



MARINE MAXIMUM RATING PERFORMANCE CURVES

INDEX

<u>ENGINE</u>	<u>INJECTOR</u>	<u>BHP/ SHP @ RPM</u>	<u>CURVE NUMBER</u>	<u>DATE</u>	<u>SEE NOTE</u>
V8-8.2	4A53	170/ 162 @ 3000	E4-4082-11-04	09-27-84	
V8-8.2T	4A70	220/ 211 @ 3200	E4-4082-31-04	01-11-84	
V8-8.2T	4T80	240/ 230 @ 3000	E4-4082-31-07	05-21-85	
3-53N	N50	- / 92 @ 2800	E4-5032-52-01	02-04-69	
4-53N	N50	- / 128 @ 2800	E4-5042-52-01	01-31-69	
6V-53N	N50	- / 197 @ 2800	E4-5062-52-01	01-27-69	
6V-53T	N70	305/ 292 @ 2800	E4-5062-32-02	11-25-81	
4-71N	N70	- / 160 @ 2300	E4-1042-52-02	12-07-81	
6-71N	N70	- / 240 @ 2300	E4-1062-52-03	01-04-82	
4-71M	N80	- / 170 @ 2300	E4-1042-62-02	12-07-81	
6-71M	N80	- / 257 @ 2300	E4-1062-62-01	01-04-82	
6-71TI	N90	- / 325 @ 2300	E4-1062-32-04	01-04-82	
6V-71N	N70	- / 240 @ 2300	E4-7062-52-03	01-04-82	
8V-71N	N70	335/ 325 @ 2300	E4-7082-52-03	08-14-85	(R)
12V-71N	N70	- / 480 @ 2300	E4-7122-52-03	01-05-82	
12V-71N	N70	- / 490 @ 2300	E4-7122-52-3A	01-05-82	
16V-71N	N70	- / 640 @ 2300	E4-7162-52-03	01-05-82	
6V-71TA	7N95	375/ 360 @ 2300	E4-7062-32-03	01-13-81	
6V-71TA	7N95	375/ 365 @ 2300	E4-7062-32-02	01-13-81	
6V-71TA	9215	435/ 425 @ 2300	E4-7062-32-04	05-27-83	
8V-71TI	N90	462/ 450 @ 2300	E4-7082-32-04	08-15-85	(R)
12V-71TI	N90	- / 650 @ 2300	E4-7122-32-02	01-05-82	
12V-71TI	7N95	750/ 720 @ 2300	E4-7122-32-04	04-25-84	
12V-71TI	9215	870/ 840 @ 2300	E4-7122-32-03	08-11-83	
6V-92N	9285	- / 280 @ 2300	E4-8062-12-05	09-28-76	
8V-92N	9285	- / 375 @ 2300	E4-8082-12-05	09-28-76	
16V-92N	9285	- / 725 @ 2100	E4-8162-12-06	10-05-76	
6V-92TA	9215	- / 425 @ 2300	E4-8062-32-02	01-04-78	
6V-92TA	9225	475/ 465 @ 2300	E4-8062-32-04	04-08-83	
8V-92TI	9200	- / 500 @ 2300	E4-8082-32-02	01-06-77	
8V-92TI	9215	- / 550 @ 2300	E4-8082-32-04	06-03-77	
8V-92TI	9215	600/ 585 @ 2300	E4-8082-32-08	05-25-83	
8V-92TI	9225	650/ 625 @ 2300	E4-8082-32-09	05-25-83	

E4M-0000-00-46

Rev. 12-01-85

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MARINE MAXIMUM RATING PERFORMANCE CURVES

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<u>ENGINE</u>	<u>INJECTOR</u>	<u>BHP/ SHP @ RPM</u>	<u>CURVE NUMBER</u>	<u>DATE</u>	<u>SEE NOTE</u>
12V-149T	145	1040/1005 @ 1900	E4-9122-32-20	01-25-85	
12V-149T	150	1050/1019 @ 1900	E4-9122-32-09	05-05-82	
16V-149T	150	1380/1340 @ 1900	E4-9162-32-14	05-05-82	
16V-149T	145	1385/1340 @ 1900	E4-9162-32-25	09-20-85	(R)
8V-149TI	160	800/ 776 @ 1900	E4-9082-32-02	09-30-85	(R)
8V-149TI	190	900/ 870 @ 1900	E4-9082-32-04	09-30-85	(R)
12V-149TI	160	1200/1160 @ 1900	E4-9122-32-16	09-10-85	(R)
12V-149TI	165	1250/1210 @ 1900	E4-9122-32-17	09-10-85	(R)
16V-149TI	160	1600/1550 @ 1900	E4-9162-32-21	09-10-85	(R)
16V-149TI	190	1800/1745 @ 1900	E4-9162-32-22	08-02-85	

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



ENGINE PERFORMANCE CURVE

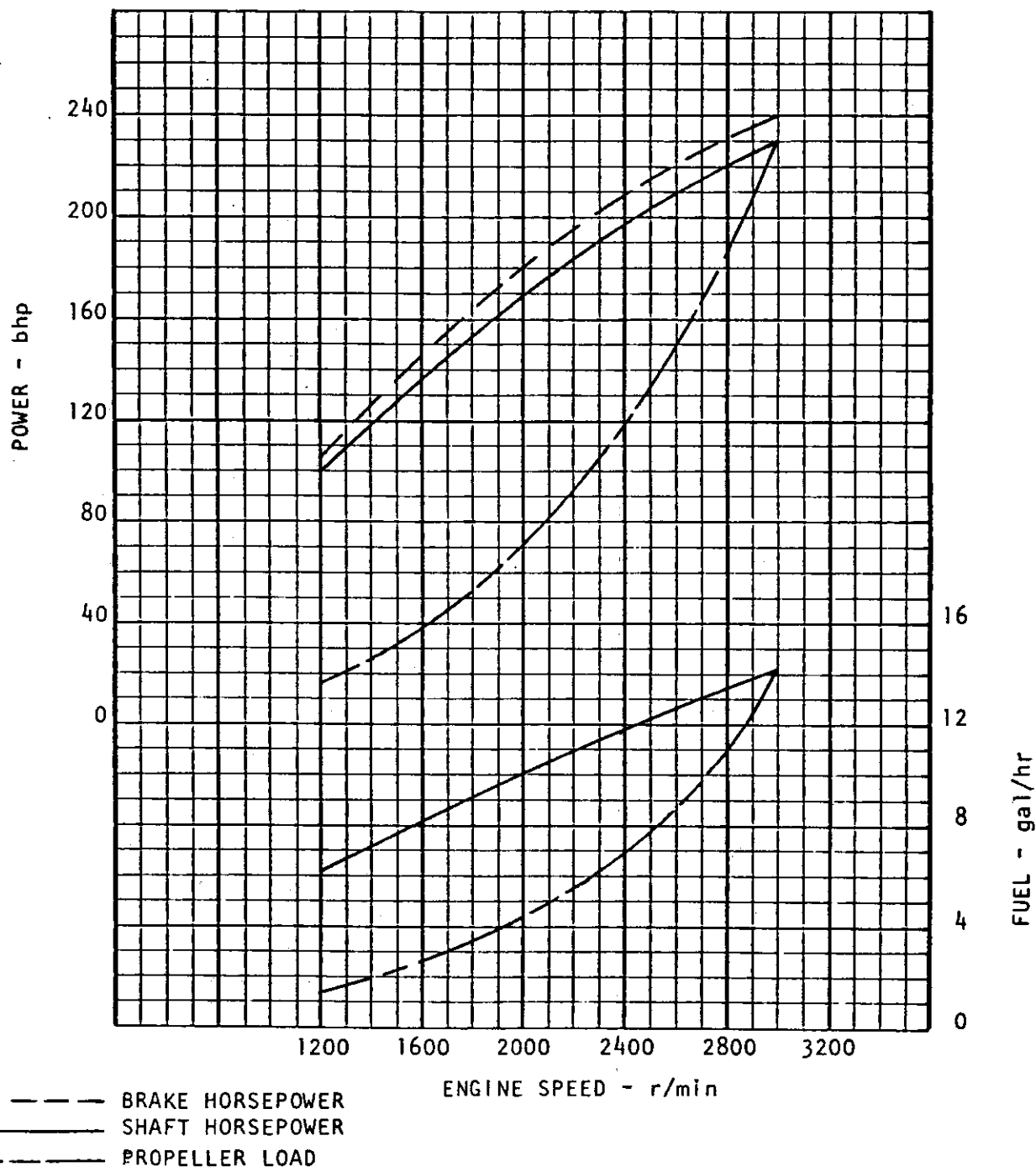
RATING: NET POWER - SEE BELOW

APPLICATION: MARINE - MAXIMUM

MODEL: V8-8.2T

240 bhp @ 3000 r/min

230 shp @ 3000 r/min



ACCESSORIES: MARINE GEAR - 3% LOSS, RAW WATER PUMP, BATTERY CHARGING ALTERNATOR 14V-42 AMP
AIR INTAKE RESTRICTION - in. H₂O (kPa) . . . 10 (2.5)
EXHAUST BACK PRESSURE - in. H₂O (kPa) . . . 15 (3.7)

- POWER OUTPUT 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:

S. L. Kumbler
STAFF ENGINEER

CURVE NO.

E4-4082-31-7

DATE: 4-10-85

REV./DATE: 1/5-21-85

SHT. 1 OF 3

ENGINE SPECIFICATION

General Engine Description:

Model	4082-8300/8301
Number of cylinders	8
Bore and stroke - in (mm)	4.25 X 4.41 (108 X 112)
Displacement - in ³ (litre)	500.9 (8.2)
Compression ratio	16.9:1
Firing order	
Clockwise rotation (RH)	1-8-4-3-6-5-7-2
Counter clockwise rotation (LH)	NOT APPLICABLE
Marine gear type	TWIN DISC MG-502
Marine gear reduction ratios	1.54:1, 2.00:1
Marine gear lube oil capacity approx. (Does not include heat exchanger & connections used externally) - pts (litre) (Marine gear must use straight viscosity oil)	3.5 (1.66)
Electrical system	12 VOLTS
Recommended battery capacity (CCA @ 0°F (-18°C)) 12 Volt system above 32°F (0°C)	900
Dimensions & weight	
Length - in (mm)	54.5 (1384)
Width - in (mm)	31 (787)
Height - in (mm)	31.2 (794)
Weight, dry - lbs (kg)	1560 (708)
Maximum installation angle	7° ENGINE - 17° PROPELLER SHAFT

Technical Engine Specification

Injector (timing)	4T80 (43.80mm)
Turbocharger	TW-4103 (1.30 A/R)
Engine speed - r/min	3000
Brake horsepower - bhp (kW) 77°F, 29.31 in Hg (Dry) Bar., J-1349	240 (179)
Shaft horsepower - shp (kW)	230 (172)
BMEP - lb/in ² (kPa)	126 (869)
Peak torque - lb ft (N m) @ r/min	464 (629) @ 1800
Fuel consumption - lb/hr (kg/hr)	99.6 (45.2)
Fuel consumption - gal/hr (litre/hr)	14.2 (53.7)
Specific fuel cons. = lb/bhp _{hr} (g/kW hr)	.415 (252)
Air consumption - ft ³ /min (m ³ /min)	565 (16.0)
Suggested minimum engine room vent area - in ² (cm ²)	
Maximum engine room depression 0.2 in. H ₂ O	54.2 (350)
Maximum allowable temperature rise (Outside air to engine inlet) - °F (°C)	30 (16.7)

Curve No. E4-4082-31-7
Date: 4-10-85
Rev./Date: 1/5-21-85
Sht. 2 of 3

ENGINE SPECIFICATION

Cooling System - Heat Exchanger or Keel Cooler

Fresh water capacity - gal (litre)	8 (30.3)
Heat rejection to coolant - Btu/min (kW)	9950 (175)
Fresh water flow - gal/min (litre/min)	73 (276)
Raw water flow - gal/min (litre/min)	30 (114)
Maximum inlet restriction at raw water pump - In Hg (kPa)	5 (16.9)
Maximum raw water pump pressure - lb/in ² (kPa)	10 (69)
Suggested raw water pipe size - in (mm)	1.5 (38.1)
Suggested sea strainer size - simplex - in (mm) - duplex - in (mm)	1.5 (38.1) NOT APPLICABLE
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)	81.0 (306)
Maximum inlet restriction at pump - In Hg (kPa) (clean filters)	6 (20)
Supply line dia. - in (mm)	0.5 (12.7)

Exhaust System

Gas flow - lb/min (kg/min)	42.5 (19.3)
Exhaust temperature - °F (°C)	880 (471)
Maximum exhaust back pressure at turbocharger outlet (full load) - In Hg (kPa)	3.0 (10)

Lubrication System

Engine lube oil capacity - qts (litre)	11 (10.4)
Lubrication oil press., normal - lb/in ² (kPa)	35-55 (241-379)
Lubrication oil temp., in-pan - °F (°C)	200-250 (93-121)

Curve No. E4-4082-31-7
Date: 4-10-85
Rev./Date: 1/5-21-85
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ENGINE PERFORMANCE CURVE

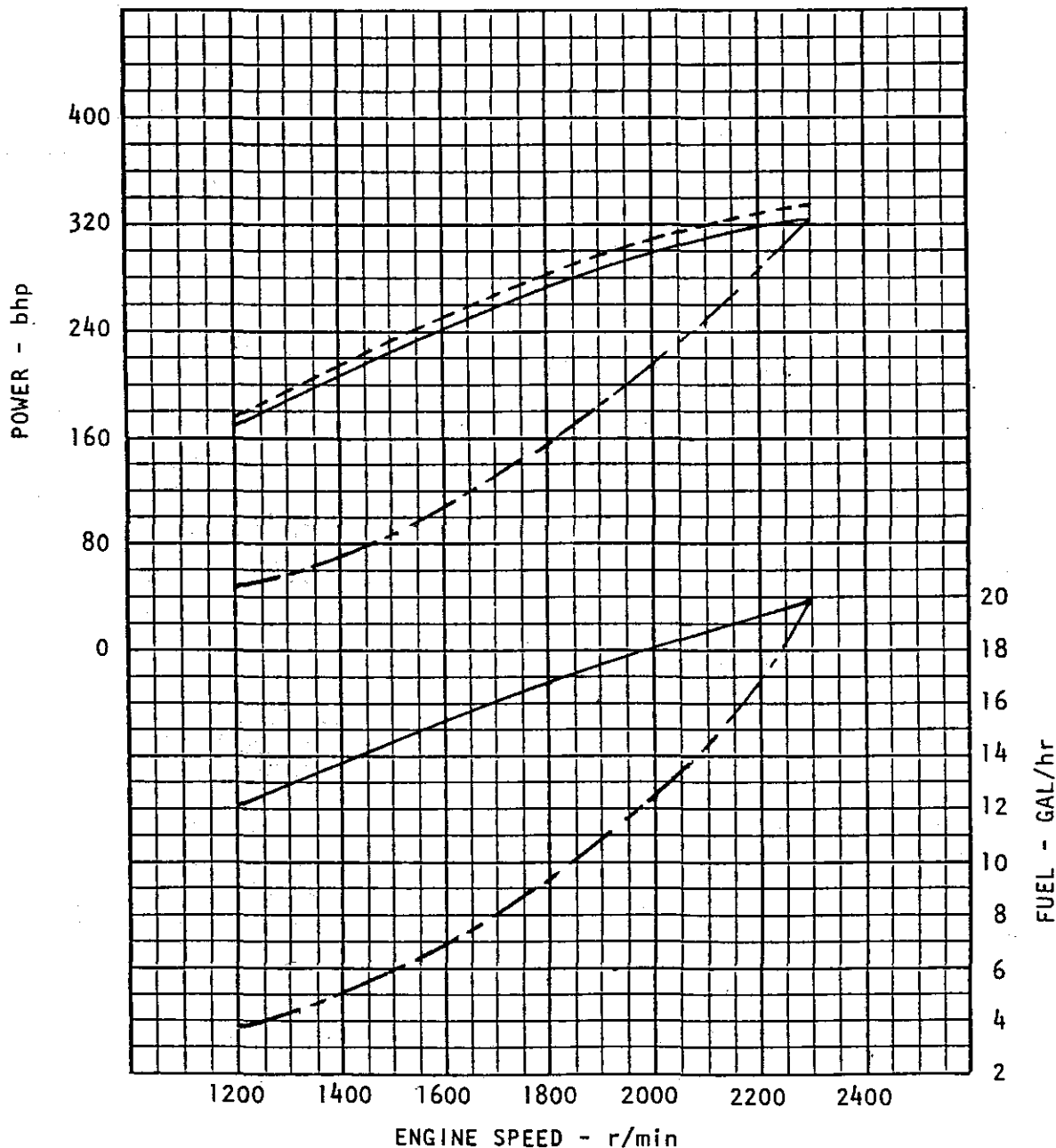
RATING: NET POWER - SEE BELOW

APPLICATION: MARINE - MAXIMUM
PLEASURE CRAFT

MODEL: 8V-71

335 bhp @ 2300 r/min

325 shp @ 2300 r/min



----- RATED BRAKE HORSEPOWER
———— RATED SHAFT HORSEPOWER
- · - · - · - · - · PROPELLER LOAD

ACCESSORIES: ALLISON M GEAR, RAW WATER PUMP, ALTERNATOR 24V65A
CONVERSION FACTOR: LITERS/hr = GAL/hr x 3.785

- 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
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CHANGE WITHOUT NOTICE.

CERTIFIED BY

[Signature]
STAFF ENGINEER

CURVE NO.

E4-7082-52-3

DATE: 3-21-62

REV./DATE: 8/8-14-85

SHT. 1 OF 3

ENGINE SPECIFICATION

General Engine Description:

Model	7082-3000, 7000
Number of cylinders	8
Bore and stroke - in (mm)	4.25 X 5.0 (108 X 127)
Displacement - in ³ (litre)	568 (9.32)
Compression ratio	18.7:1
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	ALLISON M
Marine gear reduction ratios	2.0:1, 1.52:1
Marine gear lube oil capacity approx. (Does not include heat exchanger & connections used externally) - pts (litre) (Marine gear must use straight viscosity oil)	12 (5.7)
Electrical system	24 VOLT
Recommended battery capacity (CCA @ 0°F (-18°C)) 24 Volt system above 32°F (0°C)	950
Dimensions & weight	
Length - in (mm)	61.8 (1570)
Width - in (mm)	45.5 (1156)
Height - in (mm)	47.0 (1194)
Weight, dry - lbs (kg)	3100 (1406)
Maximum installation angle	18°

Technical Engine Specification

Injector (timing)	N70 (1.460)
Turbocharger	NOT APPLICABLE
Engine speed - r/min	2300
Brake horsepower - bhp (kW) 77°F, 29.31 in Hg (Dry) Bar., J-1349	335 (250)
Shaft horsepower - shp (kW)	325 (242)
BMEP - lb/in ² (kPa)	101.7 (701)
Peak torque - lb ft (N m) @ r/min	826 (1120) @ 1800
Fuel consumption - lb/hr (kg/hr)	138.7 (62.9)
Fuel consumption - gal/hr (litre/hr)	19.8 (75.1)
Specific fuel cons. - lb/bhp hr (g/kW hr)	.414 (252)
Air consumption - ft ³ /min (m ³ /min)	960 (27.2)
Suggested minimum engine room vent area - in ² (cm ²) Maximum engine room depression 0.2 in. H ₂ O	92 (594)
Maximum allowable temperature rise (Outside air to engine inlet) - °F (°C)	30 (16.7)

Curve No. E4-7082-52-3
Date: 3-21-62
Rev./Date: 8/8-14-85
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ENGINE SPECIFICATION

Cooling System - Heat Exchanger or Keel Cooler

Fresh water capacity - gal (litre)	17 (64.4)
Heat rejection to coolant - Btu/min (kW)	11890 (209.1)
Fresh water flow - gal/min (litre/min)	142 (538)
Raw water flow - gal/min (litre/min)	107 (405)
Maximum inlet restriction at raw water pump - in Hg (kPa)	5.0 (16.9)
Maximum raw water pump pressure - lb/in ² (kPa)	10.0 (69.0)
Suggested raw water pipe size - in (mm)	2.5 (63.5)
Suggested sea strainer size - simplex - in (mm)	3 (76.2)
- duplex - in (mm)	4 (101.6)
Max. press. drop thru keel cooler - lb/in ² (kPa)	2.5 (17.2)
Maximum water out temperature - °F (°C)	200 (93)

Fuel System

Fuel pump flow - gal/hr (litre/hr)	90 (341)
Maximum inlet restriction at pump - in Hg (kPa) (clean filters)	6 (20.3)
Supply line dia. - in (mm)	0.5 (12.7)

Exhaust System

Gas flow - lb/min (kg/min)	71.6 (32.5)
Exhaust temperature - °F (°C)	920 (493)
Maximum exhaust back pressure at manifold outlet (full load) - in Hg (kPa)	4.5 (15.2)

Lubrication System

Engine lube oil capacity - qts (litre)	23 (21.8)
Lubrication oil press., normal - lb/in ² (kPa)	50-70 (345-483)
Lubrication oil temp., in-pan - °F (°C)	200-235 (93-113)

Curve No. E4-7082-52-3
Date: 3-21-62
Rev./Date: 8/8-14-85
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ENGINE PERFORMANCE CURVE

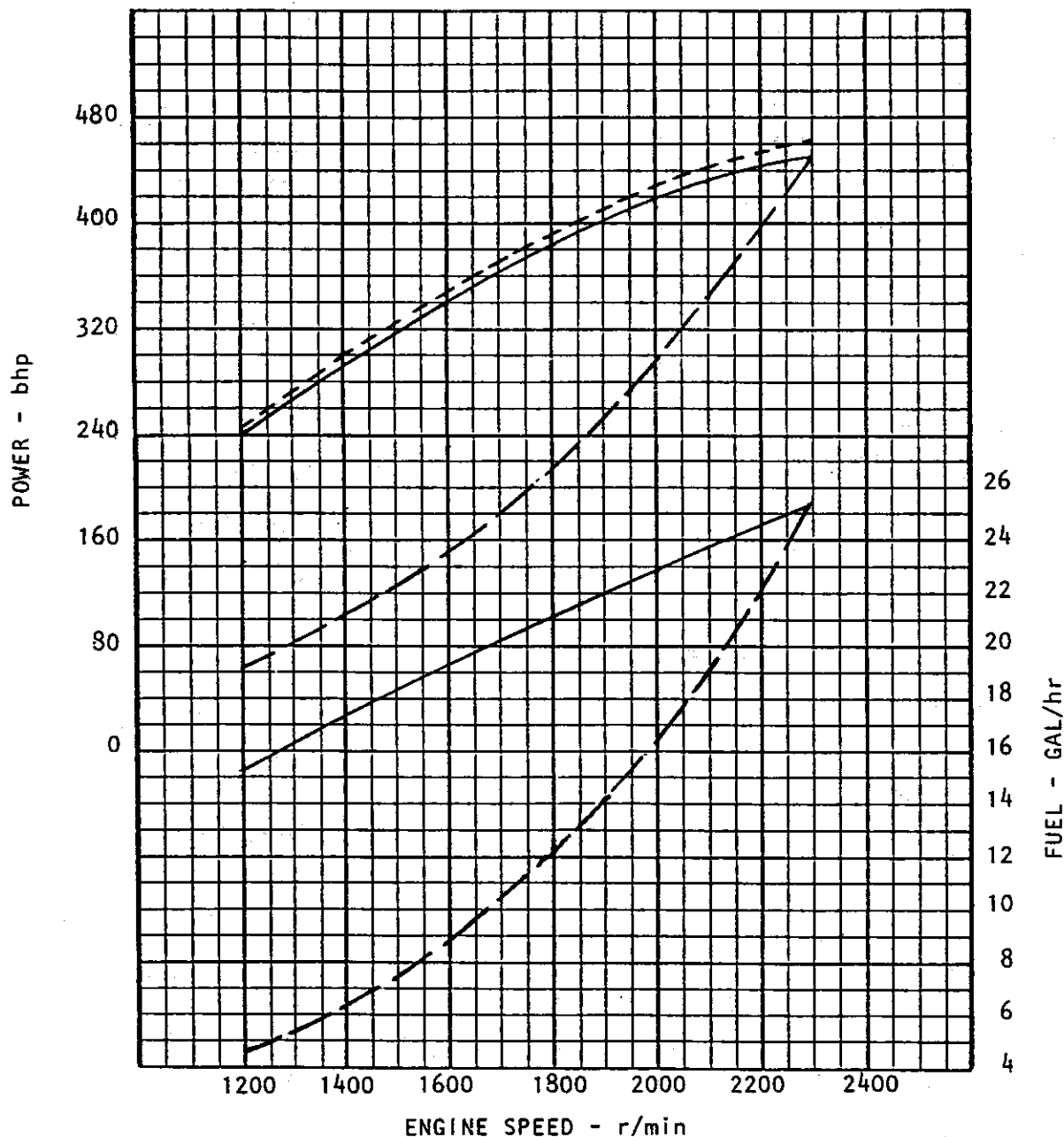
RATING: NET POWER - SEE BELOW

APPLICATION: MARINE - MAXIMUM
PLEASURE CRAFT

MODEL: 8V-71T1

462 bhp @ 2300 r/min

450 shp @ 2300 r/min



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

ACCESSORIES: ALLISON "M" GEAR, RAW WATER PUMP, ALTERNATOR V50A
CONVERSION FACTOR: LITERS/hr = GAL/hr x 3.785

- 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:

[Signature]
STAFF ENGINEER

CURVE NO.

E4-7082-32-4

DATE: 1-19-72

REV./DATE: 2/8-15-85

SHT. 1 OF 3

ENGINE SPECIFICATION

General Engine Description:

Model	7082-3300, 7300
Number of cylinders	8
Bore and stroke - in (mm)	4.25 X 5.0 (108 X 127)
Displacement - in ³ (litre)	568 (9.32)
Compression ratio	17.0:1
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	ALLISON M
Marine gear reduction ratios	1.52:1, 2.0:1
Marine gear lube oil capacity approx. (Does not include heat exchanger & connections used externally) - pts (litre) (Marine gear must use straight viscosity oil)	12 (5.7)
Electrical system	24 VOLT
Recommended battery capacity (CCA @ 0°F (-18°C)) 24 Volt system above 32°F (0°C)	950
Dimensions & weight	
Length - in (mm)	63.1 (1603)
Width - in (mm)	48.9 (1242)
Height - in (mm)	46.4 (1179)
Weight, dry - lbs (kg)	3430 (1556)
Maximum installation angle	15°

Technical Engine Specification

Injector (timing)	N90 (1.460)
Turbocharger	TH08A (0.96 A/R HSG)
Engine speed - r/min	2300
Brake horsepower - bhp (kW) 77°F, 29.31 in Hg (Dry) Bar., J-1349	462 (344)
Shaft horsepower - shp (kW)	450 (336)
BMEP - lb/in ² (kPa)	140.1 (966)
Peak torque - lb ft (N m) @ r/min	1140 (1546) @ 1800
Fuel consumption - lb/hr (kg/hr)	177.2 (80.4)
Fuel consumption - gal/hr (litre/hr)	25.4 (96.0)
Specific fuel cons. - lb/bhp hr (g/kW hr)	.384 (234)
Air consumption - ft ³ /min (m ³ /min)	1520 (93.0)
Suggested minimum engine room vent area - in ² (cm ²) Maximum engine room depression 0.2 in. H ₂ O	150 (971)
Maximum allowable temperature rise (Outside air to engine inlet) - °F (°C)	30 (16.7)

Curve No. E4-7082-32-4

Date: 1-19-72

Rev./Date: 2/8-15-85

Sht. 2 of 3

ENGINE SPECIFICATION

Cooling System - Heat Exchanger or Keel Cooler

Fresh water capacity - gal (litre)	17.3 (65.5)
Heat rejection to coolant - Btu/min (kW)	17090 (300.6)
Fresh water flow - gal/min (litre/min)	150 (568)
Raw water flow - gal/min (litre/min)	107 (405)
Maximum inlet restriction at raw water pump - in Hg (kPa)	5.0 (16.9)
Maximum raw water pump pressure - lb/in ² (kPa)	10.0 (69.0)
Suggested raw water pipe size - in (mm)	2.5 (63.5)
Suggested sea strainer size - simplex - in (mm)	3 (76.2)
- duplex - in (mm)	4 (101.6)
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)	90 (341)
Maximum inlet restriction at pump - in Hg (kPa) (clean filters)	6 (20.3)
Supply line dia. - in (mm)	0.5 (12.7)

Exhaust System

Gas flow - lb/min (kg/min)	115.6 (52.4)
Exhaust temperature - °F (°C)	670 (354)
Maximum exhaust back pressure at turbocharger outlet (full load) - in Hg (kPa)	3.0 (10.1)

Lubrication System

Engine lube oil capacity - qts (litre)	24.5 (23.2)
Lubrication oil press., normal - lb/in ² (kPa)	50-70 (345-483)
Lubrication oil temp., in-pan - °F (°C)	200-250 (93-121)

Curve No. E4-7082-32-4
Date: 1-19-72
Rev./Date: 2/8-15-85
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ENGINE PERFORMANCE CURVE

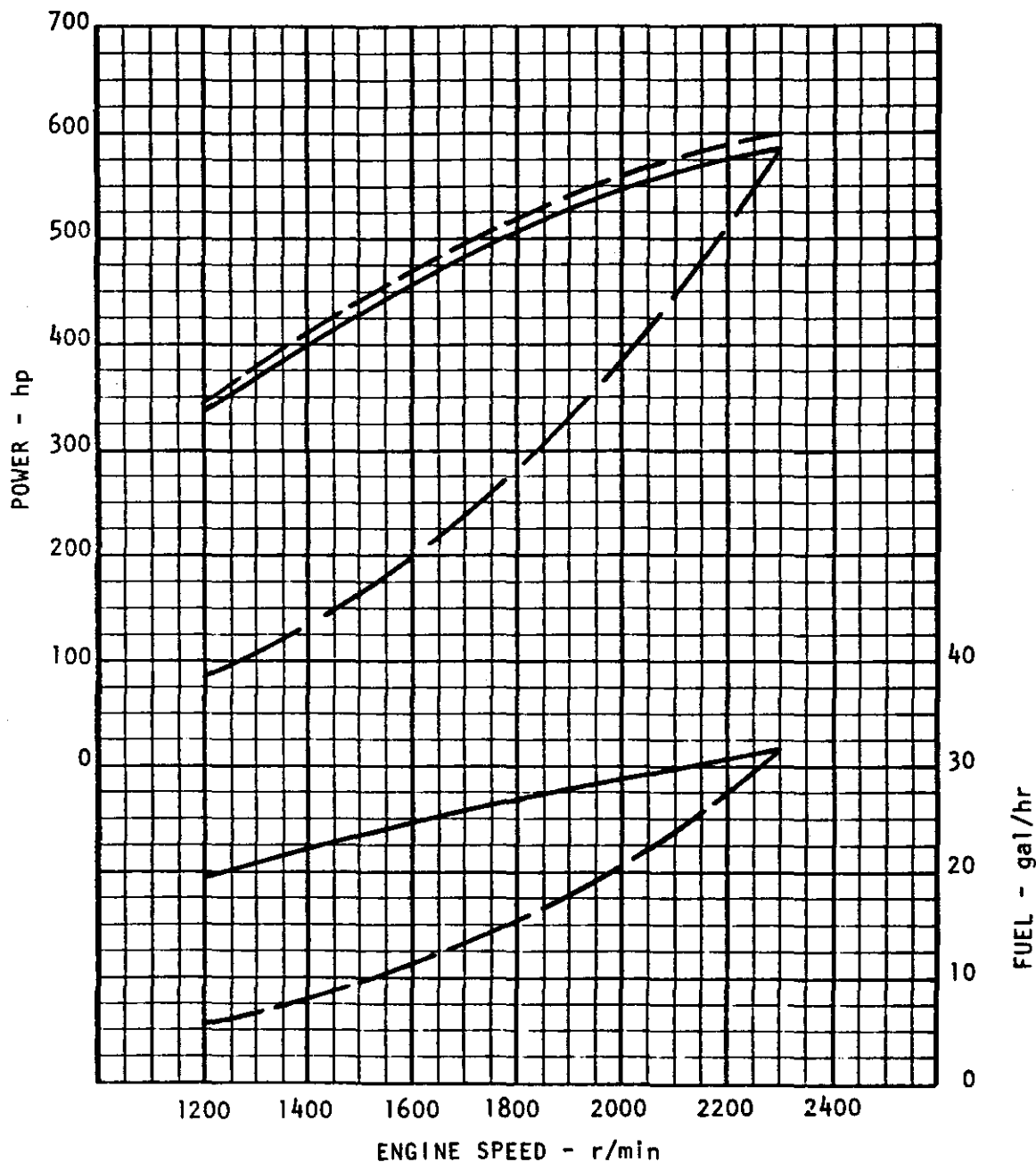
RATING: NET POWER - SEE BELOW

APPLICATION: MARINE - MAXIMUM
(PLEASURE CRAFT)

MODEL: 8V-92T1

600 bhp @ 2300 r/min

585 shp @ 2300 r/min



ACCESSORIES: ALLISON "MH" GEAR, RAW WATER PUMP, ALTERNATOR 24V, 65A
AIR INTAKE RESTRICTION - in. H₂O (mm H₂O) . . . 10 (250)
EXHAUST RESTRICTION - in. H₂O (mm H₂O) . . . 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.S. Pinaker

STAFF ENGINEER

CURVE NO.

E4-8082-32-8

DATE: 5-25-83

REV./DATE:

SHT. 1 OF 3

ENGINE SPECIFICATION

General Engine Description:

Model	8V-92TI MARINE
Number of cylinders	8
Bore and stroke - in (mm)	4.84 x 5.00 (123 x 127)
Displacement - in ³ (litre)	736 (12.1)
Compression ratio	17.0:1
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	ALLISON "MH" GEAR
Marine gear reduction ratios	1.54:1, 1.97:1
Marine gear lube oil capacity approx. (Does not include heat exchanger & connections used externally) - pts (litre) (Marine gear must use straight viscosity oil)	17 (8.0)
Electrical system	24 Volt
Recommended battery capacity (CCA @ 0°F (-18°C)) 24 Volt system above 32°F (0°C)	950
Dimensions & weight	
Length - in (mm)	71.3 (1811)
Width - in (mm)	49.1 (1247)
Height - in (mm)	46.5 (1181)
Weight, dry - lbs (kg)	3820 (1733)
Maximum installation angle	15°

Technical Engine Specification

Injector (timing)	9215 (1.484)
Turbocharger	TV71. 1.23 A/R
Engine speed - r/min	2300
Brake horsepower - bhp (kW) 77°F, 29.31 in Hg (Dry) Bar., J-1349	600 (448)
Shaft horsepower - shp (kW)	585 (436)
BMEP - lb/in ² (kPa)	140 (965)
Peak torque - lb·ft (N·m) @ r/min	1565 (2122) @ 1500
Fuel consumption - lb/hr (kg/hr)	221.7 (100.6)
Fuel consumption - gal/hr (litre/hr)	31.7 (120)
Specific fuel cons. - lb/bhp·hr (g/kW·hr)	.370 (225)
Air consumption - ft ³ /min (m ³ /min)	1770 (50.1)
Suggested minimum engine room vent area - in ² (cm ²)	
Maximum engine room depression 0.2 in. H ₂ O	170 (1097)

ENGINE SPECIFICATION

Cooling System - Heat Exchanger

Fresh water capacity - gal (litre)	15.5 (58.7)
Heat rejection to coolant - Btu/min (kW)	18300 (322)
Fresh water flow - gal/min (litre/min)	193 (731)
Raw water flow - gal/min (litre/min)	107 (405)
Maximum inlet restriction at raw water pump - in Hg (kPa)	5 (17)
Maximum raw water pump pressure - lb/in ² (kPa)	10 (69)
Suggested raw water pipe size - in (mm)	2½ (64)
Suggested sea strainer size - simplex - in (mm)	3 (76)
- duplex - in (mm)	4 (102)

Fuel System

Fuel pump flow - gal/hr (litre/hr)	90 (341)
Maximum inlet restriction at pump - in Hg (kPa) (clean filters)	6 (20)
Supply line dia. - in (mm)	1/2 (13)

Exhaust System

Gas flow - lb/min (kg/min)	131.5 (59.6)
Exhaust temperature - °F (°C)	760 (404)
Maximum exhaust back pressure at turbocharger outlet (full load) - in Hg (kPa)	2.5 (8.4)

Lubrication System

Engine lube oil capacity - qts (litre)	23 (22)
Lubrication oil press., normal - lb/in ² (kPa)	49-70 (338-483)
Lubrication oil temp., in-pan - °F (°C)	200-250 (93-121)



ENGINE PERFORMANCE CURVE

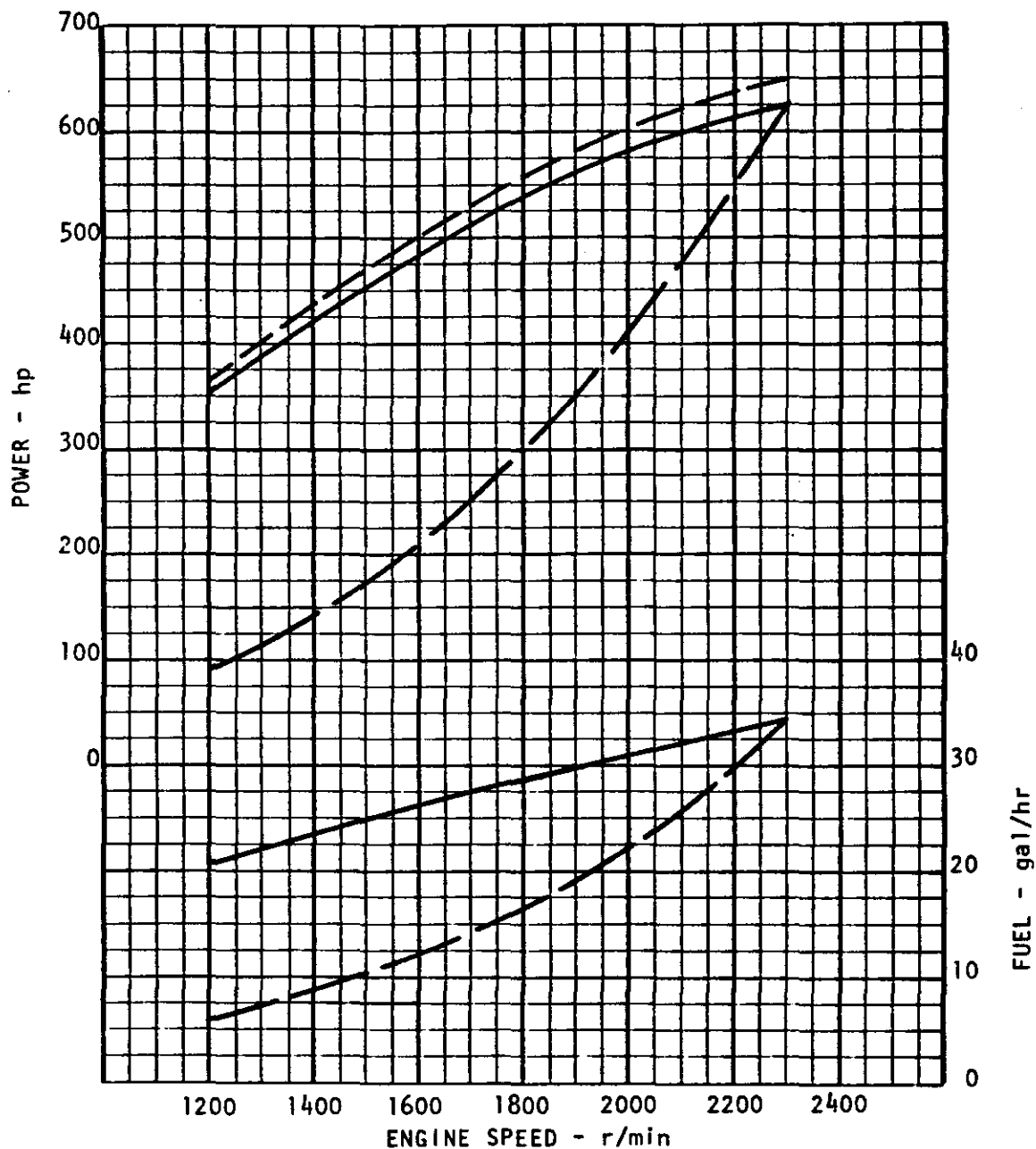
RATING: NET POWER - SEE BELOW

APPLICATION: MARINE - MAXIMUM
(PLEASURE CRAFT)

MODEL: 8V-92T1

650 bhp @ 2300 r/min

625 shp @ 2300 r/min



--- RATED BRAKE HORSEPOWER
--- RATED SHAFT HORSEPOWER
--- PROPELLER LOAD

ACCESSORIES: TWIN DISC "MG-514" GEAR, RAW WATER PUMP, ALTERNATOR 24V, 65A
AIR INTAKE RESTRICTION - in. H₂O (mm H₂O) . . . 10 (250)
EXHAUST RESTRICTION - in. H₂O (mm H₂O) . . . 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:

B. S. H. H. H.

STAFF ENGINEER

CURVE NO.

E4-8082-32-9

DATE: 5-25-83

REV./DATE:

SHT. 1 OF 3

ENGINE SPECIFICATION

General Engine Description:

Model	8V-92TI MARINE
Number of cylinders	8
Bore and stroke - in (mm)	4.84 x 5.00 (123 x 127)
Displacement - in ³ (litre)	736 (12.1)
Compression ratio	17.0:1
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	TWIN DISC MG-514
Marine gear reduction ratios	1.54:1, 1.97:1
Marine gear lube oil capacity approx. (Does not include heat exchanger & connections used externally) - pts (litre) (Marine gear must use straight viscosity oil)	48 (23)
Electrical system	24 Volt
Recommended battery capacity (CCA @ 0°F (-18°C)) 24 Volt system above 32°F (0°C)	950
Dimensions & weight	
Length - in (mm)	71.3 (1811)
Width - in (mm)	49.1 (1247)
Height - in (mm)	46.5 (1181)
Weight, dry - lbs (kg)	4440 (2014)
Maximum installation angle	15°

Technical Engine Specification

Injector (timing)	9225 (1.484)
Turbocharger	TV71, 1.23 A/R
Engine speed - r/min	2300
Brake horsepower - bhp (kW) 77°F, 29.31 in Hg (Dry) Bar., J-1349	650 (485)
Shaft horsepower - shp (kW)	625 (466)
BMEP - lb/in ² (kPa)	152 (1048)
Peak torque - lb·ft (N·m) @ r/min	1639 (2222) @ 1500
Fuel consumption - lb/hr (kg/hr)	240.7 (109.2)
Fuel consumption - gal/hr (litre/hr)	34.4 (130)
Specific fuel cons. - lb/bhp·hr (g/kW·hr)	.370 (225)
Air consumption - ft ³ /min (m ³ /min)	1800 (51.0)
Suggested minimum engine room vent area - in ² (cm ²)	
Maximum engine room depression 0.2 in. H ₂ O	173 (1116)

ENGINE SPECIFICATION

Cooling System - Heat Exchanger

Fresh water capacity - gal (litre)	15.5 (58.7)
Heat rejection to coolant - Btu/min (kW)	19500 (343)
Fresh water flow - gal/min (litre/min)	193 (731)
Raw water flow - gal/min (litre/min)	107 (405)
Maximum inlet restriction at raw water pump - in Hg (kPa)	5 (17)
Maximum raw water pump pressure - lb/in ² (kPa)	10 (69)
Suggested raw water pipe size - in (mm)	2½ (64)
Suggested sea strainer size - simplex - in (mm)	3 (76)
- duplex - in (mm)	4 (102)

Fuel System

Fuel pump flow - gal/hr (litre/hr)	90 (341)
Maximum inlet restriction at pump - in Hg (kPa) (clean filters)	6 (20)
Supply line dia. - in (mm)	1/2 (13)

Exhaust System

Gas flow - lb/min (kg/min)	134.0 (60.8)
Exhaust temperature - °F (°C)	790 (457)
Maximum exhaust back pressure at turbocharger outlet (full load) - in Hg (kPa)	2.5 (8.4)

Lubrication System

Engine lube oil capacity - qts (litre)	23 (22)
Lubrication oil press., normal - lb/in ² (kPa)	49-70 (338-483)
Lubrication oil temp., in-pan - °F (°C)	200-250 (93-121)



ENGINE PERFORMANCE CURVE

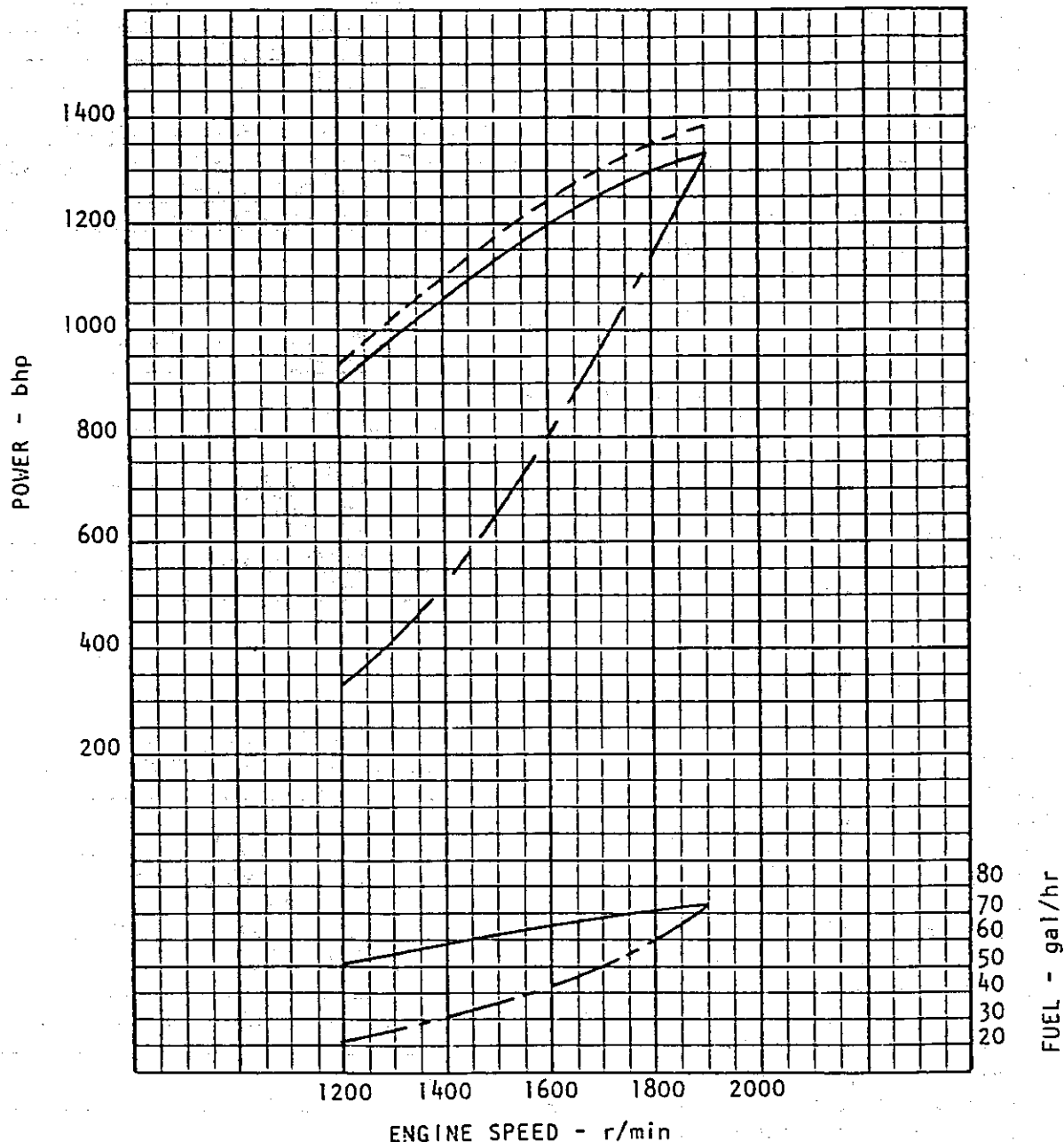
RATING: NET POWER

APPLICATION: MARINE - MAXIMUM

MODEL: 16V-149T

1385 bhp @ 1900 r/min

1340 shp @ 1900 r/min



ACCESSORIES: MARINE GEAR - 3% LOSS
AIR INTAKE RESTRICTION - in. H₂O (kPa) . . . 10 (2.5)
EXHAUST BACK PRESSURE - in. H₂O (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: $kW = bhp \times 0.746$
FUEL: $kg/kW-hr = lb/bhp-hr \times 0.608$
TORQUE: $N-m = lb-ft \times 1.356$
- VALUES DERIVED ARE FROM CURRENTLY AVAILABLE DATA AND SUBJECT TO CHANGE WITHOUT NOTICE.

CERTIFIED BY:

J. Deane for
E. Strickland 7/24/84

STAFF ENGINEER

CURVE NO.

E4-9162-32-25

DATE: 7-17-84

REV./DATE: 1/9-20-85

SHT. 1 OF 3

ENGINE SPECIFICATION

General Engine Description:

Model

Number of cylinders	NEW AIR INDUCTION WITH BLOWER PRESSURE RELIEF VALVE 9162-7300
Bore and stroke - in (mm)	16
Displacement - in ³ (litre)	5.75 X 5.75 (146 X 146)
Compression ratio	2389 (39.18)
Firing order	16:1
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)	145 (2.205)
Turbocharger	TV8401 (1.23 A/R)
Engine speed - r/min	1900
Brake horsepower - bhp (kW) 77°F, 29.31 in Hg (Dry) Bar., J-1349	1385 (1033)
Shaft horsepower - shp (kW)	1340 (1000)
BMEP - lb/in ² (kPa)	121 (834)
Peak torque - lb ft (N m) @ r/min	4202 (5698) @ 1400
Fuel consumption - lb/hr (kg/hr)	511 (231.8)
Fuel consumption - gal/hr (litre/hr)	73.1 (276.7)
Specific fuel cons. - lb/bhp hr (g/kW hr)	.369 (224)
Air consumption - ft ³ /min (m ³ /min)	3940 (112.0)
Suggested minimum engine room vent area - in ² (cm ²)	
Maximum engine room depression 0.2 in. H ₂ O	378 (2437)
Maximum allowable temperature rise (Outside air to engine inlet) - °F (°C)	30 (17)

Curve No. E4-9162-32-25

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)	43630 (769) *
Fresh water flow - gal/min (litre/min)	555 (2101)
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 (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)	<u>370 (1400)</u>
Maximum inlet restriction at pump - in Hg (kPa) (clean filters)	<u>6 (20.3)</u>
Supply line dia. - in (mm)	<u>1 (25.4) min.</u>

Exhaust System

Gas flow - lb/min (kg/min)	<u>293.0 (133.0)</u>
Exhaust temperature - °F (°C)	<u>740 (393)</u>
Maximum exhaust back pressure at turbocharger outlet (full load) - in Hg (kPa)	<u>2.5 (8.5)</u>

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 - 46000 (811) Btu/min (kW)

Oil Capacity - 200 (189.3) qts (Litres)

011 Pressure - 48-75 (331-517) lb/in² (kPa)

Curve No. E4-9162-32-25

Date: 7-17-84

Rev./Date: 1/9-20-85

Sht. 3 of 3



ENGINE PERFORMANCE CURVE

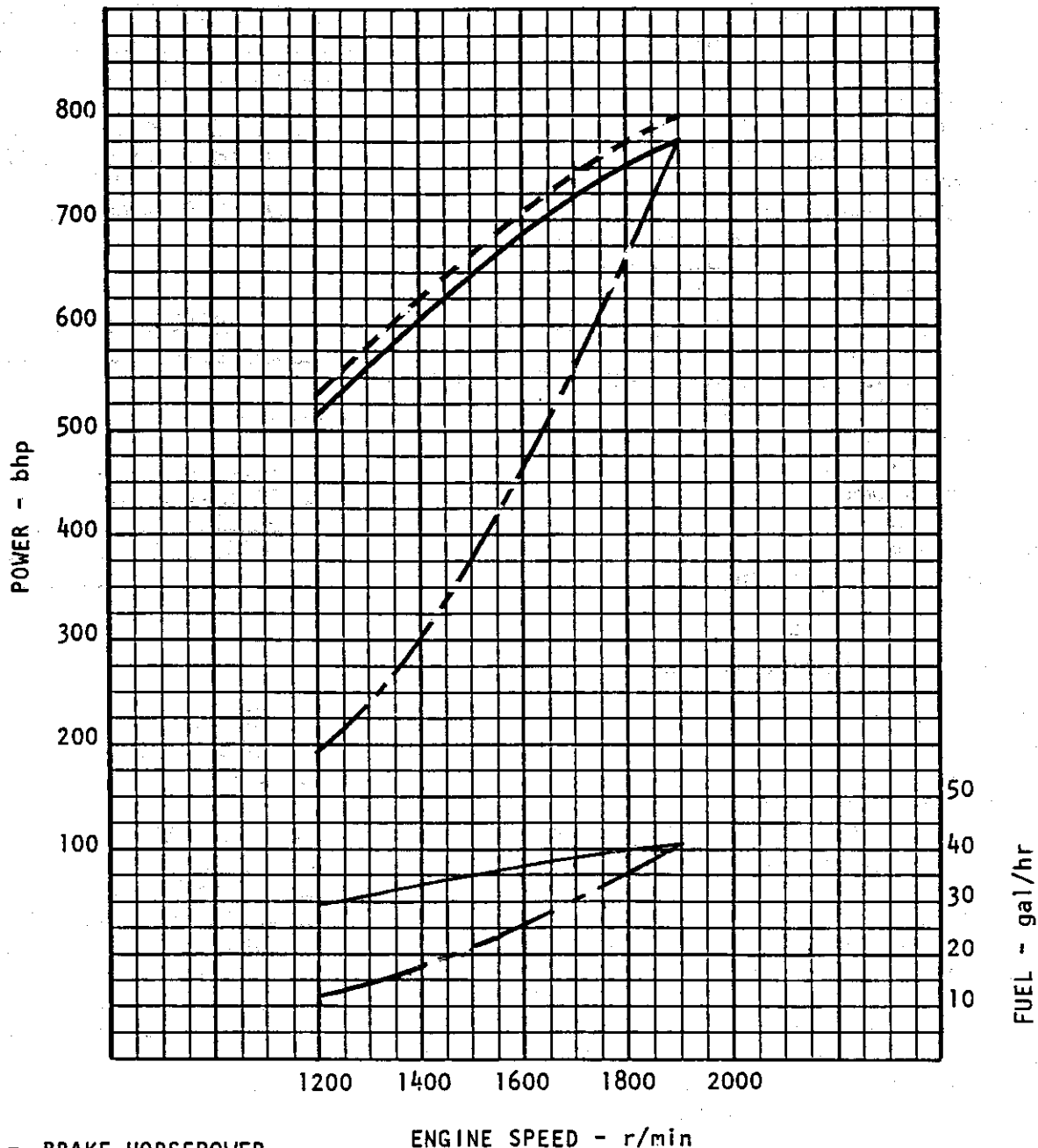
RATING: NET POWER

APPLICATION: MARINE - MAXIMUM

MODEL: 8V-149TI

800 bhp @ 1900 r/min

776 shp @ 1900 r/min



----- BRAKE HORSEPOWER
 _____ SHAFT HORSEPOWER
 ----- PROPELLER LOAD

ACCESSORIES: MARINE GEAR - 3% LOSS

AIR INTAKE RESTRICTIONS - in. H₂O (kPa) . . . 10 (2.5)

EXHAUST BACK PRESSURE - in. H₂O (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 BARGHETER;
 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.

E4-9082-32-2

DATE: 5-4-83

REV./DATE: 3/9-30-85

SHT. 1 OF 3

ENGINE SPECIFICATION

General Engine Description:

Model

Number of cylinders

Bore and stroke - in (mm)

Displacement - in³ (litre)

Compression ratio

Firing order

Clockwise rotation (RH)

Counter clockwise rotation (LH)

Marine gear type

Marine gear reduction ratios

Marine gear lube oil capacity approx.

(Does not include heat exchanger & connections used externally) - pts (litre)

(Marine gear must use straight viscosity oil)

Electrical system

Recommended battery capacity (CCA @ 0°F (-18°C))

24 Volt system above 32°F (0°C)

Dimensions & weight

Length - in (mm)

Width - in (mm)

Height - in (mm)

Weight, dry - lbs (kg)

Maximum installation angle

NEW AIR INDUCTION WITH
BLOWER PRESSURE RELIEF VALVE

9082-7301

8

5.75 X 5.75 (146 X 146)

1195 (19.6)

16:1

1L-3R-3L-4R-4L-2R-2L-1R

1L-1R-2L-2R-4L-4R-3L-3R

NOT DETERMINED

NOT DETERMINED

NOT DETERMINED

24 VOLTS

950

64 (1625)

64 (1625)

68 (1727)

6000 (2727)

10°

Technical Engine Specification

Injector (timing)

Turbocharger

Engine speed - r/min

Brake horsepower - bhp (kW)

77°F, 29.31 in Hg (Dry) Bar., J-1349

Shaft horsepower - shp (kW)

BMEP - lb/in² (kPa)

Peak torque - lb ft (N m) @ r/min

Fuel consumption - lb/hr (kg/hr)

Fuel consumption - gal/hr (litre/hr)

Specific fuel cons. - lb/bhp_{hr} (g/kW hr)

Air consumption - ft³/min (m³/min)

Suggested minimum engine room vent area - in² (cm²)

Maximum engine room depression 0.2 in. H₂O

Maximum allowable temperature rise

(Outside air to engine inlet) - °F (°C)

160 (2,205)

TV8401 (1.23 A/R)

1900

800 (598)

776 (579.8)

140 (965)

2345 (3179) @ 1400

296.5 (134.5)

42.4 (160.5)

.371 (226)

2330 (66.2) *

224 (1444)

30 (17)

* Must use outside air supply.

Curve No. E4-9082-32-2

Date: 5-4-83

Rev./Date: 3/9-30-85

Sht. 2 of 3

ENGINE SPECIFICATION

Cooling System - Heat Exchanger or Keel Cooler

Fresh water capacity - gal (litre)	44 (167)
Heat rejection to coolant - Btu/min (kW)	28000 (492) *
Fresh water flow - gal/min (litre/min)	278 (1052)
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)	370 (1400)
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)	173.2 (78.6)
Exhaust temperature - °F (°C)	695 (368)
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)	48-75 (331-517) *
Lubrication oil temp., in-pan - °F (°C)	230 (110) max.

* Must use tube and shell oil cooler.



ENGINE PERFORMANCE CURVE

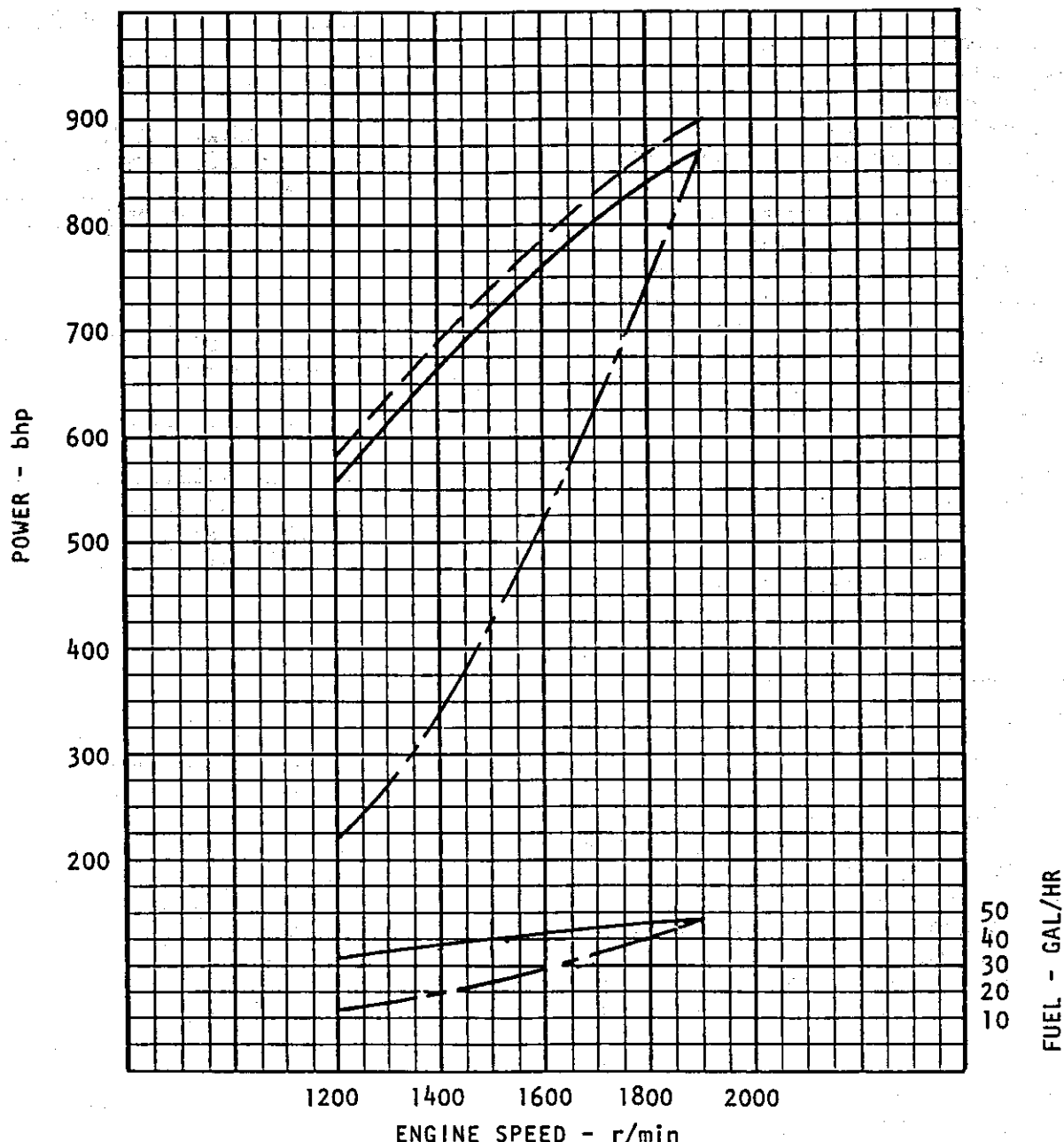
RATING: NET POWER

APPLICATION: MARINE - MAXIMUM

MODEL: 8V-149TI

900 bhp @ 1900 r/min

870 shp @ 1900 r/min



ACCESSORIES: MARINE GEAR - 3% LOSS - 2 RAW WATER PUMPS
AIR INTAKE RESTRICTION - in. H₂O (mm H₂O) 10 (250)
EXHAUST RESTRICTION - in. H₂O (mm H₂O) 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
1-4-84 1470/RS
STAFF ENGINEER

CURVE NO.

E4-9082-32-4
DATE: 11-10-83
REV./DATE: 1/9-30-85
SHT. 1 OF 3

ENGINE SPECIFICATION

General Engine Description:

Model

Number of cylinders
Bore and stroke - in (mm)
Displacement - in³ (litre)
Compression ratio
Firing order
Clockwise rotation (RH)
Counter clockwise rotation (LH)
Marine gear type
Marine gear reduction ratios
Marine gear lube oil capacity approx.
(Does not include heat exchanger &
connections used externally) - pts (litre)
(Marine gear must use straight viscosity oil)
Electrical system
Recommended battery capacity (CCA @ 0°F (-18°C))
24 Volt system above 32°F (0°C)
Dimensions & weight
Length - in (mm)
Width - in (mm)
Height - in (mm)
Weight, dry - lbs (kg)
Maximum installation angle

NEW AIR INDUCTION WITH
BLOWER PRESSURE RELIEF VALVE
9082-7301
8
5.75 X 5.75 (146 X 146)
1195 (19.6)
16:1

1L-3R-3L-4R-4L-2R-2L-1R
1L-1R-2L-2R-4L-4R-3L-3R
NOT DETERMINED
NOT DETERMINED

NOT DETERMINED
24 VOLTS

950

64 (1625)
64 (1625)
68 (1727)
6000 (2727)
15°

Technical Engine Specification

Injector (timing)
Turbocharger
Engine speed - r/min
Brake horsepower - bhp (kW)
77°F, 29.31 in Hg (Dry) Bar., J-1349
Shaft horsepower - shp (kW)
BMEP - lb/in² (kPa)
Peak torque - lb ft (N m) @ r/min
Fuel consumption - lb/hr (kg/hr)
Fuel consumption - gal/hr (litre/hr)
Specific fuel cons. - lb/bhp.hr (g/kW hr)
Air consumption - ft³/min (m³/min)
Suggested minimum engine room vent area - in² (cm²)
Maximum engine room depression 0.2 in. H₂O
Maximum allowable temperature rise
(Outside air to engine inlet) - °F (°C)

190 (2,205)
TV8401 (1.23 A/R)
1900

900 (672)
870 (649)
157 (1082)
2607 (3535) @ 1400
335.4 (152.1)
48.0 (181.7)
373 (227)
2380 (68) *

228 (1472)

30 (17)

* Must use outside air supply.

Curve No. E4-9082-32-4
Date: 11-10-83
Rev./Date: 1/9-30-85
Sht. 2 of 3

ENGINE SPECIFICATION

Cooling System - Heat Exchanger or Keel Cooler

Fresh water capacity - gal (litre)	44 (167)
Heat rejection to coolant - Btu/min (kW)	31500 (553) *
Fresh water flow - gal/min (litre/min)	278 (1052)
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 (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)	370 (1400)
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)	177.4 (80.5)
Exhaust temperature - °F (°C)	700 (371)
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)	48-75 (331-517) *
Lubrication oil temp., in-pan - °F (°C)	230 (110) max.

* Must use tube and shell oil cooler.



ENGINE PERFORMANCE CURVE

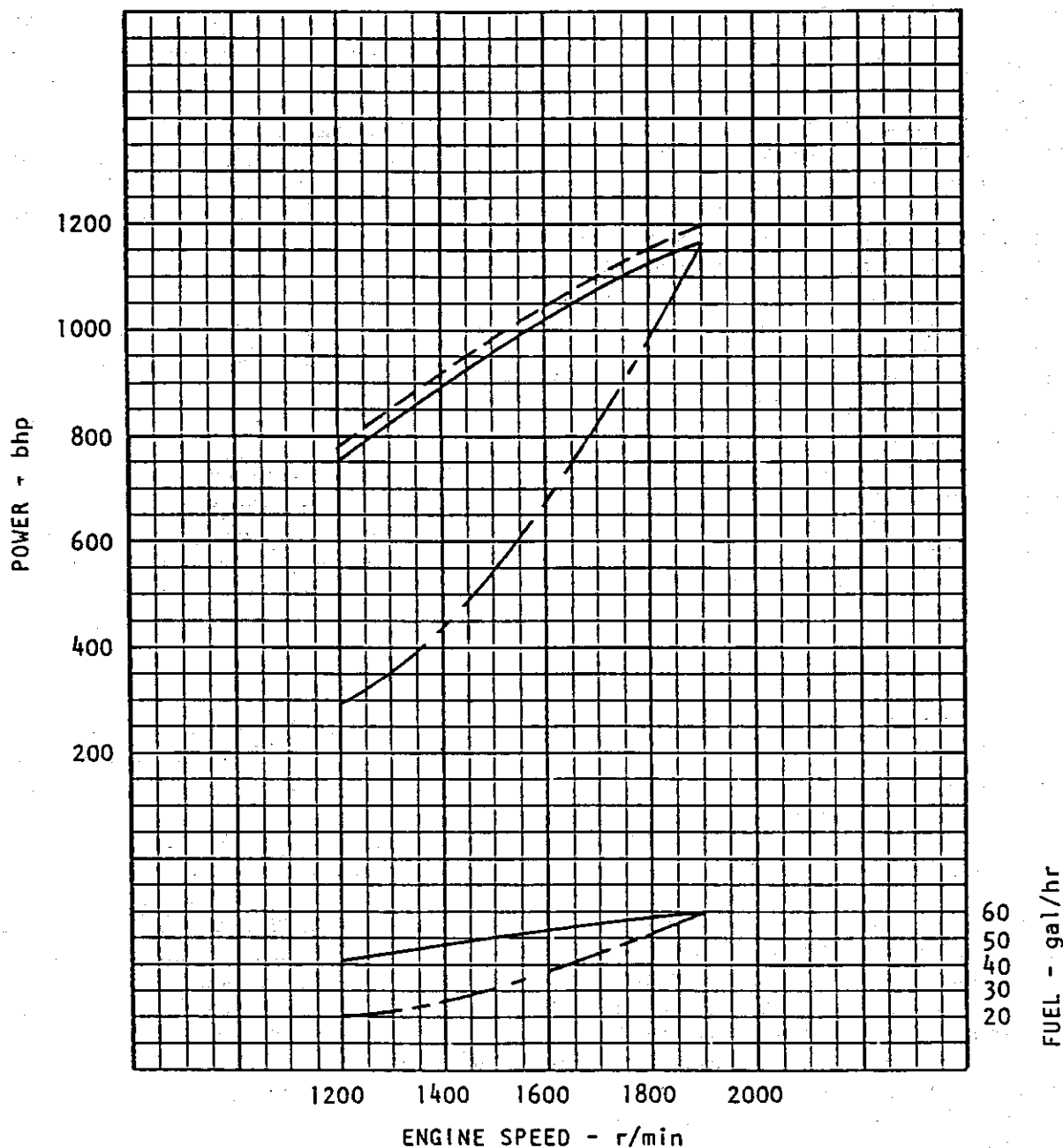
RATING: NET POWER

APPLICATION: MARINE - MAXIMUM

MODEL: 12V-149TI

1200 bhp @ 1900 r/min

1160 shp @ 1900 r/min



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

ACCESSORIES: MARINE GEAR - 3% LOSS - 2 RAW WATER PUMPS
AIR INTAKE RESTRICTION - in. H₂O (mm H₂O) . . . : 10 (250)
EXHAUST RESTRICTION - in. H₂O (mm H₂O) . . . : 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
1-4-84

STAFF ENGINEER

CURVE NO.

E4-9122-32-16

DATE: 11-10-83

REV./DATE: 1/9-10-85

SHT. 1 OF 3

ENGINE SPECIFICATION

General Engine Description:

Model

Number of cylinders

Bore and stroke - in (mm)

Displacement - in³ (litre)

Compression ratio

Firing order

Clockwise rotation (RH)

Counter clockwise rotation (LH)

Marine gear type

Marine gear reduction ratios

Marine gear lube oil capacity approx.

(Does not include heat exchanger & connections used externally) - pts (litre)

(Marine gear must use straight viscosity oil)

Electrical system

Recommended battery capacity (CCA @ 0°F (-18°C))

24 Volt system above 32°F (0°C)

Dimensions & weight

Length - in (mm)

Width - in (mm)

Height - in (mm)

Weight, dry - lbs (kg)

Maximum installation angle

NEW AIR INDUCTION WITH
BLOWER PRESSURE RELIEF VALVE

9122-7301

12

5.75 X 5.75 (146 X 146)

1792 (29.39)

16:1

1L-5L-3R-4R-3L-4L-2R-6R-2L-6L-1R-5R

1L-5R-1R-6L-2L-6R-2R-4L-3L-4R-3R-5L

TWIN DISC MG-540

7:1,6,18:1,5,17:1,4,6:1

138 (65.3)

24 VOLTS

950

93 (2362)

62 (1575)

70 (1778)

13950 (6330) W/GEAR

15°

Technical Engine Specification

Injector (timing)

Turbocharger

Engine speed - r/min

Brake horsepower - bhp (kW)

77°F, 29.31 in Hg (Dry) Bar., J-1349

Shaft horsepower - shp (kW)

BMEP - lb/in² (kPa)

Peak torque - lb ft (N m) @ r/min

Fuel consumption - lb/hr (kg/hr)

Fuel consumption - gal/hr (litre/hr)

Specific fuel cons. - lb/bhp hr (g/kW hr)

Air consumption - ft³/min (m³/min)

Suggested minimum engine room vent area - in² (cm²)

Maximum engine room depression 0.2 in. H₂O

Maximum allowable temperature rise

(Outside air to engine inlet) - °F (°C)

160 (2.205)

TV7111 (1.08 A/R)

1900

1200 (895)

1160 (865)

140 (965)

3480 (4719) @ 1400

422.4 (191.6)

60.4 (228.6)

.352 (214)

3480 (99) *

334 (2156)

30 (17)

* Must use outside air supply.

Curve No. E4-9122-32-16

Date: 11-10-83

Rev./Date: 1/9-10-85

Sht. 2 of 3

ENGINE SPECIFICATION

Cooling System - Heat Exchanger or Keel Cooler

Fresh water capacity - gal (litre)	37 (140.1)
Heat rejection to coolant - Btu/min (kW)	36600 (644) *
Fresh water flow - gal/min (litre/min)	380 (1438)
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)	<u>370 (1400)</u>
Maximum inlet restriction at pump - in Hg (kPa) (clean filters)	<u>6 (20.32)</u>
Supply line dia. - in (mm)	<u>1 (25.4) min.</u>

Exhaust System

Gas flow - lb/min (kg/min)	<u>258.3 (117.2)</u>
Exhaust temperature - °F (°C)	<u>720 (382)</u>
Maximum exhaust back pressure at turbocharger outlet (full load) - in Hg (kPa)	<u>2.5 (8.47)</u>

Lubrication System

Engine lube oil capacity - qts (litre)	136 (128.7) *
Lubrication oil press., normal - lb/in ² (kPa)	48-70 (331-483) *
Lubrication oil temp., in-pan - °F (°C)	230 (110) max.

* With 30 plate oil cooler.

Curve No. E4-9122-32-16
Date: 11-10-83
Rev./Date: 1/9-10-85
Sht. 3 of 3



Detroit Diesel
Allison

ENGINE PERFORMANCE CURVE

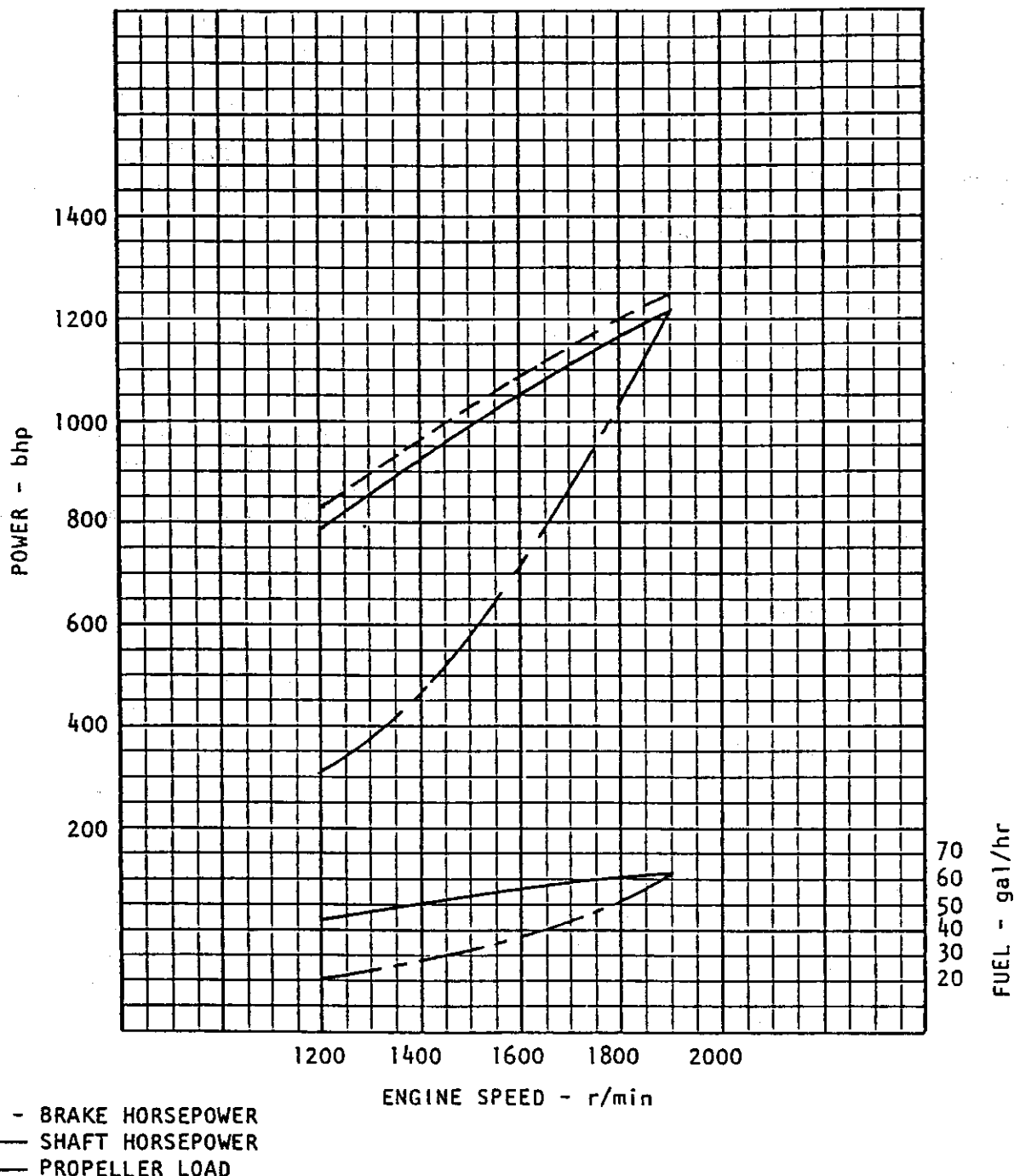
RATING: NET POWER

APPLICATION: MARINE - MAXIMUM

MODEL: 12V-149T1

1250 bhp @ 1900 r/min

1210 shp @ 1900 r/min



ACCESSORIES: MARINE GEAR - 3% LOSS - 27 RAW WATER PUMPS
AIR INTAKE RESTRICTION - in. H₂O (mm H₂O) : : : : 10 (250)
EXHAUST RESTRICTION - in. H₂O (mm H₂O) : : : : 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 (1.853 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
1-4-84

STAFF ENGINEER

CURVE NO.

E4-9122-32-17

DATE: 11-10-83

REV./DATE: 1/9-10-85

SHT. 1 OF 3

ENGINE SPECIFICATION

General Engine Description:

Model

Number of cylinders
Bore and stroke - in (mm)
Displacement - in³ (litre)
Compression ratio
Firing order
Clockwise rotation (RH)
Counter clockwise rotation (LH)
Marine gear type
Marine gear reduction ratios
Marine gear lube oil capacity approx.
(Does not include heat exchanger &
connections used externally) - pts (litre)
(Marine gear must use straight viscosity oil)
Electrical system
Recommended battery capacity (CCA @ 0°F (-18°C))
24 Volt system above 32°F (0°C)
Dimensions & weight
Length - in (mm)
Width - in (mm)
Height - in (mm)
Weight, dry - lbs (kg)
Maximum installation angle

NEW AIR INDUCTION WITH
BLOWER PRESSURE RELIEF VALVE
9122-7301
12
5.75 X 5.75 (146 X 146)
1792 (29.39)
16:1
1L-5L-3R-4R-3L-4L-2R-6R-2L-6L-1R-5R
1L-5R-1R-6L-2L-6R-2R-4L-3L-4R-3R-5L
TWIN DISC MG-540
7:1,6.18:1,5.17:1,4.6:1
138 (65.3)
24 VOLTS
950
93 (2362)
62 (1575)
70 (1778)
13950 (6330) W/GEAR
15°

Technical Engine Specification

Injector (timing)
Turbocharger
Engine speed - r/min
Brake horsepower - bhp (kW)
77°F, 29.31 in Hg (Dry) Bar., J-1349
Shaft horsepower - shp (kW)
BMEP - lb/in² (kPa)
Peak torque - lb ft (N m) @ r/min
Fuel consumption - lb/hr (kg/hr)
Fuel consumption - gal/hr (litre/hr)
Specific fuel cons. - lb/bhp hr (g/kW hr)
Air consumption - ft³/min (m³/min)
Suggested minimum engine room vent area - in² (cm²)
Maximum engine room depression 0.2 in. H₂O
Maximum allowable temperature rise
(Outside air to engine inlet) - °F (°C)

165 (2.205)
TV7111 (1.08 A/R)
1900
1250 (933)
1210 (903)
145 (1000)
3658 (4960) @ 1400
442.3 (200.1)
63.3 (239.6)
.354 (215)
3625 (104) *
348 (2246)
30 (17)

* Must use outside air supply.

Curve No. E4-9122-32-17
Date: 11-10-83
Rev./Date: 1/9-10-85
Sht. 2 of 3

ENGINE SPECIFICATION

Cooling System - Heat Exchanger or Keel Cooler

Fresh water capacity - gal (litre)	37 (140.1)
Heat rejection to coolant - Btu/min (kW)	38100 (670) *
Fresh water flow - gal/min (litre/min)	380 (1438)
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)	370 (1400)
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)	268.7 (121.9)
Exhaust temperature - °F (°C)	730 (388)
Maximum exhaust back pressure at turbocharger outlet (full load) - In Hg (kPa)	2.5 (8.47)

Lubrication System

Engine lube oil capacity - qts (litre)	136 (128.7) *
Lubrication oil press., normal - lb/in ² (kPa)	48-70 (331-483) *
Lubrication oil temp., in-pan - °F (°C)	230 (110) max.

* With 30 plate oil cooler.

Curve No. E4-9122-32-17
Date: 11-10-83
Rev./Date: 1/9-10-85
Sht. 3 of 3



ENGINE PERFORMANCE CURVE

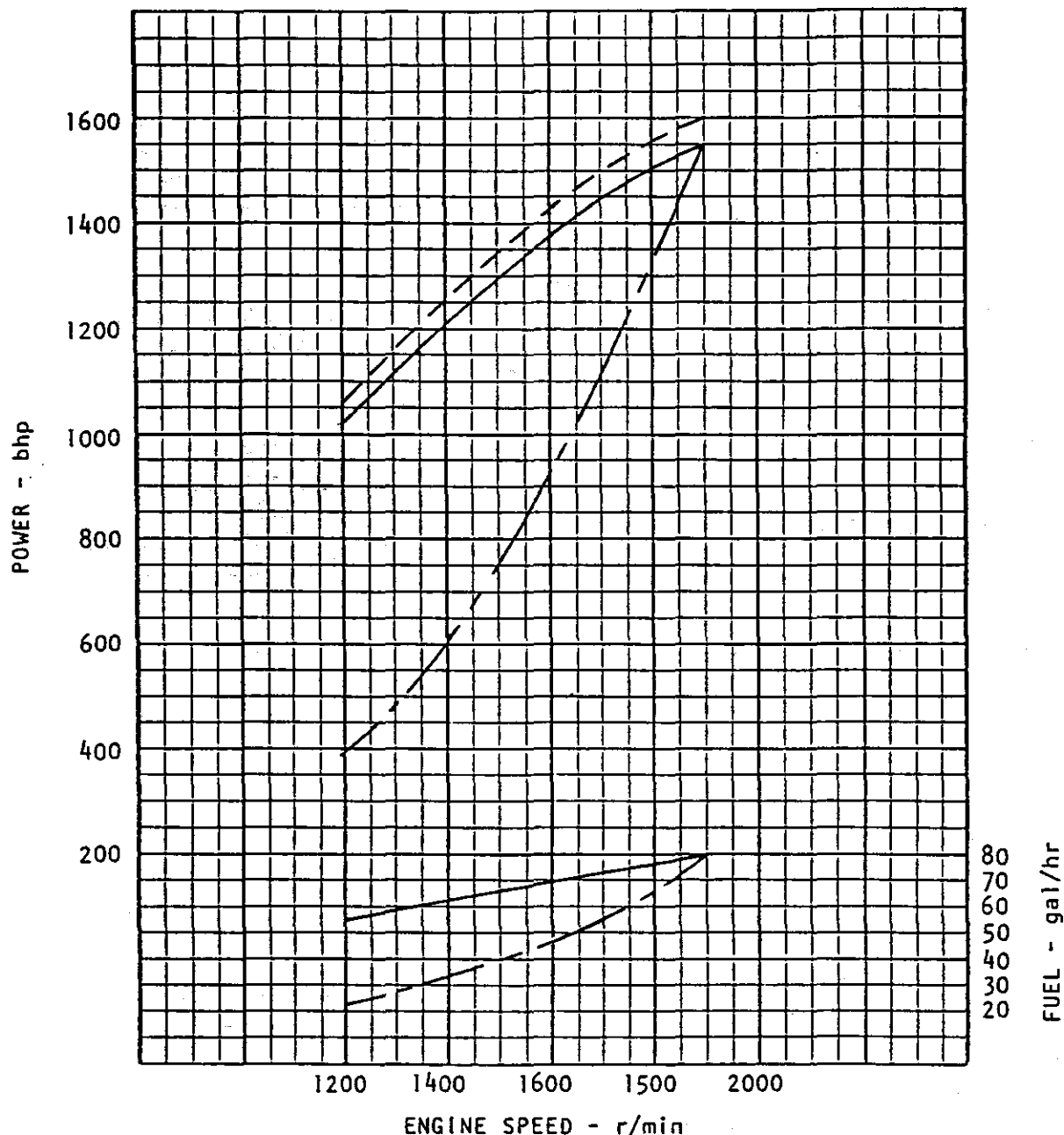
RATING: NET POWER

APPLICATION: MARINE - MAXIMUM

MODEL: 16V-149TI

1600 bhp @ 1900 r/min

1550 shp @ 1900 r/min



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

ACCESSORIES: MARINE GEAR - 3% LOSS - 2 RAW WATER PUMPS
AIR INTAKE RESTRICTION - in. H₂O (kPa) . . . 10 (2.5)
EXHAUST BACK PRESSURE - in. H₂O (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 × 0.746
FUEL: kg/kW-hr = lb/bhp-hr × 0.608
TORQUE: N-m = lb-ft × 1.356
• VALUES DERIVED ARE FROM CURRENTLY AVAILABLE DATA AND SUBJECT TO
CHANGE WITHOUT NOTICE.

CERTIFIED BY:

W. L. Graham
1-4-84
STAFF ENGINEER

CURVE NO.

E4-9162-32-21

DATE: 11-10-83

REV./DATE: 2/9-10-85

SHT. 1 OF 3

ENGINE SPECIFICATION

General Engine Description:

Model	NEW AIR INDUCTION WITH
Number of cylinders	BLOWER PRESSURE RELIEF VALVE
Bore and stroke - in (mm)	9162-7301
Displacement - in ³ (litre)	16
Compression ratio	5.75 X 5.75 (146 X 146)
Firing order	2389 (39.18)
Clockwise rotation (RH)	16:1
Counter clockwise rotation (LH)	1L-2R-8L-6R-2L-4R-6L-5R-4L-3R-5L-7R-3L-1R-7L-8R
Marine gear type	1L-8R-7L-1R-3L-7R-5L-3R-4L-5R-6L-4R-2L-6R-8L-2R
Marine gear reduction ratios	NOT DETERMINED
Marine gear lube oil capacity approx. (Does not include heat exchanger & connections used externally) - pts (litre)	NOT DETERMINED
(Marine gear must use straight viscosity oil)	NOT DETERMINED
Electrical system	24 VOLTS
Recommended battery capacity (CCA @ 0°F (-18°C))	950
24 Volt system above 32°F (0°C)	106 (2692)
Dimensions & weight	64 (1625)
Length - in (mm)	68 (1727)
Width - in (mm)	11950 (5431)
Height - in (mm)	15°
Weight, dry - lbs (kg)	
Maximum installation angle	

Technical Engine Specification

Injector (timing)	160 (2,205)
Turbocharger	TV8401 (1.23 A/R)
Engine speed - r/min	1900
Brake horsepower - bhp (kW)	1600 (1194)
77°F, 29.31 in Hg (Dry) Bar., J-1349	1550 (1156)
Shaft horsepower - shp (kW)	140 (965)
BMEP - lb/in ² (kPa)	4689 (6357) @ 1400
Peak torque - lb ft (N m) @ r/min	560 (253)
Fuel consumption - lb/hr (kg/hr)	80.1 (303.2)
Fuel consumption - gal/hr (litre/hr)	.350 (213)
Specific fuel cons. - lb/bhp hr (g/kW hr)	4660 (132) *
Air consumption - ft ³ /min (m ³ /min)	
Suggested minimum engine room vent area - in ² (cm ²)	447 (2886)
Maximum engine room depression 0.2 in. H ₂ O	30 (17)
Maximum allowable temperature rise (Outside air to engine inlet) - °F (°C)	

* Must use outside air supply.

Curve No. E4-9162-32-21

Date: 11-10-83

Rev./Date: 2/9-10-85

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)	50400 (887)*
Fresh water flow - gal/min (litre/min)	555 (2101)
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)	370 (1400)
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)	345.8 (156.9)
Exhaust temperature - °F (°C)	725 (385)
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)	48-70 (331-483) *
Lubrication oil temp., in-pan - °F (°C)	230 (110) max.

- * Data shown is for a 30 plate oil cooler.
With tube and shell oil cooler - data shown below.
Heat rejection - 53100 (933) Btu/min (kW)
Oil capacity - 200 (189.3) qts (L)
Oil pressure - 48-75 (331-517) lb/in² (kPa)

Curve No. E4-9162-32-21
Date: 11-10-83
Rev./Date: 2/9-10-85
Sht. 3 of 3



ENGINE PERFORMANCE CURVE

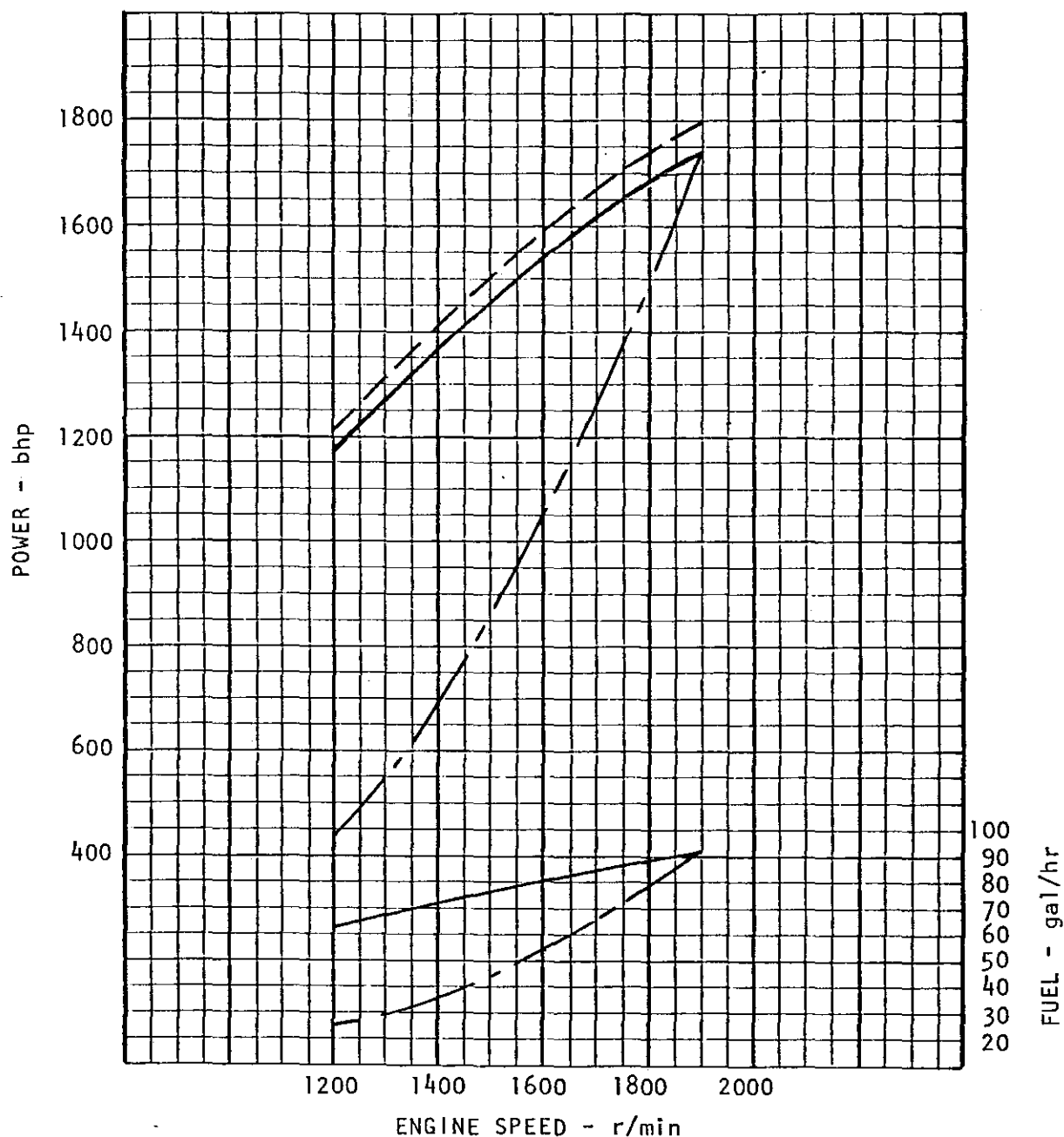
RATING: NET POWER

APPLICATION: MARINE - MAXIMUM

MODEL: 16V-149TI

1800 bhp @ 1900 r/min

1745 shp @ 1900 r/min



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

ACCESSORIES: MARINE GEAR - 3% LOSS - 2 RAW WATER PUMPS
 AIR INTAKE RESTRICTION - in. H₂O (kPa) 10 (2.5)
 EXHAUST BACK PRESSURE - in. H₂O (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
 1-4-84

STAFF ENGINEER

CURVE NO.

E4-9162-32-22

DATE: 11-10-83

REV./DATE: 1/2-13-85

SHT. 1 OF 3

ENGINE SPECIFICATION

General Engine Description:

Model

Number of cylinders

Bore and stroke - in (mm)

Displacement - in³ (litre)

Compression ratio

Firing order

Clockwise rotation (RH)

Counter clockwise rotation (LH)

Marine gear type

Marine gear reduction ratios

Marine gear lube oil capacity approx.

(Does not include heat exchanger & connections used externally) - pts (litre)

(Marine gear must use straight viscosity oil)

Electrical system

Recommended battery capacity (CCA @ 0°F (-18°C))

24 Volt system above 32°F (0°C)

Dimensions & weight

Length - in (mm)

Width - in (mm)

Height - in (mm)

Weight, dry - lbs (kg)

Maximum installation angle

NEW AIR INDUCTION WITH
BLOWER PRESSURE RELIEF VALVE

9162-7301

16

5.75 X 5.75 (146 X 146)

2389 (39.18)

16:1

1L-2R-8L-6R-2L-4R-6L-5R-4L-3R-5L-7R-3L-1R-7L-8R

1L-8R-7L-1R-3L-7R-5L-3R-4L-5R-6L-4R-2L-6R-8L-2R

NOT DETERMINED

NOT DETERMINED

NOT DETERMINED

24 VOLTS

950

106 (2692)

64 (1625)

68 (1727)

11950 (5431)

15°

Technical Engine Specification

Injector (timing)

Turbocharger

Engine speed - r/min

Brake horsepower - bhp (kW)

77°F, 29.31 in Hg (Dry) Bar., J-1349

Shaft horsepower - shp (kW)

BMEP - lb/in² (kPa)

Peak torque - lb ft (N m) @ r/min

Fuel consumption - lb/hr (kg/hr)

Fuel consumption - gal/hr (litre/hr)

Specific fuel cons. = lb/bhp hr (g/kW hr)

Air consumption - ft³/min (m³/min)

Suggested minimum engine room vent area - in² (cm²)

Maximum engine room depression 0.2 in. H₂O

Maximum allowable temperature rise

(Outside air to engine inlet) - °F (°C)

190 (2.205)

TV8401 (1.23 A/R)

1900

1800 (1343)

1745 (1302)

157 (1082)

5290 (7172) @ 1400

642 (290)

91.8 (347.5)

.357 (217)

5040 (143)

484 (3125)

30 (17)

Curve No. E4-9162-32-22

Date: 11-10-83

Rev./Date: 1/2-13-85

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)	53500 (941) *
Fresh water flow - gal/min (litre/min)	555 (2101)
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)	370 (1400)
Maximum inlet restriction at pump - in Hg (kPa) (clean filters)	6 (20.32)
Supply line dia. - in (mm)	1 (25.4) min.

Exhaust System

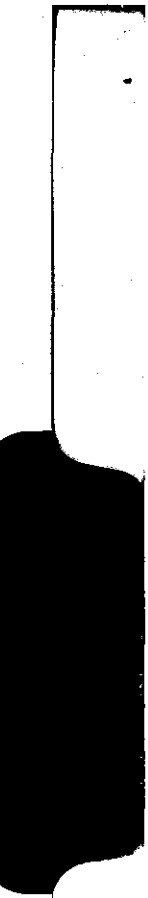
Gas flow - lb/min (kg/min)	366.0 (166.1)
Exhaust temperature - °F (°C)	770 (410)
Maximum exhaust back pressure at turbocharger outlet (full load) - in Hg (kPa)	2.5 (8.47)

Lubrication System

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

* With Tube and Shell Oil
Cooler

Curve No. E4-9162-32-22
Date: 11-10-83
Rev./Date: 1/2-13-85
Sht. 3 of 3



MARINE CONTINUOUS RATING

INDEX

<u>ENGINE</u>	<u>INJECTOR</u>	<u>BHP/ SHP @ RPM</u>	<u>CURVE NUMBER</u>	<u>DATE</u>	<u>SEE NOTE</u>
V8-8.2T	4A53	160/ 152 @ 2600	E4-4082-31-08	04-10-85	(A)
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	10-03-83	
16V-149T	140	1180/1145 @ 1800	E4-9162-32-09	05-05-82	
16V-149T	140	1215/1175 @ 1800	E4-9162-32-23	07-17-84	
8V-149TI*	140	580/ 563 @ 1600	E4-9082-32-05	02-08-85	
8V-149TI*	140	640/ 621 @ 1800	E4-9082-32-01	02-08-85	
12V-149TI	140	940/ 912 @ 1800	E4-9122-32-14	10-24-83	
16V-149TI	120	1070/1035 @ 1800	E4-9162-32-28	03-19-85	
16V-149TI	130	1200/1161 @ 1800	E4-9162-32-27	01-25-85	
16V-149TI	140	1280/1242 @ 1800	E4-9162-32-19	10-24-83	

NOTE - (A) CURVE ADDED

(R) REVISED

* PRELIMINARY

CURVE/S REMOVED -

E4M-0000-00-31
10-01-85



ENGINE PERFORMANCE CURVE

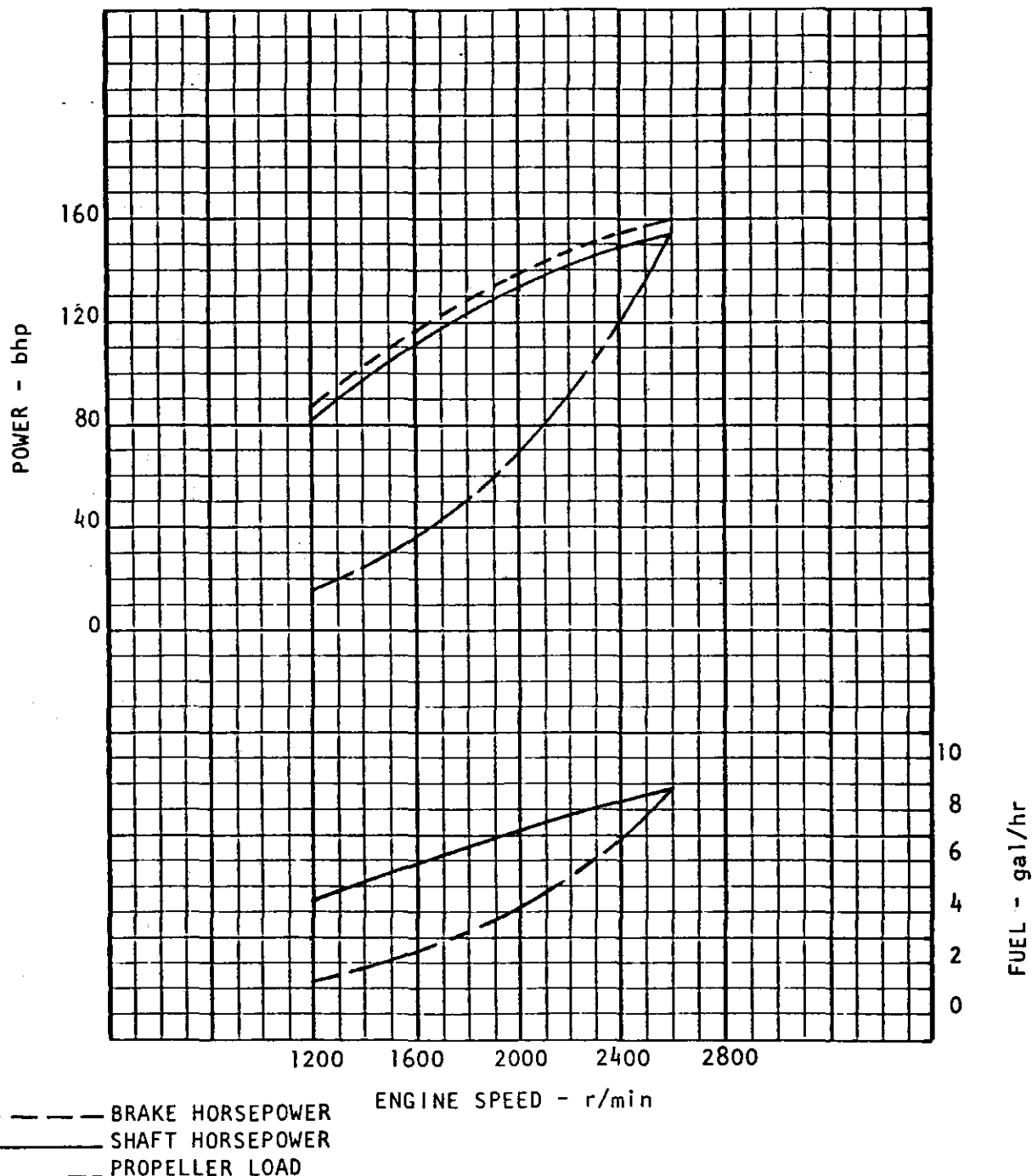
RATING: NET POWER - SEE BELOW

APPLICATION: MARINE - CONTINUOUS

MODEL: V8-8.2T

160 bhp @ 2600 r/min

152 shp @ 2600 r/min



ACCESSORIES: MARINE GEAR - 3% LOSS, RAW WATER PUMP, BATTERY CHARGING ALTERNATOR 14V-42AMP
AIR INTAKE RESTRICTION - in. H₂O (kPa) . . . 10 (2.5)
EXHAUST BACK PRESSURE - in. H₂O (kPa) . . . 15 (3.7)

- POWER OUTPUT AT SAE J1349 CONDITIONS:
77°F (25°C) AIR INLET TEMPERATURE; 29.31 in. Hg (99kPa) DRY BARMETER;
100°F (39°C) FUEL INLET TEMPERATURE (.853 SPECIFIC GRAVITY AT 60°F).
- CONVERSION FACTORS: POWER: kW = bhp x 0.746
FUEL: kg/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:

STAFF ENGINEER

CURVE NO.

E4-4082-31-8

DATE: 4-10-85

REV./DATE:

SHT. 1 OF 3

ENGINE SPECIFICATION

General Engine Description:

Model	4082-8300/8301
Number of cylinders	8
Bore and stroke - in (mm)	4.25 X 4.41 (108 X 112)
Displacement - in ³ (litre)	500.9 (8.2)
Compression ratio	16.9:1
Firing order	
Clockwise rotation (RH)	1-8-4-3-6-5-7-2
Counter clockwise rotation (LH)	NOT APPLICABLE
Marine gear type	TWIN DISC MG-502
Marine gear reduction ratios	1.54:1, 2.00:1
Marine gear lube oil capacity approx. (Does not include heat exchanger & connections used externally) - pts (litre) (Marine gear must use straight viscosity oil)	3.5 (1.66)
Electrical system	12 VOLTS
Recommended battery capacity (CCA @ 0°F (-18°C)) 12 Volt system above 32°F (0°C)	900
Dimensions & weight	
Length - in (mm)	54.5 (1384)
Width - in (mm)	31 (787)
Height - in (mm)	31.2 (794)
Weight, dry - lbs (kg)	1560 (708)
Maximum installation angle	7° ENGINE - 17° PROPELLER SHAFT

Technical Engine Specification

Injector (timing)	4A53 (43.80mm)
Turbocharger	TW-4103 (1.30 A/R)
Engine speed - r/min	2600
Brake horsepower - bhp (kW) 77°F, 29.31 in Hg (Dry) Bar., J-1349	160 (119)
Shaft horsepower - shp (kW)	152 (113)
BMEP - lb/in ² (kPa)	97 (669)
Peak torque - lb ft (N m) @ r/min	381 (517) @ 1200
Fuel consumption - lb/hr (kg/hr)	62.1 (28.2)
Fuel consumption - gal/hr (litre/hr)	8.9 (33.7)
Specific fuel cons. = lb/bhp hr (g/kW hr)	.388 (236)
Air consumption - ft ³ /min (m ³ /min)	400 (11.3)
Suggested minimum engine room vent area - in ² (cm ²)	
Maximum engine room depression 0.2 in. H ₂ O	38.5 (248)
Maximum allowable temperature rise (Outside air to engine inlet) - °F (°C)	30 (16.7)

Curve No. E4-4082-31-8

Date: 4-10-85

Rev./Date:

Sht. 2 of 3

ENGINE SPECIFICATION

Cooling System - Heat Exchanger or Keel Cooler

Fresh water capacity - gal (litre)	8 (30.3)
Heat rejection to coolant - Btu/min (kW)	6640 (117)
Fresh water flow - gal/min (litre/min)	63 (238)
Raw water flow - gal/min (litre/min)	28 (106)
Maximum inlet restriction at raw water pump - In Hg (kPa)	5 (16.9)
Maximum raw water pump pressure - lb/in ² (kPa)	10 (69)
Suggested raw water pipe size - in (mm)	1.5 (38.1)
Suggested sea strainer size - simplex - in (mm)	1.5 (38.1)
- duplex - in (mm)	NOT APPLICABLE
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)	77.8 (294)
Maximum inlet restriction at pump - In Hg (kPa) (clean filters)	6 (20)
Supply line dia. - in (mm)	0.5 (12.7)

Exhaust System

Gas flow - lb/min (kg/min)	30.0 (13.6)
Exhaust temperature - °F (°C)	720 (382)
Maximum exhaust back pressure at turbocharger outlet (full load) - In Hg (kPa)	3.0 (10)

Lubrication System

Engine lube oil capacity - qts (litre)	11 (10.4)
Lubrication oil press., normal - lb/in ² (kPa)	35-55 (241-379)
Lubrication oil temp., in-pan - °F (°C)	200-250 (93-121)

Curve No. E4-4082-31-8

Date: 4-10-85

Rev./Date:

Sht. 3 of 3



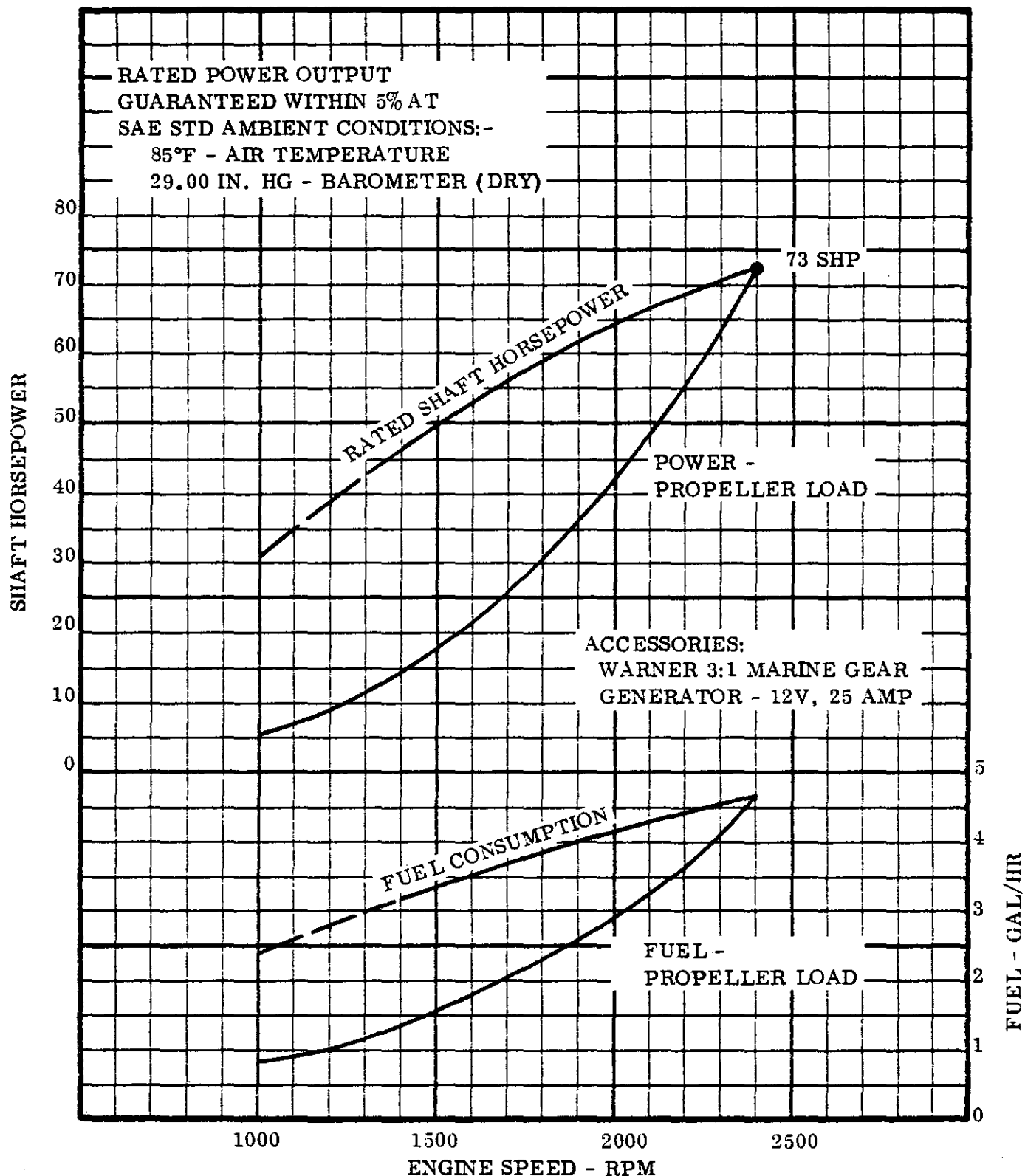
DETROIT DIESEL ENGINE DIVISION

GENERAL MOTORS CORPORATION

SERIES 53 MARINE

3-53N WORK BOAT

N40 INJECTORS

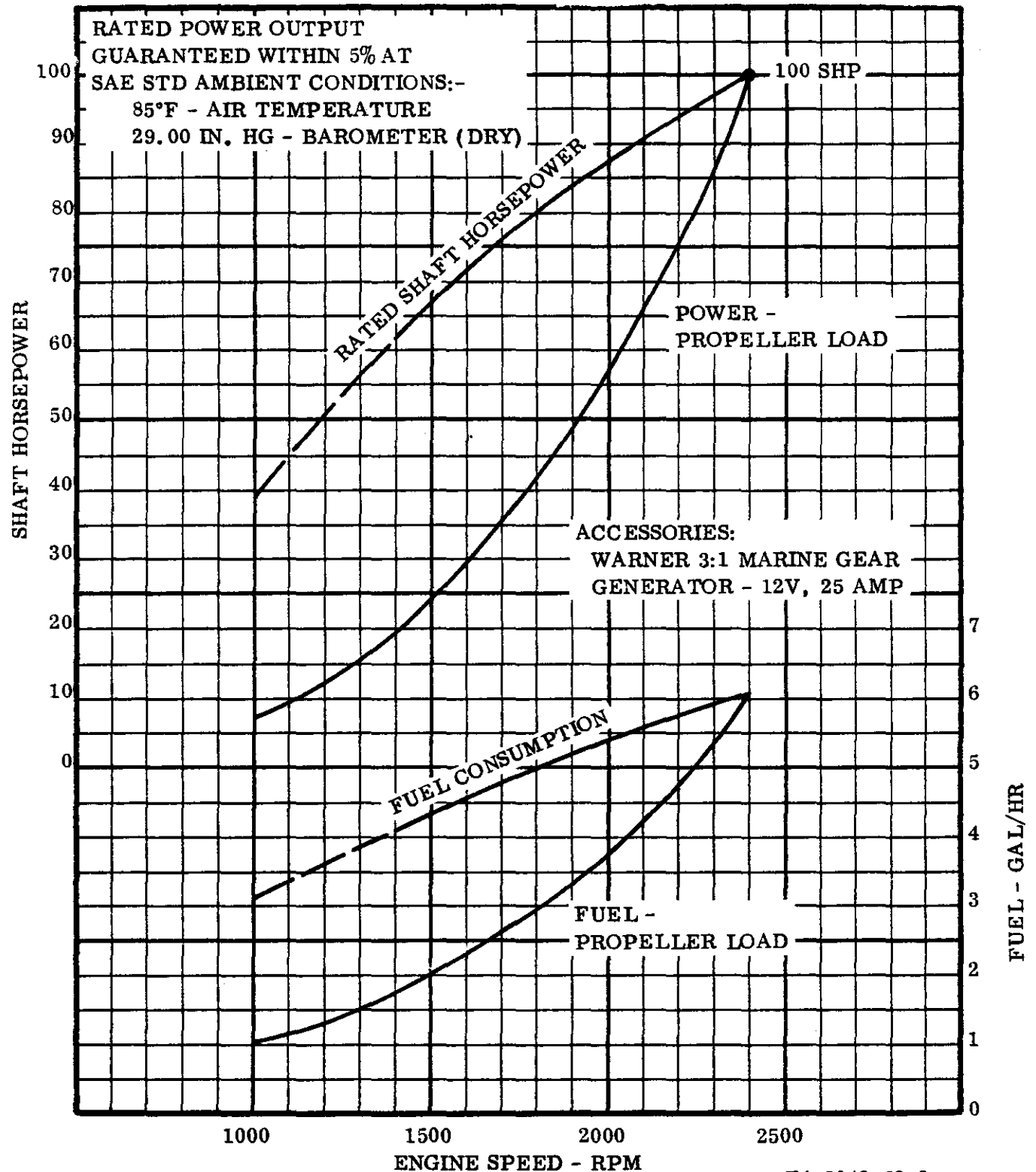




Detroit Diesel Allison
Division of General Motors Corporation

NET ENGINE PERFORMANCE

MODEL: 4-53N
APPLICATION: MARINE
INJECTOR: N40 (1.460 Timing)
RATING: WORK BOAT

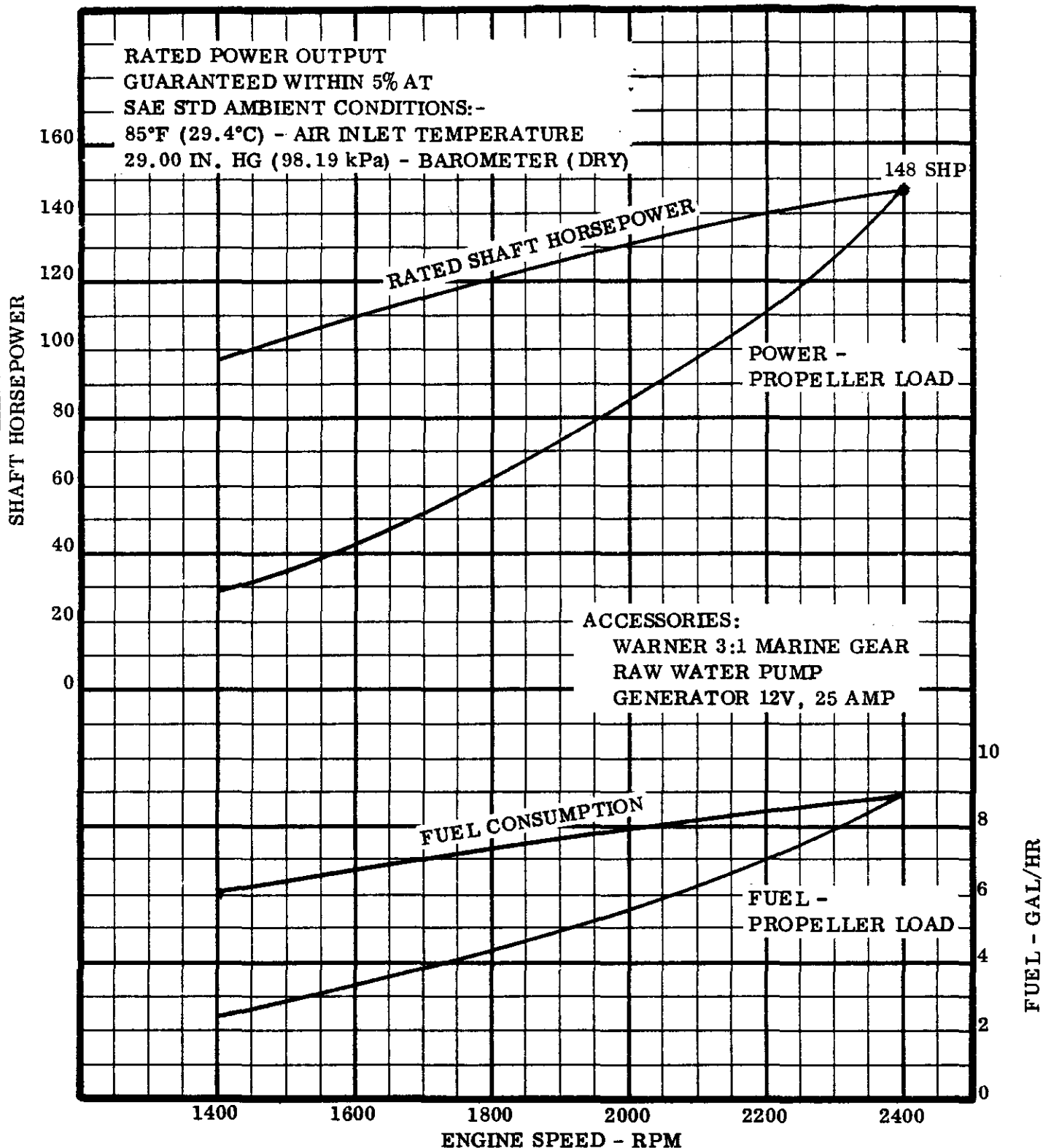




Detroit Diesel Allison
Division of General Motors Corporation

NET ENGINE PERFORMANCE

MODEL: 6V-53N
APPLICATION: MARINE
INJECTOR: N40 (1.460 TIMING)
RATING: WORK BOAT



ENGINEERING-TECHNICAL DATA DEPT.

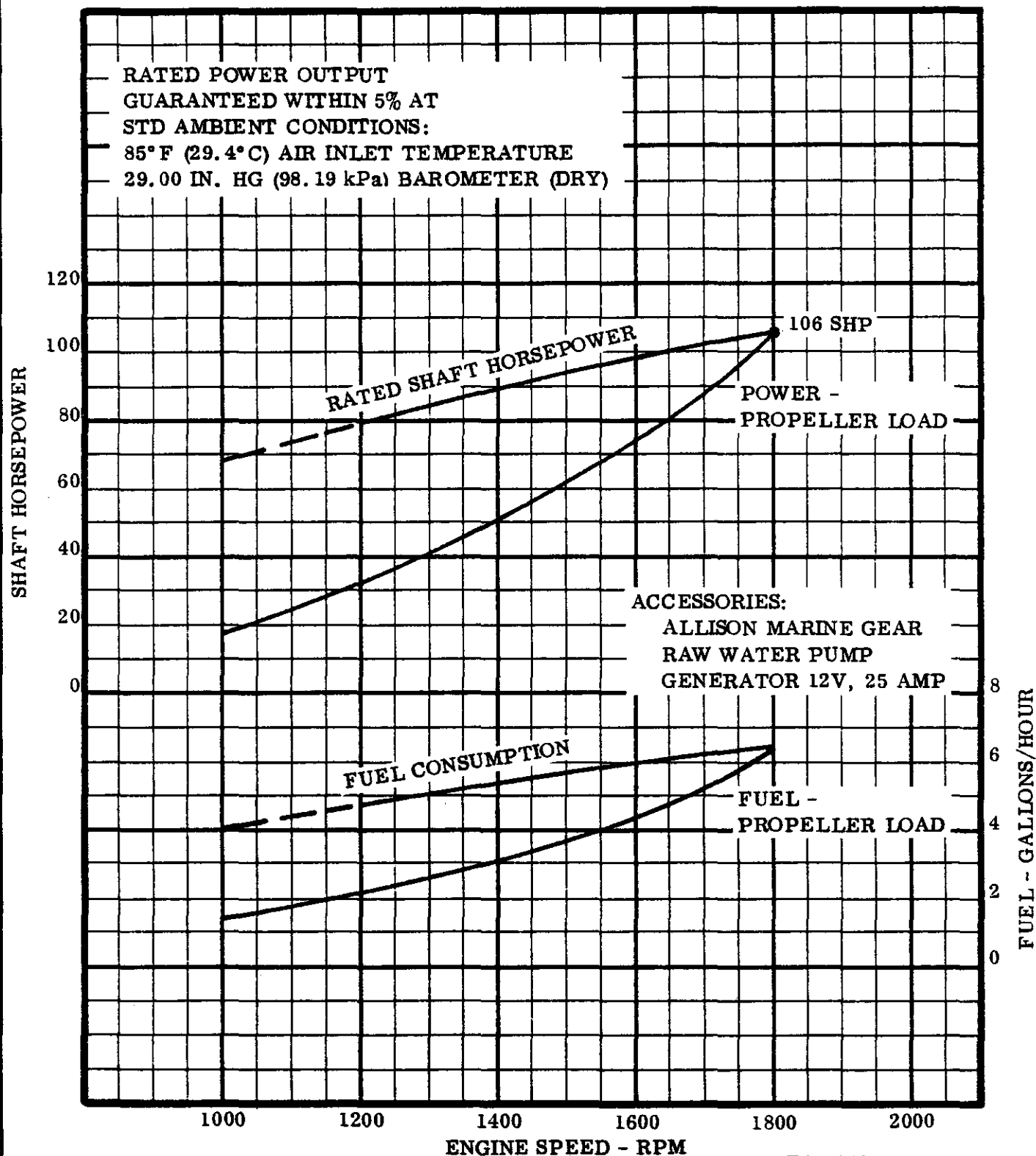
E4-5062-52-2
Rev. 3-24-80



Detroit Diesel Allison
Division of General Motors Corporation

NET ENGINE HORSEPOWER

MODEL: 4-71N (2V)
APPLICATION: MARINE
INJECTOR: N55 (1.460 TIMING)
RATING: WORK BOAT



ENGINEERING-TECHNICAL DATA DEPT.

E4-1042-51-1

Rev. 2-27-80

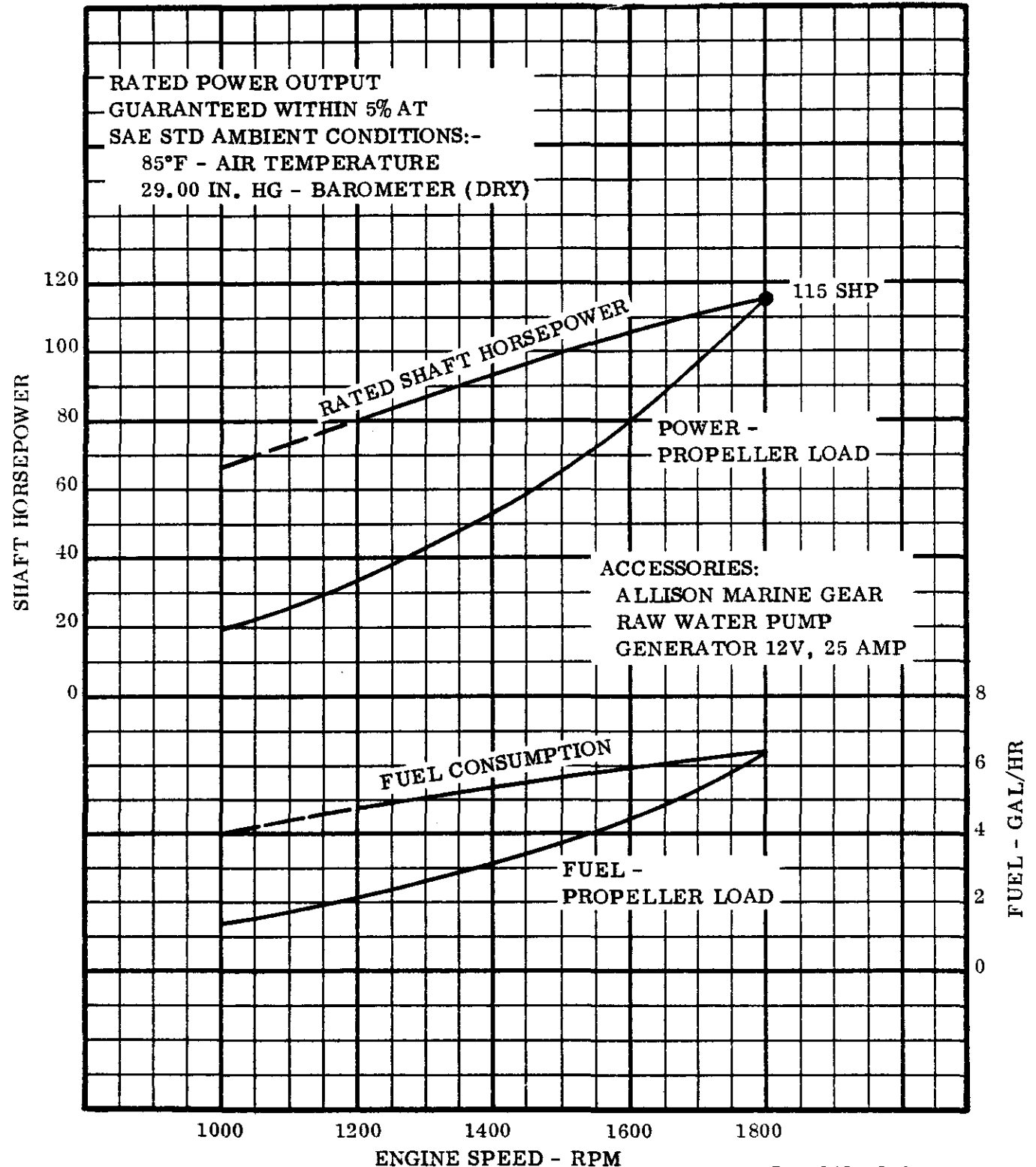


Detroit Diesel Allison

Division of General Motors Corporation

NET ENGINE PERFORMANCE

MODEL: 4-71N
APPLICATION: MARINE
INJECTOR: N55 (1.460 Timing)
RATING: WORK BOAT

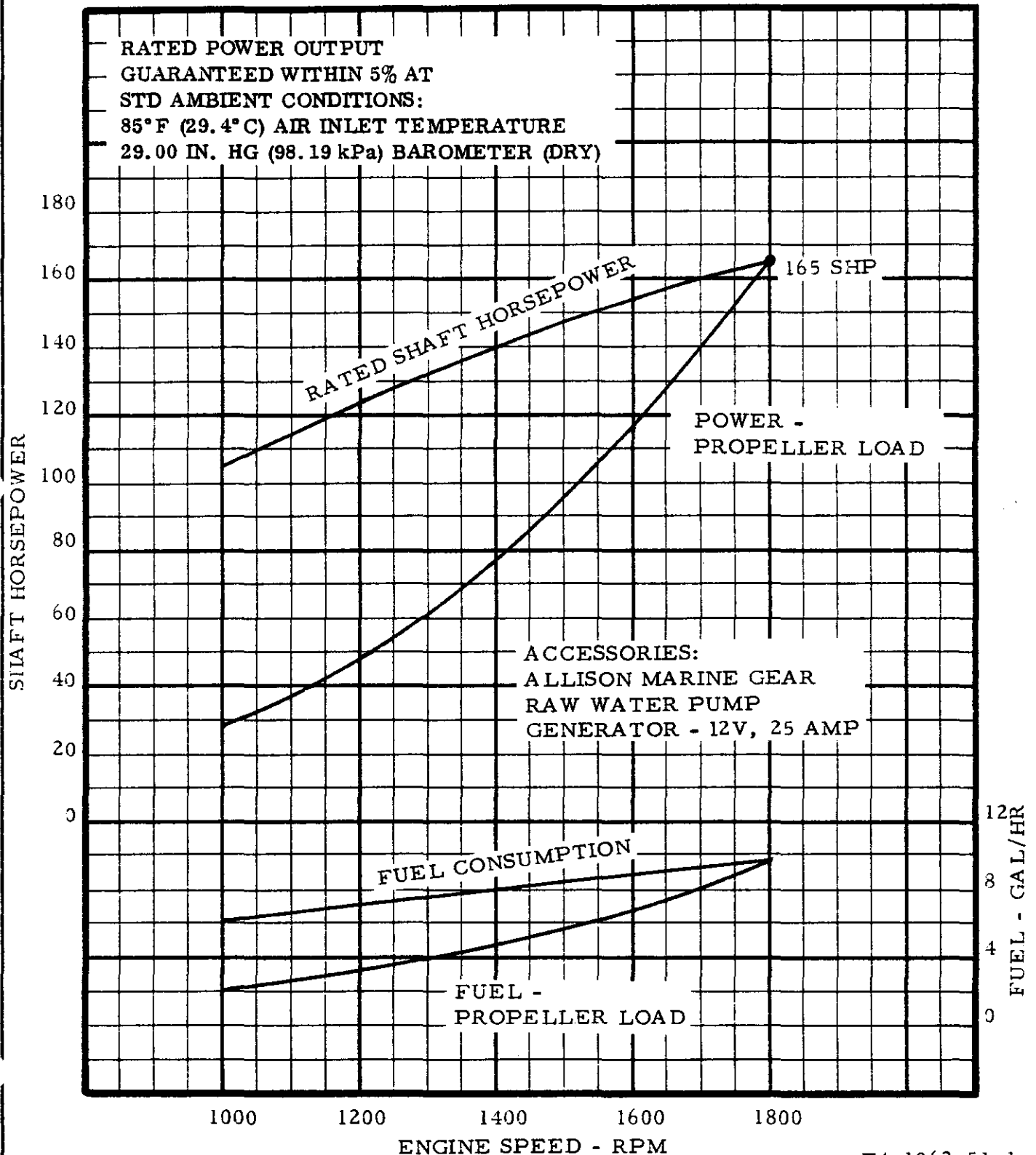




Detroit Diesel Allison
Division of General Motors Corporation

NET ENGINE PERFORMANCE

MODEL: 6-71N (2V)
APPLICATION: MARINE
INJECTOR: N55 (1.460 TIMING)
RATING: WORK BOAT



ENGINEERING-TECHNICAL DATA DEPT.

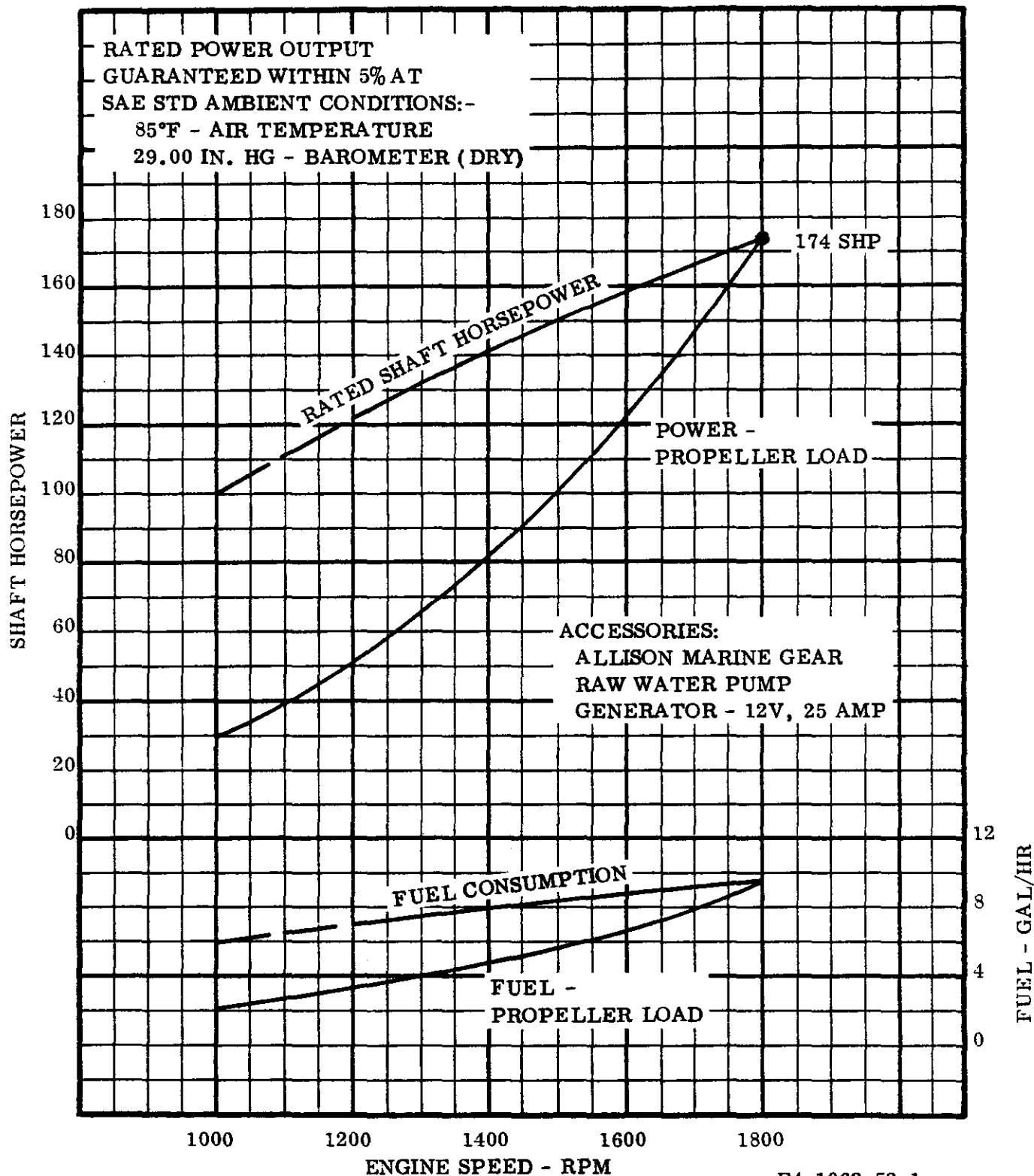
E4-1062-51-1
2-25-80



Detroit Diesel Allison
Division of General Motors Corporation

NET ENGINE PERFORMANCE

MODEL: 6-71N
APPLICATION: MARINE
INJECTOR: N55(1.460 Timing)
RATING: WORK BOAT

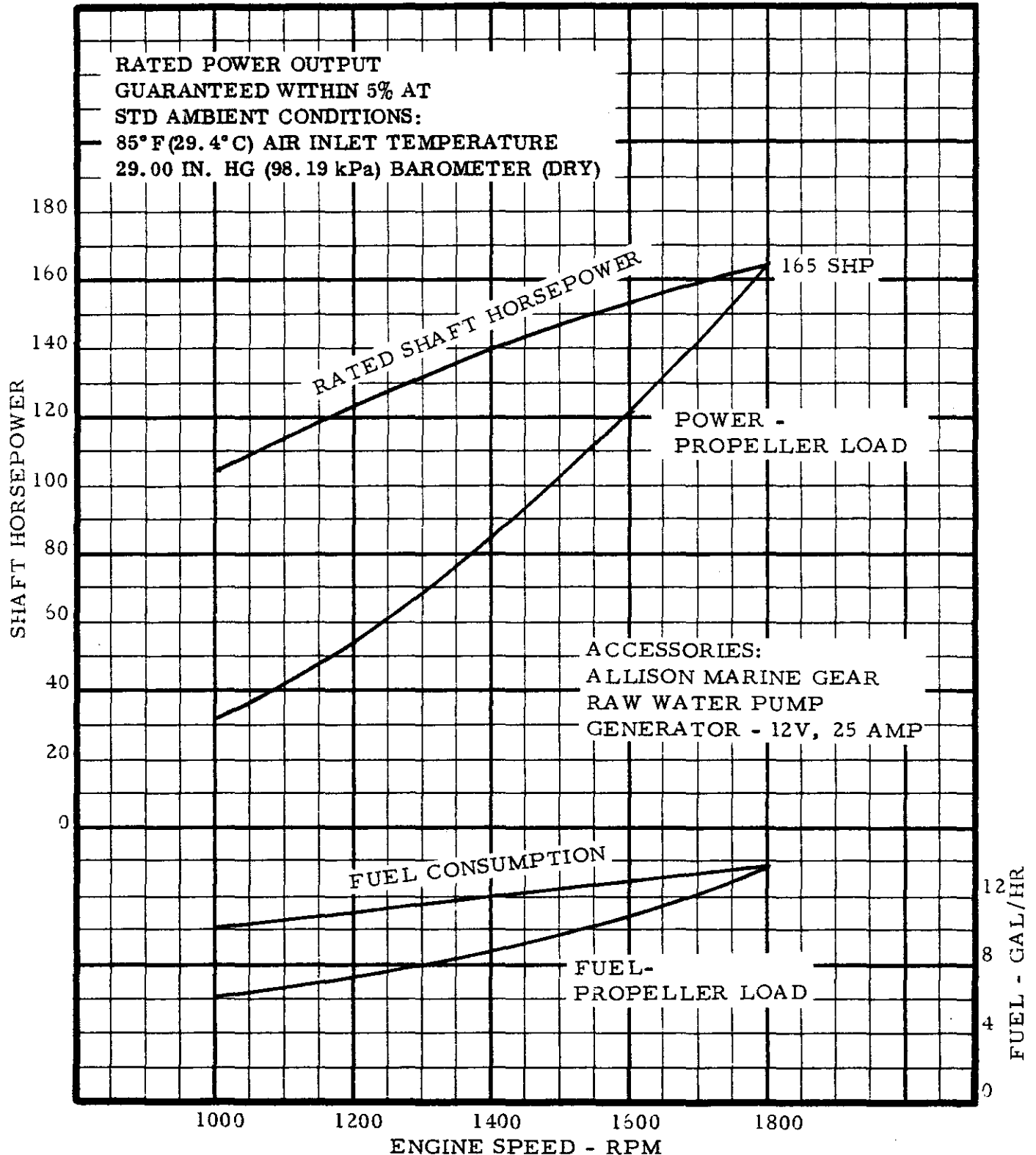




Detroit Diesel Allison
Division of General Motors Corporation

NET ENGINE PERFORMANCE

MODEL: 6V-71N (2V)
APPLICATION: MARINE
INJECTOR: N55 (1.460 TIMING)
RATING: WORK BOAT



ENGINEERING-TECHNICAL DATA DEPT.

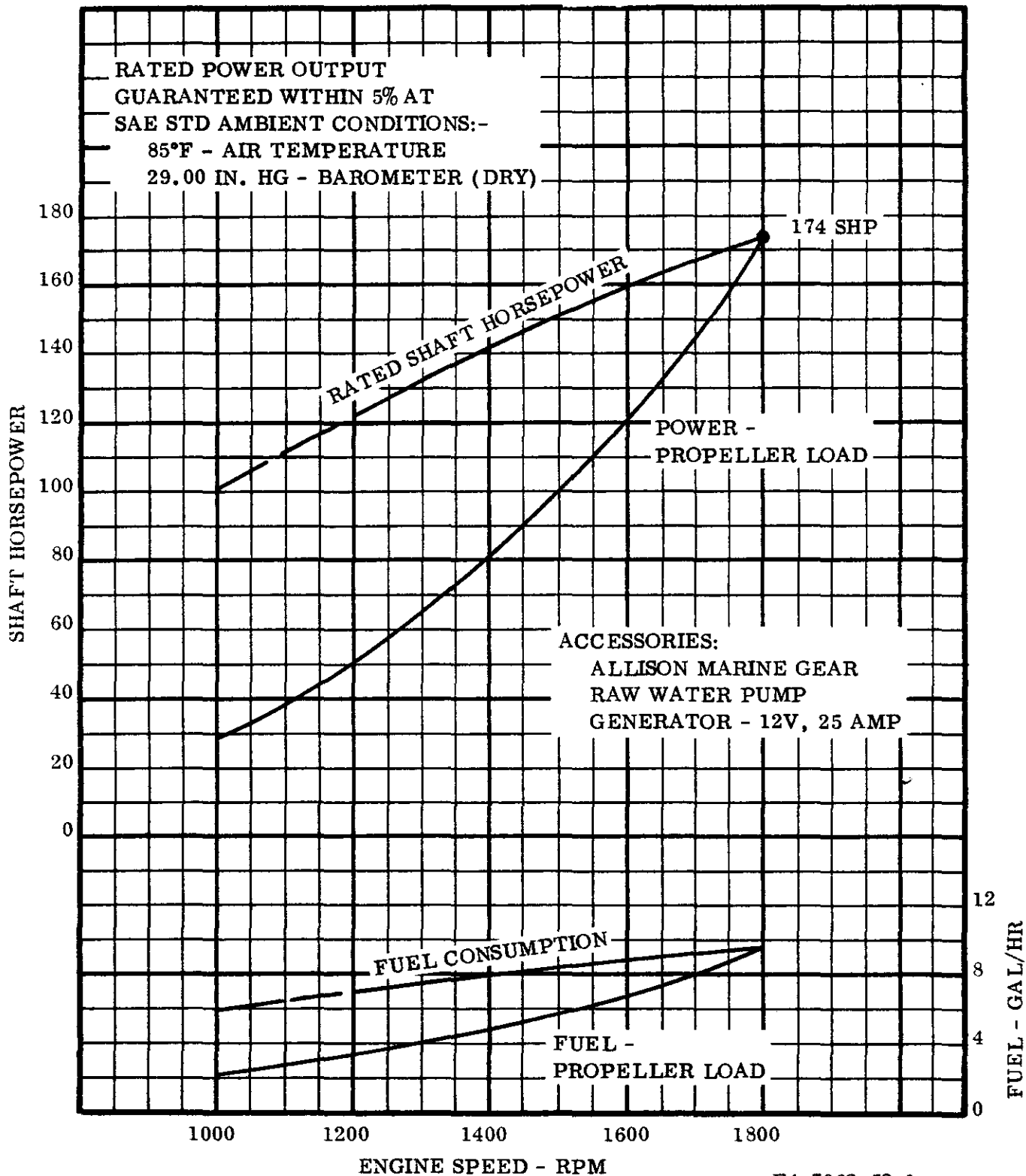
E4-7062-51-1
Rev. 2-25-80



Detroit Diesel Allison
Division of General Motors Corporation

NET ENGINE PERFORMANCE

MODEL: 6V-71N
APPLICATION: MARINE
INJECTOR: N55 (1.460 Timing)
RATING: WORK BOAT

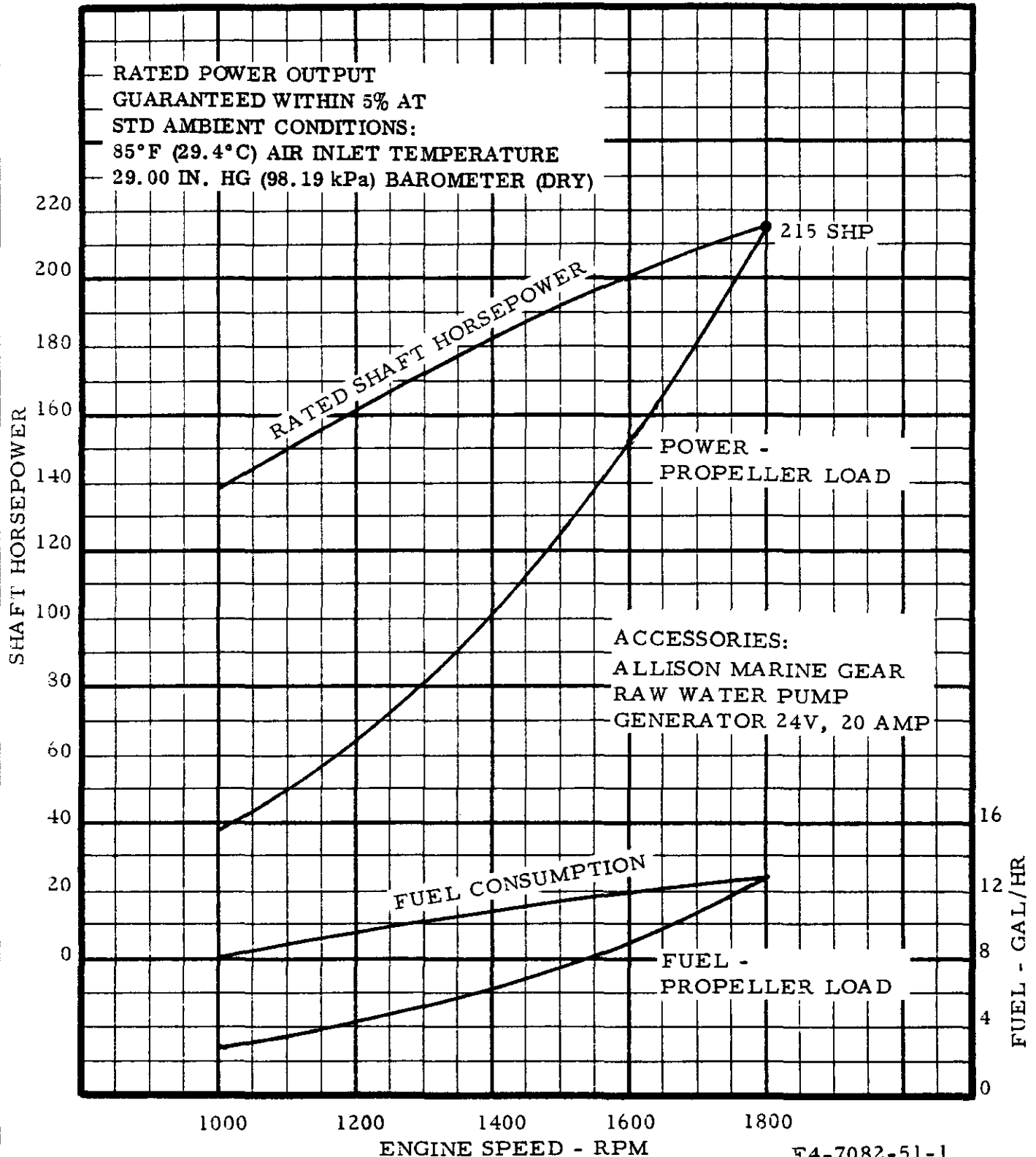




Detroit Diesel Allison
Division of General Motors Corporation

NET ENGINE PERFORMANCE

MODEL: 8V-71N (2V)
APPLICATION: MARINE
INJECTOR: N55 (1.460 TIMING)
RATING: WORK BOAT



ENGINEERING-TECHNICAL DATA DEPT.

E4-7082-51-1

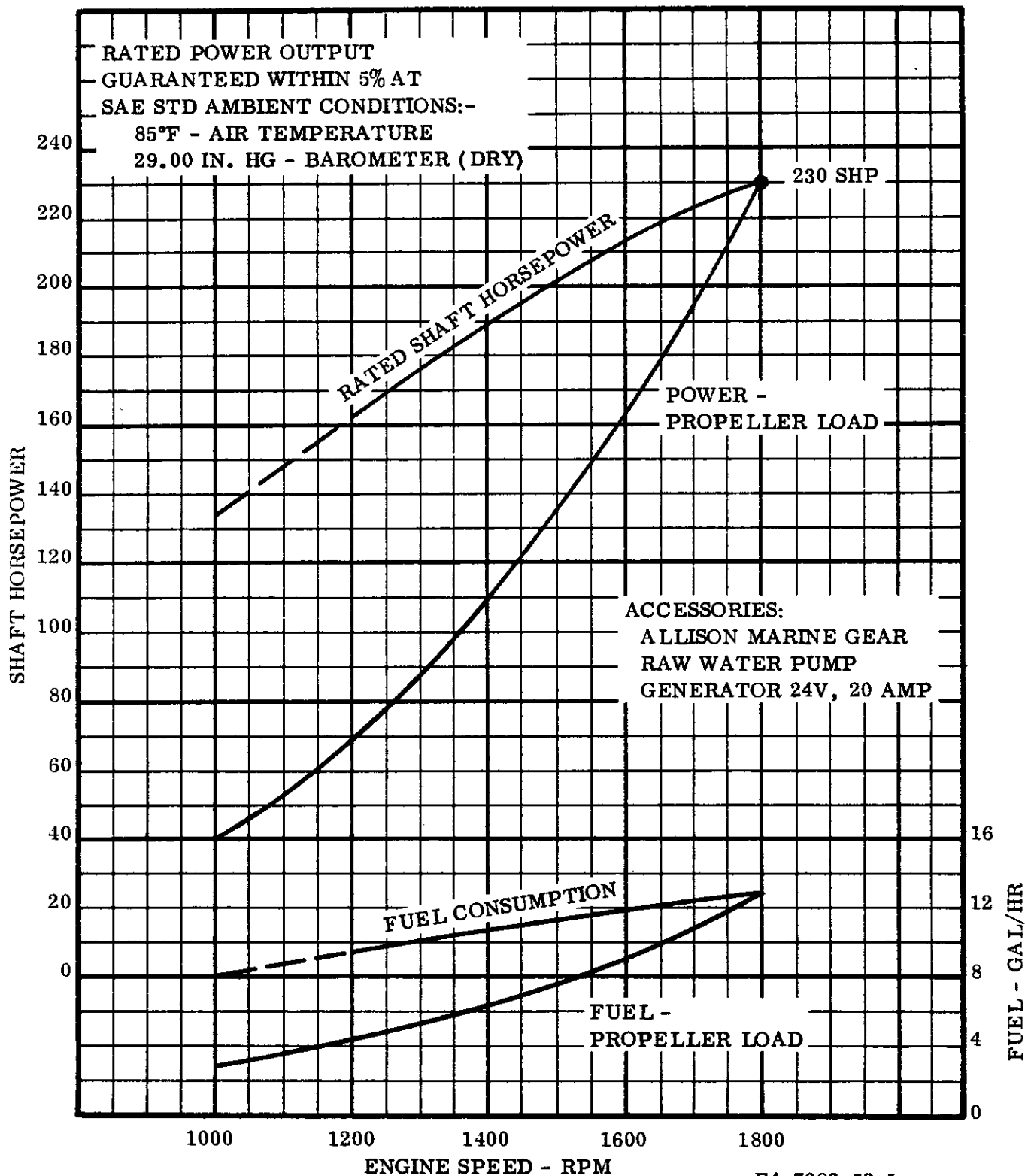
Rev. 2-25-80



Detroit Diesel Allison
Division of General Motors Corporation

NET ENGINE PERFORMANCE

MODEL: 8V-71N
APPLICATION: MARINE
INJECTOR: N55 (1.460 timing)
RATING: WORK BOAT

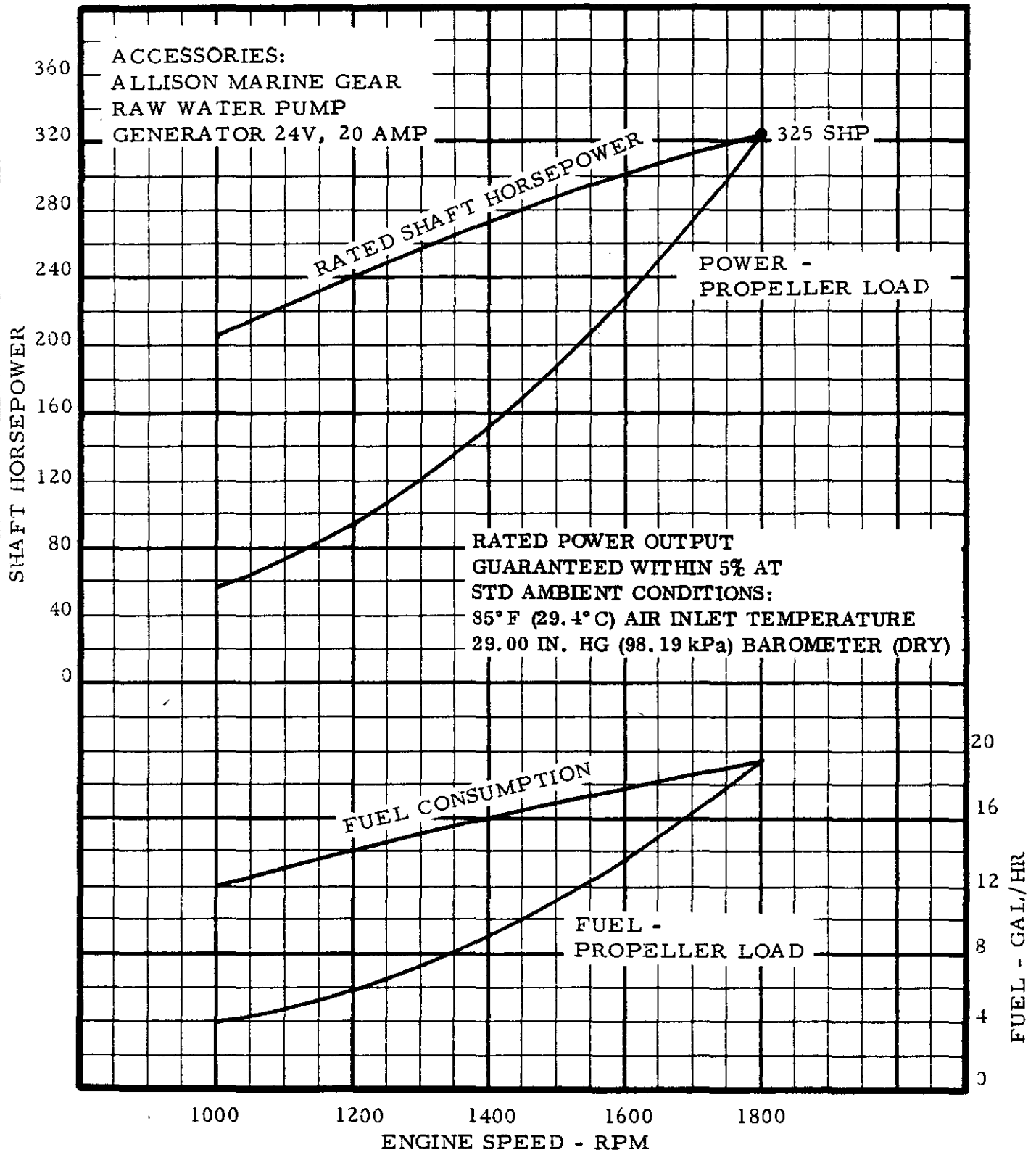




Detroit Diesel Allison
Division of General Motors Corporation

NET ENGINE PERFORMANCE

MODEL: 12V-71N (2V)
APPLICATION: MARINE
INJECTOR: N55 (1.460 TIMING)
RATING: WORK BOAT

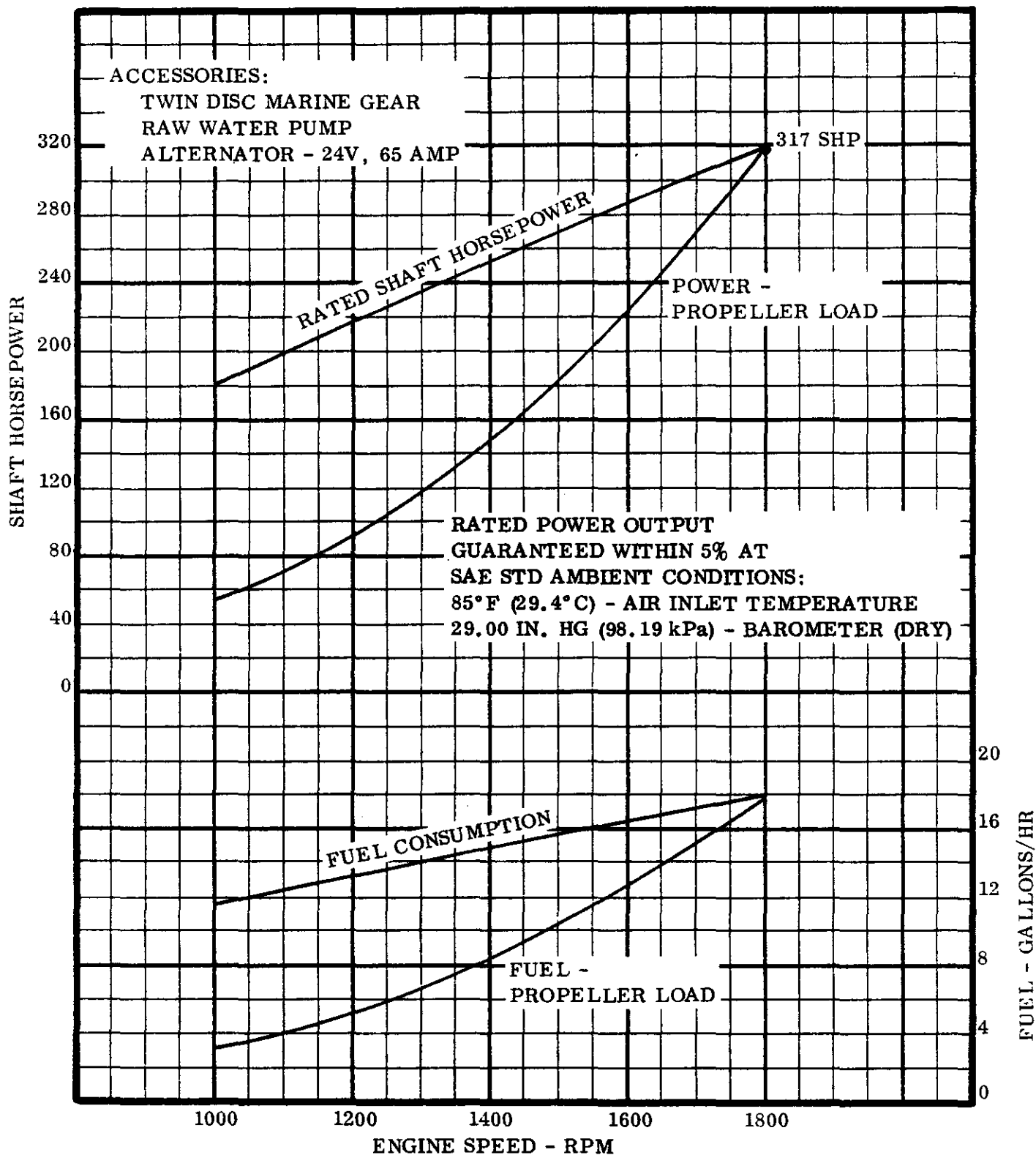




Detroit Diesel Allison
Division of General Motors Corporation

NET ENGINE PERFORMANCE

MODEL: 12V-71N
APPLICATION: MARINE
INJECTOR: 71N5 (1.460 TIMING)
RATING: WORK BOAT



ENGINEERING-TECHNICAL DATA DEPT.

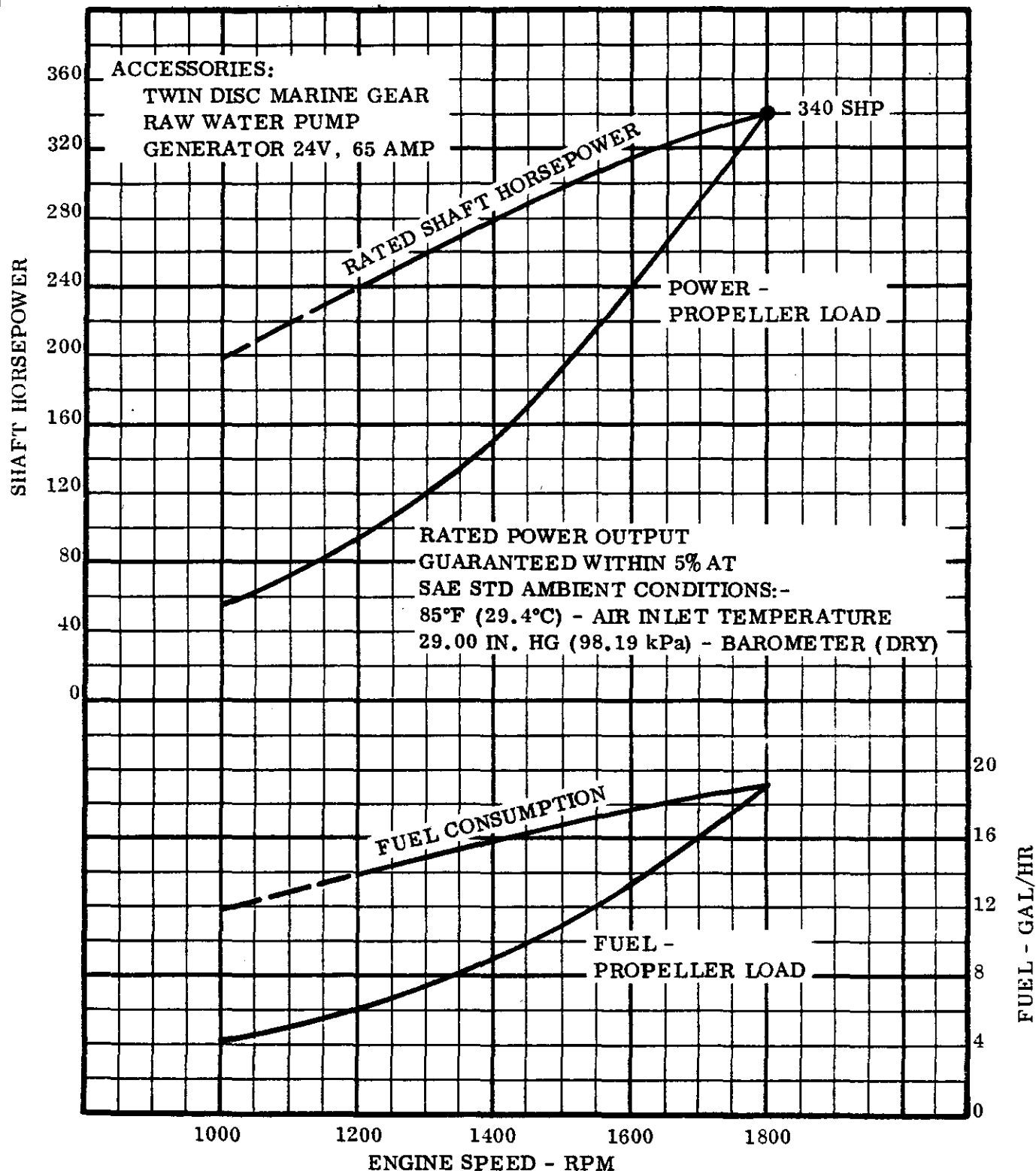
E4-7122-52-8
Rev. 3-24-80



Detroit Diesel Allison
Division of General Motors Corporation

NET ENGINE PERFORMANCE

MODEL: 12V-71N
APPLICATION: MARINE
INJECTOR: N55 (1.460 TIMING)
RATING: WORK BOAT

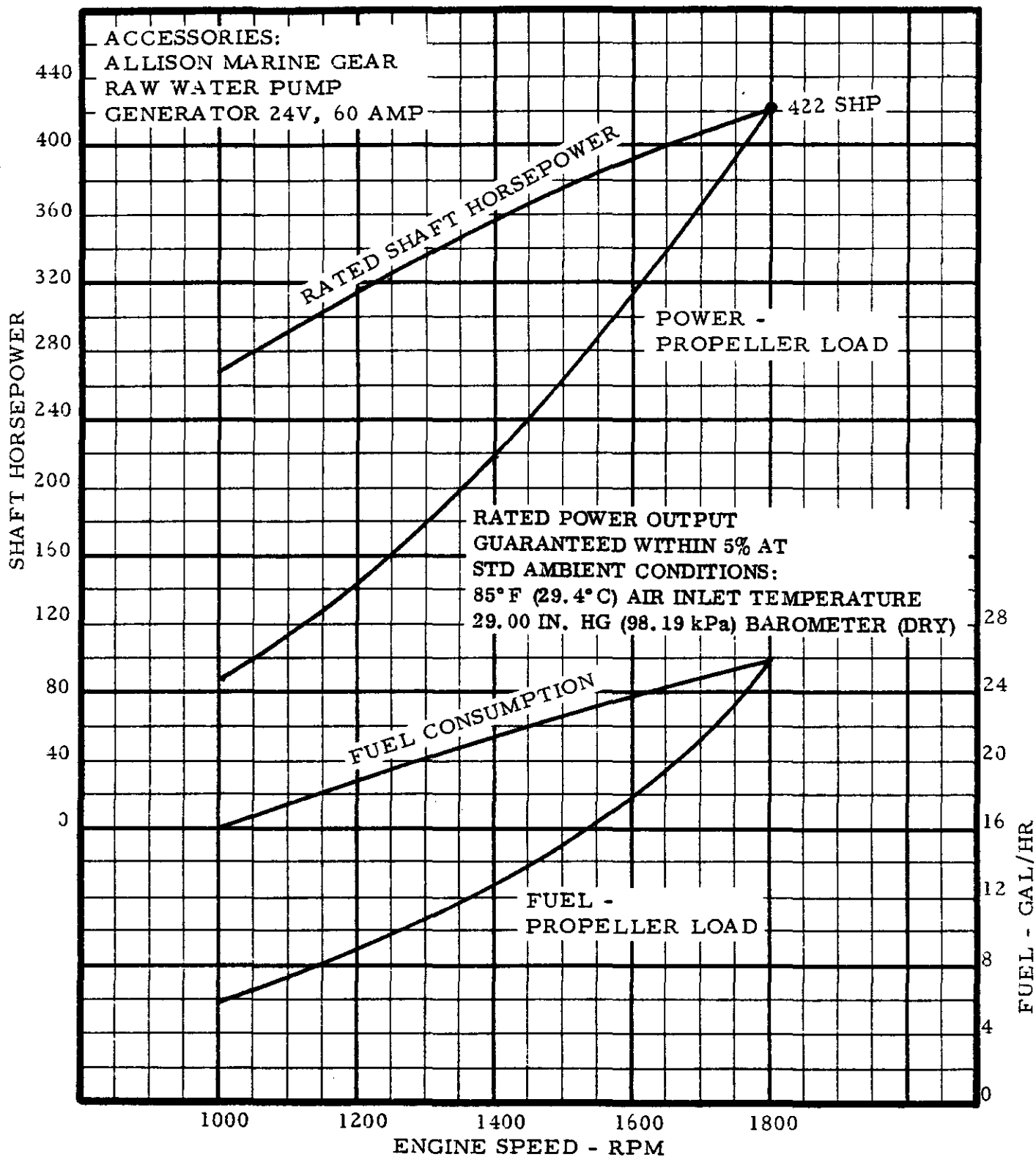




Detroit Diesel Allison
Division of General Motors Corporation

NET ENGINE PERFORMANCE

MODEL: 16V-71N (2V)
APPLICATION: MARINE
INJECTORS: N55 (1.460 TIMING)
RATING: WORK BOAT



ENGINEERING-TECHNICAL DATA DEPT.

E4-7162-51-1
2-25-80



Detroit Diesel Allison
Division of General Motors Corporation

NET ENGINE PERFORMANCE

MODEL: 16V-71N
APPLICATION: MARINE
INJECTOR: N55 (1.460 TIMING)
RATING: WORK BOAT

