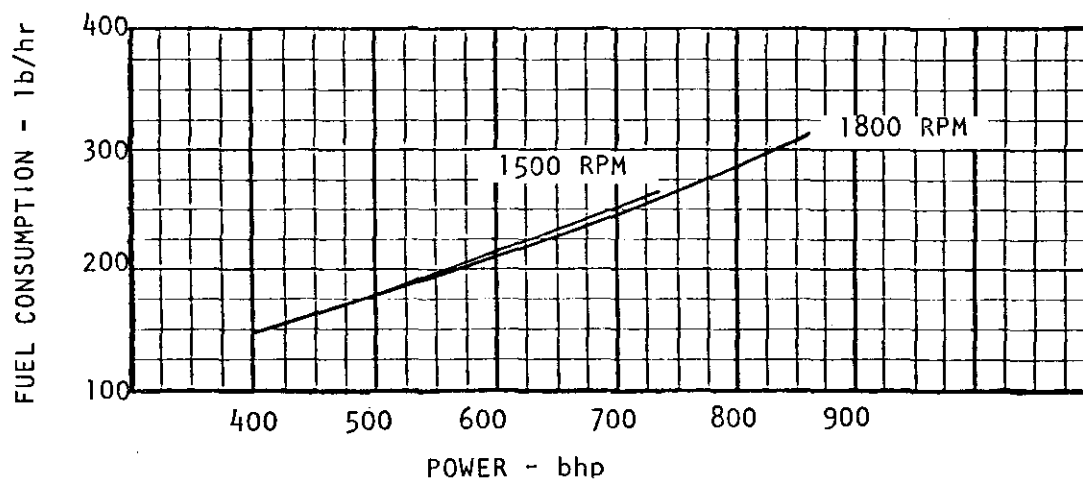
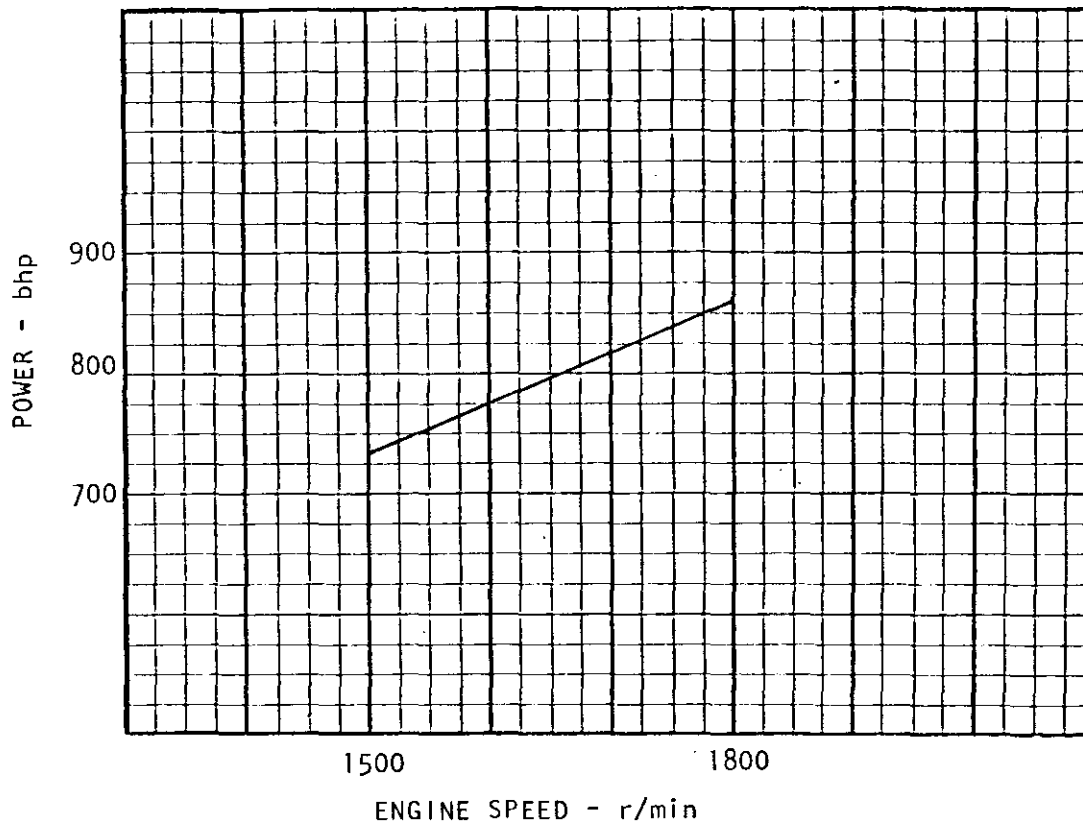
Curve No. E4-8065-32-3  
Sht. 3 of 3



# ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER  
PRELIMINARY  
APPLICATION: GENERATOR  
PRIME POWER

MODEL: 8V-149TI  
860 bhp @ 1800 r/min  
735 bhp @ 1500 r/min



AIR INTAKE RESTRICTION - in. H<sub>2</sub>O (kPa) . . . 10 (2.5)  
EXHAUST BACK PRESSURE - in. H<sub>2</sub>O (kPa) . . . 15 (3.7)

- POWER OUTPUT GUARANTEED WITHIN 5% AT SAE J1349 CONDITIONS:  
77°F (25°C) AIR INLET TEMPERATURE; 29.31 in. Hg (99kPa) DRY BAROMETER;  
100°F (39°C) FUEL INLET TEMPERATURE (.853 SPECIFIC GRAVITY AT 60°F).
- CONVERSION FACTORS: POWER: kW = bhp x 0.746  
FUEL: kg/hr = lb/hr x 0.454
- VALUES DERIVED ARE FROM CURRENTLY AVAILABLE DATA AND SUBJECT TO  
CHANGE WITHOUT NOTICE.

CERTIFIED BY:

*D. Ibrahim*

11-2-84

STAFF ENGINEER

CURVE NO.

E4-9085-32-2

DATE: 8-24-84

REV./DATE: 2/2-8-85

SHT. 1 OF 3

## ENGINE SPECIFICATION

### General Engine Description:

Model  
Number of cylinders  
Bore and stroke - in (mm)  
Displacement - in<sup>3</sup> (litre)  
Compression ratio  
Firing order - Clockwise rotation (RH)

NEW AIR INDUCTION WITH  
BLOWER PRESSURE RELIEF VALVE  
9083-7306  
8  
5.75 x 5.75 (146 x 146)  
1195 (19.6)  
15:1  
1L-3R-3L-4R-4L-2R-2L-1R

### Dimensions & weight (approx.)

Length - in (mm)  
Width - in (mm)  
Height - in (mm)  
Weight - lbs (kg)

64 (1626)  
64 (1626)  
68 (1727)  
6000 (2722)

### Technical Engine Specifications:

Injector (timing)  
Turbocharger  
Engine speed - r/min  
Brake horsepower - bhp (kW)  
Bmep - lb/in<sup>2</sup> (kPa)  
Fuel consumption - lb/hr (kg/hr)  
Specific fuel cons. - lb/bhp hr (g/kW hr)  
Fuel pump suction at pump inlet  
Maximum - in Hg (kPa)  
Clean system  
Dirty system  
Airflow - ft<sup>3</sup>/min (m<sup>3</sup>/min)  
Airbox pressure - in Hg (kPa)  
Air intake restriction, max. - in H<sub>2</sub>O (kPa)  
(Dry type air cleaner)  
Full load - dirty  
- clean  
Exhaust temp. - °F (°C)  
Exhaust flow - ft<sup>3</sup>/min (m<sup>3</sup>/min)  
Exhaust back press., max. - in Hg (kPa)  
Full load  
Coolant flow - gal/min (litre/min)  
Coolant normal operating temp. - °F (°C)  
Engine heat rejection - Btu/min (kW)  
Engine radiated heat - Btu/min (kW)  
Coolant inlet restriction, max. - in Hg (kPa)  
Lubricating oil press., normal - lb/in<sup>2</sup> (kPa)  
Lubricating oil temp., in-pan - °F (°C)  
Emissions - gm/hr (at per cent load)

|                 | 0%   | 25%  | 50%  | 75%  | 100%  |
|-----------------|------|------|------|------|-------|
| NO <sub>x</sub> | 1190 | 2530 | 4520 | 7280 | 10420 |
| CO <sub>x</sub> | 830  | 820  | 1020 | 2650 | 6750  |
| HC              | 330  | 320  | 340  | 460  | 410   |

190 (2.205) PRIME  
TV8401 (1.23 A/R HSG)  
1800  
860 (642)  
158 (1090)  
310.0 (141)  
361 (219)  
6.0 (20.3)  
12.0 (40.6)  
2300 (65)  
40 (135.1)  
17.5 (4.4)  
10.5 (2.6)  
745 (396)  
5160 (146)  
2.2 (7.4)  
265 (1003)  
180 (82.2)  
26920 (473)  
3370 (59)  
3.0 (10.2)  
48-70 (331-483)  
230 (110) MAX.

All values at rated speed and power and with  
standard engine hardware unless otherwise noted.

Curve No. E4-9085-32-2  
Date: 8-24-84  
Rev./Date: 2/2-8-85  
Sht. 2 of 3

## ENGINE SPECIFICATION

### General Engine Description:

Model  
Number of cylinders  
Bore and stroke - in (mm)  
Displacement - in<sup>3</sup> (litre)  
Compression ratio  
Firing order, - Clockwise rotation (RH)

### Dimensions & weight (approx.)

Length - in (mm)  
Width - in (mm)  
Height - in (mm)  
Weight - lbs (kg)

NEW AIR INDUCTION WITH  
BLOWER PRESSURE RELIEF VALVE  
9083-7306  
8  
5.75 x 5.75 (146 x 146)  
1195 (19.6)  
15:1  
1L-3R-3L-4R-4L-2R-2L-1R

64 (1626)  
64 (1626)  
68 (1727)  
6000 (2722)

### Technical Engine Specifications:

Injector (timing)  
Turbocharger  
Engine speed - r/min  
Brake horsepower - bhp (kW)  
Bmep - lb/in<sup>2</sup> (kPa)  
Fuel consumption - lb/hr (kg/hr)  
Specific fuel cons. - lb/bhp hr (g/kW hr)  
Fuel pump suction at pump inlet  
Maximum - in Hg (kPa)  
Clean system  
Dirty system  
Airflow - ft<sup>3</sup>/min (m<sup>3</sup>/min)  
Airbox pressure - in Hg (kPa)  
Air intake restriction, max. - in H<sub>2</sub>O (kPa)  
(Dry type air cleaner)  
Full load - dirty  
- clean  
Exhaust temp. - °F (°C)  
Exhaust flow - ft<sup>3</sup>/min (m<sup>3</sup>/min)  
Exhaust back press., max. - in Hg (kPa)  
Full load  
Coolant flow - gal/min (litre/min)  
Coolant normal operating temp. - °F (°C)  
Engine heat rejection - Btu/min (kW)  
Engine radiated heat - Btu/min (kW)  
Coolant inlet restriction, max. - in Hg (kPa)  
Lubricating oil press., normal - lb/in<sup>2</sup> (kPa)  
Lubricating oil temp., in-pan - °F (°C)  
Emissions - gm/hr (at per cent load)

190 (2,205) PRIME  
TV8401 (1.23 A/R HSG)  
1500  
735 (548)  
162 (1117)  
266 (120.7)  
362 (220)

6.0 (20.3)  
12.0 (40.6)  
2100 (59)  
34.5 (116.5)

13.0 (3.2)  
7.5 (1.9)  
750 (399)  
4730 (134)

1.5 (5.1)  
220 (833)  
180 (82.2)  
22780 (401)  
3399 (58)  
2.0 (6.7)  
48-70 (331-483)  
230 (110) MAX.

|                 | 0%  | 25%  | 50%  | 75%  | 100%  |
|-----------------|-----|------|------|------|-------|
| NO <sub>x</sub> | 780 | 2340 | 4250 | 6360 | 10230 |
| CO <sub>x</sub> | 770 | 680  | 970  | 3250 | 6000  |
| HC              | 270 | 260  | 280  | 310  | 490   |

All values at rated speed and power and with standard engine hardware unless otherwise noted.

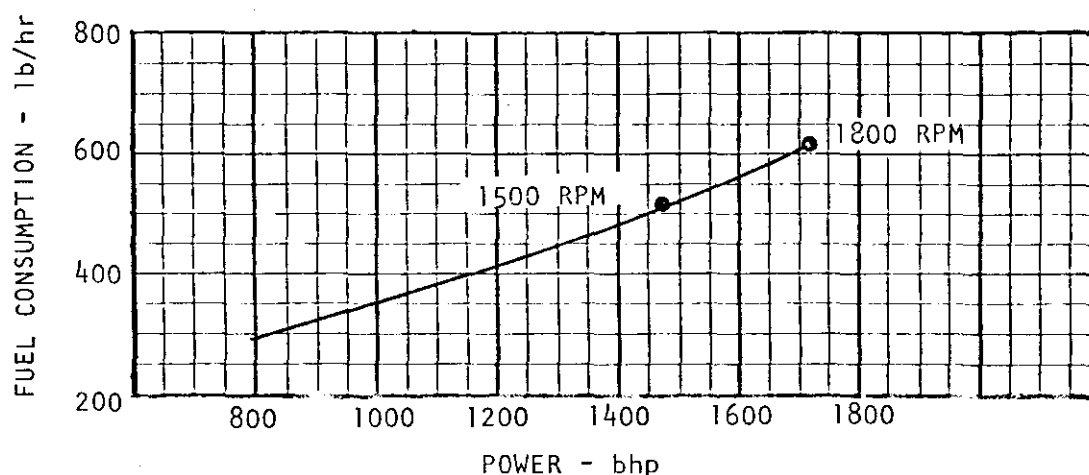
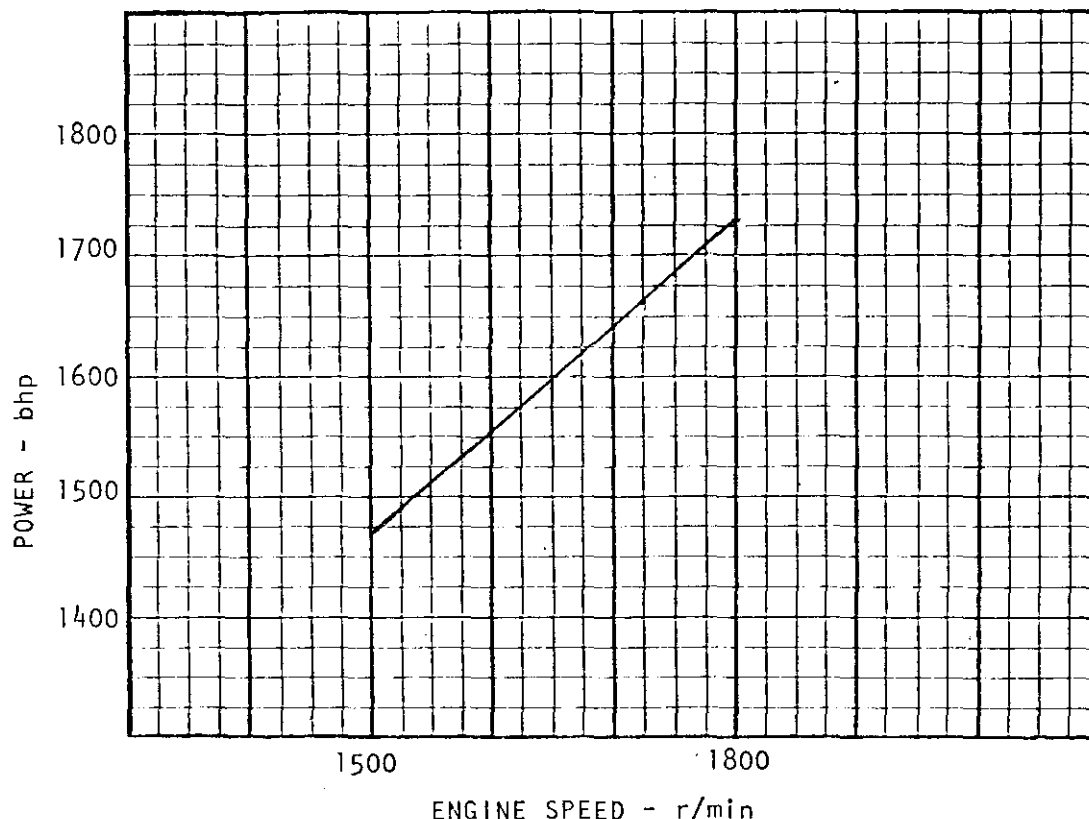
Curve No. E4-9085-32-2  
Date: 8-24-84  
Rev./Date: 2/2-8-85  
Sht. 3 of 3



# ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER  
PRELIMINARY  
APPLICATION: GENERATOR  
PRIME POWER

MODEL: 16V-149TI  
1730 bhp @ 1800 rpm  
1470 bhp @ 1500 r/min



AIR INTAKE RESTRICTION - in. H<sub>2</sub>O (kPa) . . . 10 (2.5)  
EXHAUST BACK PRESSURE - in. H<sub>2</sub>O (kPa) . . . 15 (3.7)

- POWER OUTPUT GUARANTEED WITHIN 5% AT SAE J1349 CONDITIONS:  
77°F (25°C) AIR INLET TEMPERATURE; 29.31 in. Hg (99kPa) DRY BAROMETER;  
100°F (39°C) FUEL INLET TEMPERATURE (.853 SPECIFIC GRAVITY AT 60°F).
- CONVERSION FACTORS: POWER: kW = bhp x 0.746  
FUEL: kg/hr = lb/hr x 0.454
- VALUES DERIVED ARE FROM CURRENTLY AVAILABLE DATA AND SUBJECT TO CHANGE WITHOUT NOTICE.

CERTIFIED BY:  
*D L Graham*  
11-2-84  
STAFF ENGINEER

CURVE NO.  
E4-9165-32-38  
DATE: 8-24-84  
REV./DATE: 2/2-13-85  
SHT. 1 OF 3

## ENGINE SPECIFICATION

### General Engine Description:

Model  
Number of cylinders  
Bore and stroke - in (mm)  
Displacement - in<sup>3</sup> (litre)  
Compression ratio  
Firing order - Clockwise rotation (RH)

#### Dimensions & weight (approx.)

Length - in (mm)  
Width - in (mm)  
Height - in (mm)  
Weight - lbs (kg)

### NEW AIR INDUCTION WITH BLOWER PRESSURE RELIEF VALVE

9163-7311  
16  
5.75 x 5.75 (146 x 146)  
2389 (39.18)  
15:1  
1L-2R-8L-6R-2L-4R-6L-5R  
4L-3R-5L-7R-3L-1R-7L-8R  
106 (2692)  
64 (1626)  
68 (1727)  
10970 (4976)

### Technical Engine Specifications:

Injector (timing)  
Turbocharger  
Engine speed - r/min  
Brake horsepower - bhp (kW)  
Bmep - lb/in<sup>2</sup> (kPa)  
Fuel consumption - lb/hr (kg/hr)  
Specific fuel cons. - lb/bhp hr (g/kW hr)  
Fuel pump suction at pump inlet  
Maximum - in Hg (kPa)  
Clean system  
Dirty system  
Airflow - ft<sup>3</sup>/min (m<sup>3</sup>/min)  
Airbox pressure - in Hg (kPa)  
Air intake restriction, max. - in H<sub>2</sub>O (kPa)  
(Dry type air cleaner)  
Full load - dirty  
- clean  
Exhaust temp. - °F (°C)  
Exhaust flow - ft<sup>3</sup>/min (m<sup>3</sup>/min)  
Exhaust back press., max. - in Hg (kPa)  
Full load  
Coolant flow - gal/min (litre/min)  
Coolant normal operating temp. - °F (°C)  
Engine heat rejection - Btu/min (kW)  
Engine radiated heat - Btu/min (kW)  
Coolant inlet restriction, max. - in Hg (kPa)  
Lubricating oil press., normal - lb/in<sup>2</sup> (kPa)  
Lubricating oil temp., in-pan - °F (°C)  
Emissions - gm/hr (at per cent load)

|                 | 0%   | 25%  | 50%  | 75%   | 100%  |
|-----------------|------|------|------|-------|-------|
| NO <sub>x</sub> | 1635 | 4400 | 8050 | 11300 | 15900 |
| CO <sub>x</sub> | 885  | 650  | 550  | 1300  | 4900  |
| HC              | 1015 | 810  | 844  | 940   | 950   |

190 (2,205) PRIME  
TV8401 (1.23 A/R HSG)  
1800  
1730 (1291)  
159 (1097)  
612.4 (277.8)  
.354 (215)  
6.0 (20.3)  
12.0 (40.6)  
4800 (135)  
40 (135.1)  
17.5 (4.4)  
10.5 (2.6)  
780 (416)  
11080 (313)  
2.2 (7.4)  
530 (2006)  
180 (82.2)  
53100 (934) \*  
6660 (117)  
3.0 (10.2)  
55-75 (379-517) \*  
230 (110) MAX.

\* WITH TUBE AND SHELL OIL  
COOLER.

All values at rated speed and power and with  
standard engine hardware unless otherwise noted.

Curve No. E4-9165-32-38  
Date: 8-24-84  
Rev./Date: 2/2-13-85  
Sht. 2 of 3

## ENGINE SPECIFICATION

### General Engine Description:

Model  
 Number of cylinders  
 Bore and stroke - in (mm)  
 Displacement - in<sup>3</sup> (litre)  
 Compression ratio  
 Firing order - Clockwise rotation (RH)

### Dimensions & weight (approx.)

Length - in (mm)  
 Width - in (mm)  
 Height - in (mm)  
 Weight - lbs (kg)

### NEW AIR INDUCTION WITH BLOWER PRESSURE RELIEF VALVE

9163-7311  
 16  
 5.75 x 5.75 (146 x 146)  
 2389 (39.18)  
 15:1  
 1L-2R-8L-6R-2L-4R-6L-5R  
 4L-3R-5L-7R-3L-1R-7L-8R  
 106 (2692)  
 64 (1626)  
 68 (1727)  
 10970 (4976)

### Technical Engine Specifications:

Injector (timing)  
 Turbocharger  
 Engine speed - r/min  
 Brake horsepower - bhp (kW)  
 Bmep - lb/in<sup>2</sup> (kPa)  
 Fuel consumption - lb/hr (kg/hr)  
 Specific fuel cons. - lb/bhp hr (g/kW hr)  
 Fuel pump suction at pump inlet  
 Maximum - in Hg (kPa)  
 Clean system  
 Dirty system  
 Airflow - ft<sup>3</sup>/min (m<sup>3</sup>/min)  
 Airbox pressure - in Hg (kPa)  
 Air intake restriction, max. - in H<sub>2</sub>O (kPa)  
 (Dry type air cleaner)  
 Full load - dirty  
                     - clean  
 Exhaust temp. - °F (°C)  
 Exhaust flow - ft<sup>3</sup>/min (m<sup>3</sup>/min)  
 Exhaust back press., max. - in Hg (kPa)  
 Full load  
 Coolant flow - gal/min (litre/min)  
 Coolant normal operating temp. - °F (°C)  
 Engine heat rejection - Btu/min (kW)  
 Engine radiated heat - Btu/min (kW)  
 Coolant inlet restriction, max. - in Hg (kPa)  
 Lubricating oil press., normal - lb/in<sup>2</sup> (kPa)  
 Lubricating oil temp., in-pan - °F (°C)  
 Emissions - gm/hr (at per cent load)

|                 | <u>0%</u> | <u>25%</u> | <u>50%</u> | <u>75%</u> | <u>100%</u> |
|-----------------|-----------|------------|------------|------------|-------------|
| NO <sub>x</sub> | 1260      | 3900       | 6850       | 9900       | 12480       |
| CO <sub>x</sub> | 810       | 500        | 550        | 2750       | 11200       |
| HC              | 885       | 600        | 610        | 690        | 730         |

190 (2,205) PRIME  
 TV8401 (1.23 A/R HSG)  
 1500  
 1470 (1097)  
 162 (1117)  
 520.0 (235.9)  
 .354 (215)  
 6.0 (20.3)  
 12.0 (40.6)  
 4500 (127)  
 34.5 (116.5)  
 13.0 (3.2)  
 7.5 (1.9)  
 790 (421)  
 10470 (297)  
 1.5 (5.1)  
 440 (1666)  
 180 (82.2)  
 42630 (750) \*  
 6450 (113)  
 2.0 (6.7)  
 55-75 (379-517) \*  
 230 (110) MAX.

\* WITH TUBE AND SHELL OIL  
 COOLER.

All values at rated speed and power and with  
 standard engine hardware unless otherwise noted.

Curve No. E4-9165-32-38  
 Date: 8-24-84  
 Rev./Date: 2/2-13-85  
 Sht. 3 of 3



# DIESEL ELECTRIC STANDBY POWER

## INDEX

| <u>ENGINE</u> | <u>INJECTOR</u> | <u>HORSEPOWER (KW)</u> |                 | <u>CURVE NUMBER</u> | <u>DATE</u> | <u>SEE NOTE</u> |
|---------------|-----------------|------------------------|-----------------|---------------------|-------------|-----------------|
|               |                 | <u>1500 RPM</u>        | <u>1800 RPM</u> |                     |             |                 |
| 3-53N(4V)     | N50             | 58 (43)                | 70 (52)         | E4-5035-52-02       | 10-26-78    |                 |
| 4-53N(4V)     | N50             | 77 (57)                | 96 (72)         | E4-5045-52-02       | 10-26-78    |                 |
| 2-71N(2V)     | N70             | 55 (41)                | 65 (48)         | E4-1025-11-01       | 07-15-77    |                 |
| 3-71N         | N70             | 91 (68)                | 109 (81)        | E4-1035-52-01       | 08-02-85    | (R)             |
| 4-71N         | N70             | 122 (91)               | 145 (108)       | E4-1045-52-01       | 08-02-85    | (R)             |
| 6-71N         | N70             | 182(136)               | 218 (163)       | E4-1065-52-02       | 08-02-85    | (R)             |
| 4-71T         | N80             | 153 (114)              | 175 (131)       | E4-1045-32-05       | 11-15-79    |                 |
| 4-71T         | N90             | 167 (125)              | 192 (143)       | E4-1045-32-01       | 11-15-79    |                 |
| 4-71T         | M95             | 180 (134)              | 210 (157)       | E4-1045-32-04       | 11-15-79    |                 |
| 6-71T         | N80             | 233 (174)              | 268 (200)       | E4-1065-32-05       | 11-15-79    |                 |
| 6-71T         | N90             | 249 (186)              | 288 (215)       | E4-1065-32-01       | 11-15-79    |                 |
| 6-71T         | M95             | 271 (202)              | 315 (235)       | E4-1065-32-06       | 11-15-79    |                 |
| 8V-71N        | N70             | 243 (181)              | 290 (217)       | E4-7085-52-02       | 08-02-85    | (R)             |
| 12V-71N       | N70             | 365 (272)              | 436 (325)       | E4-7125-52-01       | 08-05-85    | (R)             |
| 16V-71N       | N70             | 487 (363)              | 581 (434)       | E4-7165-52-01       | 08-05-85    | (R)             |
| 8V-71T        | N60             | 227 (169.3)            | 253 (188.7)     | E4-7085-32-06       | 10-07-80    |                 |
| 8V-71T        | N80             | 303 (226)              | 349 (260)       | E4-7085-32-05       | 11-15-79    |                 |
| 8V-71T        | N90             | 325 (242)              | 377 (281)       | E4-7085-32-01       | 11-15-79    |                 |
| 8V-71T        | M95             | 351 (262)              | 415 (309)       | E4-7085-32-04       | 11-15-79    |                 |
| 12V-71T       | N80             | 459 (332)              | 525 (392)       | E4-7125-32-04       | 11-15-79    |                 |
| 12V-71T       | N90             | 500 (373)              | 575 (429)       | E4-7125-32-01       | 11-15-79    |                 |
| 12V-71T       | M95             | 540 (403)              | 630 (470)       | E4-7125-32-05       | 11-15-79    |                 |
| 16V-71T       | N80             | 600 (448)              | 690 (515)       | E4-7165-32-06       | 11-15-79    |                 |
| 16V-71T       | N90             | 650 (485)              | 755 (563)       | E4-7165-32-01       | 11-15-79    |                 |
| 16V-71T       | M95             | 702 (524)              | 830 (619)       | E4-7165-32-04       | 11-15-79    |                 |
| 16V-92N       | 9285            | 586 (437)              | 692 (516)       | E4-8165-12-02       | 08-12-79    |                 |
| 8V-92T        | 9200            | 370 (276)              | 430 (321)       | E4-8085-32-01       | 07-15-77    |                 |
| 8V-92T        | 9215            | 415 (310)              | 480 (358)       | E4-8085-32-03       | 07-16-80    |                 |
| 12V-92T       | 9215            | 640 (477)              | 740 (552)       | E4-8125-32-01       | 09-25-80    |                 |
| 16V-92T       | 9200            | 740 (552)              | 860 (642)       | E4-8165-32-02       | 07-15-77    |                 |
| 16V-92T       | 9215            | 830 (619)              | 960 (716)       | E4-8165-32-04       | 07-16-80    |                 |
| 6V-92TA       | 9215            | 330 (246)              | 370 (276)       | E4-8065-32-04       | 08-14-80    |                 |
| 6V-92TA       | 9225            | 351 (254)              | 415 (310)       | E4-8065-32-08       | 07-22-85    | (A)             |
| 8V-92TA       | 9225            | 466 (348)              | 540 (403)       | E4-8085-32-07       | 06-21-85    | (A)             |
| 16V-92TA      | 9225            | 946 (706)              | 1095 (817)      | E4-8165-32-07       | 06-18-85    | (A)             |

E4M-0005-00-01

Rev. 12-01-85

Sheet 1 of 2

# DIESEL ELECTRIC STANDBY POWER

## INDEX

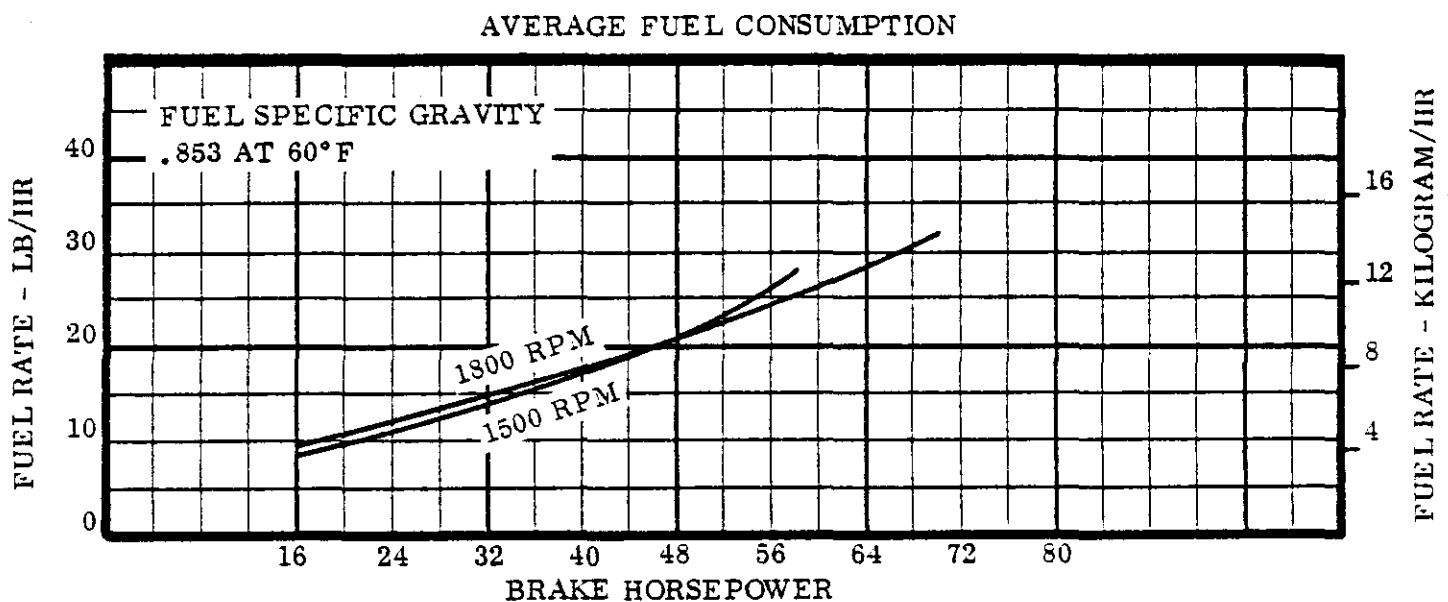
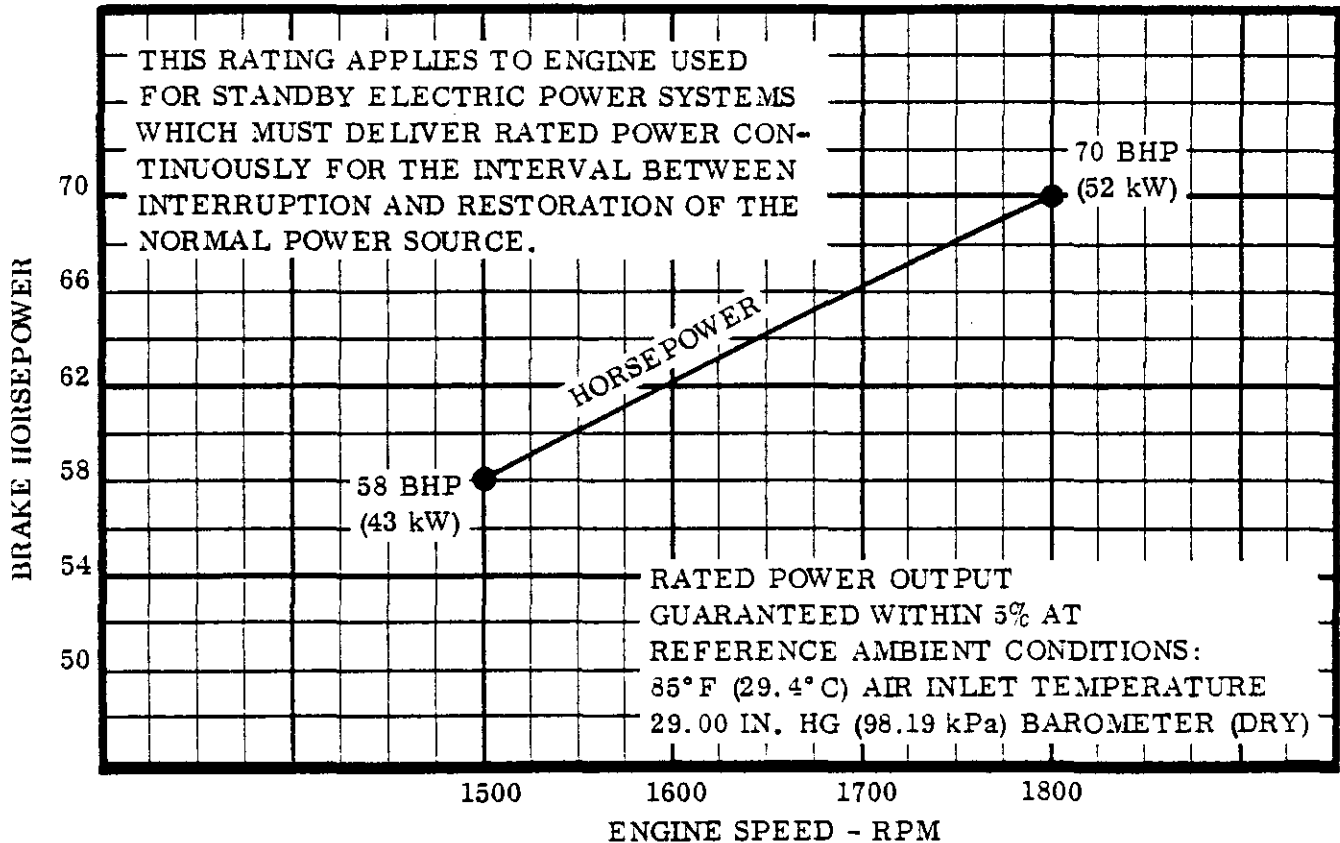
| <u>ENGINE</u> | <u>INJECTOR</u> | <u>HORSEPOWER (KW)</u> |                 | <u>CURVE NUMBER</u> | <u>DATE</u> | <u>SEE NOTE</u> |
|---------------|-----------------|------------------------|-----------------|---------------------|-------------|-----------------|
|               |                 | <u>1500 RPM</u>        | <u>1800 RPM</u> |                     |             |                 |
| 12V-149N      | 130             | 660 (492)              | 770 (574)       | E4-9125-12-02       | 07-15-77    |                 |
| 16V-149N      | 130             | 880 (656)              | 1025 (765)      | E4-9165-12-02       | 07-15-77    |                 |
| 12V-149T      | 165             | 910 (679)              | 1070 (798)      | E4-9125-32-09       | 07-15-77    |                 |
| 12V-149T      | 165             | 995 (742)              | 1155 (862)      | E4-9125-32-34       | 09-23-83    |                 |
| 12V-149T      | 170             | 950 (709)              | 1130 (843)      | E4-9125-32-24       | 03-13-81    |                 |
| 16V-149T      | 165             | 1210 (903)             | 1425 (1063)     | E4-9165-32-09       | 07-15-77    |                 |
| 16V-149T      | 165             | 1315 (981)             | 1545 (1153)     | E4-9165-32-34       | 01-09-84    |                 |
| 16V-149T      | 170             | 1310 (977)             | 1515 (1130)     | E4-9165-32-25       | 03-10-81    |                 |
| 8V-149TI      | 270             | 865 (645)              | 1010 (753)      | E4-9085-32-01       | 02-08-85    |                 |
| 12V-149TI     | 170             | 1015 (757)             | 1175 (877)      | E4-9125-32-25       | 05-09-80    |                 |
| 12V-149TI     | 270             | 1270 (947)             | 1515 (1130)     | E4-9125-32-35       | 09-30-85    | (R)             |
| 16V-149TI     | 170             | 1370 (1022)            | 1580 (1179)     | E4-9165-32-22       | 05-09-80    |                 |
| 16V-149TI     | 190             | 1500 (1119)            | 1740 (1298)     | E4-9165-32-40       | 11-29-84    |                 |
| 16V-149TI     | 270             | 1730 (1291)            | 2020 (1507)     | E4-9165-32-33       | 02-13-85    |                 |

NOTE - (A) - CURVE ADDED  
(R) - REVISED



**Detroit Diesel Allison**  
Division of General Motors Corporation

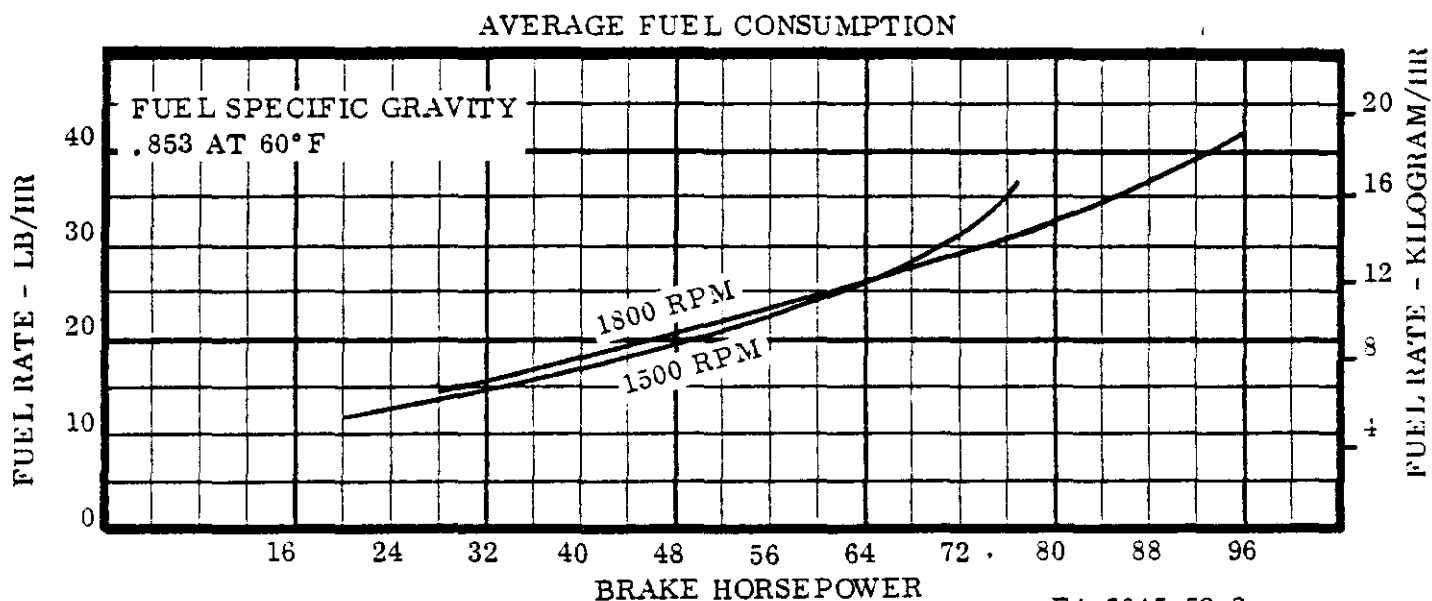
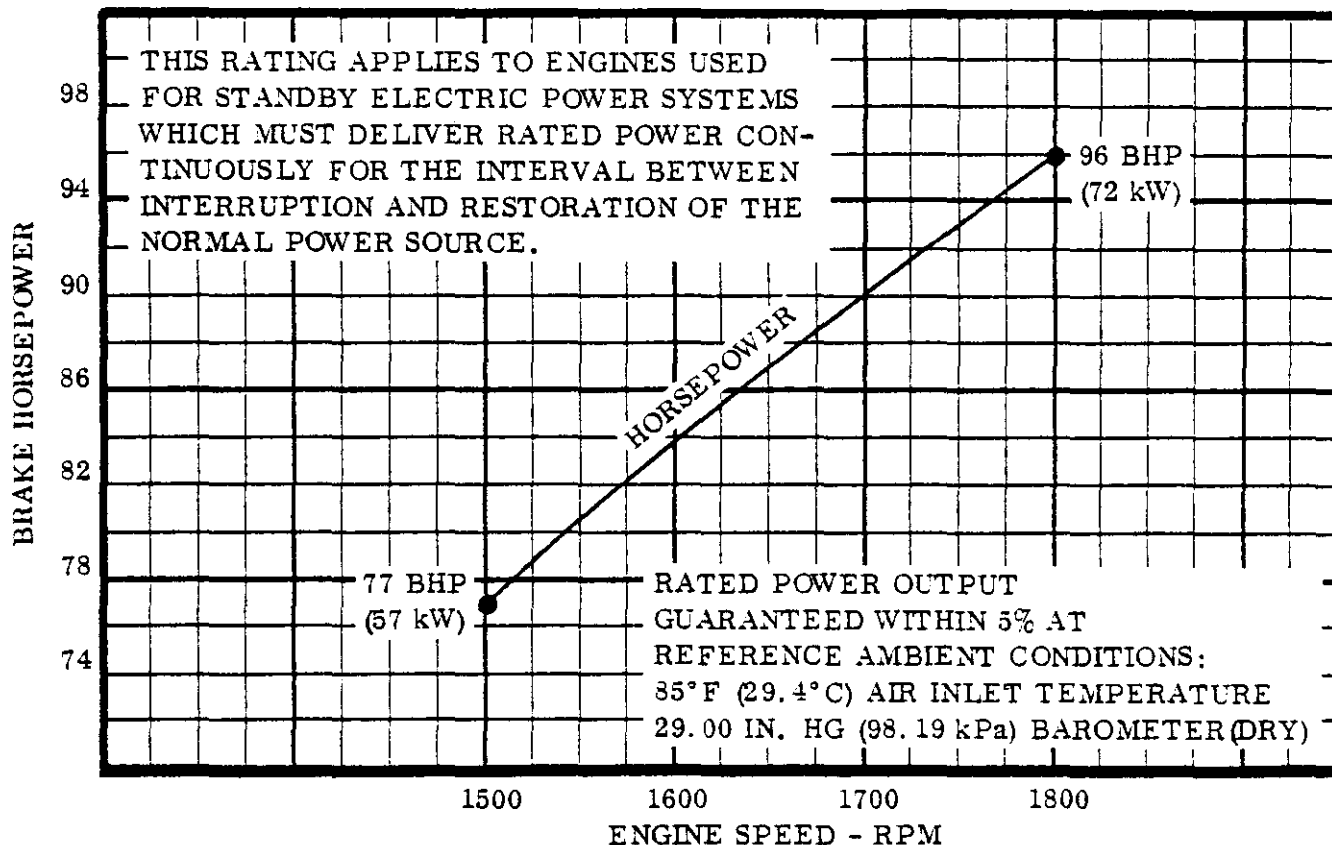
3-53N(4V) ENGINE  
DIESEL ELECTRIC STANDBY POWER  
(WITHOUT FAN)  
(N50 INJECTORS)





**Detroit Diesel Allison**  
Division of General Motors Corporation

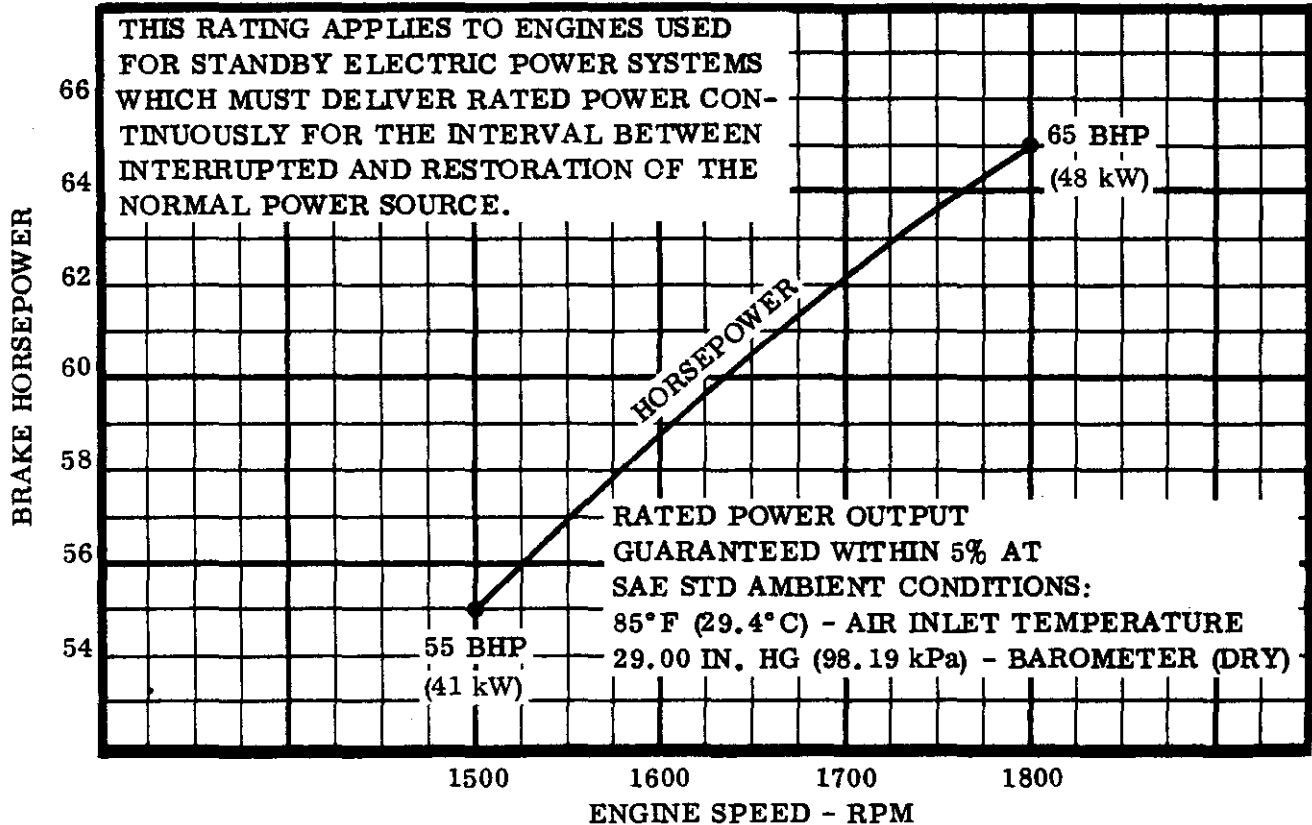
4-53N(4V) ENGINE  
DIESEL ELECTRIC STANDBY POWER  
(WITHOUT FAN)  
N50 INJECTORS



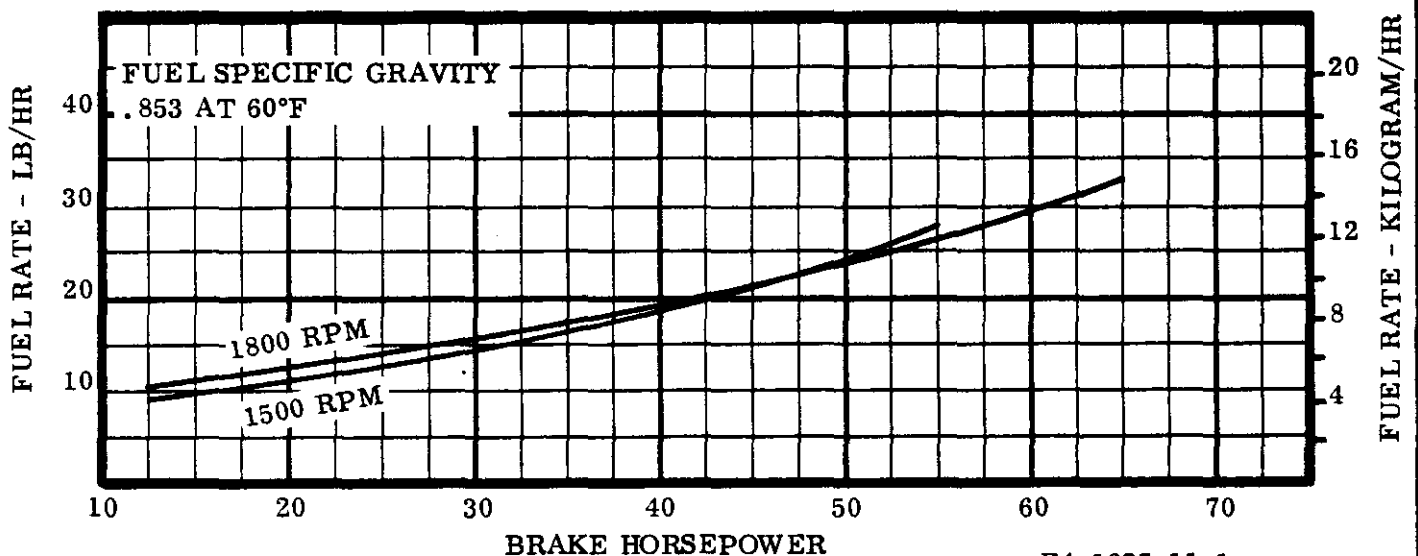


**Detroit Diesel Allison**  
Division of General Motors Corporation

2-71 ENGINE  
DIESEL ELECTRIC STANDBY POWER  
WITHOUT FAN  
N70 INJECTORS



AVERAGE FUEL CONSUMPTION



# ENGINE PERFORMANCE CURVE



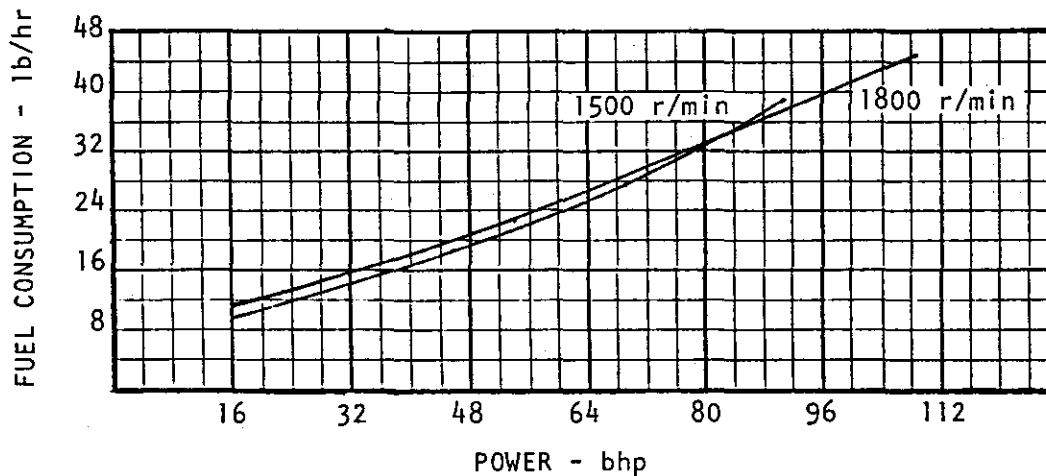
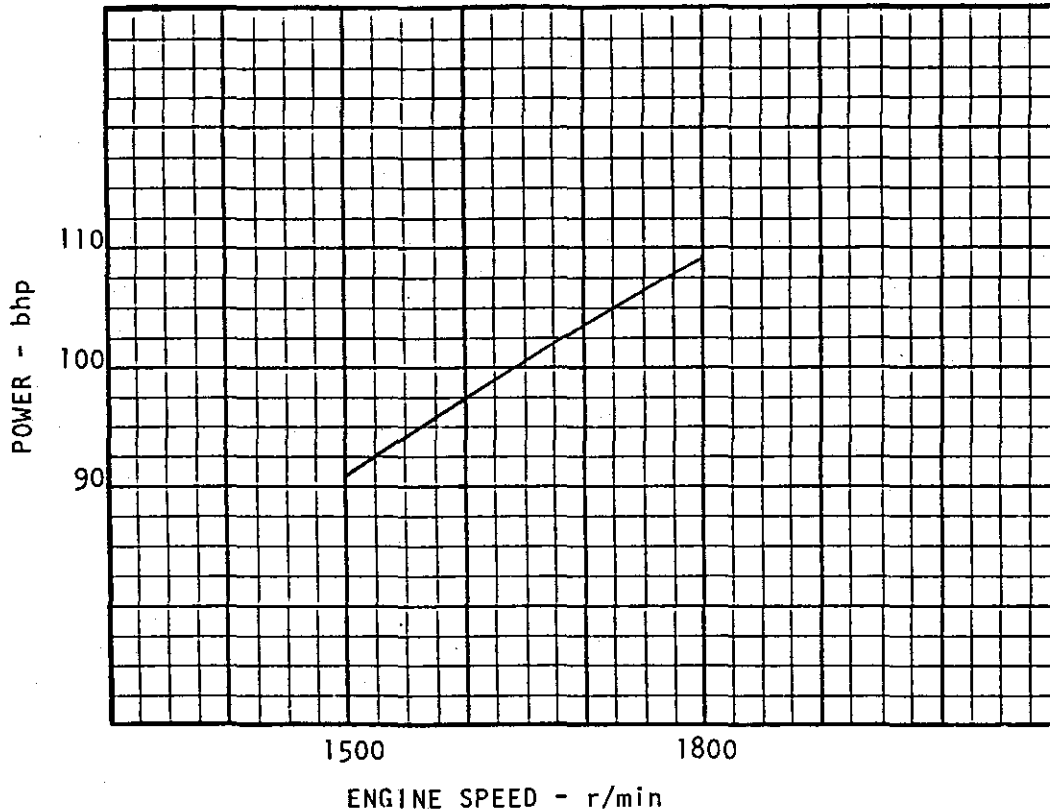
RATING: RATED BRAKE POWER

APPLICATION: GENERATOR  
STANDBY POWER

MODEL: 3-71N

109 bhp @ 1800 r/min

91 bhp @ 1500 r/min



AIR INTAKE RESTRICTION - in. H<sub>2</sub>O (kPa) . . . 10 (2.5)  
EXHAUST BACK PRESSURE - in. H<sub>2</sub>O (kPa) . . . 15 (3.7)

- POWER OUTPUT GUARANTEED WITHIN 5% AT SAE J1349 CONDITIONS:  
77°F (25°C) AIR INLET TEMPERATURE; 29.31 in. Hg (99kPa) DRY BAROMETER;  
100°F (39°C) FUEL INLET TEMPERATURE (.853 SPECIFIC GRAVITY AT 60°F).
- CONVERSION FACTORS: POWER: kW = bhp x 0.746  
FUEL: kg/hr = lb/hr x 0.454
- VALUES DERIVED ARE FROM CURRENTLY AVAILABLE DATA AND SUBJECT TO CHANGE WITHOUT NOTICE.

CERTIFIED BY:   
STAFF ENGINEER

CURVE NO.  
E4-1035-52-1  
DATE: 9-21-71  
REV./DATE: 3/8-2-85  
SHT. 1 OF 4

# ENGINE SPECIFICATION DATA

|                                                         | 1800                   | 1500            |
|---------------------------------------------------------|------------------------|-----------------|
| <b>Fuel System</b>                                      |                        |                 |
| Fuel Injector/Timing.....                               | N70/1.460              | N70/1.460       |
| Fuel Injection Pump/Timing.....                         | NOT APPLICABLE         | NOT APPLICABLE  |
| Fuel Consumption-lb/hr(kg/hr).....                      | 44.7(20.3)             | 38.8(17.6)      |
| Fuel Consumption-gal/hr(L/hr).....                      | 6.4(24.2)              | 5.6(21.0)       |
| Fuel Spill Rate-lb/hr(kg/hr).....                       | 496.3(225.1)           | 468.3(212.4)    |
| Fuel Spill Rate-gal/hr(L/hr).....                       | 71(268.8)              | 67(253.6)       |
| Total Fuel Flow-lb/hr(kg/hr).....                       | 541.0(245.4)           | 507.1(230.0)    |
| Total Fuel Flow-gal/hr(L/hr).....                       | 77.4(293.0)            | 72.5(274.6)     |
| Maximum Allowable Fuel Pump Suction                     |                        |                 |
| Clean System-in Hg(kPa).....                            | 6(20)                  | 6(20)           |
| Dirty System-in Hg(kPa).....                            | 12(41)                 | 12(41)          |
| Fuel Filter Micron Size - Primary.....                  | 30                     | 30              |
|                                                         | Secondary.....         | 10              |
| <b>Lubrication System</b>                               |                        |                 |
| Oil Pressure - normal-lbf/in <sup>2</sup> (kPa).....    | 54(372)                | 50(345)         |
| In Pan Oil Temperature-°F(°C).....                      | 200-225(93-107)        | 200-225(93-107) |
| Oil Flow-gal/min(L/min).....                            | 20(76)                 | 17(64)          |
| Oil Pan Capacity - High-gt(L).....                      | 13(12)                 | 13(12)          |
|                                                         | Low-gt(L).....         | 9(8.5)          |
| Total Engine Oil Capacity with                          |                        |                 |
| Filters-gt(L).....                                      | 15(14)                 | 15(14)          |
| Bypass Oil Filter Orifice-in(mm).....                   | 0.062(1.57)            | 0.062(1.57)     |
| Engine Angularity Limits                                |                        |                 |
| Front up - degrees.....                                 | 16                     | 16              |
| Front Down - degrees.....                               | 16                     | 16              |
| Side tilt - degrees.....                                | NOT AVAILABLE          | NOT AVAILABLE   |
| <b>Cooling System</b>                                   |                        |                 |
| Engine Heat Rejection-Btu/min(kW).....                  | 3690(64.9)             | 3430(60.3)      |
| Engine Radiated Heat-Btu/min(kW).....                   | 720(12.6)              | 680(12.0)       |
| Coolant Flow-gal/min(L/min).....                        | 40(151)                | 34(129)         |
| Thermostat - Start to Open-°F(°C).....                  | 173(78)                | 173(78)         |
|                                                         | Fully Open-°F(°C)..... | 186(86)         |
| Maximum Water Pump Inlet                                |                        |                 |
| Restriction-in Hg(kPa).....                             | 3.0(10.2)              | 2.0(6.7)        |
| Engine Coolant Capacity-gt(L).....                      | 10.0(9.5)              | 10.0(9.5)       |
| Minimum Pressure Cap-lbf/in <sup>2</sup> (kPa).....     | 9.0(62.1)              | 9.0(62.1)       |
| Maximum Coolant Pressure <sub>2</sub> (Exclusive        |                        |                 |
| of Pressure Cap)-lbf/in <sup>2</sup> (kPa).....         | 20(138)                | 20(138)         |
| Maximum Allowable Cooling System                        |                        |                 |
| Static Head W/Vented Cap-ft H <sub>2</sub> O(kPa).....  | 50(149)                | 50(149)         |
| Maximum Top Tank Temperature-°F(°C).....                | 210(99)                | 210(99)         |
| Minimum Top Tank Temperature-°F(°C).....                | 163(73)                | 163(73)         |
| Min. Coolant Fill Rate-gal/min(L/min).....              | 3.0(11.4)              | 3.0(11.4)       |
| Cooling Index                                           |                        |                 |
| Minimum Air to Boil-°F(°C).....                         | 117(47.2)              | 117(47.2)       |
| Maximum Air to Water Diff.-°F(°C).....                  | 95(52.8)               | 95(52.8)        |
| Deaeration - <sub>3</sub> Air Injection                 |                        |                 |
| Capacity-ft <sub>3</sub> /min(m <sup>3</sup> /min)..... | 0.3(0.005)             | 0.3(0.005)      |
| Drawdown - Minimum Requirement (or 10%                  |                        |                 |
| of Cooling System Capacity-Whichever                    |                        |                 |
| is Larger) -gt(L).....                                  | 3.0(2.8)               | 3.0(2.8)        |

All values at rated speed and power and with standard engine hardware unless otherwise noted.

Curve No. E4-1035-52-1  
Date: 9-21-71  
Rev./Date: 3/8-2-85  
Sht. 3 of 4



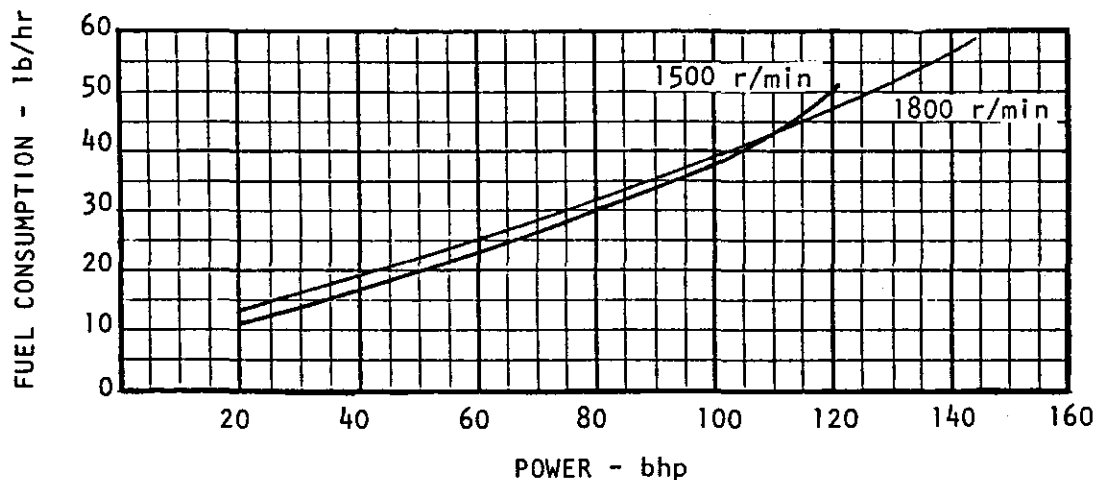
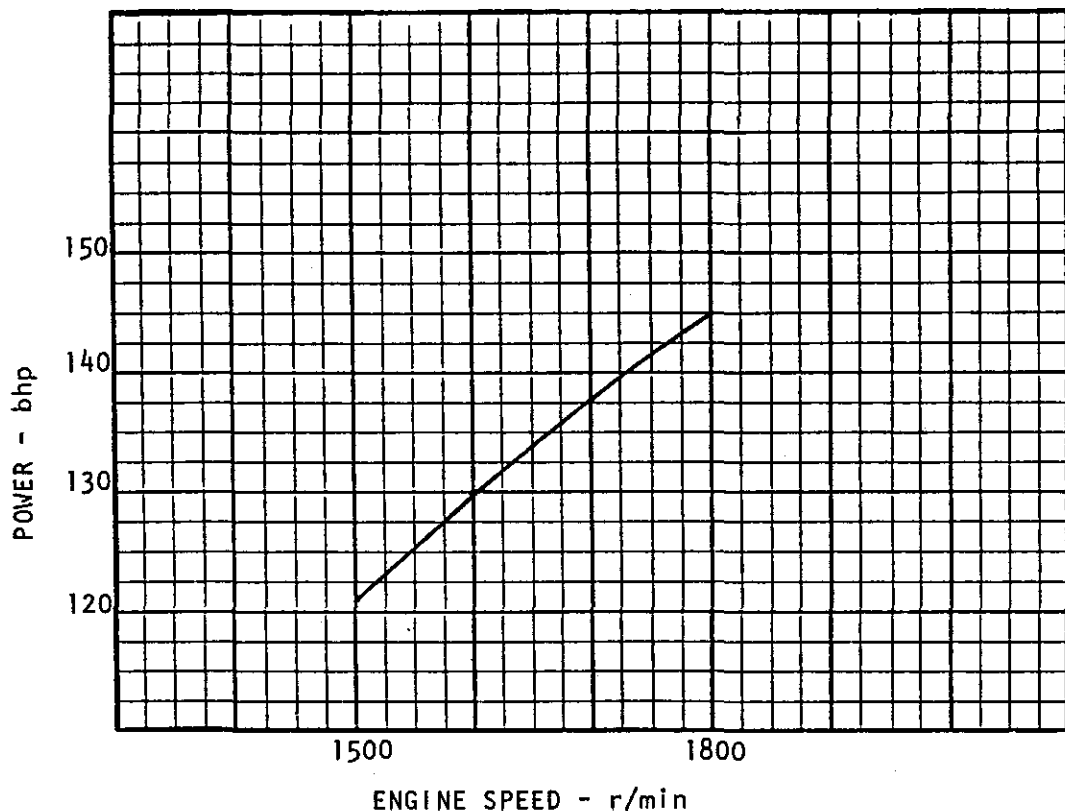
# ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

MODEL: 4-71N

APPLICATION: GENERATOR  
STANDBY POWER

145 bhp @ 1800 r/min  
122 bhp @ 1500 r/min



AIR INTAKE RESTRICTION - in. H<sub>2</sub>O (kPa) . . . 10 (2.5)

EXHAUST BACK PRESSURE - in. H<sub>2</sub>O (kPa) . . . 15 (3.7)

- POWER OUTPUT GUARANTEED WITHIN 5% AT SAE J1349 CONDITIONS: 77°F (25°C) AIR INLET TEMPERATURE; 29.31 in. Hg (99kPa) DRY BAROMETER; 100°F (39°C) FUEL INLET TEMPERATURE (.853 SPECIFIC GRAVITY AT 60°F).
- CONVERSION FACTORS: POWER: kW = bhp x 0.746  
FUEL: kg/hr = lb/hr x 0.454
- VALUES DERIVED ARE FROM CURRENTLY AVAILABLE DATA AND SUBJECT TO CHANGE WITHOUT NOTICE.

CERTIFIED BY

*[Signature]*  
STAFF ENGINEER

CURVE NO.

E4-1045-52-1

DATE: 11-5-69

REV./DATE: 3/8-2-85

SHT. 1 OF 4

# ENGINE SPECIFICATION DATA

|                                                         | 1800            | 1500            |
|---------------------------------------------------------|-----------------|-----------------|
| <b>Fuel System</b>                                      |                 |                 |
| Fuel Injector/Timing.....                               | N70/1.460       | N70/1.460       |
| Fuel Injection Pump/Timing.....                         | NOT APPLICABLE  | NOT APPLICABLE  |
| Fuel Consumption-lb/hr(kg/hr).....                      | 59.6(27.0)      | 51.7(23.5)      |
| Fuel Consumption-gal/hr(L/hr).....                      | 8.5(32.3)       | 7.4(28.0)       |
| Fuel Spill Rate-lb/hr(kg/hr).....                       | 496.3(225.1)    | 468.3(212.4)    |
| Fuel Spill Rate-gal/hr(L/hr).....                       | 71(268.8)       | 67(253.6)       |
| Total Fuel Flow-lb/hr(kg/hr).....                       | 555.9(252.2)    | 520.0(235.9)    |
| Total Fuel Flow-gal/hr(L/hr).....                       | 79.5(301.0)     | 74.4(281.6)     |
| Maximum Allowable Fuel Pump Suction                     |                 |                 |
| Clean System-in Hg(kPa).....                            | 6(20)           | 6(20)           |
| Dirty System-in Hg(kPa).....                            | 12(41)          | 12(41)          |
| Fuel Filter Micron Size - Primary.....                  |                 |                 |
| Secondary....                                           | 30              | 30              |
|                                                         | 10              | 10              |
| <b>Lubrication System</b>                               |                 |                 |
| Oil Pressure - normal-lbf/in <sup>2</sup> (kPa).....    | 54(372)         | 50(345)         |
| In Pan Oil Temperature-°F(°C).....                      | 200-225(93-107) | 200-225(93-107) |
| Oil Flow-gal/min(L/min).....                            | 20(76)          | 17(64)          |
| Oil Pan Capacity - High-qt(L).....                      |                 |                 |
| Low-qt(L).....                                          | 20(18.9)        | 20(18.9)        |
|                                                         | 15(14.2)        | 15(14.2)        |
| Total Engine Oil Capacity with                          |                 |                 |
| Filters-qt(L).....                                      | 22(20.8)        | 22(20.8)        |
| Bypass Oil Filter Orifice-in(mm).....                   | 0.062(1.57)     | 0.062(1.57)     |
| Engine Angularity Limits                                |                 |                 |
| Front up - degrees.....                                 | 16              | 16              |
| Front Down - degrees.....                               | 16              | 16              |
| Side tilt - degrees.....                                | NOT AVAILABLE   | NOT AVAILABLE   |
| <b>Cooling System</b>                                   |                 |                 |
| Engine Heat Rejection-Btu/min(kW).....                  | 5760(101.3)     | 5290(93.1)      |
| Engine Radiated Heat-Btu/min(kW).....                   | 960(16.8)       | 910(16.0)       |
| Coolant Flow-gal/min(L/min).....                        | 47(178)         | 40(151)         |
| Thermostat - Start to Open-°F(°C).....                  |                 |                 |
| Fully Open-°F(°C).....                                  | 173(78)         | 173(78)         |
|                                                         | 186(86)         | 186(86)         |
| Maximum Water Pump Inlet                                |                 |                 |
| Restriction-in Hg(kPa).....                             | 3.0(10.2)       | 2.0(6.7)        |
| Engine Coolant Capacity-qt(L).....                      | 10.0(9.5)       | 10.0(9.5)       |
| Minimum Pressure Cap-lbf/in <sup>2</sup> (kPa).....     | 9.0(62.1)       | 9.0(62.1)       |
| Maximum Coolant Pressure <sub>2</sub> (Exclusive        |                 |                 |
| of Pressure Cap)-lbf/in <sup>2</sup> (kPa).....         | 20(138)         | 20(138)         |
| Maximum Allowable Cooling System                        |                 |                 |
| Static Head W/Vented Cap-ft H <sub>2</sub> O(kPa).....  | 50(149)         | 50(149)         |
| Maximum Top Tank Temperature-°F(°C).....                | 210(99)         | 210(99)         |
| Minimum Top Tank Temperature-°F(°C).....                | 163(73)         | 163(73)         |
| Min. Coolant Fill Rate-gal/min(L/min).....              | 3.0(11.4)       | 3.0(11.4)       |
| Cooling Index                                           |                 |                 |
| Minimum Air to Boil-°F(°C).....                         | 117(47.2)       | 117(47.2)       |
| Maximum Air to Water Diff.-°F(°C).....                  | 95(52.8)        | 95(52.8)        |
| Deaeration - <sub>3</sub> Air Injection                 |                 |                 |
| Capacity-ft <sub>3</sub> /min(m <sup>3</sup> /min)..... | 0.4(0.010)      | 0.4(0.010)      |
| Drawdown - Minimum Requirement (or 10%                  |                 |                 |
| of Cooling System Capacity-Whichever                    |                 |                 |
| is Larger)-qt(L).....                                   | 4.0(3.8)        | 4.0(3.8)        |

All values at rated speed and power and with standard engine hardware unless otherwise noted.

Curve No. E4-1045-52-1  
Date: 11-5-69  
Rev./Date: 3/8-2-85  
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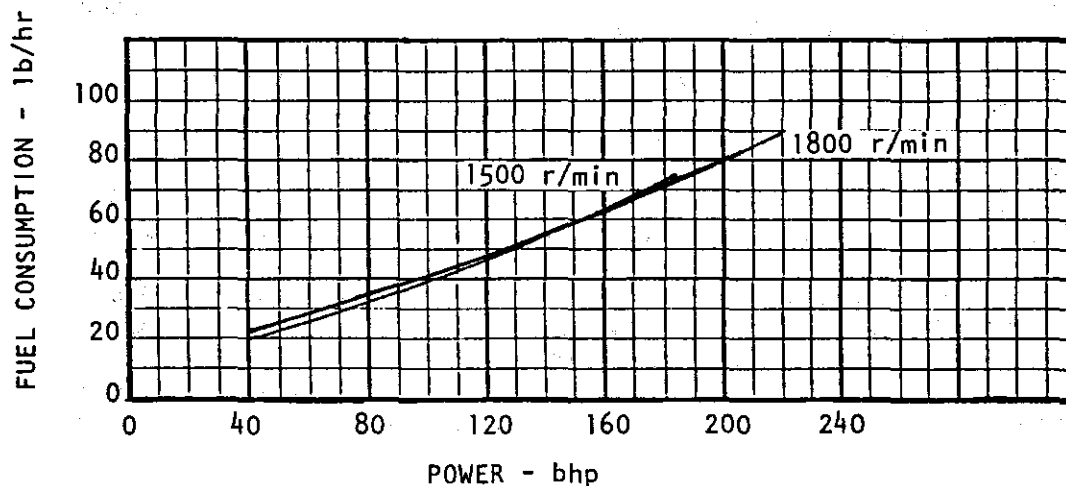
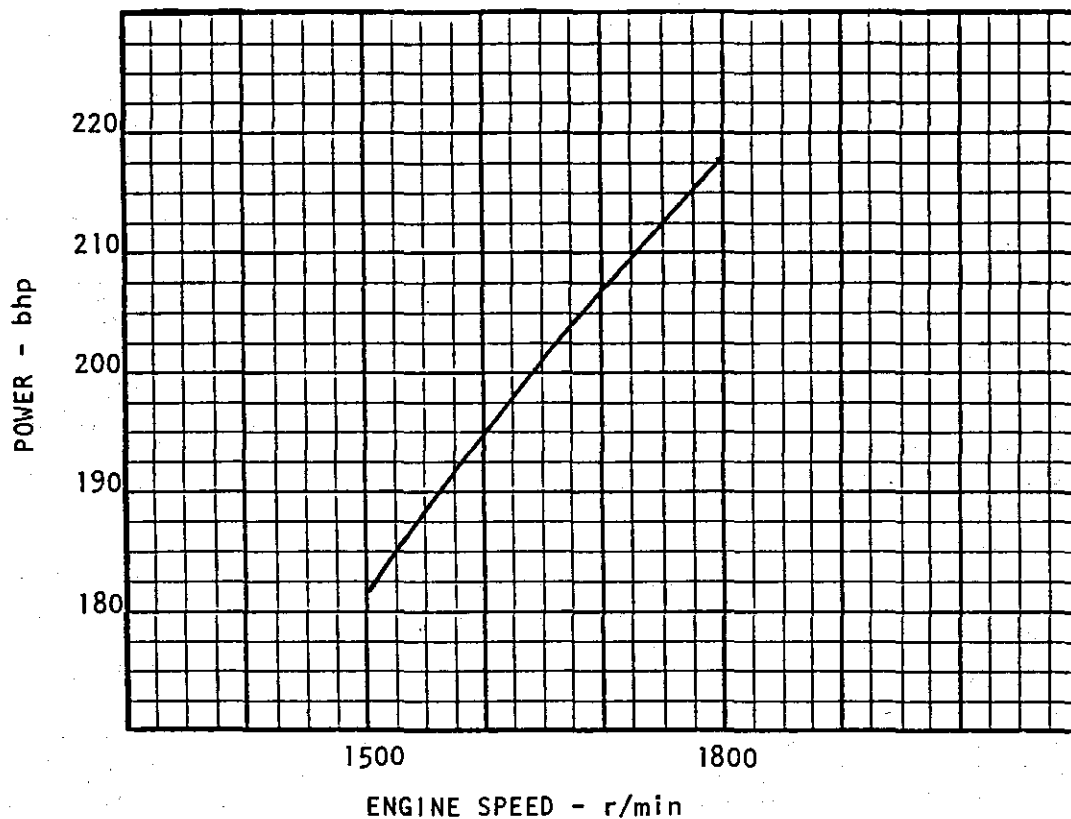
# ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

MODEL: 6-71N

APPLICATION: GENERATOR  
STANDBY POWER

218 bhp @ 1800 r/min  
182 bhp @ 1500 r/min



AIR INTAKE RESTRICTION - in. H<sub>2</sub>O (kPa) . . . 10 (2.5)  
EXHAUST BACK PRESSURE - in. H<sub>2</sub>O (kPa) . . . 15 (3.7)

- POWER OUTPUT GUARANTEED WITHIN 5% AT SAE J1349 CONDITIONS:  
77°F (25°C) AIR INLET TEMPERATURE; 29.31 in. Hg (99kPa) DRY BARMETER;  
100°F (39°C) FUEL INLET TEMPERATURE (.853 SPECIFIC GRAVITY AT 60°F).
- CONVERSION FACTORS: POWER: kW = bhp x 0.746  
FUEL: kg/hr = lb/hr x 0.454
- VALUES DERIVED ARE FROM CURRENTLY AVAILABLE DATA AND SUBJECT TO CHANGE WITHOUT NOTICE.

CERTIFIED BY:

STAFF ENGINEER

CURVE NO.

E4-1065-52-2

DATE: 11-5-69

REV./DATE: 3/8-2-85

SHT. 1 OF 4

### ENGINE SPECIFICATION DATA

|                                                                                                   | 1800            | 1500            |
|---------------------------------------------------------------------------------------------------|-----------------|-----------------|
| <b>Fuel System</b>                                                                                |                 |                 |
| Fuel Injector/Timing.....                                                                         | N70/1.460       | N70/1.460       |
| Fuel Injection Pump/Timing.....                                                                   | NOT APPLICABLE  | NOT APPLICABLE  |
| Fuel Consumption-lb/hr(kg/hr).....                                                                | 89.4(40.6)      | 77.5(35.2)      |
| Fuel Consumption-gal/hr(L/hr).....                                                                | 12.8(48.4)      | 11.1(42.0)      |
| Fuel Spill Rate-lb/hr(kg/hr).....                                                                 | 496.3(225.1)    | 468.3(212.4)    |
| Fuel Spill Rate-gal/hr(L/hr).....                                                                 | 71(268.8)       | 67(253.6)       |
| Total Fuel Flow-lb/hr(kg/hr).....                                                                 | 585.7(265.7)    | 545.8(247.6)    |
| Total Fuel Flow-gal/hr(L/hr).....                                                                 | 83.8(317.2)     | 78.1(295.6)     |
| Maximum Allowable Fuel Pump Suction                                                               |                 |                 |
| Clean System-in Hg(kPa).....                                                                      | 6(20)           | 6(20)           |
| Dirty System-in Hg(kPa).....                                                                      | 12(41)          | 12(41)          |
| Fuel Filter Micron Size - Primary.....                                                            | 30              | 30              |
| Secondary....                                                                                     | 10              | 10              |
| <b>Lubrication System</b>                                                                         |                 |                 |
| Oil Pressure - normal-lbf/in <sup>2</sup> (kPa).....                                              | 54(372)         | 50(345)         |
| In Pan Oil Temperature-°F(°C).....                                                                | 200-225(93-107) | 200-225(93-107) |
| Oil Flow-gal/min(L/min).....                                                                      | 28(106)         | 23(87)          |
| Oil Pan Capacity - High-qt(L).....                                                                | 26(24.6)        | 26(24.6)        |
| Low-qt(L).....                                                                                    | 22(20.8)        | 22(20.8)        |
| Total Engine Oil Capacity with                                                                    |                 |                 |
| Filters-qt(L).....                                                                                | 28(26.5)        | 28(26.5)        |
| Bypass Oil Filter Orifice-in(mm).....                                                             | 0.062(1.57)     | 0.062(1.57)     |
| Engine Angularity Limits                                                                          |                 |                 |
| Front up - degrees.....                                                                           | 13              | 13              |
| Front Down - degrees.....                                                                         | 4               | 4               |
| Side tilt - degrees.....                                                                          | NOT AVAILABLE   | NOT AVAILABLE   |
| <b>Cooling System</b>                                                                             |                 |                 |
| Engine Heat Rejection-Btu/min(kW).....                                                            | 8210(144.4)     | 7300(128.4)     |
| Engine Radiated Heat-Btu/min(kW).....                                                             | 1440(25.3)      | 1360(24.0)      |
| Coolant Flow-gal/min(L/min).....                                                                  | 68(257)         | 58(220)         |
| Thermostat - Start to Open-°F(°C).....                                                            | 173(78)         | 173(78)         |
| Fully Open-°F(°C).....                                                                            | 186(86)         | 186(86)         |
| Maximum Water Pump Inlet                                                                          |                 |                 |
| Restriction-in Hg(kPa).....                                                                       | 3.0(10.2)       | 2.0(6.7)        |
| Engine Coolant Capacity-qt(L).....                                                                | 23.0(21.8)      | 23.0(21.8)      |
| Minimum Pressure Cap-lbf/in <sup>2</sup> (kPa).....                                               | 9.0(62.1)       | 9.0(62.1)       |
| Maximum Coolant Pressure <sub>2</sub> (Exclusive of Pressure Cap)-lbf/in <sup>2</sup> (kPa).....  |                 |                 |
|                                                                                                   | 20(138)         | 20(138)         |
| Maximum Allowable Cooling System                                                                  |                 |                 |
| Static Head W/Vented Cap-ft H <sub>2</sub> O(kPa)..<                                              | 50(149)         | 50(149)         |
| Maximum Top Tank Temperature-°F(°C)....                                                           | 210(99)         | 210(99)         |
| Minimum Top Tank Temperature-°F(°C)....                                                           | 163(73)         | 163(73)         |
| Min. Coolant Fill Rate-gal/min(L/min)..<                                                          | 3.0(11.4)       | 3.0(11.4)       |
| Cooling Index                                                                                     |                 |                 |
| Minimum Air to Boil-°F(°C).....                                                                   | 117(47.2)       | 117(47.2)       |
| Maximum Air to Water Diff.-°F(°C).....                                                            | 95(52.8)        | 95(52.8)        |
| Deaeration - Air Injection                                                                        |                 |                 |
| Capacity-ft <sup>3</sup> /min(m <sup>3</sup> /min).....                                           | 064(0.017)      | 0.6(0.017)      |
| Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever is Larger)-qt(L)..... |                 |                 |
|                                                                                                   | 4.0(3.8)        | 4.0(3.8)        |

All values at rated speed and power and with standard engine hardware unless otherwise noted.

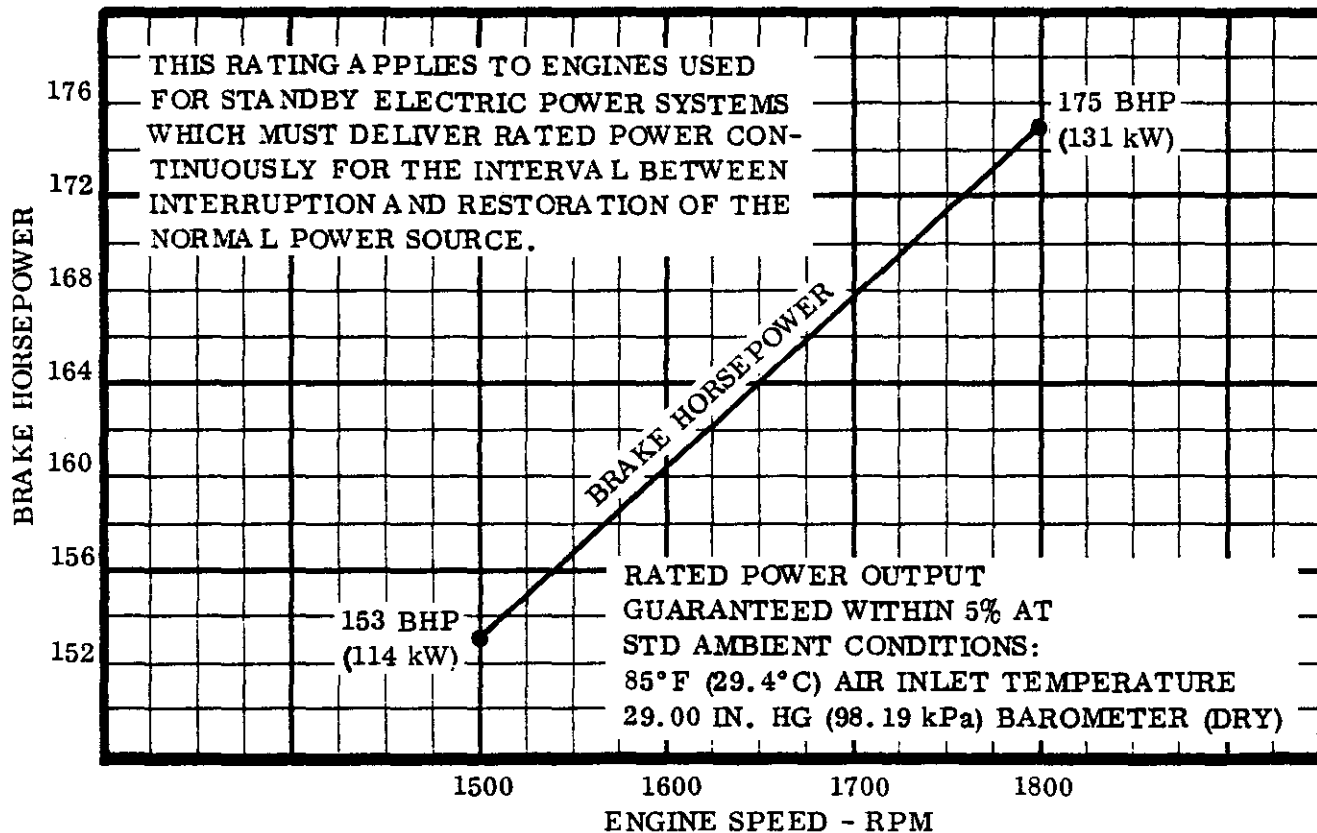
Curve No. E4-1065-52-2  
Date: 11-5-69  
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Sht. 3 of 4



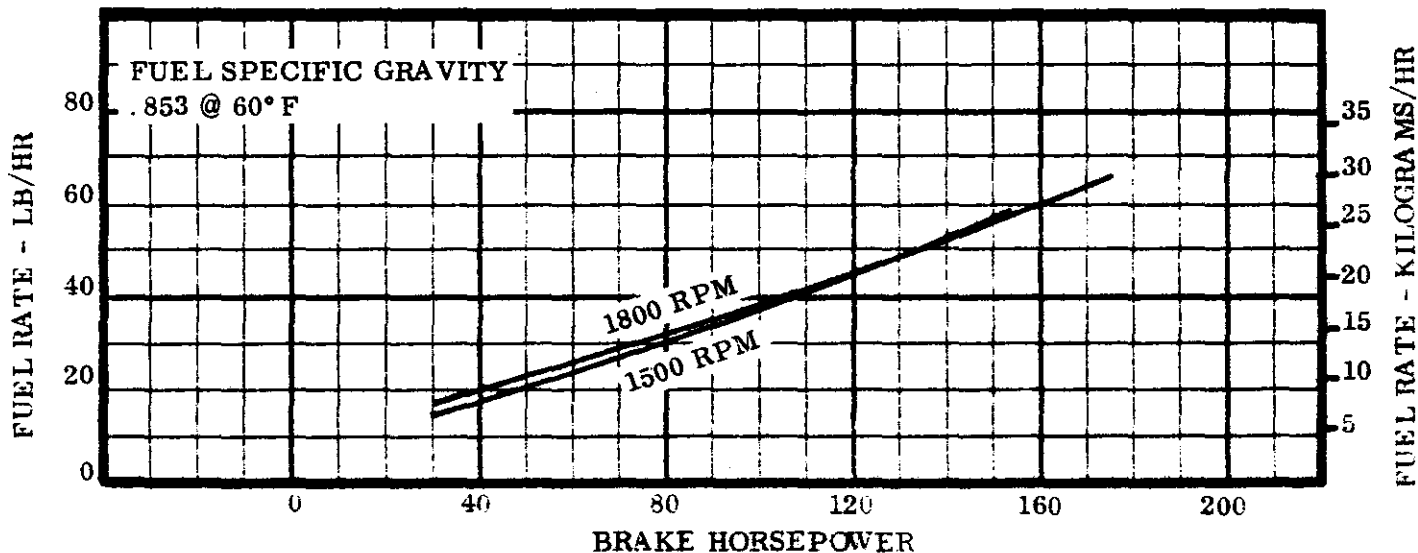
**Detroit Diesel Allison**  
Division of General Motors Corporation

### GENERATOR ENGINE PERFORMANCE

MODEL: 4-71T  
APPLICATION: STANDBY POWER  
INJECTOR: N80 (1.460 TIMING)  
TURBOCHARGER: T04B (1.14 A/R HSG.)  
RATING: WITHOUT FAN



### AVERAGE FUEL CONSUMPTION



DE 4033

ENGINEERING-TECHNICAL DATA DEPT.

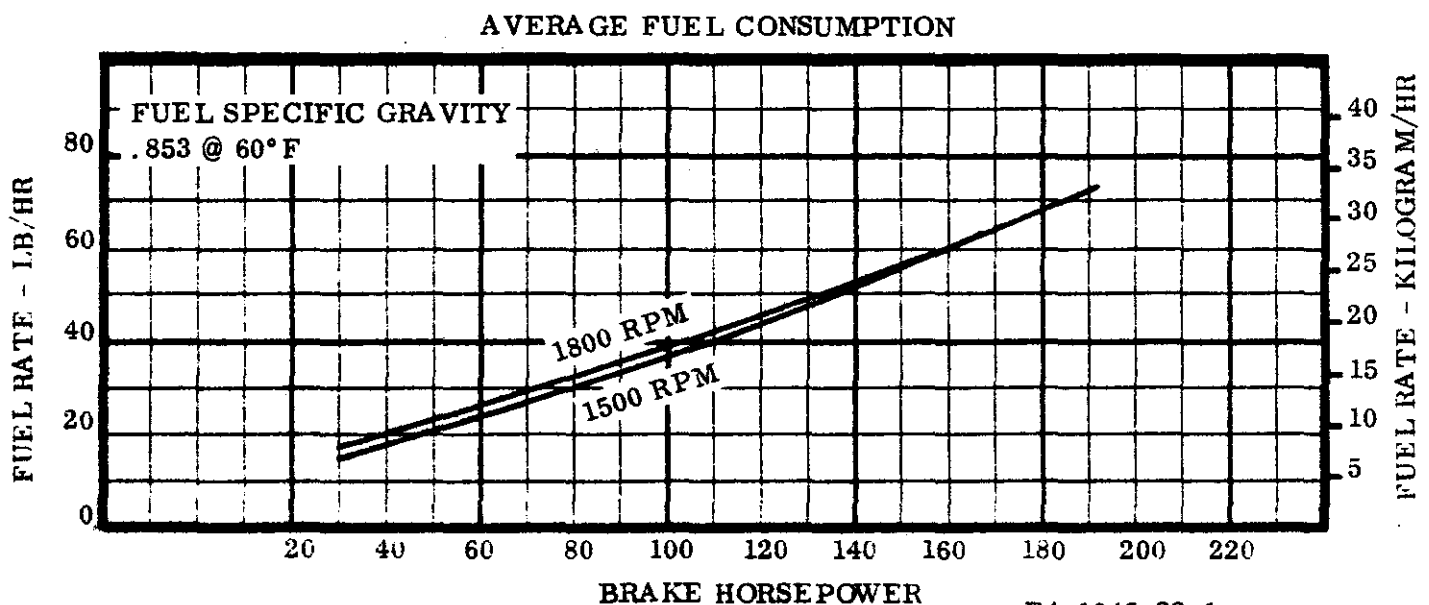
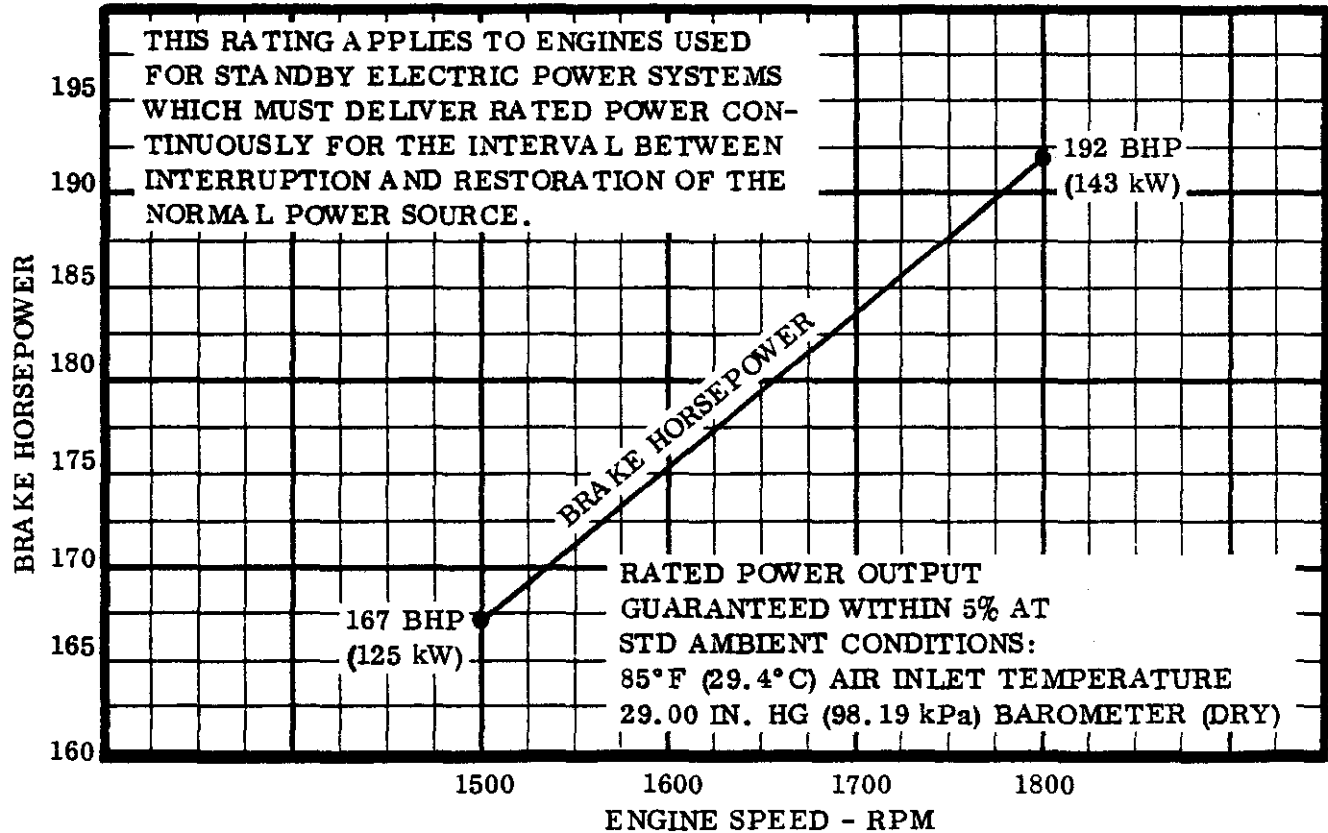
E4-1045-32-5  
Rev. 11-15-79



**Detroit Diesel Allison**  
Division of General Motors Corporation

### GENERATOR ENGINE PERFORMANCE

MODEL: 4-71T  
APPLICATION: STANDBY POWER  
INJECTOR: N90 (1.460 TIMING)  
TURBOCHARGER: T04B (1.14 A/R HSG.)  
RATING: WITHOUT FAN

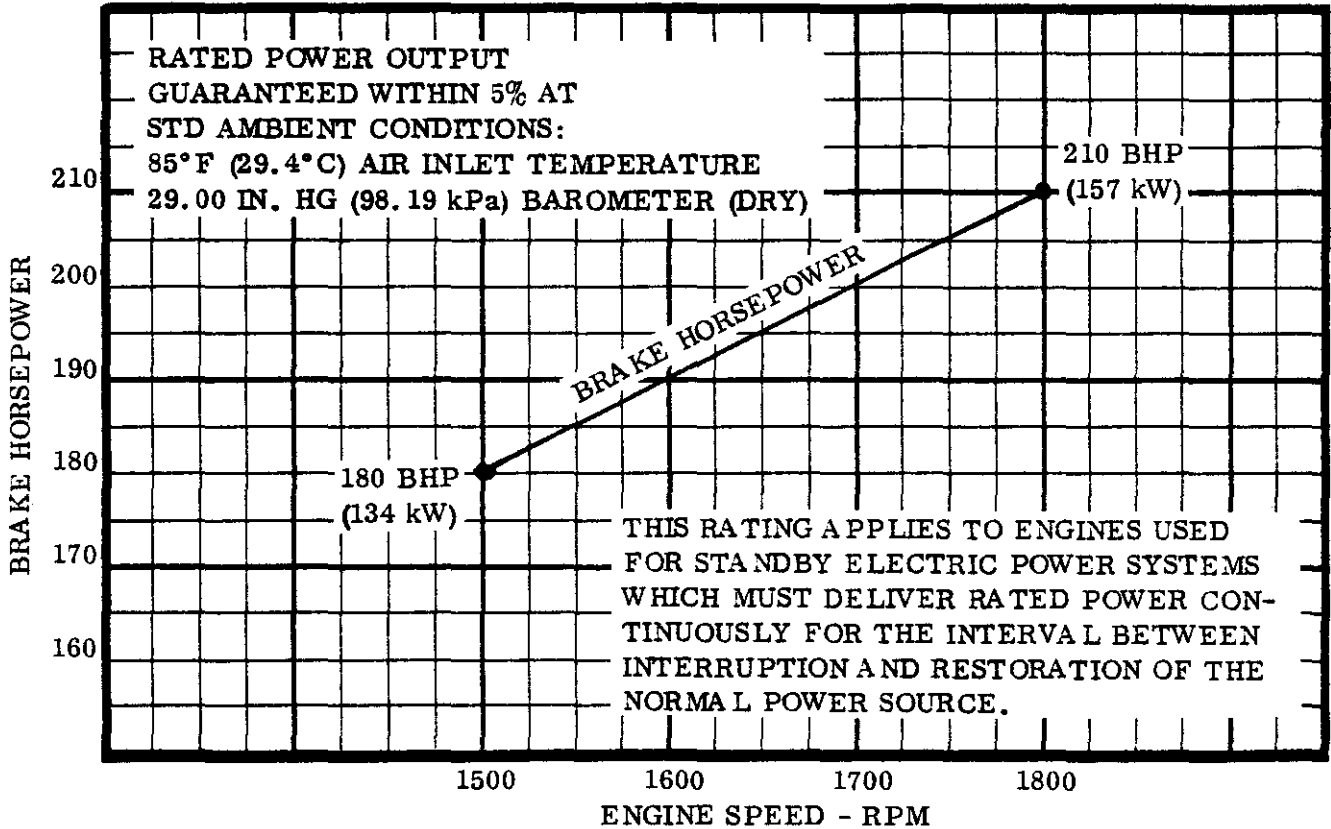




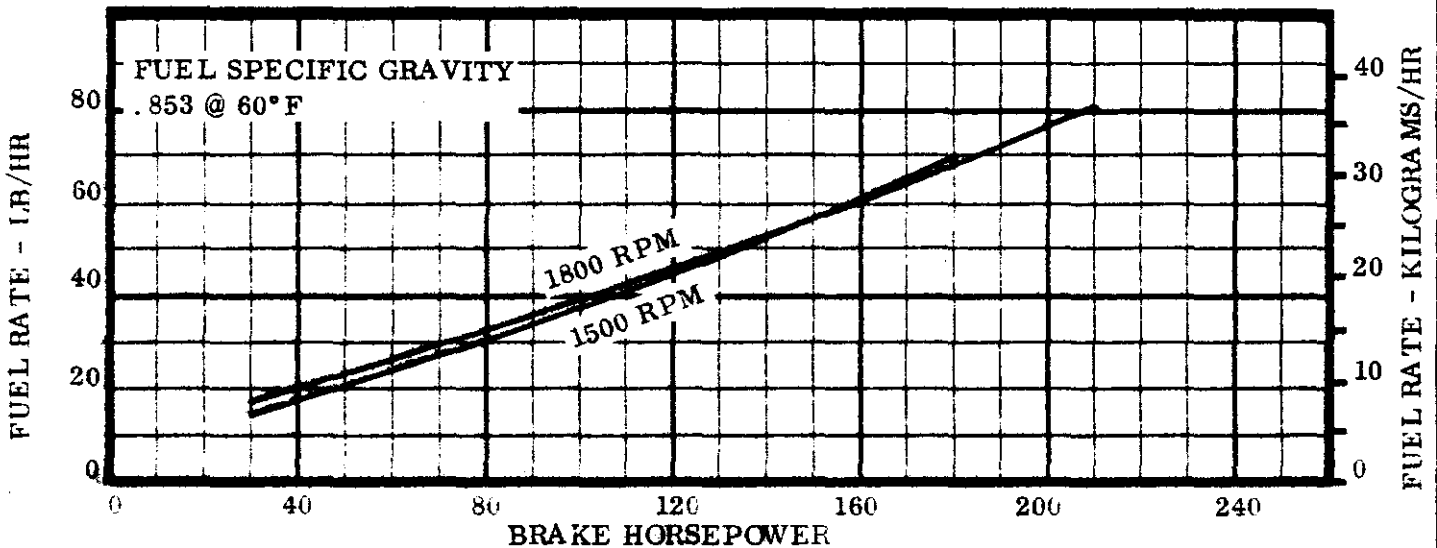
**Detroit Diesel Allison**  
Division of General Motors Corporation

# GENERATOR ENGINE PERFORMANCE

MODEL: 4-71T  
APPLICATION: STANDBY POWER  
INJECTOR: M95 (1.460 TIMING)  
TURBOCHARGER: T04B (1.14 A/R HSG.)  
RATING: WITHOUT FAN



## AVERAGE FUEL CONSUMPTION



DE 4033

ENGINEERING-TECHNICAL DATA DEPT.

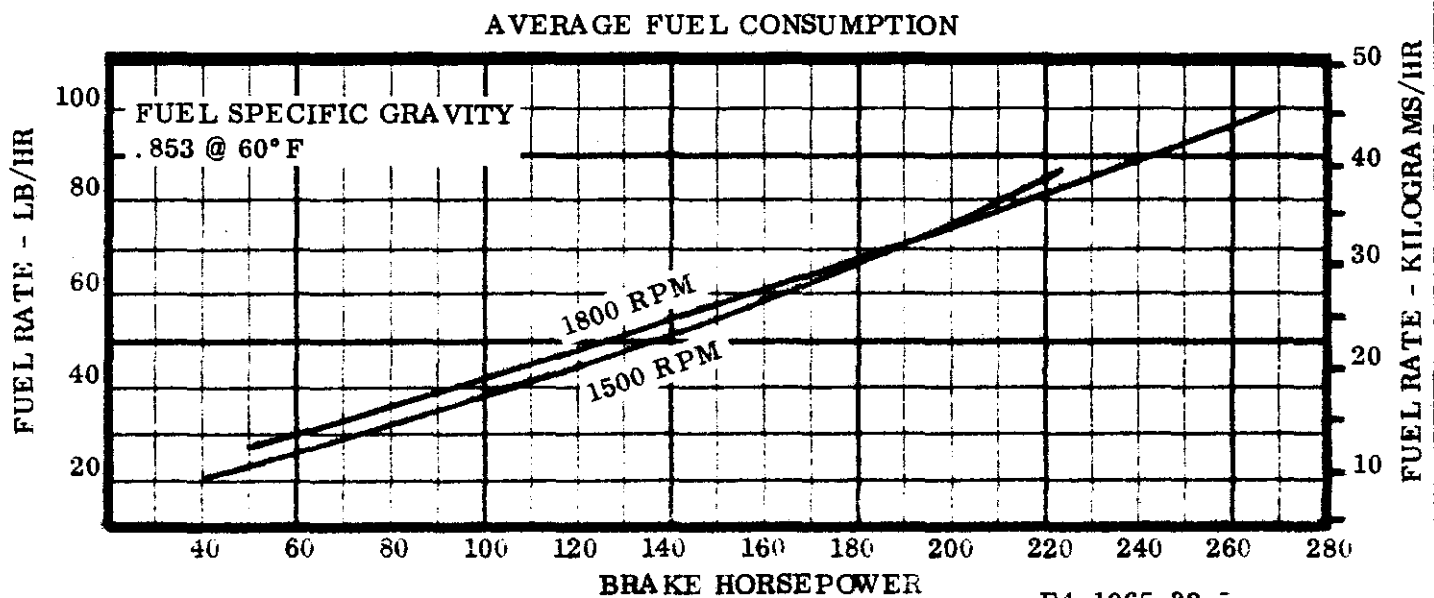
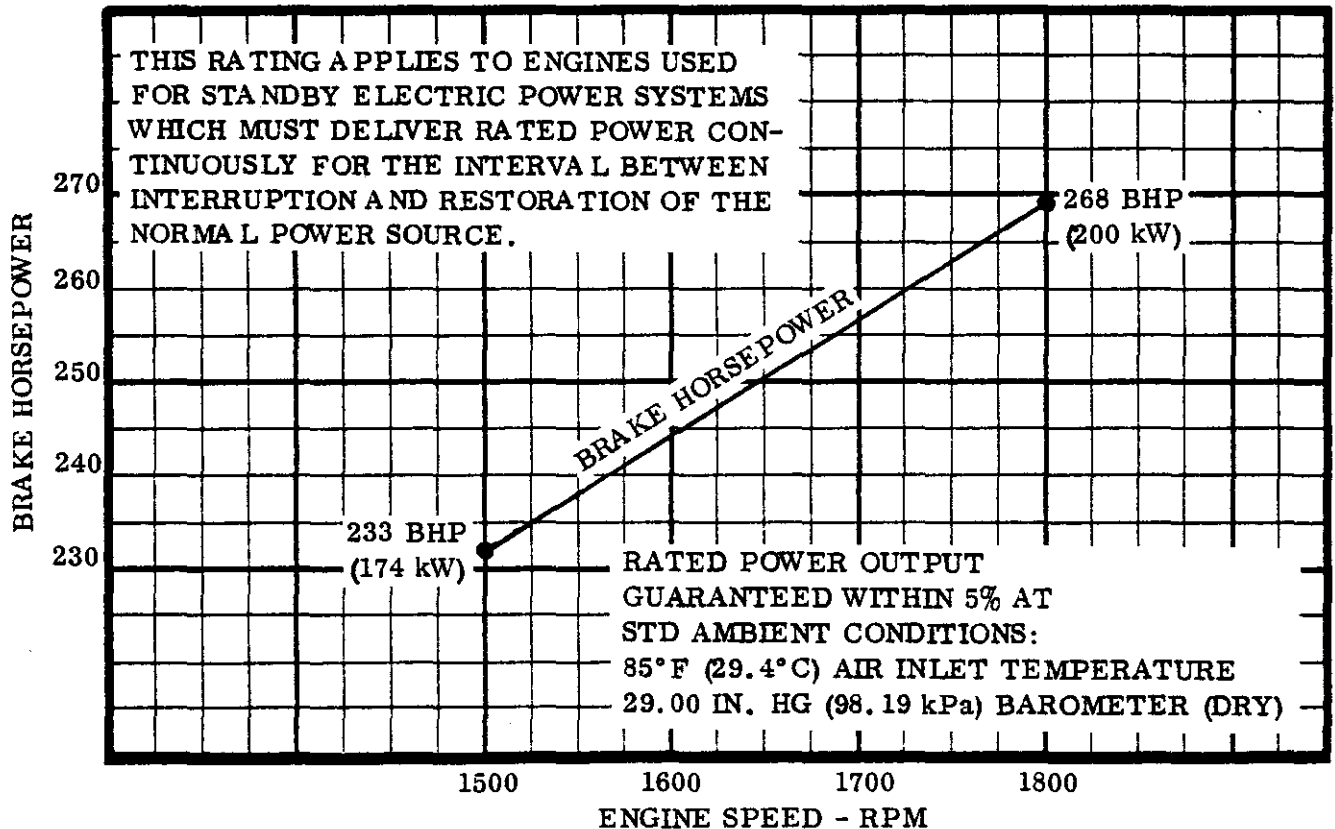
E4-1045-32-4  
Rev. 11-15-79



**Detroit Diesel Allison**  
Division of General Motors Corporation

### GENERATOR ENGINE PERFORMANCE

MODEL: 6-71T  
APPLICATION: STANDBY POWER  
INJECTOR: N80 (1.460 TIMING)  
TURBOCHARGER: TV7101 (1.39 A/R HSG.)  
RATING: WITHOUT FAN

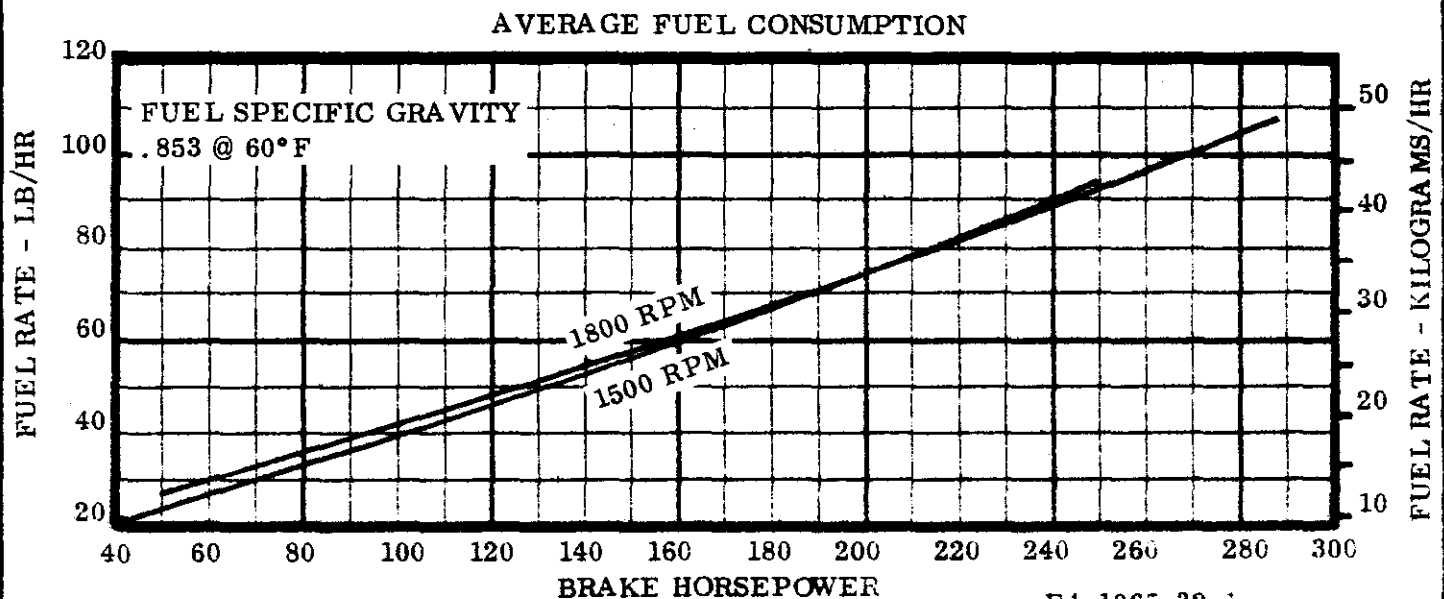
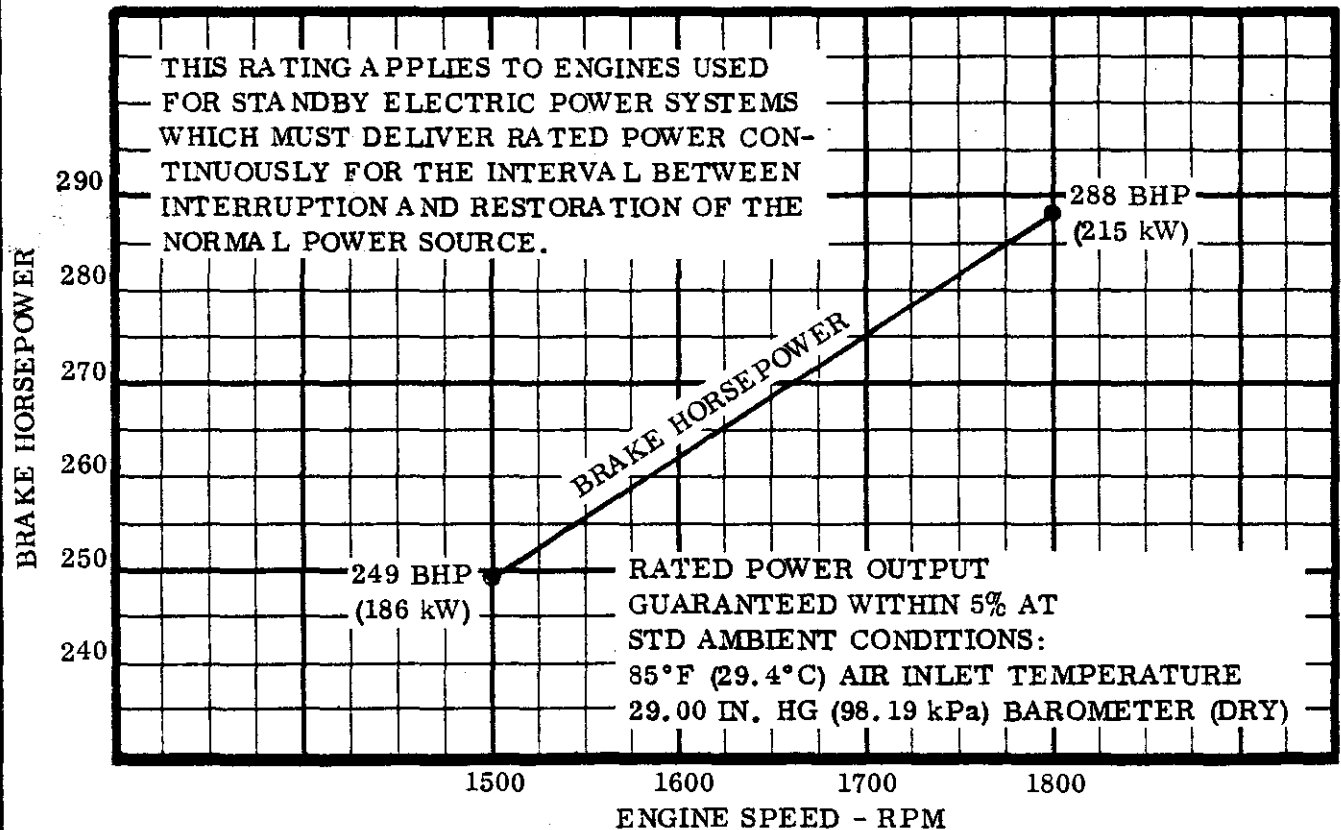




**Detroit Diesel Allison**  
Division of General Motors Corporation

### GENERATOR ENGINE PERFORMANCE

MODEL: 6-71T  
APPLICATION: STANDBY POWER  
INJECTOR: N90 (1.460 TIMING)  
TURBOCHARGER: TV7101 (1.39 A/R HSG.)  
RATING: WITHOUT FAN

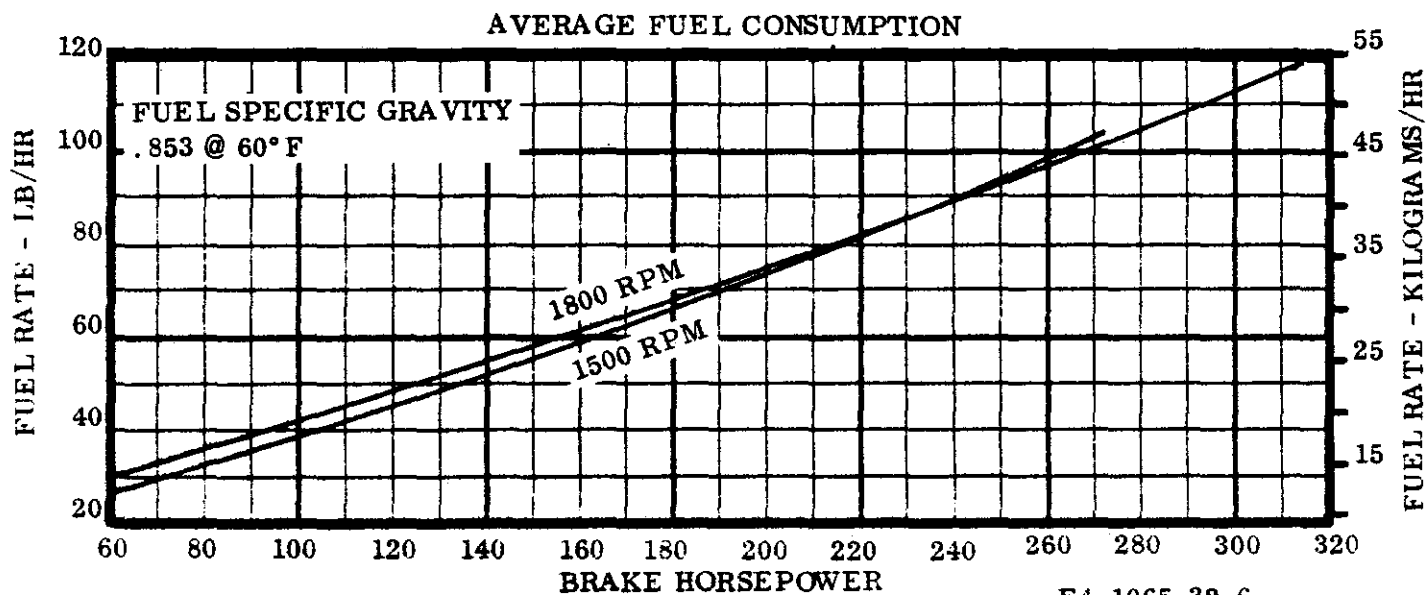
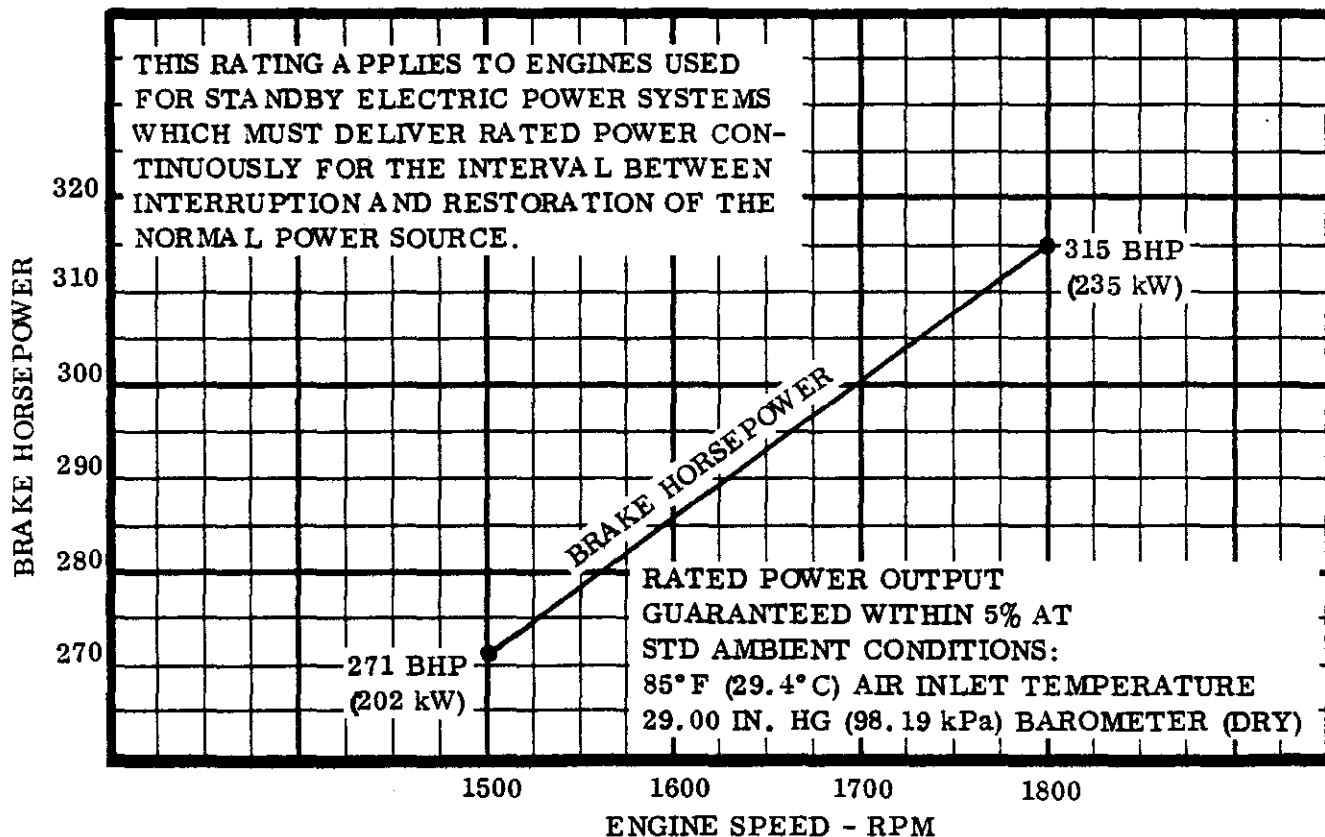




**Detroit Diesel Allison**  
Division of General Motors Corporation

### GENERATOR ENGINE PERFORMANCE

MODEL: 6-71T  
APPLICATION: STANDBY POWER  
INJECTOR: M95 (1.460 TIMING)  
TURBOCHARGER: TV7101 (1.39 A/R HSG.)  
RATING: WITHOUT FAN





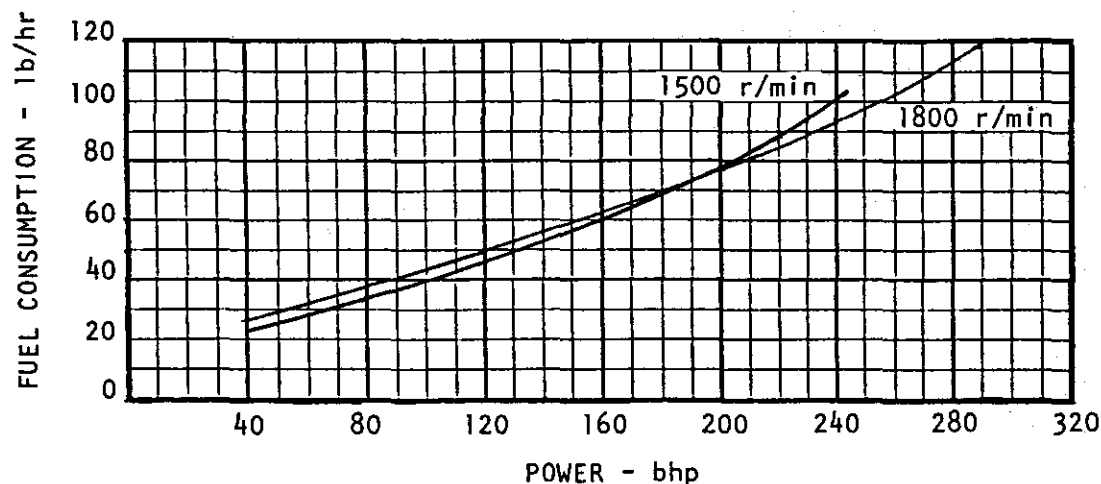
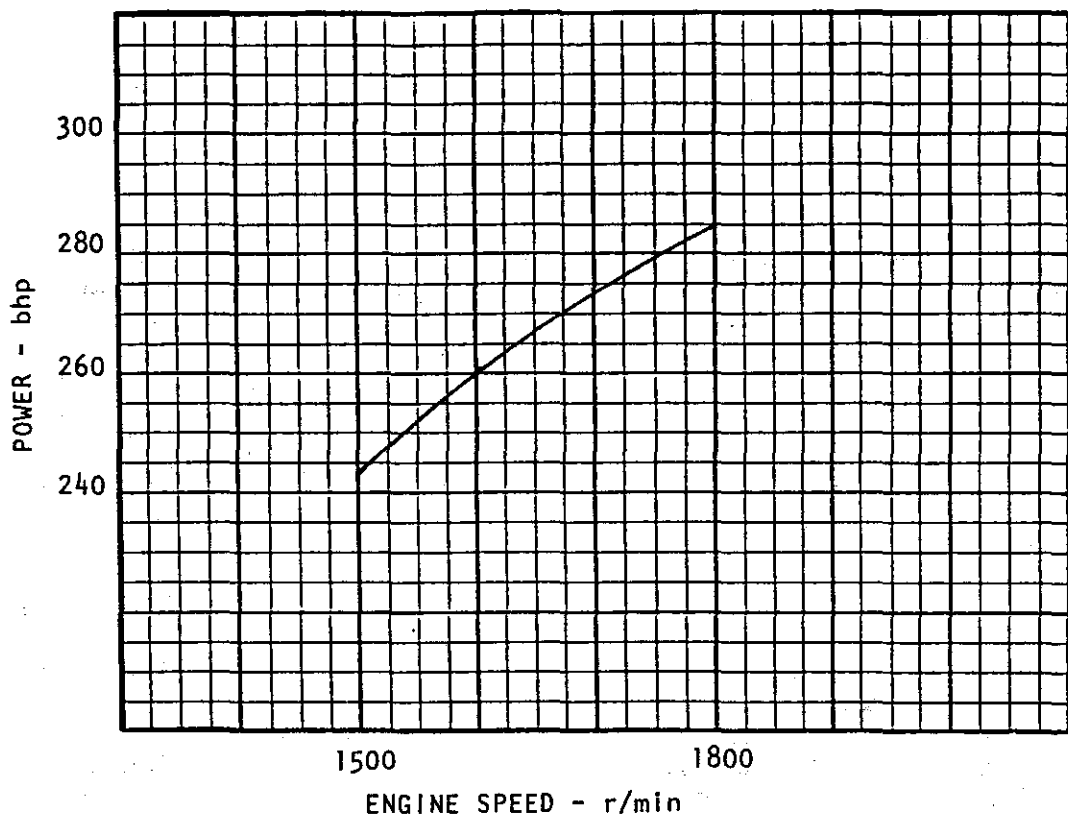
# ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

MODEL: 8V-71N

APPLICATION: GENERATOR  
STANDBY POWER

290 bhp @ 1800 r/min  
243 bhp @ 1500 r/min



AIR INTAKE RESTRICTION - in. H<sub>2</sub>O (kPa) . . . 10 (2.5)  
EXHAUST BACK PRESSURE - in. H<sub>2</sub>O (kPa) . . . 15 (3.7)

- POWER OUTPUT GUARANTEED WITHIN 5% AT SAE J1349 CONDITIONS:  
77°F (25°C) AIR INLET TEMPERATURE; 29.31 in. Hg (99kPa) DRY BAROMETER;  
100°F (39°C) FUEL INLET TEMPERATURE (.853 SPECIFIC GRAVITY AT 60°F).
- CONVERSION FACTORS: POWER: kW = bhp x 0.746  
FUEL: kg/hr = lb/hr x 0.454
- VALUES DERIVED ARE FROM CURRENTLY AVAILABLE DATA AND SUBJECT TO  
CHANGE WITHOUT NOTICE.

CERTIFIED BY:

*[Signature]*  
STAFF ENGINEER

CURVE NO.

E4-7085-52-2

DATE: 11-5-69

REV./DATE: 3/8-2-85

SHT. 1 OF 4

# ENGINE SPECIFICATION DATA

|                                                         | 1800            | 1500            |
|---------------------------------------------------------|-----------------|-----------------|
| <b>Fuel System</b>                                      |                 |                 |
| Fuel Injector/Timing.....                               | N70/1.460       | N70/1.460       |
| Fuel Injection Pump/Timing.....                         | NOT APPLICABLE  | NOT APPLICABLE  |
| Fuel Consumption-lb/hr(kg/hr).....                      | 119.2(54.1)     | 103.4(46.9)     |
| Fuel Consumption-gal/hr(L/hr).....                      | 17.1(64.6)      | 14.8(56.0)      |
| Fuel Spill Rate-lb/hr(kg/hr).....                       | 496.3(225.1)    | 468.3(212.4)    |
| Fuel Spill Rate-gal/hr(L/hr).....                       | 71(268.8)       | 67(253.6)       |
| Total Fuel Flow-lb/hr(kg/hr).....                       | 615.5(279.2)    | 571.7(259.3)    |
| Total Fuel Flow-gal/hr(L/hr).....                       | 88.1(333.3)     | 81.8(309.6)     |
| Maximum Allowable Fuel Pump Suction                     |                 |                 |
| Clean System-in Hg(kPa).....                            | 6(20)           | 6(20)           |
| Dirty System-in Hg(kPa).....                            | 12(41)          | 12(41)          |
| Fuel Filter Micron Size - Primary.....                  |                 |                 |
| Secondary....                                           | 30              | 30              |
|                                                         | 10              | 10              |
| <b>Lubrication System</b>                               |                 |                 |
| Oil Pressure - normal-lbf/in <sup>2</sup> (kPa).....    | 60(414)         | 56(386)         |
| In Pan Oil Temperature-°F(°C).....                      | 200-250(93-121) | 200-250(93-121) |
| Oil Flow-gal/min(L/min).....                            | 34(129)         | 31(117)         |
| Oil Pan Capacity - High-qt(L).....                      |                 |                 |
| Low-qt(L).....                                          | 23(21.8)        | 23(21.8)        |
|                                                         | 17(16.1)        | 17(16.1)        |
| Total Engine Oil Capacity with                          |                 |                 |
| Filters-qt(L).....                                      | 25(23.7)        | 25(23.7)        |
| Bypass Oil Filter Orifice-in(mm).....                   | 0.101(2.57)     | 0.101(2.57)     |
| Engine Angularity Limits                                |                 |                 |
| Front up - degrees.....                                 | 15              | 15              |
| Front Down - degrees.....                               | 18              | 18              |
| Side tilt - degrees.....                                | NOT AVAILABLE   | NOT AVAILABLE   |
| <b>Cooling System</b>                                   |                 |                 |
| Engine Heat Rejection-Btu/min(kW).....                  | 9680(170.3)     | 8380(147.4)     |
| Engine Radiated Heat-Btu/min(kW).....                   | 1920(33.7)      | 1820(32.0)      |
| Coolant Flow-gal/min(L/min).....                        | 110(416)        | 92(348)         |
| Thermostat - Start to Open-°F(°C).....                  |                 |                 |
| Fully Open-°F(°C).....                                  | 170(77)         | 170(77)         |
|                                                         | 187(86)         | 187(86)         |
| Maximum Water Pump Inlet                                |                 |                 |
| Restriction-in Hg(kPa).....                             | 3.0(10.2)       | 2.0(6.7)        |
| Engine Coolant Capacity-qt(L).....                      | 31.0(29.3)      | 31.0(29.3)      |
| Minimum Pressure Cap-lbf/in <sup>2</sup> (kPa).....     | 9.0(62.1)       | 9.0(62.1)       |
| Maximum Coolant Pressure <sub>2</sub> (Exclusive        |                 |                 |
| of Pressure Cap)-lbf/in <sup>2</sup> (kPa).....         | 20(138)         | 20(138)         |
| Maximum Allowable Cooling System                        |                 |                 |
| Static Head W/Vented Cap-ft H <sub>2</sub> O(kPa)..<    | 50(149)         | 50(149)         |
| Maximum Top Tank Temperature-°F(°C)....                 | 210(99)         | 210(99)         |
| Minimum Top Tank Temperature-°F(°C)....                 | 160(70)         | 160(70)         |
| Min. Coolant Fill Rate-gal/min(L/min)..<                | 3.0(11.4)       | 3.0(11.4)       |
| Cooling Index                                           |                 |                 |
| Minimum Air to Boil-°F(°C).....                         | 117(47.2)       | 117(47.2)       |
| Maximum Air to Water Diff.-°F(°C).....                  | 95(52.8)        | 95(52.8)        |
| Deaeration - <sub>3</sub> Air Injection                 |                 |                 |
| Capacity-ft <sup>3</sup> /min(m <sup>3</sup> /min)..... | 0.8(0.023)      | 0.8(0.023)      |
| Drawdown - Minimum Requirement (or 10%                  |                 |                 |
| of Cooling System Capacity-Whichever                    |                 |                 |
| is Larger)-qt(L).....                                   | 4.0(3.8)        | 4.0(3.8)        |

All values at rated speed and power and with standard engine hardware unless otherwise noted.

Curve No. E4-7085-52-2  
Date: 11-5-69  
Rev./Date: 3/8-2-85  
Sht. 3 of 4