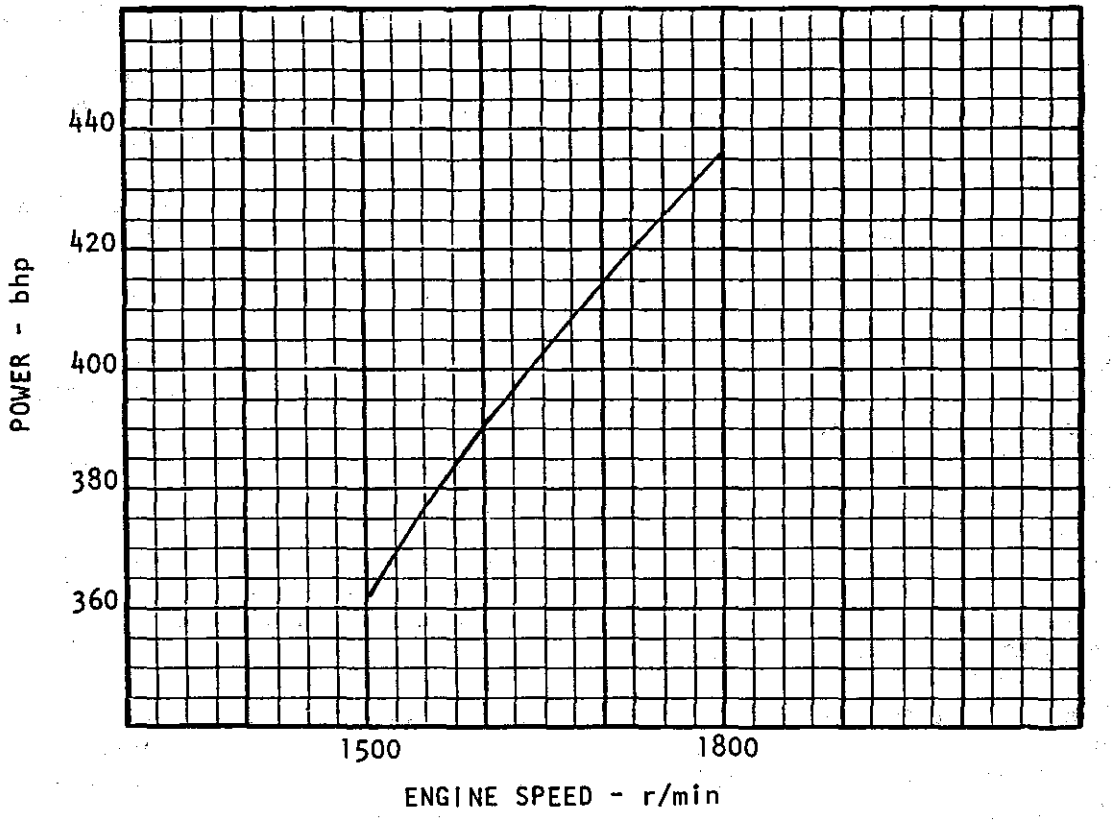
Detroit Diesel Allison | GM

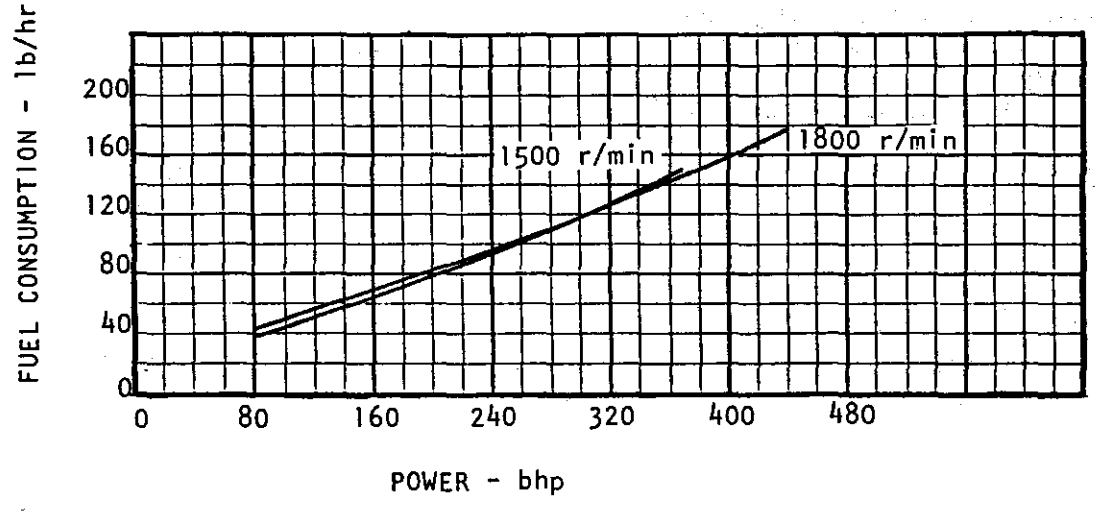
ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

APPLICATION: GENERATOR
STANDBY POWER

MODEL: 12V-71N
436 bhp @ 1800 r/min
365 bhp @ 1500 r/min





AIR INTAKE RESTRICTION - in. H_2O (kPa) . . . 10 (2.5)
EXHAUST BACK PRESSURE - in. H_2O (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.
E4-7125-52-1
DATE: 11-13-69
REV./DATE: 3/8-5-85
SHT. 1 OF 4

ENGINE SPECIFICATION DATA

	1800	1500
Fuel System		
Fuel Injector/Timing	N70/1.460	N70/1.460
Fuel Injection Pump/Timing	NOT APPLICABLE	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr)	178.9(81.1)	155.0(70.3)
Fuel Consumption-gal/hr(L/hr)	25.6(96.9)	22.2(83.9)
Fuel Spill Rate-lb/hr(kg/hr)	759.1(344.3)	759.1(344.3)
Fuel Spill Rate-gal/hr(L/hr)	108.6(411.1)	108.6(411.1)
Total Fuel Flow-lb/hr(kg/hr)	938.0(425.5)	914.1(414.6)
Total Fuel Flow-gal/hr(L/hr)	134.2(508.0)	130.8(495.0)
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
Lubrication System		
Oil Pressure - normal-lbf/in^2(kPa)	60(414)	56(386)
In Pan Oil Temperature-^{o}F(^{o}C)	200-250(93-121)	200-250(93-121)
Oil Flow-gal/min(L/min)	54(204)	47(178)
Oil Pan Capacity - High-qt(L)	34(32.2)	34(32.2)
Low-qt(L)	26(24.6)	26(24.6)
Total Engine Oil Capacity with Filters-qt(L)	38(36.0)	38(36.0)
Bypass Oil Filter Orifice-in(mm)	0.101(2.57)	0.101(2.57)
Engine Angularity Limits		
Front up - degrees	1	1
Front Down - degrees	0	0
Side tilt - degrees	NOT AVAILABLE	NOT AVAILABLE
Cooling System		
Engine Heat Rejection-Btu/min(kW)	16450(289.2)	14400(253.3)
Engine Radiated Heat-Btu/min(kW)	2880(50.6)	2730(48.0)
Coolant Flow-gal/min(L/min)	173(655)	144(545)
Thermostat - Start to Open-^{o}F(^{o}C)	170(77)	170(77)
Fully Open-^{o}F(^{o}C)	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)	55(52)	55(52)
Minimum Pressure Cap-lbf/in^2(kPa)	9.0(62.1)	9.0(62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in^2(kPa)	20(138)	20(138)
Maximum Allowable Cooling System Static Head W/Vented Cap-ft H_2O(kPa)	50(149)	50(149)
Maximum Top Tank Temperature-^{o}F(^{o}C)	210(99)	210(99)
Minimum Top Tank Temperature-^{o}F(^{o}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-^{o}F(^{o}C)	117(47.2)	117(47.2)
Maximum Air to Water Diff.-^{o}F(^{o}C)	95(52.8)	95(52.8)
Deaeration - Air Injection Capacity-ft^3/min(m^3/min)	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)

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

Curve No. E4-7125-52-1
Date: 11-13-69
Rev./Date: 3/8-5-85

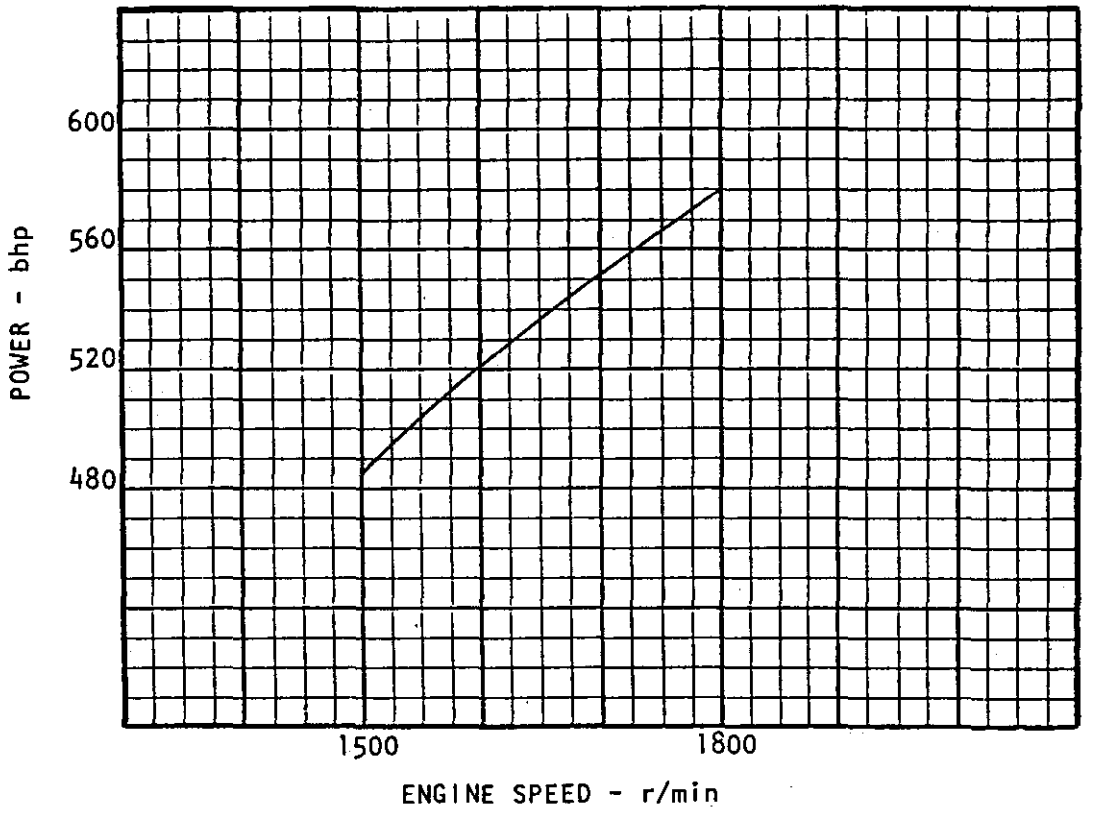
Detroit Diesel Allison | GM

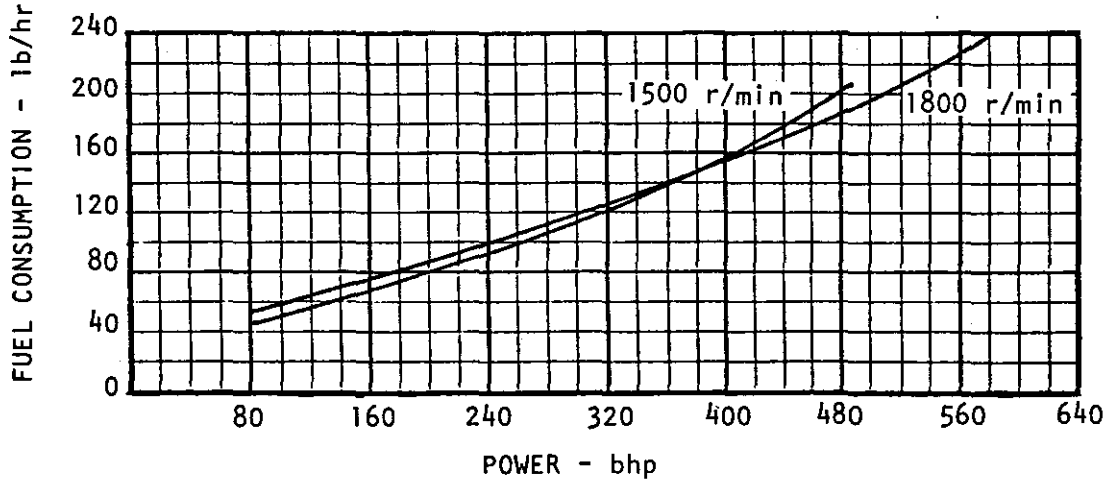
ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

APPLICATION: GENERATOR
PRIME POWER

MODEL: 16V-71N
581 bhp @ 1800 r/min
487 bhp @ 1500 r/min





AIR INTAKE RESTRICTION - in. H_2O (kPa) . . . 10 (2.5)
EXHAUST BACK PRESSURE - in. H_2O (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. E4-7165-52-1
DATE: 11-13-69
REV./DATE: 3/8-5-85
SHT. 1 OF 4

ENGINE SPECIFICATION DATA

	1800	1500
Fuel System		
Fuel Injector/Timing	N70/1.460	N70/1.460
Fuel Injection Pump/Timing	NOT APPLICABLE	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr)	238.5(108.2)	206.7(93.8)
Fuel Consumption-gal/hr(L/hr)	34.1(129.2)	29.6(111.9)
Fuel Spill Rate-lb/hr(kg/hr)	759.1(344.3)	759.1(344.3)
Fuel Spill Rate-gal/hr(L/hr)	108.6(411.1)	108.6(411.1)
Total Fuel Flow-lb/hr(kg/hr)	997.6(452.5)	965.8(438.1)
Total Fuel Flow-gal/hr(L/hr)	142.7(540.2)	138.2(523.0)
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
Lubrication System		
Oil Pressure - normal-lbf/in^2(kPa)	60(414)	56(386)
In Pan Oil Temperature-^{o}F(^{o}C)	200-250(93-121)	200-250(93-121)
Oil Flow-gal/min(L/min)	76(288)	76(288)
Oil Pan Capacity - High-qt(L)	65(61.5)	65(61.5)
Low-qt(L)	53(50.2)	53(50.2)
Total Engine Oil Capacity with Filters-qt(L)	69(65.3)	69(65.3)
Bypass Oil Filter Orifice-in(mm)	0.101(2.57)	0.101(2.57)
Engine Angularity Limits		
Front up - degrees	33	33
Front Down - degrees	7	7
Side tilt - degrees	NOT AVAILABLE	NOT AVAILABLE
Cooling System		
Engine Heat Rejection-Btu/min(kW)	19360(340.6)	16760(294.8)
Engine Radiated Heat-Btu/min(kW)	3840(67.4)	3640(64.0)
Coolant Flow-gal/min(L/min)	266(1007)	224(848)
Thermostat - Start to Open-^{o}F(^{o}C)	170(77)	170(77)
Fully Open-^{o}F(^{o}C)	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)	79(74.8)	79(74.8)
Minimum Pressure Cap-lbf/in^2(kPa)	9.0(62.1)	9.0(62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in^2(kPa)	20(138)	20(138)
Maximum Allowable Cooling System Static Head W/Vented Cap-ft H_2O(kPa)	50(149)	50(149)
Maximum Top Tank Temperature-^{o}F(^{o}C)	210(99)	210(99)
Minimum Top Tank Temperature-^{o}F(^{o}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-^{o}F(^{o}C)	117(47.2)	117(47.2)
Maximum Air to Water Diff.-^{o}F(^{o}C)	95(52.8)	95(52.8)
Deaeration - Air Injection Capacity-ft^3/min(m^3/min)	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)

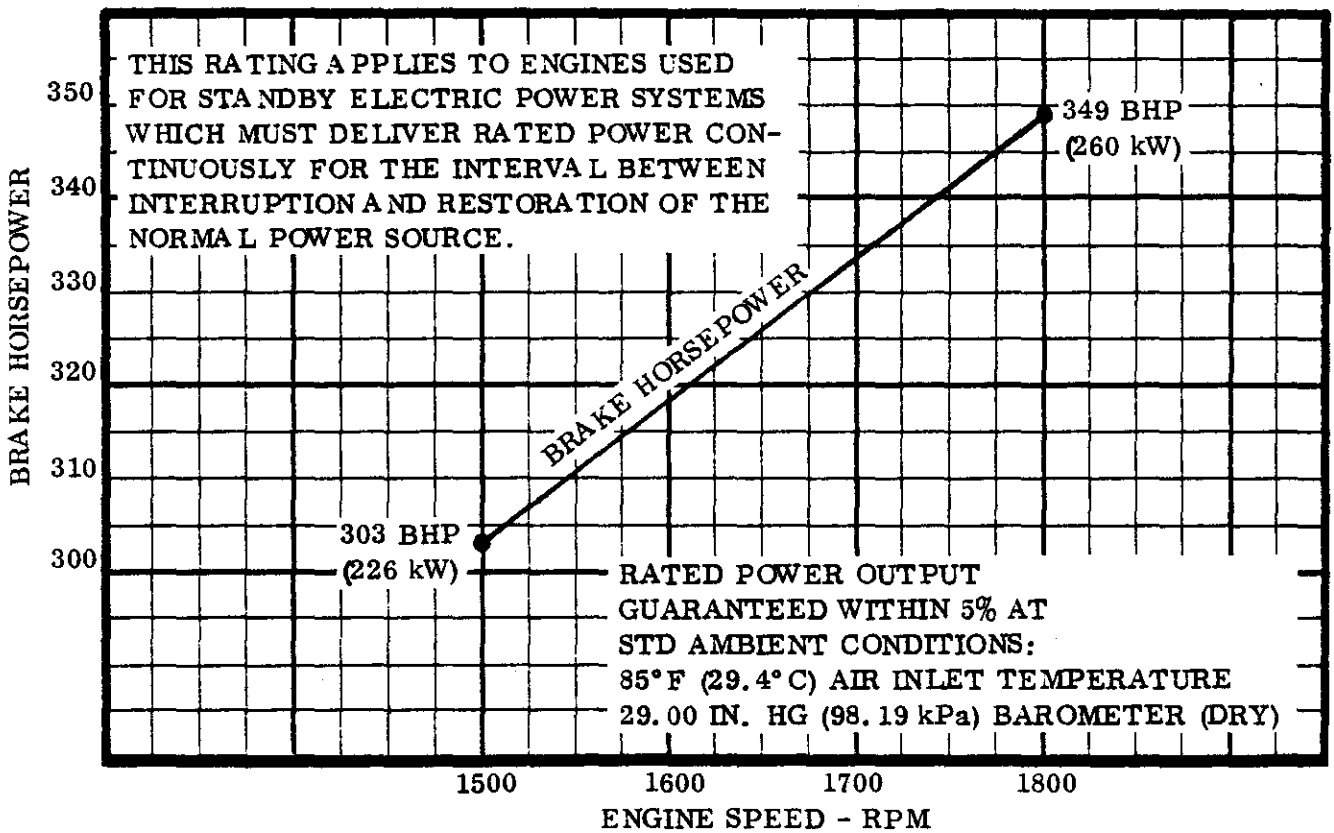
All values at rated speed and power and with standard engine hardware unless otherwise noted.

Curve No. E4-7165-52-1
Date: 11-13-69
Rev./Date: 3/8-5-85

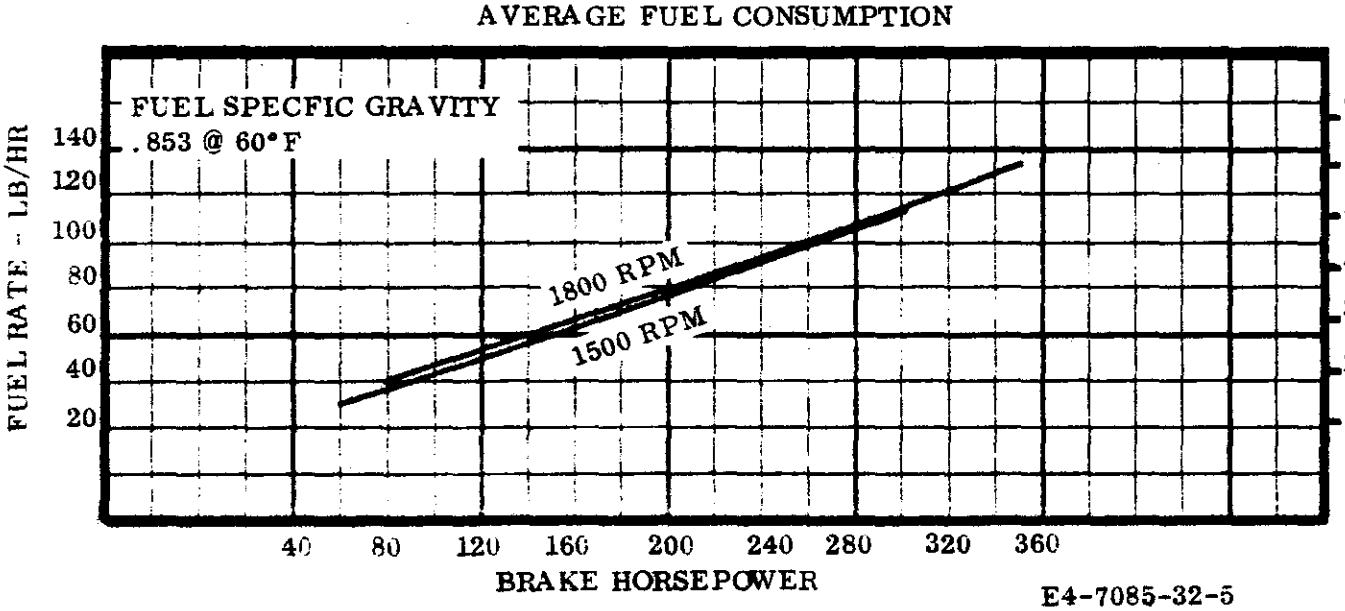
Detroit Diesel Allison
Division of General Motors Corporation

GENERATOR ENGINE PERFORMANCE

MODEL:	8V-71T
APPLICATION:	STANDBY POWER
INJECTOR:	N80 (1.460 TIMING)
TURBOCHARGER:	TV8101 (1.39 A/R HSG.)
RATING:	WITHOUT FAN



AVERAGE FUEL CONSUMPTION



E4-7085-32-5
11-15-79

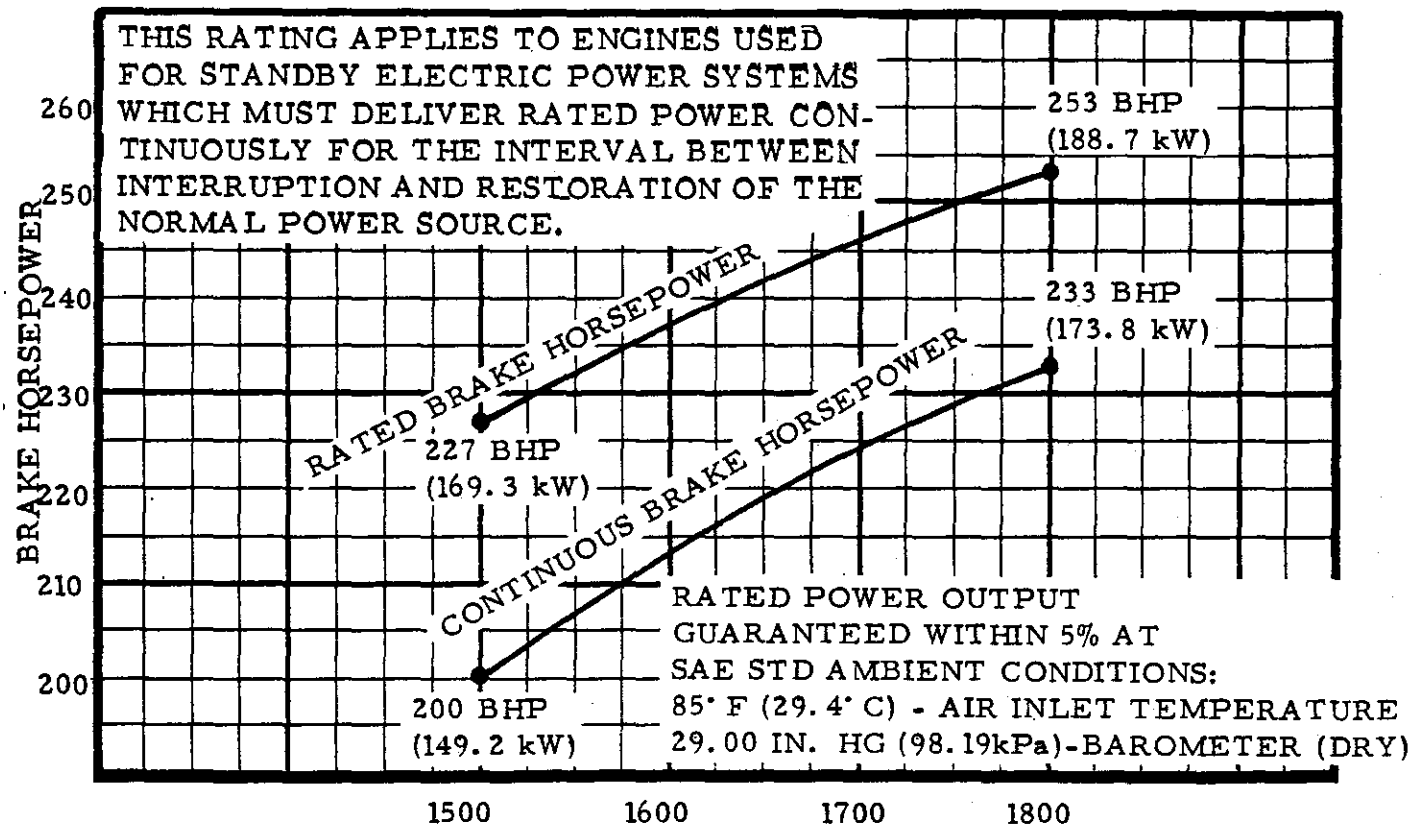
ENGINEERING-TECHNICAL DATA DEPT

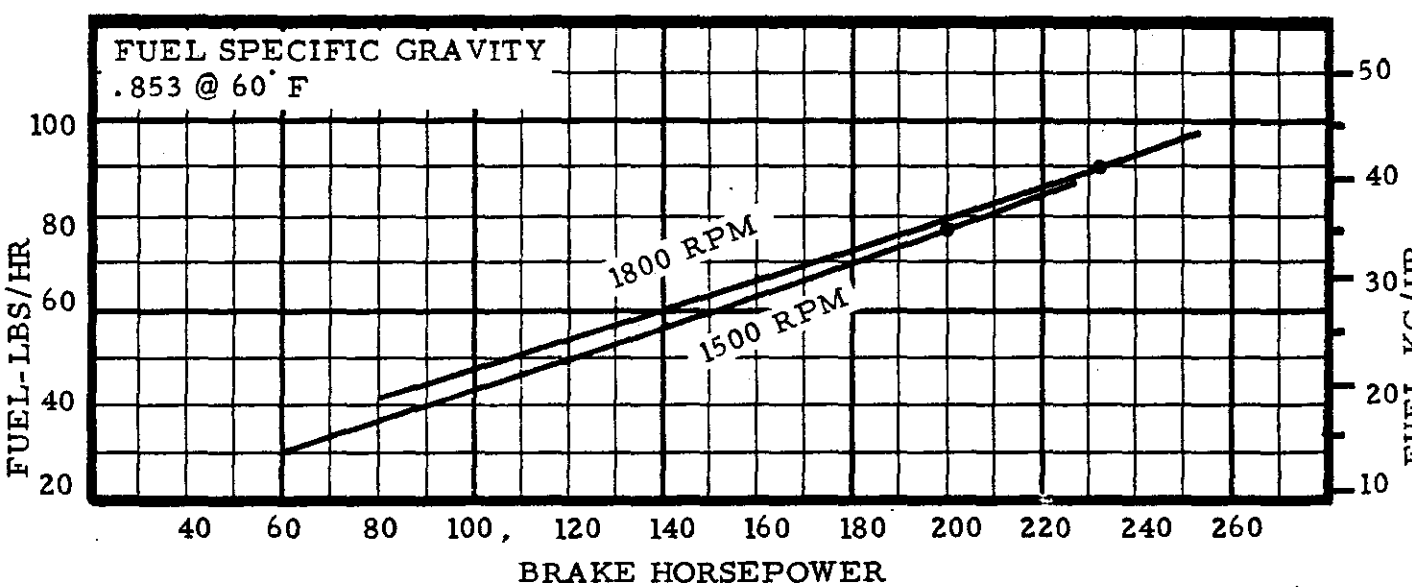
DE 4033

Detroit Diesel Allison
Division of General Motors Corporation

GENERATOR ENGINE PERFORMANCE

MODEL:	8V-71T
APPLICATION:	STAND BY POWER
INJECTORS:	N60(1.460 Timing)
TURBOCHARGER:	TV8101(1.39 A/R HSG.)
RATING:	WITHOUT FAN





ENGINEERING-TECHNICAL DATA DEPT.

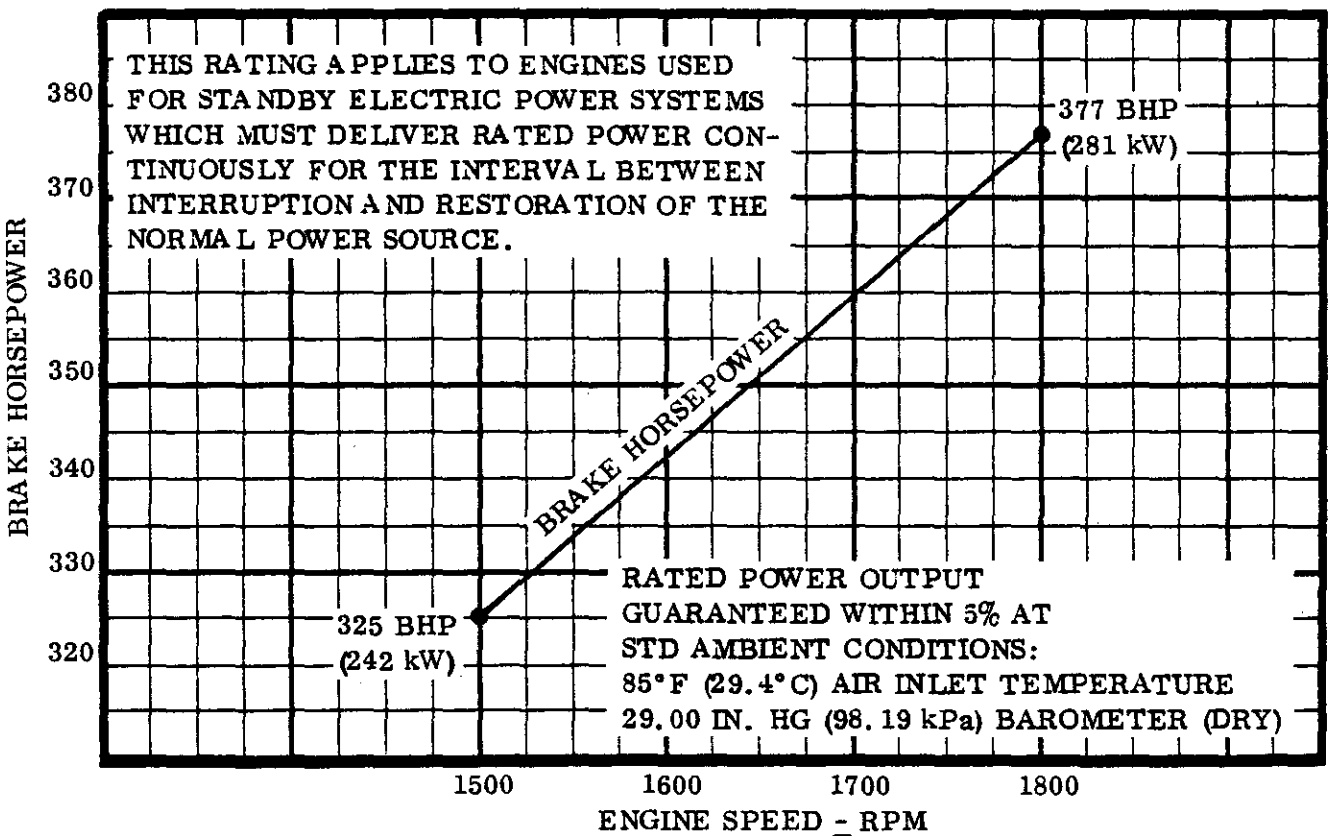
E4-7085-32-6
10-7-80

DE 4033

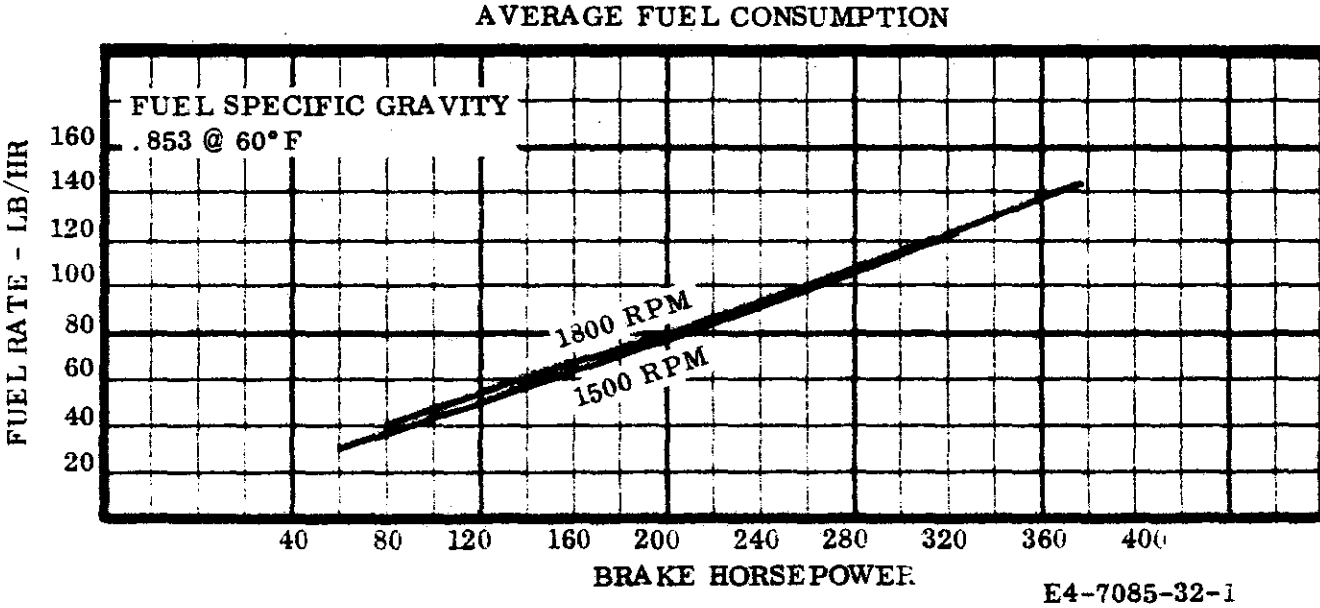
Detroit Diesel Allison
Division of General Motors Corporation

GENERATOR ENGINE PERFORMANCE

MODEL:	8V-71T
APPLICATION:	STANDBY POWER
INJECTOR:	N90 (1.460 TIMING)
TURBOCHARGER:	TV8101 (1.39 A/R HSG.)
RATING:	WITHOUT FAN



AVERAGE FUEL CONSUMPTION



E4-7085-32-1
Rev. 11-15-79

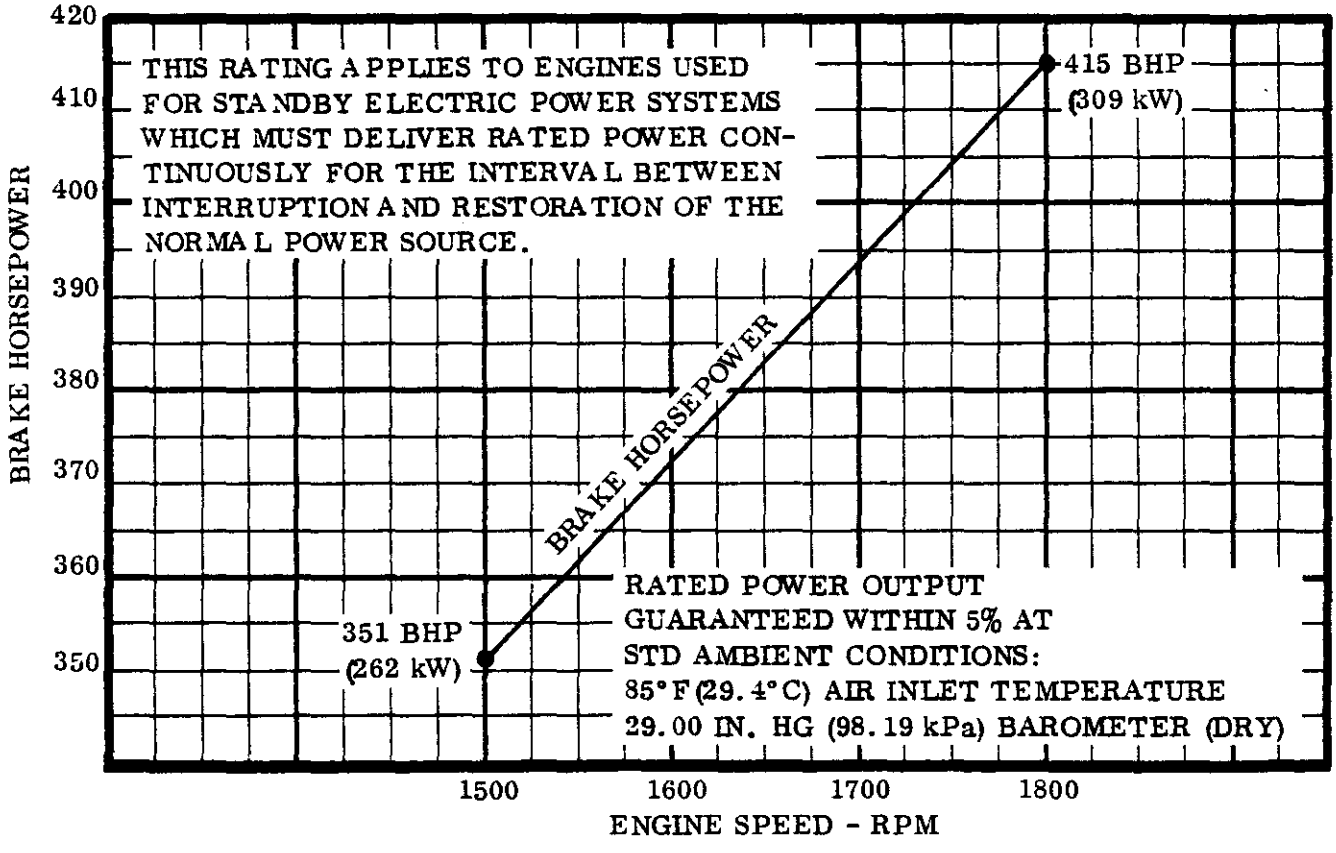
ENGINEERING-TECHNICAL DATA DEPT

DE 4033

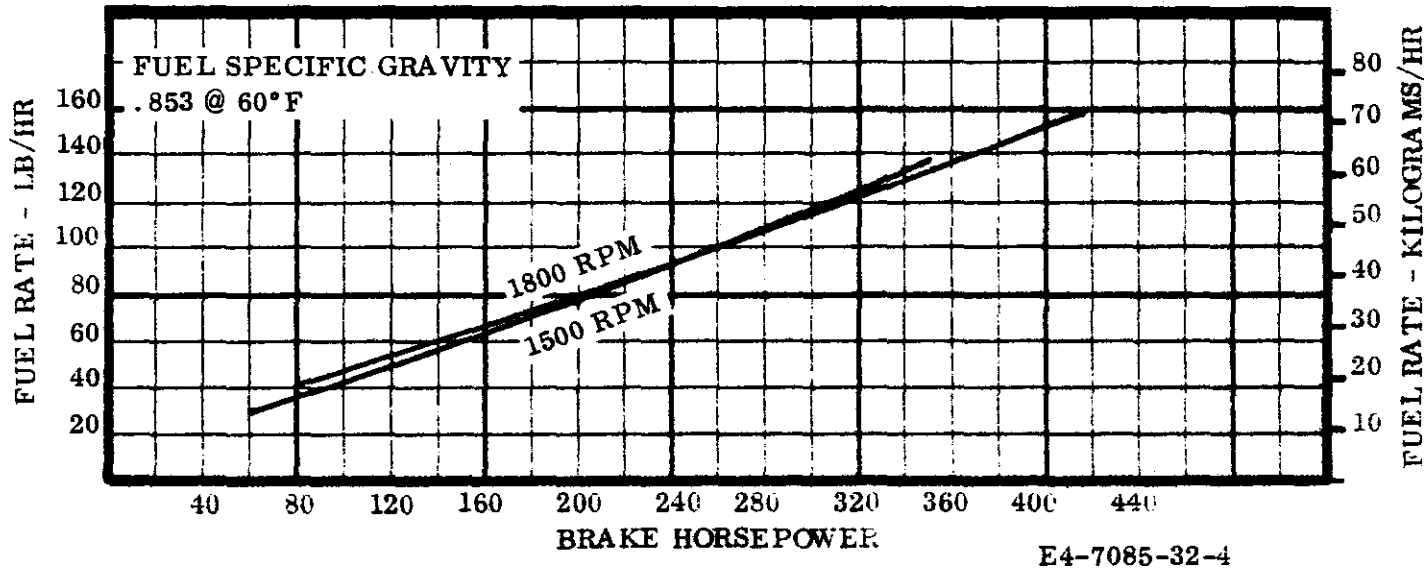
Detroit Diesel Allison
Division of General Motors Corporation

GENERATOR ENGINE PERFORMANCE

MODEL:	8V-71T
APPLICATION:	STANDBY POWER
INJECTORS:	M95 (1.460 TIMING)
TURBOCHARGER:	TV8101 (1.39 A/R HSG.)
RATING:	WITHOUT FAN



AVERAGE FUEL CONSUMPTION



E4-7085-32-4
Rev. 11-15-79

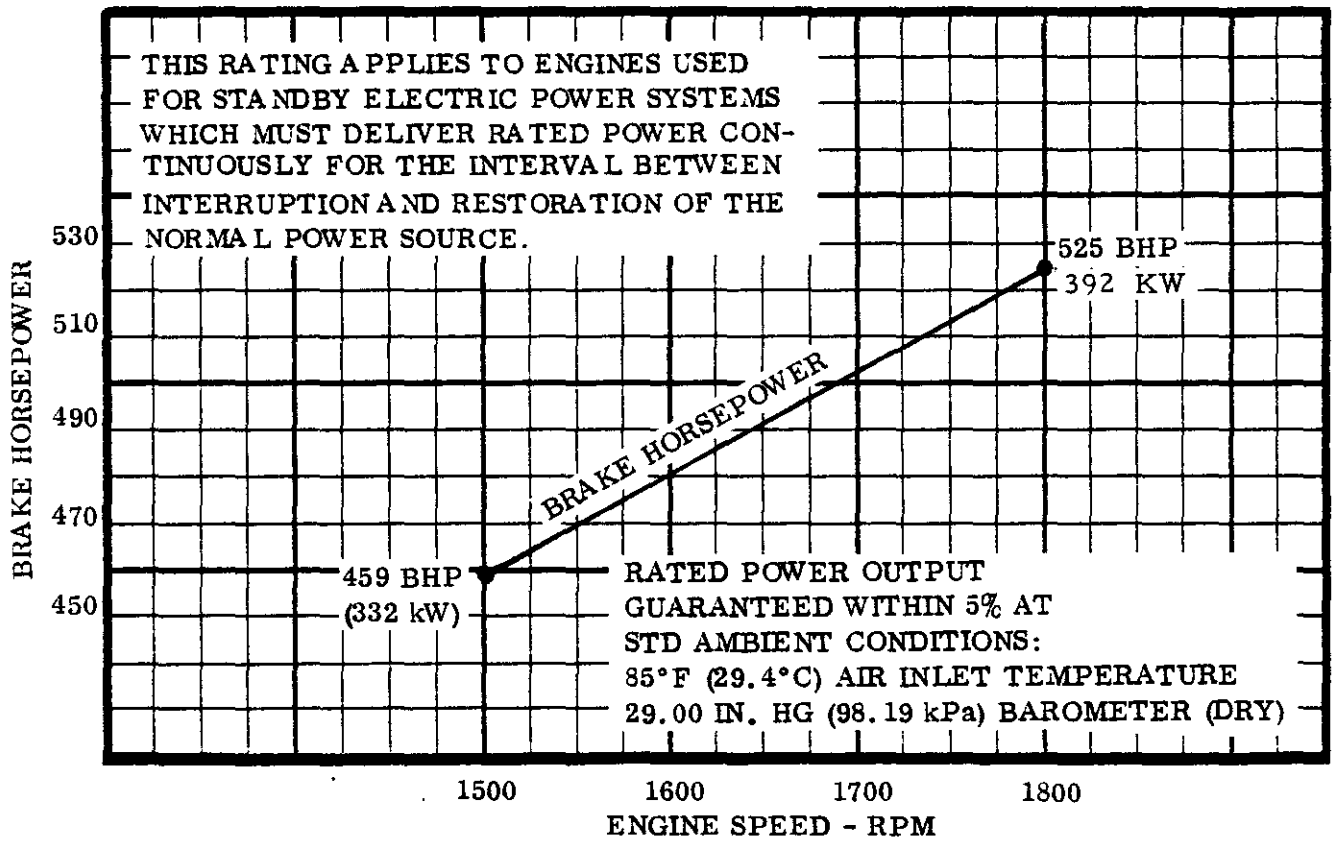
ENGINEERING-TECHNICAL DATA DEPT

DE 4033

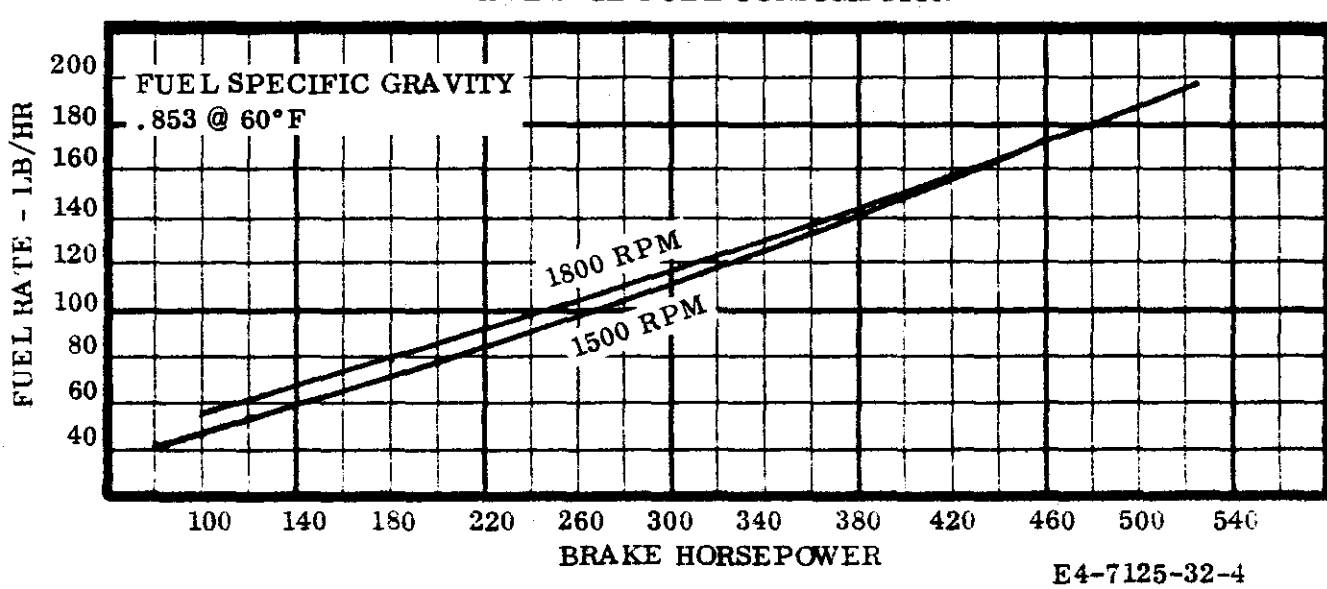
Detroit Diesel Allison
Division of General Motors Corporation

GENERATOR ENGINE PERFORMANCE

MODEL:	12V-71T
APPLICATION:	STANDBY POWER
INJECTOR:	N80 (1.460 TIMING)
TURBOCHARGER:	TV7101 (1.39 A/R HSG.)
RATING:	WITHOUT FAN



AVERAGE FUEL CONSUMPTION



E4-7125-32-4
Rev. 11-15-79

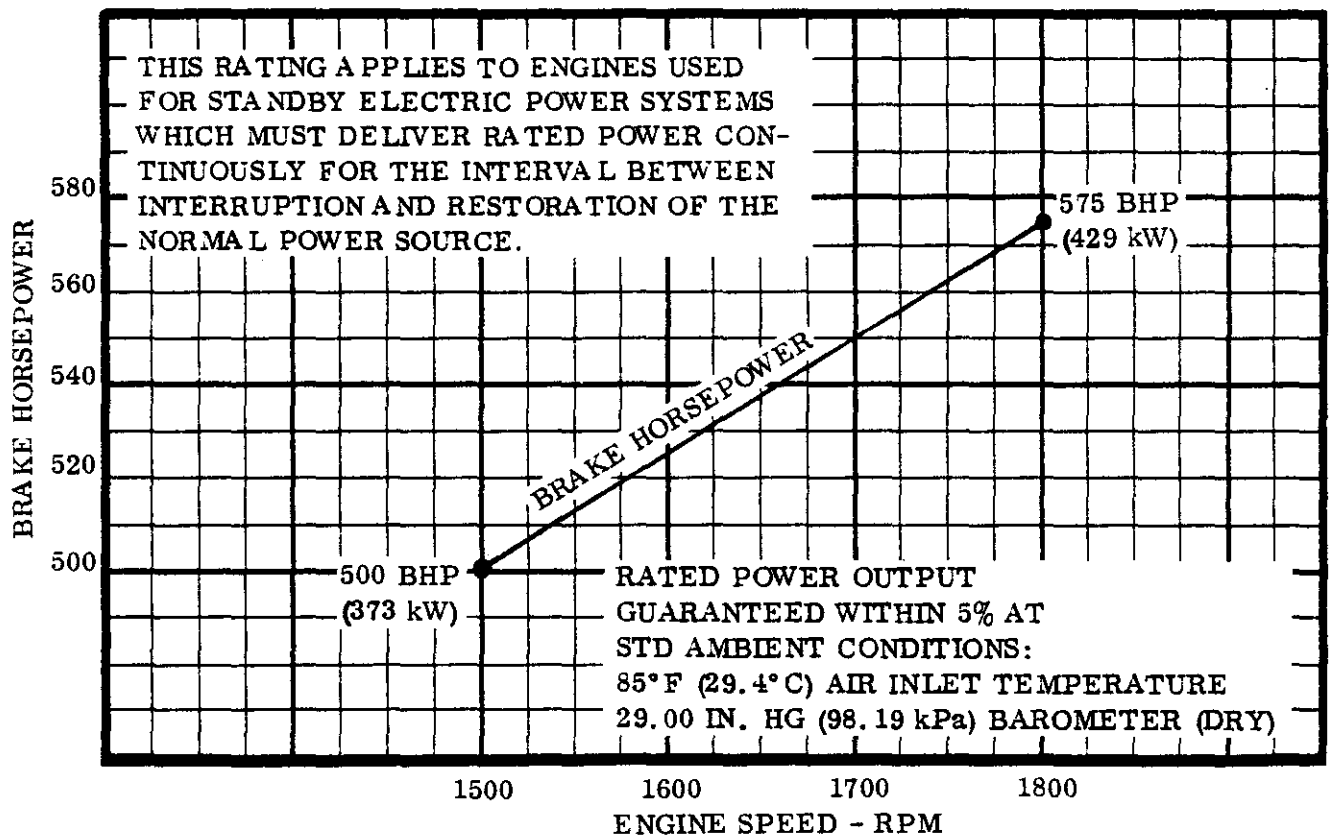
ENGINEERING-TECHNICAL DATA DEPT.

DE 4033

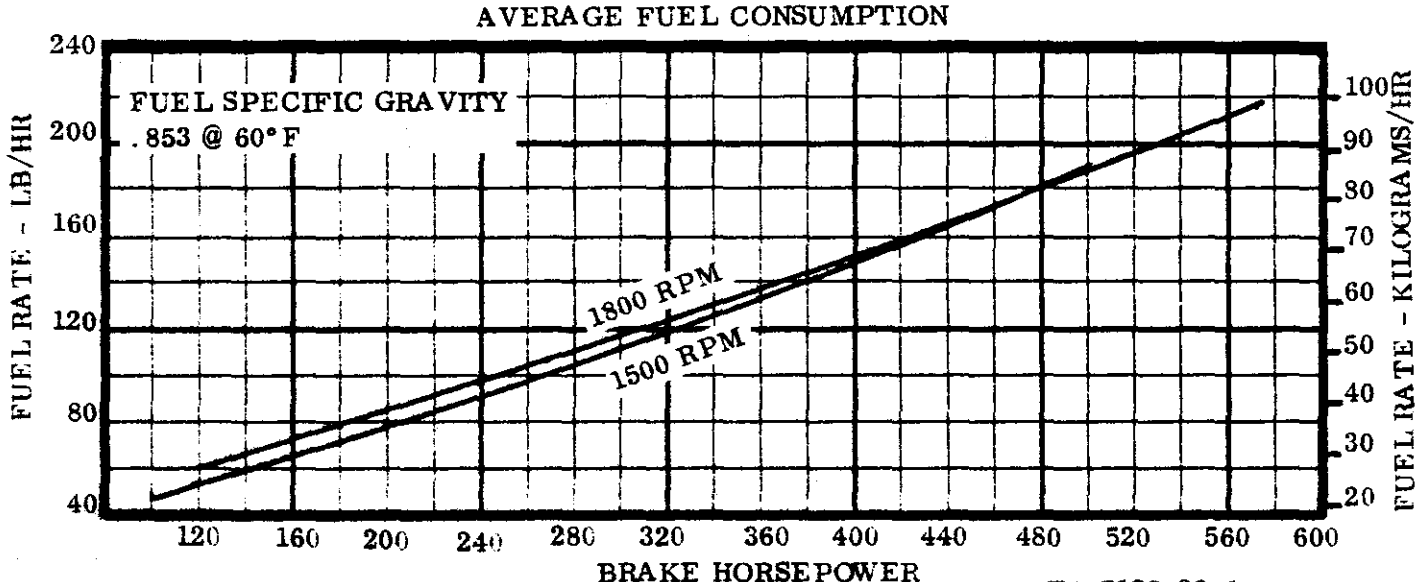
Detroit Diesel Allison
Division of General Motors Corporation

GENERATOR ENGINE PERFORMANCE

MODEL:	12V-71T
APPLICATION:	STANDBY POWER
INJECTOR:	N90 (1.460 TIMING)
TURBOCHARGER:	TV7101 (1.39 A/R HSG.)
RATING:	WITHOUT FAN



AVERAGE FUEL CONSUMPTION



E4-7125-32-1
Rev. 11-15-79

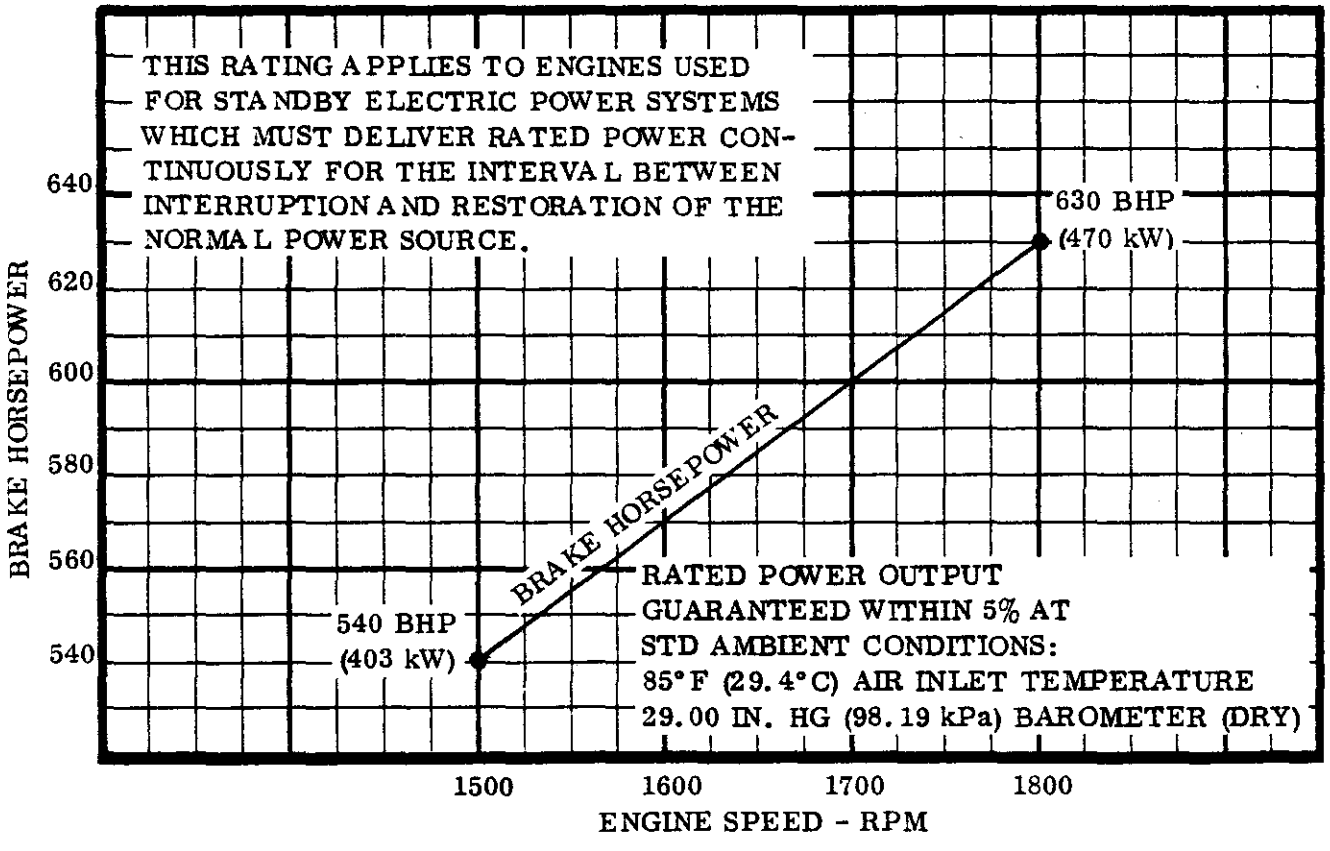
ENGINEERING-TECHNICAL DATA DEPT

DE 4033

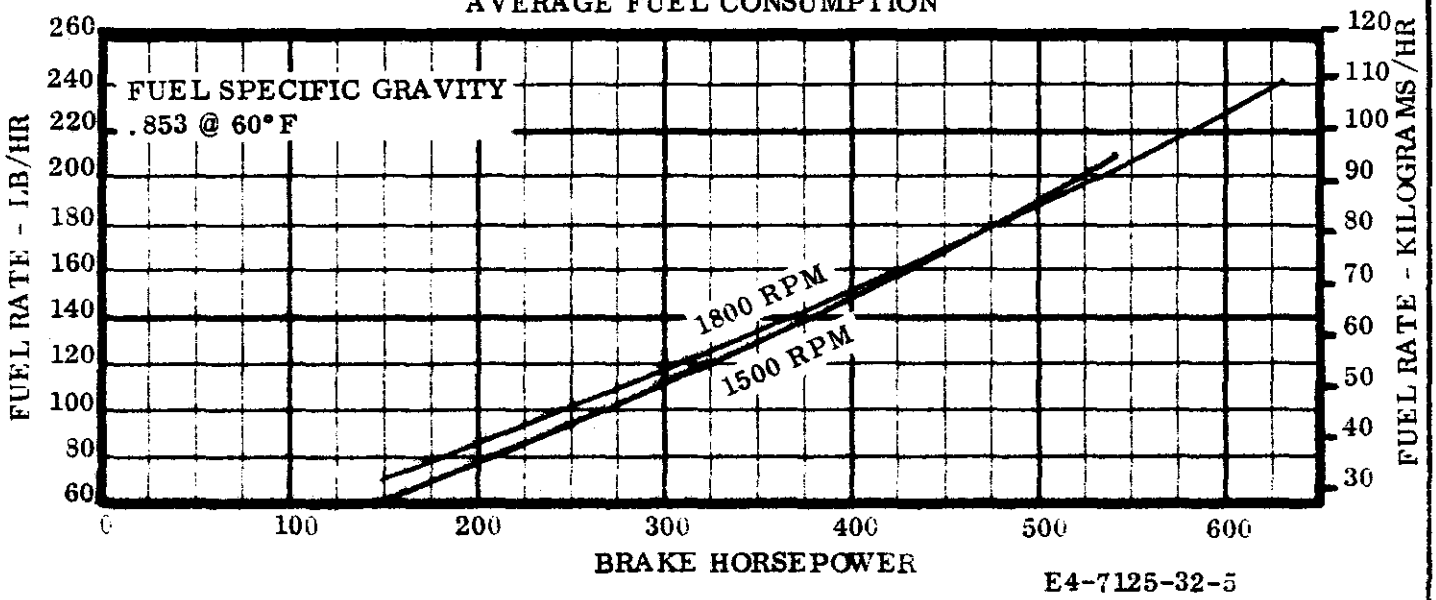
Detroit Diesel Allison
Division of General Motors Corporation

GENERATOR ENGINE PERFORMANCE

MODEL:	12V-71T
APPLICATION:	STANDBY POWER
INJECTOR:	M95 (1.460 TIMING)
TURBOCHARGER:	(1.39 A/R HSG.)
RATING:	WITHOUT FAN



AVERAGE FUEL CONSUMPTION



E4-7125-32-5
Rev. 11-15-79

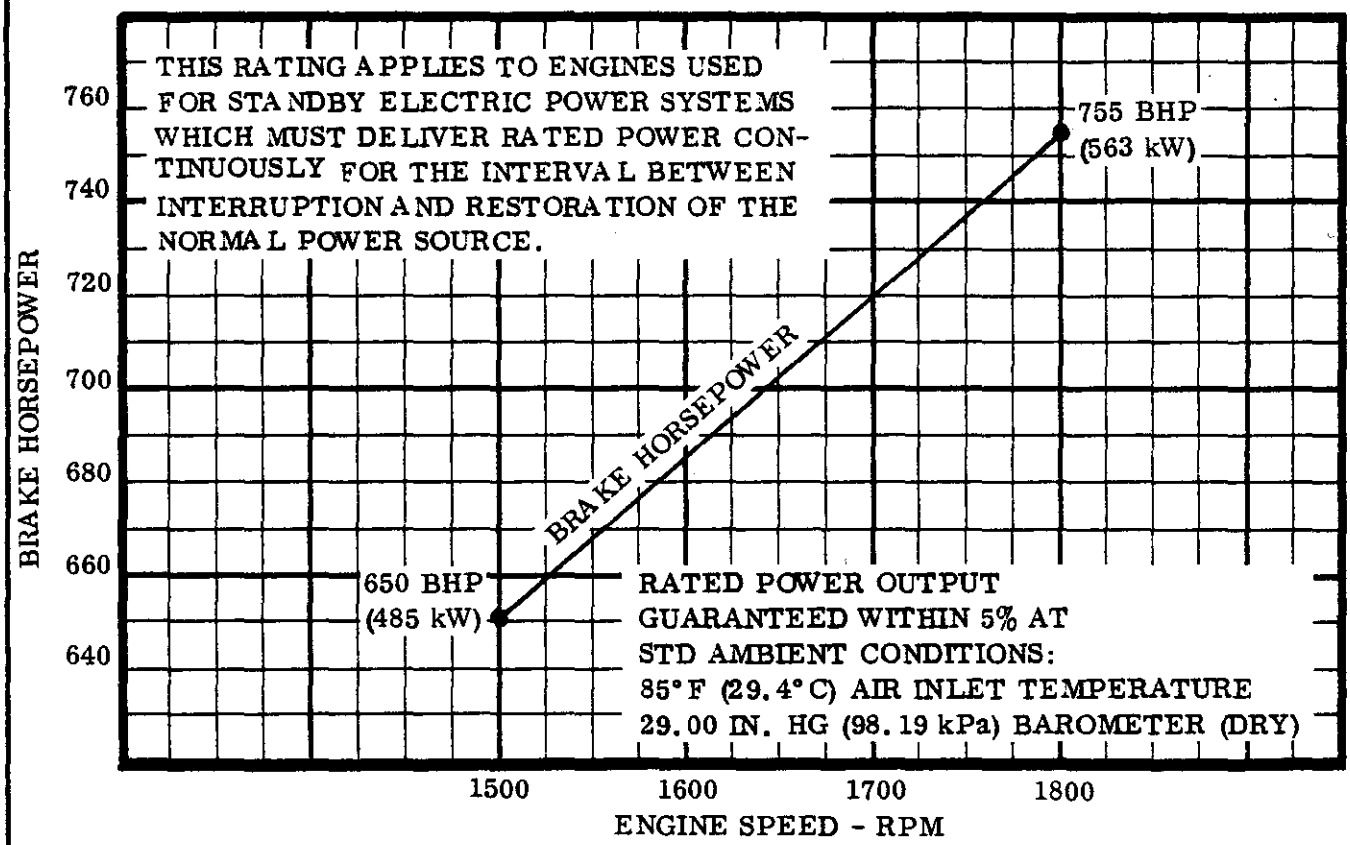
ENGINEERING-TECHNICAL DATA DEPT

DE 4033

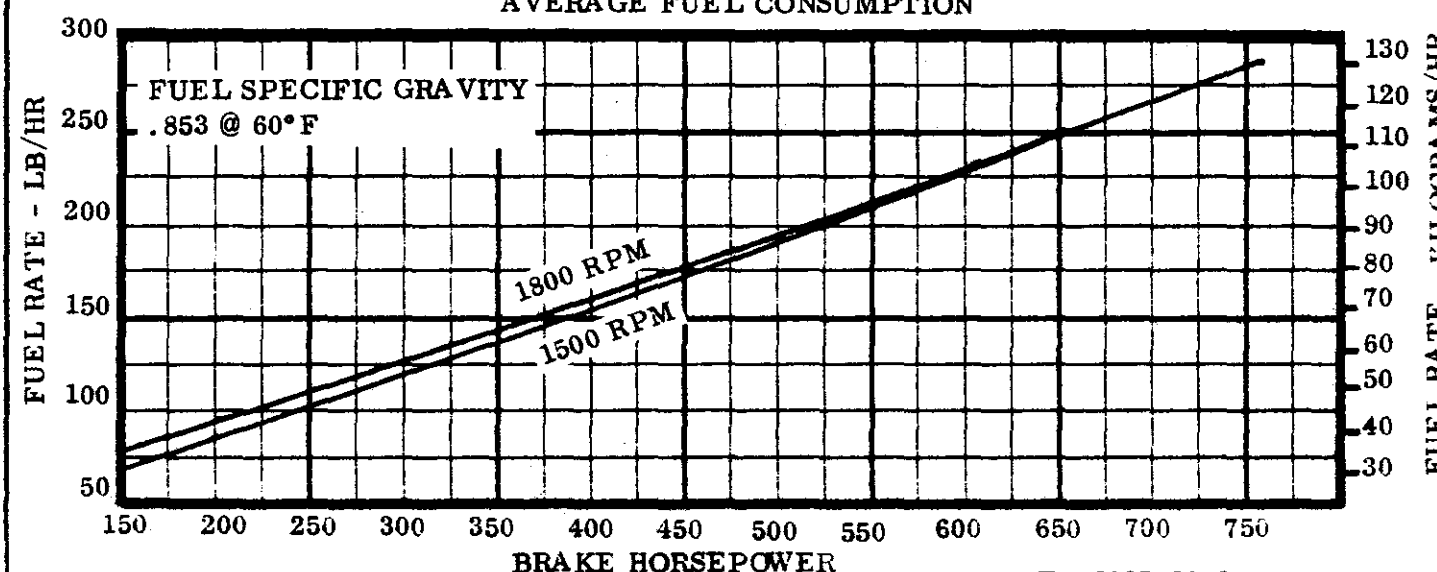
Detroit Diesel Allison
Division of General Motors Corporation

GENERATOR ENGINE PERFORMANCE

MODEL:	16V-71T
APPLICATION:	STANDBY POWER
INJECTOR:	N90 (1.460 TIMING)
TURBOCHARGER:	TV8101 (1.39 A/R HSG.)
RATING:	WITHOUT FAN



AVERAGE FUEL CONSUMPTION



E4-7165-32-1
Rev. 11-15-79

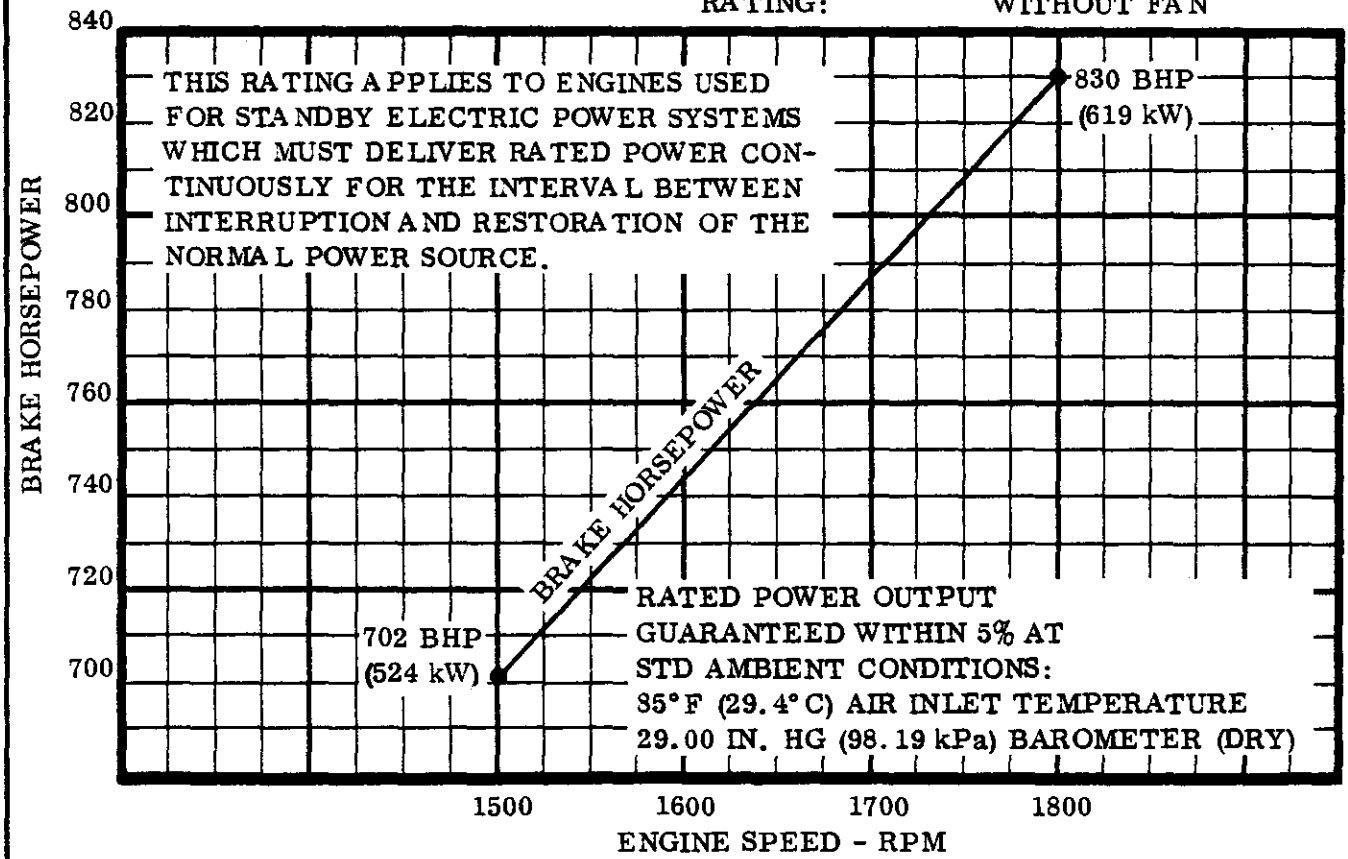
ENGINEERING-TECHNICAL DATA DEPT.

DE 4033

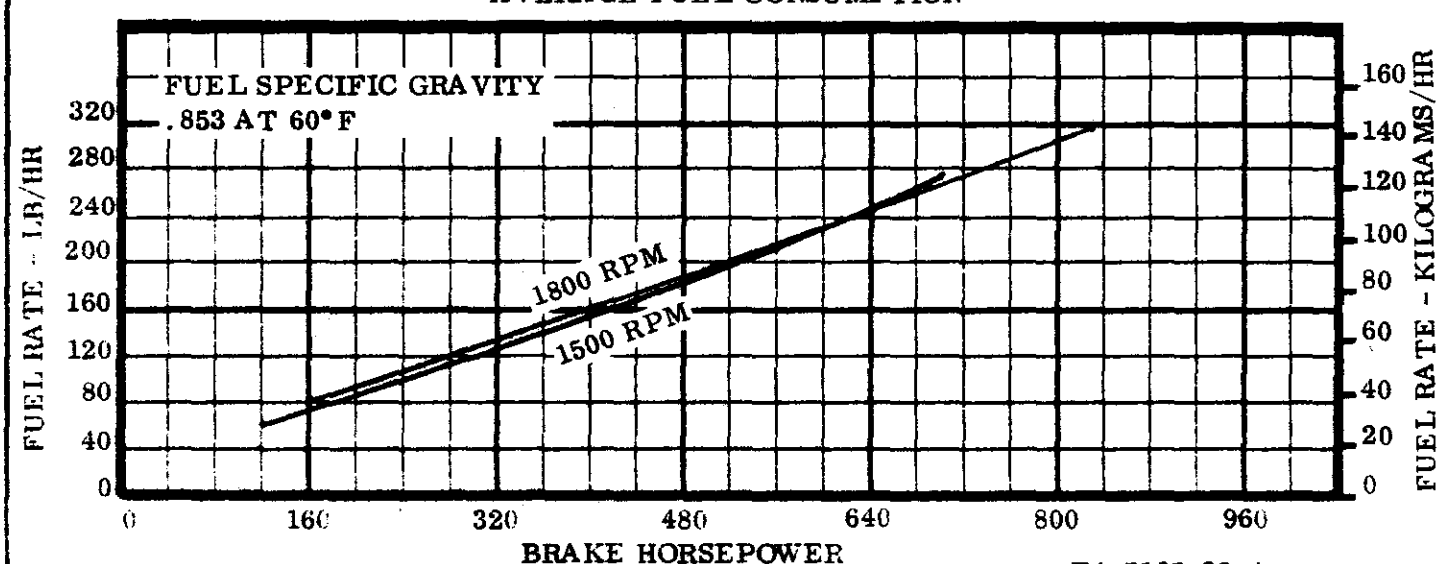
Detroit Diesel Allison
Division of General Motors Corporation

GENERATOR ENGINE PERFORMANCE

MODEL:	16V-71T
APPLICATION:	STANDBY POWER
INJECTOR:	M95 (1.460 TIMING)
TURBOCHARGER:	TV8101 (1.39 A/R HSG.)
RATING:	WITHOUT FAN



AVERAGE FUEL CONSUMPTION



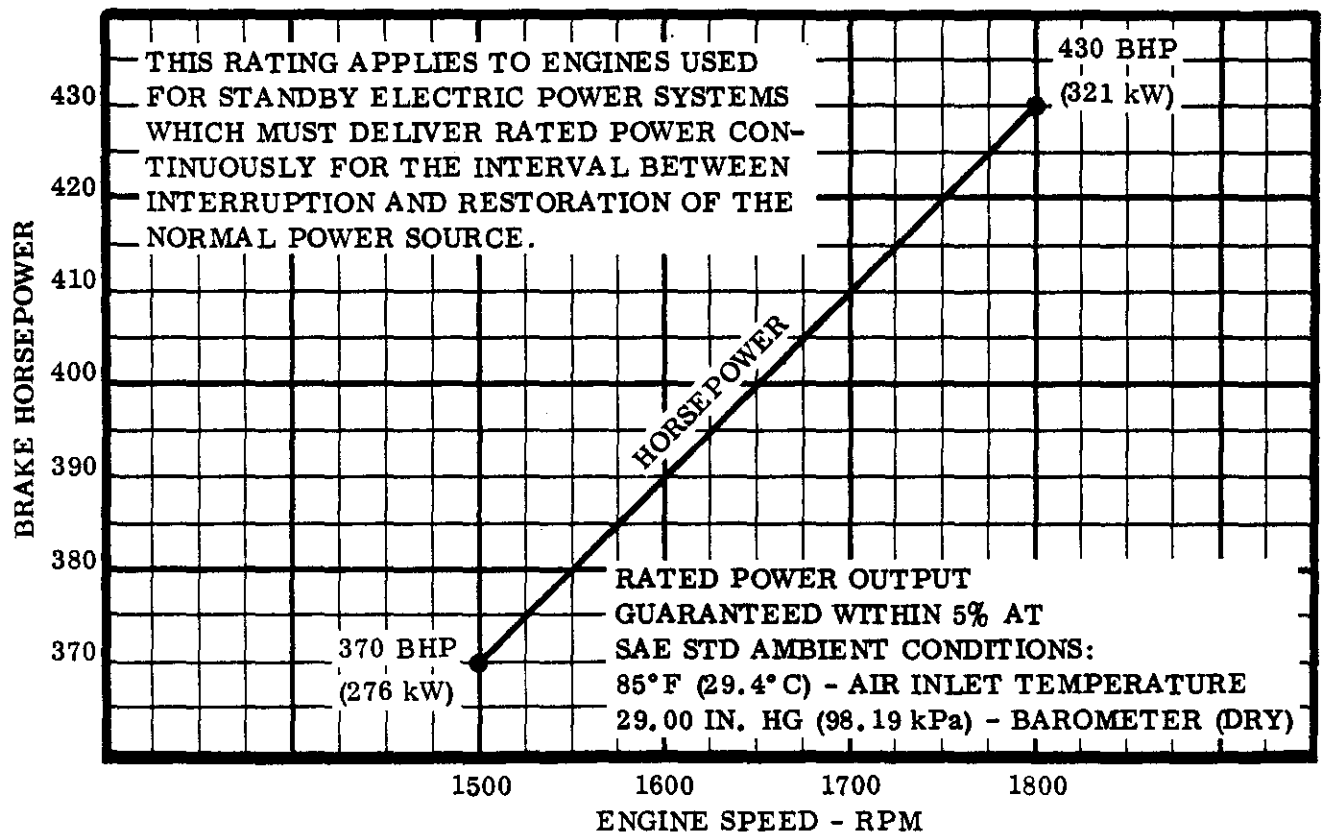
E4-7165-32-4
Rev. 11-15-79

ENGINEERING-TECHNICAL DATA DEPT.

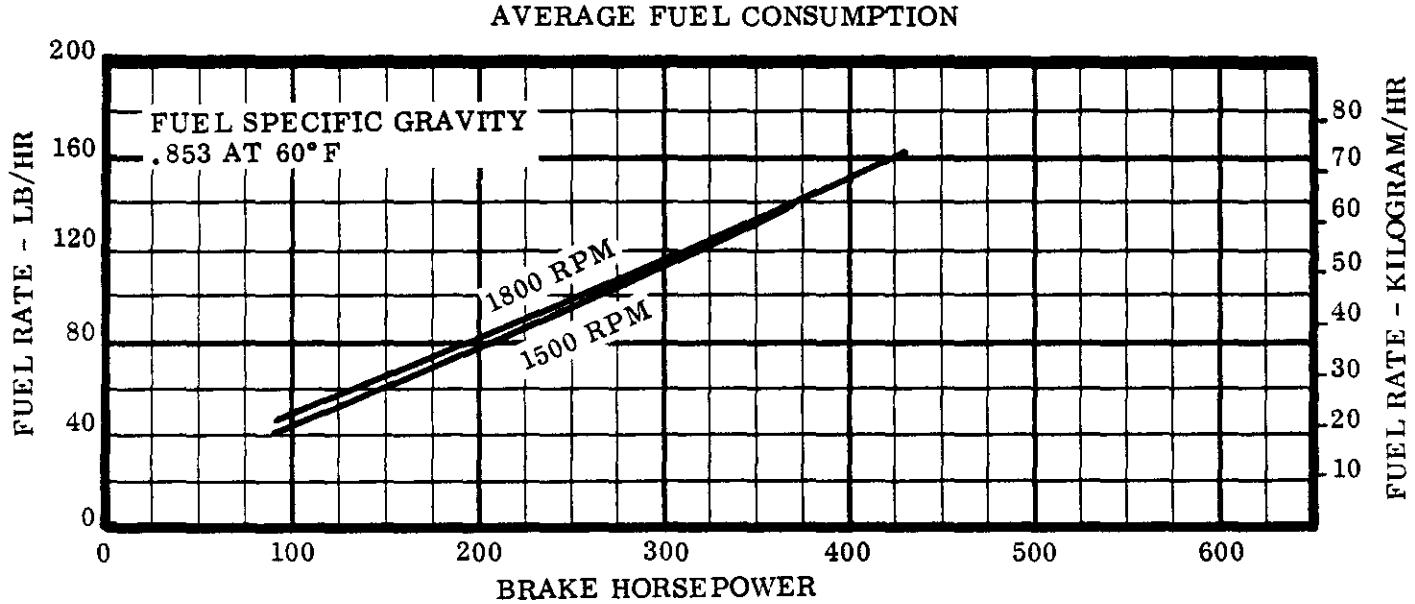
DE 4033

Detroit Diesel Allison
Division of General Motors Corporation

8V-92T
TV8101 (1.39 A/R HSG.) TURBOCHARGER
DIESEL ELECTRIC STANDBY POWER
WITHOUT FAN
9200 INJECTORS



AVERAGE FUEL CONSUMPTION



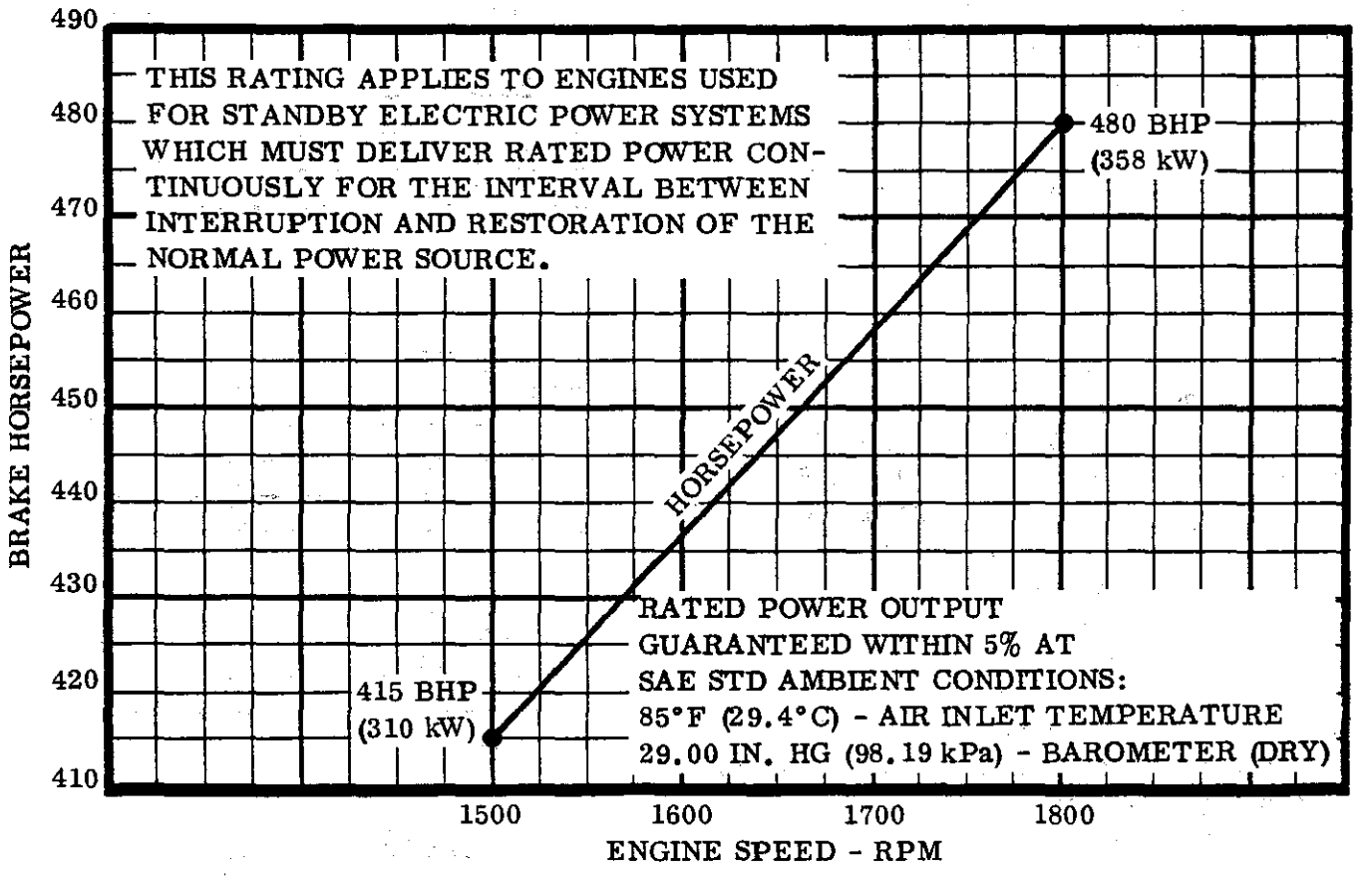
DE 4033

ENGINEERING-TECHNICAL DATA DEPT.

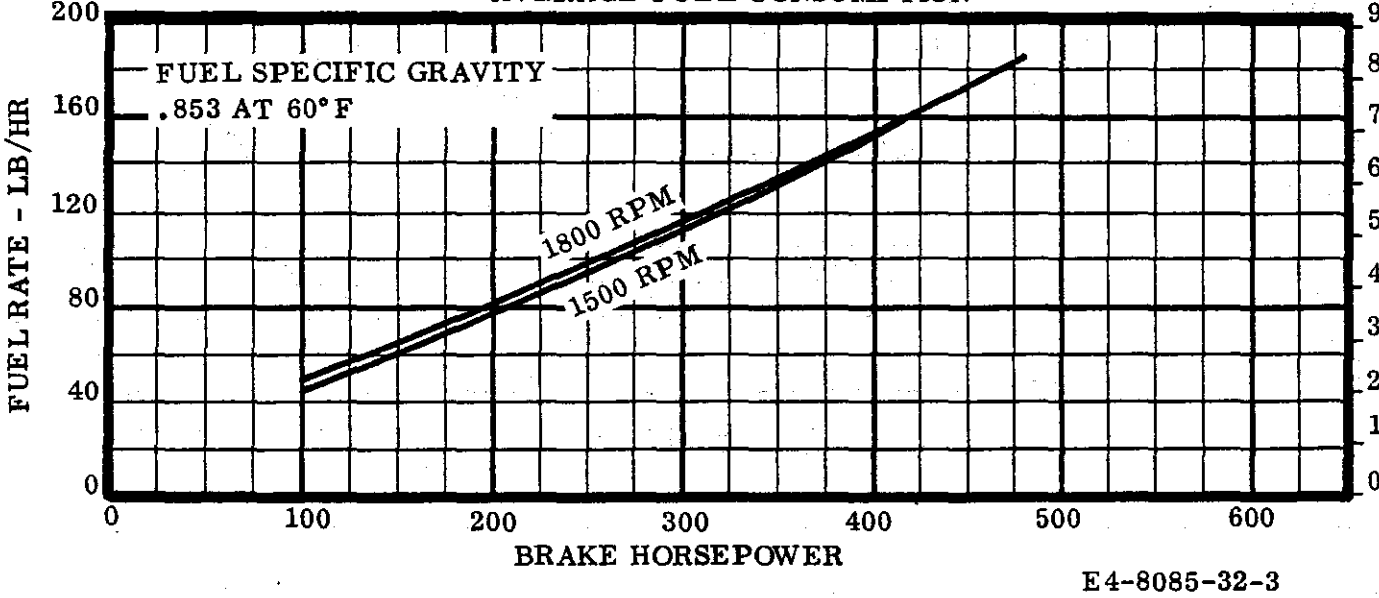
E4-8085-32-1
Rev. 7-15-77

Detroit Diesel Allison
Division of General Motors Corporation

8V-92T
TV8101 (1.39 A/R) TURBOCHARGER
DIESEL ELECTRIC STANDBY POWER
WITHOUT FAN
9215 INJECTORS



AVERAGE FUEL CONSUMPTION



ENGINEERING-TECHNICAL DATA DEPT.

E4-8085-32-3
Rev. 7-16-80

DE 4033

General Engine Description:

Model	8083-7305
Number of cylinders	8
Bore and stroke - in. (mm)	4.84 x 5 (123 x 127)
Displacement - in.^{3} (liters)	736 (12.1)
Compression ratio	17:1
Firing order	
Clockwise rotation (RH)	1L-3R-3L-4R-4L-2R-2L-1R
Dimensions & weight (approx.)	
Length - in. (mm)	99 (2515)
Width - in. (mm)	48 (1219)
Height - in. (mm)	64 (1626)
Weight - lbs. (kg)	6200 (2812)

Technical Engine Specifications:

Injector	9215	
Engine speed - RPM	1800	1500
Brake horsepower - BHP (kW)	480 (358)	415 (310)
BMEP - PSI (kPa)	143 (986)	149 (1027)
Peak torque LB FT (N·m) @ RPM -		
Fuel consumption - LB/HR (kg/HR)	184.6 (83.7)	159.7 (72.4)
Specific fuel cons. - LB/BHP HR (g/kW HR)	.385 (234)	.385 (234)
Fuel pump suction at pump inlet		
Maximum - in. Hg (kPa)		
Clean system	6 (20.3)	
Dirty system	12 (40.6)	
Airflow - CFM (m^3/min.)	1470 (41.6)	1245 (35.3)
Airbox pressure, Min. - in. Hg (kPa)	46.2 (156)	36.3 (122.6)
Air intake restriction, max. in. H_2O (kPa)		
(Dry type air cleaner)		
Full load - dirty	14.4 (3.6)	10.3 (2.6)
- clean	8.7 (2.2)	6.2 (1.5)
Exhaust temp. - °F (°C)	810 (432)	810 (432)
Exhaust flow - CFM (m^3/min.)	3425 (97.0)	2900 (82.1)
Exhaust back press., max. in Hg (kPa)		
Full load	2.0 (6.8)	1.4 (4.7)
Coolant flow - GPM (liter/min.)	152 (575)	125 (473)
Coolant normal operating temp. °F (°C)	160-185 (71-85)	
Heat rejection - BTU/ Min. (W)	14880 (261600)	13280 (233450)
Coolant inlet restriction, max. - in. Hg (kPa)	3.0 (10.1)	2.0 (6.8)
Lubricating oil press. normal - psi (kPa)	49-70 (338-483)	41-61 (283-421)
Lubricating oil temp., in-pan °F (°C)	200-250 (93-121)	

Emissions* - GM/HR

	No Load	25% Load	50% Load	75% Load	Rated Load
NOx	215/275	735/840	2035/2295	3395/4345	4940/6640
CO	250/240	90/130	150/160	680/250	2480/960
HC	115/131	67/101	77/106	80/111	66/117

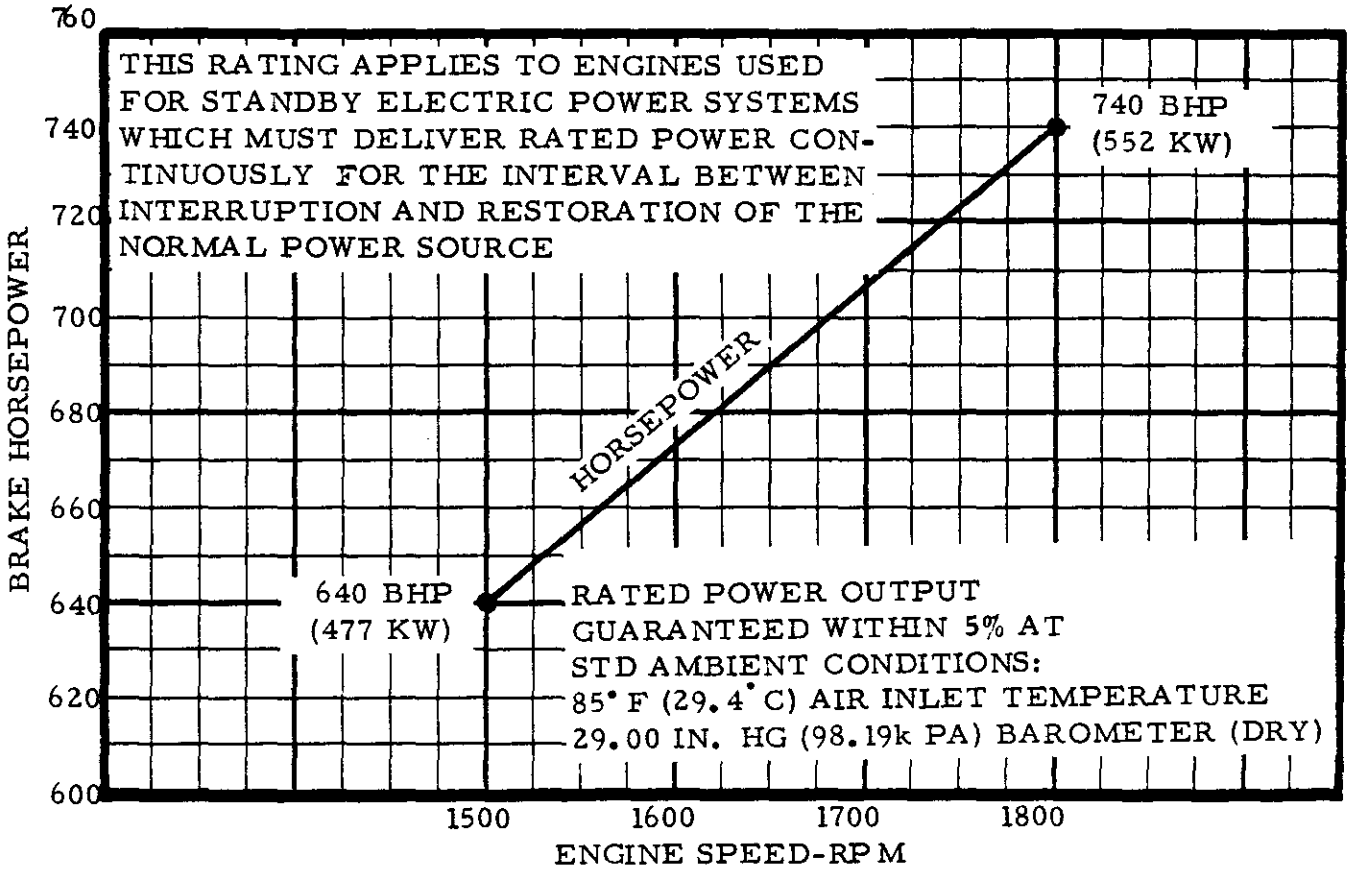
(Values Shown are at 1500/1800 RPM)

*Derived from best available information.

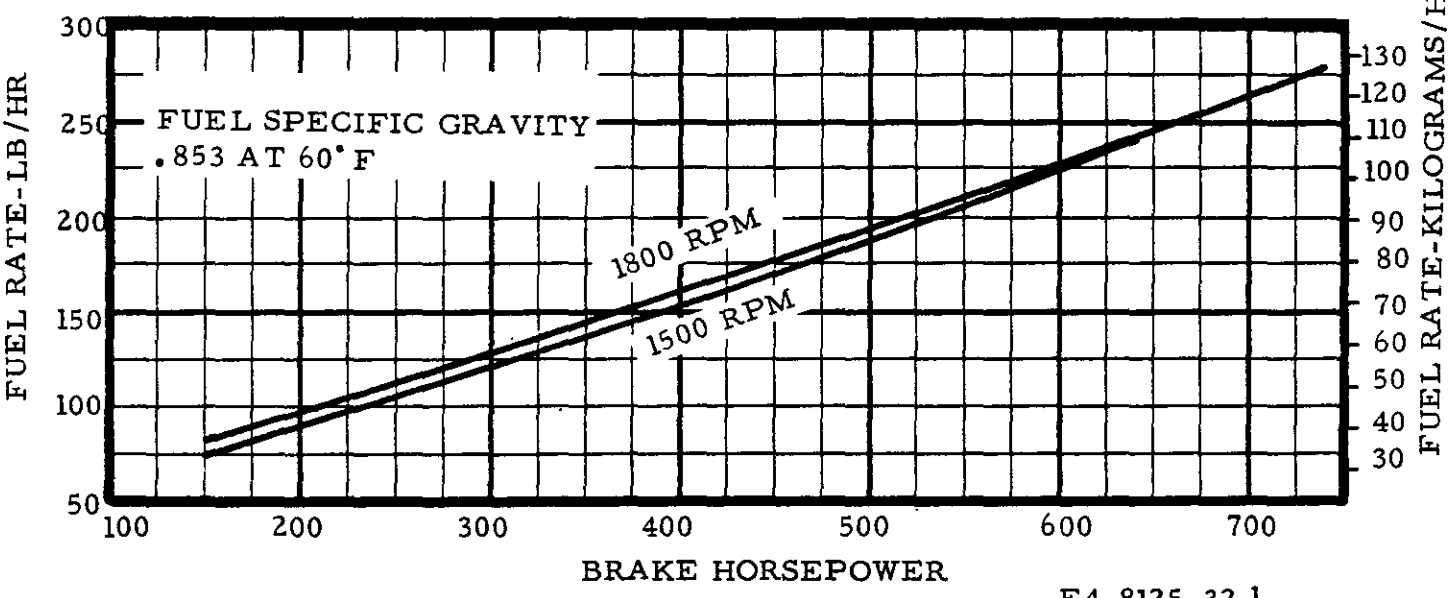
Detroit Diesel Allison
Division of General Motors Corporation

BASIC ENGINE PERFORMANCE

MODEL:	12V-92T
APPLICATION:	GENERATOR SET
INJECTOR:	9215 (1.460 Timing)
TURBOCHARGER:	TV8102(1.23A/R)
RATING:	STANDBY POWER



AVERAGE FUEL CONSUMPTION



E4-8125-32-1
9-25-80

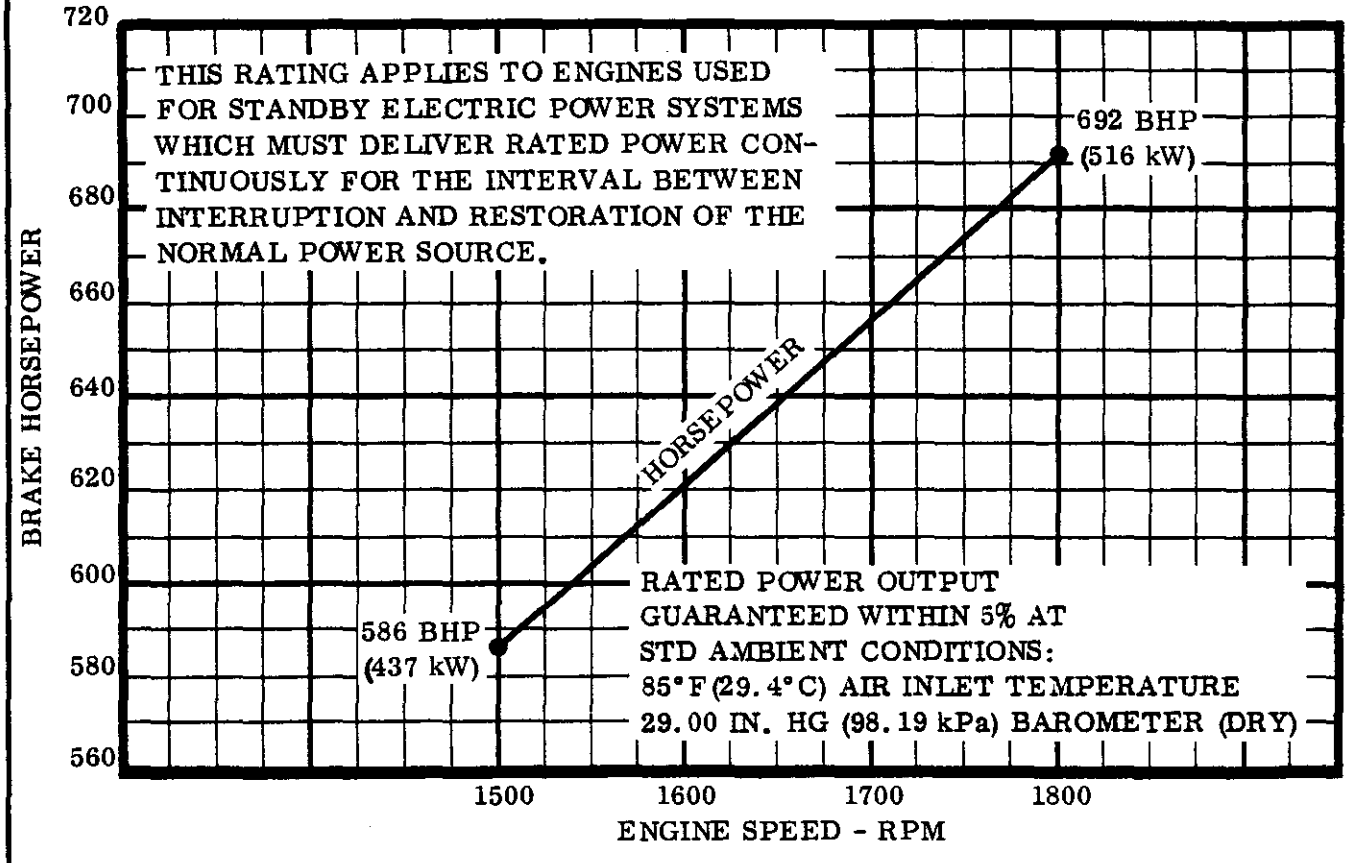
ENGINEERING-TECHNICAL DATA DEPT.

DE 4033

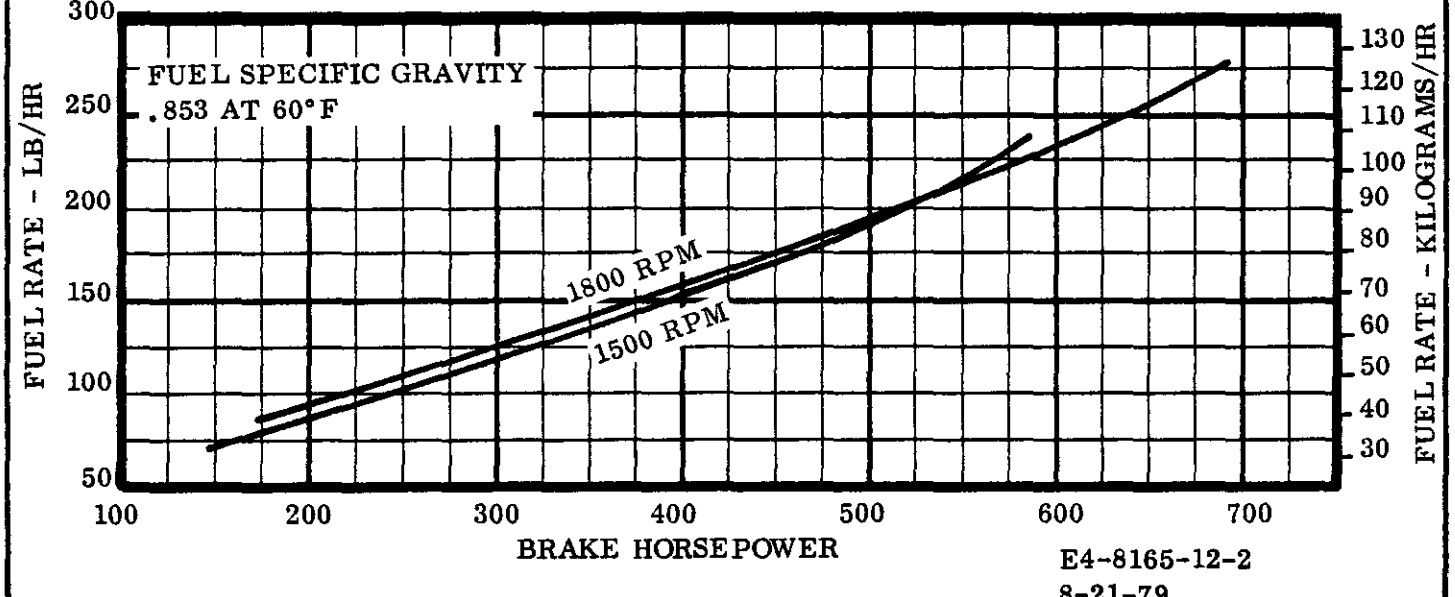
Detroit Diesel Allison
Division of General Motors Corporation

BASIC ENGINE PERFORMANCE

MODEL:	16V-92
APPLICATION:	GENERATOR SET
INJECTOR:	9285
RATING:	STANDBY POWER



AVERAGE FUEL CONSUMPTION



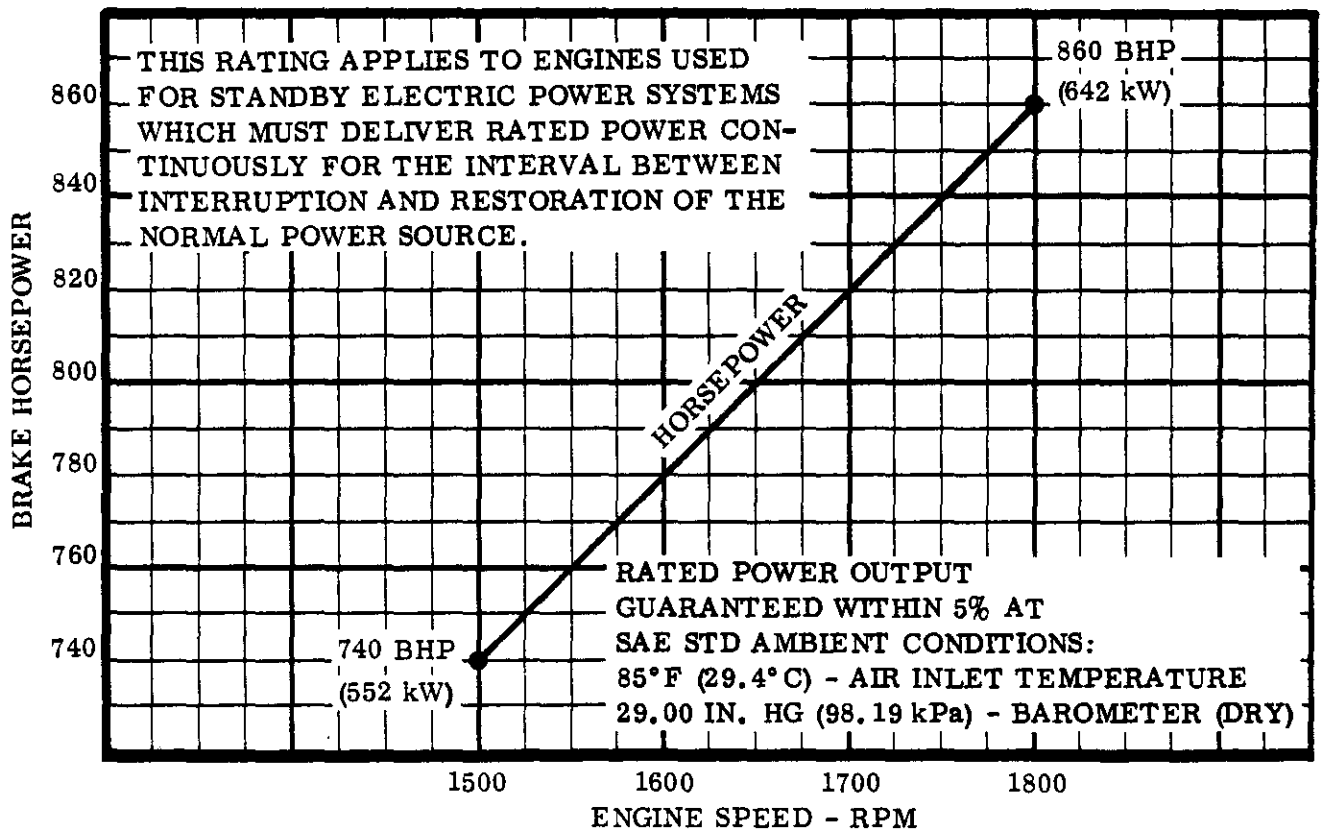
E4-8165-12-2
8-21-79

ENGINEERING-TECHNICAL DATA DEPT.

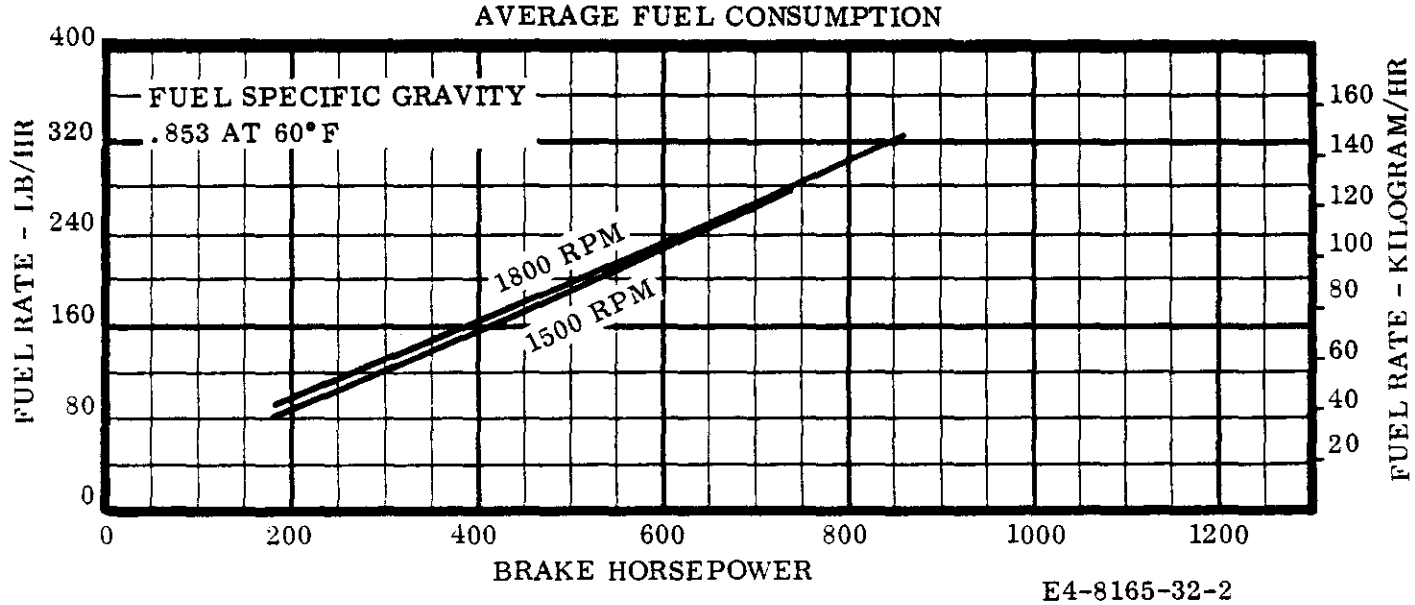
DE 4033

Detroit Diesel Allison
Division of General Motors Corporation

16V-92T
TV8101 (1.39 A/R HSG.) TURBOCHARGER
DIESEL ELECTRIC STANDBY POWER
WITHOUT FAN
9200 INJECTORS



AVERAGE FUEL CONSUMPTION



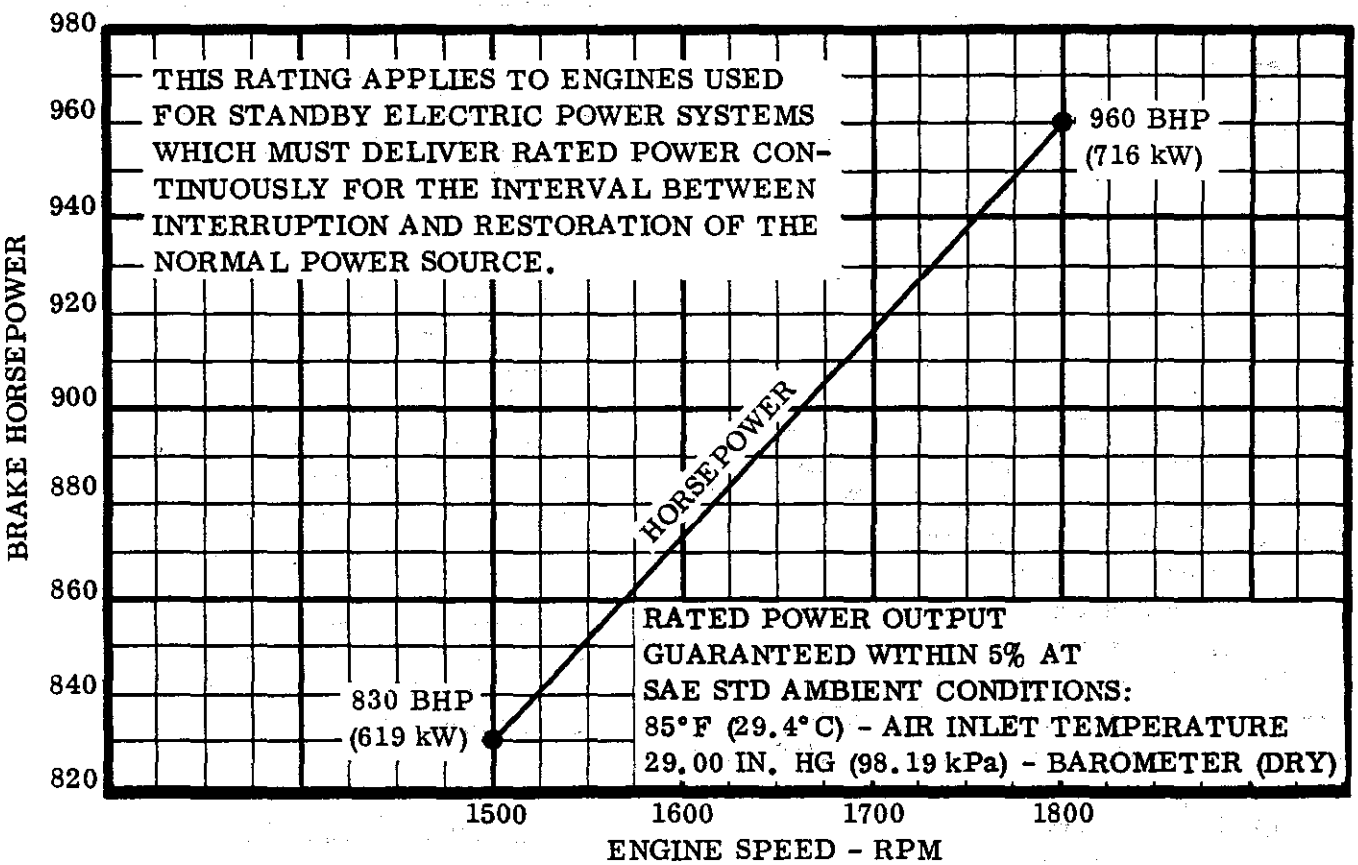
E4-8165-32-2
Rev. 7-15-77

ENGINEERING-TECHNICAL DATA DEPT.

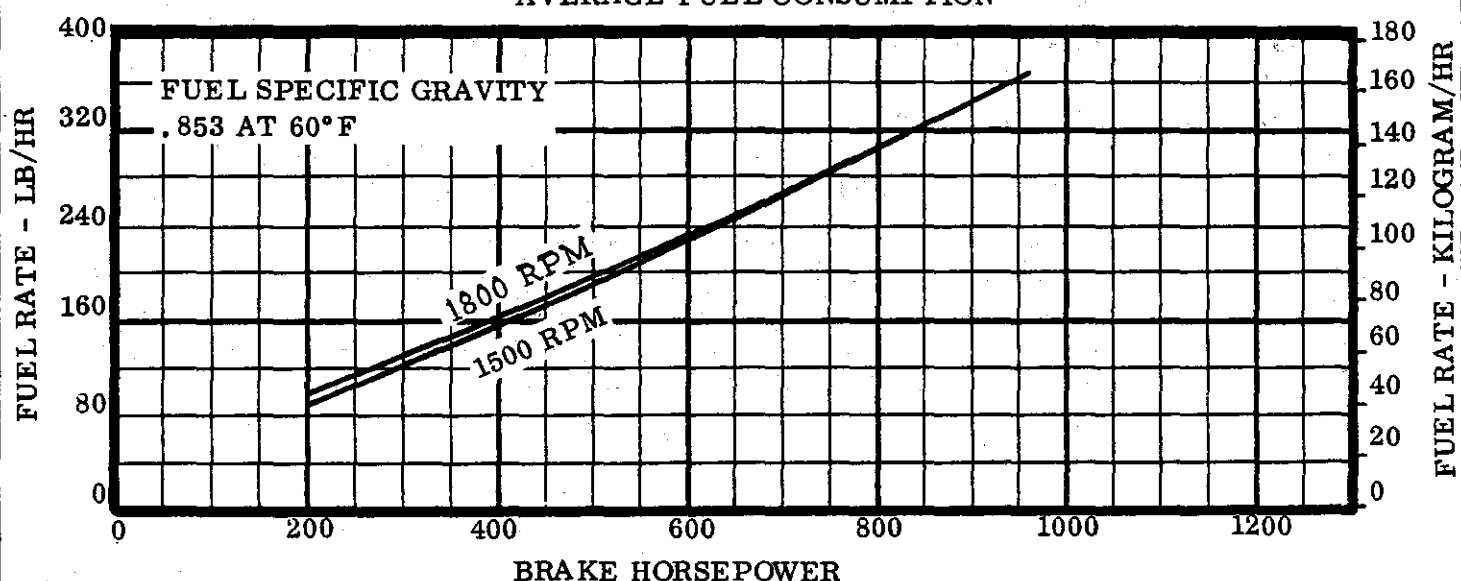
DE 4033

Detroit Diesel Allison
Division of General Motors Corporation

16V-92T
TV8101 (1.39 A/R) TURBOCHARGER
DIESEL ELECTRIC STANDBY POWER
WITHOUT FAN
9215 INJECTORS



AVERAGE FUEL CONSUMPTION



DE 4033

ENGINEERING-TECHNICAL DATA DEPT.

E4-8165-32-4
Rev. 7-16-80

General Engine Description:

Model	8163-7305	
Number of cylinders	8	
Bore and stroke - in. (mm)	4.84 x 5 (123 x 127)	
Displacement - in.^{3} (liters)	1472 (24.1)	
Compression ratio	17:1	
Firing order	1L-2R-8L-6R-2L-4R-6L-5R	
Clockwise rotation (RH)	4L-3R-5L-7R-3L-1R-7L-8R	
Dimensions & weight (approx.)		
Length - in. (mm)	140 (3556)	
Width - in. (mm)	63 (1600)	
Height - in. (mm)	83 (2108)	
Weight - lbs. (kg)	10100 (4581)	

Technical Engine Specifications:

Injector	9215	
Engine speed - RPM	1800	1500
Brake horsepower - BHP (kW)	960 (716)	830 (619)
BMEP - PSI (kPa)	143 (986)	149 (1027)
Peak torque LB FT (N·m) @ RPM -		
Fuel consumption - LB/HR (kg/HR)	369.2 (167.5)	319.4 (144.9)
Specific fuel cons. - LB/BHP HR (g/kW HR)	.385 (234)	.385 (234)
Fuel pump suction at pump inlet		
Maximum - in. Hg (kPa)		
Clean system	6 (20.3)	
Dirty system	12 (40.6)	
Airflow - CFM (m^3/min.)	2940 (83.3)	2490 (70.5)
Airbox pressure, Min. - in. Hg (kPa)	46.2 (156)	36.3 (122.6)
Air intake restriction, max. in. H_2O (kPa)		
(Dry type air cleaner)		
Full load - dirty	14.4 (3.6)	10.3 (2.6)
- clean	8.7 (2.2)	6.2 (1.5)
Exhaust temp. - °F (°C)	810 (432)	810 (432)
Exhaust flow - CFM (m^3/min.)	6850 (194.0)	5800 (164.3)
Exhaust back press., max. in Hg (kPa)		
Full load	2.0 (6.8)	1.4 (4.7)
Coolant flow - GPM (liter/min.)	287 (1086)	240 (908)
Coolant normal operating temp. °F (°C)	160-185 (71-85)	
Heat rejection - BTU/ Min. (W)	29760 (523200)	26560 (466900)
Coolant inlet restriction, max. - in. Hg (kPa)	3.0 (10.1)	2.0 (6.8)
Lubricating oil press. normal - psi (kPa)	50-70 (345-483)	46-66 (317-455)
Lubricating oil temp., in-pan °F (°C)	200-250 (93-121)	

Emissions* - GM/HR

	No Load	25% Load	50% Load	75% Load	Rated Load
NOx	430/550	1470/1680	4070/4590	6790/8690	9880/13280
CO	500/480	180/260	300/320	1360/500	4960/ 19120
HC	230/262	134/202	154/212	160/222	132/234

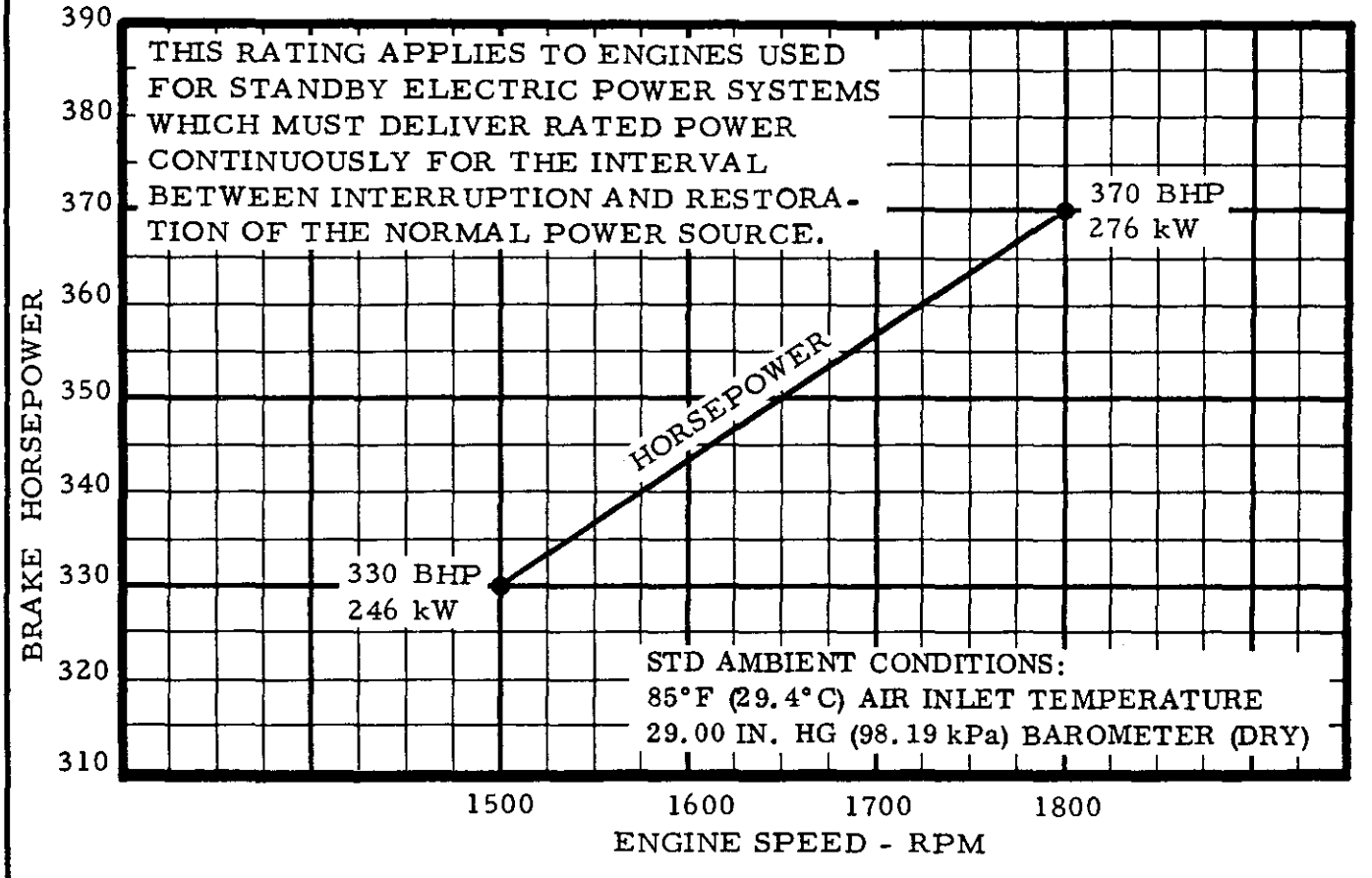
(Values Shown are at 1500/1800 RPM)

*Derived from best available information.

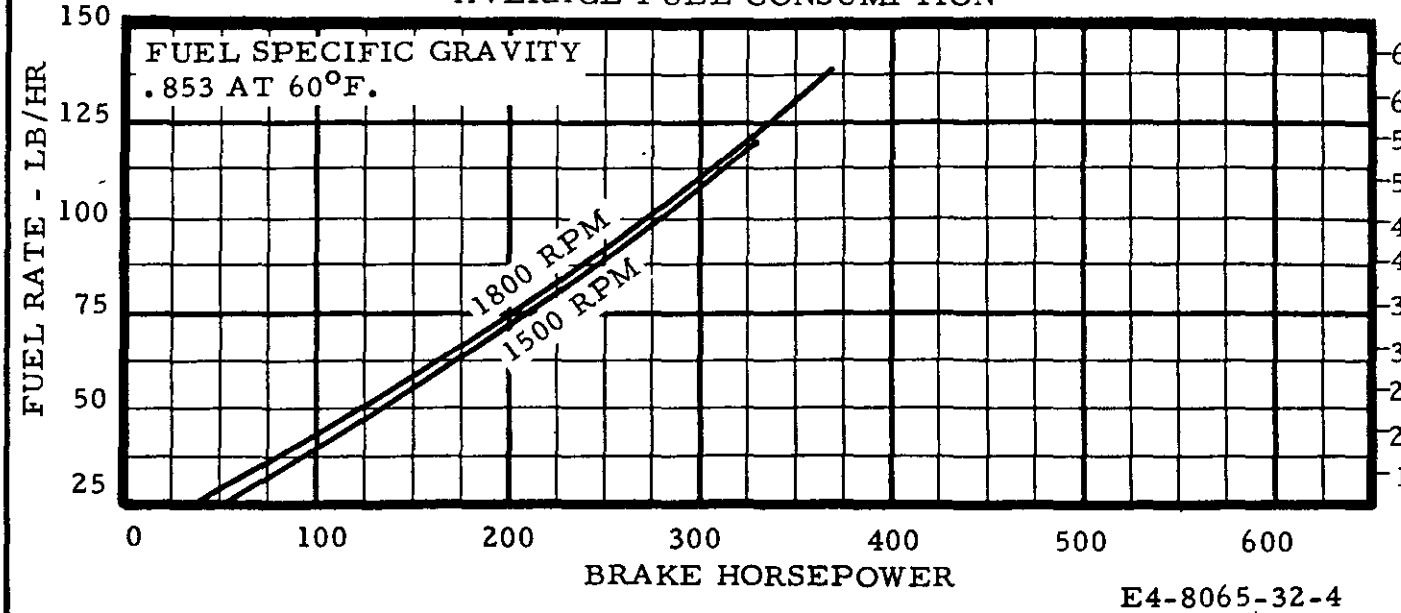
Detroit Diesel Allison
Division of General Motors Corporation

ESTIMATED BASIC ENGINE PERFORMANCE

MODEL:	6V-92TA
APPLICATION:	GENERATOR SET
INJECTOR:	9215
TURBOCHARGER:	TV71 (1.23 A/R)
RATING:	STANDBY POWER



AVERAGE FUEL CONSUMPTION



E4-8065-32-4
8-14-80

ENGINEERING-TECHNICAL DATA DEPT.

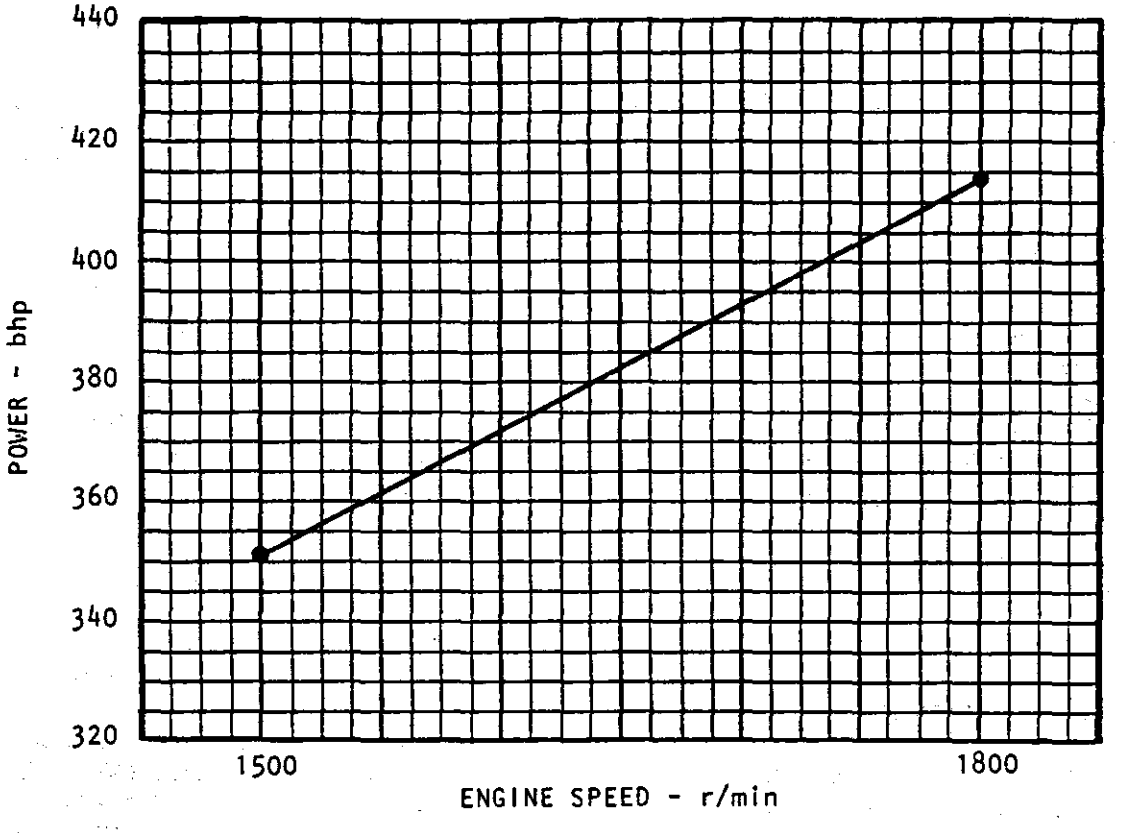
DE 4033

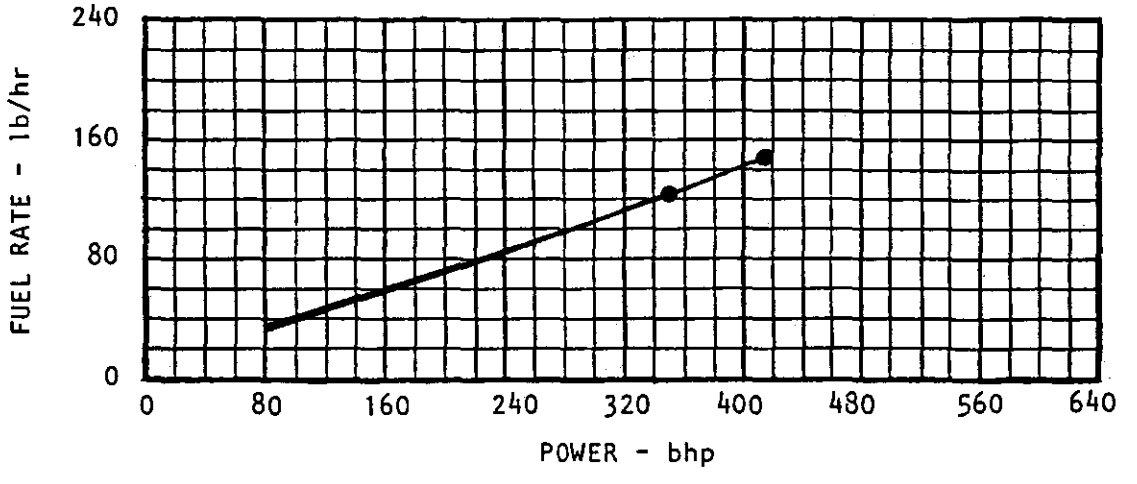
ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

APPLICATION: GENERATOR SET STANDBY

MODEL: 6V-92TA
415 bhp (310 KW) @ 1800 r/min
351 bhp (254 KW) @ 1500 r/min





AIR INTAKE RESTRICTION - in. H_2O (kPa) . . . 10 (2.5)
EXHAUST BACK PRESSURE - in. H_2O (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.
4-8065-32-8
DATE: 7-22-85
REV./DATE:
SHT. 1 OF 4

ENGINE SPECIFICATION DATA

General Engine Description

Model	8063-7405
Number of Cylinders	6
Bore and Stroke-in(mm)	4.84x5.00(123x127)
Displacement-in^3(L)	552(9.1)
Compression Ratio	17:1
Valves per Cylinder	
Intake	NOT APPLICABLE
Exhaust	4
Combustion System	DIRECT INJECTION
Engine Type	63.5° VEE - 2 CYCLE
Aspiration	TURBOCHARGED

Configuration

Turbocharger	TV7101(1.23 A/R)
Charge Air Cooling System	JWAC
Blower Type	BY-PASS
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_2O(kPa)	2.6(0.65)

Physical Data

Dimensions and Weight	
Length-in(mm)	102(2591)
Width-in(mm)	48(1219)
Height-in(mm)	63(1600)
Weight,dry-lb(kg)	5180(2350)
Center of Gravity Distance	
From R.F.O.B. (x axis)-in(mm)	NOT AVAILABLE
Above Crankshaft (y axis)-in(mm)	NOT AVAILABLE
Right of Crankshaft (z axis)-in(mm)	NOT AVAILABLE
Installation Drawing	NOT AVAILABLE
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. E4-8065-32-8
Date: 7-22-85
Rev./Date:

ENGINE SPECIFICATION DATA

	1800	1500
Fuel System		
Fuel Injector/Timing	9225/1.490	9225/1.490
Fuel Injection Pump/Timing	NOT APPLICABLE	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr)	149.3(67.7)	129.0(58.5)
Fuel Consumption-gal/hr(L/hr)	21.4(81.0)	18.5(70.0)
Fuel Spill Rate-lb/hr(kg/hr)	435(197)	368(167)
Fuel Spill Rate-gal/hr(L/hr)	62.3(236)	52.6(199)
Total Fuel Flow-lb/hr(kg/hr)	584(265)	497(225)
Total Fuel Flow-gal/hr(L/hr)	83.7(317)	71.1(269)
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
Lubrication System		
Oil Pressure - normal-lbf/in^2(kPa)	49-70(338-483)	49-70(338-483)
In Pan Oil Temperature-^{o}F(^{o}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)	20(19)	20(19)
Low-qt(L)	16(15)	16(15)
Total Engine Oil Capacity with Filters-qt(L)	22(21)	22(21)
Bypass Oil Filter Orifice-in(mm)	0.101(2.57)	0.101(2.57)
Engine Angularity Limits		
Front up - degrees	25	25
Front Down - degrees	15	15
Side tilt - degrees	NOT AVAILABLE	NOT AVAILABLE
Cooling System		
Engine Heat Rejection-Btu/min(kW)	11700(206)	10000(176)
Engine Radiated Heat-Btu/min(kW)	2100(36.9)	2010(35.3)
Coolant Flow-gal/min(L/min)	140(530)	117(443)
Thermostat - Start to Open-^{o}F(^{o}C)	177(81)	177(81)
Fully Open-^{o}F(^{o}C)	197(92)	197(92)
Maximum Water Pump Inlet Restriction-in Hg(kPa)	3.0(10.2)	2.0(6.7)
Engine Coolant Capacity-qt(L)	24.5(23.2)	24.5(23.2)
Minimum Pressure Cap-lbf/in^2(kPa)	9.0(62)	9.0(62)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in^2(kPa)	10.6(73.1)	7.6(52.4)
Maximum Allowable Cooling System Static Head W/Vented Cap-ft H_2O(kPa)	50(149)	50(149)
Maximum Top Tank Temperature-^{o}F(^{o}C)	210(99)	210(99)
Minimum Top Tank Temperature-^{o}F(^{o}C)	160(71)	160(71)
Min. Coolant Fill Rate-gal/min(L/min)	3.0(11.4)	3.0(11.4)
Cooling Index		
Minimum Air to Boil-^{o}F(^{o}C)	117(47)	117(47)
Maximum Air to Water Diff.-^{o}F(^{o}C)	95(53)	95(53)
Deaeration - Air Injection Capacity-ft^3/min(m^3/min)	0.6(.017)	0.6(.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. E4-8065-32-8
Date: 7-22-85
Rev./Date:

ENGINE SPECIFICATION DATA

	1800	1500
Air System		
Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C)	30(16.7)	30(16.7)
Air Intake Restriction Maximum Limit		
Dirty Air Cleaner-in H_2O(kPa)	14.4(3.6)	10.3(2.6)
Clean Air Cleaner-in H_2O(kPa)	8.7(2.2)	6.2(1.5)
Engine Air Flow - ft^3/min(m^3/min)	1050(29.7)	975(27.6)
Engine Air Box/Manifold Pressure-in Hg(kPa)	50.0(169)	43.4(147)
Recommended Intake Pipe Dia.-in(mm)	6.0(152)	6.0(152)
Exhaust System		
Exhaust Flow-ft^3/min(m^3/min)	2470(70.0)	2220(62.9)
Exhaust Temperature-°F(°C)	805(430)	760(405)
Maximum Allowable Back Pressure-in Hg(kPa)	2.0(6.8)	1.4(4.7)
Recommended Exhaust Pipe Diameter		
Single-in(mm)	5.0(127)	5.0(127)
Dual-in(mm)	NOT APPLICABLE	NOT APPLICABLE
Performance		
Power Output-bhp(kW)	415(310)	351(262)
Full Load Speed-r/min	1800	1500
BMEP-lbf/in^2(kPa)	165(1138)	168(1158)
Piston Speed-ft/min(m^3/min)	1500(457)	1250(381)
Friction Power-bhp(kW)	60(45)	44(33)
Altitude Capability-ft(m)	10000(3050)	10000(3050)
Noise - dB(A) @ 1m	NOT AVAILABLE	NOT AVAILABLE
Smoke - Bosch Number	1.2	1.4
Part Load Fuel Consumption		
Fuel-lb/hr(kg/hr) - 0% Power	XX.X(X.X)	XX.X(X.X)
25% Power	43.1(19.6)	35.4(16.1)
50% Power	75.1(34.1)	63.0(28.6)
75% Power	108.2(49.1)	90.7(41.1)
100% Power	149.3(67.7)	129.0(58.5)

Emissions - gm/hr (at percent load) - 1800 r/min

	0%	25%	50%	75%	100%
NO_x	XXX	490	1300	3200	4440
CO	XXX	155	265	470	2100
HC	XXX	65	78	64	38
SO_2	XXX	200	340	490	680

Emissions - gm/hr (at percent load) - 1500 r/min

	0%	25%	50%	75%	100%
NO_x	XXX	440	1120	2960	4270
CO	XXX	120	220	420	3160
HC	XXX	47	61	53	51
SO_2	XXX	160	290	410	590

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

Curve No. E4-8065-32-8
Date: 7-22-85
Rev./Date:

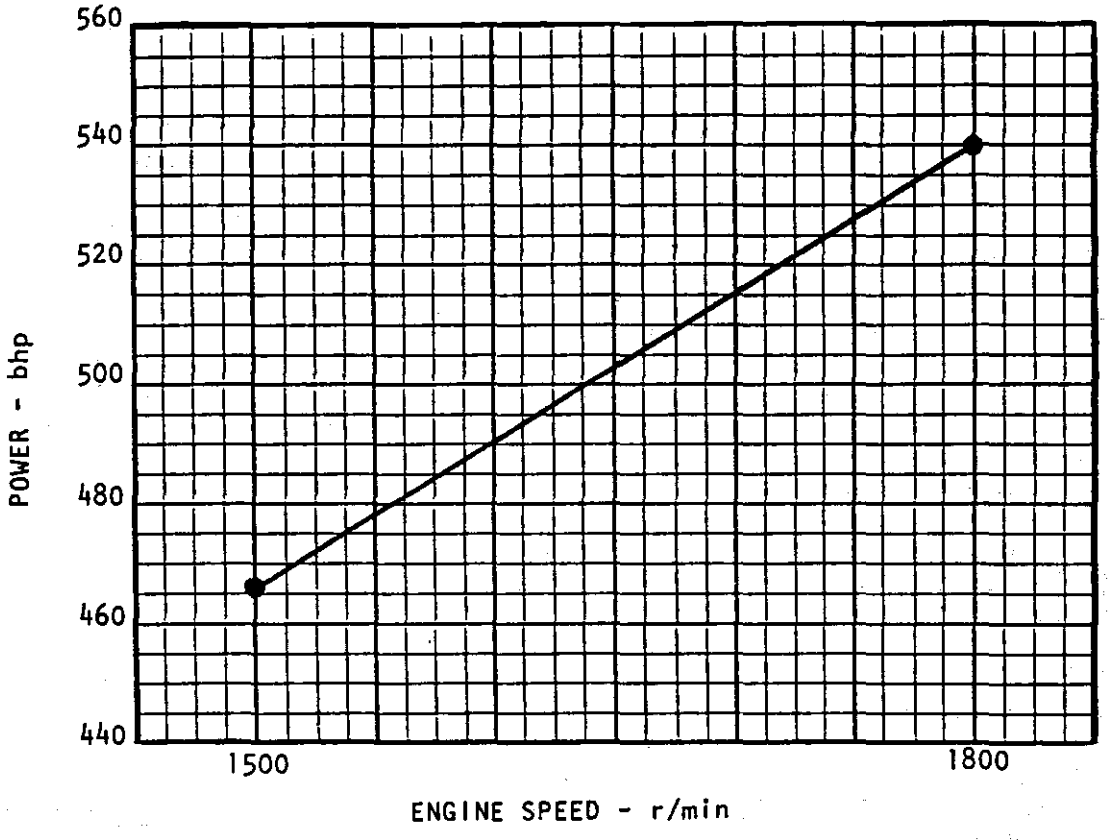
Detroit Diesel Allison | GM

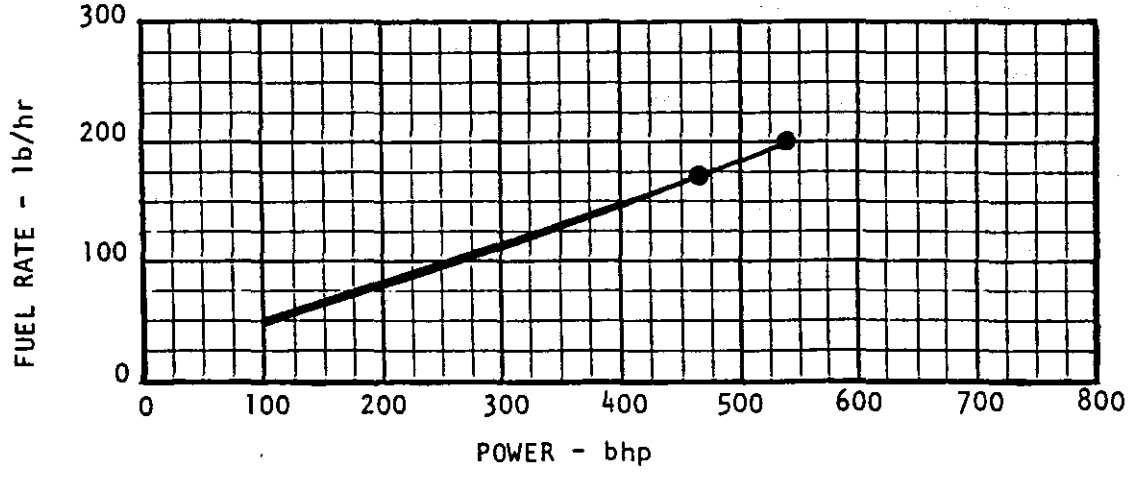
ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

APPLICATION: GENERATOR SET STANDBY

MODEL: 8V-92TA
540 bhp (403 kW) @ 1800 r/min
466 bhp (348 kW) @ 1500 r/min





AIR INTAKE RESTRICTION - in. H_2O (kPa) . . . 10 (2.5)
EXHAUST BACK PRESSURE - in. H_2O (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.
E4-8085-32-7
DATE: 6-21-85
REV./DATE:
SHT. 1 OF 4

ENGINE SPECIFICATION DATA

General Engine Description

Model	8083-7405
Number of Cylinders	8
Bore and Stroke-in(mm)	4.84x5.00(123x127)
Displacement-in^3 (L)	736(12.1)
Compression Ratio	17:1
Valves per Cylinder	
Intake	NOT APPLICABLE
Exhaust	4
Combustion System	DIRECT INJECTION
Engine Type	63.5° VEE - 2 CYCLE
Aspiration	TURBOCHARGED

Configuration

Turbocharger	TV8301(1.39 A/R)
Charge Air Cooling System	JWAC
Blower Type	BY-PASS
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_2O(kPa)	2.6(0.65)

Physical Data

Dimensions and Weight	
Length-in(mm)	108(2743)
Width-in(mm)	48(1219)
Height-in(mm)	64(1626)
Weight,dry-lb(kg)	6220(2821)
Center of Gravity Distance	
From R.F.O.B. (x axis)-in(mm)	NOT AVAILABLE
Above Crankshaft (y axis)-in(mm)	NOT AVAILABLE
Right of Crankshaft (z axis)-in(mm)	NOT AVAILABLE
Installation Drawing	NOT AVAILABLE
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. E4-8085-32-7
Date: 6-21-85
Rev./Date:

ENGINE SPECIFICATION DATA

	1800	1500
Fuel System		
Fuel Injector/Timing	9225/1.490	9225/1.490
Fuel Injection Pump/Timing	NOT APPLICABLE	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr)	199.0(90.3)	172.0(78.0)
Fuel Consumption-gal/hr(L/hr)	28.5(107.9)	24.6(93.1)
Fuel Spill Rate-lb/hr(kg/hr)	426(193)	426(193)
Fuel Spill Rate-gal/hr(L/hr)	60.6(229)	60.8(231)
Total Fuel Flow-lb/hr(kg/hr)	625(284)	598(271)
Total Fuel Flow-gal/hr(L/hr)	89.1(337)	85.5(324)
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
Lubrication System		
Oil Pressure - normal-lbf/in^2(kPa)	49-70(338-483)	49-70(338-483)
In Pan Oil Temperature-$^{\circ}$F($^{\circ}$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)	23(22)	23(22)
Low-qt(L)	17(16)	17(16)
Total Engine Oil Capacity with Filters-qt(L)	25(24)	25(24)
Bypass Oil Filter Orifice-in(mm)	0.101(2.57)	0.101(2.57)
Engine Angularity Limits		
Front up - degrees	17	17
Front Down - degrees	17	17
Side tilt - degrees	NOT AVAILABLE	NOT AVAILABLE
Cooling System		
Engine Heat Rejection-Btu/min(kW)	15450(272)	12500(220)
Engine Radiated Heat-Btu/min(kW)	2800(49.2)	2630(46.2)
Coolant Flow-gal/min(L/min)	160(606)	133(503)
Thermostat - Start to Open-$^{\circ}$F($^{\circ}$C)	177(81)	177(81)
Fully Open-$^{\circ}$F($^{\circ}$C)	197(92)	197(92)
Maximum Water Pump Inlet Restriction-in Hg(kPa)	3.0(10.2)	2.0(6.7)
Engine Coolant Capacity-qt(L)	29(27)	29(27)
Minimum Pressure Cap-lbf/in^2(kPa)	9.0(62)	9.0(62)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in^2(kPa)	11.4(78.6)	8.2(56.5)
Maximum Allowable Cooling System Static Head W/Vented Cap-ft H_2O(kPa)	50(149)	50(149)
Maximum Top Tank Temperature-$^{\circ}$F($^{\circ}$C)	210(99)	210(99)
Minimum Top Tank Temperature-$^{\circ}$F($^{\circ}$C)	160(71)	160(71)
Min. Coolant Fill Rate-gal/min(L/min)	3.0(11.4)	3.0(11.4)
Cooling Index		
Minimum Air to Boil-$^{\circ}$F($^{\circ}$C)	117(47)	117(47)
Maximum Air to Water Diff.-$^{\circ}$F($^{\circ}$C)	95(53)	95(53)
Deaeration - Air Injection Capacity-ft^3/min(m^3/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. E4-8085-32-7
Date: 6-21-85
Rev./Date:
Sht. 3 of 4

ENGINE SPECIFICATION DATA

	1800	1500
Air System		
Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet) - °F(°C)	30(16.7)	30(16.7)
Air Intake Restriction Maximum Limit		
Dirty Air Cleaner-in H_2O(kPa)	14.4(3.6)	10.3(2.6)
Clean Air Cleaner-in H_2O(kPa)	8.7(2.2)	6.2(1.5)
Engine Air Flow - $ft^3/min(m^3/min)$	1350(38.2)	1245(35.3)
Engine Air Box/Manifold Pressure-in Hg(kPa)	49.7(168)	41.6(140)
Recommended Intake Pipe Dia.-in(mm)	6.0(152)	6.0(152)
Exhaust System		
Exhaust Flow-$ft^3/min(m^3/min)$	3230(91.5)	2960(83.8)
Exhaust Temperature-°F(°C)	825(441)	815(435)
Maximum Allowable Back Pressure-in Hg(kPa)	2.0(6.8)	1.4(4.7)
Recommended Exhaust Pipe Diameter		
Single-in(mm)	6.0(152)	6.0(152)
Dual-in(mm)	NOT APPLICABLE	NOT APPLICABLE
Performance		
Power Output-bhp(kW)	540(403)	466(348)
Full Load Speed-r/min	1800	1500
BMEP-lbf/in^2(kPa)	161(1110)	167(1151)
Piston Speed-$ft/min(m^3/min)$	1500(457)	1250(381)
Friction Power-bhp(kW)	79(59)	56(42)
Altitude Capability-ft(m)	10000(3050)	10000(3050)
Noise - dB(A) @ 1m	NOT AVAILABLE	NOT AVAILABLE
Smoke - Bosch Number	1.9	2.1
Part Load Fuel Consumption		
Fuel-lb/hr(kg/hr) - 0% Power	XX.X(X.X)	XX.X(X.X)
25% Power	60.0(27.2)	51.2(23.2)
50% Power	103.5(46.9)	89.4(40.6)
75% Power	149.0(67.6)	128.7(58.4)
100% Power	199.0(90.3)	172.0(78.0)

Emissions - gm/hr (at percent load) - 1800 r/min

	0%	25%	50%	75%	100%
NO_x	XXX	1050	2305	4765	5900
CO	XXX	200	300	735	1875
HC	XXX	141	171	187	155
SO_2	XXX	270	470	675	905

Emissions - gm/hr (at percent load) - 1500 r/min

	0%	25%	50%	75%	100%
NO_x	XXX	790	1705	3500	4675
CO	XXX	155	350	960	2800
HC	XXX	121	128	113	91
SO_2	XXX	232	406	584	780

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

Curve No. E4-8085-32-7
Date: 6-21-85
Rev./Date:

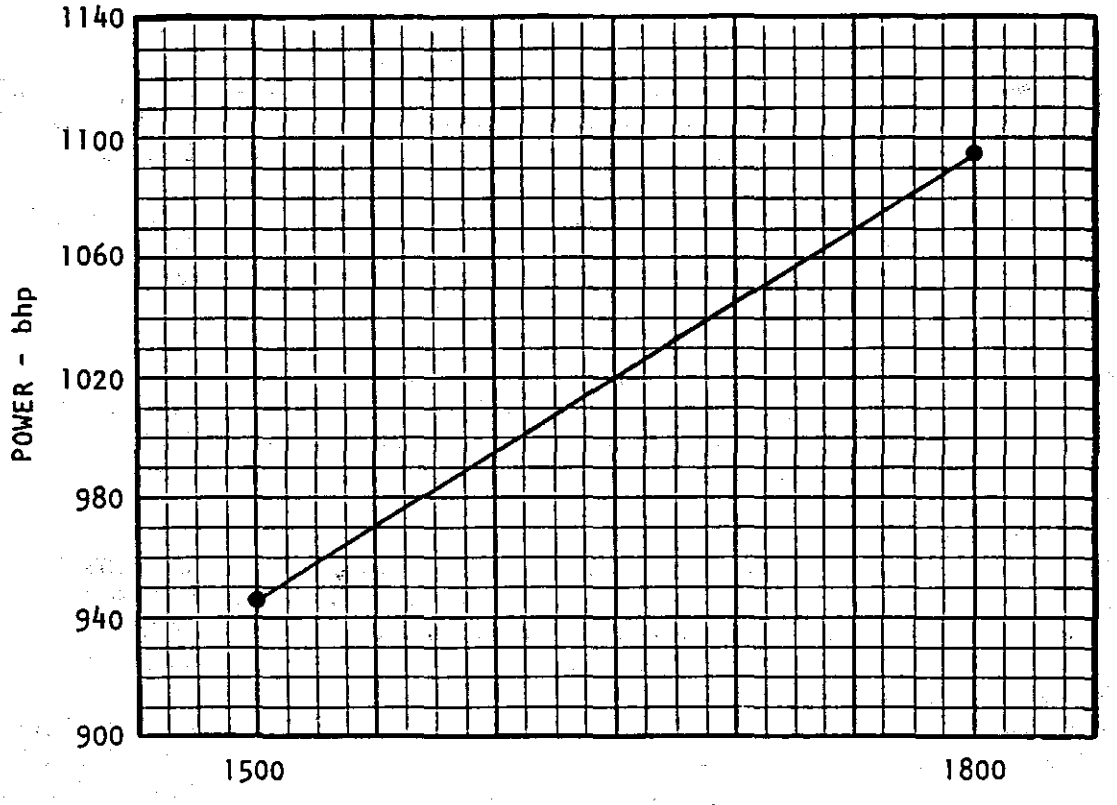
Detroit Diesel Allison | GM

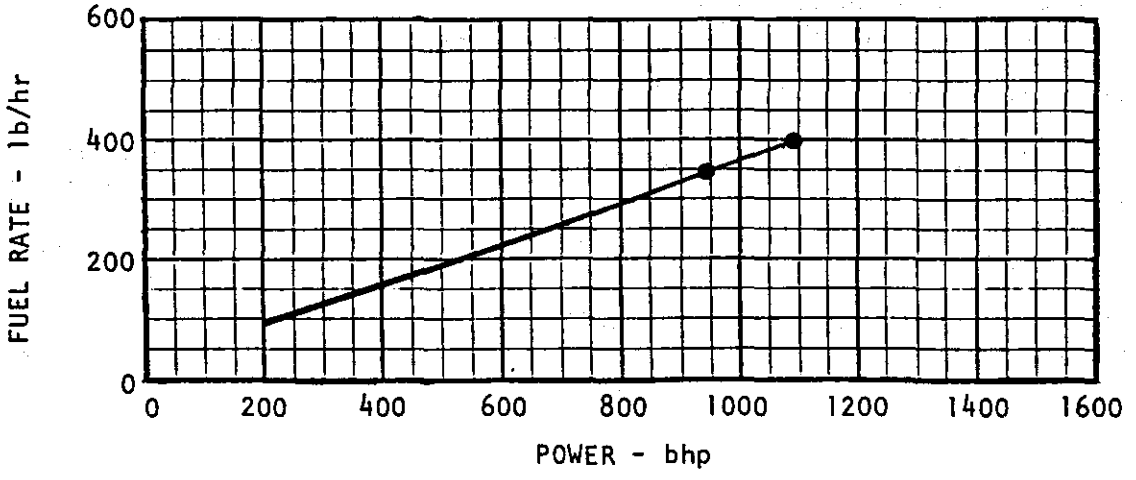
ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

APPLICATION: GENERATOR SET STANDBY

MODEL: 16V-92TA
1095 bhp (817 kw) @ 1800 r/min
946 bhp (706 kw) @ 1500 r/min





AIR INTAKE RESTRICTION - in. H_2O (kPa) . . . 10 (2.5)
EXHAUST BACK PRESSURE - in. H_2O (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.
E4-8165-32-8
DATE: 6-18-85
REV./DATE:
SHT. 1 OF 4

ENGINE SPECIFICATION DATA

General Engine Description

Model	8163-7405
Number of Cylinders	16
Bore and Stroke-in(mm)	4.84x5.00(123x127)
Displacement-in^3(L)	1472(24.1)
Compression Ratio	17:1
Valves per Cylinder	
Intake	NOT APPLICABLE
Exhaust	4
Combustion System	DIRECT INJECTION
Engine Type	63.5° VEE - 2 CYCLE
Aspiration	TURBOCHARGED

Configuration

Turbocharger	TV8301(1.39 A/R)
Charge Air Cooling System	JWAC
Blower Type	BY-PASS
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_2O(kPa)	2.6(0.65)

Physical Data

Dimensions and Weight	
Length-in(mm)	159(4039)
Width-in(mm)	63(1600)
Height-in(mm)	80(2032)
Weight,dry-lb(kg)	11180(5071)
Center of Gravity Distance	
From R.F.O.B. (x axis)-in(mm)	NOT AVAILABLE
Above Crankshaft (y axis)-in(mm)	NOT AVAILABLE
Right of Crankshaft (z axis)-in(mm)	NOT AVAILABLE
Installation Drawing	NOT AVAILABLE
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/STARTER
Below 32°F(0°C)-A	1250/STARTER
Max. Allowable Resistance of Starting Circuit	
12 Volt System - ohm	NOT APPLICABLE
24 Volt System - ohm	0.002/STARTER

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

Curve No. E4-8165-32-8
Date: 6-18-85
Rev./Date:

ENGINE SPECIFICATION DATA

	1800	1500
Fuel System		
Fuel Injector/Timing	9225/1.490	9225/1.490
Fuel Injection Pump/Timing	NOT APPLICABLE	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr)	398.1(180.6)	344.0(156.0)
Fuel Consumption-gal/hr(L/hr)	57.0(215.8)	49.2(186.2)
Fuel Spill Rate-lb/hr(kg/hr)	643(292)	552(250)
Fuel Spill Rate-gal/hr(L/hr)	92(348)	79(299)
Total Fuel Flow-lb/hr(kg/hr)	1041(472)	896(406)
Total Fuel Flow-gal/hr(L/hr)	149(564)	128(485)
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
Lubrication System		
Oil Pressure - normal-lbf/in^2(kPa)	49-70(338-483)	49-70(338-483)
In Pan Oil Temperature-°F(°C)	200-250(93-121)	200-250(93-121)
Oil Flow-gal/min(L/min)	75(284)	69(261)
Oil Pan Capacity - High-qt(L)	65(62)	65(62)
Low-qt(L)	55(52)	55(52)
Total Engine Oil Capacity with Filters-qt(L)	67(64)	67(64)
Bypass Oil Filter Orifice-in(mm)	0.125(3.18)	0.125(3.18)
Engine Angularity Limits		
Front up - degrees	20	20
Front Down - degrees	20	20
Side tilt - degrees	NOT AVAILABLE	NOT AVAILABLE
Cooling System		
Engine Heat Rejection-Btu/min(kW)	30900(543)	25000(440)
Engine Radiated Heat-Btu/min(kW)	5610(98.6)	5270(92.6)
Coolant Flow-gal/min(L/min)	287(1086)	240(908)
Thermostat - Start to Open-°F(°C)	177(81)	177(81)
Fully Open-°F(°C)	197(92)	197(92)
Maximum Water Pump Inlet Restriction-in Hg(kPa)	3.0(10.2)	2.0(6.7)
Engine Coolant Capacity-qt(L)	60(57)	60(57)
Minimum Pressure Cap-lbf/in^2(kPa)	9.0(62)	9.0(62)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in^2(kPa)	13(90)	9.5(66)
Maximum Allowable Cooling System Static Head W/Vented Cap-ft H_2O(kPa)	50(149)	50(149)
Maximum Top Tank Temperature-°F(°C)	210(99)	210(99)
Minimum Top Tank Temperature-°F(°C)	160(71)	160(71)
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)	117(47)
Maximum Air to Water Diff.-°F(°C)	95(53)	95(53)
Deaeration - Air Injection Capacity-ft^3/min(m^3/min)	1.6(0.045)	1.6(0.045)
Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever is Larger)-qt(L)	6.0(5.7)	6.0(5.7)

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

Curve No. E4-8165-32-8
Date: 6-18-85
Rev./Date:

ENGINE SPECIFICATION DATA

	1800	1500
Air System		
Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C)	30(16.7)	30(16.7)
Air Intake Restriction Maximum Limit		
Dirty Air Cleaner-in H_2O(kPa)	14.4(3.6)	10.3(2.6)
Clean Air Cleaner-in H_2O(kPa)	8.7(2.2)	6.2(1.5)
Engine Air Flow - $ft^3/min(m^3/min)$	2700(76.5)	2490(70.5)
Engine Air Box/Manifold Pressure-in Hg(kPa)	49.7(168)	41.6(140)
Recommended Intake Pipe Dia.-in(mm)	10.0(254)	10.0(254)
Exhaust System		
Exhaust Flow-$ft^3/min(m^3/min)$	6460(183)	5910(167)
Exhaust Temperature-°F(°C)	825(441)	815(435)
Maximum Allowable Back Pressure-in Hg(kPa)	2.0(6.8)	1.4(4.7)
Recommended Exhaust Pipe Diameter		
Single-in(mm)	10.0(254)	10.0(254)
Dual-in(mm)	8.0(203)	8.0(203)
Performance		
Power Output-bhp(kW)	1095(817)	946(706)
Full Load Speed-r/min	1800	1500
BMEP-lbf/in^2(kPa)	164(1131)	170(1172)
Piston Speed-ft/min(m^3/min)	1500(457)	1250(381)
Friction Power-bhp(kW)	154(115)	108(81)
Altitude Capability-ft(m)	10000(3050)	10000(3050)
Noise - dB(A) @ 1m	NOT AVAILABLE	NOT AVAILABLE
Smoke - Bosch Number	1.9	2.1
Part Load Fuel Consumption		
Fuel-lb/hr(kg/hr) - 0% Power	XX.X(X.X)	XX.X(X.X)
25% Power	120.0(54.4)	102.4(46.4)
50% Power	206.9(93.8)	178.8(81.1)
75% Power	298.0(135.2)	257.4(116.8)
100% Power	398.1(180.6)	344.0(156.0)

Emissions - gm/hr (at percent load) - 1800 r/min

	0%	25%	50%	75%	100%
NO_x	XXX	2100	4610	9530	11800
CO	XXX	400	600	1470	3750
HC	XXX	282	342	273	310
SO_2	XXX	540	940	1350	1810

Emissions - gm/hr (at percent load) - 1500 r/min

	0%	25%	50%	75%	100%
NO_x	XXX	1580	3410	7000	9350
CO	XXX	310	700	1920	5600
HC	XXX	242	256	226	182
SO_2	XXX	464	811	1168	1560

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

Curve No. E4-8165-32-8
Date: 6-18-85
Rev./Date:

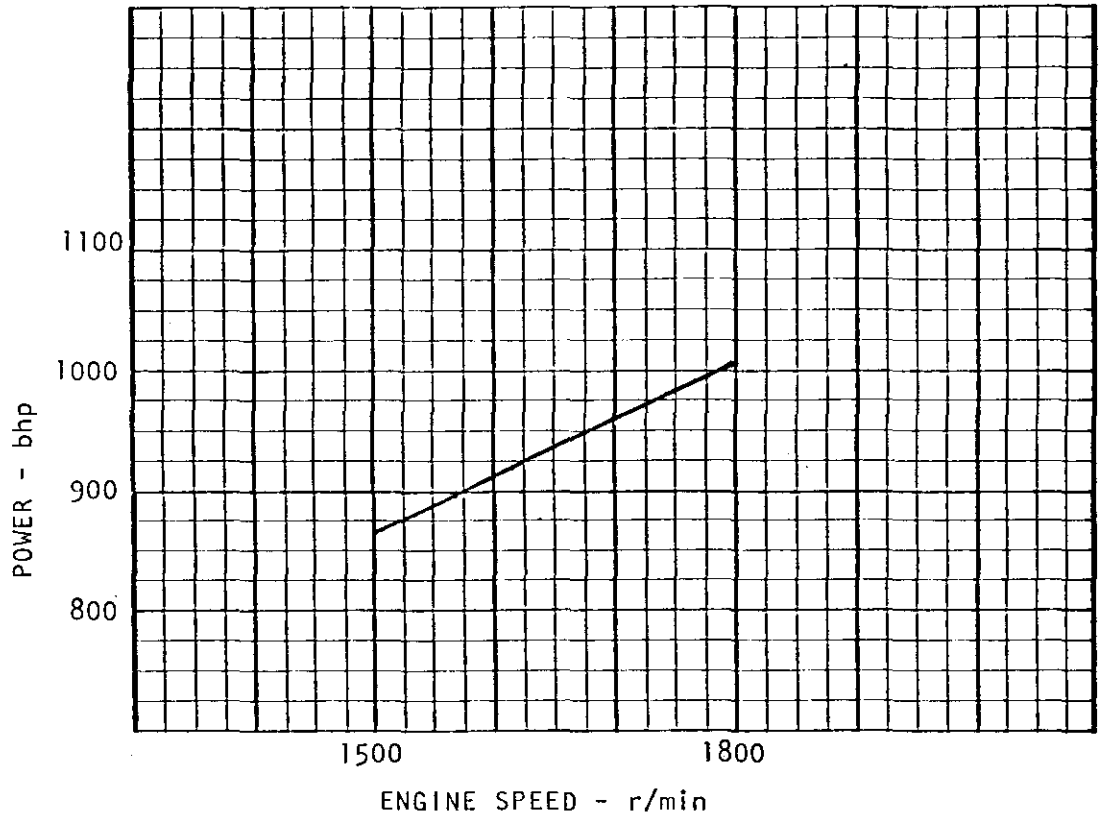
Detroit Diesel Allison

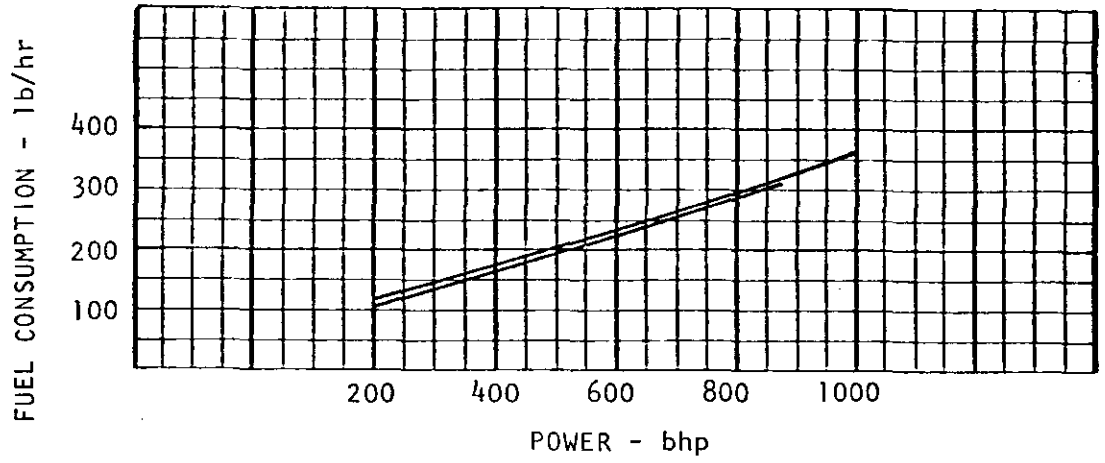
ENGINE PERFORMANCE CURVE

RATING: RATED POWER - BASIC ENGINE

APPLICATION: GENERATOR
STAND BY

MODEL: 8V-149TI
1010 bhp @ 1800 r/min
865 bhp @ 1500 r/min





AIR INTAKE RESTRICTION - in. H_2O (kPa) . . . 10 (2.5)
EXHAUST BACK PRESSURE - in. H_2O (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/kW·hr = lb/bhp·hr x 0.608
  TORQUE: N·m = lb·ft x 1.356
- VALUES DERIVED ARE FROM CURRENTLY AVAILABLE DATA AND SUBJECT TO CHANGE WITHOUT NOTICE.

CERTIFIED BY:
D L Graham
1-11-84
STAFF ENGINEER

CURVE NO.
E4-9085-32-1
DATE: 12-8-83
REV./DATE: 1/2-8-85
SHT. 1 OF 3

ENGINE SPECIFICATION

General Engine Description:	NEW AIR INDUCTION WITH BLOWER PRESSURE RELIEF VALVE
Model	9083-7316
Number of cylinders	8
Bore and stroke - in (mm)	5.75 x 5.75 (146 x 146)
Displacement - in^3 (litre)	1195 (19.6)
Compression ratio	16:1
Firing order - Clockwise rotation (RH)	1L-3R-3L-4R-4L-2R-2L-1R
Dimensions & weight (approx.)	
Length - in (mm)	64 (1626)
Width - in (mm)	64 (1626)
Height - in (mm)	68 (1727)
Weight - lbs (kg)	6000 (2722)

Technical Engine Specifications:	
Injector (timing)	270 (2.185) STANDBY
Turbocharger	TV8401 (1.23 A/R HSG)
Engine speed - r/min	1800
Brake horsepower - bhp (kW)	1010 (753)
Bmep - lb/in^2 (kPa)	186 (1285)
Fuel consumption - lb/hr (kg/hr)	368 (167)
Specific fuel cons. - lb/bhp hr (g/kW hr)	.364 (222)
Fuel pump suction at pump inlet	
Maximum - in Hg (kPa)	
Clean system	6.0 (20.3)
Dirty system	12.0 (40.6)
Airflow - ft^3/min (m^3/min)	2700 (76)
Airbox pressure - in Hg (kPa)	49.3 (166.5)
Air intake restriction, max. - in H_2O (kPa)	
(Dry type air cleaner)	
Full load - dirty	17.5 (4.4)
- clean	10.5 (2.6)
Exhaust temp. - °F (°C)	820 (438)
Exhaust flow - ft^3/min (m^3/min)	6170 (174.7)
Exhaust back press., max. - in Hg (kPa)	
Full load	2.5 (8.5)
Coolant flow - gal/min (litre/min)	265 (1002.9)
Coolant normal operating temp. - °F (°C)	180 (82.2)
Engine heat rejection - Btu/min (kW)	31610 (556)
Engine radiated heat - Btu/min (kW)	4000 (65)
Coolant inlet restriction, max. - in Hg (kPa)	3.0 (10.2)
Lubricating oil press., normal - lb/in^2 (kPa)	48-70 (331-483)
Lubricating oil temp., in-pan - °F (°C)	230 (110) MAX.

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

Curve No. E4-9085-32-1
Date: 12-8-83
Rev./Date: 1/2-8-85

ENGINE SPECIFICATION

General Engine Description:	NEW AIR INDUCTION WITH BLOWER PRESSURE RELIEF VALVE
Model	9083-7316
Number of cylinders	8
Bore and stroke - in (mm)	5.75 x 5.75 (146 x 146)
Displacement - in^3 (litre)	1195 (19.6)
Compression ratio	16:1
Firing order - Clockwise rotation (RH)	1L-3R-3L-4R-4L-2R-2L-1R
Dimensions & weight (approx.)	
Length - in (mm)	64 (1626)
Width - in (mm)	64 (1626)
Height - in (mm)	68 (1727)
Weight - lbs (kg)	6000 (2722)

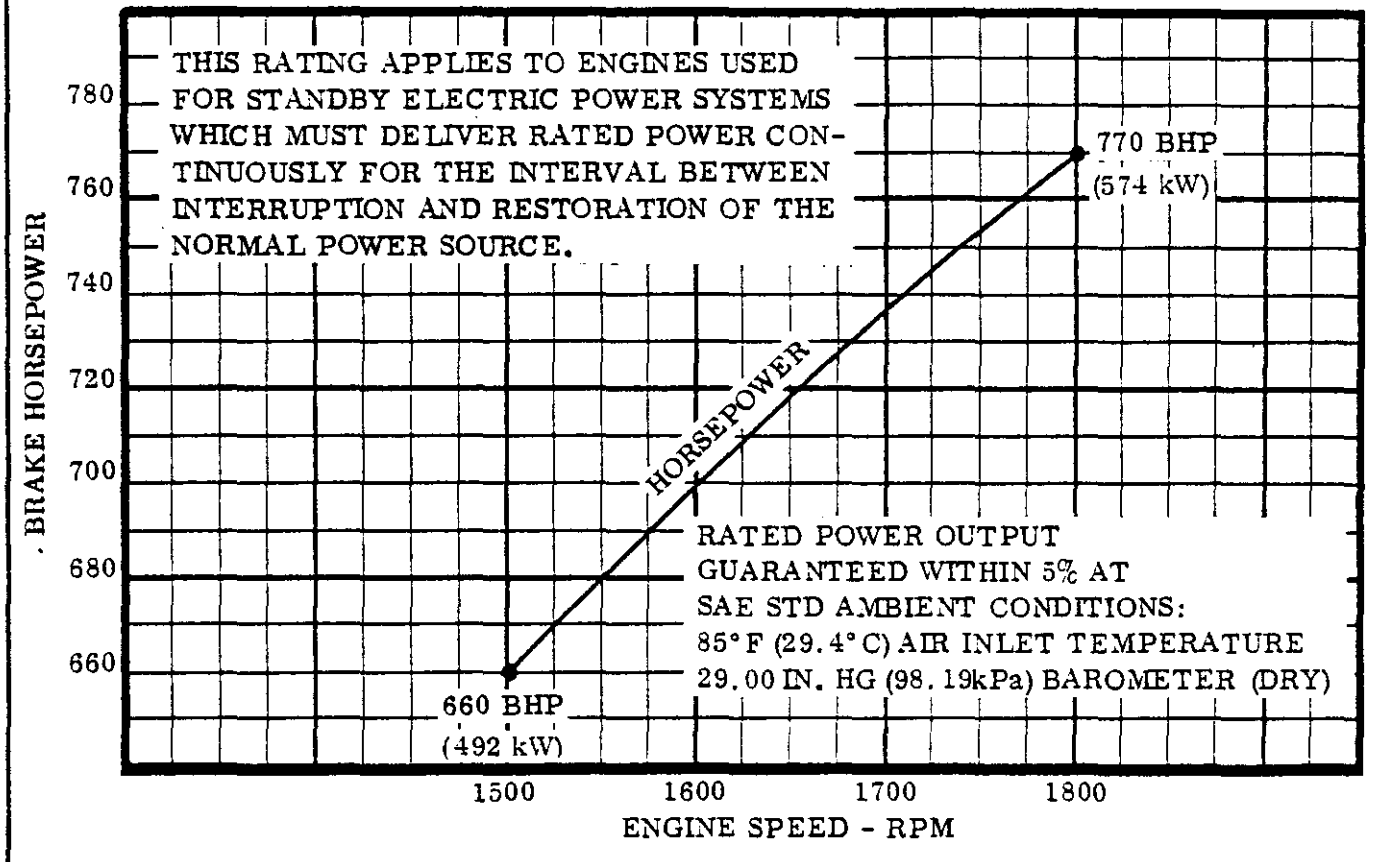
Technical Engine Specifications:	
Injector (timing)	270 (2.185) STANDBY
Turbocharger	TV8401 (1.23 A/R HSG)
Engine speed - r/min	1500
Brake horsepower - bhp (kW)	865 (645)
Bmep - lb/in^2 (kPa)	191 (1319)
Fuel consumption - lb/hr (kg/hr)	315 (143)
Specific fuel cons. - lb/bhp hr (g/kW hr)	.364 (222)
Fuel pump suction at pump inlet	
Maximum - in Hg (kPa)	
Clean system	6.0 (20.3)
Dirty system	12.0 (40.6)
Airflow - ft^3/min (m^3/min)	2500 (71)
Airbox pressure - in Hg (kPa)	42.5 (143.5)
Air intake restriction, max. - in H_2O (kPa)	
(Dry type air cleaner)	
Full load - dirty	13.0 (3.2)
- clean	7.5 (1.9)
Exhaust temp. - °F (°C)	770 (410)
Exhaust flow - ft^3/min (m^3/min)	5490 (155.4)
Exhaust back press., max. - in Hg (kPa)	
Full load	1.8 (6.1)
Coolant flow - gal/min (litre/min)	220 (833)
Coolant normal operating temp. - °F (°C)	180 (82.2)
Engine heat rejection - Btu/min (kW)	26820 (472)
Engine radiated heat - Btu/min (kW)	3900 (63)
Coolant inlet restriction, max. - in Hg (kPa)	2.0 (6.7)
Lubricating oil press., normal - lb/in^2 (kPa)	48-70 (331-483)
Lubricating oil temp., in-pan - °F (°C)	230 (110) MAX.

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

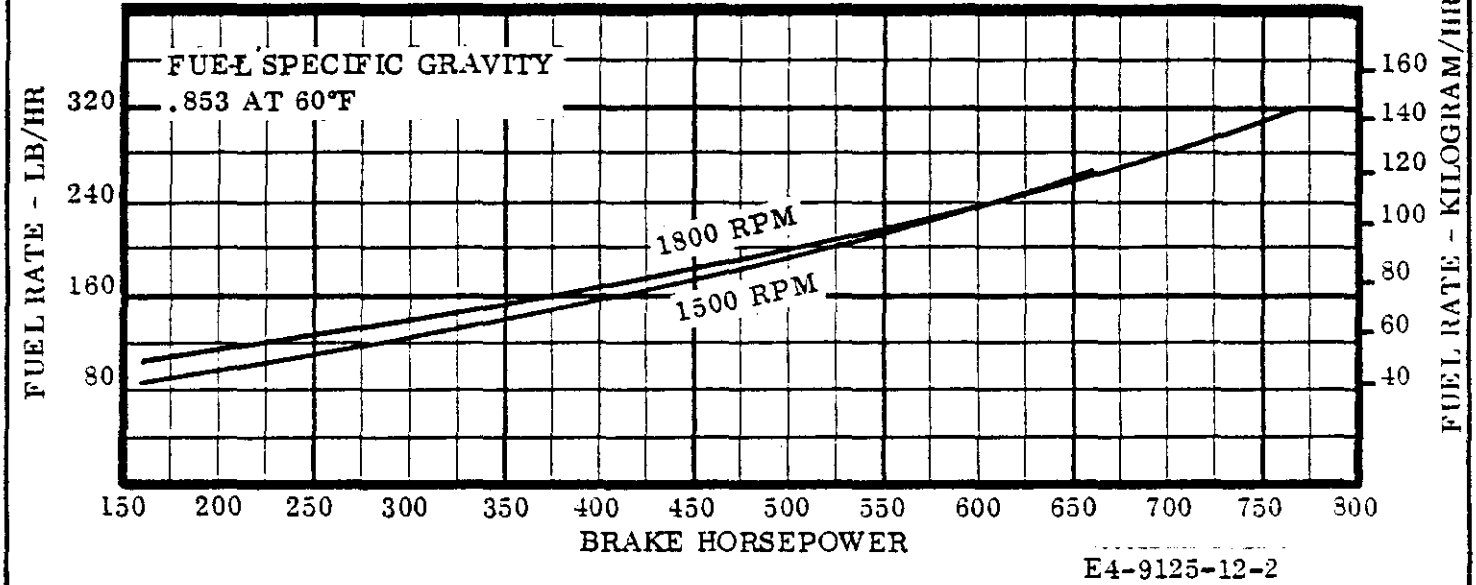
Curve No. E4-9085-32-1
Date: 12-8-83
Rev./Date: 1/2-8-85
Sht. 3 of 3

Detroit Diesel Allison
Division of General Motors Corporation

12V-149 ENGINE
DIESEL ELECTRIC STANDBY POWER
WITHOUT FAN
130 INJECTORS



AVERAGE FUEL CONSUMPTION



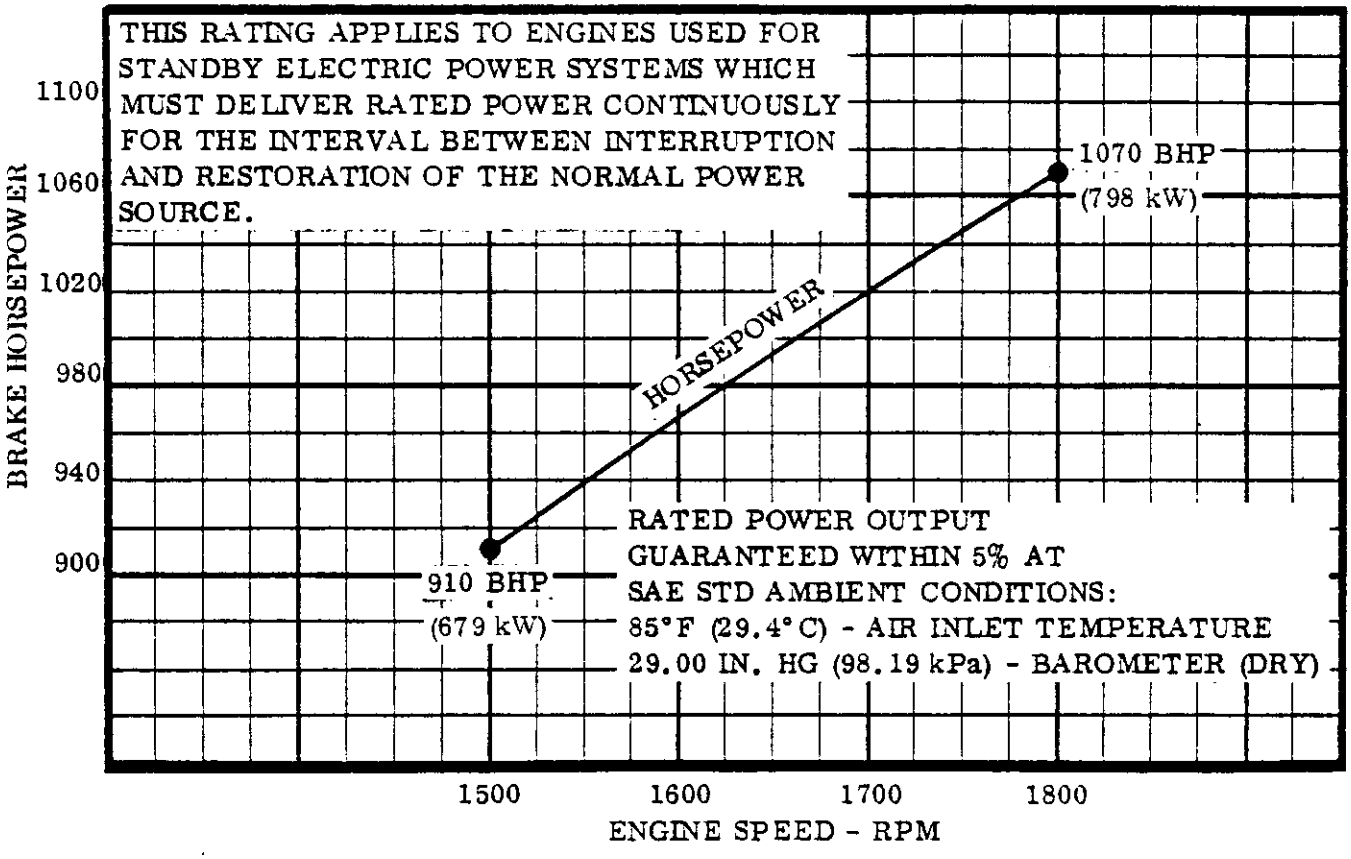
E4-9125-12-2
Rev. 7-15-77

ENGINEERING-TECHNICAL DATA DEPT.

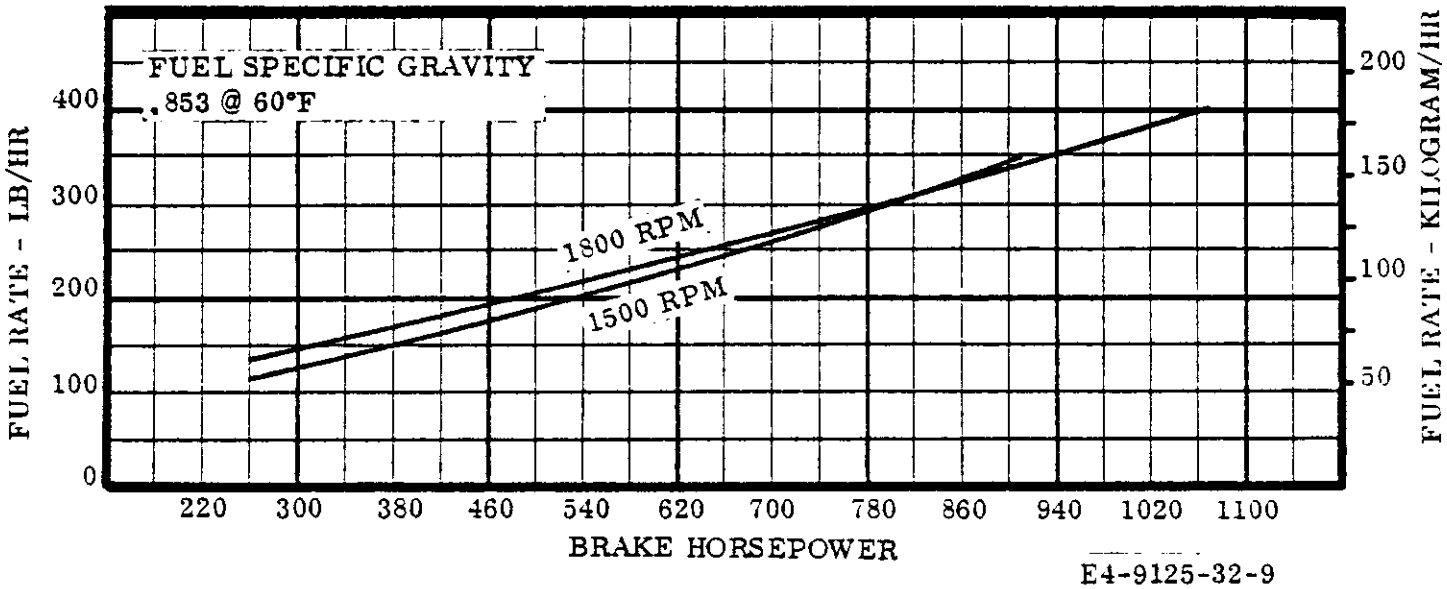
DE 4033

Detroit Diesel Allison
Division of General Motors Corporation

12V-149T ENGINE
DIESEL ELECTRIC STANDBY POWER
WITHOUT FAN
165 INJECTORS



AVERAGE FUEL CONSUMPTION



E4-9125-32-9
Rev. 7-15-77

ENGINEERING-TECHNICAL DATA DEPT.

DE 4033

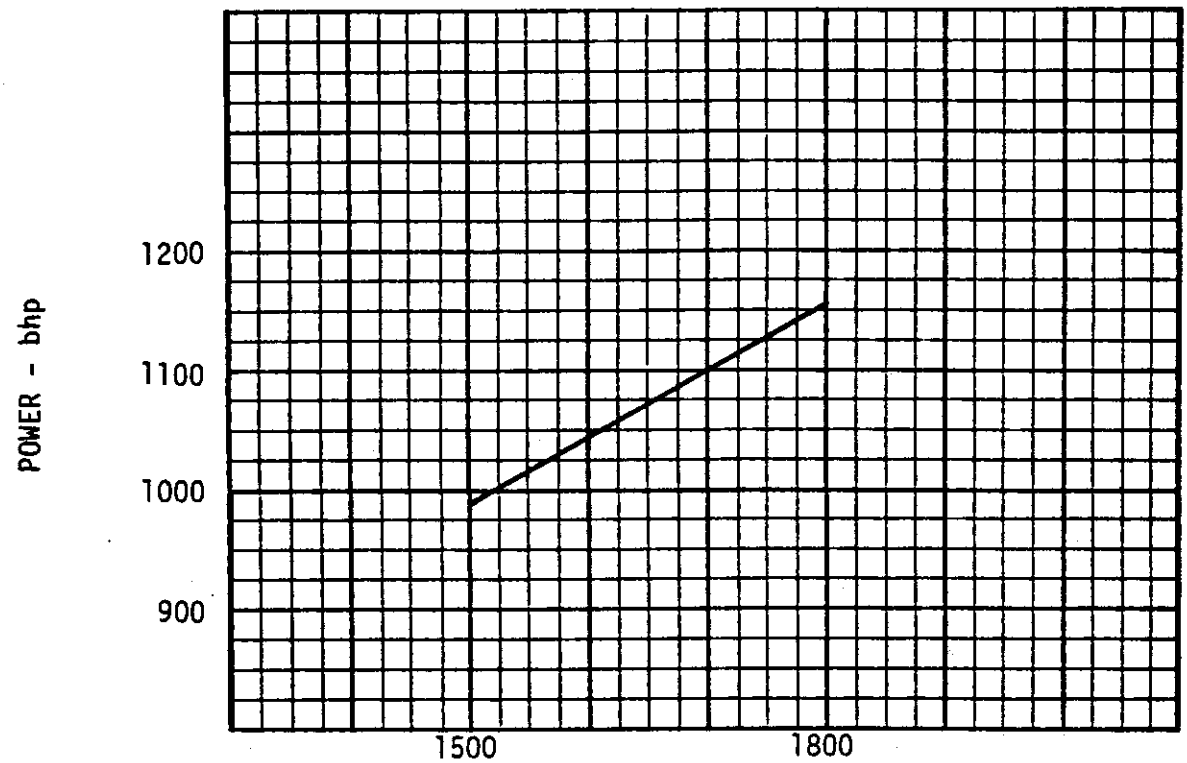
Detroit Diesel Allison

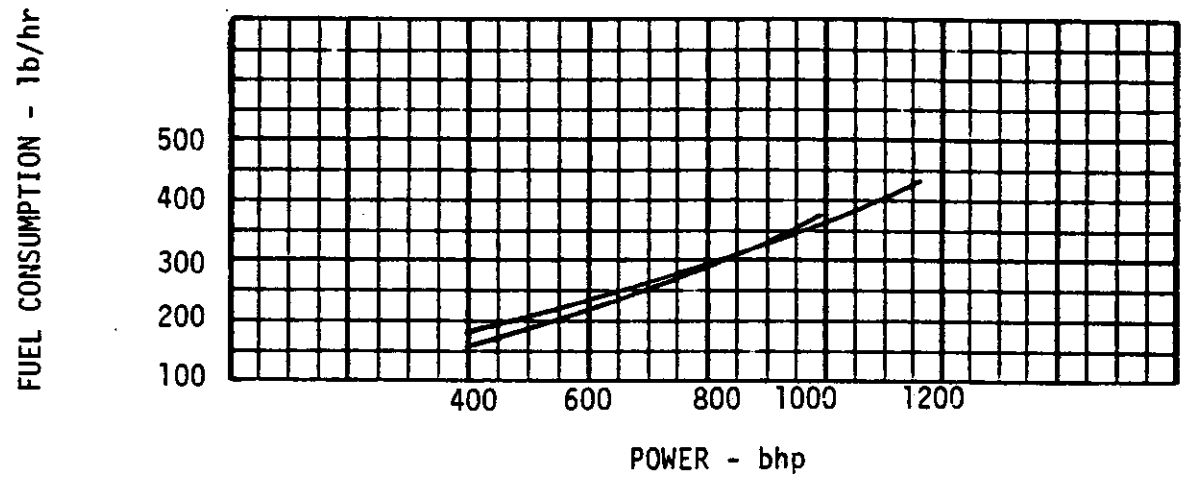
ENGINE PERFORMANCE CURVE

RATING: RATED POWER-BASIC ENGINE

APPLICATION: GENERATOR
STAND BY

MODEL: 12V-149T
1155 bhp @ 1800 r/min
995 bhp @ 1500 r/min





AIR INTAKE RESTRICTION - in. H_2O (mm H_2O) 10 (250)
EXHAUST RESTRICTION - in. H_2O (mm H_2O) 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 x 0.746
  FUEL: kg/kW·hr = lb/bhp·hr x 0.608
  TORQUE: N·m = lb-ft x 1.356
- VALUES DERIVED ARE FROM CURRENTLY AVAILABLE DATA AND SUBJECT TO CHANGE WITHOUT NOTICE.

CERTIFIED BY:
D.K. Graham
11-17-83
STAFF ENGINEER

CURVE NO.
E4-9125-32-34
DATE: 9-23-83
REV./DATE:
SHT. 1 OF 2

ENGINE SPECIFICATION

General Engine Description:

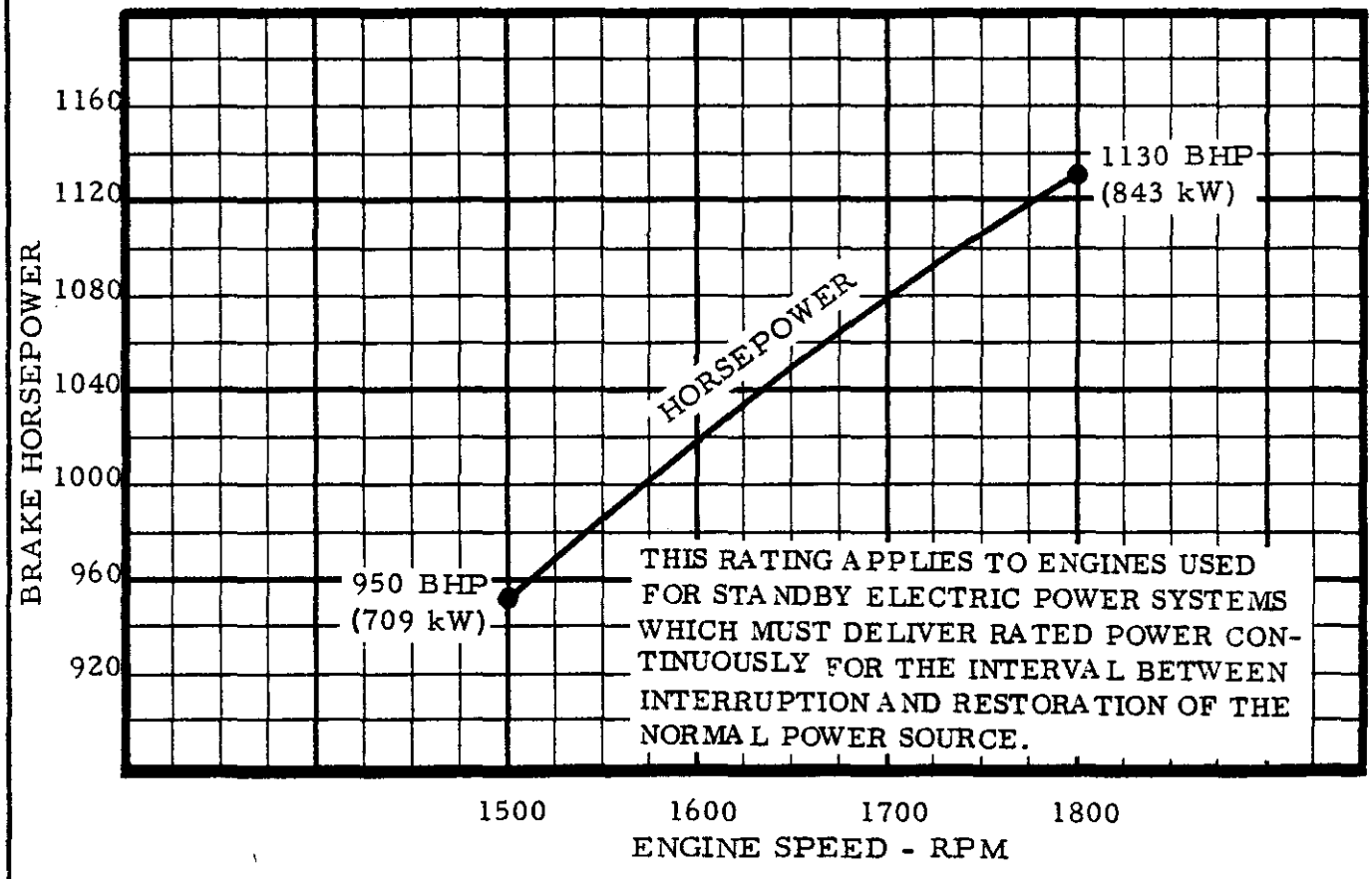
	NEW AIR INDUCTION WITH BLOWER PRESSURE RELIEF VALVE
Model	9123-7305
Number of cylinders	12
Bore and stroke - in (mm)	5.75 x 5.75 (146 x 146)
Displacement - in^3 (litre)	1792 (29.39)
Compression ratio	17:1
Firing order	
Clockwise rotation (RH)	1L-5L-3R-4R-3L-4L-2R-6R-2L-6L-1R-5R
Counter clockwise rotation (LH)	NOT APPLICABLE
Dimensions & weight (approx.)	
Length - in (mm)	93 (2362)
Width - in (mm)	62 (1575)
Height - in (mm)	67.5 (1778)
Weight - lbs (kg)	9030 (4096)

Technical Engine Specifications:

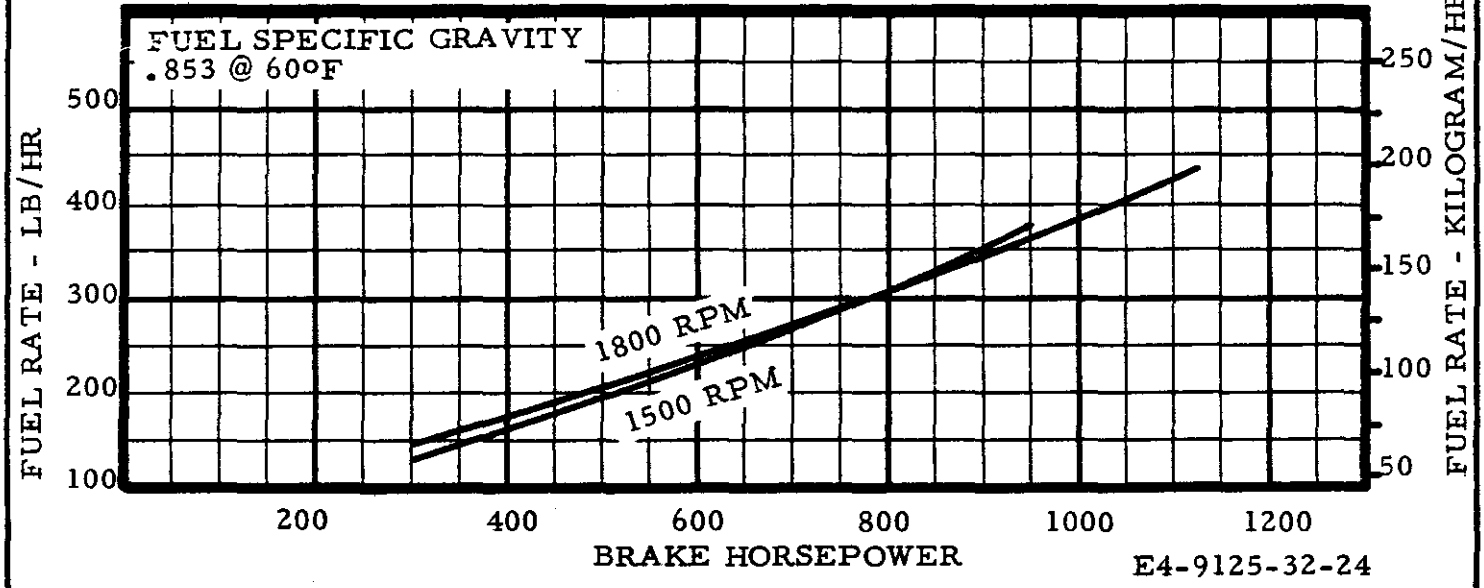
Injector (timing)	165 (2.175) STANDBY	
Turbocharger	TV7111 (1.08 A/R HSG)	
Engine speed - r/min	1500	1800
Brake horsepower - bhp (kW)	995 (742)	1155 (862)
Bmep - lb/in^2 (kPa)	147 (1015)	142 (981)
Peak torque - lb·ft (N·m) @ r/min	NOT APPLICABLE	NOT APPLICABLE
Fuel consumption - lb/hr (kg/hr)	370 (168)	425 (193)
Specific fuel cons. - lb/bhp·hr (g/kW·hr)	.372 (.226)	.370 (.225)
Fuel pump suction at pump inlet		
Maximum - in Hg (kPa)		
Clean system	6.0 (20.3)	6.0 (20.3)
Dirty system	12.0 (40.6)	12.0 (40.6)
Airflow - ft^3/min (m^3/min)	3180 (90)	3530 (100)
Airbox pressure, min. - in Hg (kPa)	29.0 (97.9)	35.0 (118.5)
Air intake restriction, max. - in H_2O (kPa)		
(Dry type air cleaner)		
Full load - dirty	13.0 (3.2)	17.5 (4.4)
- clean	7.5 (1.9)	10.5 (2.6)
Exhaust temp. - °F (°C)	750 (399)	720 (383)
Exhaust flow - ft^3/min (m^3/min)	6870 (194.5)	7440 (210.7)
Exhaust back press., max. - in Hg (kPa)		
Full load	1.5 (5.1)	2.2 (7.4)
Coolant flow - gal/min (litre/min)	275 (1041)	335 (1268)
Coolant normal operating temp. - °F (°C)	180 (82.2)	180 (82.2)
Heat rejection - Btu/min (kW)	25850 (454)	30600 (538)
Coolant inlet restriction, max. - in Hg (kPa)	2.0 (6.7)	3.0 (10.2)
Lubricating oil press., normal - lb/in^2 (kPa)	40-60 (276-414)	40-60 (276-414)
Lubricating oil temp., in-pan - °F (°C)	230 (110) max.	230 (110) max.

Detroit Diesel Allison
Division of General Motors Corporation

MODEL:	12V-149T ENGINE
APPLICATION:	STANDBY POWER
RATING:	WITHOUT FAN
INJECTOR:	170 (2.175 TIMING)
TURBO:	TV7101 (1.39 A/R)



AVERAGE FUEL CONSUMPTION



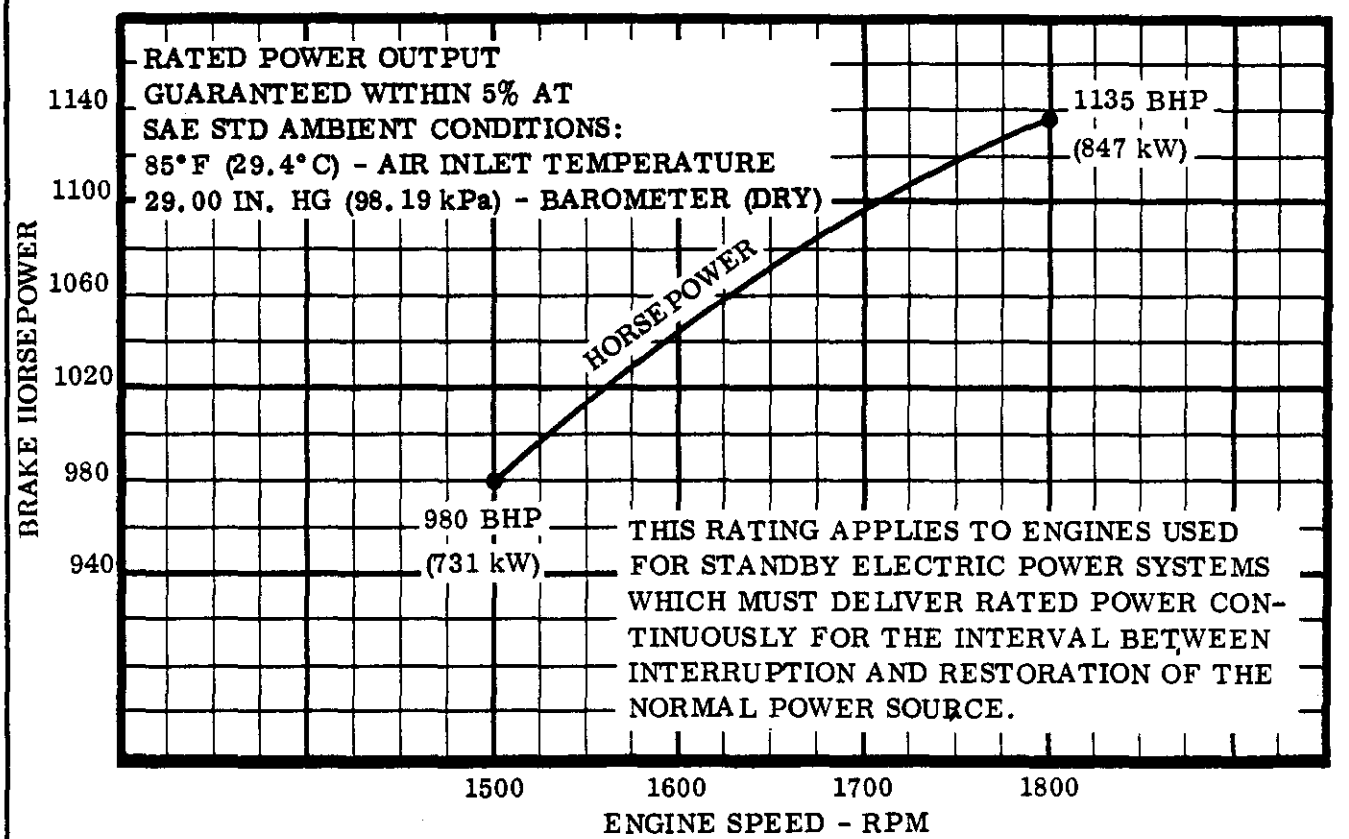
E4-9125-32-24
5-12-80

ENGINEERING-TECHNICAL DATA DEPT.

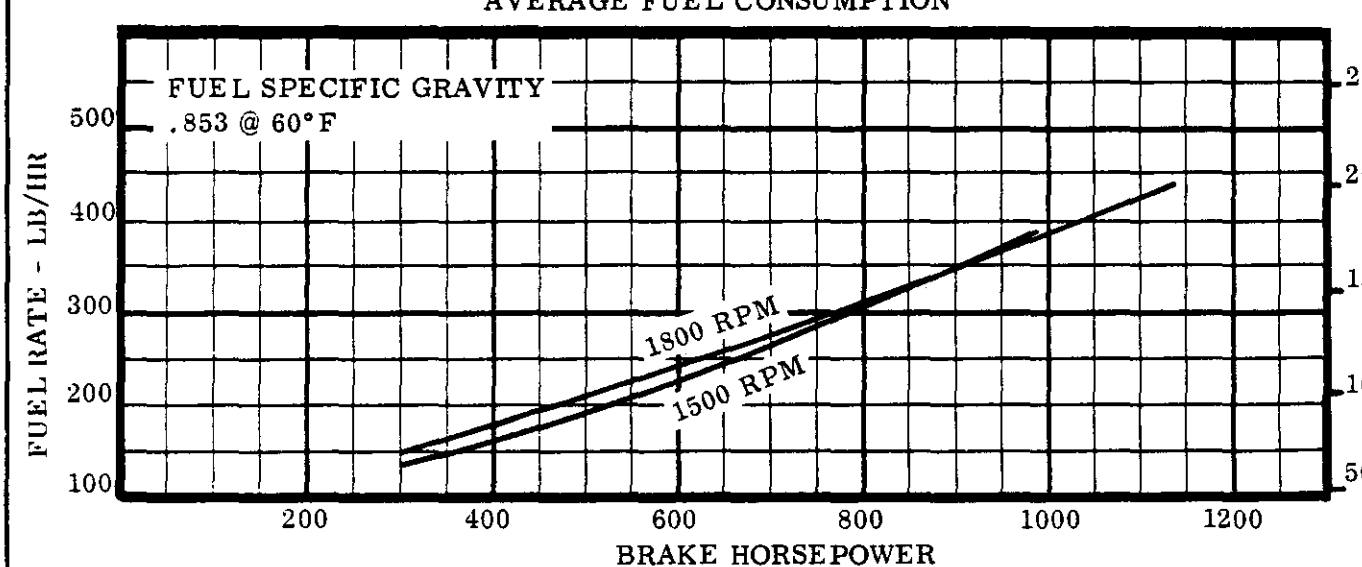
DE 4033

Detroit Diesel Allison
Division of General Motors Corporation

12V-149T ENGINE
DIESEL ELECTRIC STANDBY POWER
WITHOUT FAN
180 INJECTORS
2.175 INJECTOR TIMING



AVERAGE FUEL CONSUMPTION



E4-9125-32-8
Rev. 7-15-77

ENGINEERING-TECHNICAL DATA DEPT.

DE 4033

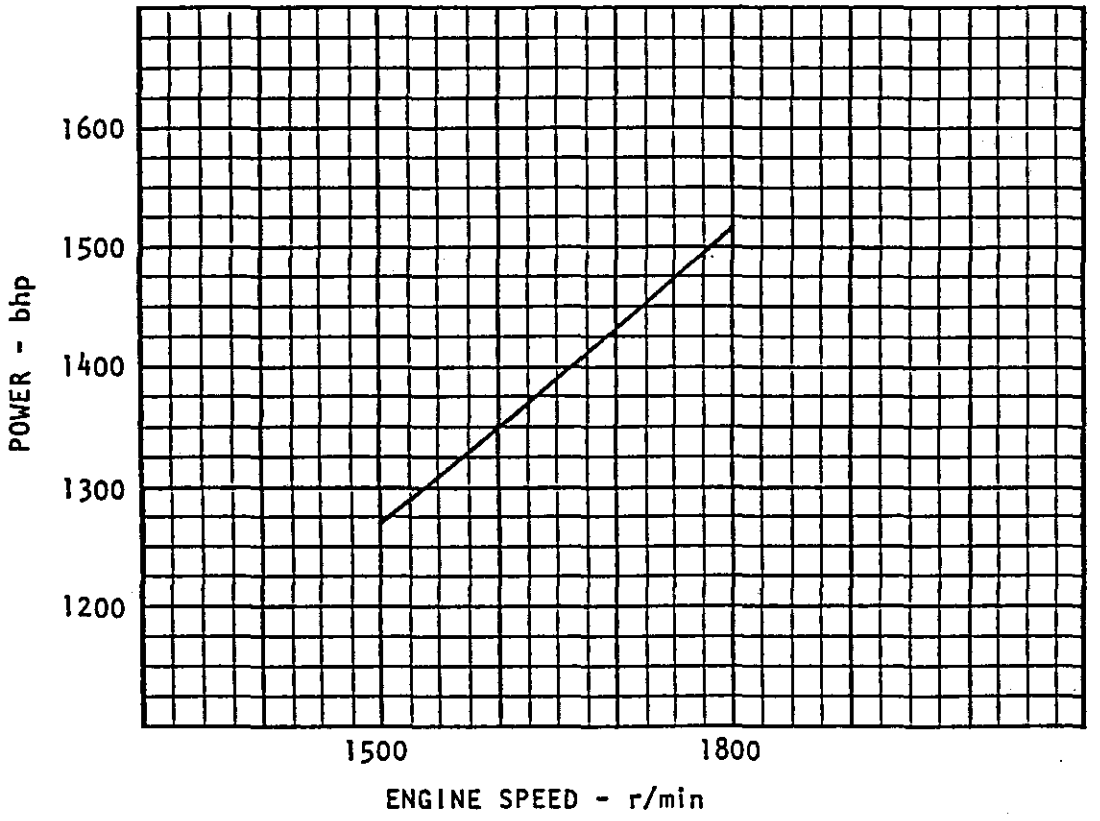
Detroit Diesel Allison

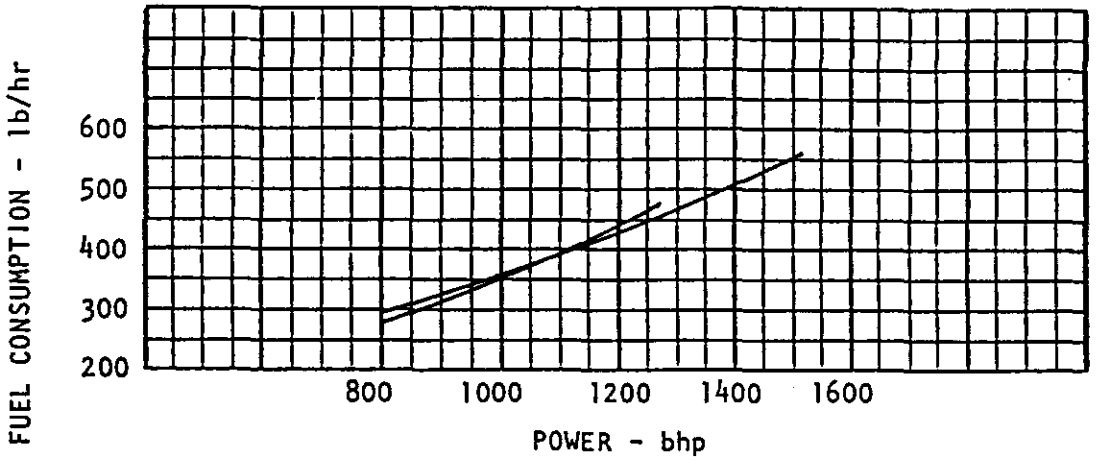
ENGINE PERFORMANCE CURVE

RATING: RATED POWER - BASIC ENGINE

APPLICATION: GENERATOR STAND BY

MODEL: 12V-149TI
1515 bhp @ 1800 r/min
1270 bhp @ 1500 r/min





AIR INTAKE RESTRICTION - in. H_2O (mm H_2O) . . . 10 (250)
EXHAUST RESTRICTION - in. H_2O (mm H_2O). 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 x 0.746
  FUEL: kg/kW-hr = lb/bhp-hr x 0.608
  TORQUE: N·m = lb-ft x 1.356
- VALUES DERIVED ARE FROM CURRENTLY AVAILABLE DATA AND SUBJECT TO CHANGE WITHOUT NOTICE.

CERTIFIED BY:
W L Graham
1-11-84
STAFF ENGINEER

CURVE NO.
E4-9125-32-35
DATE: 12-8-83
REV./DATE: 1/9-30-85
SHT. 1 OF 2

ENGINE SPECIFICATION

General Engine Description:

	NEW AIR INDUCTION WITH BLOWER PRESSURE RELIEF VALVE
Model	9123-7316
Number of cylinders	12
Bore and stroke - in (mm)	5.75 x 5.75 (146 x 146)
Displacement - in^3 (litre)	1792 (29.39)
Compression ratio	16:1
Firing order	
Clockwise rotation (RH)	1L-5L-3R-4R-3L-4L-2R-6R-2L-6L-1R-5R
Counter clockwise rotation (LH)	NOT APPLICABLE
Dimensions & weight (approx.)	
Length - in (mm)	93 (2362)
Width - in (mm)	62 (1575)
Height - in (mm)	70 (1778)
Weight - lbs (kg)	9030 (4096)

Technical Engine Specifications:

Injector (timing)	270 (2.185)	
Turbocharger	TV7111 (1.08 A/R HSG)	
Engine speed - r/min	1500	1800
Brake horsepower - bhp (kW)	1270 (947)	1515 (1130)
Bmep - lb/in^2 (kPa)	187 (1292)	186 (1285)
Peak torque - lb·ft (N·m) @ r/min	NOT APPLICABLE	NOT APPLICABLE
Fuel consumption - lb/hr (kg/hr)	474 (215)	554 (251)
Specific fuel cons. - lb/bhp·hr (g/kW·hr)	.373 (227)	.366 (222)
Fuel pump suction at pump inlet		
Maximum - in Hg (kPa)		
Clean system	6.0 (20.3)	6.0 (20.3)
Dirty system	12.0 (40.6)	12.0 (40.6)
Airflow - ft^3/min (m^3/min)	3600 (102)	4000 (113)
Airbox pressure, min. - in Hg (kPa)	41.0 (138.6)	48.5 (163.8)
Air intake restriction, max. - in H_2O (kPa)		
(Dry type air cleaner)		
Full load - dirty	13.0 (3.2)	17.5 (4.4)
- clean	7.5 (1.9)	10.5 (2.6)
Exhaust temp. - °F (°C)	780 (416)	820 (438)
Exhaust flow - ft^3/min (m^3/min)	7970 (226)	9140 (259)
Exhaust back press., max. - in Hg (kPa)		
Full load	1.8 (6.1)	2.5 (8.5)
Coolant flow - gal/min (litre/min)	295 (1117)	360 (1363)
Coolant normal operating temp. - °F (°C)	180 (82.2)	180 (82.2)
Heat rejection - Btu/min (kW)	43200 (759) *	51500 (906) *
Coolant inlet restriction, max. - in Hg (kPa)	2.0 (6.7)	3.0 (10.2)
Lubricating oil press., normal - lb/in^2 (kPa)	48-70 (331-483)	48-70 (331-483)
Lubricating oil temp., in-pan - °F (°C)	230 (110) max.	230 (110) max.

* With 30 plate oil cooler.

Curve No. E4-9125-32-35
Date: 12-8-83
Rev./Date: 1/9-30-85
Sht. 2 of 2

MARINE CONTINUOUS RATING

INDEX

ENGINE	INJECTOR	BHP/ SHP @ RPM	CURVE NUMBER	DATE	SEE NOTE
V8-8.2T	4A53	160/ 152 @ 2600	E4-4082-31-08	04-10-85	
3-53N	N40	- / 73 @ 2400	E4-5032-52-02	02-04-69	
4-53N	N40	- / 100 @ 2400	E4-5042-52-02	03-24-80	
6V-53N	N40	- / 148 @ 2400	E4-5062-52-02	03-24-80	
4-71N (2V)	N55	- / 106 @ 1800	E4-1042-51-01	02-27-80	
4-71N	N55	- / 115 @ 1800	E4-1042-52-01	03-24-80	
6-71N (2V)	N55	- / 165 @ 1800	E4-1062-51-01	02-25-80	
6-71N	N55	- / 174 @ 1800	E4-1062-52-01	03-24-80	
6V-71N (2V)	N55	- / 165 @ 1800	E4-7062-51-01	02-25-80	
6V-71N	N55	- / 174 @ 1800	E4-7062-52-01	03-24-80	
8V-71N (2V)	N55	- / 215 @ 1800	E4-7082-51-01	02-25-80	
8V-71N	N55	- / 230 @ 1800	E4-7082-52-01	03-24-80	
12V-71N (2V)	N55	- / 325 @ 1800	E4-7122-51-01	02-25-80	
12V-71N	71N5	- / 317 @ 1800	E4-7122-52-08	03-24-80	
12V-71N	N55	- / 340 @ 1800	E4-7122-52-01	03-24-80	
16V-71N (2V)	N55	- / 422 @ 1800	E4-7162-51-01	02-25-80	
16V-71N	N55	- / 455 @ 1800	E4-7162-52-02	03-24-80	
6V-92N	9275	- / 230 @ 1800	E4-8062-12-01	03-24-80	
8V-92N	9275	- / 300 @ 1800	E4-8082-12-01	03-24-80	
16V-92N	9275	- / 600 @ 1800	E4-8162-12-01	03-24-80	
8V-92TA	9A80	370/ 355 @ 1800	E4-8082-32-12	02-14-84	
12V-149	120	- / 675 @ 1800	E4-9122-12-01	02-08-80	
16V-149	120	- / 900 @ 1800	E4-9162-12-02	03-24-80	
12V-149T	140	894/ 867 @ 1800	E4-9122-32-06	05-05-82	
12V-149T	140	905/ 875 @ 1800	E4-9122-32-18	01-25-85	
16V-149T	115	930/ 902 @ 1800	E4-9162-32-18	09-10-85	(R)
16V-149T	140	1180/1145 @ 1800	E4-9162-32-09	05-05-82	
16V-149T	140	1215/1175 @ 1800	E4-9162-32-23	09-20-85	(R)
8V-149TI	140	580/ 563 @ 1600	E4-9082-32-05	09-30-85	(R)
8V-149TI	140	640/ 621 @ 1800	E4-9082-32-01	09-30-85	(R)
8V-149TI	145	705/ 680 @ 1800	E4-9082-32-06	10-09-85	(A)
12V-149TI	140	940/ 912 @ 1800	E4-9122-32-14	09-10-85	(R)
12V-149TI	145	1055/1025 @ 1800	E4-9122-32-21	08-29-85	(A)
16V-149TI	120	1070/1035 @ 1800	E4-9162-32-28	09-20-85	(R)
16V-149TI	130	1200/1161 @ 1800	E4-9162-32-27	09-20-85	(R)
16V-149TI	140	1280/1242 @ 1800	E4-9162-32-19	09-10-85	(R)
16V-149TI	145	1440/1395 @ 1800	E4-9162-32-29	08-29-85	(A)

NOTE - (A) CURVE ADDED
(R) REVISED

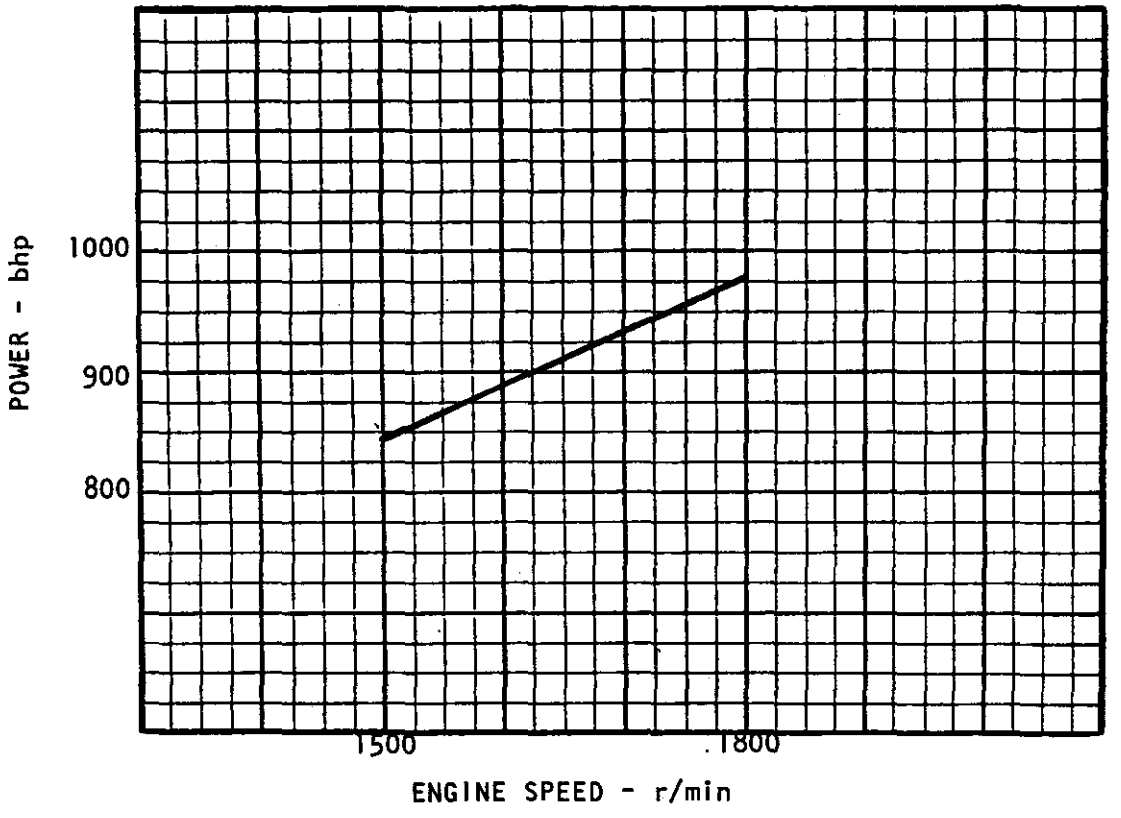
Detroit Diesel Allison | GM

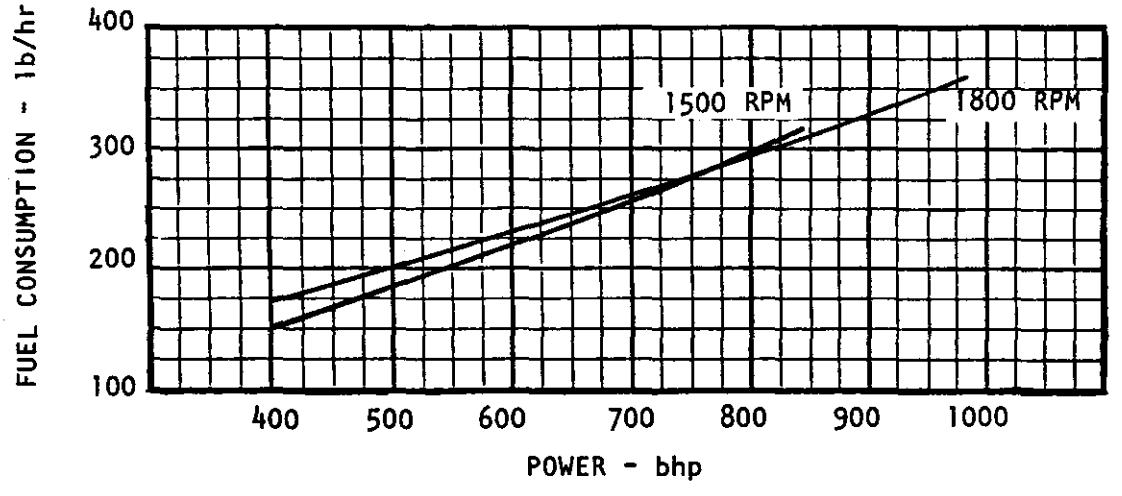
ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

APPLICATION: GENERATOR
PRIME POWER

MODEL: 12V-149T
980 bhp @ 1800 r/min
845 bhp @ 1500 r/min





AIR INTAKE RESTRICTION - in. H_2O (kPa) . . . 10 (2.5)
EXHAUST BACK PRESSURE - in. H_2O (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.
E4-9125-32-39
DATE: 8-24-84
REV./DATE:
SHT. 1 OF 3

ENGINE SPECIFICATION

General Engine Description:

NEW AIR INDUCTION WITH BLOWER PRESSURE RELIEF VALVE

Model	9123-7305
Number of cylinders	12
Bore and stroke - in (mm)	5.75 x 5.75 (146 x 146)
Displacement - in^3 (litre)	1792 (29.39)
Compression ratio	17:1
Firing order - Clockwise rotation (RH)	1L-5L-3R-4R-3L-4L 2R-6R-2L-6L-1R-5R
Dimensions & weight (approx.)	
Length - in (mm)	93 (2362)
Width - in (mm)	62 (1575)
Height - in (mm)	67.5 (1778)
Weight - lbs (kg)	9030 (4096)

Technical Engine Specifications:

Injector (timing)	145 (2.175) PRIME
Turbocharger	TV7111 (1.08 A/R HSG)
Engine speed - r/min	1800
Brake horsepower - bhp (kW)	980 (731)
Bmep - lb/in^2 (kPa)	120 (827)
Fuel consumption - lb/hr (kg/hr)	361.0 (163.7)
Specific fuel cons. - lb/bhp hr (g/kW hr)	.368 (224)
Fuel pump suction at pump inlet	
Maximum - in Hg (kPa)	
Clean system	6.0 (20.3)
Dirty system	12.0 (40.6)
Airflow - ft^3/min (m^3/min)	3200 (91)
Airbox pressure - in Hg (kPa)	32.0 (108.1)
Air intake restriction, max. - in H_2O (kPa)	
(Dry type air cleaner)	
Full load - dirty	17.5 (4.4)
- clean	10.5 (2.6)
Exhaust temp. - °F (°C)	725 (385)
Exhaust flow - ft^3/min (m^3/min)	7060 (200)
Exhaust back press., max. - in Hg (kPa)	
Full load	2.2 (7.4)
Coolant flow - gal/min (litre/min)	335 (1268)
Coolant normal operating temp. - °F (°C)	180 (82.2)
Engine heat rejection - Btu/min (kW)	25970 (457)
Engine radiated heat - Btu/min (kW)	3920 (69)
Coolant inlet restriction, max. - in Hg (kPa)	3.0 (10.2)
Lubricating oil press., normal - lb/in^2 (kPa)	40-60 (276-414)
Lubricating oil temp., in-pan - °F (°C)	230 (110) MAX.

Emissions - gm/hr (at per cent load)

	0%	25%	50%	75%	100%
NO_x	2720	4660	7905	10110	11765
CO	330	300	200	950	2800
HC	580	700	620	605	760

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

Curve No. E4-9125-32-39
Date: 8-24-84
Rev./Date:

ENGINE SPECIFICATION

General Engine Description:	NEW AIR INDUCTION WITH BLOWER PRESSURE RELIEF VALVE
Model	9123-7305
Number of cylinders	12
Bore and stroke - in (mm)	5.75 x 5.75 (146 x 146)
Displacement - in^3 (litre)	1792 (29.39)
Compression ratio	17:1
Firing order - Clockwise rotation (RH)	1L-5L-3R-4R-3L-4L 2R-6R-2L-6L-1R-5R
Dimensions & weight (approx.)	
Length - in (mm)	93 (2362)
Width - in (mm)	62 (1575)
Height - in (mm)	67.5 (1778)
Weight - lbs (kg)	9030 (4096)

Technical Engine Specifications:	
Injector (timing)	145 (2.175) PRIME
Turbocharger	TV7111 (1.08 A/R HSG)
Engine speed - r/min	1500
Brake horsepower - bhp (kW)	845 (680)
Bmep - lb/in^2 (kPa)	124 (855)
Fuel consumption - lb/hr (kg/hr)	321.0 (145.6)
Specific fuel cons. - lb/bhp hr (g/kW hr)	.380 (231)
Fuel pump suction at pump inlet	
Maximum - in Hg (kPa)	
Clean system	6.0 (20.3)
Dirty system	12.0 (40.6)
Airflow - ft^3/min (m^3/min)	2900 (82)
Airbox pressure - in Hg (kPa)	26.0 (87.7)
Air intake restriction, max. - in H_2O (kPa)	
(Dry type air cleaner)	
Full load - dirty	13.0 (3.2)
- clean	7.5 (1.9)
Exhaust temp. - °F (°C)	745 (396)
Exhaust flow - ft^3/min (m^3/min)	6510 (184)
Exhaust back press., max. - in Hg (kPa)	
Full load	1.5 (5.1)
Coolant flow - gal/min (litre/min)	275 (1041)
Coolant normal operating temp. - °F (°C)	180 (82.2)
Engine heat rejection - Btu/min (kW)	21970 (386)
Engine radiated heat - Btu/min (kW)	3980 (70)
Coolant inlet restriction, max. - in Hg (kPa)	2.0 (6.7)
Lubricating oil press., normal - lb/in^2 (kPa)	40-60 (276-414)
Lubricating oil temp., in-pan - °F (°C)	230 (110) MAX.

Emissions - gm/hr (at per cent load)

	0%	25%	50%	75%	100%
NO_x	2240	3555	6335	8945	11640
CO	305	250	150	850	4290
HC	420	490	585	640	670

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

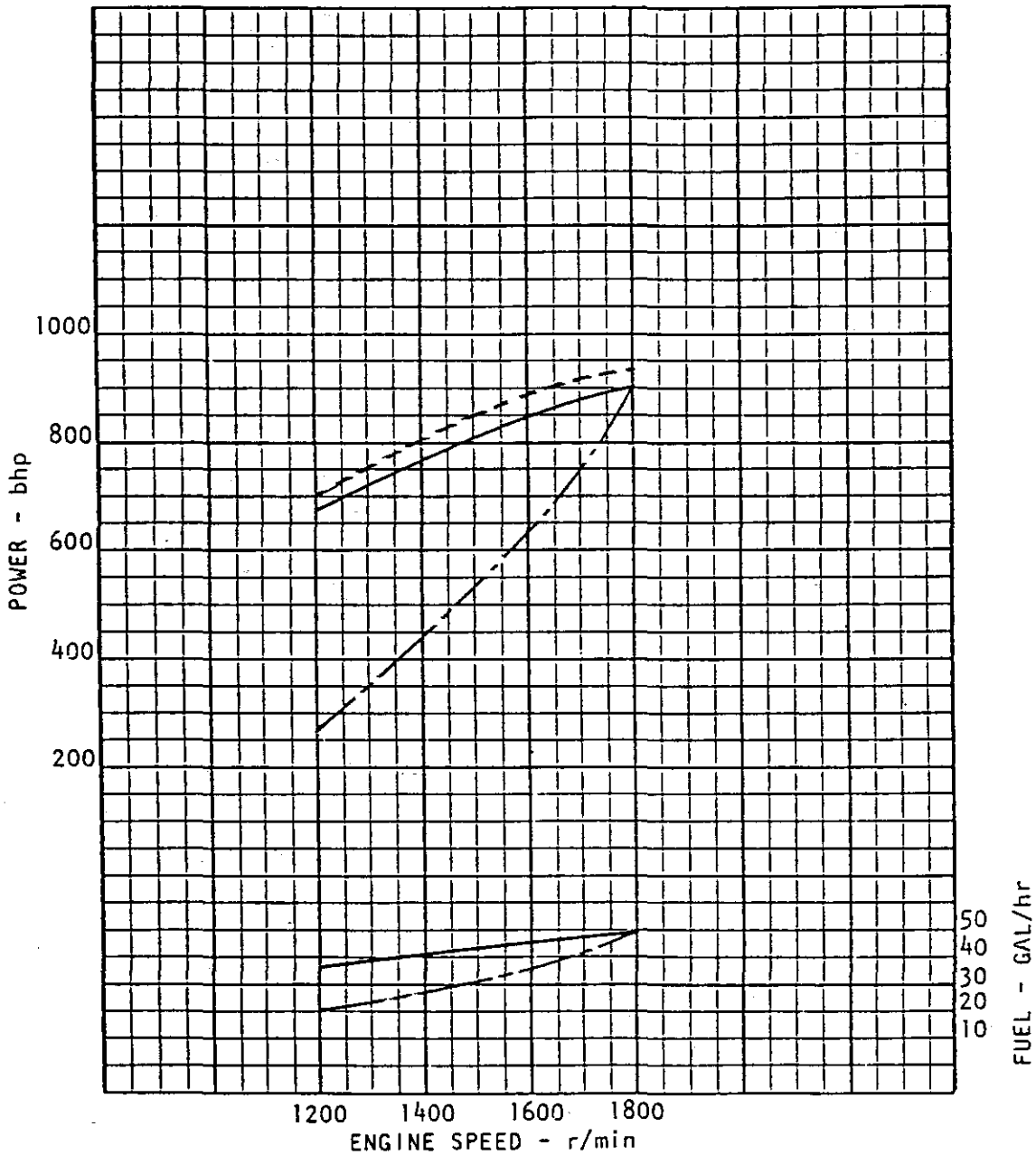
Curve No. E4-9125-32-39
Date: 8-24-84
Rev./Date:

Detroit Diesel Allison

ENGINE PERFORMANCE CURVE

RATING: NET POWER
PRELIMINARY
APPLICATION: MARINE - CONTINUOUS

MODEL: 16V-149T
930 bhp @ 1800 r/min
902 shp @ 1800 r/min



- - - - - - - BRAKE HORSEPOWER
——————— SHAFT HORSEPOWER
—— - —— PROPELLER LOAD

ACCESSORIES: MARINE GEAR - 3% LOSS
AIR INTAKE RESTRICTION - in. H_2O (mm H_2O) 10 (250)
EXHAUST RESTRICTION - in. H_2O (mm H_2O). 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 x 0.746
  FUEL: kg/kW-hr = lb/bhp-hr x 0.608
  TORQUE: N-m = lb-ft x 1.356
- VALUES DERIVED ARE FROM CURRENTLY AVAILABLE DATA AND SUBJECT TO CHANGE WITHOUT NOTICE.

CERTIFIED BY:
D. L. Graham
10-10-83
STAFF ENGINEER

CURVE NO.
E4-9162-32-18
DATE: 10-3-83
REV./DATE: 1/9-10-85
SHT. 1 OF 3

ENGINE SPECIFICATION

General Engine Description:	
	NEW AIR INDUCTION WITH BLOWER PRESSURE RELIEF VALVE
Model	9162-7300
Number of cylinders	16
Bore and stroke - in (mm)	5.75 X 5.75 (146 X 146)
Displacement - in^3 (litre)	2389 (39.18)
Compression ratio	16:1
Firing order	
Clockwise rotation (RH)	1L-2R-8L-6R-2L-4R-6L-5R-4L-3R-5L-7R-3L-1R-7L-8R
Counter clockwise rotation (LH)	1L-8R-7L-1R-3L-7R-5L-3R-4L-5R-6L-4R-2L-6R-8L-2R
Marine gear type	NOT DETERMINED
Marine gear reduction ratios	NOT DETERMINED
Marine gear lube oil capacity approx. (Does not include heat exchanger & connections used externally) - pts (litre) (Marine gear must use straight viscosity oil)	NOT DETERMINED
Electrical system	24 VOLTS
Recommended battery capacity (CCA @ 0°F (-18°C)) 24 Volt system above 32°F (0°C)	950
Dimensions & weight	
Length - in (mm)	106 (2692)
Width - in (mm)	64 (1625)
Height - in (mm)	67 (1702)
Weight, dry - lbs (kg)	11750 (5330)
Maximum installation angle	15°

Technical Engine Specification	
Injector (timing)	115 (2.205)
Turbocharger	TV8401 (1.23 A/R)
Engine speed - r/min	1800
Brake horsepower - bhp (kW) 77°F, 29.31 in Hg (Dry) Bar., J-1349	930 (693.8)
Shaft horsepower - shp (kW)	902 (672.9)
BMEP - lb/in^2 (kPa)	86 (593)
Peak torque - lb ft (N m) @ r/min	3064 (4155) @ 1200
Fuel consumption - lb/hr (kg/hr)	342.2 (154.9)
Fuel consumption - gal/hr (litre/hr)	49.0 (185.5)
Specific fuel cons. - lb/bhp hr (g/kW hr)	.368 (224)
Air consumption - ft^3/min (m^3/min)	3480 (98.9)
Suggested minimum engine room vent area - in^2 (cm^2) Maximum engine room depression 0.2 in. H_2O	334 (2153)
Maximum allowable temperature rise (Outside air to engine inlet) - °F (°C)	30 (17)

Curve No. E4-9162-32-18
Date: 10-3-83
Rev./Date: 1/9-10-85

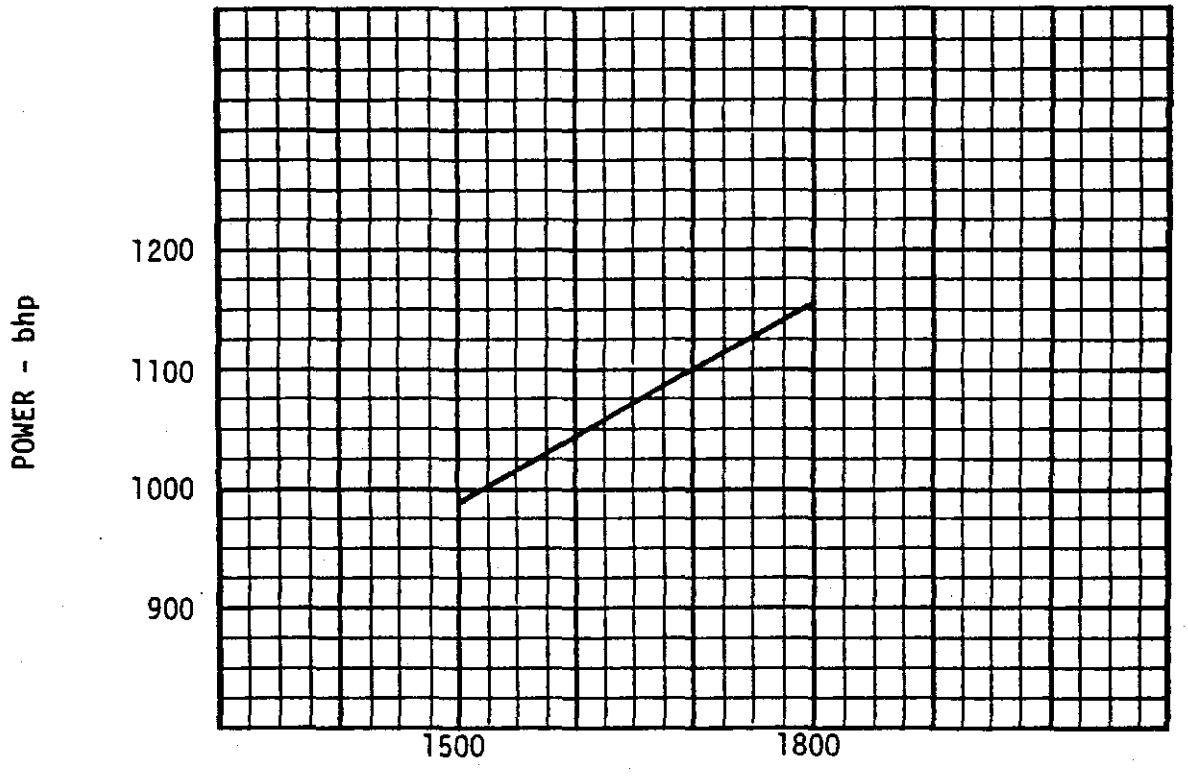
Detroit Diesel Allison

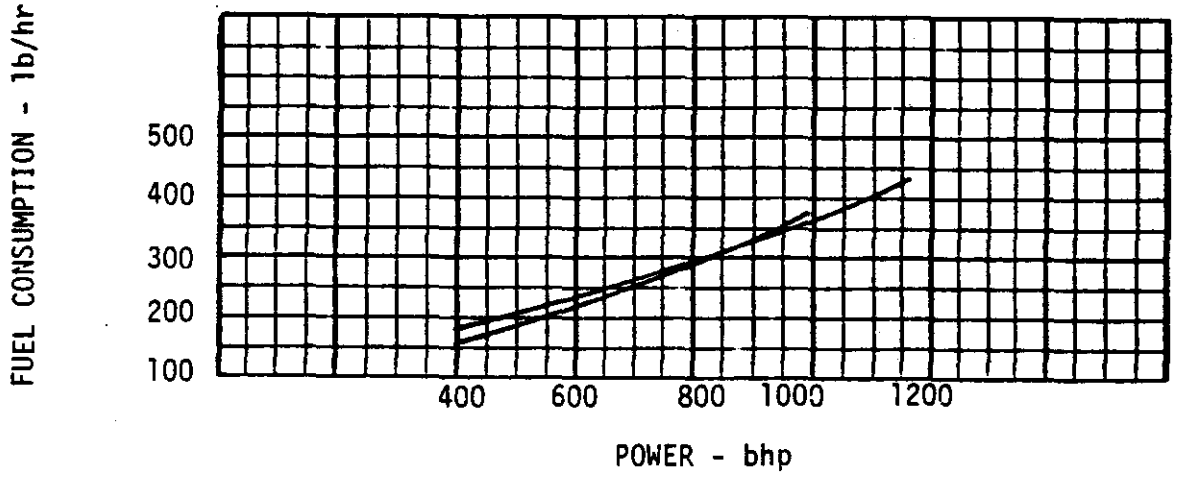
ENGINE PERFORMANCE CURVE

RATING: RATED POWER-BASIC ENGINE

APPLICATION: GENERATOR
STAND BY

MODEL: 12V-149T
1155 bhp @ 1800 r/min
995 bhp @ 1500 r/min





AIR INTAKE RESTRICTION - in. H_2O (mm H_2O) 10 (250)
EXHAUST RESTRICTION - in. H_2O (mm H_2O) 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 x 0.746
  FUEL: kg/kW-hr = lb/bhp-hr x 0.608
  TORQUE: N-m = lb-ft x 1.356
- VALUES DERIVED ARE FROM CURRENTLY AVAILABLE DATA AND SUBJECT TO CHANGE WITHOUT NOTICE.

CERTIFIED BY:
D. L. Graham
11-17-83
STAFF ENGINEER

CURVE NO.
E4-9125-32-34
DATE: 9-23-83
REV./DATE:
SHT. 1 OF 2

ENGINE SPECIFICATION

General Engine Description:

	NEW AIR INDUCTION WITH BLOWER PRESSURE RELIEF VALVE
Model	9123-7305
Number of cylinders	12
Bore and stroke - in (mm)	5.75 x 5.75 (146 x 146)
Displacement - in^3 (litre)	1792 (29.39)
Compression ratio	17:1
Firing order	
Clockwise rotation (RH)	1L-5L-3R-4R-3L-4L-2R-6R-2L-6L-1R-5R
Counter clockwise rotation (LH)	NOT APPLICABLE
Dimensions & weight (approx.)	
Length - in (mm)	93 (2362)
Width - in (mm)	62 (1575)
Height - in (mm)	67.5 (1778)
Weight - lbs (kg)	9030 (4096)

Technical Engine Specifications:

Injector (timing)	165 (2.175) STANDBY	
Turbocharger	TV7111 (1.08 A/R HSG)	
Engine speed - r/min	1500	1800
Brake horsepower - bhp (kW)	995 (742)	1155 (862)
Bmep - lb/in^2 (kPa)	147 (1015)	142 (981)
Peak torque - lb·ft (N·m) @ r/min	NOT APPLICABLE	NOT APPLICABLE
Fuel consumption - lb/hr (kg/hr)	370 (168)	425 (193)
Specific fuel cons. - lb/bhp·hr (g/kW·hr)	.372 (.226)	.370 (.225)
Fuel pump suction at pump inlet		
Maximum - in Hg (kPa)		
Clean system	6.0 (20.3)	6.0 (20.3)
Dirty system	12.0 (40.6)	12.0 (40.6)
Airflow - ft^3/min (m^3/min)	3180 (90)	3530 (100)
Airbox pressure, min. - in Hg (kPa)	29.0 (97.9)	35.0 (118.5)
Air intake restriction, max. - in H_2O (kPa)		
(Dry type air cleaner)		
Full load - dirty	13.0 (3.2)	17.5 (4.4)
- clean	7.5 (1.9)	10.5 (2.6)
Exhaust temp. - °F (°C)	750 (399)	720 (383)
Exhaust flow - ft^3/min (m^3/min)	6870 (194.5)	7440 (210.7)
Exhaust back press., max. - in Hg (kPa)		
Full load	1.5 (5.1)	2.2 (7.4)
Coolant flow - gal/min (litre/min)	275 (1041)	335 (1268)
Coolant normal operating temp. - °F (°C)	180 (82.2)	180 (82.2)
Heat rejection - Btu/min (kW)	25850 (454)	30600 (538)
Coolant inlet restriction, max. - in Hg (kPa)	2.0 (6.7)	3.0 (10.2)
Lubricating oil press., normal - lb/in^2 (kPa)	40-60 (276-414)	40-60 (276-414)
Lubricating oil temp., in-pan - °F (°C)	230 (110) max.	230 (110) max.

Curve No. E4-9125-32-34
Sht. 2 of 2

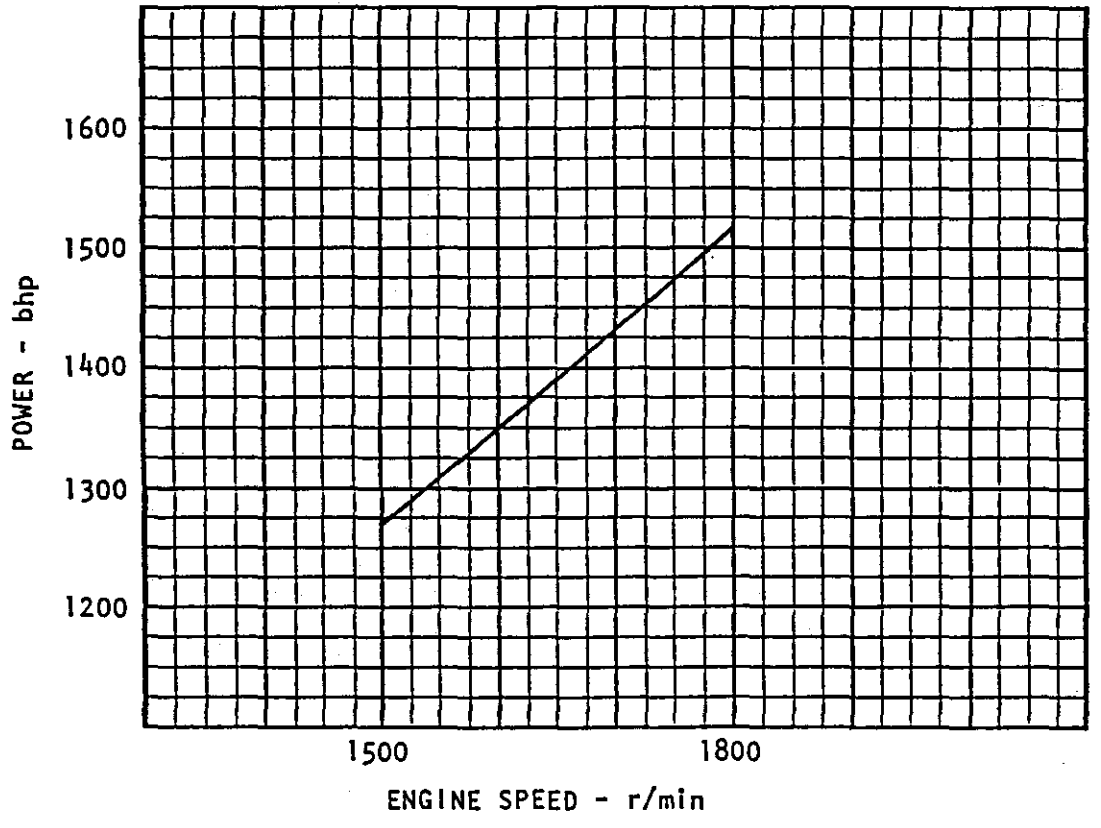
Detroit Diesel Allison

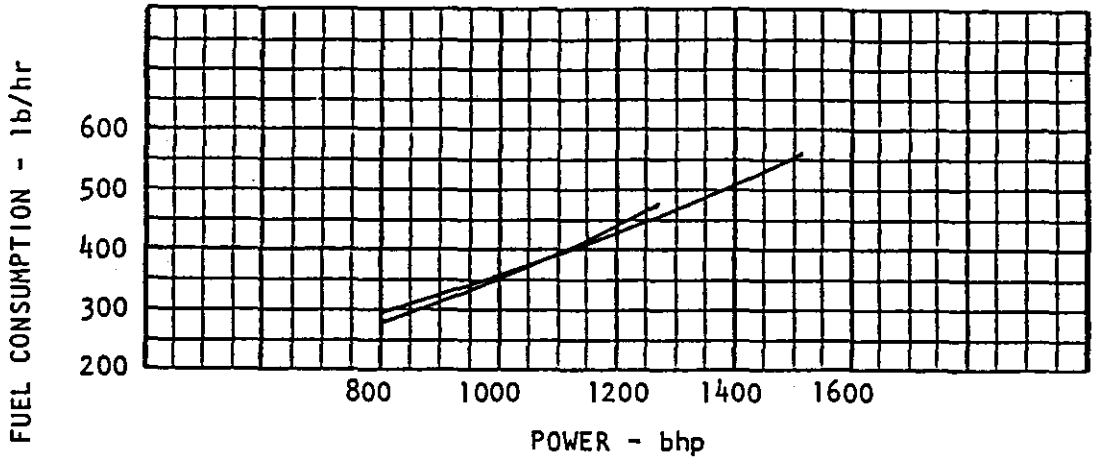
ENGINE PERFORMANCE CURVE

RATING: RATED POWER - BASIC ENGINE

APPLICATION: GENERATOR
STAND BY

MODEL: 12V-149TI
1515 bhp @ 1800 r/min
1270 bhp @ 1500 r/min





AIR INTAKE RESTRICTION - in. H_2O (mm H_2O) . . . 10 (250)
EXHAUST RESTRICTION - in. H_2O (mm H_2O). 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 x 0.746
  FUEL: kg/kW-hr = lb/bhp-hr x 0.608
  TORQUE: N-m = lb-ft x 1.356
- VALUES DERIVED ARE FROM CURRENTLY AVAILABLE DATA AND SUBJECT TO CHANGE WITHOUT NOTICE.

CERTIFIED BY:
W L Graham
1-11-84
STAFF ENGINEER

CURVE NO.
E4-9125-32-35
DATE: 12-8-83
REV./DATE: 1/9-30-85
SHT. 1 OF 2

ENGINE SPECIFICATION

General Engine Description:

	NEW AIR INDUCTION WITH BLOWER PRESSURE RELIEF VALVE
Model	9123-7316
Number of cylinders	12
Bore and stroke - in (mm)	5.75 x 5.75 (146 x 146)
Displacement - in^3 (litre)	1792 (29.39)
Compression ratio	16:1
Firing order	1L-5L-3R-4R-3L-4L-2R-6R-2L-6L-1R-5R
Clockwise rotation (RH)	NOT APPLICABLE
Counter clockwise rotation (LH)	
Dimensions & weight (approx.)	
Length - in (mm)	93 (2362)
Width - in (mm)	62 (1575)
Height - in (mm)	70 (1778)
Weight - lbs (kg)	9030 (4096)

Technical Engine Specifications:

Injector (timing)	270 (2.185)	
Turbocharger	TV7111 (1.08 A/R HSG)	
Engine speed - r/min	1500	1800
Brake horsepower - bhp (kW)	1270 (947)	1515 (1130)
Bmep - lb/in^2 (kPa)	187 (1292)	186 (1285)
Peak torque - lb·ft (N·m) @ r/min	NOT APPLICABLE	NOT APPLICABLE
Fuel consumption - lb/hr (kg/hr)	474 (215)	554 (251)
Specific fuel cons. - lb/bhp·hr (g/kW·hr)	.373 (227)	.366 (222)
Fuel pump suction at pump inlet		
Maximum - in Hg (kPa)		
Clean system	6.0 (20.3)	6.0 (20.3)
Dirty system	12.0 (40.6)	12.0 (40.6)
Airflow - ft^3/min (m^3/min)	3600 (102)	4000 (113)
Airbox pressure, min. - in Hg (kPa)	41.0 (138.6)	48.5 (163.8)
Air intake restriction, max. - in H_2O (kPa)		
(Dry type air cleaner)		
Full load - dirty	13.0 (3.2)	17.5 (4.4)
- clean	7.5 (1.9)	10.5 (2.6)
Exhaust temp. - °F (°C)	780 (416)	820 (438)
Exhaust flow - ft^3/min (m^3/min)	7970 (226)	9140 (259)
Exhaust back press., max. - in Hg (kPa)		
Full load	1.8 (6.1)	2.5 (8.5)
Coolant flow - gal/min (litre/min)	295 (1117)	360 (1363)
Coolant normal operating temp. - °F (°C)	180 (82.2)	180 (82.2)
Heat rejection - Btu/min (kW)	43200 (759) *	51500 (906) *
Coolant inlet restriction, max. - in Hg (kPa)	2.0 (6.7)	3.0 (10.2)
Lubricating oil press., normal - lb/in^2 (kPa)	48-70 (331-483)	48-70 (331-483)
Lubricating oil temp., in-pan - °F (°C)	230 (110) max.	230 (110) max.

* With 30 plate oil cooler.

Curve No. E4-9125-32-35
Date: 12-8-83
Rev./Date: 1/9-30-85
Sht. 2 of 2

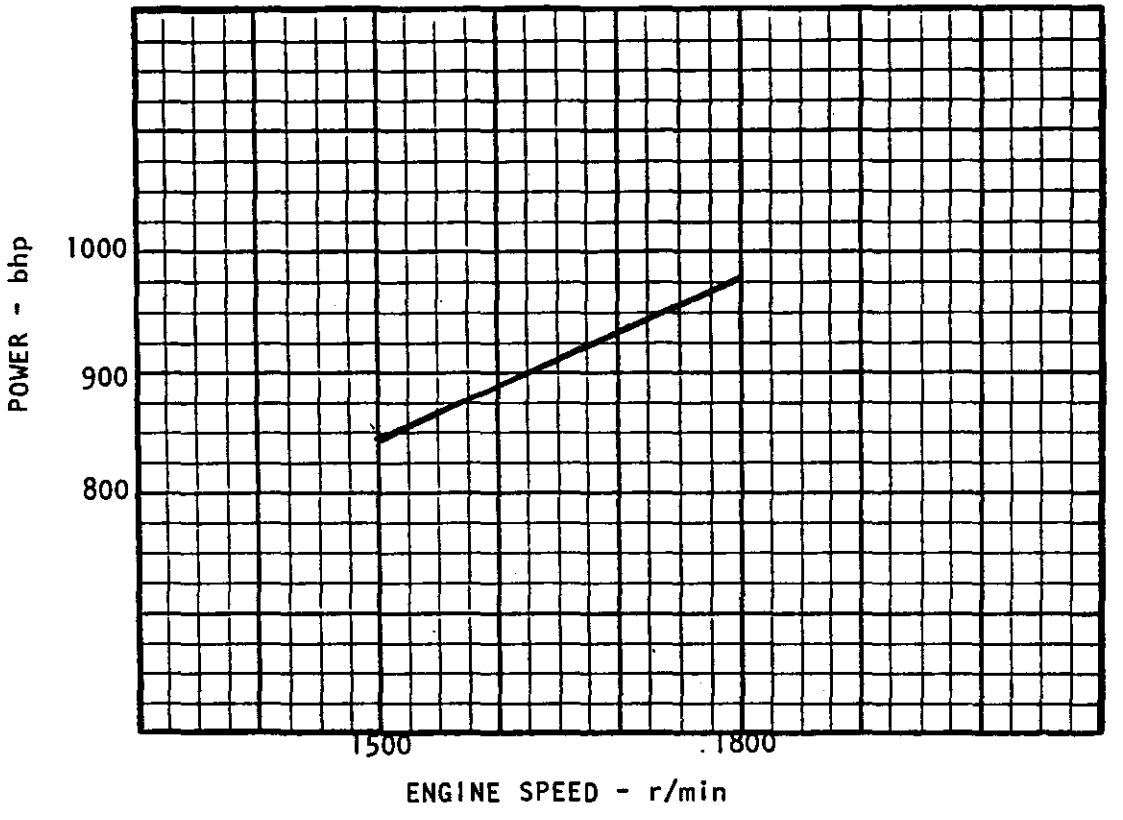
Detroit Diesel Allison | GM

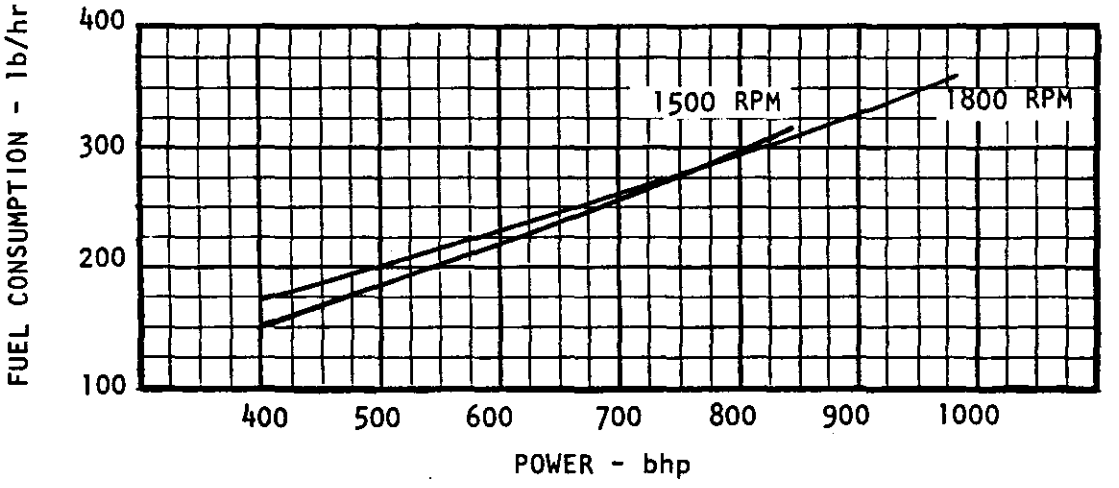
ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

APPLICATION: GENERATOR
PRIME POWER

MODEL: 12V-149T
980 bhp @ 1800 r/min
845 bhp @ 1500 r/min





AIR INTAKE RESTRICTION - in. H_2O (kPa) . . . 10 (2.5)
EXHAUST BACK PRESSURE - in. H_2O (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:
W. D. Graham
11-2-84
STAFF ENGINEER

CURVE NO.
E4-9125-32-39
DATE: 8-24-84
REV./DATE:
SHT. 1 OF 3

ENGINE SPECIFICATION

General Engine Description:	NEW AIR INDUCTION WITH BLOWER PRESSURE RELIEF VALVE
Model	9123-7305
Number of cylinders	12
Bore and stroke - in (mm)	5.75 x 5.75 (146 x 146)
Displacement - in^3 (litre)	1792 (29.39)
Compression ratio	17:1
Firing order - Clockwise rotation (RH)	1L-5L-3R-4R-3L-4L 2R-6R-2L-6L-1R-5R
Dimensions & weight (approx.)	
Length - in (mm)	93 (2362)
Width - in (mm)	62 (1575)
Height - in (mm)	67.5 (1778)
Weight - lbs (kg)	9030 (4096)

Technical Engine Specifications:	
Injector (timing)	145 (2.175) PRIME
Turbocharger	TV7111 (1.08 A/R HSG)
Engine speed - r/min	1800
Brake horsepower - bhp (kW)	980 (731)
Bmep - lb/in^2 (kPa)	120 (827)
Fuel consumption - lb/hr (kg/hr)	361.0 (163.7)
Specific fuel cons. - lb/bhp hr (g/kW hr)	.368 (224)
Fuel pump suction at pump inlet	
Maximum - in Hg (kPa)	
Clean system	6.0 (20.3)
Dirty system	12.0 (40.6)
Airflow - ft^3/min (m^3/min)	3200 (91)
Airbox pressure - in Hg (kPa)	32.0 (108.1)
Air intake restriction, max. - in H_2O (kPa)	
(Dry type air cleaner)	
Full load - dirty	17.5 (4.4)
- clean	10.5 (2.6)
Exhaust temp. - °F (°C)	725 (385)
Exhaust flow - ft^3/min (m^3/min)	7060 (200)
Exhaust back press., max. - in Hg (kPa)	
Full load	2.2 (7.4)
Coolant flow - gal/min (litre/min)	335 (1268)
Coolant normal operating temp. - °F (°C)	180 (82.2)
Engine heat rejection - Btu/min (kW)	25970 (457)
Engine radiated heat - Btu/min (kW)	3920 (69)
Coolant inlet restriction, max. - in Hg (kPa)	3.0 (10.2)
Lubricating oil press., normal - lb/in^2 (kPa)	40-60 (276-414)
Lubricating oil temp., in-pan - °F (°C)	230 (110) MAX.

Emissions - gm/hr (at per cent load)

	0%	25%	50%	75%	100%
NO_x	2720	4660	7905	10110	11765
CO	330	300	200	950	2800
HC	580	700	620	605	760

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

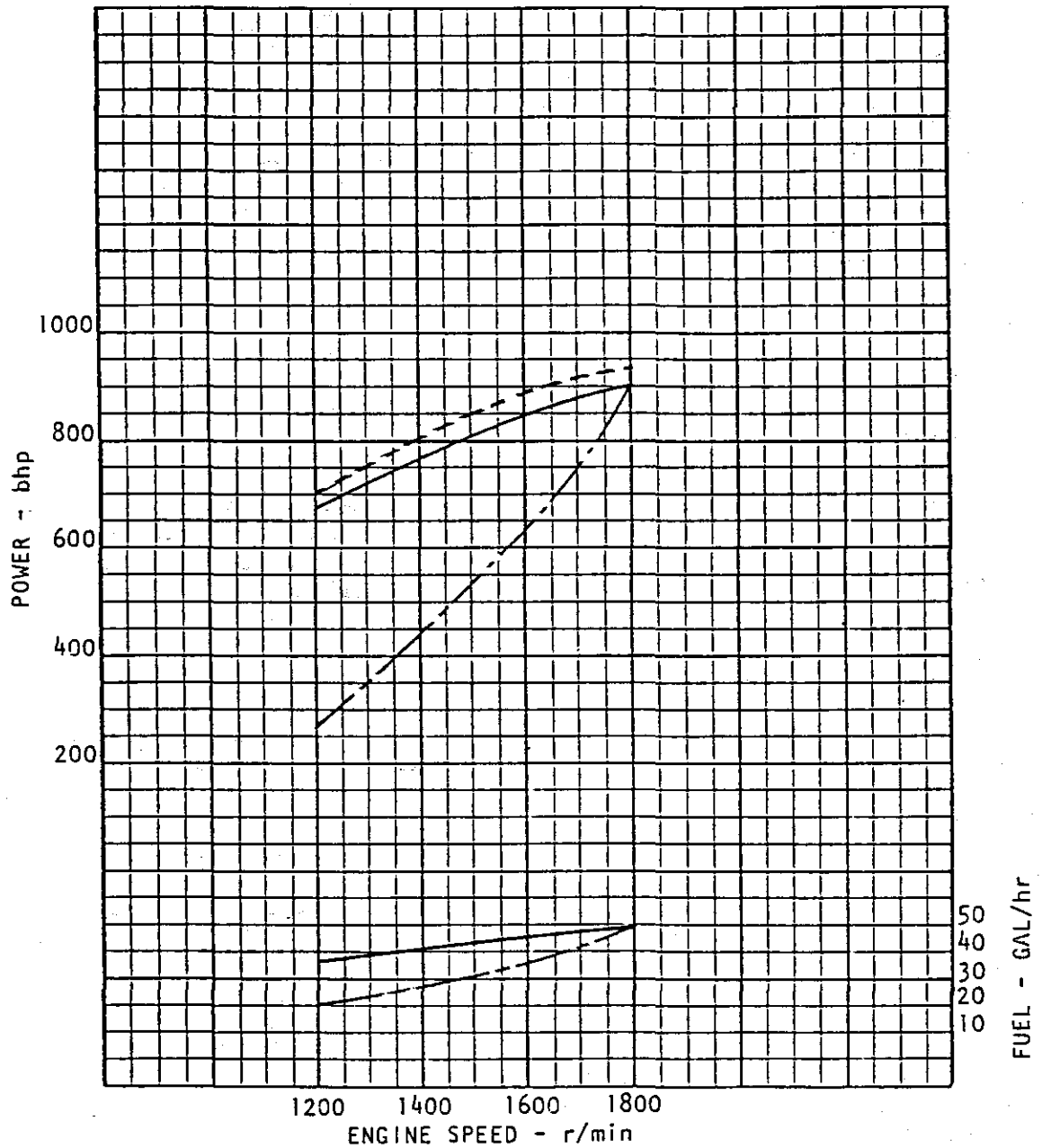
Curve No. E4-9125-32-39
Date: 8-24-84
Rev./Date:

Detroit Diesel Allison

ENGINE PERFORMANCE CURVE

RATING: NET POWER
PRELIMINARY
APPLICATION: MARINE - CONTINUOUS

MODEL: 16V-149T
930 bhp @ 1800 r/min
902 shp @ 1800 r/min



- - - - - - - - BRAKE HORSEPOWER
———— SHAFT HORSEPOWER
—— - —— PROPELLER LOAD

ACCESSORIES: MARINE GEAR - 3% LOSS
AIR INTAKE RESTRICTION - in. H_2O (mm H_2O) 10 (250)
EXHAUST RESTRICTION - in. H_2O (mm H_2O). 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 x 0.746
  FUEL: kg/kW-hr = lb/bhp-hr x 0.608
  TORQUE: N-m = lb-ft x 1.356
- VALUES DERIVED ARE FROM CURRENTLY AVAILABLE DATA AND SUBJECT TO CHANGE WITHOUT NOTICE.

CERTIFIED BY:
D. L. Graham
10-10-83
STAFF ENGINEER

CURVE NO.
E4-9162-32-18
DATE: 10-3-83
REV./DATE: 1/9-10-85
SHT. 1 OF 3

ENGINE SPECIFICATION

General Engine Description:	NEW AIR INDUCTION WITH BLOWER PRESSURE RELIEF VALVE
Model	9162-7300
Number of cylinders	16
Bore and stroke - in (mm)	5.75 X 5.75 (146 X 146)
Displacement - in^3 (litre)	2389 (39.18)
Compression ratio	16:1
Firing order	
Clockwise rotation (RH)	1L-2R-8L-6R-2L-4R-6L-5R-4L-3R-5L-7R-3L-1R-7L-8R
Counter clockwise rotation (LH)	1L-8R-7L-1R-3L-7R-5L-3R-4L-5R-6L-4R-2L-6R-8L-2R
Marine gear type	NOT DETERMINED
Marine gear reduction ratios	NOT DETERMINED
Marine gear lube oil capacity approx. (Does not include heat exchanger & connections used externally) - pts (litre) (Marine gear must use straight viscosity oil)	NOT DETERMINED
Electrical system	24 VOLTS
Recommended battery capacity (CCA @ 0°F (-18°C)) 24 Volt system above 32°F (0°C)	950
Dimensions & weight	
Length - in (mm)	106 (2692)
Width - in (mm)	64 (1625)
Height - in (mm)	67 (1702)
Weight, dry - lbs (kg)	11750 (5330)
Maximum installation angle	15°

Technical Engine Specification

Injector (timing)	115 (2.205)
Turbocharger	TV8401 (1.23 A/R)
Engine speed - r/min	1800
Brake horsepower - bhp (kW) 77°F, 29.31 in Hg (Dry) Bar., J-1349	930 (693.8)
Shaft horsepower - shp (kW)	902 (672.9)
BMEP - lb/in^2 (kPa)	86 (593)
Peak torque - lb ft (N m) @ r/min	3064 (4155) @ 1200
Fuel consumption - lb/hr (kg/hr)	342.2 (154.9)
Fuel consumption - gal/hr (litre/hr)	49.0 (185.5)
Specific fuel cons. - lb/bhp_3hr (g/kW hr)	.368 (224)
Air consumption - ft^3/min (m^3/min)	3480 (98.9)
Suggested minimum engine room vent area - in^2 (cm^2) Maximum engine room depression 0.2 in. H_2O	334 (2153)
Maximum allowable temperature rise (Outside air to engine inlet) - °F (°C)	30 (17)

Curve No. E4-9162-32-18
Date: 10-3-83
Rev./Date: 1/9-10-85

ENGINE SPECIFICATION

Cooling System - Heat Exchanger or Keel Cooler

Fresh water capacity - gal (litre)	182 (172.2)
Heat rejection to coolant - Btu/min (kW)	29100 (513) *
Fresh water flow - gal/min (litre/min)	530 (2006)
Raw water flow - gal/min (litre/min)	172 (651)
Maximum inlet restriction at raw water pump - in Hg (kPa)	5 (16.93)
Maximum raw water pump pressure - lb/in^2 (kPa)	10 (68.95)
Suggested raw water pipe size - in (mm)	2.5 (63.5)
Suggested sea strainer size - simplex - in (mm)	3 (76)
- duplex - in (mm)	4 (102)
Max. press. drop thru keel cooler - lb/in^2 (kPa)	6 (41)
Maximum water out temperature - °F (°C)	200 (93)

Fuel System

Fuel pump flow - gal/hr (litre/hr)	330 (1249)
Maximum inlet restriction at pump - in Hg (kPa) (clean filters)	6 (20.32)
Supply line dia. - in (mm)	1 (25.4) min.

Exhaust System

Gas flow - lb/min (kg/min)	257.0 (116.6)
Exhaust temperature - °F (°C)	680 (360)
Maximum exhaust back pressure at turbocharger outlet (full load) - in Hg (kPa)	2.5 (8.47)

Lubrication System

Engine lube oil capacity - qts (litre)	176 (166.6) *
Lubrication oil press., normal - lb/in^2 (kPa)	65-85 (449-587) *
Lubrication oil temp., in-pan - °F (°C)	230 (110) max.

* With 30 plate oil cooler.

Curve No. E4-9162-32-18
Date: 10-3-83
Rev./Date: 1/9-10-85
Sht. 3 of 3

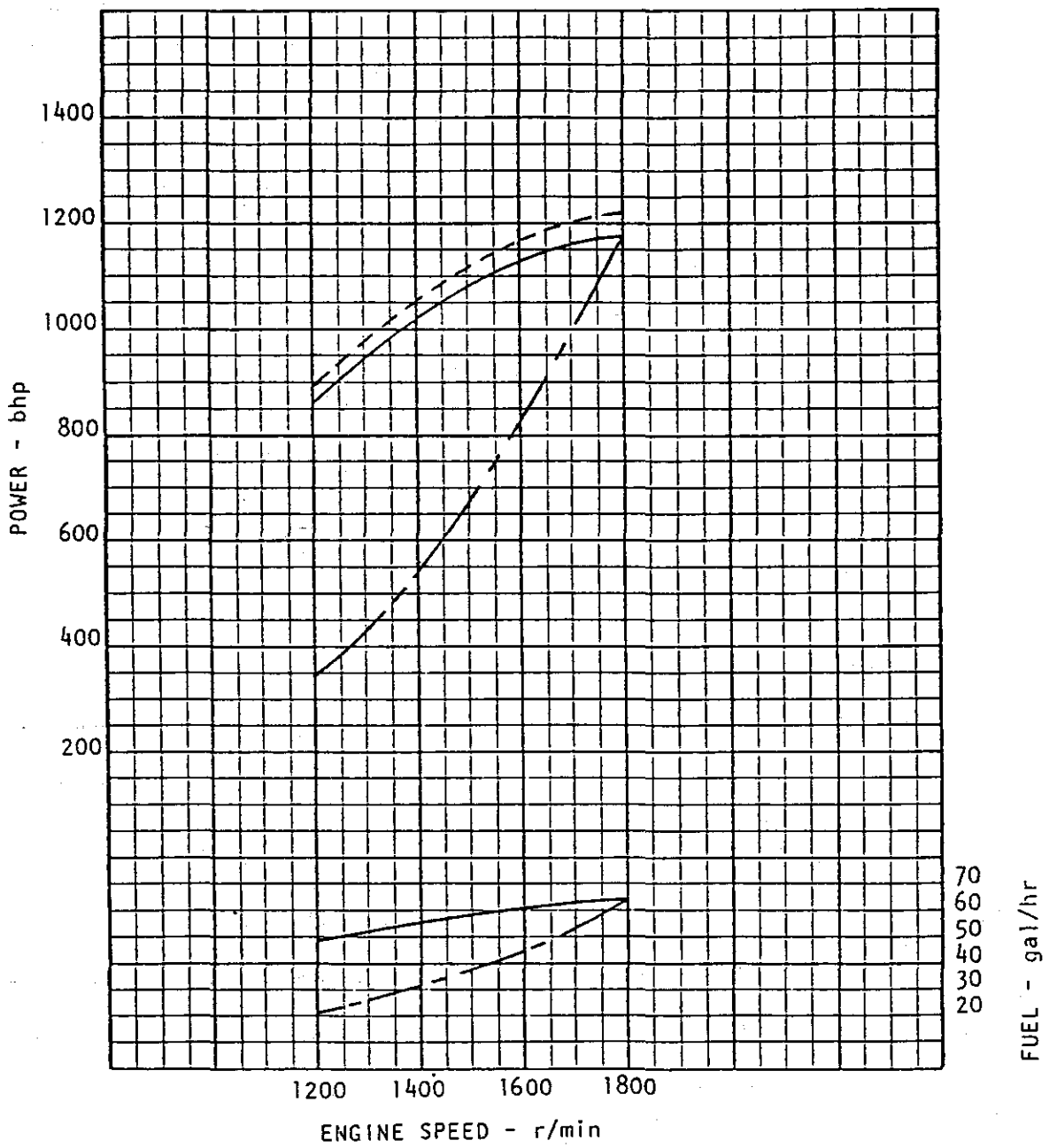
Detroit Diesel Allison

ENGINE PERFORMANCE CURVE

RATING: NET POWER

APPLICATION: MARINE - CONTINUOUS

MODEL: 16V-149T
1215 bhp @ 1800 r/min
1175 shp @ 1800 r/min



ACCESSORIES: MARINE GEAR - 3% LOSS
AIR INTAKE RESTRICTION - in. H_2O (kPa) . . . 10 (2.5)
EXHAUST BACK PRESSURE - in. H_2O (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 (.85) SPECIFIC GRAVITY AT 60°F).
- CONVERSION FACTORS: POWER: kW = bhp x 0.746
  FUEL: kg/kW-hr = lb/bhp-hr x 0.608
  TORQUE: N-m = lb-ft x 1.356
- VALUES DERIVED ARE FROM CURRENTLY AVAILABLE DATA AND SUBJECT TO CHANGE WITHOUT NOTICE.

CERTIFIED BY:
T. Learn for
E. Newham 7/29/84
STAFF ENGINEER

CURVE NO.
E4-9162-32-23
DATE: 7-17-84
REV./DATE: 1/9-20-85
SHT. 1 OF 3

ENGINE SPECIFICATION

General Engine Description:	NEW AIR INDUCTION WITH BLOWER PRESSURE RELIEF VALVE
Model	9162-7300
Number of cylinders	16
Bore and stroke - in (mm)	5.75 X 5.75 (146 X 146)
Displacement - in^3 (litre)	2389 (39.18)
Compression ratio	16:1
Firing order	
Clockwise rotation (RH)	1L-2R-8L-6R-2L-4R-6L-5R-4L-3R-5L-7R-3L-1R-7L-8R
Counter clockwise rotation (LH)	1L-8R-7L-1R-3L-7R-5L-3R-4L-5R-6L-4R-2L-6R-8L-2R
Marine gear type	NOT DETERMINED
Marine gear reduction ratios	NOT DETERMINED
Marine gear lube oil capacity approx. (Does not include heat exchanger & connections used externally) - pts (litre) (Marine gear must use straight viscosity oil)	NOT DETERMINED
Electrical system	24 VOLTS
Recommended battery capacity (CCA @ 0°F (-18°C)) 24 Volt system above 32°F (0°C)	950
Dimensions & weight	
Length - in (mm)	106 (2692)
Width - in (mm)	64 (1625)
Height - in (mm)	67 (1702)
Weight, dry - lbs (kg)	11750 (5330)
Maximum installation angle	15°

Technical Engine Specification

Injector (timing)	140 (2.205)
Turbocharger	TV8401 (1.23 A/R)
Engine speed - r/min	1800
Brake horsepower - bhp (kW)	
77°F, 29.31 in Hg (Dry) Bar., J-1349	1215 (906.8)
Shaft horsepower - shp (kW)	1175 (876.6)
BMEP - lb/in^2 (kPa)	112 (772)
Peak torque - lb ft (N m) @ r/min	3939 (5341) @ 1400
Fuel consumption - lb/hr (kg/hr)	447 (202.8)
Fuel consumption - gal/hr (litre/hr)	64.0 (242.3)
Specific fuel cons. - lb/bhp.hr (g/kW hr)	.367 (223)
Air consumption - ft^3/min (m^3/min)	3540 (100.6)
Suggested minimum engine room vent area - in^2 (cm^2)	
Maximum engine room depression 0.2 in. H_2O	340 (2192)
Maximum allowable temperature rise (Outside air to engine inlet) - °F (°C)	30 (17)

Curve No. E4-9162-32-23
Date: 7-17-84
Rev./Date: 1/9-20-85
Sht. 2 of 3

ENGINE SPECIFICATION

Cooling System - Heat Exchanger or Keel Cooler

Fresh water capacity - gal (litre)	45.5 (172.2)
Heat rejection to coolant - Btu/min (kW)	38000 (670) *
Fresh water flow - gal/min (litre/min)	530 (2006)
Raw water flow - gal/min (litre/min)	172 (651)
Maximum inlet restriction at raw water pump - In Hg (kPa)	5 (16.9)
Maximum raw water pump pressure - lb/in^2 (kPa)	10 (69.0)
Suggested raw water pipe size - in (mm)	2.5 (63.5)
Suggested sea strainer size - simplex - in (mm)	3 (76)
- duplex - in^2 (mm)	4 (102)
Max. press. drop thru keel cooler - lb/in^2 (kPa)	6 (41)
Maximum water out temperature - °F (°C)	200 (93)

Fuel System

Fuel pump flow - gal/hr (litre/hr)	330 (1249)
Maximum inlet restriction at pump - in Hg (kPa) (clean filters)	6 (20.3)
Supply line dia. - in (mm)	1 (25.4) min.

Exhaust System

Gas flow - lb/min (kg/min)	263 (119.3)
Exhaust temperature - °F (°C)	740 (393)
Maximum exhaust back pressure at turbocharger outlet (full load) - in Hg (kPa)	2.5 (8.5)

Lubrication System

Engine lube oil capacity - qts (litre)	176 (166.6) *
Lubrication oil press., normal - lb/in^2 (kPa)	48-70 (331-483) *
Lubrication oil temp., in-pan - °F (°C)	230 (110) max.

* With Tube and Shell Oil Cooler, use data below.
  Heat Rejection - 40100 (707) Btu/min (kW)
  Oil Capacity - 200 (189.3) qts (Litre)
  Oil Pressure - 40-70 (276-483) lb/in^2 (kPa)

Curve No. E4-9162-32-23
Date: 7-17-84
Rev./Date: 1/9-20-85
Sht. 3 of 3

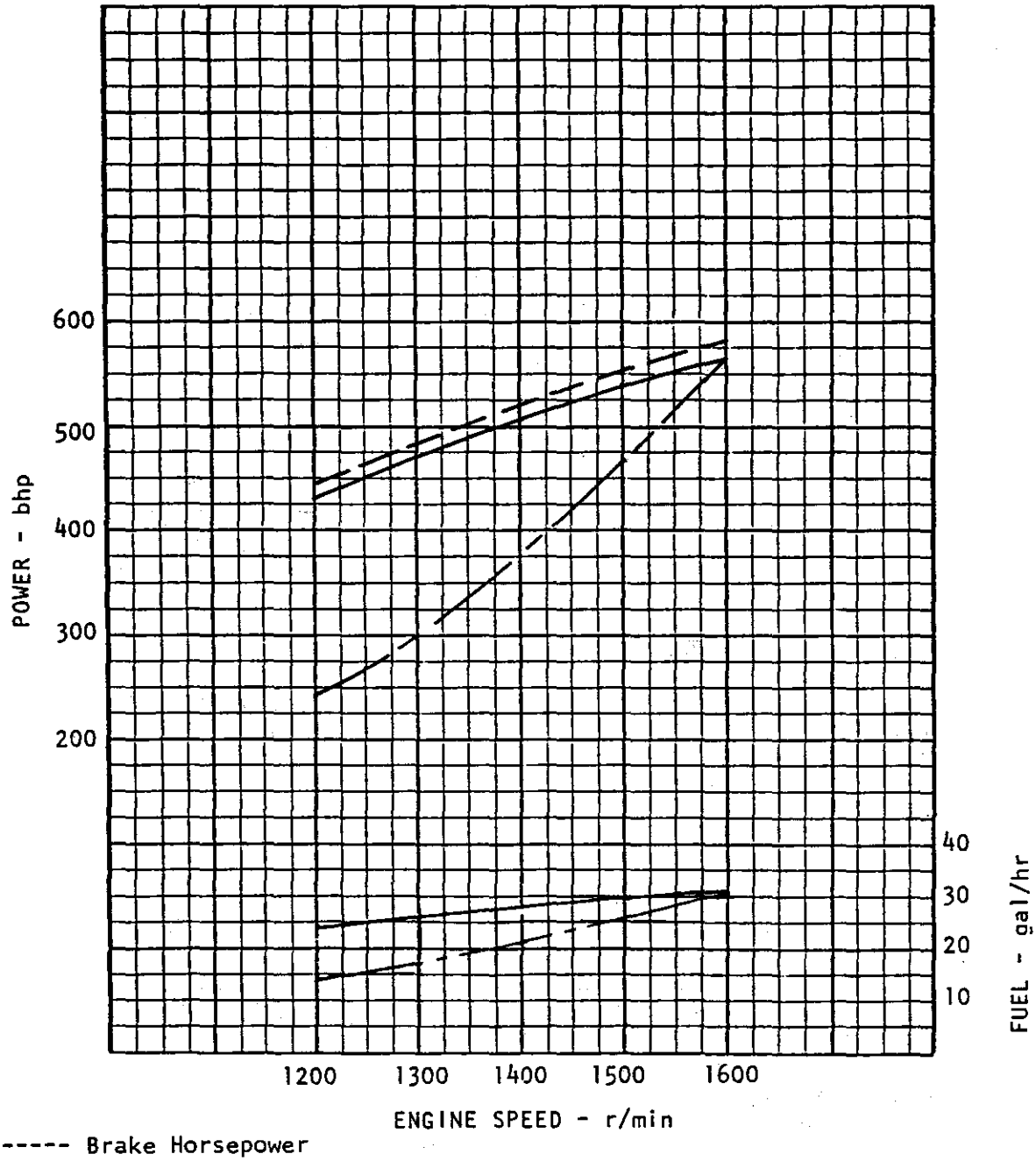
Detroit Diesel Allison

ENGINE PERFORMANCE CURVE

RATING: NET POWER - SEE BELOW

APPLICATION: MARINE - CONTINUOUS

MODEL: 8V-149TI
580 bhp @ 1600 r/min
563 shp @ 1600 r/min



ACCESSORIES: MARINE GEAR, 3% LOSS
AIR INTAKE RESTRICTION - in H_2O (kPa) . . . 10 (2.5)
EXHAUST BACK PRESSURE - in H_2O (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/kW·hr = lb/bhp·hr x 0.608
  TORQUE: N·m = lb·ft x 1.356
- VALUES DERIVED ARE FROM CURRENTLY AVAILABLE DATA AND SUBJECT TO CHANGE WITHOUT NOTICE.

CERTIFIED BY:
D L Graham
11-2-84 13/10/83
STAFF ENGINEER

CURVE NO.
E4-9082-32-5
DATE: 6-11-84
REV./DATE: 2/9-30-85
SHT. 1 OF 3

ENGINE SPECIFICATION

General Engine Description:	NEW AIR INDUCTION WITH BLOWER PRESSURE RELIEF VALVE
Model	9082-7301
Number of cylinders	8
Bore and stroke - in (mm)	5.75 X 5.75 (146 X 146)
Displacement - in^3 (litre)	1195 (19.6)
Compression ratio	16:1
Firing order	
Clockwise rotation (RH)	1L-3R-3L-4R-4L-2R-2L-1R
Counter clockwise rotation (LH)	1L-1R-2L-2R-4L-4R-3L-3R
Marine gear type	NOT DETERMINED
Marine gear reduction ratios	NOT DETERMINED
Marine gear lube oil capacity approx. (Does not include heat exchanger & connections used externally) - pts (litre) (Marine gear must use straight viscosity oil)	NOT DETERMINED
Electrical system	24 VOLTS
Recommended battery capacity (CCA @ 0°F (-18°C)) 24 Volt system above 32°F (0°C)	950
Dimensions & weight	
Length - in (mm)	64 (1625)
Width - in (mm)	64 (1625)
Height - in (mm)	68 (1727)
Weight, dry - lbs (kg)	6000 (2727)
Maximum installation angle	10°

Technical Engine Specification

Injector (timing)	140 (2.205)
Turbocharger	TV7111 (1.08 A/R)
Engine speed - r/min	1600
Brake horsepower - bhp (kW) 77°F, 29.31 in Hg (Dry) Bar., J-1349	580 (433)
Shaft horsepower - shp (kW)	563 (421)
BMEP - lb/in^2 (kPa)	120 (826)
Peak torque - lb ft (N m) @ r/min	1951 (2675) @ 1400
Fuel consumption - lb/hr (kg/hr)	215.0 (97.5)
Fuel consumption - gal/hr (litre/hr)	30.8 (116.6)
Specific fuel cons. = lb/bhp hr (g/kW hr)	.371 (226)
Air consumption - ft^3/min (m^3/min)	1850 (52) *
Suggested minimum engine room vent area - in^2 (cm^2) Maximum engine room depression 0.2 in. H_2O	178 (1149)
Maximum allowable temperature rise (Outside air to engine inlet) - °F (°C)	30 (17)

* Must use outside air supply.

Curve No. E4-9082-32-5
Date: 6-11-84
Rev./Date: 2/9-30-85

ENGINE SPECIFICATION

Cooling System - Heat Exchanger or Keel Cooler

Fresh water capacity - gal (litre)	22.8 (86.1)
Heat rejection to coolant - Btu/min (kW)	20100 (353) *
Fresh water flow - gal/min (litre/min)	233 (882)
Raw water flow - gal/min (litre/min)	160 (606)
Maximum inlet restriction at raw water pump - in Hg (kPa)	5 (16.93)
Maximum raw water pump pressure - lb/in^2 (kPa)	10 (68.95)
Suggested raw water pipe size - in (mm)	2.5 (63.5)
Suggested sea strainer size - simplex - in (mm)	3 (76)
- duplex - in (mm)	4 (102)
Max. press. drop thru keel cooler - lb/in^2 (kPa)	6 (41)
Maximum water out temperature - °F (°C)	200 (93)

Fuel System

Fuel pump flow - gal/hr (litre/hr)	300 (1135)
Maximum inlet restriction at pump - in Hg (kPa) (clean filters)	6 (20.32)
Supply line dia. - in (mm)	1 (25.4) min.

Exhaust System

Gas flow - lb/min (kg/min)	137.2 (62.2)
Exhaust temperature - °F (°C)	625 (329)
Maximum exhaust back pressure at turbocharger outlet (full load) - in Hg (kPa)	2.5 (8.47)

Lubrication System

Engine lube oil capacity - qts (litre)	124 (117.3) *
Lubrication oil press., normal - lb/in^2 (kPa)	37-65 (241-448) *
Lubrication oil temp., in-pan - °F (°C)	230 (110) max.

* Must use tube and shell oil cooler.

Curve No. E4-9082-32-5
Date: 6-11-84
Rev./Date: 2/9-30-85
Sht. 3 of 3

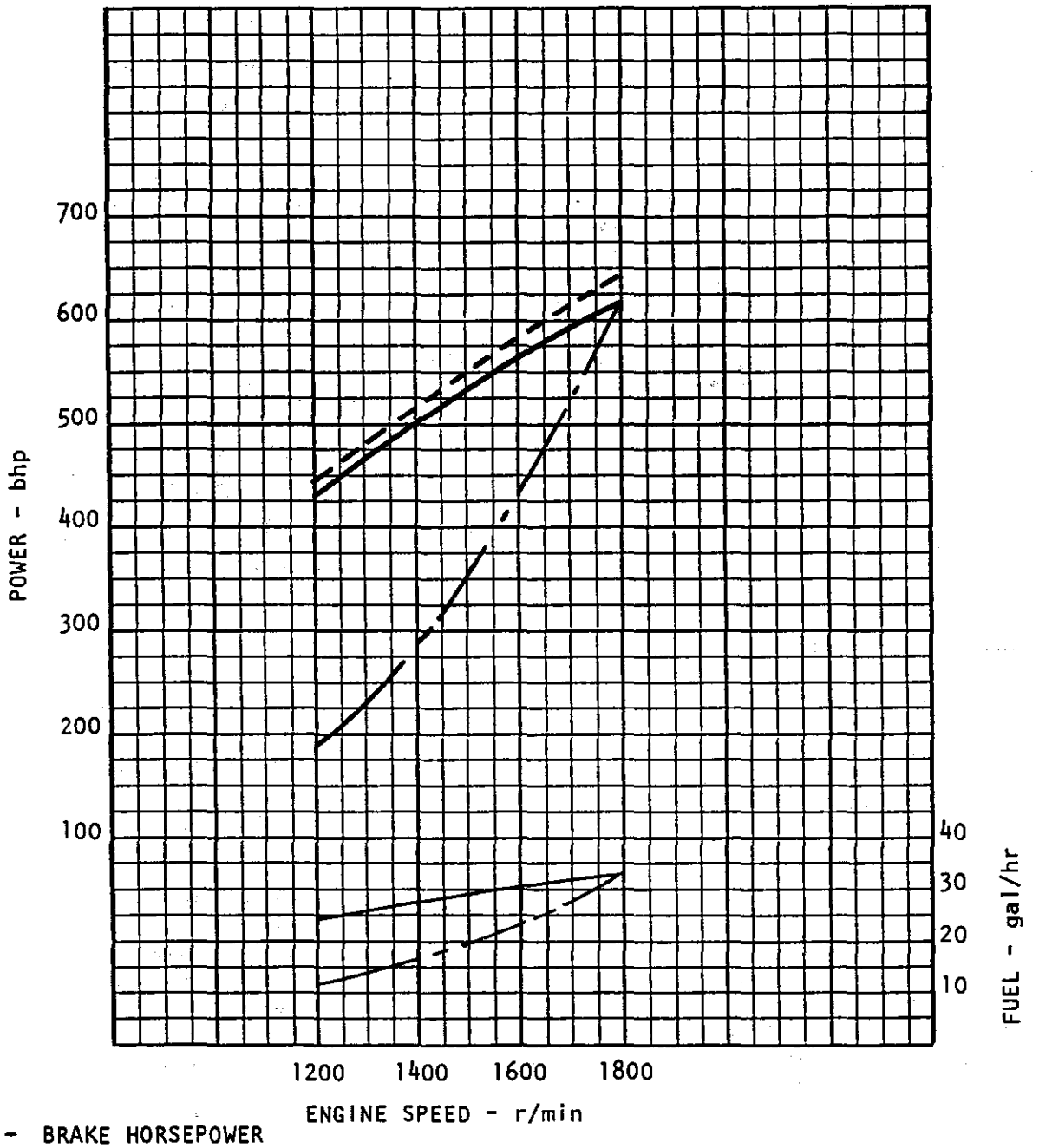
Detroit Diesel Allison

ENGINE PERFORMANCE CURVE

RATING: NET POWER - SEE BELOW

APPLICATION: MARINE - CONTINUOUS
WORK BOAT

MODEL: 8V-149TI
640 bhp @ 1800 r/min
621 shp @ 1800 r/min



------ BRAKE HORSEPOWER
———— SHAFT HORSEPOWER
—— - —— PROPELLER LOAD

ACCESSORIES: MARINE GEAR - 3% LOSS
AIR INTAKE RESTRICTION - in. H_2O (kPa) . . . 10 (2.5)
EXHAUST BACK PRESSURE - in. H_2O (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/kW-hr = lb/bhp-hr x 0.608
  TORQUE: N-m = lb-ft x 1.356
- VALUES DERIVED ARE FROM CURRENTLY AVAILABLE DATA AND SUBJECT TO CHANGE WITHOUT NOTICE.

CERTIFIED BY:
D L Graham
6-10-83
STAFF ENGINEER

CURVE NO.
E4-9082-32-1
DATE: 5-13-83
REV./DATE: 3/9-30-85
SHT. 1 OF 3

ENGINE SPECIFICATION

General Engine Description:	NEW AIR INDUCTION WITH BLOWER PRESSURE RELIEF VALVE
Model	9082-7301
Number of cylinders	8
Bore and stroke - in (mm)	5.75 X 5.75 (146 X 146)
Displacement - in^3 (litre)	1195 (19.6)
Compression ratio	16:1
Firing order	
Clockwise rotation (RH)	1L-3R-3L-4R-4L-2R-2L-1R
Counter clockwise rotation (LH)	1L-1R-2L-2R-4L-4R-3L-3R
Marine gear type	NOT DETERMINED
Marine gear reduction ratios	NOT DETERMINED
Marine gear lube oil capacity approx. (Does not include heat exchanger & connections used externally) - pts (litre) (Marine gear must use straight viscosity oil)	NOT DETERMINED
Electrical system	24 VOLTS
Recommended battery capacity (CCA @ 0°F (-18°C)) 24 Volt system above 32°F (0°C)	950
Dimensions & weight	
Length - in (mm)	64 (1625)
Width - in (mm)	64 (1625)
Height - in (mm)	68 (1727)
Weight, dry - lbs (kg)	6000 (2727)
Maximum installation angle	10°

Technical Engine Specification

Injector (timing)	140 (2.205)
Turbocharger	TV8401 (1.23 A/R)
Engine speed - r/min	1800
Brake horsepower - bhp (kW) 77°F, 29.31 in Hg (Dry) Bar., J-1349	640 (478)
Shaft horsepower - shp (kW)	621 (464)
BMEP - lb/in^2 (kPa)	118 (812)
Peak torque - lb ft (N m) @ r/min	1951 (2675) @ 1400
Fuel consumption - lb/hr (kg/hr)	237.2 (107.6)
Fuel consumption - gal/hr (litre/hr)	33.9 (128.3)
Specific fuel cons. - lb/bhp_3hr (g/kW hr)	.371 (226)
Air consumption - ft^3/min (m^3/min)	2005 (57) *
Suggested minimum engine room vent area - in^2 (cm^2) Maximum engine room depression 0.2 in. H_2O	192 (1239)
Maximum allowable temperature rise (Outside air to engine inlet) - °F (°C)	30 (17)

* Must use outside air supply.

Curve No. E4-9082-32-1
Date: 5-13-83
Rev./Date: 3/9-30-85

ENGINE SPECIFICATION

Cooling System - Heat Exchanger or Keel Cooler

Fresh water capacity - gal (litre)	22.8 (86.1)
Heat rejection to coolant - Btu/min (kW)	22300 (392) *
Fresh water flow - gal/min (litre/min)	265 (1003)
Raw water flow - gal/min (litre/min)	172 (651)
Maximum inlet restriction at raw water pump - In Hg (kPa)	5 (16.9)
Maximum raw water pump pressure - lb/in^2 (kPa)	10 (69.0)
Suggested raw water pipe size - In (mm)	2.5 (63.5)
Suggested sea strainer size - simplex - In (mm)	3 (76)
- duplex - In_2(mm)	4 (102)
Max. press. drop thru keel cooler - lb/in^2 (kPa)	6 (41)
Maximum water out temperature - °F (°C)	200 (93)

Fuel System

Fuel pump flow - gal/hr (litre/hr)	320 (1211)
Maximum inlet restriction at pump - In Hg (kPa) (clean filters)	6 (20.3)
Supply line dia. - In (mm)	1 (25.4) min.

Exhaust System

Gas flow - lb/min (kg/min)	148.7 (67.4)
Exhaust temperature - °F (°C)	670 (354)
Maximum exhaust back pressure at turbocharger outlet (full load) - In Hg (kPa)	2.5 (8.5)

Lubrication System

Engine lube oil capacity - qts (litre)	124 (117.3) *
Lubrication oil press., normal - lb/in^2 (kPa)	40-70 (276-483) *
Lubrication oil temp., in-pan - °F (°C)	230 (110) max.

* Must use tube and shell oil cooler.

Curve No. E4-9082-32-1
Date: 5-13-83
Rev./Date: 3/9-30-85
Sht. 3 of 3