



ENGINE PERFORMANCE CURVE

RATING: GROSS POWER - BASIC ENGINE

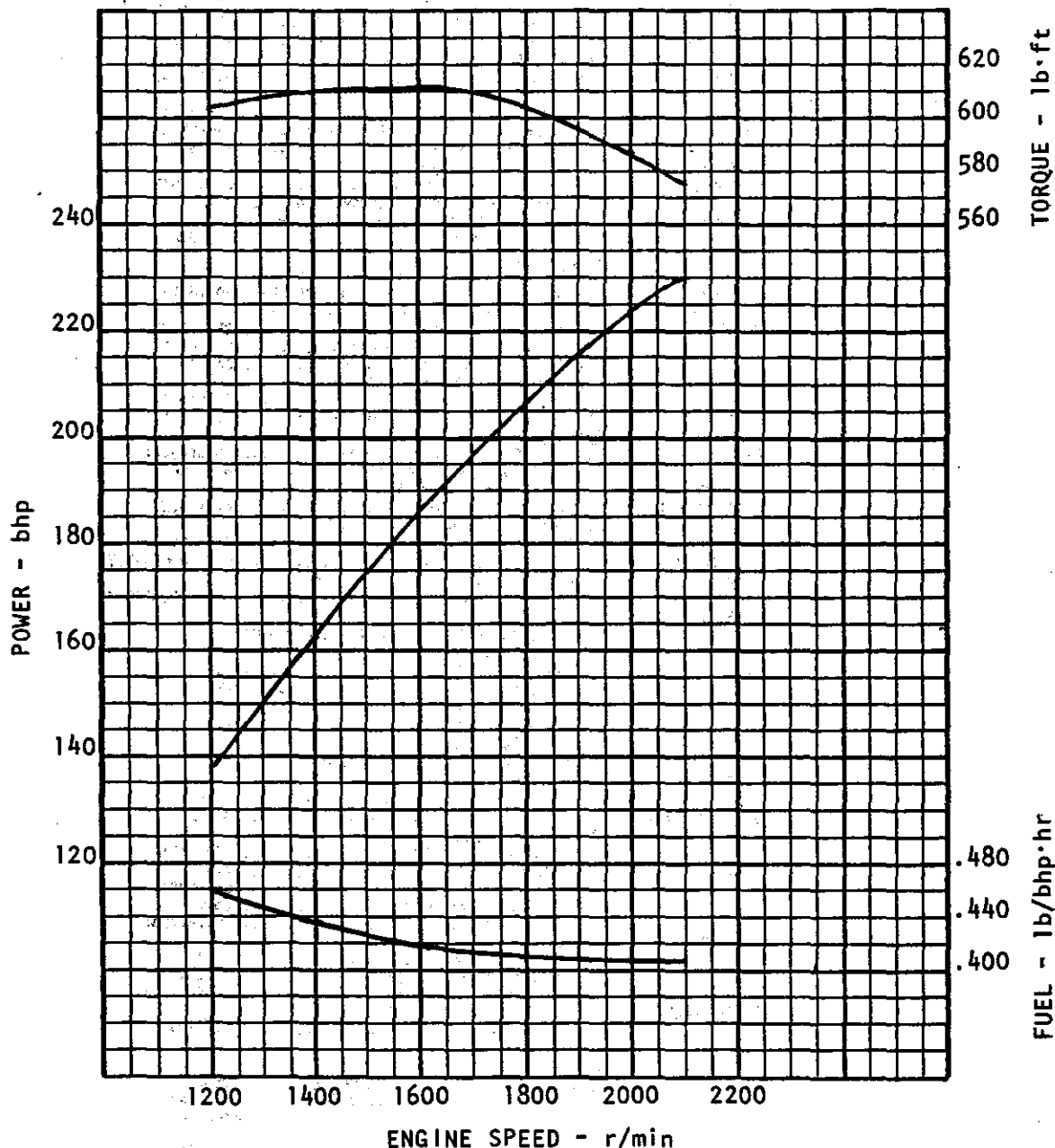
APPLICATION: AUTOMOTIVE

CERTIFICATION: FEDERAL 1979-1985

MODEL: 6-71N

230 bhp @ 2100 r/min

611 lb·ft @ 1600 r/min



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:

Peter A. Anderson

STAFF ENGINEER

CURVE NO.

E4-1061-52-39

DATE: 4-4-78

REV./DATE: 7/10-1-84

SHT. 1 OF 2

ENGINE SPECIFICATION DATA

General Data

Model.....	1067-8040
Number of Cylinders.....	6
Bore and Stroke-In(mm).....	4.25x5.00(108x127)
Displacement-In ³ (L).....	426(6.9)
Compression Ratio.....	18.7:1
Piston Speed-ft/min(m/min).....	1750(533)
Valves Per Cylinder.....	4
Intake.....	NOT APPLICABLE
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	INLINE
Aspiration.....	NATURAL

Configuration

Turbocharger.....	NOT APPLICABLE
Charge Air Cooling System.....	NONE
Blower Type.....	STANDARD
Blower Drive Ratio.....	2.00:1
Low Idle Speed-r/min.....	550
High Idle Speed-r/min.....	2250
Thrust Bearing Load Limit	
Continuous-lbf(N).....	600(2670)
Intermittent-lbf(N).....	1800(8000)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-In H ₂ O(kPa).....	3.0(0.75)

Physical Data

Size	
Length-In(mm).....	56.0(1422)
Width-In(mm).....	33.0(838)
Height-In(mm).....	44.0(1118)
Weight, dry-lb(kg).....	2150(975)
Center of Gravity Distance	
From R.F.O.B. (x axis)-In(mm).....	19.08(485)
Above Crankshaft (y axis)-In(mm).....	7.28(185)
Right of Crankshaft (z axis)-In(mm).....	0.58(14.7)
Installation Drawing.....	5131340
Maximum Allowable Static Bending Moment at Rear Face of FW Hsg-lbf ft(N m)....	600(814)

Fuel System

Fuel Injector/Timing.....	7E65/1.484*
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	93.6(42.5)
Fuel Consumption-gal/hr(L/hr).....	13.4(50.7)
Fuel Spill Rate-lb/hr(kg/hr).....	503.3(228.3)
Fuel Spill Rate-gal/hr(L/hr).....	72(272.5)
Total Fuel Flow-lb/hr(kg/hr).....	596.9(270.7)
Total Fuel Flow-gal/hr(L/hr).....	85.4(323.2)
Maximum Allowable Fuel Pump Suction	
Clean System-In Hg(kPa).....	6(20)
Dirty System-In Hg(kPa).....	12(41)
Fuel Filter Micron Size	
Primary - Micron.....	30
Secondary - Micron.....	10

Lubrication System

Oil Pressure	
Rated Speed-lbf/in ² (kPa).....	50(345)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-235(93-113)
Oil Flow-gal/min(L/min).....	32(121)
Oil Pan Capacity	
High-qt(L).....	22(20.8)
Low-qt(L).....	18(17.0)
Total Engine Oil Capacity with filters-qt(L).....	24(22.7)
Bypass Oil Filter Orifice-In(mm).....	0.101(2.57)
Engine Angularity Limits	
Front up - degrees.....	24
Front down - degrees.....	14
Side tilt - degrees.....	NOT AVAILABLE

Emission Data

CO-gm/hr.....	3300
HC-gm/hr.....	85
NO _x -gm/hr.....	1920
SO ₂ -gm/hr.....	425
Smoke	
Rated Speed - Bosch Number.....	2.3
Peak Torque Speed - Bosch Number.....	2.5
Noise - dB(A) @ 1m.....	103
Certification Approval.....	FEDERAL 1985

Cooling System

Engine Heat Rejection-Btu/min(kW).....	7300(128.4)
Engine Radiated Heat-Btu/min(kW).....	1380(24.3)
Coolant Flow-gal/min(L/min).....	79(299)
Thermostat	
Start to Open-°F(°C).....	170(77)
Fully Open-°F(°C).....	187(86)
Maximum Water Pump Inlet	
Restriction-In Hg(kPa).....	0
Engine Coolant Capacity-qt(L).....	21(20.8)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C).....	210(99)
Minimum Top Tank Temperature-°F(°C).....	160(71)
Minimum Coolant Fill Rate-gal/min(L/min).....	3.0(11.4)
Cooling Index	
Minimum Air to Boil-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(55.6)
Ram Air Flow - Mile/hr(km/hr).....	15(24)
Deaeration-Air Injection	
Capacity-ft ³ /min(m ³ /min).....	0.6(0.017)
Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever is Larger)-qt(L).....	4.0(3.8)

Air System

Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C)...	30(16.7)
Air Intake Restriction Maximum Limit	
Dirty Air Cleaner-In H ₂ O(kPa).....	25.0(6.2)
Clean Air Cleaner-In H ₂ O(kPa).....	17.0(4.2)
Engine Air Flow - ft ³ /min(m ³ /min).....	660(18.7)
Engine Air Box/Manifold Pressure-In Hg(kPa).....	5.0(16.9)
Recommended Intake Pipe Dia.-In(mm)....	5.5(140)

Exhaust System

Exhaust Flow-ft ³ /min(m ³ /min).....	1630(46.2)
Exhaust Temperature-°F(°C).....	870(466)
Maximum Allowable Back Pressure-In Hg(kPa).....	4.0(13.5)
Recommended Exhaust Pipe Dia.	
Single-In(mm).....	4.0(102)
Dual-In(mm).....	NOT APPLICABLE
Exhaust Brake Max. Allowable Back Pressure-In Hg(kPa).....	NOT APPLICABLE

Electrical System

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

Performance Data

Power Output-bhp(kW).....	230(172)
Full Load Speed-r/min.....	2100
Peak Torque-lb ft(N m).....	611(828)
Peak Torque Speed-r/min.....	1600
BMEP-lbf/in ² (kPa).....	101.9(703)
Friction Power	
Rated Speed-bhp(kW).....	53(40)
Peak Torque Speed-bhp(kW).....	35(26)
Altitude Capability-ft(m).....	9000(2740)
Torque Available at 800 r/min-lb ft (N m).....	520(705)

Engine

Speed r/min	Power bhp(kW)	Torque lb ft(N m)	BSEC lb/bhp hr (g/kW hr)
2100	230(172)	575(780)	.407(248)
2000	224(167)	587(795)	.407(248)
1800	207(154)	604(819)	.410(249)
1600	186(139)	611(828)	.418(254)
1400	162(121)	610(827)	.436(265)
1200	138(103)	604(819)	.460(280)
1000	110 (82)	578(784)	.495(301)

*Advanced Camshaft Timing

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

Curve No. E4-1061-52-39
Date: 4-4-78
Rev./Date: 7/10-01-84
Sht. 2 of 2



ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

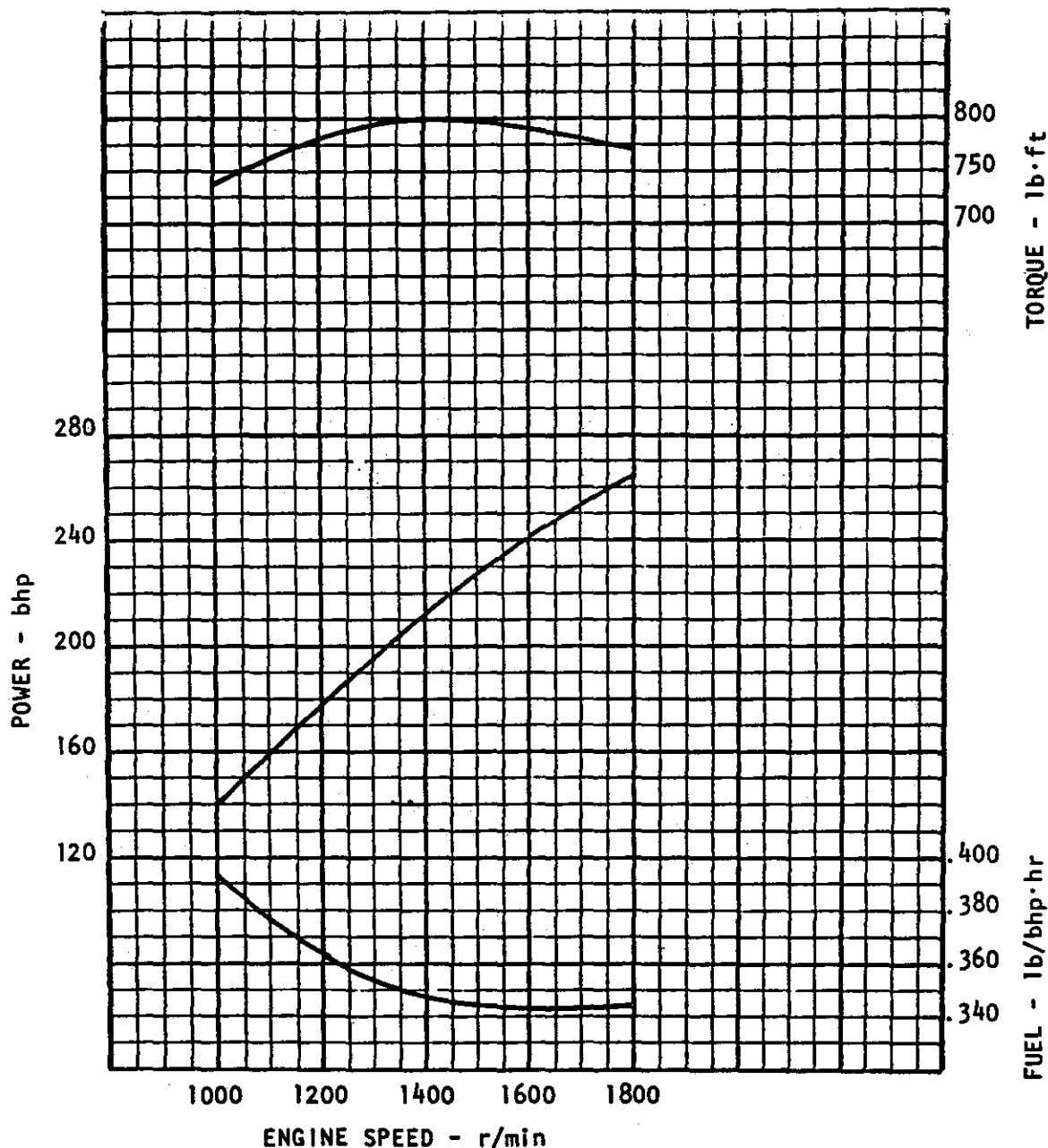
APPLICATION: AUTOMOTIVE

CERTIFICATION: FEDERAL 1985

MODEL: 6-71TA

265 bhp @ 1800 r/min

800 lb·ft @ 1400 r/min



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 (38°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:

STAFF ENGINEER

CURVE NO.

E4-1067-32-30

DATE: 3-19-84

REV./DATE: 2/1-29-85

SHT. 1 OF 2

ENGINE SPECIFICATION DATA

General Data

Model.....	1067-8640
Number of Cylinders.....	6
Bore and Stroke-in(mm).....	4.25x5.00(108x127)
Displacement-in ³ (L).....	426(6.9)
Compression Ratio.....	18.7:1
Piston Speed-ft/min(m/min).....	1500(457)
Valves Per Cylinder	
Intake.....	NOT APPLICABLE
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	INLINE-2 CYCLE
Aspiration.....	TURBOCHARGED

Configuration

Turbocharger.....	84H-005(0.99 A/R)
Charge Air Cooling System.....	ALCC
Blower Type.....	BY-PASS
Blower Drive Ratio.....	1.65:1
Low Idle Speed-r/min.....	500
High Idle Speed-r/min.....	1950
Thrust Bearing Load Limit	
Continuous-lbf(N).....	400(1780)
Intermittent-lbf(N).....	1200(5340)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-in H ₂ O(kPa).....	1.9(0.47)

Physical Data

Size	
Length-in(mm).....	56.0(1421)
Width-in(mm).....	31.9(809)
Height-in(mm).....	52.0(1321)
Weight, dry-lb(kg).....	2195(996)
Center of Gravity Distance	
From R.F.O.B. (x axis)-in(mm).....	20.5(521)
Above Crankshaft (y axis)-in(mm).....	5.1(130)
Right of Crankshaft (z axis)-in(mm).....	-1.5(38)
Installation Drawing.....	NOT AVAILABLE
Maximum Allowable Static Bending Moment at Rear Face of PN Hsg-lbf ft(N m).....	600(814)

Fuel System

Fuel Injector/Timing.....	7R75/1.480
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	90.3(41.0)
Fuel Consumption-gal/hr(L/hr).....	12.8(48.8)
Fuel Spill Rate-lb/hr(kg/hr).....	503.3(228.3)
Fuel Spill Rate-gal/hr(L/hr).....	72(272.5)
Total Fuel Flow-lb/hr(kg/hr).....	593.6(269.3)
Total Fuel Flow-gal/hr(L/hr).....	84.8(321.3)
Maximum Allowable Fuel Pump Suction	
Clean System-in Hg(kPa).....	6(20)
Dirty System-in Hg(kPa).....	12(41)
Fuel Filter Micron Size	
Primary - Micron.....	30
Secondary - Micron.....	10

Lubrication System

Oil Pressure	
Rated Speed-lbf/in ² (kPa).....	55(379)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-235(93-113)
Oil Flow-gal/min(L/min).....	26(98.4)
Oil Pan Capacity	
High-qt(L).....	22(20.8)
Low-qt(L).....	18(17.0)
Total Engine Oil Capacity with filters-qt(L).....	24(22.7)
Bypass Oil Filter Orifice-in(mm).....	0.101(2.57)
Engine Angularity Limits	
Front up - degrees.....	24
Front down - degrees.....	14
Side tilt - degrees.....	NOT AVAILABLE

Emission Data

CO-gm/hr.....	NOT AVAILABLE
HC-gm/hr.....	NOT AVAILABLE
NO _x -gm/hr.....	NOT AVAILABLE
SO ₂ -gm/hr.....	410
Smoke	
Rated Speed - Bosch Number.....	NOT AVAILABLE
Peak Torque Speed - Bosch Number.....	NOT AVAILABLE
Noise - dB(A) @ 1m.....	NOT AVAILABLE
Certification Approval.....	FEDERAL 1985

Cooling System

Engine Heat Rejection-Btu/min(kW).....	6700(117.8)
Engine Radiated Heat-Btu/min(kW).....	1280(22.0)
Coolant Flow-gal/min(L/min).....	73(276.3)
Thermostat	
Start to Open-°F(°C).....	177(81)
Fully Open-°F(°C).....	197(92)
Maximum Water Pump Inlet	
Restriction-in Hg(kPa).....	0
Engine Coolant Capacity-qt(L).....	23(21.6)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C).....	210(99)
Minimum Top Tank Temperature-°F(°C).....	160(71)
Minimum Coolant Fill Rate-gal/min(L/min).....	3.0(11.4)
Cooling Index	
Minimum Air to Boil-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(55.6)
Raw Air Flow - Mile/hr(km/hr).....	15(24)
Deseration-Air Injection	
Capacity-ft ³ /min(m ³ /min).....	0.6(0.017)
Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever is Larger)-qt(L).....	4.0(3.8)

Air System

Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C).....	30(16.7)
Air Intake Restriction Maximum Limit	
Dirty Air Cleaner-in H ₂ O(kPa).....	20(5.0)
Clean Air Cleaner-in H ₂ O(kPa).....	12(3.0)
Engine Air Flow - ft ³ /min(m ³ /min).....	730(20.7)
Engine Air Box/Manifold Pressure-in Hg(kPa).....	37(125)
Recommended Intake Pipe Dia.-in(mm).....	6.0(152)

Exhaust System

Exhaust Flow-ft ³ /min(m ³ /min).....	1550(43.9)
Exhaust Temperature-°F(°C).....	680(360)
Maximum Allowable Back Pressure-in Hg(kPa).....	2.5(8.4)
Recommended Exhaust Pipe Dia.	
Single-in(mm).....	5.0(127)
Dual-in(mm).....	NOT APPLICABLE
Exhaust Brake Max. Allowable Back Pressure-in Hg(kPa).....	NOT APPLICABLE

Electrical System

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

Performance Data

Power Output-bhp(kW).....	265(198)
Full Load Speed-r/min.....	1800
Peak Torque-lb ft(N m).....	800(1085)
Peak Torque Speed-r/min.....	1400
BMEP-lbf/in ² (kPa).....	137(944)
Friction Power	
Rated Speed-bhp(kW).....	50(37)
Peak Torque Speed-bhp(kW).....	34(25)
Altitude Capability-ft(m).....	10500(3200)
Torque Available at 800 r/min-lb ft (N m).....	620(841)

Engine

Speed r/min	Power bhp(kW)	Torque lb ft(N m)	BMEP lb/bhp hr (g/kW hr)
1800	265(198)	773(1048)	.343(209)
1600	241(180)	791(1073)	.342(208)
1400	213(159)	800(1085)	.347(211)
1200	180(134)	787(1067)	.365(222)
1000	145(108)	764(1030)	.394(240)

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

Curve No. E4-1067-32-30
Date: 3-19-84
Rev./Date: 2/1-29-85
Sht. 2 of 2

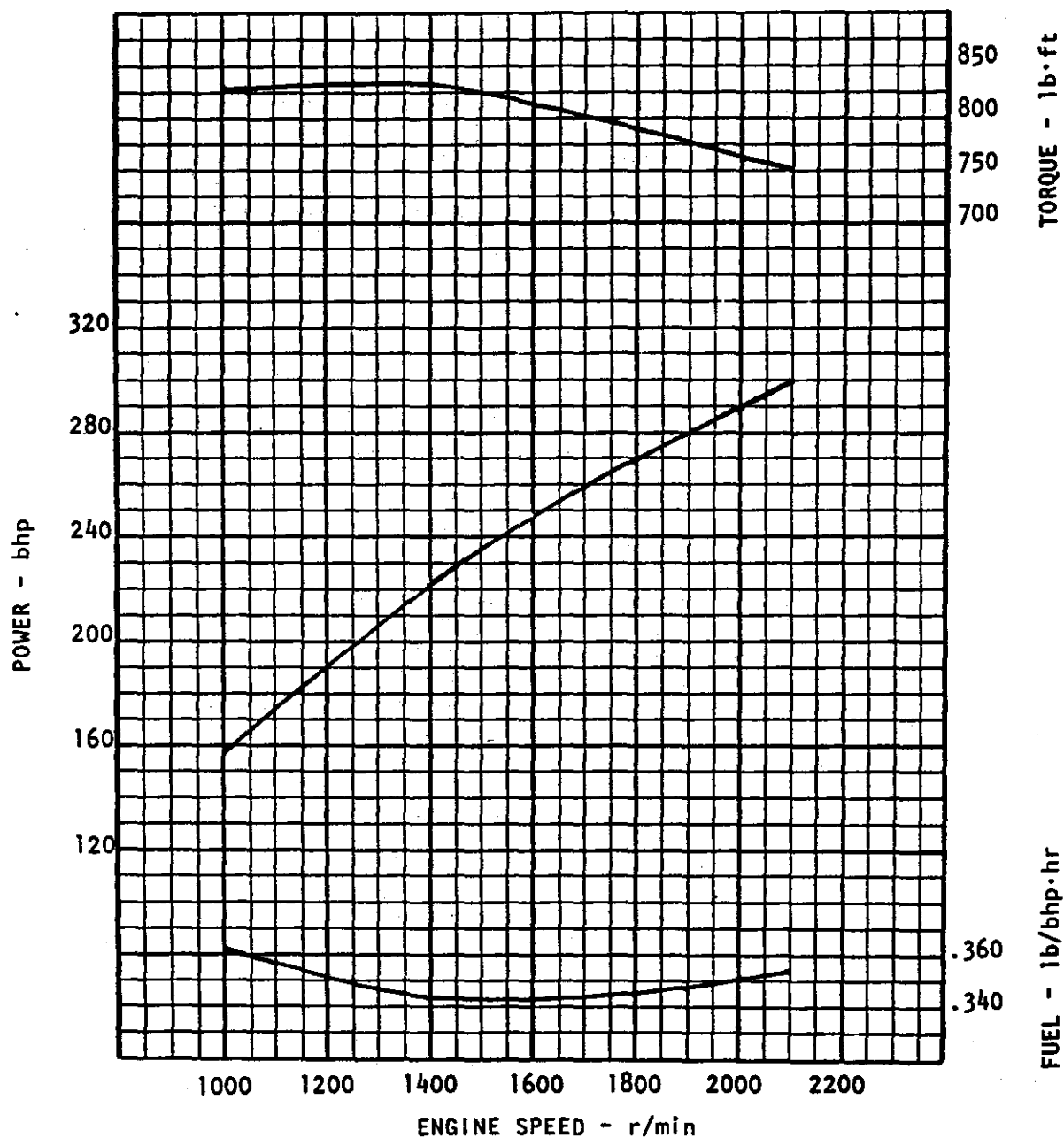


ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

APPLICATION: AUTOMOTIVE

CERTIFICATION: FEDERAL 1985

MODEL: 6-71TA
300 bhp @ 2100 r/min
833 lb·ft @ 1400 r/minAIR 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 × 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. Herd

STAFF ENGINEER

CURVE NO.

E4-1067-32-31

DATE: 3-19-84

REV./DATE: 2/1-17-85

SHT. 1 OF 2

ENGINE SPECIFICATION DATA

General Data

Model.....	1067-8640
Number of Cylinders.....	6
Bore and Stroke-In(mm).....	4.25x3.00(108x127)
Displacement-In ³ (L).....	426(6.9)
Compression Ratio.....	17:1
Piston Speed-ft/min(m/min).....	1750(533)
Valves Per Cylinder	
Intake.....	NOT APPLICABLE
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	INLINE-2 CYCLE
Aspiration.....	TURBOCHARGED

Configuration

Turbocharger.....	54H-005(0.99 A/R)
Charge Air Cooling System.....	ALCC
Blower Type.....	BY-PASS
Blower Drive Ratio.....	1.65:1
Low Idle Speed-r/min.....	500
High Idle Speed-r/min.....	2250
Thrust Bearing Load Limit	
Continuous-lbf(N).....	400(1780)
Intermittent-lbf(N).....	1200(5340)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-In H ₂ O(kPa).....	1.9(0.47)

Physical Data

Size	
Length-In(mm).....	56.0(1421)
Width-In(mm).....	31.9(809)
Height-In(mm).....	52.0(1321)
Weight, dry-lb(kg).....	2195(996)
Center of Gravity Distance	
From R.F.O.B. (x axis)-In(mm).....	20.5(521)
Above Crankshaft (y axis)-In(mm).....	5.1(130)
Right of Crankshaft (z axis)-In(mm).....	-1.5(38)
Installation Drawing.....	8923577
Maximum Allowable Static Bending Moment at Rear Face of FM Hsg-lbf ft(N m).....	600(814)

Fuel System

Fuel Injector/Timing.....	7E75/1.480
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	105.9(48.0)
Fuel Consumption-gal/hr(L/hr).....	15.2(57.3)
Fuel Spill Rate-lb/hr(kg/hr).....	754.9(342.4)
Fuel Spill Rate-gal/hr(L/hr).....	108(408.8)
Total Fuel Flow-lb/hr(kg/hr).....	860.8(390.5)
Total Fuel Flow-gal/hr(L/hr).....	123.1(466.0)
Maximum Allowable Fuel Pump Suction	
Clean System-In Hg(kPa).....	6(20)
Dirty System-In Hg(kPa).....	12(41)
Fuel Filter Micron Size	
Primary - Micron.....	30
Secondary - Micron.....	10

Lubrication System

Oil Pressure	
Rated Speed-lbf/in ² (kPa).....	55(379)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-235(93-113)
Oil Flow-gal/min(L/min).....	32(121)
Oil Pan Capacity	
High-qt(L).....	22(20.8)
Low-qt(L).....	18(17.0)
Total Engine Oil Capacity with filters-qt(L).....	24(22.7)
Bypass Oil Filter Orifice-In(mm).....	0.101(2.57)
Engine Angularity Limits	
Front up - degrees.....	24
Front down - degrees.....	14
Side tilt - degrees.....	NOT AVAILABLE

Emission Data

CO-gm/hr.....	NOT AVAILABLE
HC-gm/hr.....	NOT AVAILABLE
NO _x -gm/hr.....	NOT AVAILABLE
SO _x -gm/hr.....	480
Smoke	
Rated Speed - Bosch Number.....	NOT AVAILABLE
Peak Torque Speed - Bosch Number.....	NOT AVAILABLE
Noise - dB(A) @ 1m.....	99.6
Certification Approval.....	FEDERAL 1985

Cooling System

Engine Heat Rejection-Btu/min(kW).....	8320(146.2)
Engine Radiated Heat-Btu/min(kW).....	1400(24.6)
Coolant Flow-gal/min(L/min).....	79(299)
Thermostat	
Start to Open-°F(°C).....	177(81)
Fully Open-°F(°C).....	197(92)
Maximum Water Pump Inlet	
Restriction-In Hg(kPa).....	0
Engine Coolant Capacity-qt(L).....	23(21.8)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C).....	210(99)
Minimum Top Tank Temperature-°F(°C).....	160(71)
Minimum Coolant Fill Rate-gal/min(L/min).....	3.0(11.4)
Cooling Index	
Minimum Air to Boli-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(35.6)
Ram Air Flow - Mile/hr(km/hr).....	15(24)
Deaeration-Air Injection	
Capacity-ft ³ /min(m ³ /min).....	0.6(0.017)
Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever is Larger)-qt(L).....	4.0(3.8)

Air System

Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C).....	30(16.7)
Air Intake Restriction Maximum Limit	
Dirty Air Cleaner-In H ₂ O(kPa).....	20(5.0)
Clean Air Cleaner-lg H ₂ O(kPa).....	12(3.0)
Engine Air Flow - ft ³ /min(m ³ /min).....	870(24.6)
Engine Air Box/Manifold Pressure-In Hg(kPa).....	46.5(157.0)
Recommended Intake Pipe Dia.-In(mm).....	6.0(152)

Exhaust System

Exhaust Flow-ft ³ /min(m ³ /min).....	1860(52.7)
Exhaust Temperature-°F(°C).....	690(366)
Maximum Allowable Back Pressure-In Hg(kPa).....	2.5(8.4)
Recommended Exhaust Pipe Dia.	
Single-In(mm).....	5.0(127)
Dual-In(mm).....	NOT APPLICABLE
Exhaust Brake Max. Allowable Back Pressure-In Hg(kPa).....	NOT APPLICABLE

Electrical System

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

Performance Data

Power Output-bhp(kW).....	300(224)
Full Load Speed-r/min.....	2100
Peak Torque-lb ft(N m).....	833(1129)
Peak Torque Speed-r/min.....	1400
BMEP-lbf/in ² (kPa).....	132.9(916)
Friction Power	
Rated Speed-bhp(kW).....	64(48)
Peak Torque Speed-bhp(kW).....	34(25)
Altitude Capability-ft(m).....	16000(4880)
Torque Available at 800 r/min-lb ft (N m).....	620(841)

Engine

Speed r/min	Power bhp(kW)	Torque lb ft(N m)	BSFC lb/bhp hr (g/kW hr)
2100	300(224)	750(1017)	.353(215)
2000	289(216)	759(1029)	.351(214)
1800	270(201)	788(1068)	.345(210)
1600	248(185)	813(1102)	.343(209)
1400	222(166)	833(1129)	.344(209)
1200	190(142)	832(1128)	.352(214)
1000	158(118)	830(1125)	.362(220)

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

Curve No. E4-1067-32-31
Date: 3-19-84
Rev./Date: 2/1-17-85
Sht. 2 of 2



ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

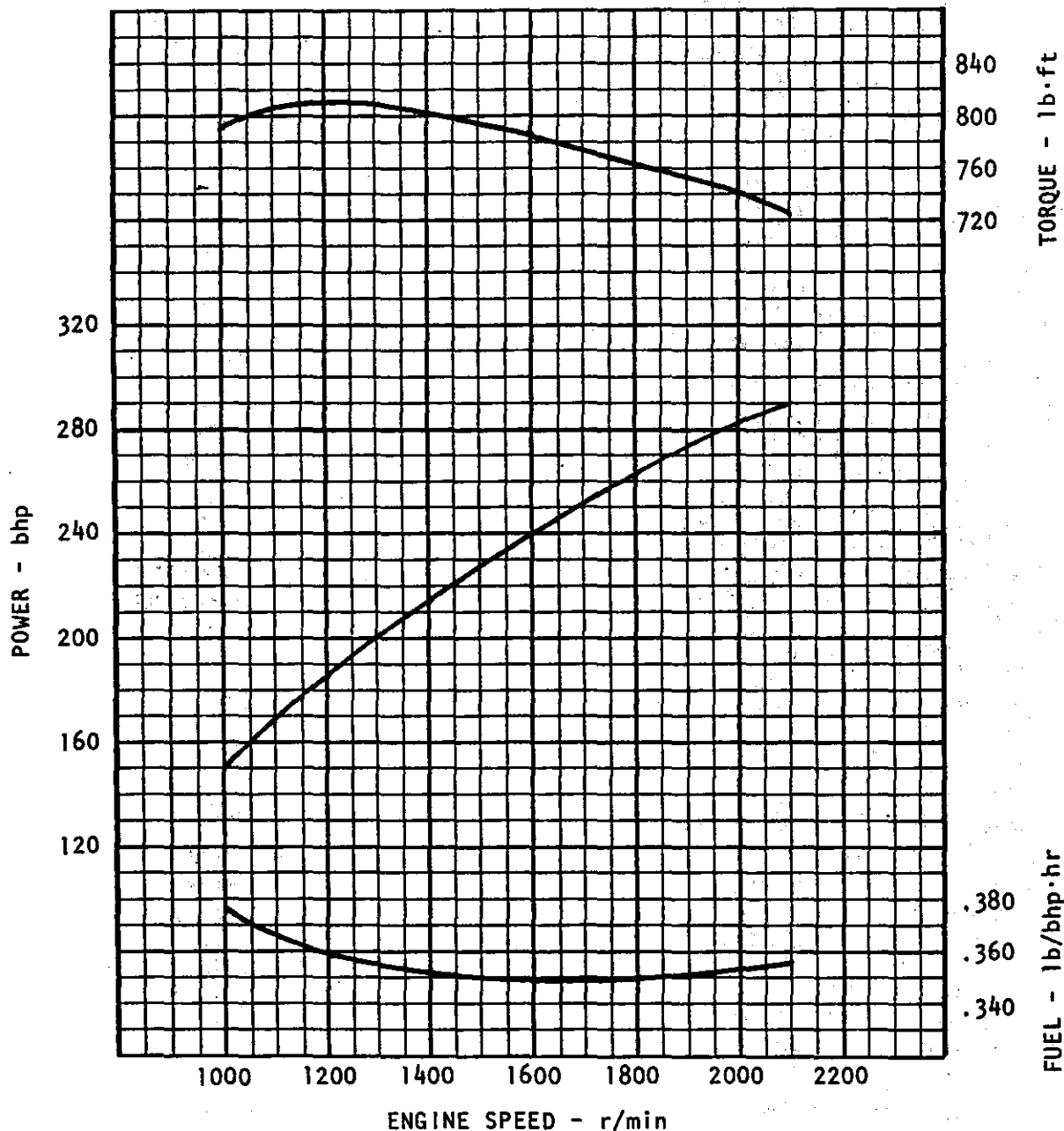
APPLICATION: AUTOMOTIVE

CERTIFICATION: FEDERAL 1985

MODEL: 6-71TA

290 bhp @ 2100 r/min

810 lb·ft @ 1200 r/min



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

EXHAUST RESTRICTION - 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:

P.L. Brdue

STAFF ENGINEER

CURVE NO.

E4-1067-32-32

DATE: 4-26-84

REV./DATE: 1/8-18-84

SHT. 1 OF 2

ENGINE SPECIFICATION DATA

General Data

Model.....	1067-8640
Number of Cylinders.....	6
Bore and Stroke-in(mm).....	4.25x5.00(108x127)
Displacement-in ³ (L).....	426(6.9)
Compression Ratio.....	17:1
Piston Speed-ft/min(m/min).....	1750(533)
Valves Per Cylinder	
Intake.....	NOT APPLICABLE
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	INLINE-2 CYCLE
Aspiration.....	TURBOCHARGED

Configuration

Turbocharger.....	S4H-005(0.99 A/R)
Charge Air Cooling System.....	JWAC
Blower Type.....	BY-PASS
Blower Drive Ratio.....	1.65:1
Low Idle Speed-r/min.....	500
High Idle Speed-r/min.....	2250
Thrust Bearing Load Limit	
Continuous-lbf(N).....	400(1780)
Intermittent-lbf(N).....	1200(5340)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-In H ₂ O(kPa).....	1.9(0.47)

Physical Data

Size	
Length-in(mm).....	56.0(1421)
Width-in(mm).....	31.9(809)
Height-in(mm).....	52.0(1321)
Weight, dry-lb(kg).....	2195(996)
Center of Gravity Distance	
From R.F.O.B. (x axis)-in(mm).....	20.5(521)
Above Crankshaft (y axis)-in(mm).....	5.1(130)
Right of Crankshaft (z axis)-in(mm).....	-1.5(38)
Installation Drawing.....	8923577
Maximum Allowable Static Bending Moment at Rear Face of FW Hsg-lbf ft(N m).....	600(814)

Fuel System

Fuel Injector/Timing.....	7E75/1.490
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	104.7(47.5)
Fuel Consumption-gal/hr(L/hr).....	15.0(56.8)
Fuel Spill Rate-lb/hr(kg/hr).....	503.3(228.3)
Fuel Spill Rate-gal/hr(L/hr).....	72(272.5)
Total Fuel Flow-lb/hr(kg/hr).....	608.0(275.8)
Total Fuel Flow-gal/hr(L/hr).....	87.0(329.3)
Maximum Allowable Fuel Pump Suction	
Clean System-In Hg(kPa).....	6(20)
Dirty System-In Hg(kPa).....	12(41)
Fuel Filter Micron Size	
Primary - Micron.....	30
Secondary - Micron.....	10

Lubrication System

Oil Pressure	
Rated Speed-lbf/in ² (kPa).....	55(379)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-235(93-113)
Oil Flow-gal/min(L/min).....	32(121)
Oil Pan Capacity	
High-qt(L).....	22(20.8)
Low-qt(L).....	18(17.0)
Total Engine Oil Capacity with filters-qt(L).....	24(22.7)
Bypass Oil Filter Orifice-In(mm).....	0.101(2.57)
Engine Angularity Limits	
Front up - degrees.....	24
Front down - degrees.....	14
Side tilt - degrees.....	NOT AVAILABLE

Emission Data

CO-gm/hr.....	400
HC-gm/hr.....	58
NO _x -gm/hr.....	2300
SO ₂ -gm/hr.....	480
Smoke	
Rated Speed - Bosch Number.....	NOT AVAILABLE
Peak Torque Speed - Bosch Number.....	NOT AVAILABLE
Noise - dB(A) @ 1m.....	99.6
Certification Approval.....	FEDERAL 1985

Cooling System

Engine Heat Rejection-Btu/min(kW).....	8200(144.4)
Engine Radiated Heat-Btu/min(kW).....	1380(24.3)
Coolant Flow-gal/min(L/min).....	79(299)
Thermostat	
Start to Open-°F(°C).....	177(81)
Fully Open-°F(°C).....	197(92)
Maximum Water Pump Inlet	
Restriction-In Hg(kPa).....	0
Engine Coolant Capacity-qt(L).....	23(21.8)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C).....	210(99)
Minimum Top Tank Temperature-°F(°C).....	160(71)
Minimum Coolant Fill Rate-gal/min(L/min).....	3.0(11.4)
Cooling Index	
Minimum Air to Boil-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(35.6)
Ram Air Flow - Mile/hr(km/hr).....	15(24)
Deaeration-Air Injection	
Capacity-ft ³ /min(m ³ /min).....	0.6(0.017)
Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever Is Larger)-qt(L).....	4.0(3.8)

Air System

Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C).....	30(16.7)
Air Intake Restriction Maximum Limit	
Dirty Air Cleaner-In H ₂ O(kPa).....	20(5.0)
Clean Air Cleaner-Ig H ₂ O(kPa).....	12(3.0)
Engine Air Flow - ft ³ /min(m ³ /min).....	860(24.4)
Engine Air Box/Manifold Pressure-In Hg(kPa).....	45.3(153.0)
Recommended Intake Pipe Dia.-In(mm).....	6.0(152)

Exhaust System

Exhaust Flow-ft ³ /min(m ³ /min).....	1870(53.0)
Exhaust Temperature-°F(°C).....	710(377)
Maximum Allowable Back Pressure-In Hg(kPa).....	2.5(8.4)
Recommended Exhaust Pipe Dia.	
Single-In(mm).....	5.0(127)
Dual-In(mm).....	NOT APPLICABLE
Exhaust Brake Max. Allowable Back Pressure-In Hg(kPa).....	NOT APPLICABLE

Electrical System

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

Performance Data

Power Output-bhp(kW).....	290(216)
Full Load Speed-r/min.....	2100
Peak Torque-lb ft(N m).....	810(1098)
Peak Torque Speed-r/min.....	1200
BMEP-lbf/in ² (kPa).....	130.8(902)
Friction Power	
Rated Speed-bhp(kW).....	64(48)
Peak Torque Speed-bhp(kW).....	26(19)
Altitude Capability-ft(m).....	16000(4880)
Torque Available at 800 r/min-lb ft (N m).....	620(841)

Engine

Speed r/min	Power bhp(kW)	Torque lb ft(N m)	BSEC lb/bhp hr (g/kW hr)
2100	290(216)	725 (983)	.356(217)
2000	282(210)	741(1005)	.353(215)
1800	262(195)	764(1036)	.350(213)
1600	240(179)	788(1068)	.349(212)
1400	214(160)	801(1086)	.351(214)
1200	185(138)	810(1098)	.358(218)
1000	151(112)	790(1071)	.376(229)



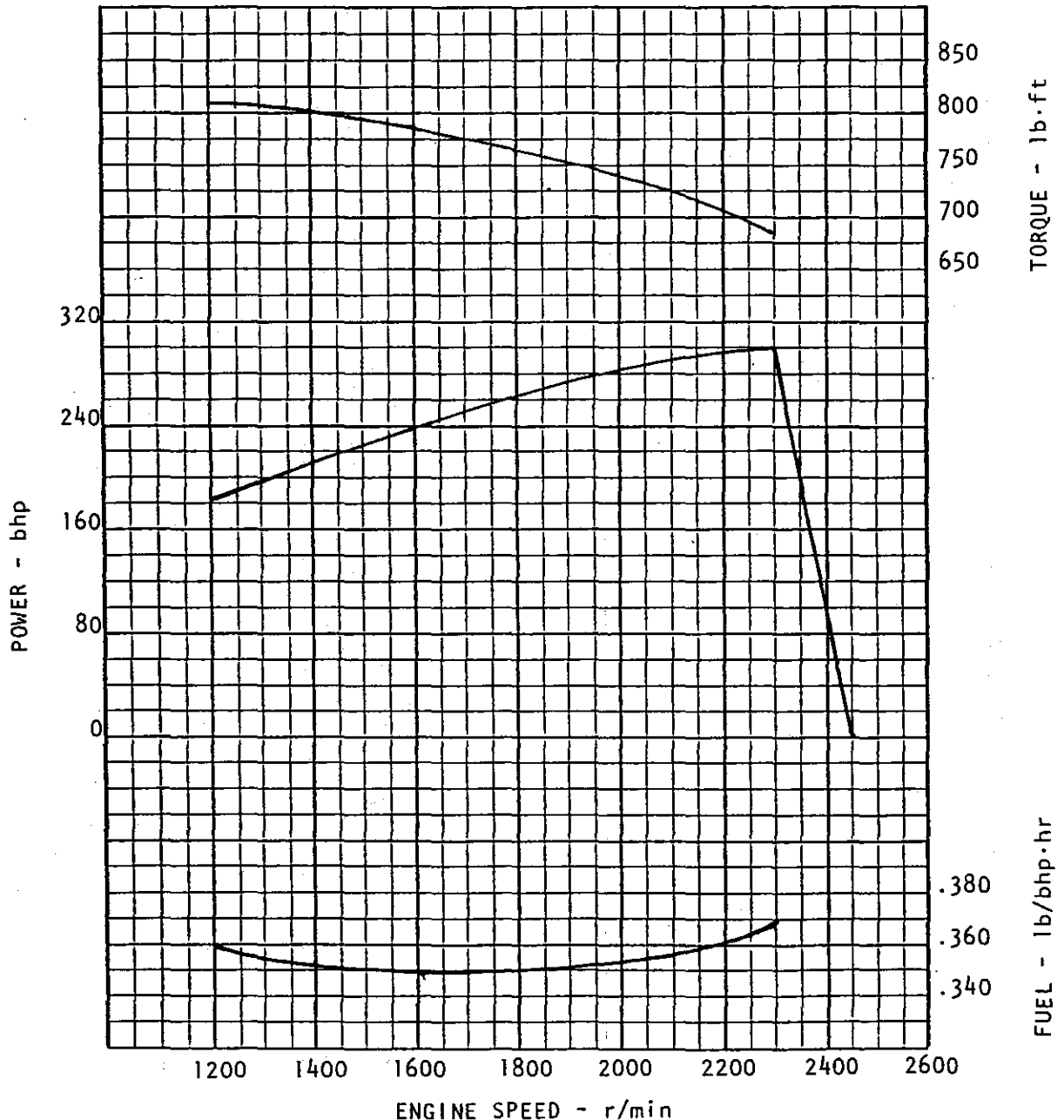
ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

APPLICATION: AUTOMOTIVE - FIRE TRUCK

CERTIFICATION: FEDERAL 1985

MODEL: 6-71TA
300 bhp @ 2300 r/min
810 lb·ft @ 1200 r/min



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 × 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:

STAFF ENGINEER

CURVE NO.

E4-1067-32-91

DATE: 7-19-85

REV./DATE:

SHT. 1 OF 2

General Data	
Model.....	1067-8640
Number of Cylinders.....	6
Bore and Stroke-In(mm).....	4.25x5.00(108x127)
Displacement-In ³ (L).....	426(6.9)
Compression Ratio.....	17:1
Piston Speed-ft/min(m/min).....	1917(584)
Valves Per Cylinder	
Intake.....	NOT APPLICABLE
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	INLINE-2 CYCLE
Aspiration.....	TURBOCHARGED
Configuration	
Turbocharger.....	S4H-005(0.99 A/R)
Charge Air Cooling System.....	JWAC
Blower Type.....	BY-PASS
Blower Drive Ratio.....	1.65:1
Low Idle Speed-r/min.....	500
High Idle Speed-r/min.....	2450
Thrust Bearing Load Limit	
Continuous-lbf(N).....	400(1780)
Intermittent-lbf(N).....	1200(5340)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-In H ₂ O(kPa).....	1.9(0.47)
Physical Data	
Size	
Length-In(mm).....	56.0(1421)
Width-In(mm).....	31.9(809)
Height-In(mm).....	52.0(1321)
Weight, dry-lb(kg).....	2195(996)
Center of Gravity Distance	
From R.F.O.B. (x axis)-In(mm).....	20.5(521)
Above Crankshaft (y axis)-In(mm).....	5.1(130)
Right of Crankshaft (z axis)-In(mm).....	-1.5(38)
Installation Drawing.....	8923577
Maximum Allowable Static Bending Moment at Rear Face of FW Hsg-lbf ft(N m).....	600(814)
Fuel System	
Fuel Injector/Timing.....	7E75/1.490
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	112.6(51.1)
Fuel Consumption-gal/hr(L/hr).....	16.1(61.0)
Fuel Spill Rate-lb/hr(kg/hr).....	754.9(342.4)
Fuel Spill Rate-gal/hr(L/hr).....	108(408.8)
Total Fuel Flow-lb/hr(kg/hr).....	867.5(393.5)
Total Fuel Flow-gal/hr(L/hr).....	124.1(469.8)
Maximum Allowable Fuel Pump Suction	
Clean System-In Hg(kPa).....	6(20)
Dirty System-In Hg(kPa).....	12(41)
Fuel Filter Micron Size	
Primary - Micron.....	30
Secondary - Micron.....	10
Lubrication System	
Oil Pressure	
Rated Speed-lbf/in ² (kPa).....	55(379)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-235(93-113)
Oil Flow-gal/min(L/min).....	35(132)
Oil Pan Capacity	
High-qt(L).....	22(20.8)
Low-qt(L).....	18(17.0)
Total Engine Oil Capacity with filters-qt(L).....	24(22.7)
Bypass Oil Filter Orifice-In(mm).....	0.101(2.57)
Engine Angularity Limits	
Front up - degrees.....	24
Front down - degrees.....	14
Side tilt - degrees.....	NOT AVAILABLE
Emission Data	
Noise - dB(A) @ 1m.....	100.1
Certification Approval.....	FEDERAL 1985

Cooling System	
Engine Heat Rejection-Btu/min(kW).....	9660(169.8)
Engine Radiated Heat-Btu/min(kW).....	1450(25.4)
Coolant Flow-gal/min(L/min).....	85(322)
Thermostat	
Start to Open-°F(°C).....	180(82)
Fully Open-°F(°C).....	197(92)
Maximum Water Pump Inlet	
Restriction-In Hg(kPa).....	0
Engine Coolant Capacity-qt(L).....	23(21.8)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C).....	210(99)
Minimum Top Tank Temperature-°F(°C).....	170(77)
Minimum Coolant Fill Rate-gal/min(L/min).....	3.0(11.4)
Cooling Index	
Minimum Air to Boil-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(55.6)
Ram Air Flow - Mile/hr(km/hr).....	15(24)
Deaeration-Air Injection	
Capacity-ft ³ /min(m ³ /min).....	0.6(0.017)
Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever is Larger)-qt(L).....	4.0(3.8)
Air System	
Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C).....	30(16.7)
Air Intake Restriction Maximum Limit	
Dirty Air Cleaner-In H ₂ O(kPa).....	20(5.0)
Clean Air Cleaner-Ig H ₂ O(kPa).....	12(3.0)
Engine Air Flow - ft ³ /min(m ³ /min).....	880(24.9)
Engine Air Box/Manifold Pressure-In Hg(kPa).....	50.5(170.5)
Recommended Intake Pipe Dia.-In(mm).....	6.0(152)
Exhaust System	
Exhaust Flow-ft ³ /min(m ³ /min).....	1930(54.7)
Exhaust Temperature-°F(°C).....	720(382)
Maximum Allowable Back	
Pressure-In Hg(kPa).....	2.5(8.4)
Recommended Exhaust Pipe Dia.	
Single-In(mm).....	5.0(127)
Dual-In(mm).....	NOT APPLICABLE
Exhaust Brake Max. Allowable Back	
Pressure-In Hg(kPa).....	NOT APPLICABLE
Electrical System	
Recommended Battery Capacity(CCA @ 0°F)	
12 Volt System	
Above 32°F(0°C)-A.....	950
Below 32°F(0°C)-A.....	1250
24 Volt System	
Above 32°F(0°C)-A.....	475
Below 32°F(0°C)-A.....	625
Maximum Allowable Resistance of Starting Circuit	
12 volt system - ohm.....	0.0012
24 volt system - ohm.....	0.002
Performance Data	
Power Output-bhp(kW).....	300(224)
Full Load Speed-r/min.....	2300
Peak Torque-lb ft(N m).....	810(1098)
Peak Torque Speed-r/min.....	1200
BMEP-lbf/in ² (kPa).....	121.4(837)
Friction Power	
Rated Speed-bhp(kW).....	78(58)
Peak Torque Speed-bhp(kW).....	26(19)
Altitude Capability-ft(m).....	10500(3200)
Torque Available at 800 r/min-lb ft (N m).....	620(841)

Engine Speed r/min	Power bhp(kW)	Torque lb ft(N m)	BSEC lb/bhp hr (g/kW hr)
2300	300(224)	685 (929)	.369(224)
2100	290(216)	725 (983)	.356(217)
2000	282(210)	741(1005)	.353(215)
1800	262(196)	764(1036)	.350(213)
1600	240(179)	788(1068)	.349(212)
1400	214(159)	801(1086)	.352(214)
1200	185(138)	810(1098)	.359(218)
1000	151(113)	795(1078)	.376(229)

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

Curve No. E4-1067-32-91
Date: 7-19-85
Rev./Date:
Sht. 2 of 2



ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

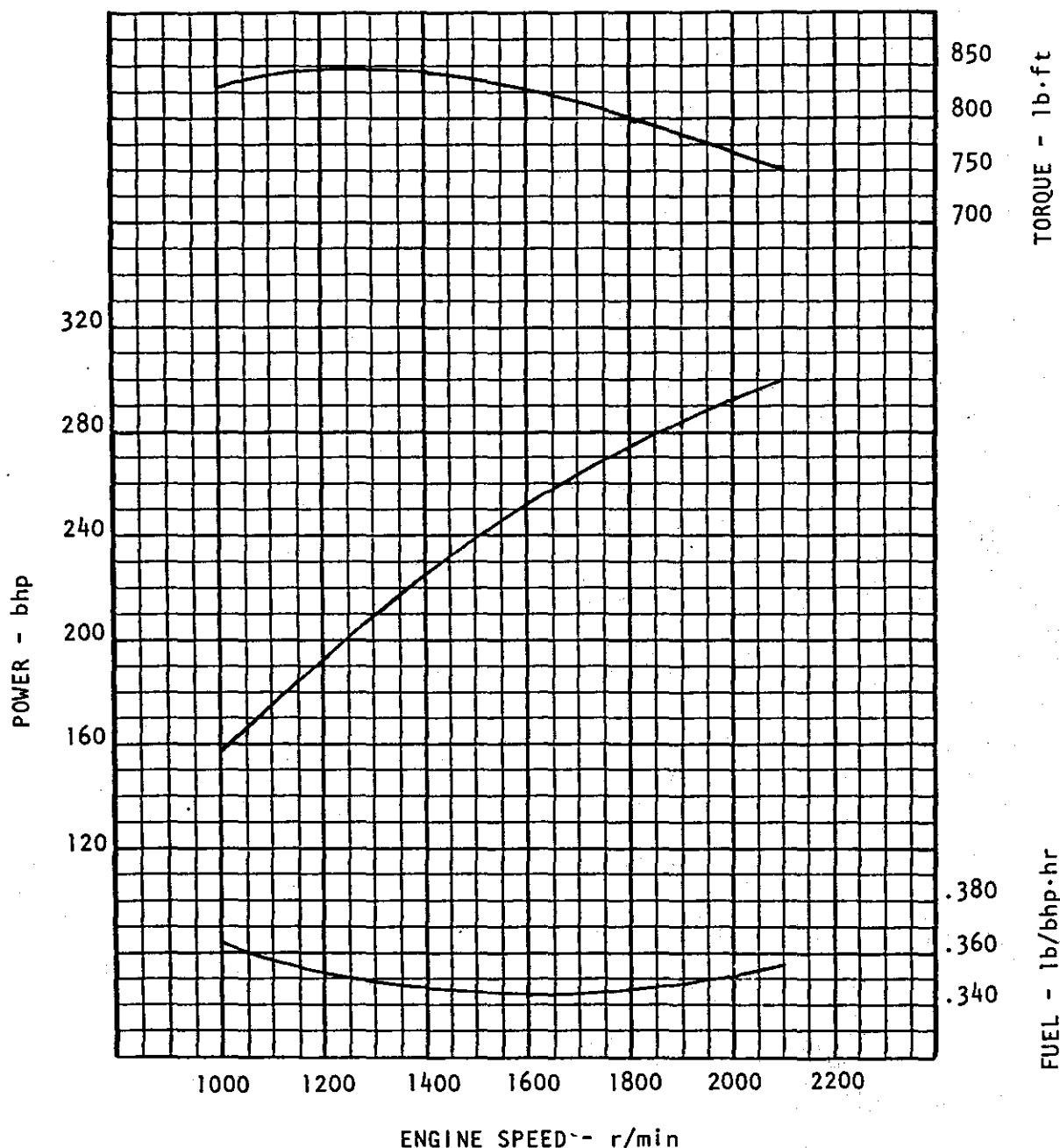
APPLICATION: AUTOMOTIVE

CERTIFICATION: FEDERAL 1985

MODEL: 6-71TA

300 bhp @ 2100 r/min

845 lb·ft @ 1200 r/min



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:

STAFF ENGINEER

CURVE NO.

E4-1067-32-80

DATE: 5-10-85

REV./DATE:

SHT. 1 OF 2

ENGINE SPECIFICATION DATA

General Data

Model.....	1067-8640
Number of Cylinders.....	6
Bore and Stroke-in(mm).....	4.25x5.00(108x127)
Displacement-in ³ (L).....	426(6.9)
Compression Ratio.....	17:1
Piston Speed-ft/min(m/min).....	1750(533)
Valves Per Cylinder	
Intake.....	NOT APPLICABLE
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	INLINE-2 CYCLE
Aspiration.....	TURBOCHARGED

Configuration

Turbocharger.....	S4H-005(0.99 A/R)
Charge Air Cooling System.....	JWAC
Blower Type.....	BY-PASS
Blower Drive Ratio.....	1.65:1
Low Idle Speed-r/min.....	500
High Idle Speed-r/min.....	2250
Thrust Bearing Load Limit	
Continuous-lbf(N).....	400(1780)
Intermittent-lbf(N).....	1200(5340)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-In H ₂ O(kPa).....	1.9(0.47)

Physical Data

Size	
Length-in(mm).....	56.0(1421)
Width-in(mm).....	31.9(809)
Height-in(mm).....	52.0(1321)
Weight, dry-lb(kg).....	2195(996)
Center of Gravity Distance	
From R.F.O.B. (x axis)-in(mm).....	20.5(521)
Above Crankshaft (y axis)-in(mm).....	5.1(130)
Right of Crankshaft (z axis)-in(mm).....	-1.5(38)
Installation Drawing.....	8923577
Maximum Allowable Static Bending Moment at Rear Face of FW Hsg-lbf ft(N m)....	600(814)

Fuel System

Fuel Injector/Timing.....	7A77/1.490
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	109.2(49.5)
Fuel Consumption-gal/hr(L/hr).....	15.6(59.1)
Fuel Spill Rate-lb/hr(kg/hr).....	754.9(342.4)
Fuel Spill Rate-gal/hr(L/hr).....	108(408.8)
Total Fuel Flow-lb/hr(kg/hr).....	864.1(392)
Total Fuel Flow-gal/hr(L/hr).....	123.6(467.9)
Maximum Allowable Fuel Pump Suction	
Clean System-In Hg(kPa).....	6(20)
Dirty System-In Hg(kPa).....	12(41)
Fuel Filter Micron Size	
Primary - Micron.....	30
Secondary - Micron.....	10

Lubrication System

Oil Pressure	
Rated Speed-lbf/in ² (kPa).....	55(379)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-235(93-113)
Oil Flow-gal/min(L/min).....	32(121)
Oil Pan Capacity	
High-qt(L).....	22(20.8)
Low-qt(L).....	18(17.0)
Total Engine Oil Capacity with filters-qt(L).....	24(22.7)
Bypass Oil Filter Orifice-in(mm).....	0.101(2.57)
Engine Angularity Limits	
Front up - degrees.....	24
Front down - degrees.....	14
Side tilt - degrees.....	NOT AVAILABLE

Emission Data

Noise - dB(A) @ 1m.....	99.6
Certification Approval.....	FEDERAL 1985

Cooling System

Engine Heat Rejection-Btu/min(kW).....	8520(149.8)
Engine Radiated Heat-Btu/min(kW).....	1410(24.7)
Coolant Flow-gal/min(L/min).....	79(299)
Thermostat	
Start to Open-°F(°C).....	180(82)
Fully Open-°F(°C).....	197(92)
Maximum Water Pump Inlet Restriction-In Hg(kPa).....	0
Engine Coolant Capacity-qt(L).....	23(21.8)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C)....	210(99)
Minimum Top Tank Temperature-°F(°C)....	170(77)
Minimum Coolant Fill Rate-gal/min(L/min).....	3.0(11.4)
Cooling Index	
Minimum Air to Boil-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(55.6)
Ram Air Flow - Mile/hr(km/hr).....	15(24)
Deseration-Air Injection Capacity-ft ³ /min(m ³ /min).....	0.6(0.017)
Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever Is Larger)-qt(L).....	4.0(3.8)

Air System

Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C)....	30(16.7)
Air Intake Restriction Maximum Limit	
Dirty Air Cleaner-In H ₂ O(kPa).....	20(5.0)
Clean Air Cleaner-In H ₂ O(kPa).....	12(3.0)
Engine Air Flow - ft ³ /min(m ³ /min).....	850(24.1)
Engine Air Box/Manifold Pressure-In Hg(kPa).....	47.7(161.1)
Recommended Intake Pipe Dia.-in(mm)....	6.0(152)

Exhaust System

Exhaust Flow-ft ³ /min(m ³ /min).....	1860(52.7)
Exhaust Temperature-°F(°C).....	720(382)
Maximum Allowable Back Pressure-In Hg(kPa).....	2.5(8.4)
Recommended Exhaust Pipe Dia.	
Single-In(mm).....	5.0(127)
Dual-In(mm).....	NOT APPLICABLE
Exhaust Brake Max. Allowable Back Pressure-In Hg(kPa).....	NOT APPLICABLE

Electrical System

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

Performance Data

Power Output-bhp(kW).....	300(224)
Full Load Speed-r/min.....	2100
Peak Torque-lb ft(N m).....	845(1146)
Peak Torque Speed-r/min.....	1200
BMEP-lbf/in ² (kPa).....	132.9(916)
Friction Power	
Rated Speed-bhp(kW).....	64(48)
Peak Torque Speed-bhp(kW).....	26(19)
Altitude Capability-ft(m).....	10500(3200)
Torque Available at 800 r/min-lb ft (N m).....	620(841)

Engine Speed

Speed r/min	Power bhp(kW)	Torque lb ft(N m)	BSEC lb/bhp hr (g/kW hr)
2100	300(224)	750(1017)	.355(216)
2000	293(219)	769(1043)	.351(214)
1800	274(204)	799(1083)	.345(210)
1600	252(188)	827(1121)	.344(209)
1400	225(168)	844(1144)	.347(211)
1200	193(144)	845(1146)	.352(214)
1000	158(118)	830(1125)	.364(221)

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

Curve No. E4-1067-32-80
Date: 5-10-85
Rev./Date:
Sht. 2 of 2



ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

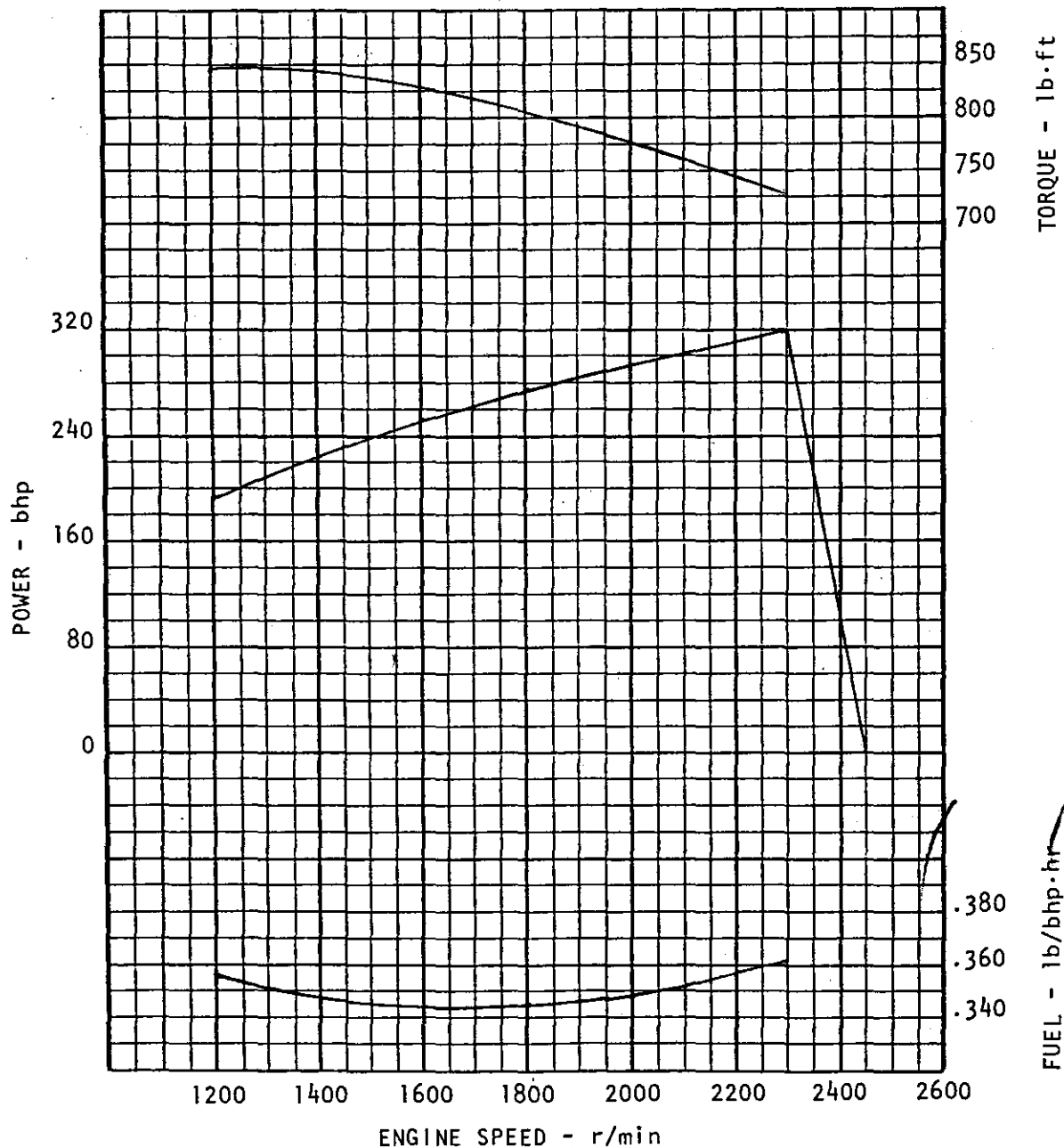
APPLICATION: AUTOMOTIVE - FIRE TRUCK

CERTIFICATION: FEDERAL 1985

MODEL: 6-71TA

320 bhp @ 2300 r/min

845 lb·ft @ 1200 r/min

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 × 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:

STAFF ENGINEER

CURVE NO.

E4-1067-32-90

DATE: 5-10-85

REV./DATE:

SHT. 1 OF 2

ENGINE SPECIFICATION DATA

General Data

Model.....	1067-8640
Number of Cylinders.....	6
Bore and Stroke-in(mm).....	4.25x5.00(108x127)
Displacement-in ³ (L).....	426(6.9)
Compression Ratio.....	17:1
Piston Speed-ft/min(m/min).....	1917(584)
Valves Per Cylinder	
Intake.....	NOT APPLICABLE
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	INLINE-2 CYCLE
Aspiration.....	TURBOCHARGED

Configuration

Turbocharger.....	S4H-005(0.99 A/R)
Charge Air Cooling System.....	JWAC
Blower Type.....	BY-PASS
Blower Drive Ratio.....	1.65:1
Low Idle Speed-r/min.....	500
High Idle Speed-r/min.....	2450
Thrust Bearing Load Limit	
Continuous-lbf(N).....	400(1780)
Intermittent-lbf(N).....	1200(5340)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-in H ₂ O(kPa).....	1.9(0.47)

Physical Data

Size	
Length-in(mm).....	56.0(1421)
Width-in(mm).....	31.9(809)
Height-in(mm).....	52.0(1321)
Weight, dry-lb(kg).....	2195(996)
Center of Gravity Distance	
From R.F.O.B. (x axis)-in(mm).....	20.5(521)
Above Crankshaft (y axis)-in(mm).....	5.1(130)
Right of Crankshaft (z axis)-in(mm).....	-1.5(38)
Installation Drawing.....	8923577
Maximum Allowable Static Bending Moment at Rear Face of FW Hsg-lbf ft(N m).....	600(814)

Fuel System

Fuel Injector/Timing.....	7A77/1.490
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	116.7(52.9)
Fuel Consumption-gal/hr(L/hr).....	16.7(63.2)
Fuel Spill Rate-lb/hr(kg/hr).....	754.9(342.4)
Fuel Spill Rate-gal/hr(L/hr).....	108(408.8)
Total Fuel Flow-lb/hr(kg/hr).....	871.6(395.4)
Total Fuel Flow-gal/hr(L/hr).....	124.7(472.0)
Maximum Allowable Fuel Pump Suction	
Clean System-in Hg(kPa).....	6(20)
Dirty System-in Hg(kPa).....	12(41)
Fuel Filter Micron Size	
Primary - Micron.....	30
Secondary - Micron.....	10

Lubrication System

Oil Pressure	
Rated Speed-lbf/in ² (kPa).....	55(379)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-235(93-113)
Oil Flow-gal/min(L/min).....	35(132)
Oil Pan Capacity	
High-qt(L).....	22(20.8)
Low-qt(L).....	18(17.0)
Total Engine Oil Capacity with filters-qt(L).....	24(22.7)
Bypass Oil Filter Orifice-in(mm).....	0.101(2.57)
Engine Angularity Limits	
Front up - degrees.....	24
Front down - degrees.....	14
Side tilt - degrees.....	NOT AVAILABLE

Emission Data

Noise - dB(A) @ 1m.....	100.1
Certification Approval.....	FEDERAL 1985

Cooling System

Engine Heat Rejection-Btu/min(kW).....	9820(172.6)
Engine Radiated Heat-Btu/min(kW).....	1500(26.4)
Coolant Flow-gal/min(L/min).....	85(322)
Thermostat	
Start to Open-°F(°C).....	180(82)
Fully Open-°F(°C).....	197(92)
Maximum Water Pump Inlet	
Restriction-in Hg(kPa).....	0
Engine Coolant Capacity-qt(L).....	23(21.8)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C).....	210(99)
Minimum Top Tank Temperature-°F(°C).....	170(77)
Minimum Coolant Fill Rate-gal/min(L/min).....	3.0(11.4)
Cooling Index	
Minimum Air to Boil-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(55.6)
Ram Air Flow - Mile/hr(km/hr).....	15(24)
Deaeration-Air Injection	
Capacity-ft ³ /min(m ³ /min).....	0.6(0.017)
Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever is Larger)-qt(L).....	4.0(3.8)

Air System

Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C).....	30(16.7)
Air Intake Restriction Maximum Limit	
Dirty Air Cleaner-in H ₂ O(kPa).....	20(5.0)
Clean Air Cleaner-lg H ₂ O(kPa).....	12(3.0)
Engine Air Flow - ft ³ /min(m ³ /min).....	880(24.9)
Engine Air Box/Manifold Pressure-in Hg(kPa).....	50.5(170.5)
Recommended Intake Pipe Dia.-in(mm).....	6.0(152)

Exhaust System

Exhaust Flow-ft ³ /min(m ³ /min).....	1950(55.2)
Exhaust Temperature-°F(°C).....	730(388)
Maximum Allowable Back Pressure-in Hg(kPa).....	2.5(8.4)
Recommended Exhaust Pipe Dia.	
Single-in(mm).....	5.0(127)
Dual-in(mm).....	NOT APPLICABLE
Exhaust Brake Max. Allowable Back Pressure-in Hg(kPa).....	NOT APPLICABLE

Electrical System

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

Performance Data

Power Output-bhp(kW).....	320(239)
Full Load Speed-r/min.....	2300
Peak Torque-lb ft(N m).....	845(1146)
Peak Torque Speed-r/min.....	1200
BMEP-lbf/in ² (kPa).....	129.5(893)
Friction Power	
Rated Speed-bhp(kW).....	78(58)
Peak Torque Speed-bhp(kW).....	26(19)
Altitude Capability-ft(m).....	10500(3200)
Torque Available at 800 r/min-lb ft (N m).....	620(841)

Engine

Speed r/min	Power bhp(kW)	Torque lb ft(N m)	BSEC lb/bhp hr (g/kW hr)
2300	320(239)	731 (991)	.362(220)
2100	300(224)	750(1017)	.351(214)
2000	293(219)	769(1043)	.348(212)
1800	274(204)	799(1083)	.345(210)
1600	252(188)	827(1121)	.344(209)
1400	225(168)	844(1144)	.347(211)
1200	193(144)	845(1146)	.356(217)
1000	158(118)	830(1125)	.376(229)

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

Curve No. E4-1067-32-90
Date: 5-10-85
Rev./Date:
Sht. 2 of 2



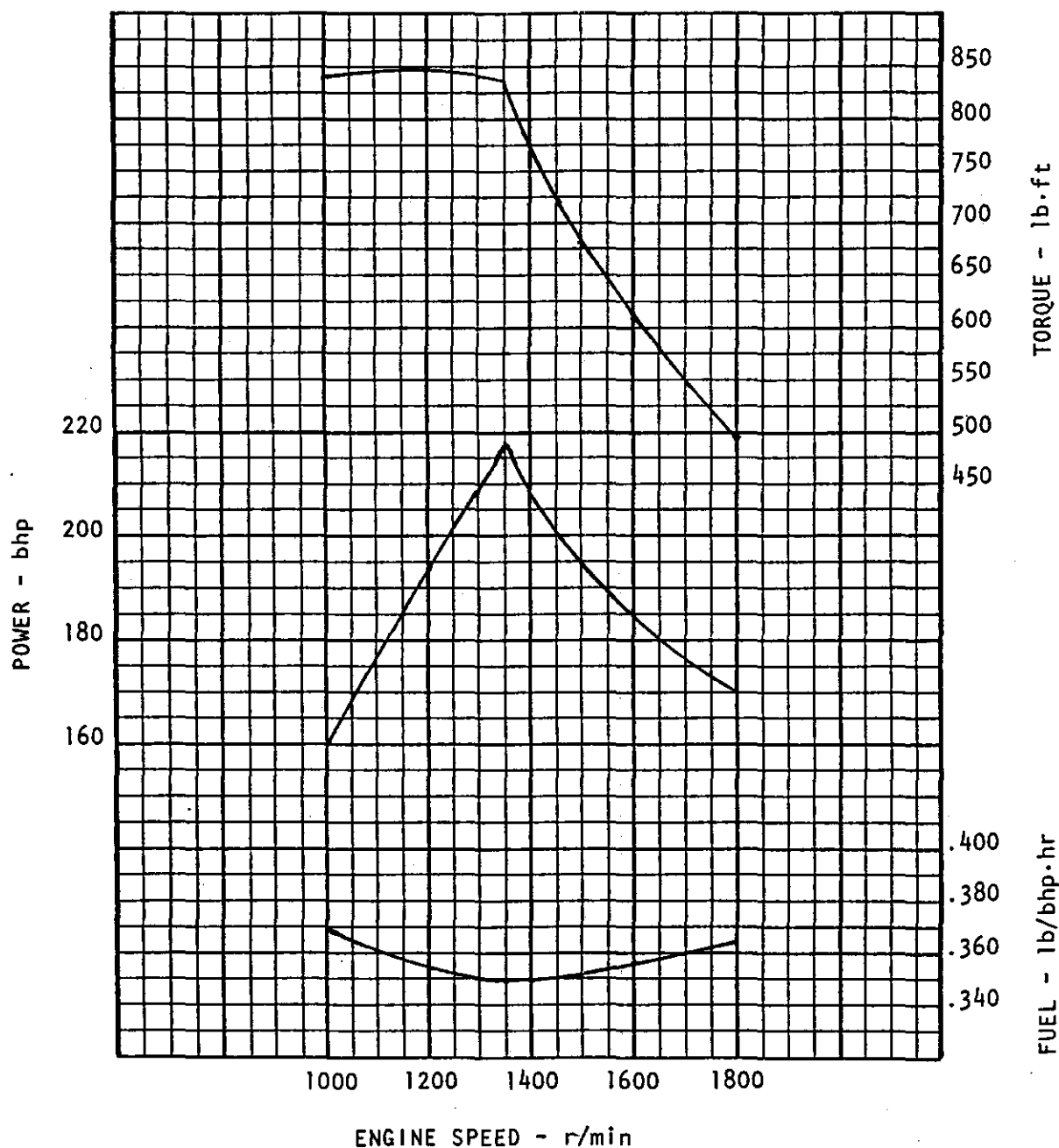
ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

APPLICATION: AUTOMOTIVE

CERTIFICATION: FEDERAL 1985

MODEL: 6-71TTA
170 bhp @ 1800 r/min
845 lb-ft @ 1200 r/min



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
[Signature]
STAFF ENGINEER

CURVE NO.
E4-1067-32-89
DATE: 5-10-85
REV./DATE:
SHT. 1 OF 2

ENGINE SPECIFICATION DATA

General Data

Model.....	1067-8940
Number of Cylinders.....	6
Bore and Stroke-in(mm).....	4.25x5.00(108x127)
Displacement-in ³ (L).....	426(6.9)
Compression Ratio.....	18.7:1
Piston Speed-ft/min(m/min).....	1500(457)
Valves Per Cylinder.....	
Intake.....	NOT APPLICABLE
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	INLINE-2 CYCLE
Aspiration.....	TURBOCHARGED

Configuration

Turbocharger.....	54H-005(0.99 A/R)
Charge Air Cooling System.....	JWAC
Blower Type.....	BY-PASS
Blower Drive Ratio.....	1.65:1
Low Idle Speed-r/min.....	500
High Idle Speed-r/min.....	1950
Thrust Bearing Load Limit.....	
Continuous-lbf(N).....	400(1780)
Intermittent-lbf(N).....	1200(5340)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-in H ₂ O(kPa).....	1.9(0.47)

Physical Data

Size.....	
Length-in(mm).....	56.0(1421)
Width-in(mm).....	31.9(809)
Height-in(mm).....	52.0(1321)
Weight, dry-lb(kg).....	2195(996)
Center of Gravity Distance.....	
From R.F.O.B. (x axis)-in(mm).....	20.5(521)
Above Crankshaft (y axis)-in(mm).....	5.1(130)
Right of Crankshaft (z axis)-in(mm).....	-1.5(38)
Installation Drawing.....	NOT AVAILABLE
Maximum Allowable Static Bending Moment at Rear Face of FW Hsg-lbf ft(N m)....	600(814)

Fuel System

Fuel Injector/Timing.....	7A77/1.480
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	61.9(28.1)
Fuel Consumption-gal/hr(L/hr).....	8.9(33.5)
Fuel Spill Rate-lb/hr(kg/hr).....	754.9(342.4)
Fuel Spill Rate-gal/hr(L/hr).....	108(408.8)
Total Fuel Flow-lb/hr(kg/hr).....	816.8(370.5)
Total Fuel Flow-gal/hr(L/hr).....	116.9(442.3)
Maximum Allowable Fuel Pump Suction.....	
Clean System-in Hg(kPa).....	6(20)
Dirty System-in Hg(kPa).....	12(41)
Fuel Filter Micron Size.....	
Primary - Micron.....	30
Secondary - Micron.....	10

Lubrication System

Oil Pressure.....	
Rated Speed-lbf/in ² (kPa).....	55(379)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-235(93-113)
Oil Flow-gal/min(L/min).....	26(98)
Oil Pan Capacity.....	
High-qt(L).....	22(20.8)
Low-qt(L).....	18(17.0)
Total Engine Oil Capacity with filters-qt(L).....	24(22.7)
Bypass Oil Filter Orifice-in(mm).....	0.101(2.57)
Engine Angularity Limits.....	
Front up - degrees.....	24
Front down - degrees.....	14
Side tilt - degrees.....	NOT AVAILABLE

Emission Data

Noise - dB(A) @ 1m.....	97.0
Certification Approval.....	FEDERAL 1985

Cooling System

Engine Heat Rejection-Btu/min(kW).....	5010(88.1)*
Engine Radiated Heat-Btu/min(kW).....	870(88.1)
Coolant Flow-gal/min(L/min).....	73(276)
Thermostat.....	
Start to Open-°F(°C).....	180(82)
Fully Open-°F(°C).....	197(92)
Maximum Water Pump Inlet.....	
Restriction-in Hg(kPa).....	0
Engine Coolant Capacity-qt(L).....	23(21.8)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C).....	210(99)
Minimum Top Tank Temperature-°F(°C).....	170(77)
Minimum Coolant Fill Rate-gal/min(L/min).....	3.0(11.4)
Cooling Index.....	
Minimum Air to Boil-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(55.6)
Ram Air Flow - Miles/hr(km/hr).....	15(24)
Deaeration-Air Injection.....	
Capacity-ft ³ /min(m ³ /min).....	0.6(0.017)
Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever is Larger)-qt(L).....	4.0(3.8)

Air System

Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C).....	30(16.7)
Air Intake Restriction Maximum Limit.....	
Dirty Air Cleaner-in H ₂ O(kPa).....	20(5.0)
Clean Air Cleaner-ig H ₂ O(kPa).....	12(3.0)
Engine Air Flow - ft ³ /min(m ³ /min).....	560(15.9)
Engine Air Box/Manifold Pressure-in Hg(kPa).....	21.0(70.9)
Recommended Intake Pipe Dia.-in(mm).....	6.0(152)

Exhaust System

Exhaust Flow-ft ³ /min(m ³ /min).....	1150(32.6)
Exhaust Temperature-°F(°C).....	640(338)
Maximum Allowable Back Pressure-in Hg(kPa).....	1.7(5.7)
Recommended Exhaust Pipe Dia.....	
Single-in(mm).....	5.0(127)
Dual-in(mm).....	NOT APPLICABLE
Exhaust Brake Max. Allowable Back Pressure-in Hg(kPa).....	NOT APPLICABLE

Electrical System

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

Performance Data

Power Output-bhp(kW).....	170(127)
Full Load Speed-r/min.....	1800
Peak Torque-lb ft(N m).....	845(1146)
Peak Torque Speed-r/min.....	1200
BMEP-lbf/in ² (kPa).....	87.9(606)
Friction Power.....	
Rated Speed-bhp(kW).....	50(37)
Peak Torque Speed-bhp(kW).....	23(17)
Altitude Capability-ft(m).....	10500(3200)
Torque Available at 800 r/min-lb ft (N m).....	620(841)

Engine

Speed r/min	Power bhp(kW)	Torque lb ft(N m)	BSEC lb/bhp hr (g/kW hr)
1800	170(127)	496 (672)	.364(221)
1600	185(138)	609 (826)	.356(217)
1400	208(155)	780(1058)	.349(212)
1350	215(160)	856(1133)	.348(212)
1300	208(155)	840(1139)	.350(213)
1200	193(144)	845(1146)	.354(215)
1000	160(119)	840(1139)	.370(225)

* Heat Rejection at Max. Fuel - 1350 RPM - 5820 BTU/MIN (102.4 kW)

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

Curve No. E4-1067-32-89
Date: 5-10-85
Rev./Date:
Sht. 2 of 2



ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

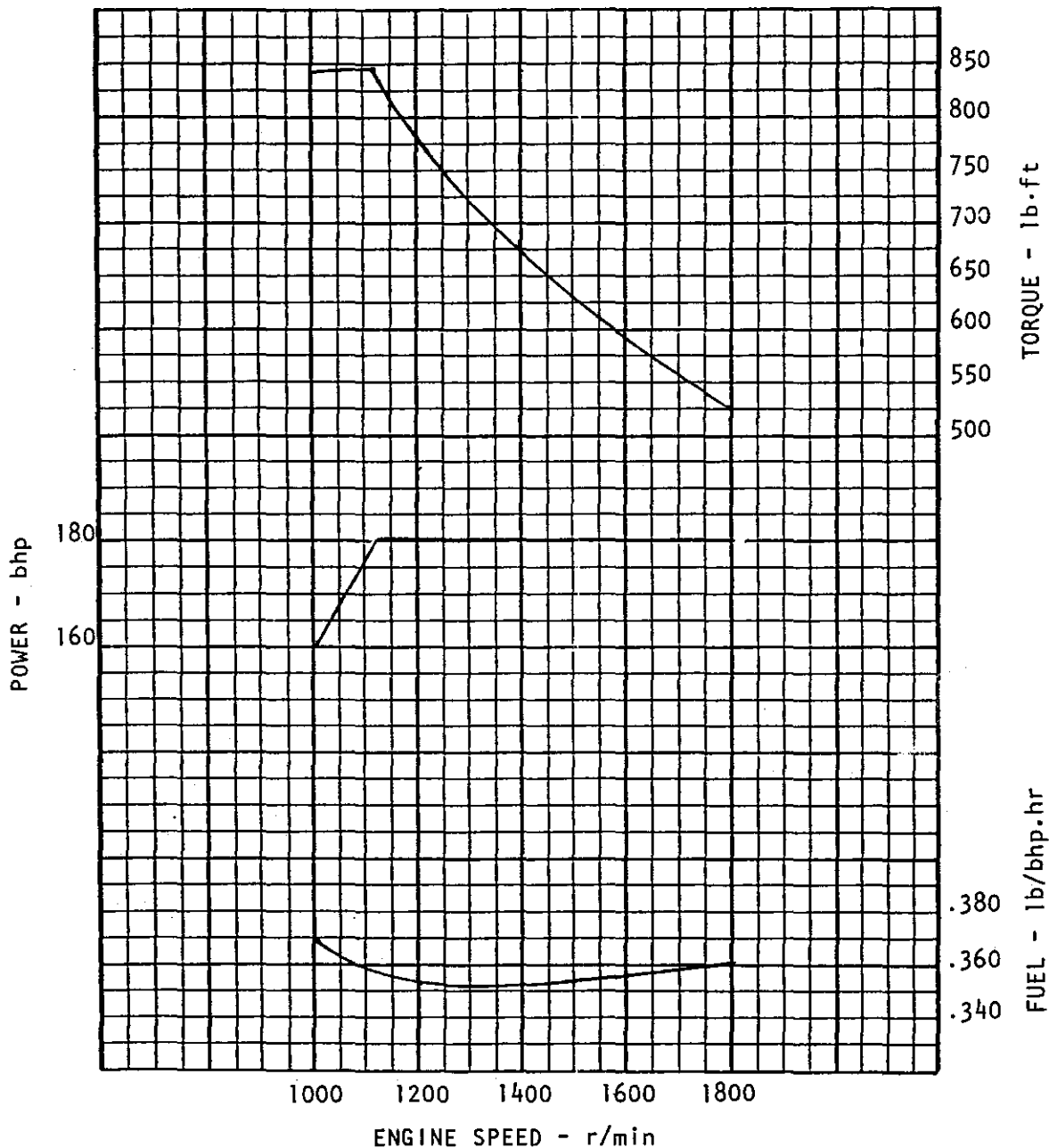
APPLICATION: AUTOMOTIVE

CERTIFICATION: FEDERAL 1985

MODEL: 6-71TTA

180 bhp @ 1800 r/min

840 lb.ft @ 1000 r/min



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:

STAFF ENGINEER

CURVE NO.

E4-1067-32-88

DATE: 5-10-85

REV./DATE:

SHT. 1 OF 2

ENGINE SPECIFICATION DATA

General Data

Model.....	1067-8940
Number of Cylinders.....	6
Bore and Stroke-in(mm).....	4.25x5.00(108x127)
Displacement-in ³ (L).....	426(6.9)
Compression Ratio.....	18.7:1
Piston Speed-ft/min(m/min).....	1500(457)
Valves Per Cylinder	
Intake.....	NOT APPLICABLE
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	INLINE-2 CYCLE
Aspiration.....	TURBOCHARGED

Configuration

Turbocharger.....	S4H-005(0.99 A/R)
Charge Air Cooling System.....	JWAC
Blower Type.....	BY-PASS
Blower Drive Ratio.....	1.65:1
Low Idle Speed-r/min.....	500
High Idle Speed-r/min.....	1950
Thrust Bearing Load Limit	
Continuous-lbf(N).....	400(1780)
Intermittent-lbf(N).....	1200(5340)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-In H ₂ O(kPa).....	1.9(0.47)

Physical Data

Size	
Length-in(mm).....	56.0(1421)
Width-in(mm).....	31.9(809)
Height-in(mm).....	52.0(1321)
Weight, dry-lb(kg).....	2195(996)
Center of Gravity Distance	
From R.F.O.B. (x axis)-in(mm).....	20.5(521)
Above Crankshaft (y axis)-in(mm).....	5.1(130)
Right of Crankshaft (z axis)-in(mm).....	-1.5(38)
Installation Drawing.....	NOT AVAILABLE
Maximum Allowable Static Bending Moment	
at Rear Face of FW Hsg-lbf ft(N m)....	600(814)

Fuel System

Fuel Injector/Timing.....	7A77/1.490
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	63.9(29.0)
Fuel Consumption-gal/hr(L/hr).....	9.1(34.6)
Fuel Spill Rate-lb/hr(kg/hr).....	754.9(342.4)
Fuel Spill Rate-gal/hr(L/hr).....	108(408.8)
Total Fuel Flow-lb/hr(kg/hr).....	818.8(371.4)
Total Fuel Flow-gal/hr(L/hr).....	117.1(443.4)
Maximum Allowable Fuel Pump Suction	
Clean System-In Hg(kPa).....	6(20)
Dirty System-In Hg(kPa).....	12(41)
Fuel Filter Micron Size	
Primary - Micron.....	30
Secondary - Micron.....	10

Lubrication System

Oil Pressure	
Rated Speed-lbf/in ² (kPa).....	55(379)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-235(93-113)
Oil Flow-gal/min(L/min).....	26(98)
Oil Pan Capacity	
High-qt(L).....	22(20.8)
Low-qt(L).....	18(17.0)
Total Engine Oil Capacity with	
filters-qt(L).....	24(22.7)
Bypass Oil Filter Orifice-In(mm).....	0.101(2.57)
Engine Angularity Limits	
Front up - degrees.....	24
Front down - degrees.....	14
Side tilt - degrees.....	NOT AVAILABLE

Emission Data

Noise - dB(A) @ 1m.....	97.0
Certification Approval.....	FEDERAL 1985

Cooling System

Engine Heat Rejection-Btu/min(kW).....	4850(85.3)
Engine Radiated Heat-Btu/min(kW).....	900(15.8)
Coolant Flow-gal/min(L/min).....	73(276)
Thermostat	
Start to Open-°F(°C).....	180(82)
Fully Open-°F(°C).....	197(92)
Maximum Water Pump Inlet	
Restriction-In Hg(kPa).....	0
Engine Coolant Capacity-qt(L).....	23(21.8)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure (Exclusive	
of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C)....	210(99)
Minimum Top Tank Temperature-°F(°C)....	170(77)
Minimum Coolant Fill Rate-	
gal/min(L/min).....	3.0(11.4)
Cooling Index	
Minimum Air to Boil-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(55.6)
Ram Air Flow - Mile/hr(km/hr).....	15(24)
Deaeration-Air Injection	
Capacity-ft ³ /min(m ³ /min).....	0.6(0.017)
Drawdown - Minimum Requirement (or 10%	
of Cooling System Capacity-Whichever	
is Larger)-qt(L).....	4.0(3.8)

Air System

Maximum Allowable Temperature Rise	
(Ambient Air to Engine Inlet)-°F(°C)....	30(16.7)
Air Intake Restriction Maximum Limit	
Dirty Air Cleaner-In H ₂ O(kPa).....	20(5.0)
Clean Air Cleaner-In H ₂ O(kPa).....	12(3.0)
Engine Air Flow - ft ³ /min(m ³ /min).....	580(16.4)
Engine Air Box/Manifold Pressure-	
In Hg(kPa).....	24.5(82.7)
Recommended Intake Pipe Dia.-In(mm)....	6.0(152)

Exhaust System

Exhaust Flow-ft ³ /min(m ³ /min).....	1200(34.0)
Exhaust Temperature-°F(°C).....	650(343)
Maximum Allowable Back	
Pressure-In Hg(kPa).....	1.7(5.7)
Recommended Exhaust Pipe Dia.	
Single-In(mm).....	5.0(127)
Dual-In(mm).....	NOT APPLICABLE
Exhaust Brake Max. Allowable Back	
Pressure-In Hg(kPa).....	NOT APPLICABLE

Electrical System

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

Performance Data

Power Output-bhp(kW).....	180(134)
Full Load Speed-r/min.....	1800
Peak Torque-lb ft(N m).....	840(1139)
Peak Torque Speed-r/min.....	1000
BMEP-lbf/in ² (kPa).....	93.0(641)
Friction Power	
Rated Speed-bhp(kW).....	50(37)
Peak Torque Speed-bhp(kW).....	20(15)
Altitude Capability-ft(m).....	10500(3200)
Torque Available at 800 r/min-	
lb ft (N m).....	620(841)

Engine

Speed r/min	Power bhp(kW)	Torque lb ft(N m)	BSEC lb/bhp hr (g/kW hr)
1800	180(134)	525(712)	.361(220)
1600	180(134)	591(801)	.357(217)
1400	180(134)	675(915)	.353(215)
1200	180(134)	788(1068)	.354(215)
1000	160(119)	840(1139)	.370(225)

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

Curve No. E4-1067-32-88
Date: 5-10-85
Rev./Date:
Sht. 2 of 2



ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

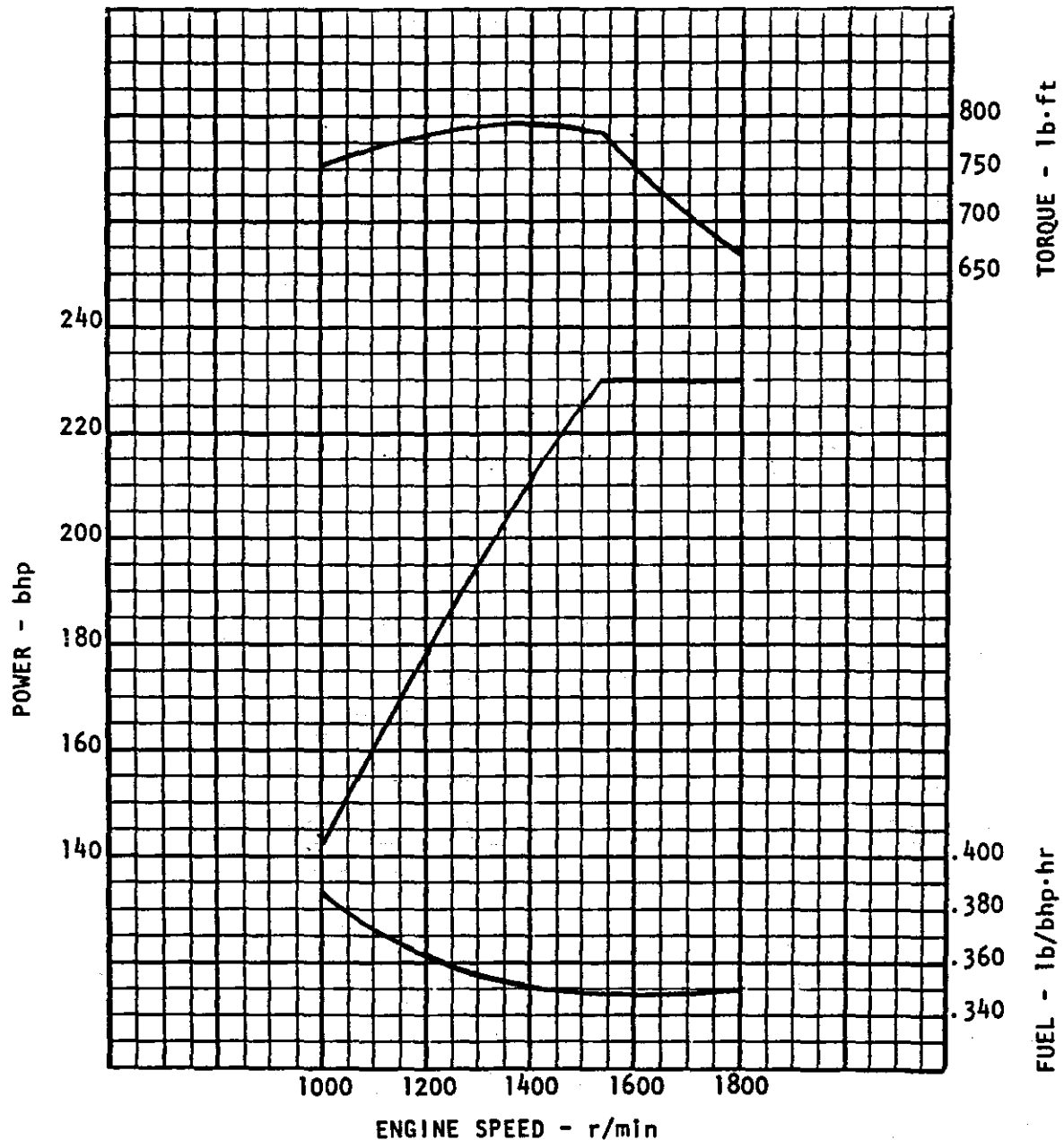
APPLICATION: AUTOMOTIVE

CERTIFICATION: FEDERAL 1985

MODEL: 6-71TTA

230 bhp @ 1800 r/min

792 lb·ft @ 1400 r/min



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 (0.853 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:

[Signature]

STAFF ENGINEER

CURVE NO.

E4-1067-32-35

DATE: 7-5-84

REV./DATE: 2/1-18-85

SHT. 1 OF 2

ENGINE SPECIFICATION DATA

General Data

Model.....	1067-8940
Number of Cylinders.....	6
Bore and Stroke-in(mm).....	4.25x5.00(108x127)
Displacement-in ³ (L).....	426(6.9)
Compression Ratio.....	18.7:1
Piston Speed-ft/min(m/min).....	1500(457)
Valves Per Cylinder	
Intake.....	NOT APPLICABLE
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	INLINE-2 CYCLE
Aspiration.....	TURBOCHARGED

Configuration

Turbocharger.....	S4H-005(0.99 A/R)
Charge Air Cooling System.....	JWAC
Blower Type.....	BY-PASS
Blower Drive Ratio.....	1.65:1
Low Idle Speed-r/min.....	500
High Idle Speed-r/min.....	1950
Thrust Bearing Load Limit	
Continuous-lbf(N).....	400(1780)
Intermittent-lbf(N).....	1200(5340)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-in H ₂ O(kPa).....	1.9(0.47)

Physical Data

Size	
Length-in(mm).....	56.0(1421)
Width-in(mm).....	31.9(809)
Height-in(mm).....	52.0(1321)
Weight, dry-lb(kg).....	2195(996)
Center of Gravity Distance	
From R.F.O.B. (x axis)-in(mm).....	20.5(521)
Above Crankshaft (y axis)-in(mm).....	5.1(130)
Right of Crankshaft (z axis)-in(mm).....	-1.5(38)
Installation Drawing.....	NOT AVAILABLE
Maximum Allowable Static Bending Moment at Rear Face of FW Hsg-lbf.ft(N.m)....	600(814)

Fuel System

Fuel Injector/Timing.....	7E75/1.490
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	80.5(36.5)
Fuel Consumption-gal/hr(L/hr).....	11.5(43.6)
Fuel Spill Rate-lb/hr(kg/hr).....	503.3(228.3)
Fuel Spill Rate-gal/hr(L/hr).....	72(272.5)
Total Fuel Flow-lb/hr(kg/hr).....	583.8(264.8)
Total Fuel Flow-gal/hr(L/hr).....	83.5(316.2)
Maximum Allowable Fuel Pump Suction	
Clean System-in Hg(kPa).....	6(20)
Dirty System-in Hg(kPa).....	12(41)
Fuel Filter Micron Size	
Primary - Micron.....	30
Secondary - Micron.....	10

Lubrication System

Oil Pressure	
Rated Speed-lbf/in ² (kPa).....	55(379)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-235(93-113)
Oil Flow-gal/min(L/min).....	26(98)
Oil Pan Capacity	
High-qt(L).....	22(20.8)
Low-qt(L).....	18(17.0)
Total Engine Oil Capacity with filters-qt(L).....	24(22.7)
Bypass Oil Filter Orifice-in(mm).....	0.101(2.57)
Engine Angularity Limits	
Front up - degrees.....	24
Front down - degrees.....	14
Side tilt - degrees.....	NOT AVAILABLE

Emission Data

CO-gm/hr.....	NOT AVAILABLE
HC-gm/hr.....	NOT AVAILABLE
NO _x -gm/hr.....	NOT AVAILABLE
SO _x -gm/hr.....	410
Smoke	
Rated Speed - Bosch Number.....	NOT AVAILABLE
Peak Torque Speed - Bosch Number.....	NOT AVAILABLE
Noise - dB(A) @ 1m.....	NOT AVAILABLE
Certification Approval.....	FEDERAL 1985

Cooling System

Engine Heat Rejection-Stu/min(kW).....	6000(105.5)
Engine Radiated Heat-Stu/min(kW).....	1130(19.9)
Coolant Flow-gal/min(L/min).....	73(276)
Thermostat	
Start to Open-°F(°C).....	177(81)
Fully Open-°F(°C).....	197(92)
Maximum Water Pump Inlet	
Restriction-in Hg(kPa).....	0
Engine Coolant Capacity-qt(L).....	23(21.8)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C)....	210(99)
Minimum Top Tank Temperature-°F(°C)....	160(71)
Minimum Coolant Fill Rate-gal/min(L/min).....	3.0(11.4)
Cooling Index	
Minimum Air to Boil-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(55.6)
Ram Air Flow - Miles/hr(km/hr).....	13(24)
Deaeration-Air Injection	
Capacity-ft ³ /min(m ³ /min).....	0.6(0.017)
Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever is Larger)-qt(L).....	4.0(3.8)

Air System

Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C)...	30(16.7)
Air Intake Restriction Maximum Limit	
Dirty Air Cleaner-in H ₂ O(kPa).....	20(5.0)
Clean Air Cleaner-in H ₂ O(kPa).....	12(3.0)
Engine Air Flow - ft ³ /min(m ³ /min).....	690(19.5)
Engine Air Box/Manifold Pressure-in Hg(kPa).....	33.0(111.4)
Recommended Intake Pipe Dia.-in(mm)....	6.0(152)

Exhaust System

Exhaust Flow-ft ³ /min(m ³ /min).....	1510(42.8)
Exhaust Temperature-°F(°C).....	680(360)
Maximum Allowable Back Pressure-in Hg(kPa).....	1.7(5.7)
Recommended Exhaust Pipe Dia.	
Single-in(mm).....	5.0(127)
Dual-in(mm).....	NOT APPLICABLE
Exhaust Brake Max. Allowable Back Pressure-in Hg(kPa).....	NOT APPLICABLE

Electrical System

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

Performance Data

Power Output-bhp(kW).....	230(172)
Full Load Speed-r/min.....	1800
Peak Torque-lb ft(N.m).....	792(1074)
Peak Torque Speed-r/min.....	1400
BMEP-lbf/in ² (kPa).....	118.9(819)
Friction Power	
Rated Speed-bhp(kW).....	90(37)
Peak Torque Speed-bhp(kW).....	34(25)
Altitude Capability-ft(m).....	16000(4880)
Torque Available at 800 r/min-lb ft (N.m).....	620(841)

Engine

Speed r/min	Power bhp(kW)	Torque lb ft(N.m)	BSEC lb/bhp hr (g/kW hr)
1800	230(172)	671 (910)	.350(213)
1600	230(172)	755(1024)	.347(211)
1400	211(157)	792(1074)	.350(213)
1200	178(133)	780(1058)	.364(221)
1000	143(107)	753(1021)	.386(235)

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

Curve No. E4-1067-32-35
Date: 7-5-84
Rev./Date: 2/1-18-85
Sht. 2 of 2



ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

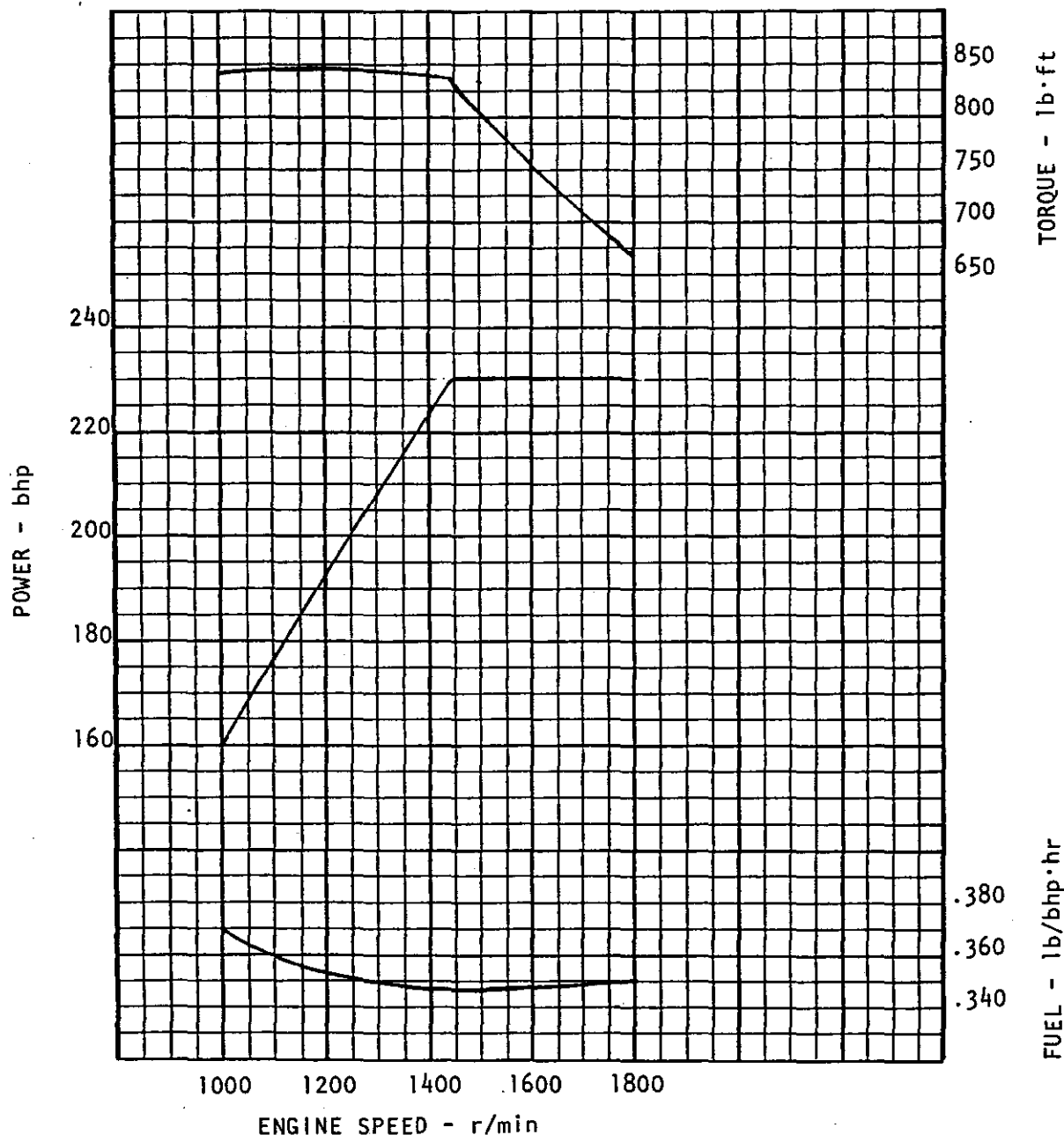
APPLICATION: AUTOMOTIVE

CERTIFICATION: FEDERAL 1985

MODEL: 6-71TTA

230 bhp @ 1800 r/min

845 lb·ft @ 1200 r/min

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 × 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:

STAFF ENGINEER

CURVE NO.

E4-1067-32-87

DATE: 5-10-85

REV./DATE:

SHT. 1 OF 2

ENGINE SPECIFICATION DATA

General Data

Model.....	1067-8940
Number of Cylinders.....	6
Bore and Stroke-in(mm).....	4.25x5.00(108x127)
Displacement-in ³ (L).....	426(6.9)
Compression Ratio.....	18.7:1
Piston Speed-ft/min(m/min).....	1500(457)
Valves Per Cylinder.....	4
Intake.....	NOT APPLICABLE
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	INLINE-2 CYCLE
Aspiration.....	TURBOCHARGED

Configuration

Turbocharger.....	S4H-005(0.99 A/R)
Charge Air Cooling System.....	JWAC
Blower Type.....	BY-PASS
Blower Drive Ratio.....	1.65:1
Low Idle Speed-r/min.....	500
High Idle Speed-r/min.....	1950
Thrust Bearing Load Limit	
Continuous-lbf(N).....	400(1780)
Intermittent-lbf(N).....	1200(5340)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-in H ₂ O(kPa).....	1.9(0.47)

Physical Data

Size	
Length-in(mm).....	56.0(1421)
Width-in(mm).....	31.9(809)
Height-in(mm).....	52.0(1321)
Weight, dry-lb(kg).....	2195(996)
Center of Gravity Distance	
From R.F.O.B. (x axis)-in(mm).....	20.5(521)
Above Crankshaft (y axis)-in(mm).....	5.1(130)
Right of Crankshaft (z axis)-in(mm).....	-1.5(38)
Installation Drawing.....	NOT AVAILABLE
Maximum Allowable Static Bending Moment	
at Rear Face of FM Hsg-lbf ft(N m).....	600(814)

Fuel System

Fuel Injector/Timing.....	7A77/1.490
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	79.3(36.0)
Fuel Consumption-gal/hr(L/hr).....	11.3(42.9)
Fuel Spill Rate-lb/hr(kg/hr).....	754.9(342.4)
Fuel Spill Rate-gal/hr(L/hr).....	108(408.8)
Total Fuel Flow-lb/hr(kg/hr).....	834.2(378.4)
Total Fuel Flow-gal/hr(L/hr).....	119.3(451.8)
Maximum Allowable Fuel Pump Suction	
Clean System-in Hg(kPa).....	6(20)
Dirty System-in Hg(kPa).....	12(41)
Fuel Filter Micron Size	
Primary - Micron.....	30
Secondary - Micron.....	10

Lubrication System

Oil Pressure	
Rated Speed-lbf/in ² (kPa).....	55(379)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-235(93-113)
Oil Flow-gal/min(L/min).....	26(98)
Oil Pan Capacity	
High-qt(L).....	22(20.8)
Low-qt(L).....	18(17.0)
Total Engine Oil Capacity with	
filters-qt(L).....	24(22.7)
Bypass Oil Filter Orifice-in(mm).....	0.101(2.57)
Engine Angularity Limits	
Front up - degrees.....	24
Front down - degrees.....	14
Side tilt - degrees.....	NOT AVAILABLE

Emission Data

Noise - dB(A) @ 1m.....	97.8
Certification Approval.....	FEDERAL 1985

Cooling System

Engine Heat Rejection-Btu/min(kW).....	5810(102.1)
Engine Radiated Heat-Btu/min(kW).....	1120(19.6)
Coolant Flow-gal/min(L/min).....	73(276)
Thermostat	
Start to Open-°F(°C).....	180(82)
Fully Open-°F(°C).....	197(92)
Maximum Water Pump Inlet	
Restriction-in Hg(kPa).....	0
Engine Coolant Capacity-qt(L).....	23(21.8)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure, (Exclusive	
of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C).....	210(99)
Minimum Top Tank Temperature-°F(°C).....	170(77)
Minimum Coolant Fill Rate-	
gal/min(L/min).....	3.0(11.4)
Cooling Index	
Minimum Air to Boil-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(55.6)
Ram Air Flow - Mile/hr(km/hr).....	15(24)
Deaeration-Air Injection	
Capacity-ft ³ /min(m ³ /min).....	0.6(0.017)
Drawdown - Minimum Requirement (or 10%	
of Cooling System Capacity-Whichever	
is Larger)-qt(L).....	4.0(3.8)

Air System

Maximum Allowable Temperature Rise	
(Ambient Air to Engine Inlet)-°F(°C).....	30(16.7)
Air Intake Restriction Maximum Limit	
Dirty Air Cleaner-in H ₂ O(kPa).....	20(5.0)
Clean Air Cleaner-lg H ₂ O(kPa).....	12(3.0)
Engine Air Flow - ft ³ /min(m ³ /min).....	700(19.8)
Engine Air Box/Manifold Pressure-	
in Hg(kPa).....	33.5(113.1)
Recommended Intake Pipe Dia.-in(mm).....	6.0(152)

Exhaust System

Exhaust Flow-ft ³ /min(m ³ /min).....	1460(41.3)
Exhaust Temperature-°F(°C).....	660(349)
Maximum Allowable Back	
Pressure-in Hg(kPa).....	1.7(5.7)
Recommended Exhaust Pipe Dia.	
Single-in(mm).....	5.0(127)
Dual-in(mm).....	NOT APPLICABLE
Exhaust Brake Max. Allowable Back	
Pressure-in Hg(kPa).....	NOT APPLICABLE

Electrical System

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

Performance Data

Power Output-bhp(kW).....	230(172)
Full Load Speed-r/min.....	1800
Peak Torque-lb ft(N m).....	845(1146)
Peak Torque Speed-r/min.....	1200
BMEP-lbf/in ² (kPa).....	118.9(820)
Friction Power	
Rated Speed-bhp(kW).....	50(37)
Peak Torque Speed-bhp(kW).....	26(19)
Altitude Capability-ft(m).....	10500(3200)
Torque Available at 800 r/min-	
lb ft (N m).....	620(841)

Engine

Speed r/min	Power bhp(kW)	Torque lb ft(N m)	BSEC lb/bhp hr (g/kW hr)
1800	230(172)	671 (910)	.350(213)
1600	230(172)	755(1024)	.348(212)
1400	224(167)	840(1139)	.347(211)
1200	193(144)	845(1146)	.354(215)
1000	160(119)	840(1139)	.370(225)

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

Curve No. E4-1067-32-87
Date: 5-10-85
Rev./Date:
Sht. 2 of 2



ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

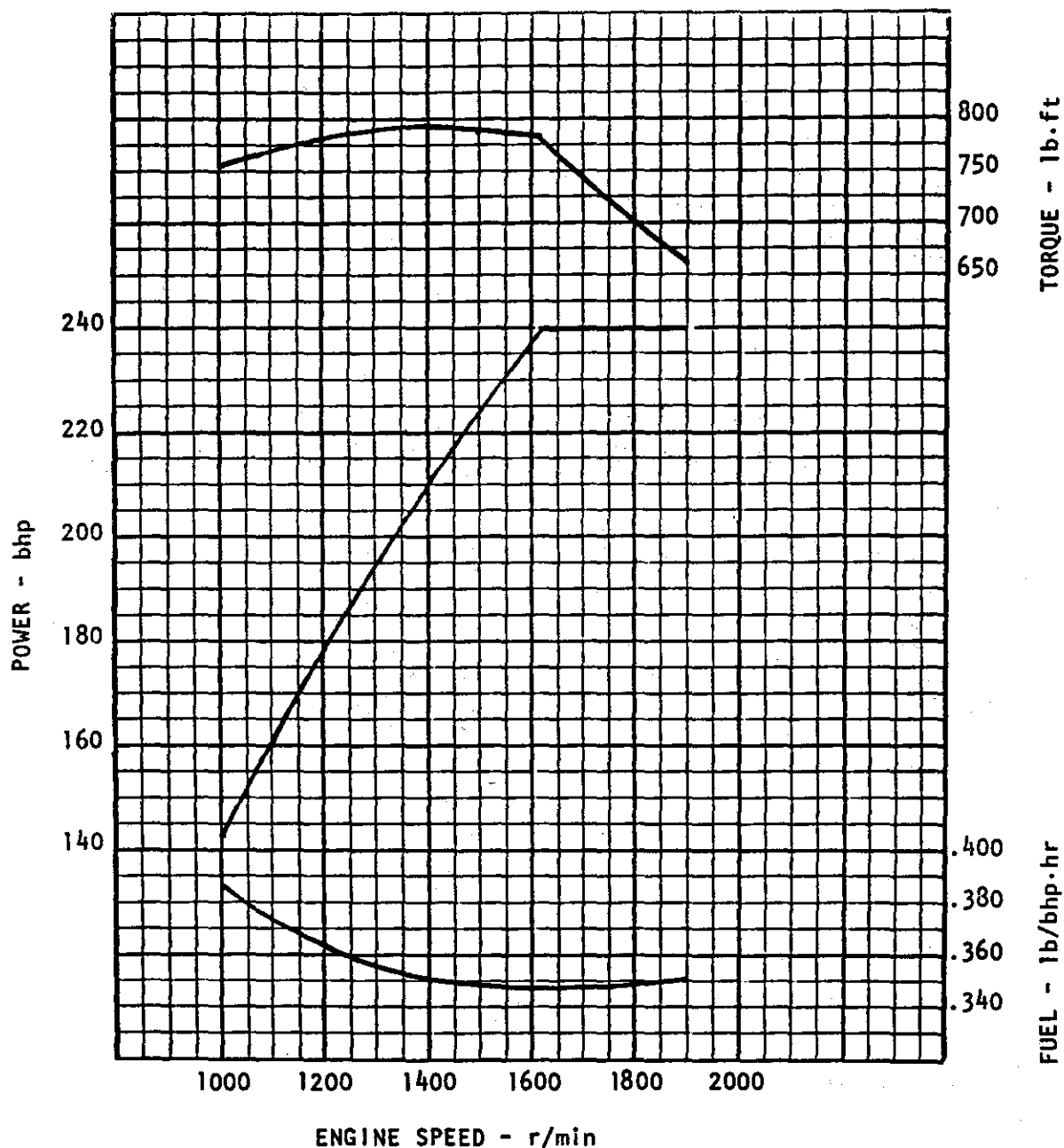
APPLICATION: AUTOMOTIVE

CERTIFICATION: FEDERAL 1985

MODEL: 6-71TTA

240 bhp @ 1900 r/min

792 lb·ft @ 1400 r/min



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:

[Signature]

STAFF ENGINEER

CURVE NO.

E4-1067-32-45

DATE: 8-10-84

REV./DATE: 1/1-18-85

SHT. 1 OF 2

ENGINE SPECIFICATION DATA

General Data

Model.....	1067-8940
Number of Cylinders.....	6
Bore and Stroke-In(mm).....	4.25x5.00(108x127)
Displacement-In ³ (L).....	426(6.9)
Compression Ratio.....	18.7:1
Piston Speed-ft/min(m/min).....	1583(482)
Valves Per Cylinder	
Intake.....	NOT APPLICABLE
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	INLINE-2 CYCLE
Aspiration.....	TURBOCHARGED

Configuration

Turbocharger.....	S4H-005(0.99 A/R)
Charge Air Cooling System.....	JWAC
Blower Type.....	BY-PASS
Blower Drive Ratio.....	1.65:1
Low Idle Speed-r/min.....	500
High Idle Speed-r/min.....	2050
Thrust Bearing Load Limit	
Continuous-lbf(N).....	400(1780)
Intermittent-lbf(N).....	1200(5340)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-In H ₂ O(kPa).....	1.9(0.47)

Physical Data

Size	
Length-In(mm).....	56.0(1421)
Width-In(mm).....	31.9(809)
Height-In(mm).....	52.0(1321)
Weight, dry-lb(kg).....	2195(996)
Center of Gravity Distance	
From R.F.O.B. (x axis)-In(mm).....	20.5(521)
Above Crankshaft (y axis)-In(mm).....	5.1(130)
Right of Crankshaft (z axis)-In(mm).....	-1.5(38)
Installation Drawing.....	NOT AVAILABLE
Maximum Allowable Static Bending Moment at Rear Face of FW Hsg-lbf ft(N m).....	600(814)

Fuel System

Fuel Injector/Timing.....	7E75/1.490
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	84.2(38.2)
Fuel Consumption-gal/hr(L/hr).....	12.0(45.6)
Fuel Spill Rate-lb/hr(kg/hr).....	503.3(228.3)
Fuel Spill Rate-gal/hr(L/hr).....	72(272.5)
Total Fuel Flow-lb/hr(kg/hr).....	587.5(266.5)
Total Fuel Flow-gal/hr(L/hr).....	84.0(318.2)
Maximum Allowable Fuel Pump Suction	
Clean System-In Hg(kPa).....	6(20)
Dirty System-In Hg(kPa).....	12(41)
Fuel Filter Micron Size	
Primary - Micron.....	30
Secondary - Micron.....	10

Lubrication System

Oil Pressure	
Rated Speed-lbf/in ² (kPa).....	55(379)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-235(93-113)
Oil Flow-gal/min(L/min).....	28(106)
Oil Pan Capacity	
High-qt(L).....	22(20.8)
Low-qt(L).....	18(17.0)
Total Engine Oil Capacity with filters-qt(L).....	24(22.7)
Bypass Oil Filter Orifice-In(mm).....	0.101(2.57)
Engine Angularity Limits	
Front up - degrees.....	24
Front down - degrees.....	14
Side tilt - degrees.....	NOT AVAILABLE

Emission Data

CO-gm/hr.....	NOT AVAILABLE
HC-gm/hr.....	NOT AVAILABLE
NO _x -gm/hr.....	NOT AVAILABLE
SO _x -gm/hr.....	380
Smoke	
Rated Speed - Bosch Number.....	NOT AVAILABLE
Peak Torque Speed - Bosch Number.....	NOT AVAILABLE
Noise - dB(A) @ 1m.....	NOT AVAILABLE
Certification Approval.....	FEDERAL 1985

Cooling System

Engine Heat Rejection-Btu/min(kW).....	6350(111.7)
Engine Radiated Heat-Btu/min(kW).....	1160(20.4)
Coolant Flow-gal/min(L/min).....	75(284)
Thermostat	
Start to Open-°F(°C).....	177(81)
Fully Open-°F(°C).....	197(92)
Maximum Water Pump Inlet	
Restriction-In Hg(kPa).....	0
Engine Coolant Capacity-qt(L).....	23(21.8)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C).....	210(99)
Minimum Top Tank Temperature-°F(°C).....	180(71)
Minimum Coolant Fill Rate-gal/min(L/min).....	3.0(11.4)
Cooling Index	
Minimum Air to Boil-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(55.6)
Ram Air Flow - Mils/hr(km/hr).....	15(24)
Deaeration-Air Injection	
Capacity-ft ³ /min(m ³ /min).....	0.6(0.017)
Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever is Larger)-qt(L).....	4.0(3.8)

Air System

Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C).....	30(16.7)
Air Intake Restriction Maximum Limit	
Dirty Air Cleaner-In H ₂ O(kPa).....	20(5.0)
Clean Air Cleaner-In H ₂ O(kPa).....	12(3.0)
Engine Air Flow - ft ³ /min(m ³ /min).....	720(20.4)
Engine Air Box/Manifold Pressure-In Hg(kPa).....	34.9(117.9)
Recommended Intake Pipe Dia.-In(mm).....	6.0(152)

Exhaust System

Exhaust Flow-ft ³ /min(m ³ /min).....	1530(43.3)
Exhaust Temperature-°F(°C).....	680(360)
Maximum Allowable Back Pressure-In Hg(kPa).....	2.0(6.8)
Recommended Exhaust Pipe Dia.	
Single-In(mm).....	5.0(127)
Dual-In(mm).....	NOT APPLICABLE
Exhaust Brake Max. Allowable Back Pressure-In Hg(kPa).....	NOT APPLICABLE

Electrical System

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

Performance Data

Power Output-bhp(kW).....	240(179)
Full Load Speed-r/min.....	1900
Peak Torque-lb ft(N m).....	792(1074)
Peak Torque Speed-r/min.....	1400
BMEP-lbf/in ² (kPa).....	141.7(977)
Friction Power	
Rated Speed-bhp(kW).....	56(42)
Peak Torque Speed-bhp(kW).....	34(25)
Altitude Capability-ft(m).....	16000(4880)
Torque Available at 800 r/min-lb ft(N m).....	620(841)

Engine

Speed r/min	Power bhp(kW)	Torque lb ft(N m)	BSEC lb/bhp hr (g/kW hr)
1900	240(179)	663 (899)	.351(214)
1800	240(179)	700 (949)	.340(212)
1600	237(177)	779(1056)	.347(211)
1400	211(157)	792(1074)	.350(213)
1200	178(133)	780(1058)	.364(221)
1000	143(107)	753(1021)	.386(235)

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

Curve No. E4-1067-32-45
Date: 8-10-84
Rev./Date: 1/1-18-85
Sht. 2 of 2



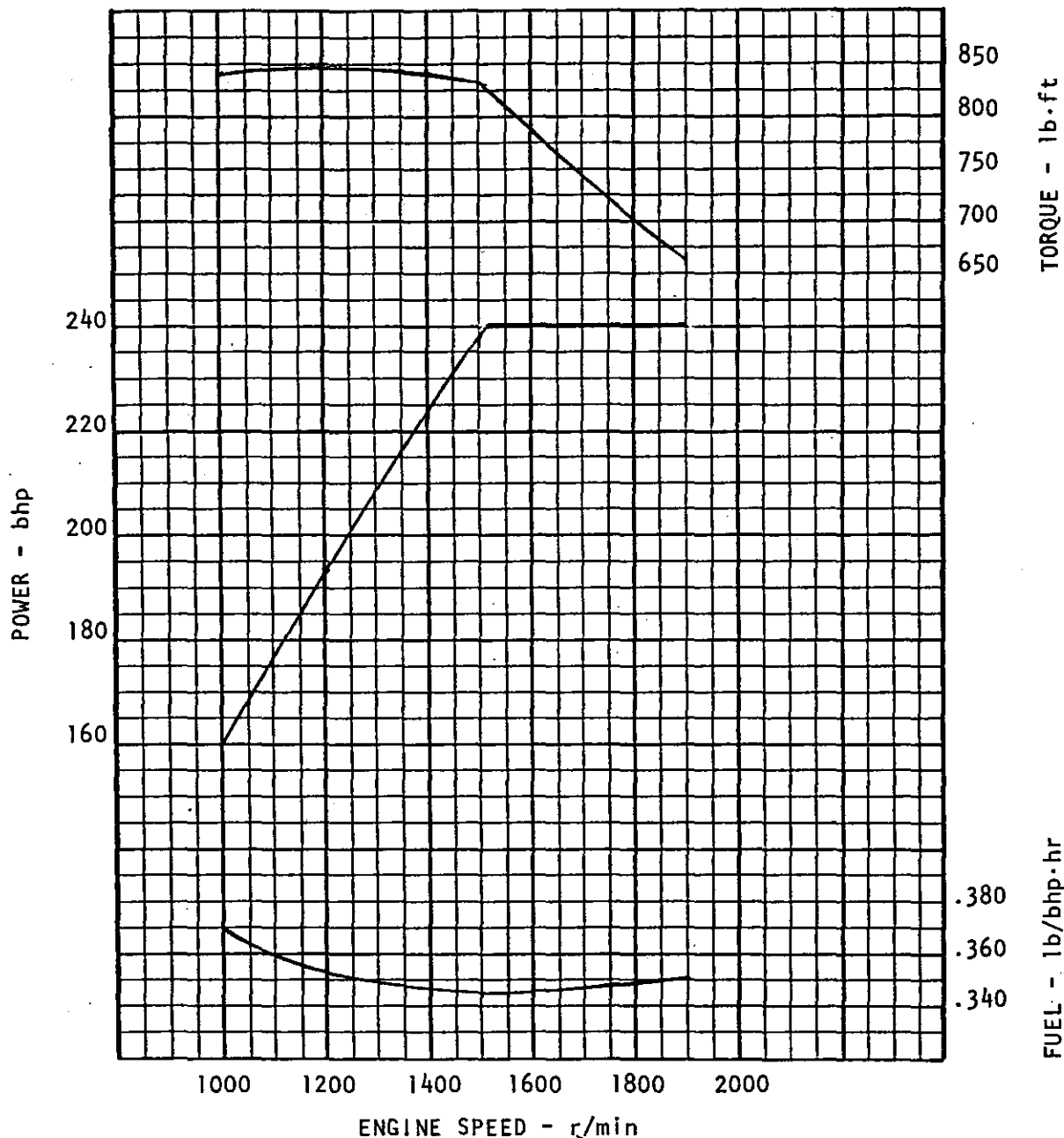
ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

APPLICATION: AUTOMOTIVE

CERTIFICATION: FEDERAL 1985

MODEL: 6-71TTA
240 bhp @ 1900 r/min
845 lb·ft @ 1200 r/min



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 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.
E4-1067-32-85
DATE: 5-10-85
REV./DATE:
SHT. 1 OF 2

ENGINE SPECIFICATION DATA

General Data

Model.....	1067-8940
Number of Cylinders.....	6
Bore and Stroke-In(mm).....	4.25x5.00(108x127)
Displacement-In ³ (L).....	426(6.9)
Compression Ratio.....	18.7:1
Piston Speed-ft/min(m/min).....	1583(482)
Valves Per Cylinder	
Intake.....	NOT APPLICABLE
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	INLINE-2 CYCLE
Aspiration.....	TURBOCHARGED

Configuration

Turbocharger.....	54H-005(0.99 A/R)
Charge Air Cooling System.....	JWAC
Blower Type.....	BY-PASS
Blower Drive Ratio.....	1.65:1
Low Idle Speed-r/min.....	500
High Idle Speed-r/min.....	2050
Thrust Bearing Load Limit	
Continuous-lbf(N).....	400(1780)
Intermittent-lbf(N).....	1200(5340)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-In H ₂ O(kPa).....	1.9(0.47)

Physical Data

Size	
Length-In(mm).....	56.0(1421)
Width-In(mm).....	31.9(809)
Height-In(mm).....	52.0(1321)
Weight, dry-lb(kg).....	2195(996)
Center of Gravity Distance	
From R.F.O.B. (x axis)-In(mm).....	20.5(521)
Above Crankshaft (y axis)-In(mm).....	5.1(130)
Right of Crankshaft (z axis)-In(mm).....	-1.5(38)
Installation Drawing.....	NOT AVAILABLE
Maximum Allowable Static Bending Moment at Rear Face of FW Hsg-lbf ft(N m)....	600(814)

Fuel System

Fuel Injector/Timing.....	7A77/1.490
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	82.8(37.6)
Fuel Consumption-gal/hr(L/hr).....	11.8(44.7)
Fuel Spill Rate-lb/hr(kg/hr).....	754.9(342.4)
Fuel Spill Rate-gal/hr(L/hr).....	108(408.8)
Total Fuel Flow-lb/hr(kg/hr).....	837.7(379.7)
Total Fuel Flow-gal/hr(L/hr).....	119.8(453.3)
Maximum Allowable Fuel Pump Suction	
Clean System-In Hg(kPa).....	6(20)
Dirty System-In Hg(kPa).....	12(41)
Fuel Filter Micron Size	
Primary - Micron.....	30
Secondary - Micron.....	10

Lubrication System

Oil Pressure	
Rated Speed-lbf/in ² (kPa).....	55(379)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-235(93-113)
Oil Flow-gal/min(L/min).....	28(106)
Oil Pan Capacity	
High-qt(L).....	22(20.8)
Low-qt(L).....	18(17.0)
Total Engine Oil Capacity with filters-qt(L).....	24(22.7)
Bypass Oil Filter Orifice-In(mm).....	0.101(2.57)
Engine Angularity Limits	
Front up - degrees.....	24
Front down - degrees.....	14
Side tilt - degrees.....	NOT AVAILABLE

Emission Data

Noise - dB(A) @ 1m.....	98.5
Certification Approval.....	FEDERAL 1985

Cooling System

Engine Heat Rejection-Btu/min(kW).....	6210(109.1)
Engine Radiated Heat-Btu/min(kW).....	1140(20.1)
Coolant Flow-gal/min(L/min).....	75(284)
Thermostat	
Start to Open-°F(°C).....	180(82)
Fully Open-°F(°C).....	197(92)
Maximum Water Pump Inlet	
Restriction-In Hg(kPa).....	0
Engine Coolant Capacity-qt(L).....	23(21.8)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C).....	210(99)
Minimum Top Tank Temperature-°F(°C).....	170(77)
Minimum Coolant Fill Rate-gal/min(L/min).....	3.0(11.4)
Cooling Index	
Minimum Air to Boil-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(55.6)
Ram Air Flow - Mile/hr(km/hr).....	15(24)
Deaeration-Air Injection	
Capacity-ft ³ /min(m ³ /min).....	0.6(0.017)
Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever is Larger)-qt(L).....	4.0(3.8)

Air System

Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C).....	30(16.7)
Air Intake Restriction Maximum Limit	
Dirty Air Cleaner-In H ₂ O(kPa).....	20(5.0)
Clean Air Cleaner-lb H ₂ O(kPa).....	12(3.0)
Engine Air Flow - ft ³ /min(m ³ /min).....	720(20.4)
Engine Air Box/Manifold Pressure-In Hg(kPa).....	35.7(120.6)
Recommended Intake Pipe Dia.-In(mm).....	6.0(152)

Exhaust System

Exhaust Flow-ft ³ /min(m ³ /min).....	1500(42.5)
Exhaust Temperature-°F(°C).....	660(349)
Maximum Allowable Back Pressure-In Hg(kPa).....	2.0(6.8)
Recommended Exhaust Pipe Dia.	
Single-In(mm).....	5.0(127)
Dual-In(mm).....	NOT APPLICABLE
Exhaust Brake Max. Allowable Back Pressure-In Hg(kPa).....	NOT APPLICABLE

Electrical System

Recommended Battery Capacity(CCA @ 0°F)

12 Volt System	
Above 32°F(0°C)-A.....	950
Below 32°F(0°C)-A.....	1250
24 Volt System	
Above 32°F(0°C)-A.....	475
Below 32°F(0°C)-A.....	625
Maximum Allowable Resistance of Starting Circuit	
12 volt system - ohm.....	0.0012
24 volt system - ohm.....	0.002

Performance Data

Power Output-bhp(kW).....	240(179)
Full Load Speed-r/min.....	1900
Peak Torque-lb ft(N m).....	845(1146)
Peak Torque Speed-r/min.....	1200
BMEP-lbf/in ² (kPa).....	117.5(810)
Friction Power	
Rated Speed-bhp(kW).....	56(42)
Peak Torque Speed-bhp(kW).....	26(19)
Altitude Capability-ft(m).....	10500(3200)
Torque Available at 800 r/min-lb ft (N m).....	620(841)

Engine

Speed r/min	Power bhp(kW)	Torque lb ft(N m)	BSEC lb/bhp hr (g/kW hr)
1900	240(179)	663(899)	.350(213)
1800	240(179)	700(949)	.349(212)
1600	240(179)	788(1068)	.347(211)
1400	224(167)	840(1139)	.347(211)
1200	193(144)	845(1146)	.354(215)
1000	160(119)	840(1139)	.370(225)

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

Curve No. E4-1067-32-85
Date: 5-10-85
Rev./Date:
Sht. 2 of 2



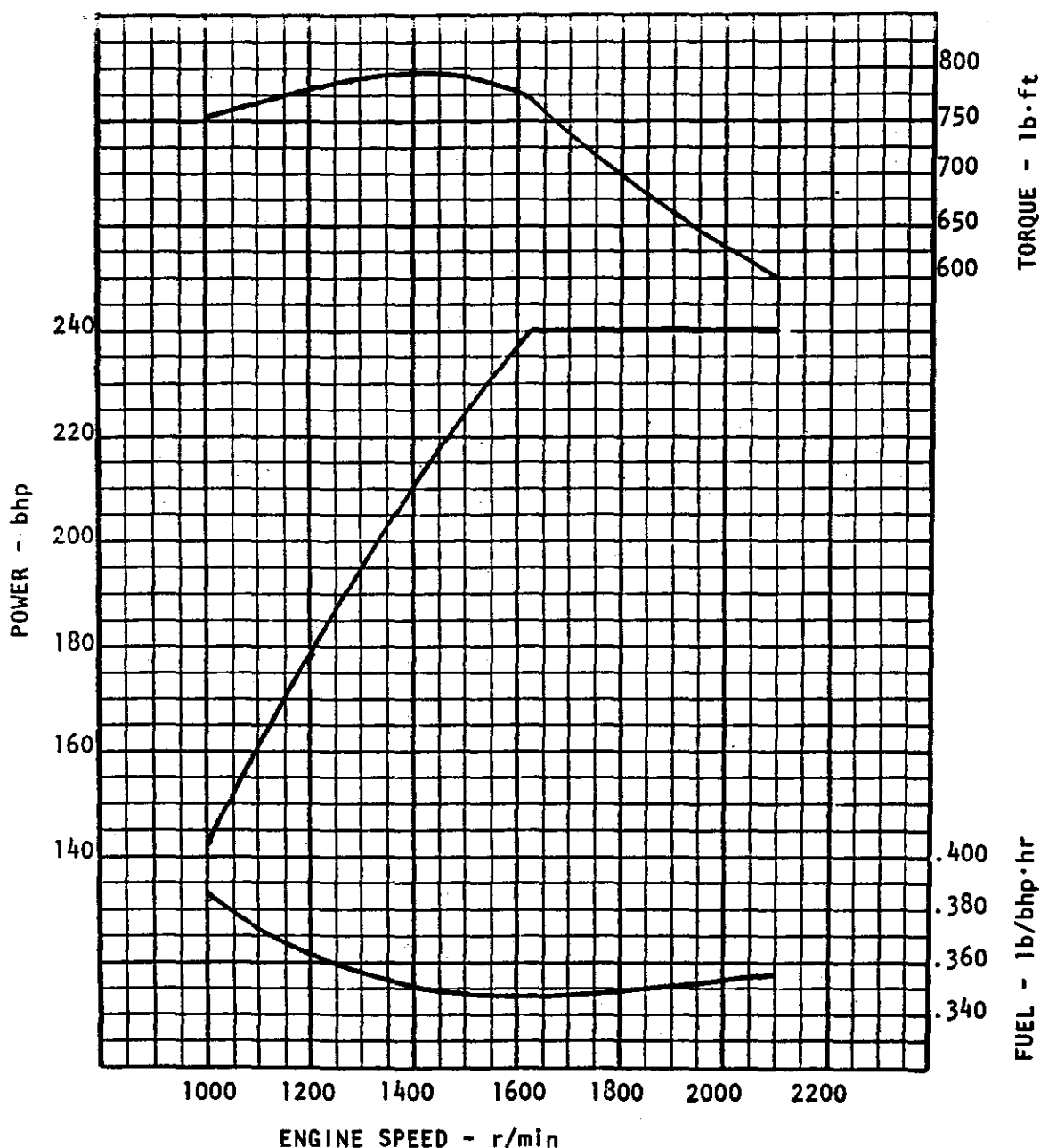
ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

APPLICATION: AUTOMOTIVE

CERTIFICATION: FEDERAL 1985

MODEL: 6-71TTA
240 bhp @ 2100 r/min
792 lb·ft @ 1400 r/min



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 × 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:

[Signature]

STAFF ENGINEER

CURVE NO.

E4-1067-32-47

DATE: 8-11-84

REV./DATE: 2/1-29-85

SHT. 1 OF 2

ENGINE SPECIFICATION DATA

General Data

Model.....	1067-8940
Number of Cylinders.....	6
Bore and Stroke-In(mm).....	4.25x5.00(108x127)
Displacement-In ³ (L).....	426(6.9)
Compression Ratio.....	18.7:1
Piston Speed-ft/min(m/min).....	1750(533)
Valves Per Cylinder.....	
Intake.....	NOT APPLICABLE
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	INLINE-2 CYCLE
Aspiration.....	TURBOCHARGED

Configuration

Turbocharger.....	54H-005(0.99 A/R)
Charge Air Cooling System.....	JWAC
Blower Type.....	BY-PASS
Blower Drive Ratio.....	1.65:1
Low Idle Speed-r/min.....	500
High Idle Speed-r/min.....	2250
Thrust Bearing Load Limit.....	
Continuous-lbf(N).....	400(1780)
Intermittent-lbf(N).....	1200(5340)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-In H ₂ O(kPa).....	1.9(0.47)

Physical Data

Size.....	
Length-In(mm).....	56.0(1421)
Width-In(mm).....	31.9(809)
Height-In(mm).....	32.0(1321)
Weight, dry-lb(kg).....	2195(996)
Center of Gravity Distance.....	
From R.F.O.B. (x axis)-In(mm).....	20.5(521)
Above Crankshaft (y axis)-In(mm).....	5.1(130)
Right of Crankshaft (z axis)-In(mm).....	-1.5(38)
Installation Drawing.....	NOT AVAILABLE
Maximum Allowable Static Bending Moment at Rear Face of FW Hsg-lbf ft(N m).....	600(814)

Fuel System

Fuel Injector/Timing.....	7E75/1.490
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	85.4(38.7)
Fuel Consumption-gal/hr(L/hr).....	12.2(46.2)
Fuel Spill Rate-lb/hr(kg/hr).....	503.3(228.3)
Fuel Spill Rate-gal/hr(L/hr).....	72(272.5)
Total Fuel Flow-lb/hr(kg/hr).....	588.7(267.0)
Total Fuel Flow-gal/hr(L/hr).....	84.2(318.8)
Maximum Allowable Fuel Pump Suction.....	
Clean System-In Hg(kPa).....	6(20)
Dirty System-In Hg(kPa).....	12(41)
Fuel Filter Micron Size.....	
Primary - Micron.....	30
Secondary - Micron.....	10

Lubrication System

Oil Pressure.....	
Rated Speed-lbf/in ² (kPa).....	55(379)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-235(93-113)
Oil Flow-gal/min(L/min).....	28(106)
Oil Pan Capacity.....	
High-qt(L).....	22(20.8)
Low-qt(L).....	18(17.0)
Total Engine Oil Capacity with filters-qt(L).....	24(22.7)
Bypass Oil Filter Orifice-In(mm).....	0.101(2.57)
Engine Angularity Limits.....	
Front up - degrees.....	24
Front down - degrees.....	14
Side tilt - degrees.....	NOT AVAILABLE

Emission Data

CO-gm/hr.....	NOT AVAILABLE
HC-gm/hr.....	NOT AVAILABLE
NO _x -gm/hr.....	NOT AVAILABLE
SO ₂ -gm/hr.....	390
Socks.....	
Rated Speed - Bosch Number.....	NOT AVAILABLE
Peak Torque Speed - Bosch Number.....	NOT AVAILABLE
Noise - dB(A) @ 1m.....	NOT AVAILABLE
Certification Approval.....	FEDERAL 1985

Cooling System

Engine Heat Rejection-Btu/min(kW).....	6700(117.8)
Engine Radiated Heat-Btu/min(kW).....	1120(19.7)
Coolant Flow-gal/min(L/min).....	79(299)
Thermostat.....	
Start to Open-°F(°C).....	177(81)
Fully Open-°F(°C).....	197(92)
Maximum Water Pump Inlet.....	
Restriction-In Hg(kPa).....	0
Engine Coolant Capacity-qt(L).....	23(21.8)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C).....	210(99)
Minimum Top Tank Temperature-°F(°C).....	160(71)
Minimum Coolant Fill Rate-gal/min(L/min).....	3.0(11.4)
Cooling Index.....	
Minimum Air to Boil-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(55.6)
Ram Air Flow - Mile/hr(km/hr).....	15(24)
Deaeration-Air Injection.....	
Capacity-ft ³ /min(m ³ /min).....	0.6(0.017)
Drawdown - Minimum Requirement for 10% of Cooling System Capacity-Whichever is Larger-qt(L).....	4.0(3.8)

Air System

Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C).....	30(16.7)
Air Intake Restriction Maximum Limit.....	
Dirty Air Cleaner-In H ₂ O(kPa).....	20(5.0)
Clean Air Cleaner-In H ₂ O(kPa).....	12(3.0)
Engine Air Flow - ft ³ /min(m ³ /min).....	750(21.2)
Engine Air Box/Manifold Pressure-In Hg(kPa).....	35.0(118.2)
Recommended Intake Pipe Dia.-In(mm).....	6.0(152)

Exhaust System

Exhaust Flow-ft ³ /min(m ³ /min).....	1640(46.4)
Exhaust Temperature-°F(°C).....	680(360)
Maximum Allowable Back Pressure-In Hg(kPa).....	2.5(8.4)
Recommended Exhaust Pipe Dia.....	
Single-In(mm).....	5.0(127)
Dual-In(mm).....	NOT APPLICABLE
Exhaust Brake Max. Allowable Back Pressure-In Hg(kPa).....	NOT APPLICABLE

Electrical System

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

Performance Data

Power Output-bhp(kW).....	240(179)
Full Load Speed-r/min.....	2100
Peak Torque-lb ft(N m).....	792(1074)
Peak Torque Speed-r/min.....	1400
BMEP-lbf/in ² (kPa).....	141.7(977)
Friction Power.....	
Rated Speed-bhp(kW).....	56(42)
Peak Torque Speed-bhp(kW).....	34(25)
Altitude Capability-ft(m).....	10500(3200)
Torque Available at 800 r/min-lb ft (N m).....	620(841)

Engine

Speed r/min	Power bhp(kW)	Torque lb ft(N m)	BSEC lb/bhp hr (g/kW hr)
2100	240(179)	600 (813)	.356(217)
2000	240(179)	630 (854)	.353(215)
1800	240(179)	700 (949)	.349(212)
1600	237(176)	779(1056)	.347(211)
1400	211(157)	792(1074)	.350(212)
1200	178(133)	780(1058)	.364(221)
1000	143(107)	753(1021)	.386(235)

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

Curve No. E4-1067-32-47
Date: 8-11-84
Rev./Date: 2/1-29-85
Sht. 2 of 2



ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

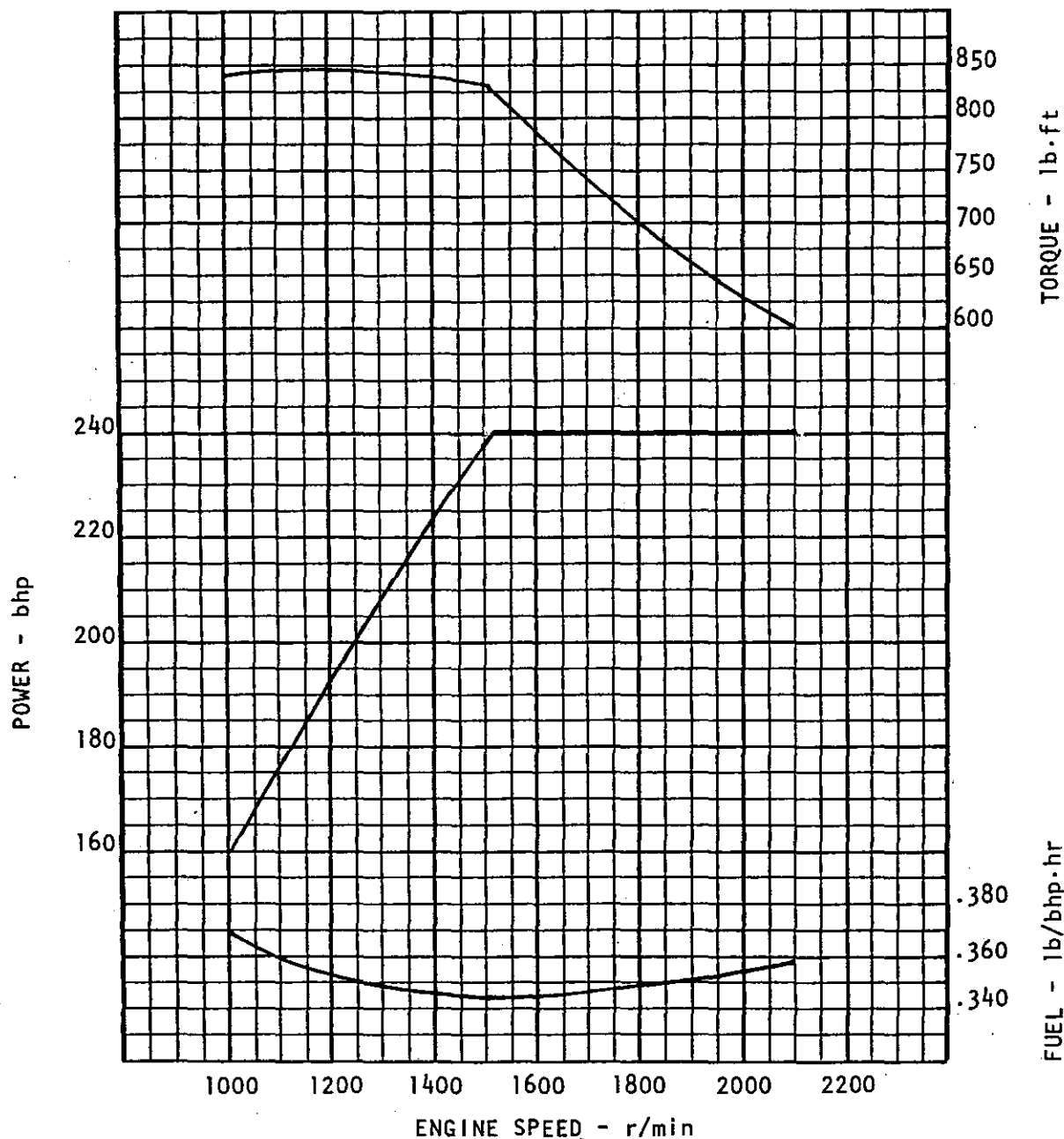
APPLICATION: AUTOMOTIVE

CERTIFICATION: FEDERAL 1985

MODEL: 6-71TTA

240 bhp @ 2100 r/min

845 lb·ft @ 1200 r/min



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:

STAFF ENGINEER

CURVE NO.
E4-1067-32-84
DATE: 5-10-85
REV./DATE:
SHT. 1 OF 2

ENGINE SPECIFICATION DATA

General Data

Model.....	1067-8940
Number of Cylinders.....	6
Bore and Stroke-in(mm).....	4.25x5.00(108x127)
Displacement-in ³ (L).....	426(6.9)
Compression Ratio.....	18.7:1
Piston Speed-ft/min(m/min).....	1750(533)
Valves Per Cylinder	
Intake.....	NOT APPLICABLE
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	INLINE-2 CYCLE
Aspiration.....	TURBOCHARGED

Configuration

Turbocharger.....	54H-005(0.99 A/R)
Charge Air Cooling System.....	JWAC
Blower Type.....	BY-PASS
Blower Drive Ratio.....	1.65:1
Low Idle Speed-r/min.....	500
High Idle Speed-r/min.....	2250
Thrust Bearing Load Limit	
Continuous-lbf(N).....	400(1780)
Intermittent-lbf(N).....	1200(5340)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-in H ₂ O(kPa).....	1.9(0.47)

Physical Data

Size	
Length-in(mm).....	56.0(1421)
Width-in(mm).....	31.9(809)
Height-in(mm).....	52.0(1321)
Weight, dry-lb(kg).....	2195(996)
Center of Gravity Distance	
From R.F.O.B. (x axis)-in(mm).....	20.5(521)
Above Crankshaft (y axis)-in(mm).....	5.1(130)
Right of Crankshaft (z axis)-in(mm).....	-1.5(38)
Installation Drawing.....	NOT AVAILABLE
Maximum Allowable Static Bending Moment at Rear Face of FW Hsg-lbf ft(N m)....	600(814)

Fuel System

Fuel Injector/Timing.....	7A77/1.490
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	84.8(38.5)
Fuel Consumption-gal/hr(L/hr).....	12.1(45.9)
Fuel Spill Rate-lb/hr(kg/hr).....	754.9(342.4)
Fuel Spill Rate-gal/hr(L/hr).....	108(408.8)
Total Fuel Flow-lb/hr(kg/hr).....	839.7(380.9)
Total Fuel Flow-gal/hr(L/hr).....	120.2(454.7)
Maximum Allowable Fuel Pump Suction	
Clean System-in Hg(kPa).....	6(20)
Dirty System-in Hg(kPa).....	12(41)
Fuel Filter Micron Size	
Primary - Micron.....	30
Secondary - Micron.....	10

Lubrication System

Oil Pressure	
Rated Speed-lbf/in ² (kPa).....	55(379)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-235(93-113)
Oil Flow-gal/min(L/min).....	28(106)
Oil Pan Capacity	
High-qt(L).....	22(20.8)
Low-qt(L).....	18(17.0)
Total Engine Oil Capacity with filters-qt(L).....	24(22.7)
Bypass Oil Filter Orifice-in(mm).....	0.101(2.57)
Engine Angularity Limits	
Front up - degrees.....	24
Front down - degrees.....	14
Side tilt - degrees.....	NOT AVAILABLE

Emission Data

Noise - dB(A) @ 1m.....	99.2
Certification Approval.....	FEDERAL 1985

Cooling System

Engine Heat Rejection-Btu/min(kW).....	6710(117.8)
Engine Radiated Heat-Btu/min(kW).....	1120(19.6)
Coolant Flow-gal/min(L/min).....	79(299)
Thermostat	
Start to Open-°F(°C).....	180(82)
Fully Open-°F(°C).....	197(92)
Maximum Water Pump Inlet Restriction-in Hg(kPa).....	0
Engine Coolant Capacity-qt(L).....	23(21.8)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C).....	210(99)
Minimum Top Tank Temperature-°F(°C).....	170(77)
Minimum Coolant Fill Rate-gal/min(L/min).....	3.0(11.4)
Cooling Index	
Minimum Air to Boil-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(55.6)
Ram Air Flow - Mile/hr(km/hr).....	15(24)
Deaeration-Air Injection	
Capacity-ft ³ /min(m ³ /min).....	0.6(0.017)
Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever is Larger)-qt(L).....	4.0(3.8)

Air System

Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C).....	30(16.7)
Air Intake Restriction Maximum Limit	
Dirty Air Cleaner-in H ₂ O(kPa).....	20(5.0)
Clean Air Cleaner-in H ₂ O(kPa).....	12(3.0)
Engine Air Flow - ft ³ /min(m ³ /min).....	730(20.7)
Engine Air Box/Manifold Pressure-in Hg(kPa).....	36.5(123.3)
Recommended Intake Pipe Dia.-in(mm).....	6.0(152)

Exhaust System

Exhaust Flow-ft ³ /min(m ³ /min).....	1520(43.0)
Exhaust Temperature-°F(°C).....	660(349)
Maximum Allowable Back Pressure-in Hg(kPa).....	2.5(8.4)
Recommended Exhaust Pipe Dia.	
Single-in(mm).....	5.0(127)
Dual-in(mm).....	NOT APPLICABLE
Exhaust Brake Max. Allowable Back Pressure-in Hg(kPa).....	NOT APPLICABLE

Electrical System

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

Performance Data

Power Output-bhp(kW).....	240(179)
Full Load Speed-r/min.....	2100
Peak Torque-lb ft(N m).....	845(1146)
Peak Torque Speed-r/min.....	1200
BMEP-lbf/in ² (kPa).....	106.3(733)
Friction Power	
Rated Speed-bhp(kW).....	56(42)
Peak Torque Speed-bhp(kW).....	26(19)
Altitude Capability-ft(m).....	10500(3200)
Torque Available at 800 r/min-lb ft (N m).....	620(841)

Engine

Speed r/min	Power bhp(kW)	Torque lb ft(N m)	BSEC lb/bhp hr (g/kW hr)
2100	240(179)	600(813)	.358(218)
2000	240(179)	630(854)	.354(215)
1800	240(179)	700(949)	.349(212)
1600	240(179)	788(1068)	.347(211)
1400	224(167)	840(1139)	.347(211)
1200	193(144)	845(1146)	.354(215)
1000	160(119)	840(1139)	.370(225)

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

Curve No. E4-1067-32-84
Date: 5-10-85
Rev./Date:
Sht. 2 of 2



ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

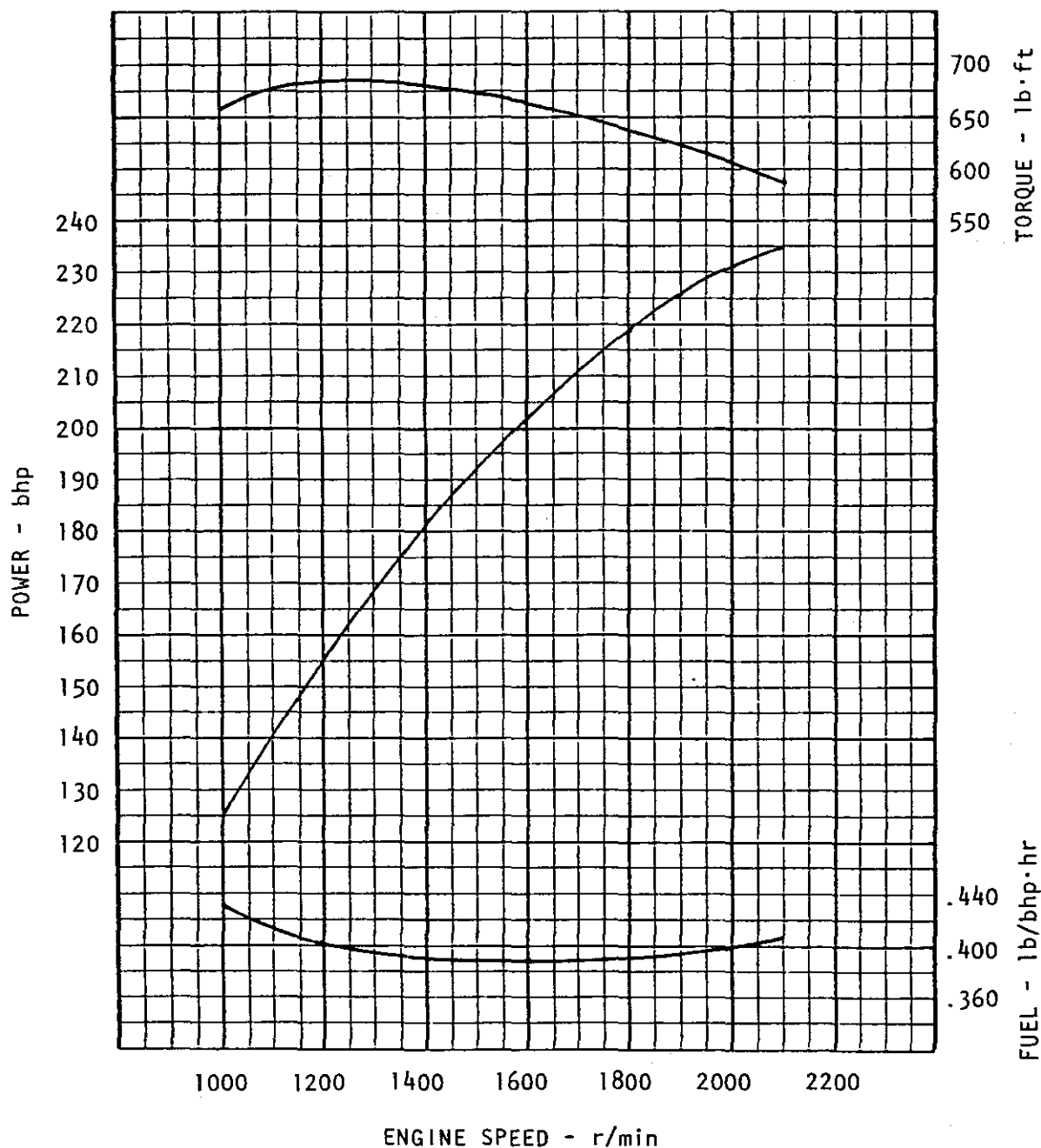
APPLICATION: AUTOMOTIVE

CERTIFICATION: CALIFORNIA 1984-85

MODEL: 6-71TAC

235 bhp @ 2100 r/min

685 lb·ft @ 1200 r/min



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

EXHAUST RESTRICTION - 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:

Peter L. Braden

1-25-84

STAFF ENGINEER

CURVE NO.

E4-1067-32-22

DATE: 1-13-84

REV./DATE: 1/8-14-85

SHT. 1 OF 2

General Data	
Model.....	1067-8640
Number of Cylinders.....	6
Bore and Stroke-in(mm).....	4.25x5.00(108x127)
Displacement-in ³ (L).....	426(6.9)
Compression Ratio.....	18.7:1
Piston Speed-ft/min(m/min).....	1750(533)
Valves Per Cylinder	
Intake.....	NOT APPLICABLE
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	INLINE-2 CYCLE
Aspiration.....	TURBOCHARGED

Configuration	
Turbocharger.....	TV6141(1.39 A/R)
Charge Air Cooling System.....	NONE
Blower Type.....	STANDARD
Blower Drive Ratio.....	1.51:1
Low Idle Speed-r/min.....	700
High Idle Speed-r/min.....	2275
Thrust Bearing Load Limit	
Continuous-lbf(N).....	400(1780)
Intermittent-lbf(N).....	1200(5340)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-in H ₂ O(kPa).....	1.9(0.47)

Physical Data	
Size	
Length-in(mm).....	56.0(1421)
Width-in(mm).....	31.9(809)
Height-in(mm).....	52.0(1321)
Weight, dry-lb(kg).....	2195(996)
Center of Gravity Distance	
From R.F.O.B. (x axis)-in(mm).....	20.5(521)
Above Crankshaft (y axis)-in(mm).....	5.1(130)
Right of Crankshaft (z axis)-in(mm).....	-1.5(38)
Installation Drawing.....	8923577
Maximum Allowable Static Bending Moment at Rear Face of FW Hsg-lbf ft(N m)....	600(814)

Fuel System	
Fuel Injector/Timing.....	7G65/1.480
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	97.6(44.3)
Fuel Consumption-gal/hr(L/hr).....	14.0(52.9)
Fuel Spill Rate-lb/hr(kg/hr).....	503.3(228.3)
Fuel Spill Rate-gal/hr(L/hr).....	72(272.5)
Total Fuel Flow-lb/hr(kg/hr).....	600.9(272.6)
Total Fuel Flow-gal/hr(L/hr).....	86.0(325.4)
Maximum Allowable Fuel Pump Suction	
Clean System-in Hg(kPa).....	6(20)
Dirty System-in Hg(kPa).....	12(41)
Fuel Filter Micron Size	
Primary - Micron.....	30
Secondary - Micron.....	10

Lubrication System	
Oil Pressure	
Rated Speed-lbf/in ² (kPa).....	55(379)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-235(93-113)
Oil Flow-gal/min(L/min).....	32(121)
Oil Pan Capacity	
High-qt(L).....	22(20.8)
Low-qt(L).....	18(17.0)
Total Engine Oil Capacity with filters-qt(L).....	24(22.7)
Bypass Oil Filter Orifice-in(mm).....	0.101(2.57)
Engine Angularity Limits	
Front up - degrees.....	24
Front down - degrees.....	14
Side tilt - degrees.....	NOT AVAILABLE

Emission Data	
CO-gm/hr.....	390
HC-gm/hr.....	80
NO _x -gm/hr.....	940
SO ₂ -gm/hr.....	440
Smoke	
Rated Speed - Bosch Number.....	1.6
Peak Torque Speed - Bosch Number.....	4.9
Noise - dB(A) @ 1m.....	101
Certification Approval.....	CALIFORNIA 1984-85

Cooling System	
Engine Heat Rejection-Btu/min(kW).....	7700(135.4)
Engine Radiated Heat-Btu/min(kW).....	1300(22.9)
Coolant Flow-gal/min(L/min).....	79(299)
Thermostat	
Start to Open-°F(°C).....	177(81)
Fully Open-°F(°C).....	197(92)
Maximum Water Pump Inlet	
Restriction-in Hg(kPa).....	0
Engine Coolant Capacity-qt(L).....	23(21.8)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C)....	210(99)
Minimum Top Tank Temperature-°F(°C)....	160(71)
Minimum Coolant Fill Rate-gal/min(L/min).....	3.0(11.4)
Cooling Index	
Minimum Air to Boil-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(55.6)
Ram Air Flow - Mile/hr(km/hr).....	15(24)
Deaeration-Air Injection	
Capacity-ft ³ /min(m ³ /min).....	0.6(0.017)
Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever is Larger)-qt(L).....	4.0(3.8)

Air System	
Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C)....	30(16.7)
Air Intake Restriction Maximum Limit	
Dirty Air Cleaner-in H ₂ O(kPa).....	20(5.0)
Clean Air Cleaner-in H ₂ O(kPa).....	12(3.0)
Engine Air Flow - ft ³ /min(m ³ /min).....	870(24.6)
Engine Air Box/Manifold Pressure-in Hg(kPa).....	39.7(134)
Recommended Intake Pipe Dia.-in(mm)....	6.0(152)

Exhaust System	
Exhaust Flow-ft ³ /min(m ³ /min).....	1940(55)
Exhaust Temperature-°F(°C).....	740(393)
Maximum Allowable Back Pressure-in Hg(kPa).....	3.0(10.2)
Recommended Exhaust Pipe Dia.	
Single-in(mm).....	5.0(127)
Dual-in(mm).....	NOT APPLICABLE
Exhaust Brake Max. Allowable Back Pressure-in Hg(kPa).....	NOT APPLICABLE

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

Performance Data	
Power Output-bhp(kW).....	235(175)
Full Load Speed-r/min.....	2100
Peak Torque-lb ft(N m).....	685(929)
Peak Torque Speed-r/min.....	1200
BMEP-lbf/in ² (kPa).....	104.2(718)
Friction Power	
Rated Speed-fhp(kW).....	64(48)
Peak Torque Speed-fhp(kW).....	26(19)
Altitude Capability-ft(m).....	16000(4880)
Torque Available at 800 r/min-lb ft (N m).....	570(773)

Engine			
Speed	Power	Torque	BSFC
r/min	bhp(kW)	lb ft(N m)	lb/bhp hr (g/kW hr)
2100	235(175)	588(797)	.408(248)
2000	231(172)	607(823)	.400(243)
1800	218(163)	636(862)	.392(238)
1600	202(151)	663(899)	.388(236)
1400	182(136)	682(925)	.389(237)
1200	157(117)	685(929)	.400(243)
1000	125 (93)	657(891)	.430(262)

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

Curve No. E4-1067-32-22
Date: 1-13-84
Rev./Date: 1/8-14-85
Sht. 2 of 2



ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

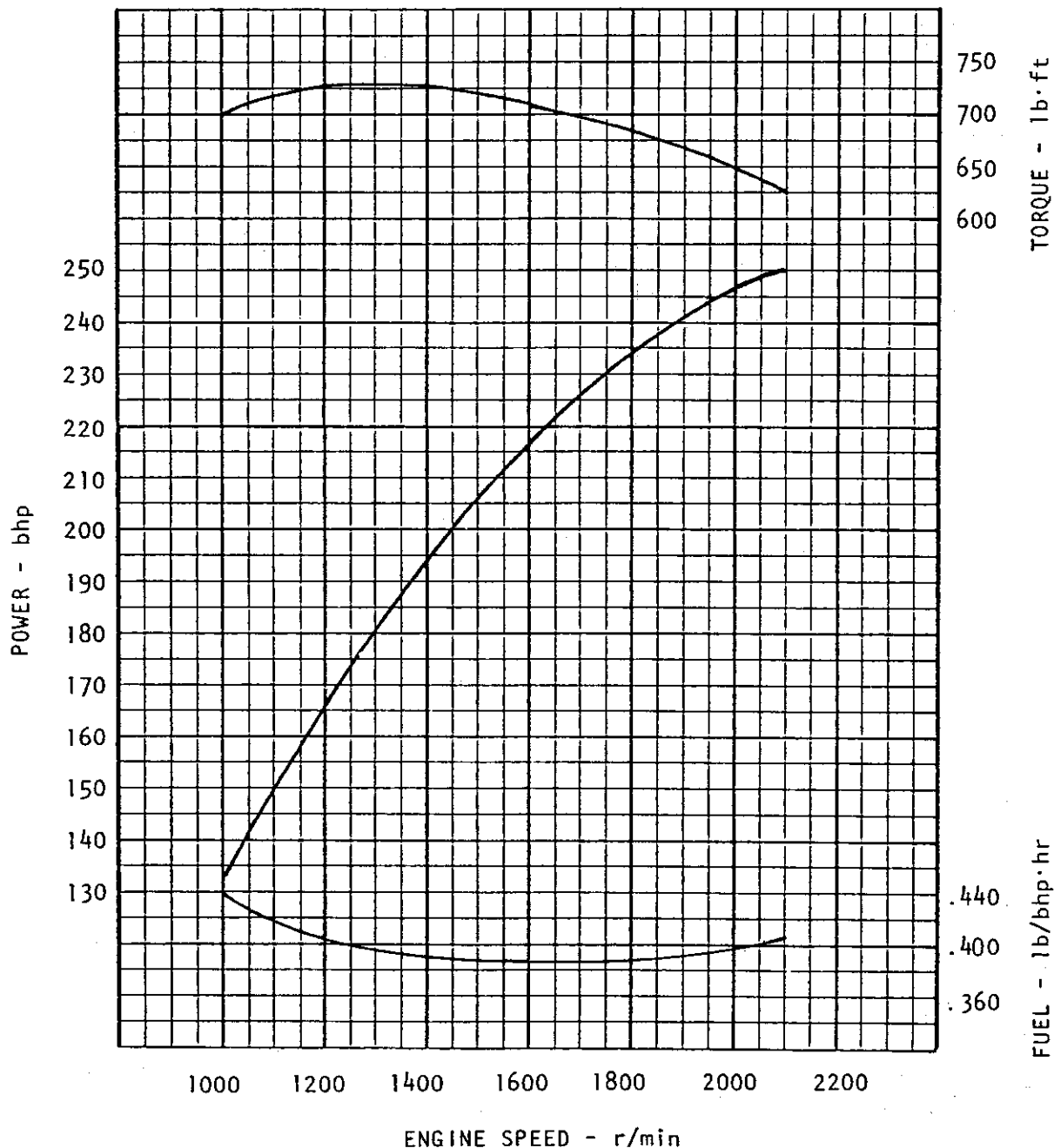
APPLICATION: AUTOMOTIVE

CERTIFICATION: CALIFORNIA 1984-85

MODEL: 6-71TAC

250 bhp @ 2100 r/min

729 lb·ft @ 1200 r/min



AIR INTAKE RESTRICTION - in. H₂O (kPa) . . . 10 (2.5)
EXHAUST RESTRICTION - 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:

Peter L. Brodeur

1-25-84

STAFF ENGINEER

CURVE NO.

E4-1067-32-21

DATE: 1-13-84

REV./DATE: 1/8-14-85

SHT. 1 OF 2

General Data	
Model.....	1067-8640
Number of Cylinders.....	6
Bore and Stroke-in(mm).....	4.25x5.00(108x127)
Displacement-in ³ (L).....	426(6.9)
Compression Ratio.....	18.7:1
Piston Speed-ft/min(m/min).....	1750(533)
Valves Per Cylinder	
Intake.....	NOT APPLICABLE
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	INLINE-2 CYCLE
Aspiration.....	TURBOCHARGED
Configuration	
Turbocharger.....	TV6141(1.39 A/R)
Charge Air Cooling System.....	NONE
Blower Type.....	STANDARD
Blower Drive Ratio.....	1.51:1
Low Idle Speed-r/min.....	700
High Idle Speed-r/min.....	2275
Thrust Bearing Load Limit	
Continuous-lbf(N).....	400(1780)
Intermittent-lbf(N).....	1200(5340)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-in H ₂ O(kPa).....	1.9(0.47)
Physical Data	
Size	
Length-in(mm).....	56.0(1421)
Width-in(mm).....	31.9(809)
Height-in(mm).....	52.0(1321)
Weight, dry-lb(kg).....	2195(996)
Center of Gravity Distance	
From R.F.O.B. (z axis)-in(mm).....	20.5(521)
Above Crankshaft (y axis)-in(mm).....	5.1(130)
Right of Crankshaft (z axis)-in(mm).....	-1.5(38)
Installation Drawing.....	8923577
Maximum Allowable Static Bending Moment at Rear Face of PW Hsg-lbf ft(N m)....	600(814)
Fuel System	
Fuel Injector/Timing.....	7G70/1.480
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	104.2(47.3)
Fuel Consumption-gal/hr(L/hr).....	14.9(56.4)
Fuel Spill Rate-lb/hr(kg/hr).....	503.3(228.3)
Fuel Spill Rate-gal/hr(L/hr).....	72(272.5)
Total Fuel Flow-lb/hr(kg/hr).....	607.5(275.6)
Total Fuel Flow-gal/hr(L/hr).....	86.9(328.9)
Maximum Allowable Fuel Pump Suction	
Clean System-in Hg(kPa).....	6(20)
Dirty System-in Hg(kPa).....	12(41)
Fuel Filter Micron Size	
Primary - Micron.....	30
Secondary - Micron.....	10
Lubrication System	
Oil Pressure	
Rated Speed-lbf/in ² (kPa).....	55(379)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-235(93-113)
Oil Flow-gal/min(L/min).....	32(121)
Oil Pan Capacity	
High-qt(L).....	22(20.8)
Low-qt(L).....	18(17.0)
Total Engine Oil Capacity with filters-qt(L).....	24(22.7)
Bypass Oil Filter Orifice-in(mm).....	0.101(2.57)
Engine Angularity Limits	
Front up - degrees.....	24
Front down - degrees.....	14
Side tilt - degrees.....	NOT AVAILABLE
Emission Data	
CO-gm/hr.....	430
HC-gm/hr.....	77
NO _x -gm/hr.....	1010
SO ₂ -gm/hr.....	470
Smoke	
Rated Speed - Bosch Number.....	1.5
Peak Torque Speed - Bosch Number.....	4.7
Noise - dB(A) @ 1m.....	101
Certification Approval.....	CALIFORNIA 1984-85

Cooling System	
Engine Heat Rejection-Btu/min(kW).....	8185(143.9)
Engine Radiated Heat-Btu/min(kW).....	1390(24.4)
Coolant Flow-gal/min(L/min).....	79(299)
Thermostat	
Start to Open-°F(°C).....	177(81)
Fully Open-°F(°C).....	197(92)
Maximum Water Pump Inlet	
Restriction-in Hg(kPa).....	0
Engine Coolant Capacity-qt(L).....	23(21.8)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C).....	210(99)
Minimum Top Tank Temperature-°F(°C).....	160(71)
Minimum Coolant Fill Rate-gal/min(L/min).....	3.0(11.4)
Cooling Index	
Minimum Air to Boil-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(55.6)
Raw Air Flow - Mile/hr(km/hr).....	15(24)
Deseration-Air Injection	
Capacity-ft ³ /min(m ³ /min).....	0.6(0.017)
Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever is Larger)-qt(L).....	4.0(3.8)
Air System	
Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C)...	30(16.7)
Air Intake Restriction Maximum Limit	
Dirty Air Cleaner-in H ₂ O(kPa).....	20(5.0)
Clean Air Cleaner-in H ₂ O(kPa).....	12(3.0)
Engine Air Flow - ft ³ /min(m ³ /min).....	890(25.2)
Engine Air Box/Manifold Pressure-in Hg(kPa).....	42.0(141.8)
Recommended Intake Pipe Dia.-in(mm)....	6.0(152)
Exhaust System	
Exhaust Flow-ft ³ /min(m ³ /min).....	2020(57)
Exhaust Temperature-°F(°C).....	760(404)
Maximum Allowable Back	
Pressure-in Hg(kPa).....	3.0(10.2)
Recommended Exhaust Pipe Dia.	
Single-in(mm).....	5.0(127)
Dual-in(mm).....	NOT APPLICABLE
Exhaust Brake Max. Allowable Back	
Pressure-in Hg(kPa).....	NOT APPLICABLE
Electrical System	
Recommended Battery Capacity(CCA @ 0°F)	
12 Volt System	
Above 32°F(0°C)-A.....	950
Below 32°F(0°C)-A.....	1250
24 Volt System	
Above 32°F(0°C)-A.....	475
Below 32°F(0°C)-A.....	625
Maximum Allowable Resistance of	
Starting Circuit	
12 volt system - ohm.....	0.0012
24 volt system - ohm.....	0.002
Performance Data	
Power Output-bhp(kW).....	250(187)
Full Load Speed-r/min.....	2100
Peak Torque-lb ft(N m).....	729(988)
Peak Torque Speed-r/min.....	1200
BMEP-lbf/in ² (kPa).....	110.8(764)
Friction Power	
Rated Speed-fhp(kW).....	64(48)
Peak Torque Speed-fhp(kW).....	26(19)
Altitude Capability-ft(m).....	16000(4880)
Torque Available at 800 r/min-lb ft (N m).....	570(773)

Engine			
Speed	Power	Torque	BSFC
r/min	bhp(kW)	lb ft(N m)	lb/bhp hr (g/kW hr)
2100	250(187)	625(847)	.406(247)
2000	247(184)	649(880)	.398(242)
1800	234(175)	683(926)	.389(237)
1600	216(161)	709(961)	.387(235)
1400	194(145)	728(987)	.389(237)
1200	167(125)	729(988)	.403(245)
1000	133 (99)	700(949)	.436(265)

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

Curve No. E4-1067-32-21
Date: 1-13-84
Rev./Date: 1/8-14-85
Sht. 2 of 2



ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

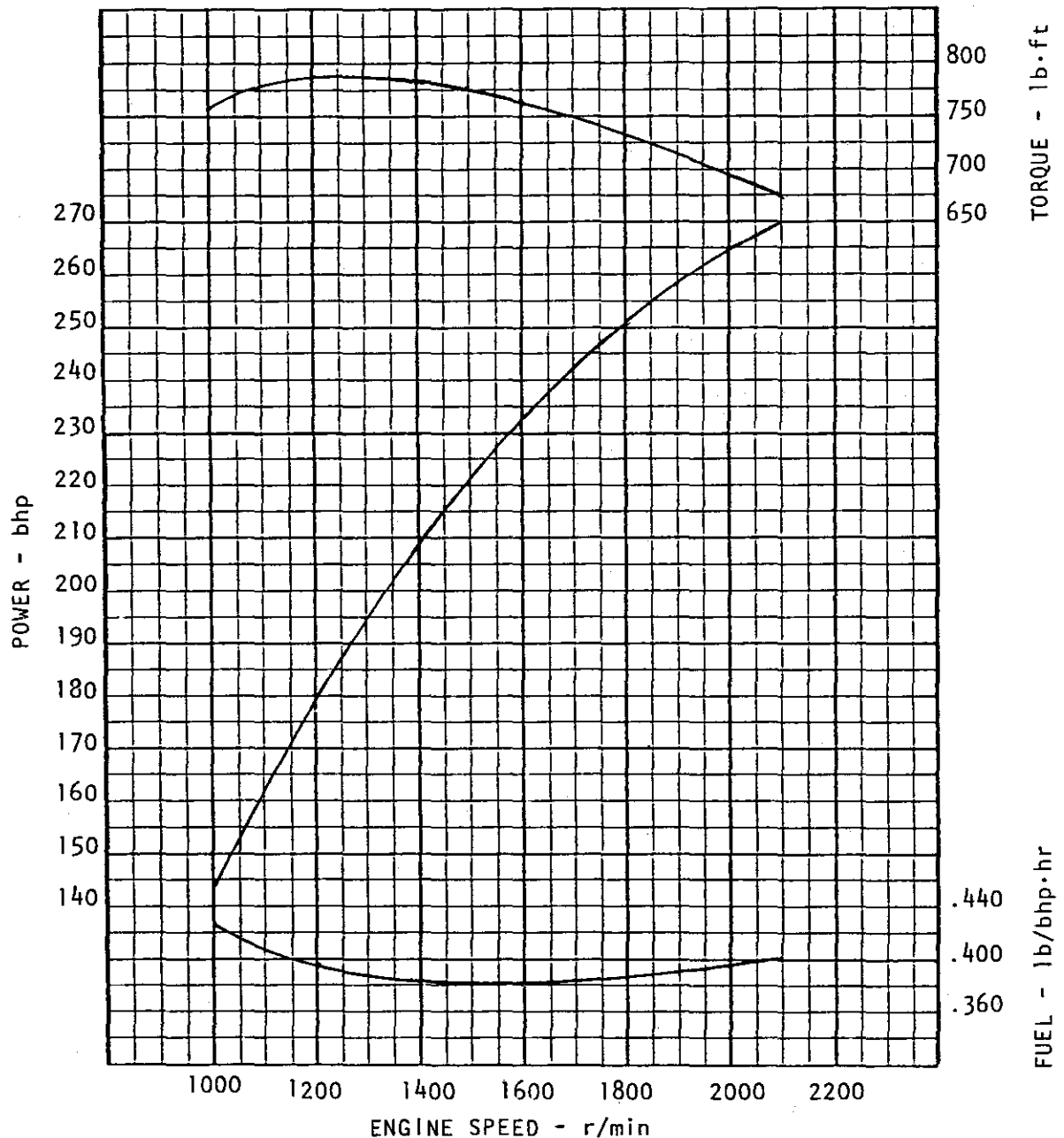
APPLICATION: AUTOMOTIVE

CERTIFICATION: CALIFORNIA 1984-85

MODEL: 6-71TAC

270 bhp @ 2100 r/min

788 lb-ft @ 1200 r/min



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

EXHAUST RESTRICTION - 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:

Peter Perola

STAFF ENGINEER

CURVE NO.

E4-1067-32-20

DATE: 1-11-84

REV./DATE: 1/8-14-85

SHT. 1 OF 2

General Data

Model.....	1067-8640
Number of Cylinders.....	6
Bore and Stroke-in(mm).....	4.25x5.00(108x127)
Displacement-in ³ (L).....	426(6.9)
Compression Ratio.....	18.7:1
Piston Speed-ft/min(m/min).....	1750(533)
Valves Per Cylinder	
Intake.....	NOT APPLICABLE
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	INLINE-2 CYCLE
Aspiration.....	TURBOCHARGED
Configuration	
Turbocharger.....	TV6141(1.39 A/R)
Charge Air Cooling System.....	NONE
Blower Type.....	STANDARD
Blower Drive Ratio.....	1.51:1
Low Idle Speed-r/min.....	700
High Idle Speed-r/min.....	2275
Thrust Bearing Load Limit	
Continuous-lbf(N).....	400(1780)
Intermittent-lbf(N).....	1200(5340)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-in H ₂ O(kPa).....	1.9(0.47)

Physical Data

Size	
Length-in(mm).....	56.0(1421)
Width-in(mm).....	31.9(809)
Height-in(mm).....	52.0(1321)
Weight, dry-lb(kg).....	2195(996)
Center of Gravity Distance	
From R.F.O.B. (x axis)-in(mm).....	20.5(521)
Above Crankshaft (y axis)-in(mm).....	5.1(130)
Right of Crankshaft (z axis)-in(mm).....	-1.5(38)
Installation Drawing.....	8923577
Maximum Allowable Static Bending Moment at Rear Face of FW Bag-lbf ft(N m).....	600(814)

Fuel System

Fuel Injector/Timing.....	7G75/1.480
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	111.7(50.7)
Fuel Consumption-gal/hr(L/hr).....	16.0(60.5)
Fuel Spill Rate-lb/hr(kg/hr).....	503.3(228.3)
Fuel Spill Rate-gal/hr(L/hr).....	72(272.5)
Total Fuel Flow-lb/hr(kg/hr).....	614.7(278.8)
Total Fuel Flow-gal/hr(L/hr).....	87.9(332.9)
Maximum Allowable Fuel Pump Suction	
Clean System-in Hg(kPa).....	6(20)
Dirty System-in Hg(kPa).....	12(41)
Fuel Filter Micron Size	
Primary - Micron.....	30
Secondary - Micron.....	10

Lubrication System

Oil Pressure	
Rated Speed-lbf/in ² (kPa).....	55(379)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-235(93-113)
Oil Flow-gal/min(L/min).....	32(121)
Oil Pan Capacity	
High-qt(L).....	22(20.8)
Low-qt(L).....	18(17.0)
Total Engine Oil Capacity with Filters-qt(L).....	
Bypass Oil Filter Orifice-in(mm).....	0.101(2.57)
Engine Angularity Limits	
Front up - degrees.....	24
Front down - degrees.....	14
Side tilt - degrees.....	NOT AVAILABLE

Emission Data

CO-gm/hr.....	510
HC-gm/hr.....	74
NO _x -gm/hr.....	1060
SO ₂ -gm/hr.....	510
Smoke	
Rated Speed - Bosch Number.....	1.5
Peak Torque Speed - Bosch Number.....	3.5
Noise - dB(A) @ 1m.....	101
Certification Approval.....	CALIFORNIA 1984-85

Cooling System

Engine Heat Rejection-Btu/min(kW).....	8750(153.9)
Engine Radiated Heat-Btu/min(kW).....	1480(26.0)
Coolant Flow-gal/min(L/min).....	79(299)
Thermostat	
Start to Open-°F(°C).....	177(81)
Fully Open-°F(°C).....	197(92)
Maximum Water Pump Inlet Restriction-in Hg(kPa).....	
Engine Coolant Capacity-qt(L).....	23(21.8)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C).....	210(99)
Minimum Top Tank Temperature-°F(°C).....	160(71)
Minimum Coolant Fill Rate- gal/min(L/min).....	3.0(11.4)
Cooling Index	
Minimum Air to Boil-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(55.6)
Ram Air Flow - Mile/hr(km/hr).....	15(24)
Desaeration-Air Injection Capacity-ft³/min(m³/min).....	
Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever is Larger)-qt(L).....	4.0(3.8)

Air System

Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C).....	
Air Intake Restriction Maximum Limit	
Dirty Air Cleaner-in H ₂ O(kPa).....	20(5.0)
Clean Air Cleaner-in H ₂ O(kPa).....	12(3.0)
Engine Air Flow - ft ³ /min(m ³ /min).....	910(25.8)
Engine Air Box/Manifold Pressure- in Hg(kPa).....	44.6(150.6)
Recommended Intake Pipe Dia.-in(mm).....	6.0(152)

Exhaust System

Exhaust Flow-ft ³ /min(m ³ /min).....	2100(59)
Exhaust Temperature-°F(°C).....	780(416)
Maximum Allowable Back Pressure-in Hg(kPa).....	
Recommended Exhaust Pipe Dia. Single-in(mm).....	5.0(127)
Dual-in(mm).....	NOT APPLICABLE
Exhaust Brake Max. Allowable Back Pressure-in Hg(kPa).....	
Pressure-in Hg(kPa).....	NOT APPLICABLE

Electrical System

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

Performance Data

Power Output-bhp(kW).....	270(201)
Full Load Speed-r/min.....	2100
Peak Torque-lb ft(N m).....	788(1068)
Peak Torque Speed-r/min.....	1200
BMEP-lbf/in ² (kPa).....	119.6(825)
Friction Power	
Rated Speed-fhp(kW).....	64(48)
Peak Torque Speed-fhp(kW).....	26(19)
Altitude Capability-ft(m).....	16000(4880)
Torque Available at 800 r/min- lb ft (N m).....	570(773)

Engine

Speed r/min	Power bhp(kW)	Torque lb ft(N m)	BSFC lb/bhp hr (g/kW hr)
2100	270(201)	675(915)	.401(244)
2000	264(197)	693(940)	.395(240)
1800	251(187)	731(991)	.386(235)
1600	233(174)	765(1037)	.381(232)
1400	209(156)	784(1063)	.384(234)
1200	180(134)	788(1068)	.396(241)
1000	144(107)	756(1025)	.427(260)

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

Curve No. E4-1067-32-20
Date: 1-11-84
Rev./Date: 1/8-14-85
Sht. 2 of 2



ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

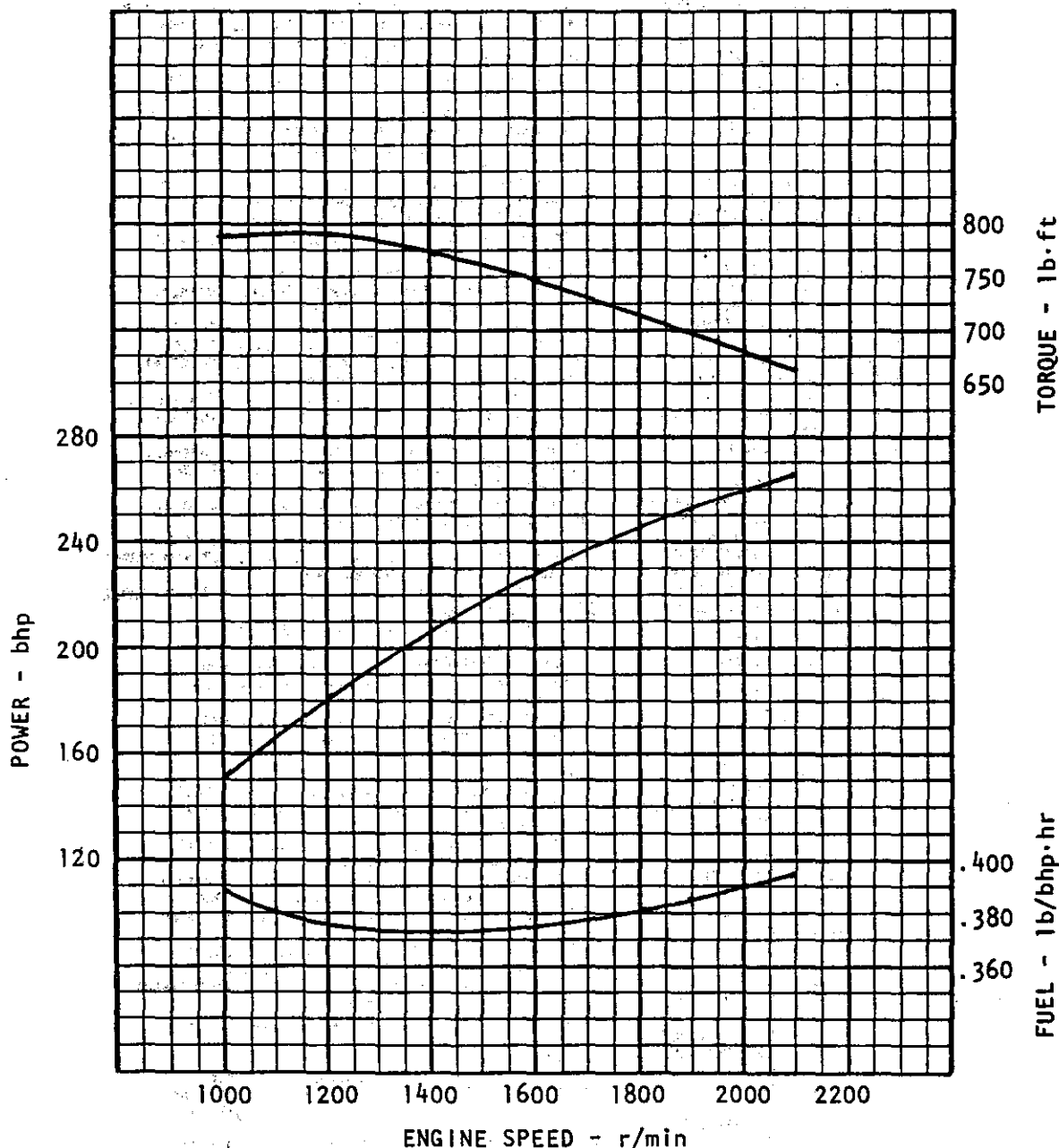
APPLICATION: AUTOMOTIVE

CERTIFICATION: CALIFORNIA 1985

MODEL: 6-71TAC

265 bhp @ 2100 r/min

792 lb·ft @ 1200 r/min



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 × 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:

AS Pender

STAFF ENGINEER

CURVE NO.

E4-1067-32-65

DATE: 11-13-84

REV./DATE:

SHT. 1 OF 2

ENGINE SPECIFICATION DATA

General Data

Model.....	1067-8640
Number of Cylinders.....	6
Bore and Stroke-in(mm).....	4.25x5.00(108x127)
Displacement-in ³ (L).....	426(6.9)
Compression Ratio.....	18.7:1
Piston Speed-ft/min(m/min).....	1750(533)
Valves Per Cylinder	
Intake.....	NOT APPLICABLE
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	INLINE-2 CYCLE
Aspiration.....	TURBOCHARGED

Configuration

Turbocharger.....	54H-005(0.99 A/R)
Charge Air Cooling System.....	JWAC
Blower Type.....	BY-PASS
Blower Drive Ratio.....	1.65:1
Low Idle Speed-r/min.....	500
High Idle Speed-r/min.....	2275
Thrust Bearing Load Limit	
Continuous-lbf(N).....	400(1780)
Intermittent-lbf(N).....	1200(5340)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-in H ₂ O(kPa).....	1.9(0.47)

Physical Data

Size	
Length-in(mm).....	56.0(1421)
Width-in(mm).....	31.9(809)
Height-in(mm).....	52.0(1321)
Weight, dry-lb(kg).....	2195(996)
Center of Gravity Distance	
From R.F.O.B. (x axis)-in(mm).....	20.5(521)
Above Crankshaft (y axis)-in(mm).....	5.1(130)
Right of Crankshaft (z axis)-in(mm).....	-1.5(38)
Installation Drawing.....	NOT AVAILABLE
Maximum Allowable Static Bending Moment at Rear Face of FW Hsg-lbf ft(N m).....	600(814)

Fuel System

Fuel Injector/Timing.....	7670/1.480
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	104.7(47.5)
Fuel Consumption-gal/hr(L/hr).....	15.0(56.7)
Fuel Spill Rate-lb/hr(kg/hr).....	754.9(342.4)
Fuel Spill Rate-gal/hr(L/hr).....	108.0(408.8)
Total Fuel Flow-lb/hr(kg/hr).....	859.6(389.9)
Total Fuel Flow-gal/hr(L/hr).....	123.0(465.5)
Maximum Allowable Fuel Pump Suction	
Clean System-in Hg(kPa).....	6(20)
Dirty System-in Hg(kPa).....	12(41)
Fuel Filter Micron Size	
Primary - Micron.....	30
Secondary - Micron.....	10

Lubrication System

Oil Pressure	
Rated Speed-lbf/in ² (kPa).....	55(379)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-235(93-113)
Oil Flow-gal/min(L/min).....	28(106)
Oil Pan Capacity	
High-qt(L).....	22(20.8)
Low-qt(L).....	18(17.0)
Total Engine Oil Capacity with filters-qt(L).....	24(22.7)
Bypass Oil Filter Orifice-in(mm).....	0.101(2.57)
Engine Angularity Limits	
Front up - degrees.....	24
Front down - degrees.....	14
Side tilt - degrees.....	NOT AVAILABLE

Emission Data

CO-gm/hr.....	NOT AVAILABLE
HC-gm/hr.....	NOT AVAILABLE
NO _x -gm/hr.....	NOT AVAILABLE
SO ₂ -gm/hr.....	480
Smoke	
Rated Speed - Bosch Number.....	NOT AVAILABLE
Peak Torque Speed - Bosch Number.....	NOT AVAILABLE
Noise - dB(A) @ 1m.....	NOT AVAILABLE
Certification Approval.....	CALIFORNIA 1985

Cooling System

Engine Heat Rejection-Btu/min(kW).....	8600(151.2)
Engine Radiated Heat-Btu/min(kW).....	1380(24.3)
Coolant Flow-gal/min(L/min).....	79(299)
Thermostat	
Start to Open-°F(°C).....	177(81)
Fully Open-°F(°C).....	197(92)
Maximum Water Pump Inlet Restriction-in Hg(kPa).....	0
Engine Coolant Capacity-qt(L).....	23(21.8)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C).....	210(99)
Minimum Top Tank Temperature-°F(°C).....	160(71)
Minimum Coolant Fill Rate-gal/min(L/min).....	3.0(11.4)
Cooling Index	
Minimum Air to Boil-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(55.6)
Ram Air Flow - Mile/hr(km/hr).....	15(24)
Deaeration-Air Injection	
Capacity-ft ³ /min(m ³ /min).....	0.6(0.017)
Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever is Larger)-qt(L).....	4.0(3.8)

Air System

Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C).....	30(16.7)
Air Intake Restriction Maximum Limit	
Dirty Air Cleaner-in H ₂ O(kPa).....	20(5.0)
Clean Air Cleaner-ig H ₂ O(kPa).....	12(3.0)
Engine Air Flow - ft ³ /min(m ³ /min).....	900(25.3)
Engine Air Box/Manifold Pressure-in Hg(kPa).....	50.6(170.9)
Recommended Intake Pipe Dia.-in(mm).....	6.0(152)

Exhaust System

Exhaust Flow-ft ³ /min(m ³ /min).....	1980(56.1)
Exhaust Temperature-°F(°C).....	720(382)
Maximum Allowable Back Pressure-in Hg(kPa).....	2.5(8.4)
Recommended Exhaust Pipe Dia.	
Single-in(mm).....	5.0(127)
Dual-in(mm).....	NOT APPLICABLE
Exhaust Brake Max. Allowable Back Pressure-in Hg(kPa).....	NOT APPLICABLE

Electrical System

Recommended Battery Capacity(CCA @ 0°F)	
12 Volt System	
Above 32°F(0°C)-A.....	950
Below 32°F(0°C)-A.....	1230
24 Volt System	
Above 32°F(0°C)-A.....	475
Below 32°F(0°C)-A.....	625
Maximum Allowable Resistance of Starting Circuit	
12 volt system - ohm.....	0.0012
24 volt system - ohm.....	0.002

Performance Data

Power Output-bhp(kW).....	265(198)
Full Load Speed-r/min.....	2100
Peak Torque-lb ft(N m).....	792(1074)
Peak Torque Speed-r/min.....	1200
BMEP-lbf/in ² (kPa).....	117.3(809)
Friction Power	
Rated Speed-bhp(kW).....	65(48)
Peak Torque Speed-bhp(kW).....	27(20)
Altitude Capability-ft(m).....	16000(4880)
Torque Available at 800 r/min-lb ft (N m).....	325(441)

Engine

Speed r/min	Power bhp(kW)	Torque lb ft(N m)	BSEC lb/bhp hr (g/kW hr)
2100	265(198)	662 (898)	.395(240)
2000	259(193)	680 (922)	.390(237)
1800	245(183)	715 (969)	.382(232)
1600	228(170)	748(1014)	.375(228)
1400	206(154)	773(1048)	.373(227)
1200	181(135)	792(1074)	.376(229)
1000	150(112)	789(1070)	.388(236)

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

Curve No. E4-1067-32-65

Date: 11-13-84

Rev./Date:

Sht. 2 of 2



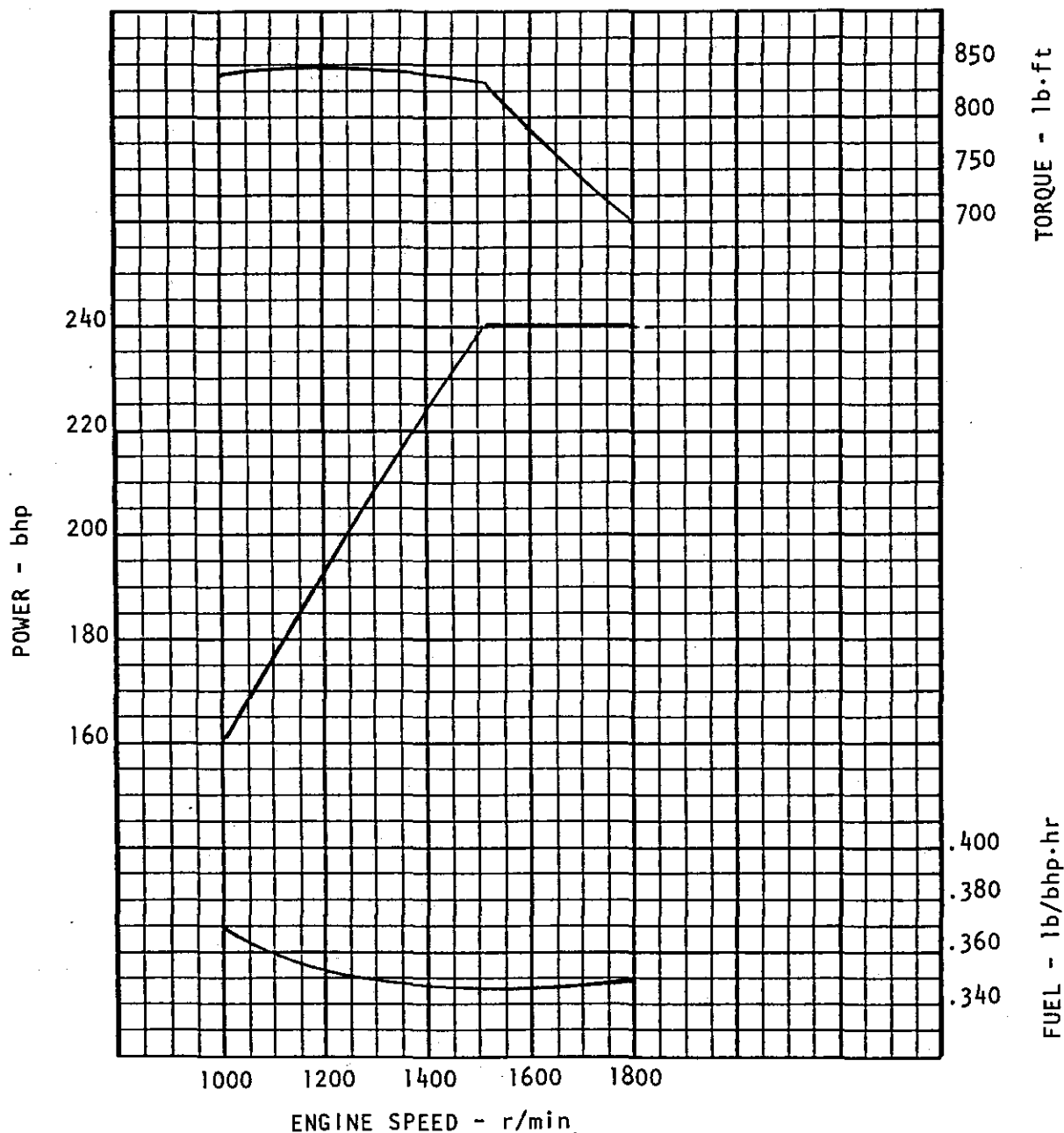
ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

APPLICATION: AUTOMOTIVE

CERTIFICATION: FEDERAL 1985

MODEL: 6-71TTA
240 bhp @ 1800 r/min
845 lb.-ft @ 1200 r/min



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

STAFF ENGINEER

CURVE NO.
E4-1067-32-86
DATE: 5-10-85
REV./DATE:
SHT. 1 OF 2

ENGINE SPECIFICATION DATA

General Data

Model.....	1067-8940
Number of Cylinders.....	6
Bore and Stroke-In(mm).....	4.25x5.00(108x127)
Displacement-In ³ (L).....	426(6.9)
Compression Ratio.....	18.7:1
Piston Speed-ft/min(m/min).....	1583(482)
Valves Per Cylinder	
Intake.....	NOT APPLICABLE
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	INLINE-2 CYCLE
Aspiration.....	TURBOCHARGED

Configuration

Turbocharger.....	54H-005(0.99 A/R)
Charge Air Cooling System.....	JWAC
Blower Type.....	BY-PASS
Blower Drive Ratio.....	1.65:1
Low Idle Speed-r/min.....	500
High Idle Speed-r/min.....	2050
Thrust Bearing Load Limit	
Continuous-lbf(N).....	400(1780)
Intermittent-lbf(N).....	1200(5340)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-In H ₂ O(kPa).....	1.9(0.47)

Physical Data

Size	
Length-In(mm).....	56.0(1421)
Width-In(mm).....	31.9(809)
Height-In(mm).....	52.0(1321)
Weight, dry-lb(kg).....	2195(996)
Center of Gravity Distance	
From R.F.O.B. (x axis)-In(mm).....	20.5(521)
Above Crankshaft (y axis)-In(mm).....	5.1(130)
Right of Crankshaft (z axis)-In(mm).....	-1.5(38)
Installation Drawing.....	NOT AVAILABLE
Maximum Allowable Static Bending Moment at Rear Face of FW Hsg-lbf ft(N m).....	600(814)

Fuel System

Fuel Injector/Timing.....	7A77/1.490
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	82.2(37.3)
Fuel Consumption-gal/hr(L/hr).....	11.8(44.5)
Fuel Spill Rate-lb/hr(kg/hr).....	754.9(342.4)
Fuel Spill Rate-gal/hr(L/hr).....	108(408.8)
Total Fuel Flow-lb/hr(kg/hr).....	837.1(379.7)
Total Fuel Flow-gal/hr(L/hr).....	119.8(453.3)
Maximum Allowable Fuel Pump Suction	
Clean System-In Hg(kPa).....	6(20)
Dirty System-In Hg(kPa).....	12(41)
Fuel Filter Micron Size	
Primary - Micron.....	30
Secondary - Micron.....	10

Lubrication System

Oil Pressure	
Rated Speed-lbf/in ² (kPa).....	55(379)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-235(93-113)
Oil Flow-gal/min(L/min).....	26(98)
Oil Pan Capacity	
High-qt(L).....	22(20.8)
Low-qt(L).....	18(17.0)
Total Engine Oil Capacity with filters-qt(L).....	24(22.7)
Bypass Oil Filter Orifice-In(mm).....	0.101(2.57)
Engine Angularity Limits	
Front up - degrees.....	24
Front down - degrees.....	14
Side tilt - degrees.....	NOT AVAILABLE

Emission Data

Noise - dB(A) @ 1m.....	97.8
Certification Approval.....	FEDERAL 1985

Cooling System

Engine Heat Rejection-Btu/min(kW).....	6110(107.5)
Engine Radiated Heat-Btu/min(kW).....	1160(20.4)
Coolant Flow-gal/min(L/min).....	73(276)
Thermostat	
Start to Open-°F(°C).....	180(82)
Fully Open-°F(°C).....	197(92)
Maximum Water Pump Inlet	
Restriction-In Hg(kPa).....	0
Engine Coolant Capacity-qt(L).....	23(21.8)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C).....	210(99)
Minimum Top Tank Temperature-°F(°C).....	170(77)
Minimum Coolant Fill Rate-gal/min(L/min).....	3.0(11.4)
Cooling Index	
Minimum Air to Boil-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(55.6)
Ram Air Flow - Mile/hr(km/hr).....	15(24)
Deterioration-Air Injection	
Capacity-ft ³ /min(m ³ /min).....	0.6(0.017)
Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever Is Larger)-qt(L).....	4.0(3.8)

Air System

Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C).....	30(16.7)
Air Intake Restriction Maximum Limit	
Dirty Air Cleaner-In H ₂ O(kPa).....	20(5.0)
Clean Air Cleaner-In H ₂ O(kPa).....	12(3.0)
Engine Air Flow - ft ³ /min(m ³ /min).....	710(20.1)
Engine Air Box/Manifold Pressure-In Hg(kPa).....	35.2(118.9)
Recommended Intake Pipe Dia.-In(mm).....	6.0(152)

Exhaust System

Exhaust Flow-ft ³ /min(m ³ /min).....	1480(41.9)
Exhaust Temperature-°F(°C).....	660(349)
Maximum Allowable Back Pressure-In Hg(kPa).....	1.7(5.7)
Recommended Exhaust Pipe Dia.	
Single-In(mm).....	5.0(127)
Dual-In(mm).....	NOT APPLICABLE
Exhaust Brake Max. Allowable Back Pressure-In Hg(kPa).....	NOT APPLICABLE

Electrical System

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

Performance Data

Power Output-bhp(kW).....	240(179)
Full Load Speed-r/min.....	1800
Peak Torque-lb ft(N m).....	845(1146)
Peak Torque Speed-r/min.....	1200
BMEP-lbf/in ² (kPa).....	124.0(855)
Friction Power	
Rated Speed-bhp(kW).....	50(37)
Peak Torque Speed-bhp(kW).....	26(19)
Altitude Capability-ft(m).....	10500(3200)
Torque Available at 800 r/min-lb ft (N m).....	620(841)

Engine

Speed r/min	Power bhp(kW)	Torque lb ft(N m)	BSFC lb/bhp hr (g/kW hr)
1800	240(179)	700(949)	.349(212)
1600	240(179)	788(1068)	.347(211)
1400	224(167)	840(1139)	.347(211)
1200	193(144)	845(1146)	.354(215)
1000	160(119)	840(1139)	.370(225)

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

Curve No. E4-1067-32-86
Date: 5-10-83
Rev./Date:
Sht. 2 of 2



ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

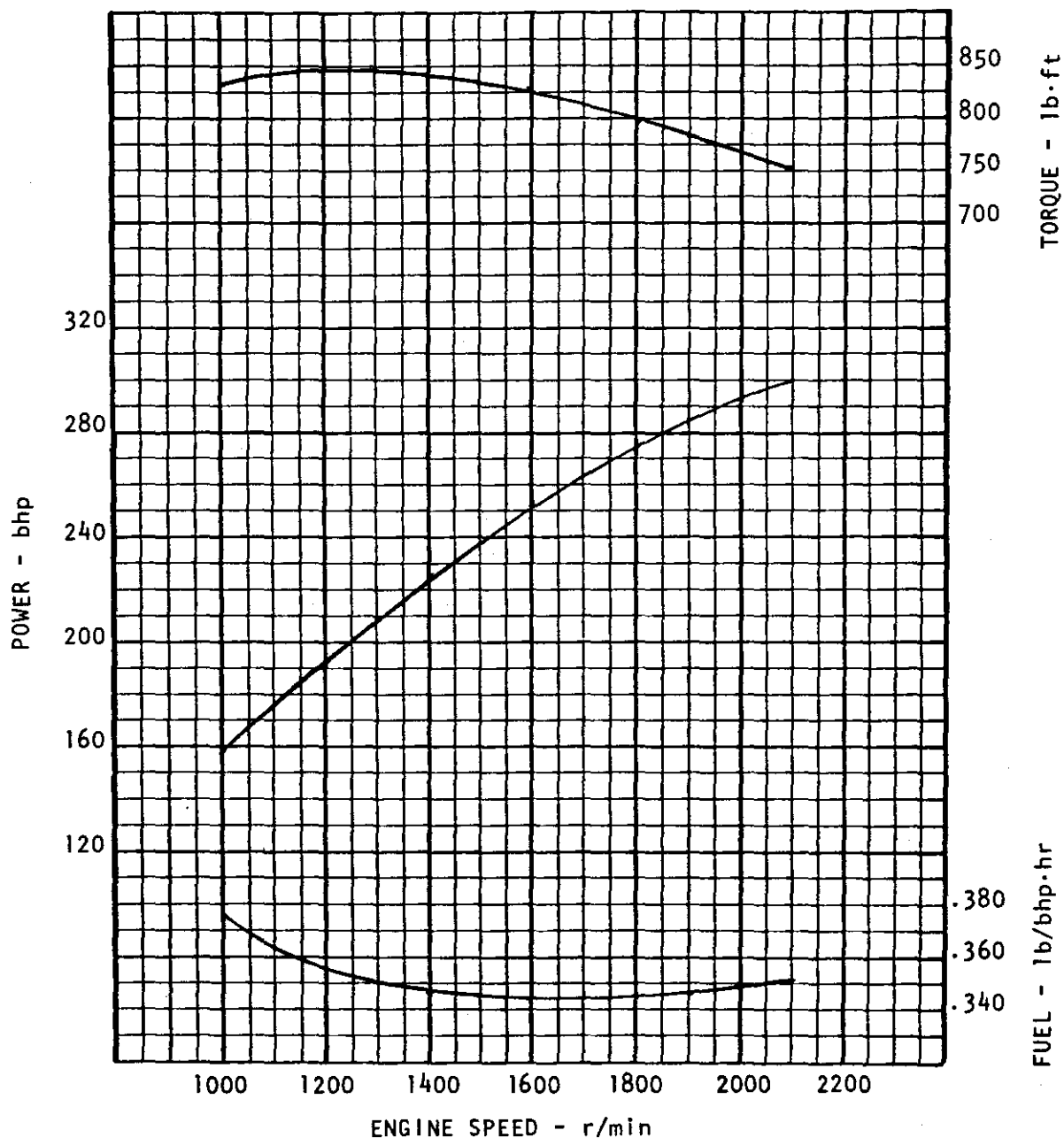
APPLICATION: AUTOMOTIVE

CERTIFICATION: FEDERAL 1985

MODEL: 6-71TA

300 bhp @ 2100 r/min

845 lb·ft @ 1200 r/min



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 × 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:
STAFF ENGINEER

CURVE NO.
E4-1067-32-70
DATE: 4-8-85
REV./DATE:
SHT. 1 OF 2

ENGINE SPECIFICATION DATA

General Data

Model.....	1067-8640
Number of Cylinders.....	6
Bore and Stroke-in(mm).....	4.25x5.00(108x127)
Displacement-in ³ (L).....	426(6.9)
Compression Ratio.....	17:1
Piston Speed-ft/min(m/min).....	1750(533)
Valves Per Cylinder	
Intake.....	NOT APPLICABLE
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	INLINE-2 CYCLE
Aspiration.....	TURBOCHARGED

Configuration

Turbocharger.....	S4H-005(0.99 A/R)
Charge Air Cooling System.....	ALCC
Blower Type.....	BY-PASS
Blower Drive Ratio.....	1.65:1
Low Idle Speed-r/min.....	500
High Idle Speed-r/min.....	2250
Thrust Bearing Load Limit	
Continuous-lbf(N).....	400(1780)
Intermittent-lbf(N).....	1200(5340)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-In H ₂ O(kPa).....	1.9(0.47)

Physical Data

Size	
Length-in(mm).....	56.0(1421)
Width-in(mm).....	31.9(809)
Height-in(mm).....	52.0(1321)
Weight, dry-lb(kg).....	2195(996)
Center of Gravity Distance	
From R.F.O.B. (x axis)-in(mm).....	20.5(521)
Above Crankshaft (y axis)-in(mm).....	5.1(130)
Right of Crankshaft (z axis)-in(mm).....	-1.5(38)
Installation Drawing.....	8923577
Maximum Allowable Static Bending Moment at Rear Face of FM Hsg-lbf ft(N m).....	600(814)

Fuel System

Fuel Injector/Timing.....	7A77/1.480
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	106.8(48.4)
Fuel Consumption-gal/hr(L/hr).....	15.3(57.8)
Fuel Spill Rate-lb/hr(kg/hr).....	754.9(342.4)
Fuel Spill Rate-gal/hr(L/hr).....	108(408.8)
Total Fuel Flow-lb/hr(kg/hr).....	861.7(390.9)
Total Fuel Flow-gal/hr(L/hr).....	123.3(466.6)
Maximum Allowable Fuel Pump Suction	
Clean System-In Hg(kPa).....	6(20)
Dirty System-In Hg(kPa).....	12(41)
Fuel Filter Micron Size	
Primary - Micron.....	30
Secondary - Micron.....	10

Lubrication System

Oil Pressure	
Rated Speed-lbf/in ² (kPa).....	55(379)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-235(93-113)
Oil Flow-gal/min(L/min).....	32(121)
Oil Pan Capacity	
High-qt(L).....	22(20.8)
Low-qt(L).....	18(17.0)
Total Engine Oil Capacity with filters-qt(L).....	24(22.7)
Bypass Oil Filter Orifice-in(mm).....	0.101(2.57)
Engine Angularity Limits	
Front up - degrees.....	24
Front down - degrees.....	14
Side tilt - degrees.....	NOT AVAILABLE

Emission Data

CO-gm/hr.....	NOT AVAILABLE
HC-gm/hr.....	NOT AVAILABLE
NO _x -gm/hr.....	NOT AVAILABLE
SO ₂ -gm/hr.....	480
Smoke	
Rated Speed - Bosch Number.....	NOT AVAILABLE
Peak Torque Speed - Bosch Number.....	NOT AVAILABLE
Noise - dB(A) @ 1m.....	99.6
Certification Approval.....	FEDERAL 1985

Cooling System

Engine Heat Rejection-Btu/min(kW).....	8520(149.8)
Engine Radiated Heat-Btu/min(kW).....	1410(24.7)
Coolant Flow-gal/min(L/min).....	79(299)
Thermostat	
Start to Open-°F(°C).....	177(81)
Fully Open-°F(°C).....	197(92)
Maximum Water Pump Inlet	
Restriction-In Hg(kPa).....	0
Engine Coolant Capacity-qt(L).....	23(21.8)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C).....	210(99)
Minimum Top Tank Temperature-°F(°C).....	160(71)
Minimum Coolant Fill Rate-gal/min(L/min).....	3.0(11.4)
Cooling Index	
Minimum Air to Boil-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(55.6)
Ram Air Flow - Mile/hr(km/hr).....	15(24)
Deaeration-Air Injection	
Capacity-ft ³ /min(m ³ /min).....	0.6(0.017)
Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever is Larger)-qt(L).....	4.0(3.8)

Air System

Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C).....	30(16.7)
Air Intake Restriction Maximum Limit	
Dirty Air Cleaner-In H ₂ O(kPa).....	20(5.0)
Clean Air Cleaner-In H ₂ O(kPa).....	12(3.0)
Engine Air Flow - ft ³ /min(m ³ /min).....	860(24.4)
Engine Air Box/Manifold Pressure-In Hg(kPa).....	45.0(152.0)
Recommended Intake Pipe Dia.-in(mm).....	6.0(152)

Exhaust System

Exhaust Flow-ft ³ /min(m ³ /min).....	1860(52.7)
Exhaust Temperature-°F(°C).....	700(371)
Maximum Allowable Back	
Pressure-In Hg(kPa).....	2.5(8.4)
Recommended Exhaust Pipe Dia.	
Single-In(mm).....	5.0(127)
Dual-In(mm).....	NOT APPLICABLE
Exhaust Brake Max. Allowable Back	
Pressure-In Hg(kPa).....	NOT APPLICABLE

Electrical System

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

Performance Data

Power Output-bhp(kW).....	300(224)
Full Load Speed-r/min.....	2100
Peak Torque-lb ft(N m).....	845(1146)
Peak Torque Speed-r/min.....	1200
BMEP-lbf/in ² (kPa).....	132.9(916)
Friction Power	
Rated Speed-bhp(kW).....	64(48)
Peak Torque Speed-bhp(kW).....	26(19)
Altitude Capability-ft(m).....	10500(3200)
Torque Available at 800 r/min-lb ft (N m).....	620(841)

Engine

Speed r/min	Power bhp(kW)	Torque lb ft(N m)	BSEC lb/bhp hr (g/kW hr)
2100	300(224)	750(1017)	.351(214)
2000	293(219)	769(1043)	.348(212)
1800	274(204)	799(1083)	.345(210)
1600	252(188)	827(1121)	.344(209)
1400	225(168)	844(1144)	.347(211)
1200	193(144)	845(1146)	.356(217)
1000	158(118)	830(1125)	.376(229)

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

Curve No. E4-1067-32-70
Date: 4-8-85
Rev./Date:
Sht. 2 of 2



ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

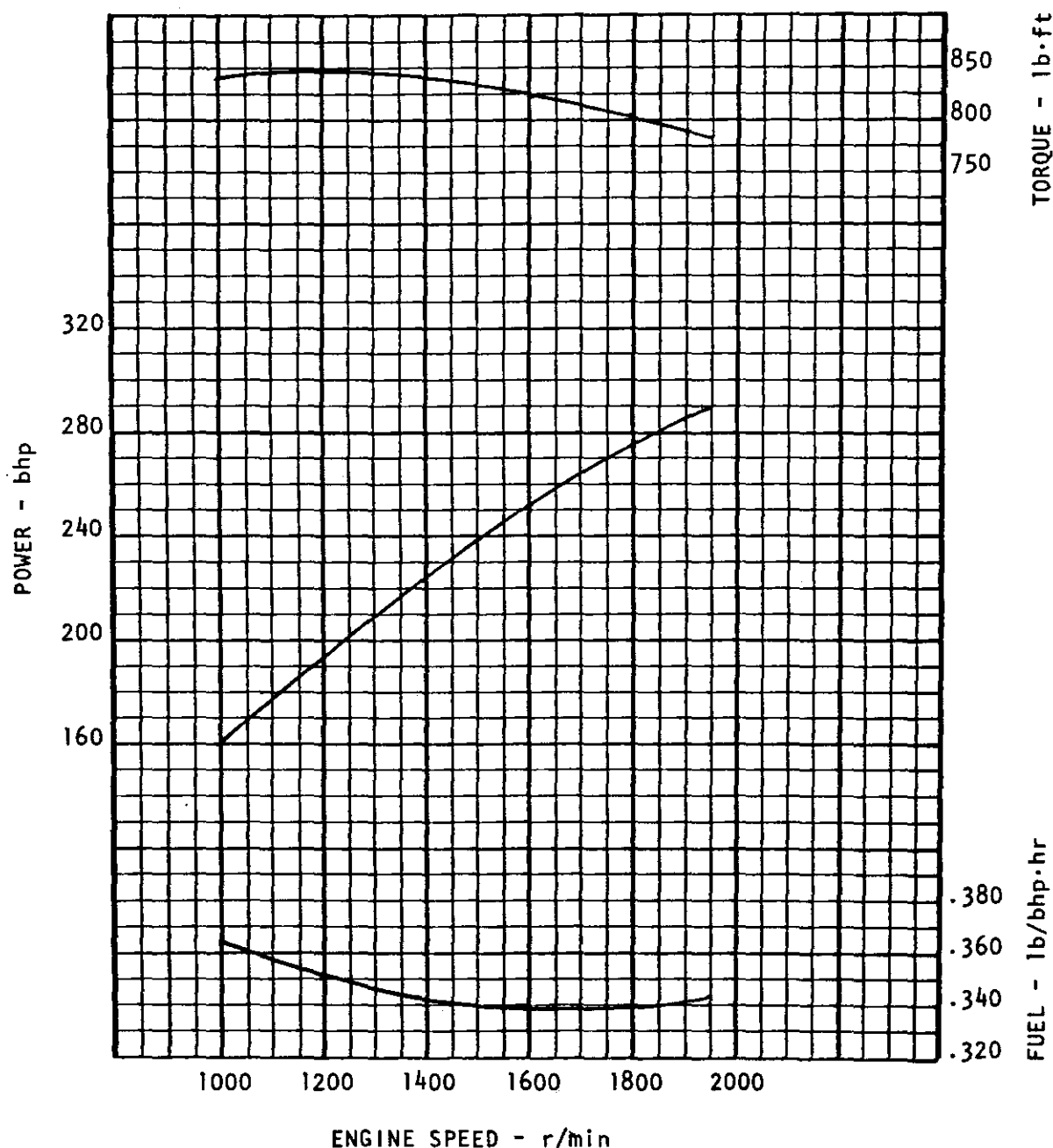
APPLICATION: AUTOMOTIVE

CERTIFICATION: FEDERAL 1985

MODEL: 6-71TA

290 bhp @ 1950 r/min

845 lb·ft @ 1200 r/min



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:

STAFF ENGINEER

CURVE NO.

E4-1067-32-71

DATE: 4-8-85

REV./DATE:

SHT. 1 OF 2

ENGINE SPECIFICATION DATA

General Data

Model.....	1067-8640
Number of Cylinders.....	6
Bore and Stroke-in(mm).....	4.25x5.00(108x127)
Displacement-in ³ (L).....	426(6.9)
Compression Ratio.....	18.7:1
Piston Speed-ft/min(m/min).....	1625(495.3)
Valves Per Cylinder	
Intake.....	NOT APPLICABLE
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	INLINE-2 CYCLE
Aspiration.....	TURBOCHARGED

Configuration

Turbocharger.....	54H-005(0.99 A/R)
Charge Air Cooling System.....	ALCC
Blower Type.....	BY-PASS
Blower Drive Ratio.....	1.65:1
Low Idle Speed-r/min.....	500
High Idle Speed-r/min.....	2100
Thrust Bearing Load Limit	
Continuous-lbf(N).....	400(1780)
Intermittent-lbf(N).....	1200(5340)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-in H ₂ O(kPa).....	1.9(0.47)

Physical Data

Size	
Length-in(mm).....	56.0(1421)
Width-in(mm).....	31.9(809)
Height-in(mm).....	52.0(1321)
Weight, dry-lb(kg).....	2195(996)
Center of Gravity Distance	
From R.F.O.B. (x axis)-in(mm).....	20.5(521)
Above Crankshaft (y axis)-in(mm).....	3.1(130)
Right of Crankshaft (z axis)-in(mm).....	-1.5(38)
Installation Drawing.....	NOT AVAILABLE
Maximum Allowable Static Bending Moment at Rear Face of FW Hsg-lbf ft(N m).....	600(814)

Fuel System

Fuel Injector/Timing.....	7A77/1.480
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	101.8(46.2)
Fuel Consumption-gal/hr(L/hr).....	14.6(55.1)
Fuel Spill Rate-lb/hr(kg/hr).....	754.9(342.4)
Fuel Spill Rate-gal/hr(L/hr).....	108(408.8)
Total Fuel Flow-lb/hr(kg/hr).....	856.7(388.6)
Total Fuel Flow-gal/hr(L/hr).....	122.6(463.9)
Maximum Allowable Fuel Pump Suction	
Clean System-in Hg(kPa).....	6(20)
Dirty System-in Hg(kPa).....	12(41)
Fuel Filter Micron Size	
Primary - Micron.....	30
Secondary - Micron.....	10

Lubrication System

Oil Pressure	
Rated Speed-lbf/in ² (kPa).....	55(379)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-235(93-113)
Oil Flow-gal/min(L/min).....	30(114)
Oil Pan Capacity	
High-qt(L).....	22(20.8)
Low-qt(L).....	18(17.0)
Total Engine Oil Capacity with filters-qt(L).....	24(22.7)
Bypass Oil Filter Orifice-in(mm).....	0.101(2.57)
Engine Angularity Limits	
Front up - degrees.....	24
Front down - degrees.....	14
Side tilt - degrees.....	NOT AVAILABLE

Emission Data

CO-gm/hr.....	NOT AVAILABLE
HC-gm/hr.....	NOT AVAILABLE
NO _x -gm/hr.....	NOT AVAILABLE
SO ₂ -gm/hr.....	460
Socks	
Rated Speed - Bosch Number.....	NOT AVAILABLE
Peak Torque Speed - Bosch Number.....	NOT AVAILABLE
Noise - dB(A) @ 1m.....	NOT AVAILABLE
Certification Approval.....	FEDERAL 1985

Cooling System

Engine Heat Rejection-Btu/min(kW).....	8110(142.6)
Engine Radiated Heat-Btu/min(kW).....	1390(24.4)
Coolant Flow-gal/min(L/min).....	77(291)
Thermostat	
Start to Open-°F(°C).....	177(81)
Fully Open-°F(°C).....	197(92)
Maximum Water Pump Inlet	
Restriction-in Hg(kPa).....	0
Engine Coolant Capacity-qt(L).....	23(21.8)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C).....	210(99)
Minimum Top Tank Temperature-°F(°C).....	160(71)
Minimum Coolant Fill Rate-gal/min(L/min).....	3.0(11.4)
Cooling Index	
Minimum Air to Boil-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(55.6)
Ram Air Flow - Mile/hr(km/hr).....	15(24)
Deaeration-Air Injection	
Capacity-ft ³ /min(m ³ /min).....	0.6(0.017)
Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever is Larger)-qt(L).....	4.0(3.8)

Air System

Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C).....	30(16.7)
Air Intake Restriction Maximum Limit	
Dirty Air Cleaner-in H ₂ O(kPa).....	20(5.0)
Clean Air Cleaner-lg H ₂ O(kPa).....	12(3.0)
Engine Air Flow - ft ³ /min(m ³ /min).....	850(24.1)
Engine Air Box/Manifold Pressure-in Hg(kPa).....	41.7(140.8)
Recommended Intake Pipe Dia.-in(mm).....	6.0(152)

Exhaust System

Exhaust Flow-ft ³ /min(m ³ /min).....	1800(51.0)
Exhaust Temperature-°F(°C).....	680(360)
Maximum Allowable Back Pressure-in Hg(kPa).....	2.1(7.1)
Recommended Exhaust Pipe Dia.	
Single-in(mm).....	5.0(127)
Dual-in(mm).....	NOT APPLICABLE
Exhaust Brake Max. Allowable Back Pressure-in Hg(kPa).....	NOT APPLICABLE

Electrical System

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

Performance Data

Power Output-bhp(kW).....	290(216)
Full Load Speed-r/min.....	1950
Peak Torque-lb ft(N m).....	845(1146)
Peak Torque Speed-r/min.....	1200
BMEP-lbf/in ² (kPa).....	138.4(954)
Friction Power	
Rated Speed-bhp(kW).....	58(43)
Peak Torque Speed-bhp(kW).....	26(19)
Altitude Capability-ft(m).....	10500(3200)
Torque Available at 800 r/min-lb ft (N m).....	620(841)

Engine

Speed r/min	Power bhp(kW)	Torque lb ft(N m)	BSEC lb/bhp hr (g/kW hr)
1950	290(216)	781(1059)	.343(209)
1800	275(205)	802(1087)	.339(206)
1600	251(187)	824(1117)	.338(206)
1400	224(167)	840(1139)	.342(208)
1200	193(144)	845(1146)	.350(213)
1000	160(119)	840(1139)	.364(221)

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

Curve No. E4-1067-32-71
Date: 4-8-85
Rev./Date:
Sht. 2 of 2



ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

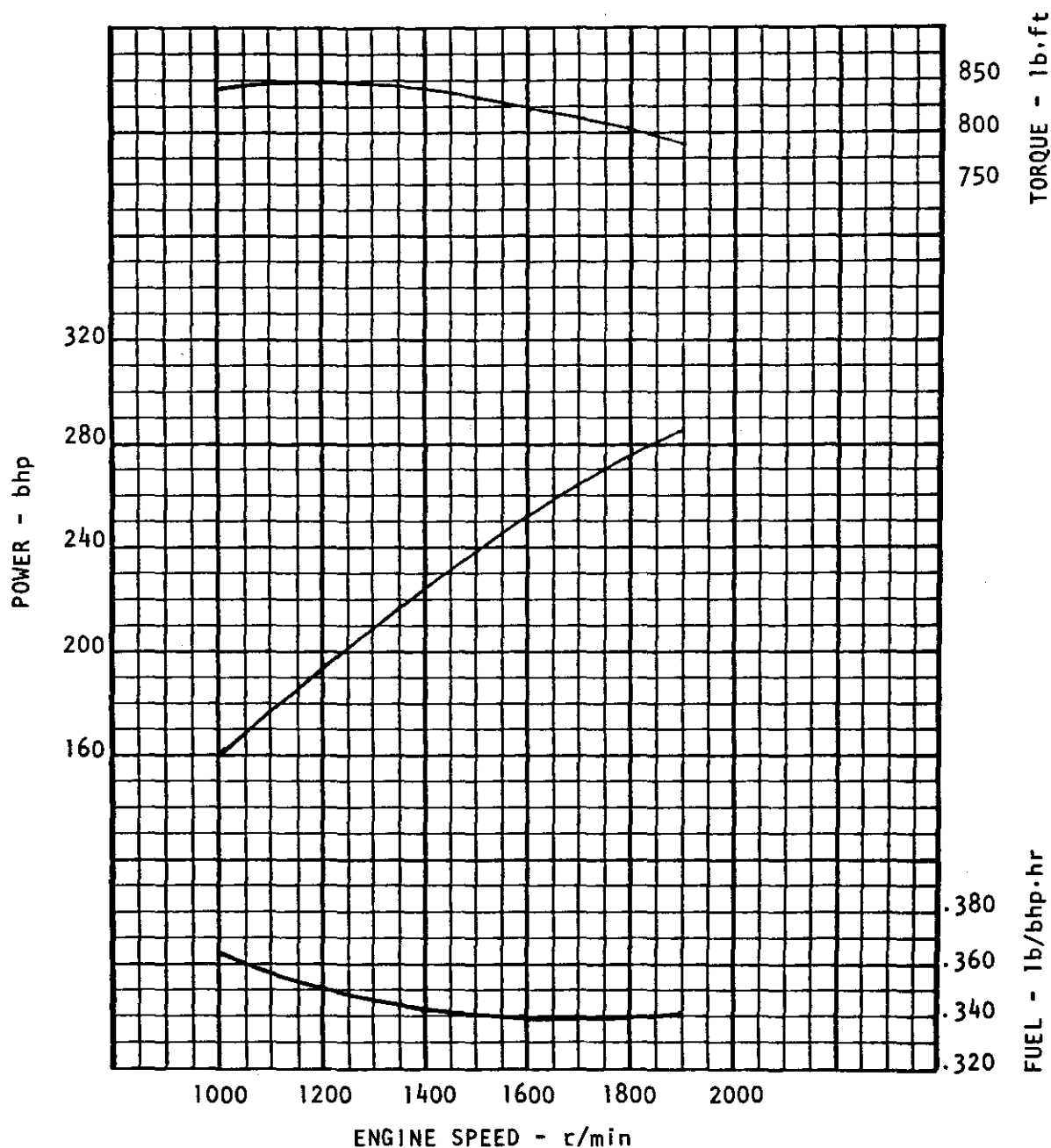
APPLICATION: AUTOMOTIVE

CERTIFICATION: FEDERAL 1985

MODEL: 6-71TA

285 bhp @ 1900 r/min

845 lb·ft @ 1200 r/min



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 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.

E4-1067-32-72

DATE: 4-8-85

REV./DATE:

SHT. 1 OF 2

ENGINE SPECIFICATION DATA

General Data

Model.....	1067-8640
Number of Cylinders.....	6
Bore and Stroke-In(mm).....	4.25x5.00(108x127)
Displacement-In ³ (L).....	426(6.9)
Compression Ratio.....	18.7:1
Piston Speed-ft/min(m/min).....	1583(482.2)
Valves Per Cylinder	
Intake.....	NOT APPLICABLE
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	INLINE-2 CYCLE
Aspiration.....	TURBOCHARGED

Configuration

Turbocharger.....	S4H-005(0.99 A/R)
Charge Air Cooling System.....	ALCC
Blower Type.....	BY-PASS
Blower Drive Ratio.....	1.65:1
Low Idle Speed-r/min.....	500
High Idle Speed-r/min.....	2050
Thrust Bearing Load Limit	
Continuous-lbf(N).....	400(1780)
Intermittent-lbf(N).....	1200(5340)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-In H ₂ O(kPa).....	1.9(0.47)

Physical Data

Size	
Length-In(mm).....	56.0(1421)
Width-In(mm).....	31.9(809)
Height-In(mm).....	52.0(1321)
Weight, dry-lb(kg).....	2195(996)
Center of Gravity Distance	
From R.F.O.B. (x axis)-In(mm).....	20.5(521)
Above Crankshaft (y axis)-In(mm).....	5.1(130)
Right of Crankshaft (z axis)-In(mm).....	-1.5(38)
Installation Drawing.....	NOT AVAILABLE
Maximum Allowable Static Bending Moment at Rear Face of FW Hsg-lbf ft(N m)....	600(814)

Fuel System

Fuel Injector/Timing.....	7A77/1.480
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	99.8(45.3)
Fuel Consumption-gal/hr(L/hr).....	14.3(54.0)
Fuel Spill Rate-lb/hr(kg/hr).....	754.9(342.4)
Fuel Spill Rate-gal/hr(L/hr).....	108(408.8)
Total Fuel Flow-lb/hr(kg/hr).....	854.7(387.7)
Total Fuel Flow-gal/hr(L/hr).....	122.3(462.9)
Maximum Allowable Fuel Pump Suction	
Clean System-In Hg(kPa).....	6(20)
Dirty System-In Hg(kPa).....	12(41)
Fuel Filter Micron Size	
Primary - Micron.....	30
Secondary - Micron.....	10

Lubrication System

Oil Pressure	
Rated Speed-lbf/in ² (kPa).....	55(379)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-235(93-113)
Oil Flow-gal/min(L/min).....	28(106)
Oil Pan Capacity	
High-qt(L).....	22(20.8)
Low-qt(L).....	18(17.0)
Total Engine Oil Capacity with filters-qt(L).....	24(22.7)
Bypass Oil Filter Orifice-In(mm).....	0.101(2.57)
Engine Angularity Limits	
Front up - degrees.....	24
Front down - degrees.....	14
Side tilt - degrees.....	NOT AVAILABLE

Emission Data

CO-gm/hr.....	NOT AVAILABLE
HC-gm/hr.....	NOT AVAILABLE
NO _x -gm/hr.....	NOT AVAILABLE
SO _x -gm/hr.....	450
Smoke	
Rated Speed - Bosch Number.....	NOT AVAILABLE
Peak Torque Speed - Bosch Number.....	NOT AVAILABLE
Noise - dB(A) @ 1m.....	NOT AVAILABLE
Certification Approval.....	FEDERAL 1985

Cooling System

Engine Heat Rejection-Btu/min(kW).....	8000(140.6)
Engine Radiated Heat-Btu/min(kW).....	1380(24.2)
Coolant Flow-gal/min(L/min).....	75(284)
Thermostat	
Start to Open-°F(°C).....	177(81)
Fully Open-°F(°C).....	197(92)
Maximum Water Pump Inlet	
Restriction-In Hg(kPa).....	0
Engine Coolant Capacity-qt(L).....	23(21.8)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure, (Exclusive of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C).....	210(99)
Minimum Top Tank Temperature-°F(°C).....	160(71)
Minimum Coolant Fill Rate-gal/min(L/min).....	3.0(11.4)
Cooling Index	
Minimum Air to Boil-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(55.6)
Ram Air Flow - Mile/hr(km/hr).....	15(24)
Deaeration-Air Injection	
Capacity-ft ³ /min(m ³ /min).....	0.6(0.017)
Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever is Larger)-qt(L).....	4.0(3.8)

Air System

Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C)...	30(16.7)
Air Intake Restriction Maximum Limit	
Dirty Air Cleaner-In H ₂ O(kPa).....	20(5.0)
Clean Air Cleaner-lq H ₂ O(kPa).....	12(3.0)
Engine Air Flow - ft ³ /min(m ³ /min).....	840(23.8)
Engine Air Box/Manifold Pressure-In Hg(kPa).....	40.8(137.8)
Recommended Intake Pipe Dia.-In(mm)....	6.0(152)

Exhaust System

Exhaust Flow-ft ³ /min(m ³ /min).....	1770(50.1)
Exhaust Temperature-°F(°C).....	670(354)
Maximum Allowable Back Pressure-In Hg(kPa).....	2.0(6.8)
Recommended Exhaust Pipe Dia.	
Single-In(mm).....	5.0(127)
Dual-In(mm).....	NOT APPLICABLE
Exhaust Brake Max. Allowable Back Pressure-In Hg(kPa).....	NOT APPLICABLE

Electrical System

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

Performance Data

Power Output-bhp(kW).....	285(213)
Full Load Speed-r/min.....	1900
Peak Torque-lb ft(N m).....	845(1146)
Peak Torque Speed-r/min.....	1200
BMEP-lbf/in ² (kPa).....	139.6(963)
Friction Power	
Rated Speed-bhp(kW).....	56(42)
Peak Torque Speed-bhp(kW).....	26(19)
Altitude Capability-ft(m).....	10500(3200)
Torque Available at 800 r/min-lb ft (N m).....	620(841)

Engine

Speed r/min	Power bhp(kW)	Torque lb ft(N m)	BSEC lb/bhp hr (g/kW hr)
1900	285(213)	788(1068)	.341(207)
1800	275(205)	802(1087)	.339(206)
1600	251(187)	824(1117)	.338(206)
1400	224(167)	840(1139)	.342(208)
1200	193(144)	845(1146)	.350(213)
1000	160(119)	840(1139)	.364(221)

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

Curve No. E4-1067-32-72
Date: 4-8-85
Rev./Date:
Sht. 2 of 2



ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

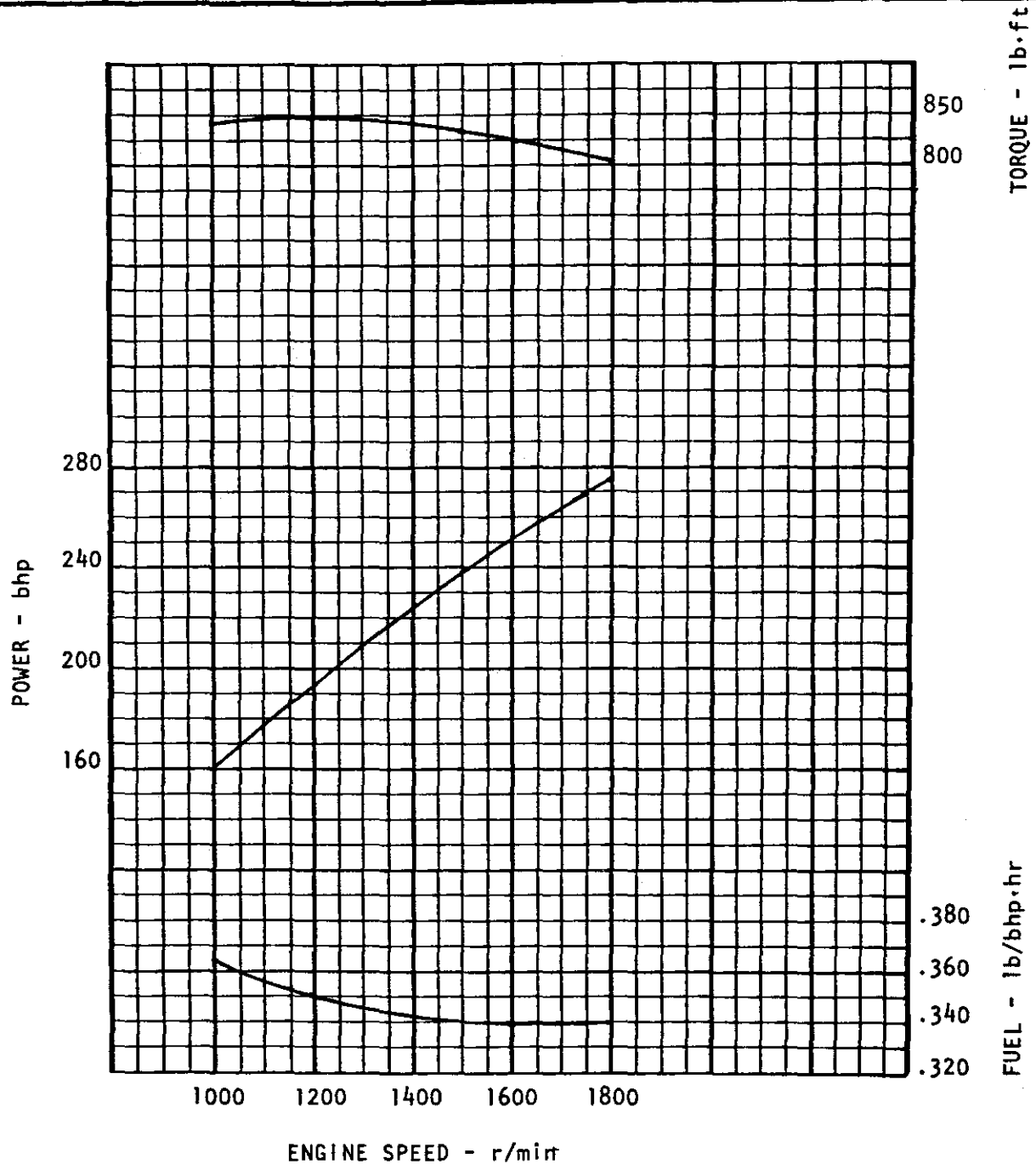
APPLICATION: AUTOMOTIVE

CERTIFICATION: FEDERAL 1985

MODEL: 6-71TA

275 bhp @ 1800 r/min

845 lb·ft @ 1200 r/min



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:

STAFF ENGINEER

CURVE NO.

E4-1067-32-73

DATE: 4-8-85

REV./DATE:

SHT. 1 OF 2

ENGINE SPECIFICATION DATA

General Data

Model.....	1067-8640
Number of Cylinders.....	6
Bore and Stroke-In(mm).....	4.25x5.00(108x127)
Displacement-In ³ (L).....	426(6.9)
Compression Ratio.....	18.7:1
Piston Speed-ft/min(m/min).....	1500(457)
Valves Per Cylinder.....	4
Intake.....	NOT APPLICABLE
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	INLINE-2 CYCLE
Aspiration.....	TURBOCHARGED

Configuration

Turbocharger.....	S4H-005(0.99 A/R)
Charge Air Cooling System.....	ALCC
Blower Type.....	BY-PASS
Blower Drive Ratio.....	1.65:1
Low Idle Speed-r/min.....	500
High Idle Speed-r/min.....	1950
Thrust Bearing Load Limit.....	
Continuous-lbf(N).....	400(1780)
Intermittent-lbf(N).....	1200(5340)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-In H ₂ O(kPa).....	1.9(0.47)

Physical Data

Size.....	
Length-In(mm).....	56.0(1421)
Width-In(mm).....	31.9(809)
Height-In(mm).....	52.0(1321)
Weight, dry-lb(kg).....	2195(996)
Center of Gravity Distance.....	
From R.F.O.B. (x axis)-In(mm).....	20.5(521)
Above Crankshaft (y axis)-In(mm).....	5.1(130)
Right of Crankshaft (z axis)-In(mm).....	-1.5(38)
Installation Drawing.....	NOT AVAILABLE
Maximum Allowable Static Bending Moment at Rear Face of FW Hsg-lbf ft(N m).....	600(814)

Fuel System

Fuel Injector/Timing.....	7A77/1.480
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	95.7(43.4)
Fuel Consumption-gal/hr(L/hr).....	13.7(51.8)
Fuel Spill Rate-lb/hr(kg/hr).....	754.9(342.4)
Fuel Spill Rate-gal/hr(L/hr).....	108(408.8)
Total Fuel Flow-lb/hr(kg/hr).....	850.6(385.8)
Total Fuel Flow-gal/hr(L/hr).....	121.7(460.6)
Maximum Allowable Fuel Pump Suction.....	
Clean System-In Hg(kPa).....	6(20)
Dirty System-In Hg(kPa).....	12(41)
Fuel Filter Micron Size.....	
Primary - Micron.....	30
Secondary - Micron.....	10

Lubrication System

Oil Pressure.....	
Rated Speed-lbf/in ² (kPa).....	55(379)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-235(93-113)
Oil Flow-gal/min(L/min).....	26(98.4)
Oil Pan Capacity.....	
High-qt(L).....	22(20.8)
Low-qt(L).....	18(17.0)
Total Engine Oil Capacity with filters-qt(L).....	24(22.7)
Bypass Oil Filter Orifice-In(mm).....	0.101(2.57)
Engine Angularity Limits.....	
Front up - degrees.....	24
Front down - degrees.....	14
Side tilt - degrees.....	NOT AVAILABLE

Emission Data

CO-gm/hr.....	NOT AVAILABLE
HC-gm/hr.....	NOT AVAILABLE
NO _x -gm/hr.....	NOT AVAILABLE
SO ₂ -gm/hr.....	430
Smoke.....	
Rated Speed - Bosch Number.....	NOT AVAILABLE
Peak Torque Speed - Bosch Number.....	NOT AVAILABLE
Noise - dB(A) @ 1m.....	NOT AVAILABLE
Certification Approval.....	FEDERAL 1985

Cooling System

Engine Heat Rejection-Btu/min(kW).....	7420(130.6)
Engine Radiated Heat-Btu/min(kW).....	1350(23.7)
Coolant Flow-gal/min(L/min).....	73(276.3)
Thermostat.....	
Start to Open-°F(°C).....	177(81)
Fully Open-°F(°C).....	197(92)
Maximum Water Pump Inlet.....	
Restriction-In Hg(kPa).....	0
Engine Coolant Capacity-qt(L).....	23(21.8)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C).....	210(99)
Minimum Top Tank Temperature-°F(°C).....	160(71)
Minimum Coolant Fill Rate-gal/min(L/min).....	3.0(11.4)
Cooling Index.....	
Minimum Air to Boil-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(55.6)
Raw Air Flow - Mile/hr(km/hr).....	15(24)
Deaeration-Air Injection.....	
Capacity-ft ³ /min(m ³ /min).....	0.6(0.017)
Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever is Larger)-qt(L).....	4.0(3.8)

Air System

Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C).....	30(16.7)
Air Intake Restriction Maximum Limit.....	
Dirty Air Cleaner-In H ₂ O(kPa).....	20(5.0)
Clean Air Cleaner-In H ₂ O(kPa).....	12(3.0)
Engine Air Flow - ft ³ /min(m ³ /min).....	820(23.2)
Engine Air Box/Manifold Pressure-In Hg(kPa).....	39.0(131.7)
Recommended Intake Pipe Dia.-In(mm).....	6.0(152)

Exhaust System

Exhaust Flow-ft ³ /min(m ³ /min).....	1730(49.0)
Exhaust Temperature-°F(°C).....	670(354)
Maximum Allowable Back Pressure-In Hg(kPa).....	1.7(5.7)
Recommended Exhaust Pipe Dia.....	
Single-In(mm).....	5.0(127)
Dual-In(mm).....	NOT APPLICABLE
Exhaust Brake Max. Allowable Back Pressure-In Hg(kPa).....	NOT APPLICABLE

Electrical System

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

Performance Data

Power Output-bhp(kW).....	275(205)
Full Load Speed-r/min.....	1800
Peak Torque-lb ft(N m).....	845(1146)
Peak Torque Speed-r/min.....	1200
BMEP-lbf/in ² (kPa).....	142.1(980)
Friction Power.....	
Rated Speed-bhp(kW).....	50(37)
Peak Torque Speed-bhp(kW).....	26(19)
Altitude Capability-ft(m).....	16000(4880)
Torque Available at 800 r/min-lb ft (N m).....	620(841)

Engine

Speed r/min	Power bhp(kW)	Torque lb ft(N m)	BSEC lb/bhp hr (g/kW hr)
1800	275(205)	802(1087)	.339(206)
1600	251(187)	824(1117)	.338(206)
1400	224(167)	840(1139)	.342(208)
1200	193(144)	845(1146)	.350(213)
1000	160(119)	840(1139)	.364(221)

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

Curve No. E4-1067-32-73
Date: 4-8-85
Rev./Date:
Sht. 2 of 2



ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

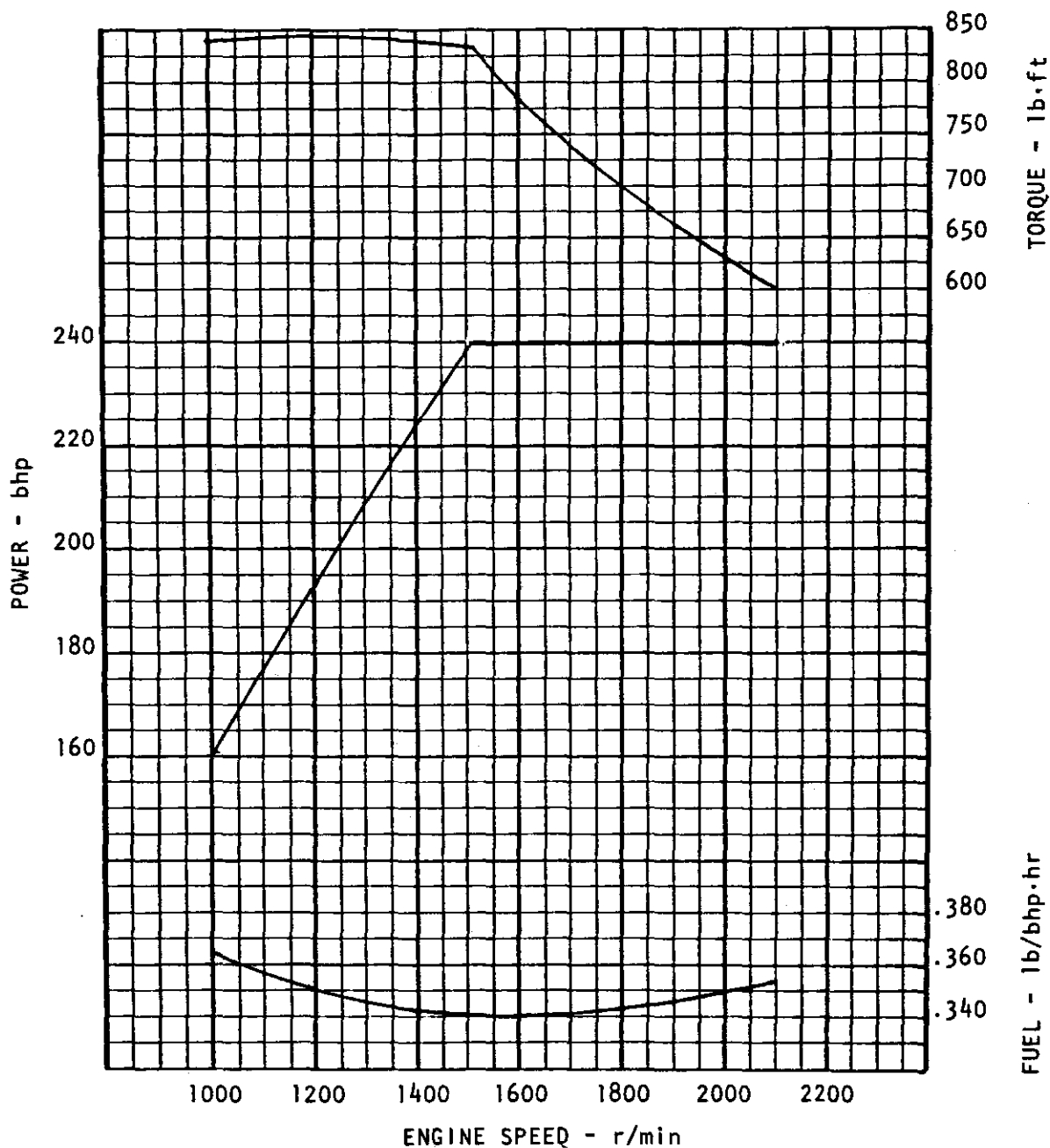
APPLICATION: AUTOMOTIVE

CERTIFICATION: FEDERAL 1985

MODEL: 6-71TTA

240 bhp @ 2100 r/min

845 lb·ft @ 1200 r/min



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 BARMETER;
100°F (39°C) FUEL INLET TEMPERATURE (.853 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

[Signature]
STAFF ENGINEER

CURVE NO.

E4-1067-32-74

DATE: 4-8-85

REV./DATE:

SHT. 1 OF 2

ENGINE SPECIFICATION DATA

General Data

Model.....	1067-8940
Number of Cylinders.....	6
Bore and Stroke-In(mm).....	4.25x5.00(108x127)
Displacement-In ³ (L).....	426(6.9)
Compression Ratio.....	18.7:1
Piston Speed-ft/min(m/min).....	1750(533)
Valves Per Cylinder	
Intake.....	NOT APPLICABLE
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	INLINE-2 CYCLE
Aspiration.....	TURBOCHARGED

Configuration

Turbocharger.....	S4H-005(0.99 A/R)
Charge Air Cooling System.....	ALCC
Blower Type.....	BY-PASS
Blower Drive Ratio.....	1.65:1
Low Idle Speed-r/min.....	500
High Idle Speed-r/min.....	2250
Thrust Bearing Load Limit	
Continuous-lbf(N).....	400(1780)
Intermittent-lbf(N).....	1200(5340)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-In H ₂ O(kPa).....	1.9(0.47)

Physical Data

Size	
Length-In(mm).....	56.0(1421)
Width-In(mm).....	31.9(809)
Height-In(mm).....	52.0(1321)
Weight, dry-lb(kg).....	2195(996)
Center of Gravity Distance	
From R.F.O.B. (x axis)-In(mm).....	20.5(521)
Above Crankshaft (y axis)-In(mm).....	5.1(130)
Right of Crankshaft (z axis)-In(mm).....	-1.5(38)
Installation Drawing.....	NOT AVAILABLE
Maximum Allowable Static Bending Moment at Rear Face of FW Hsg-lbf ft(N m).....	600(814)

Fuel System

Fuel Injector/Timing.....	7A77/1.480
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	84.8(38.5)
Fuel Consumption-gal/hr(L/hr).....	12.1(45.9)
Fuel Spill Rate-lb/hr(kg/hr).....	754.9(342.4)
Fuel Spill Rate-gal/hr(L/hr).....	108(408.8)
Total Fuel Flow-lb/hr(kg/hr).....	839.7(380.9)
Total Fuel Flow-gal/hr(L/hr).....	120.2(454.7)
Maximum Allowable Fuel Pump Suction	
Clean System-In Hg(kPa).....	6(20)
Dirty System-In Hg(kPa).....	12(41)
Fuel Filter Micron Size	
Primary - Micron.....	30
Secondary - Micron.....	10

Lubrication System

Oil Pressure	
Rated Speed-lbf/in ² (kPa).....	55(379)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-235(93-113)
Oil Flow-gal/min(L/min).....	28(106)
Oil Pan Capacity	
High-qt(L).....	22(20.8)
Low-qt(L).....	18(17.0)
Total Engine Oil Capacity with filters-qt(L).....	24(22.7)
Bypass Oil Filter Orifice-In(mm).....	0.101(2.57)
Engine Angularity Limits	
Front up - degrees.....	24
Front down - degrees.....	14
Side tilt - degrees.....	NOT AVAILABLE

Emission Data

CO-gm/hr.....	NOT AVAILABLE
HC-gm/hr.....	NOT AVAILABLE
NO _x -gm/hr.....	NOT AVAILABLE
SO ₂ -gm/hr.....	390
Smoke	
Rated Speed - Bosch Number.....	NOT AVAILABLE
Peak Torque Speed - Bosch Number.....	NOT AVAILABLE
Noise - dB(A) @ 1m.....	
Certification Approval.....	FEDERAL 1985

Cooling System

Engine Heat Rejection-Btu/min(kW).....	6670(117.3)
Engine Radiated Heat-Btu/min(kW).....	1120(19.6)
Coolant Flow-gal/min(L/min).....	79(299)
Thermostat	
Start to Open-°F(°C).....	177(81)
Fully Open-°F(°C).....	197(92)
Maximum Water Pump Inlet	
Restriction-In Hg(kPa).....	0
Engine Coolant Capacity-qt(L).....	23(21.8)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C).....	210(99)
Minimum Top Tank Temperature-°F(°C).....	160(71)
Minimum Coolant Fill Rate-gal/min(L/min).....	3.0(11.4)
Cooling Index	
Minimum Air to Boil-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(55.6)
Ram Air Flow - Mile/hr(km/hr).....	15(24)
Deaeration-Air Injection	
Capacity-ft ³ /min(m ³ /min).....	0.6(0.017)
Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever Is Larger)-qt(L).....	4.0(3.8)

Air System

Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C).....	30(16.7)
Air Intake Restriction Maximum Limit	
Dirty Air Cleaner-In H ₂ O(kPa).....	20(5.0)
Clean Air Cleaner-Ig H ₂ O(kPa).....	12(3.0)
Engine Air Flow - ft ³ /min(m ³ /min).....	750(21.2)
Engine Air Box/Manifold Pressure-In Hg(kPa).....	33.8(114.1)
Recommended Intake Pipe Dia.-In(mm).....	6.0(152)

Exhaust System

Exhaust Flow-ft ³ /min(m ³ /min).....	1550(43.9)
Exhaust Temperature-°F(°C).....	650(343)
Maximum Allowable Back Pressure-In Hg(kPa).....	2.5(8.4)
Recommended Exhaust Pipe Dia.	
Single-In(mm).....	5.0(127)
Dual-In(mm).....	NOT APPLICABLE
Exhaust Brake Max. Allowable Back Pressure-In Hg(kPa).....	NOT APPLICABLE

Electrical System

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

Performance Data

Power Output-bhp(kW).....	240(179)
Full Load Speed-r/min.....	2100
Peak Torque-lb ft(N m).....	845(1146)
Peak Torque Speed-r/min.....	1200
BMEP-lbf/in ² (kPa).....	106.3(733)
Friction Power	
Rated Speed-bhp(kW).....	56(42)
Peak Torque Speed-bhp(kW).....	26(19)
Altitude Capability-ft(m).....	16000(4880)
Torque Available at 800 r/min-lb ft (N m).....	620(841)

Engine

Speed r/min	Power bhp(kW)	Torque lb ft(N m)	BSEC lb/bhp hr (g/kW hr)
2100	240(179)	600(813)	.353(215)
2000	240(179)	630(854)	.349(212)
1800	240(179)	700(949)	.343(209)
1600	240(179)	788(1068)	.340(207)
1400	224(167)	840(1139)	.342(208)
1200	193(144)	845(1146)	.350(213)
1000	160(119)	840(1139)	.364(221)

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

Curve No. E4-1067-32-74
Date: 4-8-85
Rev./Date:
Sht. 2 of 2



ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

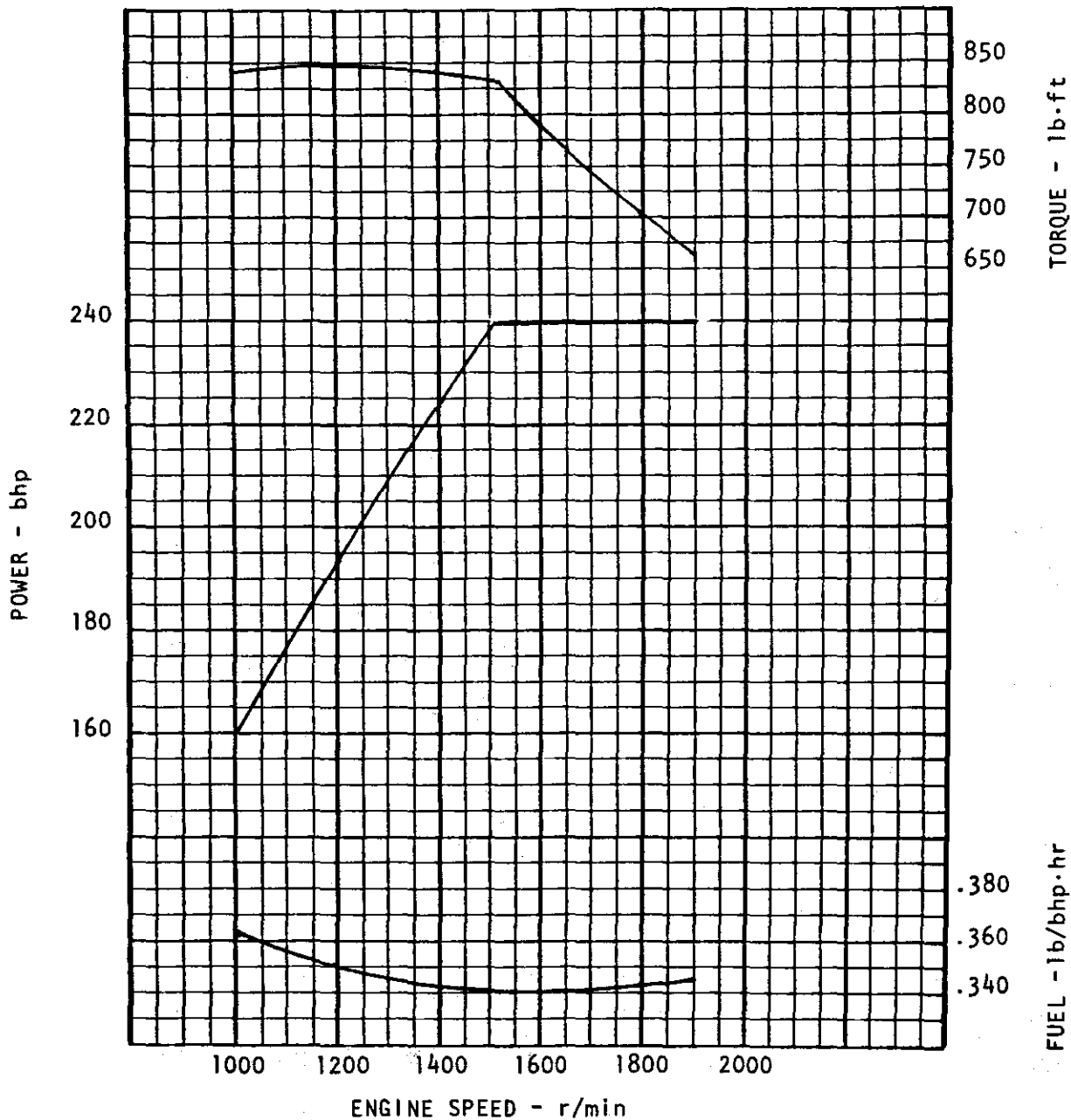
APPLICATION: AUTOMOTIVE

CERTIFICATION: FEDERAL 1985

MODEL: 6-71TTA

240 bhp @ 1900 r/min

845 lb·ft @ 1200 r/min



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:

STAFF ENGINEER

CURVE NO.

E4-1067-32-75

DATE: 4-8-85

REV./DATE:

SHT. 1 OF 2

ENGINE SPECIFICATION DATA

General Data

Model.....	1067-8940
Number of Cylinders.....	6
Bore and Stroke-In(mm).....	4.25x5.00(108x127)
Displacement-In ³ (L).....	426(6.9)
Compression Ratio.....	18.7:1
Piston Speed-ft/min(m/min).....	1583(482)
Valves Per Cylinder	
Intake.....	NOT APPLICABLE
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	INLINE-2 CYCLE
Aspiration.....	TURBOCHARGED

Configuration

Turbocharger.....	S4H-005(0.99 A/R)
Charge Air Cooling System.....	ALCC
Blower Type.....	BY-PASS
Blower Drive Ratio.....	1.65:1
Low Idle Speed-r/min.....	500
High Idle Speed-r/min.....	2050
Thrust Bearing Load Limit	
Continuous-lbf(N).....	400(1780)
Intermittent-lbf(N).....	1200(5340)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-In H ₂ O(kPa).....	1.9(0.47)

Physical Data

Size	
Length-In(mm).....	56.0(1421)
Width-In(mm).....	31.9(809)
Height-In(mm).....	52.0(1321)
Weight, dry-lb(kg).....	2195(996)
Center of Gravity Distance	
From R.F.O.B. (x axis)-In(mm).....	20.5(521)
Above Crankshaft (y axis)-In(mm).....	5.1(130)
Right of Crankshaft (z axis)-In(mm).....	-1.5(38)
Installation Drawing.....	NOT AVAILABLE
Maximum Allowable Static Bending Moment at Rear Face of FN Hsg-lbf ft(N m)....	600(814)

Fuel System

Fuel Injector/Timing.....	7A77/1.480
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	82.8(37.6)
Fuel Consumption-gal/hr(L/hr).....	11.8(44.7)
Fuel Spill Rate-lb/hr(kg/hr).....	754.9(342.4)
Fuel Spill Rate-gal/hr(L/hr).....	108(408.8)
Total Fuel Flow-lb/hr(kg/hr).....	837.7(379.7)
Total Fuel Flow-gal/hr(L/hr).....	119.8(453.3)
Maximum Allowable Fuel Pump Suction	
Clean System-In Hg(kPa).....	6(20)
Dirty System-In Hg(kPa).....	12(41)
Fuel Filter Micron Size	
Primary - Micron.....	30
Secondary - Micron.....	10

Lubrication System

Oil Pressure	
Rated Speed-lbf/in ² (kPa).....	55(379)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-235(93-113)
Oil Flow-gal/min(L/min).....	28(106)
Oil Pan Capacity	
High-qt(L).....	22(20.8)
Low-qt(L).....	18(17.0)
Total Engine Oil Capacity with filters-qt(L).....	24(22.7)
Bypass Oil Filter Orifice-In(mm).....	0.101(2.57)
Engine Angularity Limits	
Front up - degrees.....	24
Front down - degrees.....	14
Side tilt - degrees.....	NOT AVAILABLE

Emission Data

CO-gm/hr.....	NOT AVAILABLE
HC-gm/hr.....	NOT AVAILABLE
NO _x -gm/hr.....	NOT AVAILABLE
SO ₂ -gm/hr.....	380
Smoke	
Rated Speed - Bosch Number.....	NOT AVAILABLE
Peak Torque Speed - Bosch Number.....	NOT AVAILABLE
Noise - dB(A) @ 1m.....	
Certification Approval.....	FEDERAL 1985

Cooling System

Engine Heat Rejection-Btu/min(kW).....	6280(110.5)
Engine Radiated Heat-Btu/min(kW).....	1140(20.1)
Coolant Flow-gal/min(L/min).....	75(284)
Thermostat	
Start to Open-°F(°C).....	177(81)
Fully Open-°F(°C).....	197(92)
Maximum Water Pump Inlet	
Restriction-In Hg(kPa).....	0
Engine Coolant Capacity-qt(L).....	23(21.8)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C).....	210(99)
Minimum Top Tank Temperature-°F(°C).....	160(71)
Minimum Coolant Fill Rate-gal/min(L/min).....	3.0(11.4)
Cooling Index	
Minimum Air to Boil-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(55.6)
Ram Air Flow - Mile/hr(km/hr).....	15(24)
Deaeration-Air Injection	
Capacity-ft ³ /min(m ³ /min).....	0.6(0.017)
Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever Is Larger)-qt(L).....	4.0(3.8)

Air System

Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C)...	30(16.7)
Air Intake Restriction Maximum Limit	
Dirty Air Cleaner-In H ₂ O(kPa).....	20(5.0)
Clean Air Cleaner-In H ₂ O(kPa).....	12(3.0)
Engine Air Flow - ft ³ /min(m ³ /min).....	740(21.0)
Engine Air Box/Manifold Pressure-In Hg(kPa).....	32.8(110.8)
Recommended Intake Pipe Dia.-In(mm)....	6.0(152)

Exhaust System

Exhaust Flow-ft ³ /min(m ³ /min).....	1520(43.0)
Exhaust Temperature-°F(°C).....	640(338)
Maximum Allowable Back	
Pressure-In Hg(kPa).....	2.0(6.8)
Recommended Exhaust Pipe Dia.	
Single-In(mm).....	5.0(127)
Dual-In(mm).....	NOT APPLICABLE
Exhaust Brake Max. Allowable Back	
Pressure-In Hg(kPa).....	NOT APPLICABLE

Electrical System

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

Performance Data

Power Output-bhp(kW).....	240(179)
Full Load Speed-r/min.....	1900
Peak Torque-lb ft(N m).....	845(1146)
Peak Torque Speed-r/min.....	1200
BMEP-lbf/in ² (kPa).....	117.5(810)
Friction Power	
Rated Speed-bhp(kW).....	56(42)
Peak Torque Speed-bhp(kW).....	26(19)
Altitude Capability-ft(m).....	10500(3200)
Torque Available at 800 r/min-lb ft (N m).....	620(841)

Engine

Speed r/min	Power bhp(kW)	Torque lb ft(N m)	BSEC lb/bhp hr (g/kW hr)
1900	240(179)	663(899)	.345(210)
1800	240(179)	700(949)	.343(209)
1600	240(179)	788(1068)	.340(207)
1400	224(167)	840(1139)	.342(208)
1200	193(144)	845(1146)	.350(213)
1000	160(119)	840(1139)	.364(221)

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

Curve No. E4-1067-32-75
Date: 4-8-85
Rev./Date:
Sht. 2 of 2



ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

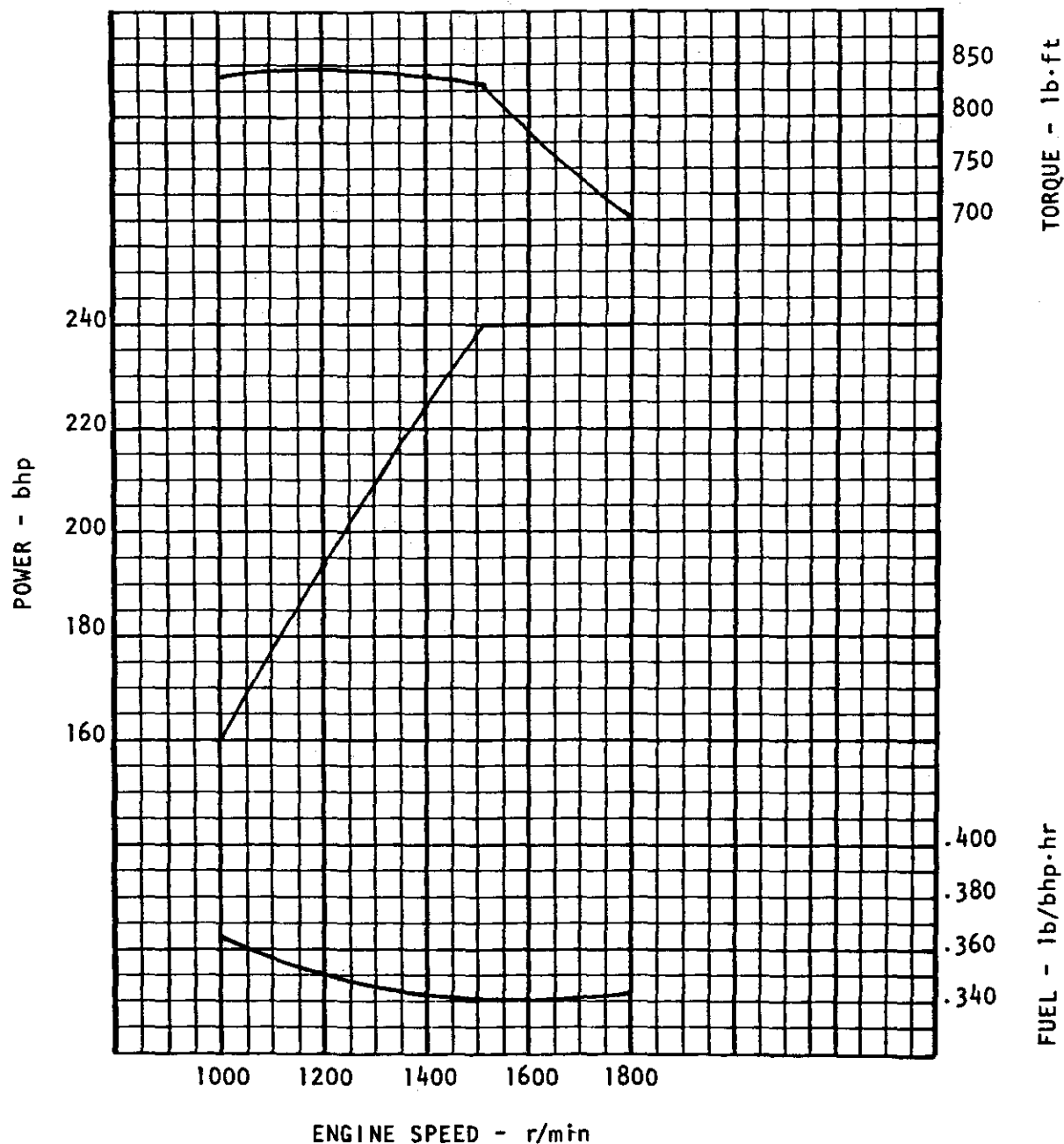
APPLICATION: AUTOMOTIVE

CERTIFICATION: FEDERAL 1985

MODEL: 6-71TTA

240 bhp @ 1800 r/min

845 lb·ft @ 1200 r/min



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 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

[Signature]
STAFF ENGINEER

CURVE NO.

E4-1067-32-76

DATE: 4-8-85

REV./DATE:

SHT. 1 OF 2

ENGINE SPECIFICATION DATA

General Data

Model.....	1067-8940
Number of Cylinders.....	6
Bore and Stroke-In(mm).....	4.25x5.00(108x127)
Displacement-In ³ (L).....	426(6.9)
Compression Ratio.....	18.7:1
Piston Speed-ft/min(m/min).....	1583(482)
Valves Per Cylinder	
Intake.....	NOT APPLICABLE
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	INLINE-2 CYCLE
Aspiration.....	TURBOCHARGED

Configuration

Turbocharger.....	S4H-005(0.99 A/R)
Charge Air Cooling System.....	ALCC
Blower Type.....	BY-PASS
Blower Drive Ratio.....	1.65:1
Low Idle Speed-r/min.....	500
High Idle Speed-r/min.....	2050
Thrust Bearing Load Limit	
Continuous-lbf(N).....	400(1780)
Intermittent-lbf(N).....	1200(5340)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-In H ₂ O(kPa).....	1.9(0.47)

Physical Data

Size	
Length-In(mm).....	56.0(1421)
Width-In(mm).....	31.9(809)
Height-In(mm).....	52.0(1321)
Weight, dry-lb(kg).....	2195(996)
Center of Gravity Distance	
From R.F.O.B. (x axis)-In(mm).....	20.5(521)
Above Crankshaft (y axis)-In(mm).....	5.1(130)
Right of Crankshaft (z axis)-In(mm).....	-1.5(38)
Installation Drawing.....	NOT AVAILABLE
Maximum Allowable Static Bending Moment at Rear Face of FW Hsg-lbf ft(N m).....	600(814)

Fuel System

Fuel Injector/Timing.....	7A77/1.480
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	82.2(37.3)
Fuel Consumption-gal/hr(L/hr).....	11.8(44.5)
Fuel Spill Rate-lb/hr(kg/hr).....	754.9(342.4)
Fuel Spill Rate-gal/hr(L/hr).....	108(408.8)
Total Fuel Flow-lb/hr(kg/hr).....	837.1(379.7)
Total Fuel Flow-gal/hr(L/hr).....	119.8(453.3)
Maximum Allowable Fuel Pump Suction	
Clean System-In Hg(kPa).....	6(20)
Dirty System-In Hg(kPa).....	12(41)
Fuel Filter Micron Size	
Primary - Micron.....	30
Secondary - Micron.....	10

Lubrication System

Oil Pressure	
Rated Speed-lbf/in ² (kPa).....	55(379)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-235(93-113)
Oil Flow-gal/min(L/min).....	26(98)
Oil Pan Capacity	
High-qt(L).....	22(20.8)
Low-qt(L).....	18(17.0)
Total Engine Oil Capacity with filters-qt(L).....	24(22.7)
Bypass Oil Filter Orifice-In(mm).....	0.101(2.57)
Engine Angularity Limits	
Front up - degrees.....	24
Front down - degrees.....	14
Side tilt - degrees.....	NOT AVAILABLE

Emission Data

CO-gm/hr.....	NOT AVAILABLE
HC-gm/hr.....	NOT AVAILABLE
NO _x -gm/hr.....	NOT AVAILABLE
SO ₂ -gm/hr.....	370
Smoke	
Rated Speed - Bosch Number.....	NOT AVAILABLE
Peak Torque Speed - Bosch Number.....	NOT AVAILABLE
Noise - dB(A) @ 1m.....	
Certification Approval.....	FEDERAL 1985

Cooling System

Engine Heat Rejection-Btu/min(kW).....	6050(106.3)
Engine Radiated Heat-Btu/min(kW).....	1160(20.4)
Coolant Flow-gal/min(L/min).....	73(276)
Thermostat	
Start to Open-°F(°C).....	177(81)
Fully Open-°F(°C).....	197(92)
Maximum Water Pump Inlet	
Restriction-In Hg(kPa).....	0
Engine Coolant Capacity-qt(L).....	23(21.8)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C).....	210(99)
Minimum Top Tank Temperature-°F(°C).....	160(71)
Minimum Coolant Fill Rate-gal/min(L/min).....	3.0(11.4)
Cooling Index	
Minimum Air to Boil-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(55.6)
Ram Air Flow - Mile/hr(km/hr).....	15(24)
Deaeration-Air Injection	
Capacity-ft ³ /min(m ³ /min).....	0.6(0.017)
Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever is Larger)-qt(L).....	4.0(3.8)

Air System

Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C).....	30(16.7)
Air Intake Restriction Maximum Limit	
Dirty Air Cleaner-In H ₂ O(kPa).....	20(5.0)
Clean Air Cleaner-lg H ₂ O(kPa).....	12(3.0)
Engine Air Flow - ft ³ /min(m ³ /min).....	730(20.7)
Engine Air Box/Manifold Pressure-In Hg(kPa).....	32.3(109.1)
Recommended Intake Pipe Dia.-In(mm).....	6.0(152)

Exhaust System

Exhaust Flow-ft ³ /min(m ³ /min).....	1510(42.8)
Exhaust Temperature-°F(°C).....	650(343)
Maximum Allowable Back Pressure-In Hg(kPa).....	1.7(5.7)
Recommended Exhaust Pipe Dia.	
Single-In(mm).....	5.0(127)
Dual-In(mm).....	NOT APPLICABLE
Exhaust Brake Max. Allowable Back Pressure-In Hg(kPa).....	NOT APPLICABLE

Electrical System

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

Performance Data

Power Output-bhp(kW).....	240(179)
Full Load Speed-r/min.....	1800
Peak Torque-lb ft(N m).....	845(1146)
Peak Torque Speed-r/min.....	1200
BMEP-lbf/in ² (kPa).....	124.0(855)
Friction Power	
Rated Speed-bhp(kW).....	50(37)
Peak Torque Speed-bhp(kW).....	26(19)
Altitude Capability-ft(m).....	10500(3200)
Torque Available at 800 r/min-lb ft (N m).....	620(841)

Engine

Speed r/min	Power bhp(kW)	Torque lb ft(N m)	BSEC lb/bhp hr (g/kW hr)
1800	240(179)	700(949)	.343(209)
1600	240(179)	788(1068)	.340(207)
1400	224(167)	840(1139)	.342(208)
1200	193(144)	845(1146)	.350(213)
1000	160(119)	840(1139)	.364(221)



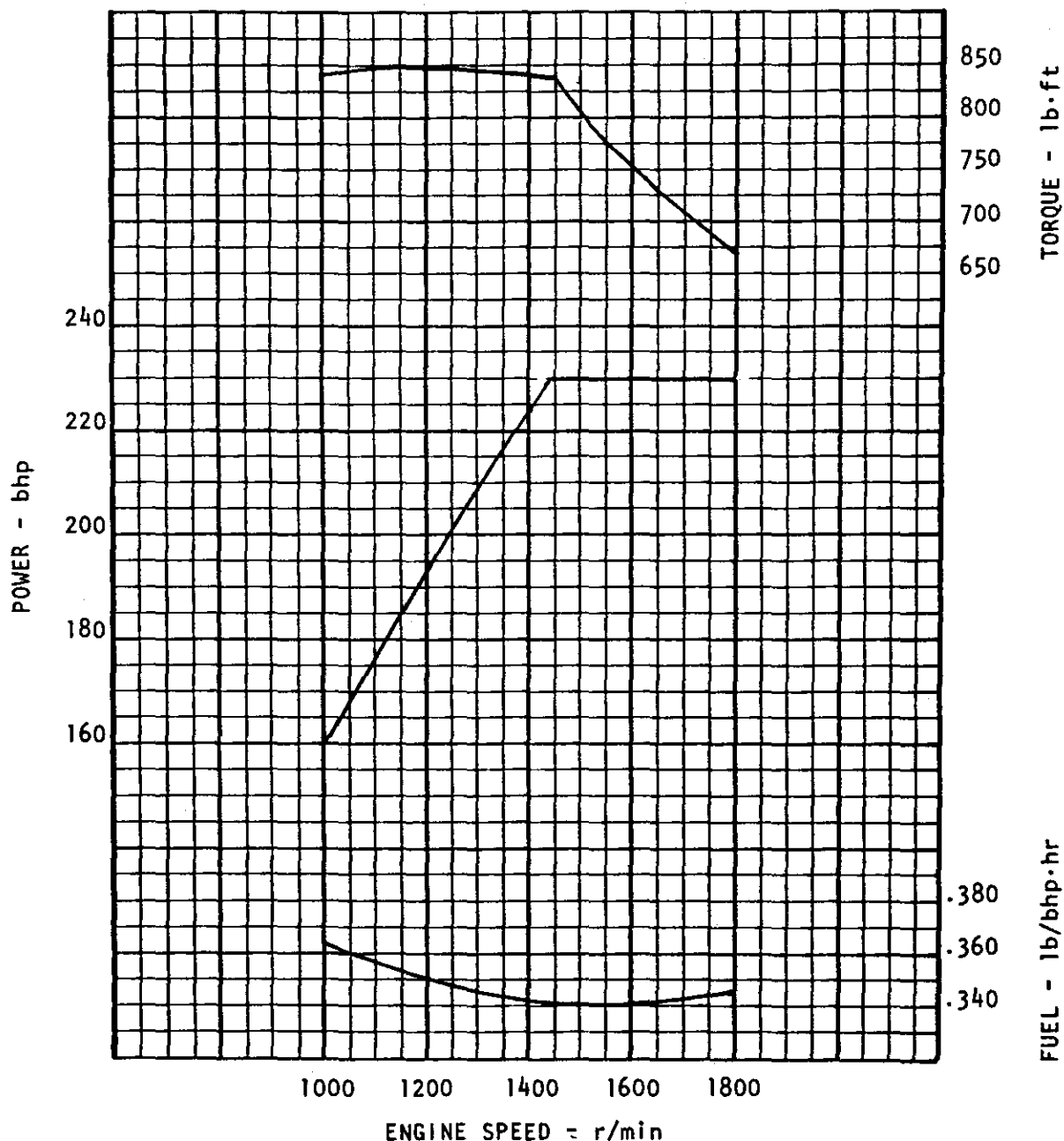
ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

APPLICATION: AUTOMOTIVE

CERTIFICATION: FEDERAL 1985

MODEL: 6-71TTA
230 bhp @ 1800 r/min
845 lb·ft @ 1200 r/min



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:

STAFF ENGINEER

CURVE NO.
E4-1067-32-77
DATE: 4-8-85
REV./DATE:
SHT. 1 OF 2

ENGINE SPECIFICATION DATA

General Data

Model.....	1067-8940
Number of Cylinders.....	6
Bore and Stroke-In(mm).....	4.25x5.00(108x127)
Displacement-In ³ (L).....	426(6.9)
Compression Ratio.....	18.7:1
Piston Speed-ft/min(m/min).....	1500(457)
Valves Per Cylinder.....	
Intake.....	NOT APPLICABLE
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	INLINE-2 CYCLE
Aspiration.....	TURBOCHARGED

Configuration

Turbocharger.....	S4H-005(0.99 A/R)
Charge Air Cooling System.....	ALCC
Blower Type.....	BY-PASS
Blower Drive Ratio.....	1.65:1
Low Idle Speed-r/min.....	500
High Idle Speed-r/min.....	1950
Thrust Bearing Load Limit.....	
Continuous-lbf(N).....	400(1780)
Intermittent-lbf(N).....	1200(5340)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-In H ₂ O(kPa).....	1.9(0.47)

Physical Data

Size.....	
Length-In(mm).....	56.0(1421)
Width-In(mm).....	31.9(809)
Height-In(mm).....	52.0(1321)
Weight, dry-lb(kg).....	2195(996)
Center of Gravity Distance.....	
From R.F.O.B. (x axis)-In(mm).....	20.5(521)
Above Crankshaft (y axis)-In(mm).....	5.1(130)
Right of Crankshaft (z axis)-In(mm).....	-1.5(38)
Installation Drawing.....	NOT AVAILABLE
Maximum Allowable Static Bending Moment at Rear Face of FW Hsg-lbf ft(N m)....	600(814)

Fuel System

Fuel Injector/Timing.....	7A77/1.480
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	79.3(36.0)
Fuel Consumption-gal/hr(L/hr).....	11.3(42.9)
Fuel Spill Rate-lb/hr(kg/hr).....	754.9(342.4)
Fuel Spill Rate-gal/hr(L/hr).....	108(408.8)
Total Fuel Flow-lb/hr(kg/hr).....	834.2(378.4)
Total Fuel Flow-gal/hr(L/hr).....	119.3(451.8)
Maximum Allowable Fuel Pump Suction.....	
Clean System-In Hg(kPa).....	6(20)
Dirty System-In Hg(kPa).....	12(41)
Fuel Filter Micron Size.....	
Primary - Micron.....	30
Secondary - Micron.....	10

Lubrication System

Oil Pressure.....	
Rated Speed-lbf/in ² (kPa).....	55(379)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-235(93-113)
Oil Flow-gal/min(L/min).....	26(98)
Oil Pan Capacity.....	
High-qt(L).....	22(20.8)
Low-qt(L).....	18(17.0)
Total Engine Oil Capacity with filters-qt(L).....	24(22.7)
Bypass Oil Filter Orifice-In(mm).....	0.101(2.57)
Engine Angularity Limits.....	
Front up - degrees.....	24
Front down - degrees.....	14
Side tilt - degrees.....	NOT AVAILABLE

Emission Data

CO-gm/hr.....	NOT AVAILABLE
HC-gm/hr.....	NOT AVAILABLE
NO _x -gm/hr.....	NOT AVAILABLE
SO ₂ -gm/hr.....	360
Smoke.....	
Rated Speed - Bosch Number.....	NOT AVAILABLE
Peak Torque Speed - Bosch Number.....	NOT AVAILABLE
Noise - dB(A) @ 1m.....	
Certification Approval.....	FEDERAL 1985

Cooling System

Engine Heat Rejection-Btu/min(kW).....	6070(106.8)
Engine Radiated Heat-Btu/min(kW).....	1120(19.6)
Coolant Flow-gal/min(L/min).....	73(276)
Thermostat.....	
Start to Open-°F(°C).....	177(81)
Fully Open-°F(°C).....	197(92)
Maximum Water Pump Inlet.....	
Restriction-In Hg(kPa).....	0
Engine Coolant Capacity-qt(L).....	23(21.8)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C).....	210(99)
Minimum Top Tank Temperature-°F(°C).....	160(71)
Minimum Coolant Fill Rate-gal/min(L/min).....	3.0(11.4)
Cooling Index.....	
Minimum Air to Boil-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(55.6)
Ram Air Flow - Mile/hr(km/hr).....	15(24)
Deaeration-Air Injection Capacity-ft ³ /min(m ³ /min).....	0.6(0.017)
Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever Is Larger)-qt(L).....	4.0(3.8)

Air System

Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C)...	30(16.7)
Air Intake Restriction Maximum Limit.....	
Dirty Air Cleaner-In H ₂ O(kPa).....	20(5.0)
Clean Air Cleaner-lq H ₂ O(kPa).....	12(3.0)
Engine Air Flow - ft ³ /min(m ³ /min).....	700(19.8)
Engine Air Box/Manifold Pressure-In Hg(kPa).....	30.6(103.3)
Recommended Intake Pipe Dia.-In(mm)....	6.0(152)

Exhaust System

Exhaust Flow-ft ³ /min(m ³ /min).....	1450(40.5)
Exhaust Temperature-°F(°C).....	640(338)
Maximum Allowable Back Pressure-In Hg(kPa).....	1.7(5.7)
Recommended Exhaust Pipe Dia. Single-In(mm).....	5.0(127)
Dual-In(mm).....	NOT APPLICABLE
Exhaust Brake Max. Allowable Back Pressure-In Hg(kPa).....	NOT APPLICABLE

Electrical System

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

Performance Data

Power Output-bhp(kW).....	230(172)
Full Load Speed-r/min.....	1800
Peak Torque-lb ft(N m).....	845(1146)
Peak Torque Speed-r/min.....	1200
BMEP-lbf/in ² (kPa).....	118.9(820)
Friction Power.....	
Rated Speed-bhp(kW).....	50(37)
Peak Torque Speed-bhp(kW).....	26(19)
Altitude Capability-ft(m).....	10500(3200)
Torque Available at 800 r/min-lb ft (N m).....	620(841)

Engine

Speed r/min	Power bhp(kW)	Torque lb ft(N m)	BSFC lb/bhp hr (g/kW hr)
1800	230(172)	671 (910)	.345(210)
1600	230(172)	755(1024)	.341(207)
1400	224(167)	840(1139)	.342(208)
1200	193(144)	845(1146)	.350(213)
1000	160(119)	840(1139)	.364(221)

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

Curve No. E4-1067-32-77
Date: 4-8-85
Rev./Date:
Sht. 2 of 2



ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

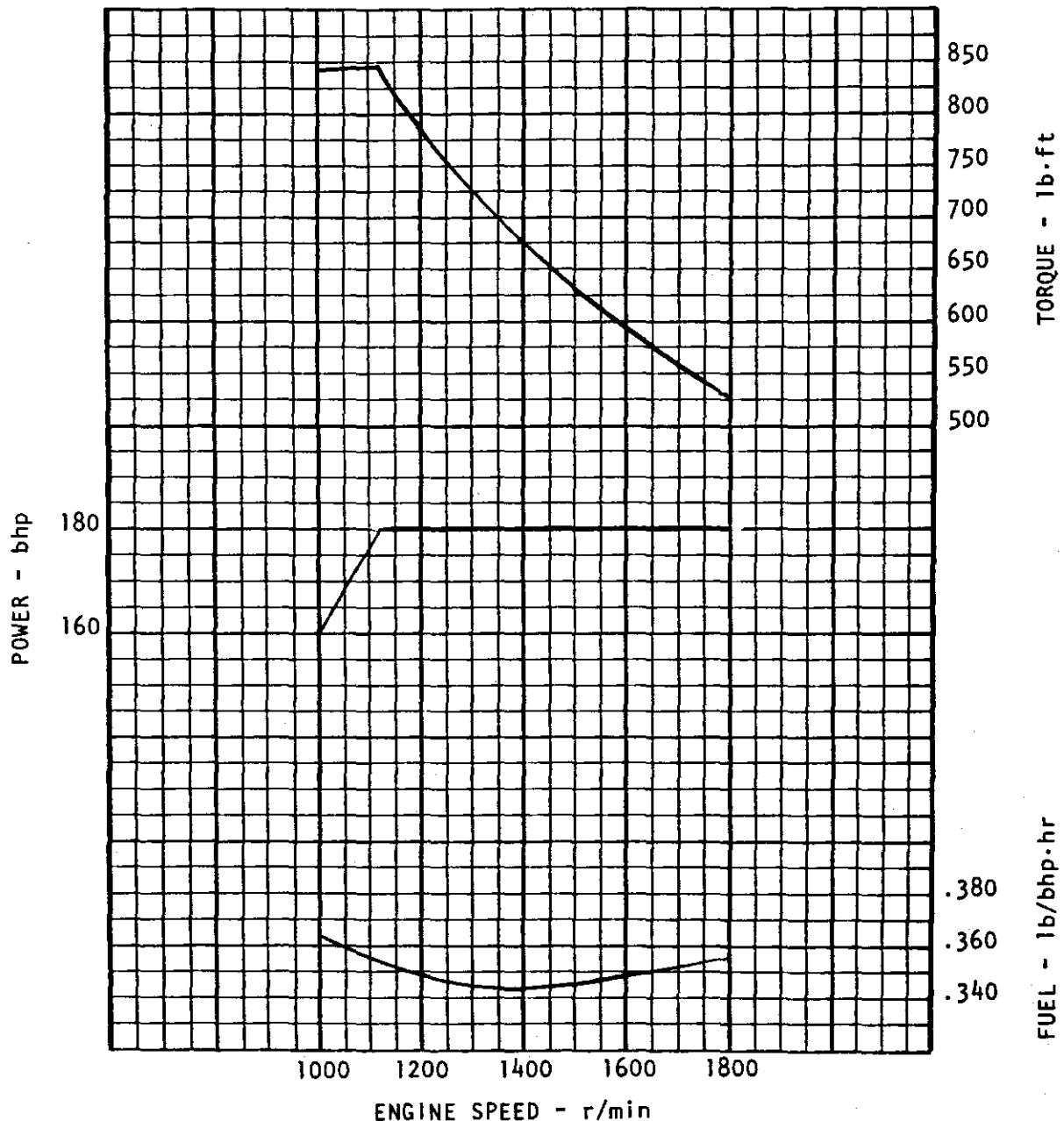
APPLICATION: AUTOMOTIVE

CERTIFICATION: FEDERAL 1985

MODEL: 6-71TTA

180 bhp @ 1800 r/min

840 lb·ft @ 1000 r/min



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 × 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

STAFF ENGINEER

CURVE NO.

E4-1067-32-78

DATE: 4-8-85

REV./DATE:

SHT. 1 OF 2

ENGINE SPECIFICATION DATA

General Data

Model.....	1067-8940
Number of Cylinders.....	6
Bore and Stroke-In(mm).....	4.25x5.00(108x127)
Displacement-In ³ (L).....	426(6.9)
Compression Ratio.....	18.7:1
Piston Speed-ft/min(m/min).....	1500(457)
Valves Per Cylinder	
Intake.....	NOT APPLICABLE
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	INLINE-2 CYCLE
Aspiration.....	TURBOCHARGED

Configuration

Turbocharger.....	S4H-005(0.99 A/R)
Charge Air Cooling System.....	ALCC
Blower Type.....	BY-PASS
Blower Drive Ratio.....	1.65:1
Low Idle Speed-r/min.....	500
High Idle Speed-r/min.....	1950
Thrust Bearing Load Limit	
Continuous-lbf(N).....	400(1780)
Intermittent-lbf(N).....	1200(5340)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-In H ₂ O(kPa).....	1.9(0.47)

Physical Data

Size	
Length-In(mm).....	56.0(1421)
Width-In(mm).....	31.9(809)
Height-In(mm).....	52.0(1321)
Weight, dry-lb(kg).....	2195(996)
Center of Gravity Distance	
From R.F.O.B. (x axis)-In(mm).....	20.5(521)
Above Crankshaft (y axis)-In(mm).....	5.1(130)
Right of Crankshaft (z axis)-In(mm).....	-1.5(38)
Installation Drawing.....	NOT AVAILABLE
Maximum Allowable Static Bending Moment at Rear Face of FM Hsg-lbf ft(N m).....	600(814)

Fuel System

Fuel Injector/Timing.....	7A77/1.480
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	63.9(29.0)
Fuel Consumption-gal/hr(L/hr).....	9.1(34.6)
Fuel Spill Rate-lb/hr(kg/hr).....	754.9(342.4)
Fuel Spill Rate-gal/hr(L/hr).....	108(408.8)
Total Fuel Flow-lb/hr(kg/hr).....	818.8(371.4)
Total Fuel Flow-gal/hr(L/hr).....	117.1(443.4)
Maximum Allowable Fuel Pump Suction	
Clean System-In Hg(kPa).....	6(20)
Dirty System-In Hg(kPa).....	12(41)
Fuel Filter Micron Size	
Primary - Micron.....	30
Secondary - Micron.....	10

Lubrication System

Oil Pressure	
Rated Speed-lbf/in ² (kPa).....	55(379)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-235(93-113)
Oil Flow-gal/min(L/min).....	26(98)
Oil Pan Capacity	
High-qt(L).....	22(20.8)
Low-qt(L).....	18(17.0)
Total Engine Oil Capacity with filters-qt(L).....	24(22.7)
Bypass Oil Filter Orifice-In(mm).....	0.101(2.57)
Engine Angularity Limits	
Front up - degrees.....	24
Front down - degrees.....	14
Side tilt - degrees.....	NOT AVAILABLE

Emission Data

CO-gm/hr.....	NOT AVAILABLE
HC-gm/hr.....	NOT AVAILABLE
NO _x -gm/hr.....	NOT AVAILABLE
SO ₂ -gm/hr.....	290
Smoke	
Rated Speed - Bosch Number.....	NOT AVAILABLE
Peak Torque Speed - Bosch Number.....	NOT AVAILABLE
Noise - dB(A) @ 1m.....	
Certification Approval.....	FEDERAL 1985

Cooling System

Engine Heat Rejection-Btu/min(kW).....	4960(87.3)
Engine Radiated Heat-Btu/min(kW).....	900(15.8)
Coolant Flow-gal/min(L/min).....	73(276)
Thermostat	
Start to Open-°F(°C).....	177(81)
Fully Open-°F(°C).....	197(92)
Maximum Water Pump Inlet	
Restriction-In Hg(kPa).....	0
Engine Coolant Capacity-qt(L).....	23(21.8)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C).....	210(99)
Minimum Top Tank Temperature-°F(°C).....	160(71)
Minimum Coolant Fill Rate-gal/min(L/min).....	3.0(11.4)
Cooling Index	
Minimum Air to Boil-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(55.6)
Ram Air Flow - Mile/hr(km/hr).....	15(24)
Deaeration-Air Injection	
Capacity-ft ³ /min(m ³ /min).....	0.6(0.017)
Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever Is Larger)-qt(L).....	4.0(3.8)

Air System

Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C).....	30(16.7)
Air Intake Restriction Maximum Limit	
Dirty Air Cleaner-In H ₂ O(kPa).....	20(5.0)
Clean Air Cleaner-Ig H ₂ O(kPa).....	12(3.0)
Engine Air Flow - ft ³ /min(m ³ /min).....	580(16.4)
Engine Air Box/Manifold Pressure-In Hg(kPa).....	22.4(75.6)
Recommended Intake Pipe Dia.-In(mm).....	6.0(152)

Exhaust System

Exhaust Flow-ft ³ /min(m ³ /min).....	1190(33.7)
Exhaust Temperature-°F(°C).....	640(338)
Maximum Allowable Back Pressure-In Hg(kPa).....	1.7(5.7)
Recommended Exhaust Pipe Dia.	
Single-In(mm).....	5.0(127)
Dual-In(mm).....	NOT APPLICABLE
Exhaust Brake Max. Allowable Back Pressure-In Hg(kPa).....	NOT APPLICABLE

Electrical System

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

Performance Data

Power Output-bhp(kW).....	180(134)
Full Load Speed-r/min.....	1800
Peak Torque-lb ft(N m).....	840(1139)
Peak Torque Speed-r/min.....	1000
BMEP-lbf/in ² (kPa).....	93.0(641)
Friction Power	
Rated Speed-bhp(kW).....	50(37)
Peak Torque Speed-bhp(kW).....	20(15)
Altitude Capability-ft(m).....	10500(3200)
Torque Available at 800 r/min-lb ft (N m).....	620(841)

Engine

Speed r/min	Power bhp(kW)	Torque lb ft(N m)	BSFC lb/bhp hr (g/kW hr)
1800	180(134)	525(712)	.355(216)
1600	180(134)	591(801)	.349(212)
1400	180(134)	675(915)	.344(209)
1200	180(134)	788(1068)	.349(212)
1000	160(119)	840(1139)	.364(221)

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

Curve No. E4-1067-32-78
Date: 4-8-85
Rev./Date:
Sht. 2 of 2



ENGINE PERFORMANCE CURVE

RATING: GROSS POWER - BASIC ENGINE

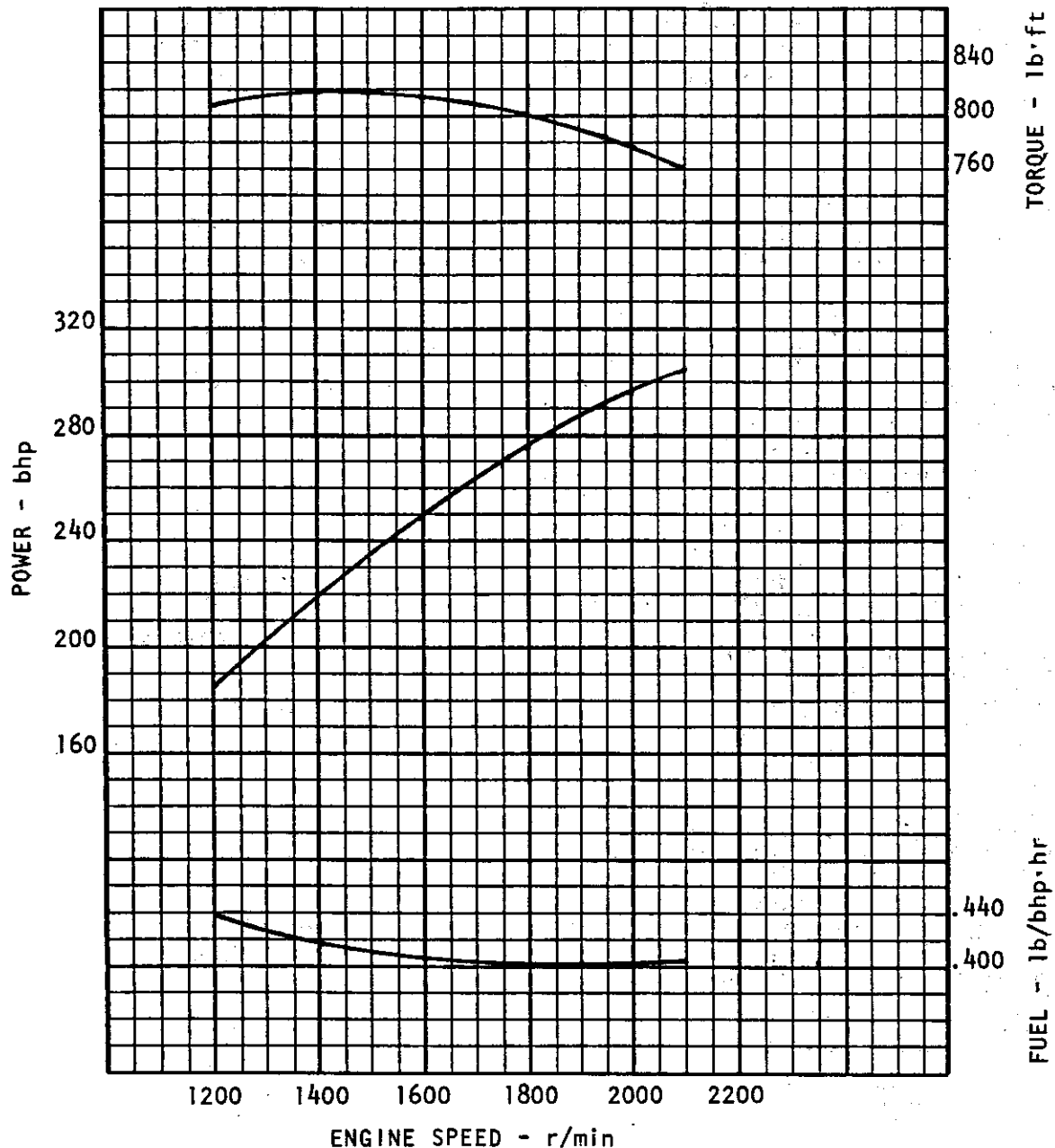
APPLICATION: AUTOMOTIVE

CERTIFICATION: FEDERAL 1979-85

MODEL: 8V-71N

304 bhp @ 2100 r/min

818 lb·ft @ 1400 r/min



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 × 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:

Peter L. Ardus

STAFF ENGINEER

CURVE NO.

E4-7081-52-64

DATE: 3-22-78

REV./DATE: 9/10-1-84

SHT. 1 OF 2

ENGINE SPECIFICATION DATA

General Data

Model.....	7087-7040
Number of Cylinders.....	8
Bore and Stroke-in(mm).....	4.25x5.00(108x127)
Displacement-in ³ (L).....	568(9.3)
Compression Ratio.....	18.7:1
Piston Speed-ft/min(m/min).....	1750(533)
Valves Per Cylinder	
Intake.....	NOT APPLICABLE
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	63.5° VEE - 2 CYCLE
Aspiration.....	NATURAL

Configuration

Turbocharger.....	NOT APPLICABLE
Charge Air Cooling System.....	NONE
Blower Type.....	STANDARD
Blower Drive Ratio.....	2.05:1
Low Idle Speed-r/min.....	550
High Idle Speed-r/min.....	2250
Thrust Bearing Load Limit	
Continuous-lbf(N).....	600(2670)
Intermittent-lbf(N).....	1800(8000)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-In H ₂ O(kPa).....	3.0(0.75)

Physical Data

Size	
Length-in(mm).....	47.0(1194)
Width-in(mm).....	38.0(965)
Height-in(mm).....	48.0(1219)
Weight, dry-lb(kg).....	2345(1064)
Center of Gravity Distance	
From R.F.O.B. (x axis)-in(mm).....	12.41(315)
Above Crankshaft (y axis)-in(mm).....	6.41(163)
Right of Crankshaft (z axis)-in(mm).....	1.47(37.3)
Installation Drawing.....	5123732
Maximum Allowable Static Bending Moment at Rear Face of FW Hg-lbf ft(N m).....	0

Fuel System

Fuel Injector/Timing.....	7E65/1.484*
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	123.1(55.8)
Fuel Consumption-gal/hr(L/hr).....	17.6(66.7)
Fuel Spill Rate-lb/hr(kg/hr).....	503.3(228.3)
Fuel Spill Rate-gal/hr(L/hr).....	72(272.5)
Total Fuel Flow-lb/hr(kg/hr).....	626.4(284.1)
Total Fuel Flow-gal/hr(L/hr).....	89.6(339.2)
Maximum Allowable Fuel Pump Suction	
Clean System-In Hg(kPa).....	6(20)
Dirty System-In Hg(kPa).....	12(41)
Fuel Filter Micron Size	
Primary - Micron.....	30
Secondary - Micron.....	10

Lubrication System

Oil Pressure	
Rated Speed-lbf/in ² (kPa).....	60(414)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-235(93-113)
Oil Flow-gal/min(L/min).....	37(140)
Oil Pan Capacity	
High-qt(L).....	23(21.8)
Low-qt(L).....	17.0(16.1)
Total Engine Oil Capacity with filters-qt(L).....	25(23.7)
Bypass Oil Filter Orifice-In(mm).....	0.101(2.57)
Engine Angularity Limits	
Front up - degrees.....	15
Front down - degrees.....	18
Side tilt - degrees.....	NOT AVAILABLE

Emission Data

CO-gm/hr.....	4000
HC-gm/hr.....	120
NO _x -gm/hr.....	2600
SO ₂ -gm/hr.....	560
Smoke	
Rated Speed - Bosch Number.....	2.0
Peak Torque Speed - Bosch Number.....	2.4
Noise - dB(A) @ 1m.....	98.5
Certification Approval.....	FEDERAL 1985

Cooling System

Engine Heat Rejection-Btu/min(kW).....	9400(165.3)
Engine Radiated Heat-Btu/min(kW).....	1810(31.8)
Coolant Flow-gal/min(L/min).....	130(492)
Thermostat	
Start to Open-°F(°C).....	170(77)
Fully Open-°F(°C).....	187(86)
Maximum Water Pump Inlet Restriction-In Hg(kPa).....	3.0(10.2)
Engine Coolant Capacity-qt(L).....	31(29.3)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C).....	210(99)
Minimum Top Tank Temperature-°F(°C).....	160(71)
Minimum Coolant Fill Rate-gal/min(L/min).....	3.0(11.4)
Cooling Index	
Minimum Air to Boil-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(55.6)
Ram Air Flow - Mile/hr(km/hr).....	15(24)
Deaeration-Air Injection	
Capacity-ft ³ /min(m ³ /min).....	0.8(0.023)
Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever is Larger)-qt(L).....	4.0(3.8)

Air System

Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C).....	30(16.7)
Air Intake Restriction Maximum Limit	
Dirty Air Cleaner-In H ₂ O(kPa).....	25.0(6.2)
Clean Air Cleaner-In H ₂ O(kPa).....	17.0(4.22)
Engine Air Flow - ft ³ /min(m ³ /min).....	910(25.8)
Engine Air Box/Manifold Pressure-In Hg(kPa).....	5.0(16.9)
Recommended Intake Pipe Dia.-In(mm).....	6.0(152)

Exhaust System

Exhaust Flow-ft ³ /min(m ³ /min).....	2240(63.4)
Exhaust Temperature-°F(°C).....	860(460)
Maximum Allowable Back Pressure-In Hg(kPa).....	4.0(13.5)
Recommended Exhaust Pipe Dia.	
Single-In(mm).....	5.0(127)
Dual-In(mm).....	3.5(89)
Exhaust Brake Max. Allowable Back Pressure-In Hg(kPa).....	NOT APPLICABLE

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
Maximum Allowable Resistance of Starting Circuit	
12 volt system - ohm.....	0.0012
24 volt system - ohm.....	0.002

Performance Data

Power Output-bhp(kW).....	304(227)
Full Load Speed-r/min.....	2100
Peak Torque-lb ft(N m).....	818(1109)
Peak Torque Speed-r/min.....	1400
BMEP-lbf/in ² (kPa).....	101.0(696)
Friction Power	
Rated Speed-bhp(kW).....	77(57)
Peak Torque Speed-bhp(kW).....	39(29)
Altitude Capability-ft(m).....	9000(2740)
Torque Available at 800 r/min-lb ft (N m).....	704(954)

Engine

Speed r/min	Power bhp(kW)	Torque lb ft(N m)	BSEC lb/bhp hr (g/kW hr)
2100	304(227)	760(1030)	.405(246)
2000	296(221)	777(1053)	.403(245)
1800	275(205)	802(1087)	.401(244)
1600	248(185)	814(1104)	.405(246)
1400	218(163)	818(1109)	.416(253)
1200	185(138)	808(1095)	.440(268)
1000	145(108)	762(1033)	.482(293)

*Advanced Camshaft Timing

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

Curve No. E4-7081-52-64
Date: 3-22-78
Rev./Date: 9/10-01-84
Sht. 2 of 2



ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

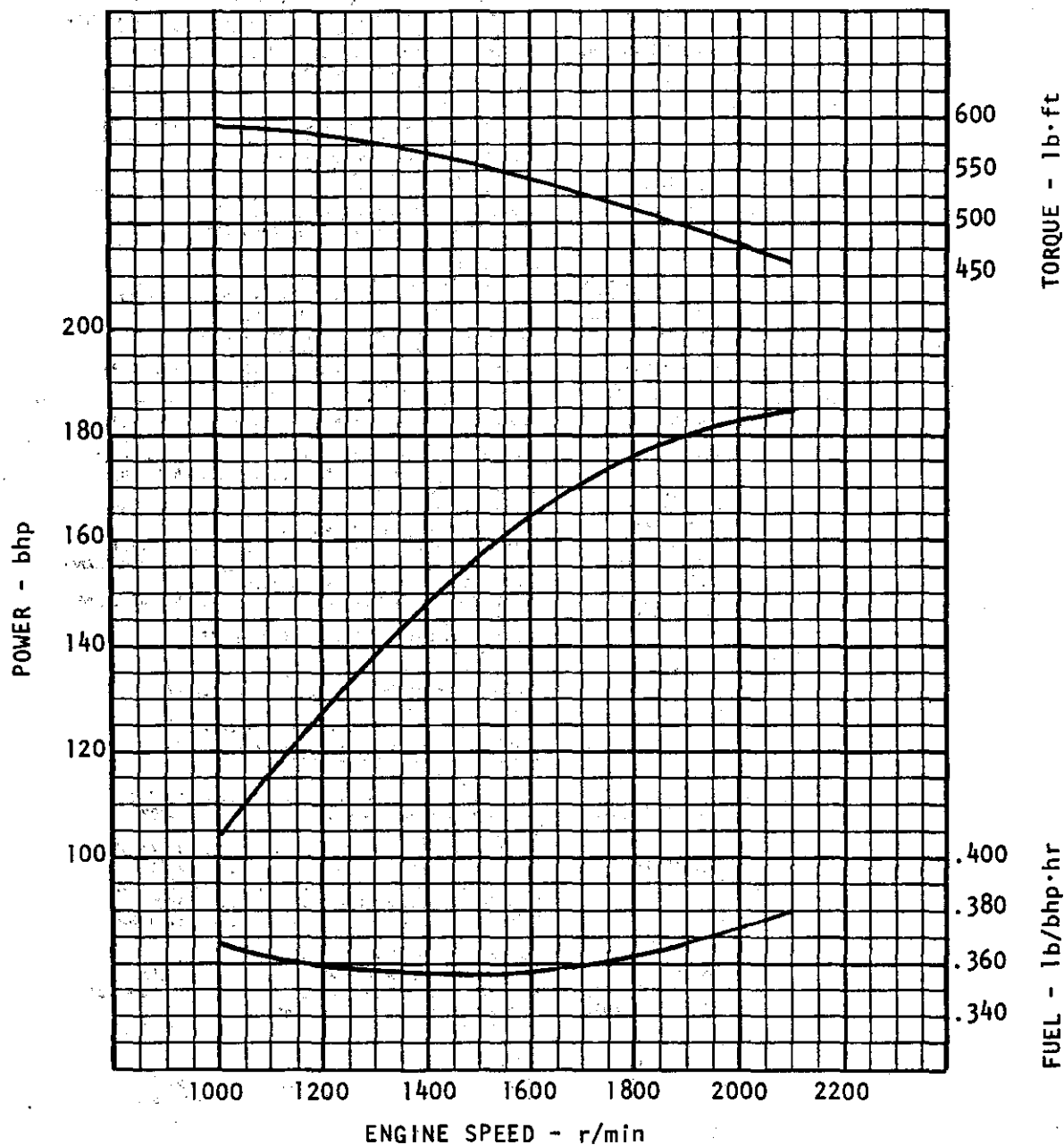
APPLICATION: AUTOMOTIVE - COACH
DIESEL FUEL NO. 2

CERTIFICATION: FEDERAL 1985

MODEL: 6V-71TA

185 bhp @ 2100 r/min

589 lb·ft @ 1000 r/min



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 × 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:

P. J. [Signature]

STAFF ENGINEER

CURVE NO.

E4-7067-32-5

DATE: 8-6-84

REV./DATE: 1/9-11-84

SHT. 1 OF 2

ENGINE SPECIFICATION DATA

General Data

Model.....	6V-71TA COACH
Number of Cylinders.....	6
Bore and Stroke-In(mm).....	4.25x5.00(108x127)
Displacement-In ³ (L).....	426(6.9)
Compression Ratio.....	18.7:1
Piston Speed-ft/min(m/min).....	1750(533)
Valves Per Cylinder.....	NOT APPLICABLE
Intake.....	4
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	63.5° VEE - 2 CYCLE
Aspiration.....	TURBOCHARGED

Configuration

Turbocharger.....	TV7503(1.08 A/R)
Charge Air Cooling System.....	JWAC
Blower Type.....	BYPASS
Blower Drive Ratio.....	2.05:1
Low Idle Speed-r/min.....	550
High Idle Speed-r/min.....	2250
Thrust Bearing Load Limit	
Continuous-lbf(N).....	600(2670)
Intermittent-lbf(N).....	1800(8000)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-In H ₂ O(kPa).....	2.0(0.50)

Physical Data

Size	
Length-In(mm).....	VARIES WITH MODEL
Width-In(mm).....	VARIES WITH MODEL
Height-In(mm).....	VARIES WITH MODEL
Weight, dry-lb(kg).....	2080(943)
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.....	VARIES WITH MODEL
Maximum Allowable Static Bending Moment at Rear Face of FW Hsg-lbf ft(N m)....	600(814)

Fuel System

Fuel Injector/Timing.....	71N5/1.488
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	71.5(32.4)
Fuel Consumption-gal/hr(L/hr).....	10.2(33.7)
Fuel Spill Rate-lb/hr(kg/hr).....	503.3(228.3)
Fuel Spill Rate-gal/hr(L/hr).....	72.0(272.5)
Total Fuel Flow-lb/hr(kg/hr).....	574.5(260.6)
Total Fuel Flow-gal/hr(L/hr).....	82.1(310.7)
Maximum Allowable Fuel Pump Suction	
Clean System-In Hg(kPa).....	6(20)
Dirty System-In Hg(kPa).....	12(41)
Fuel Filter Micron Size	
Primary - Micron.....	30
Secondary - Micron.....	10

Lubrication System

Oil Pressure	
Rated Speed-lbf/in ² (kPa).....	60(414)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-250(93-121)
Oil Flow-gal/min(L/min).....	37(140)
Oil Pan Capacity	
High-qt(L).....	20.0(18.9)
Low-qt(L).....	16.0(15.1)
Total Engine Oil Capacity with filters-qt(L).....	22.0(20.8)
Bypass Oil Filter Orifice-In(mm).....	0.101(2.57)
Engine Angularity Limits	
Front up - degrees.....	VARIES WITH MODEL
Front down - degrees.....	VARIES WITH MODEL
Side tilt - degrees.....	VARIES WITH MODEL

Emission Data

CO-gm/hr.....	NOT AVAILABLE
HC-gm/hr.....	NOT AVAILABLE
NO _x -gm/hr.....	NOT AVAILABLE
SO ₂ -gm/hr.....	320
Smoke	
Rated Speed - Bosch Number.....	NOT AVAILABLE
Peak Torque Speed - Bosch Number.....	NOT AVAILABLE
Noise - dB(A) @ 1m.....	NOT AVAILABLE
Certification Approval.....	FEDERAL 1985

Cooling System

Engine Heat Rejection-Btu/min(kW).....	5800(102.0)
Engine Radiated Heat-Btu/min(kW).....	940(17)
Coolant Flow-gal/min(L/min).....	109(413)
Thermostat	
Start to Open-°F(°C).....	180(82.2)
Fully Open-°F(°C).....	197(91.7)
Maximum Water Pump Inlet	
Restriction-In Hg(kPa).....	0
Engine Coolant Capacity-qt(L).....	28(26.5)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C)....	210(99)
Minimum Top Tank Temperature-°F(°C)....	160(71)
Minimum Coolant Fill Rate-gal/min(L/min).....	3.0(11.4)
Cooling Index	
Minimum Air to Boil-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(55.6)
Ram Air Flow - Mile/hr(km/hr).....	15(24)
Deaeration-Air Injection	
Capacity-ft ³ /min(m ³ /min).....	0.6(0.017)
Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever is Larger)-qt(L).....	4.0(3.8)

Air System

Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C)....	30(16.7)
Air Intake Restriction Maximum Limit	
Dirty Air Cleaner-In H ₂ O(kPa).....	20(5.0)
Clean Air Cleaner-In H ₂ O(kPa).....	12(3.0)
Engine Air Flow - ft ³ /min(m ³ /min).....	720(20.4)
Engine Air Box/Manifold Pressure-In Hg(kPa).....	32(108)
Recommended Intake Pipe Dia.-In(mm)....	6.0(152)

Exhaust System

Exhaust Flow-ft ³ /min(m ³ /min).....	1370(38.8)
Exhaust Temperature-°F(°C).....	570(300)
Maximum Allowable Back Pressure-In Hg(kPa).....	2.5(8.4)
Recommended Exhaust Pipe Dia.	
Single-In(mm).....	5.0(127)
Dual-In(mm).....	NOT APPLICABLE
Exhaust Brake Max. Allowable Back Pressure-In Hg(kPa).....	NOT APPLICABLE

Electrical System

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

Performance Data

Power Output-bhp(kW).....	185(138)
Full Load Speed-r/min.....	2100
Peak Torque-lb ft(N m).....	589(798)
Peak Torque Speed-r/min.....	1000
BMEP-lbf/in ² (kPa).....	82.0(566)
Friction Power	
Rated Speed-bhp(kW).....	57(43)
Peak Torque Speed-bhp(kW).....	17(13)
Altitude Capability-ft(m).....	16000(4880)
Torque Available at 800 r/min-lb ft (N m).....	540(732)

Engine

Speed r/min	Power bhp(kW)	Torque lb ft(N m)	BSEC lb/bhp hr (g/kW hr)
2100	185(138)	463(628)	.381(231)
2000	181(135)	476(645)	.377(229)
1800	174(130)	508(689)	.365(222)
1600	163(122)	536(727)	.359(218)
1400	149(111)	559(758)	.356(216)
1200	132(98)	578(784)	.357(217)
1000	112(84)	589(798)	.367(223)

Notes: Performance shown is with Diesel No. 2 fuel.

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

Curve No. E4-7067-32-5
Date: 8-6-84
Rev./Date: 1/9-11-84
Sht..2 of 2



ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

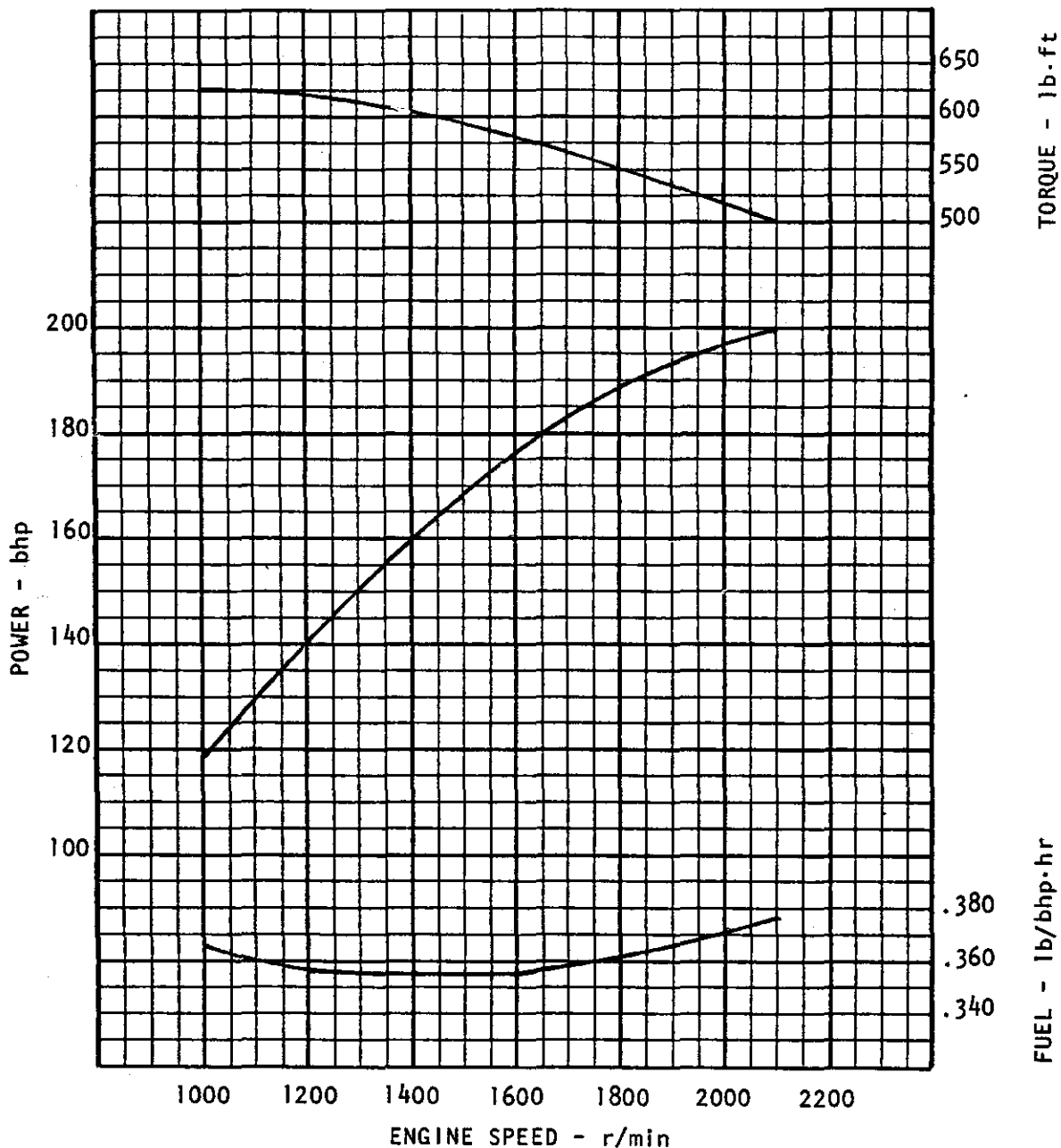
APPLICATION: AUTOMOTIVE - COACH
DIESEL FUEL NO. 2

CERTIFICATION: FEDERAL 1985

MODEL: 6V-71TA

200 bhp @ 2100 r/min

625 lb·ft @ 1000 r/min



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:

STAFF ENGINEER

CURVE NO.

E4-7067-32-4

DATE: 8-6-84

REV./DATE: 1/9-11-84

SHT. 1 OF 2

ENGINE SPECIFICATION DATA

General Data

Model.....	6V-71TA COACH
Number of Cylinders.....	6
Bore and Stroke-In(mm).....	4.25x5.00(108x127)
Displacement-In ³ (L).....	426(6.9)
Compression Ratio.....	18.7:1
Piston Speed-ft/min(m/min).....	1750(533)
Valves Per Cylinder.....	
Intake.....	NOT APPLICABLE
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	63.5° VEE - 2 CYCLE
Aspiration.....	TURBOCHARGED

Configuration

Turbocharger.....	TY7503(1.08 A/R)
Charge Air Cooling System.....	JWAC
Blower Type.....	BYPASS
Blower Drive Ratio.....	2.03:1
Low Idle Speed-r/min.....	550
High Idle Speed-r/min.....	2250
Thrust Bearing Load Limit.....	
Continuous-lbf(N).....	600(2670)
Intermittent-lbf(N).....	1800(8000)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-In H ₂ O(kPa).....	2.0(0.50)

Physical Data

Size.....	
Length-In(mm).....	VARIABLES WITH MODEL
Width-In(mm).....	VARIABLES WITH MODEL
Height-In(mm).....	VARIABLES WITH MODEL
Weight-dry-lb(kg).....	2080(943)
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.....	VARIABLES WITH MODEL
Maximum Allowable Static Bending Moment at Rear Face of FW Hdg-lbf ft(N m).....	600(814)

Fuel System

Fuel Injector/Timing.....	N55/1,474
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	76.1(34.5)
Fuel Consumption-gal/hr(L/hr).....	10.9(41.1)
Fuel Spill Rate-lb/hr(kg/hr).....	503.3(228.3)
Fuel Spill Rate-gal/hr(L/hr).....	72.0(272.5)
Total Fuel Flow-lb/hr(kg/hr).....	579.1(262.7)
Total Fuel Flow-gal/hr(L/hr).....	82.7(313.2)
Maximum Allowable Fuel Pump Suction.....	
Clean System-In Hg(kPa).....	6(20)
Dirty System-In Hg(kPa).....	12(41)
Fuel Filter Micron Size.....	
Primary - Micron.....	30
Secondary - Micron.....	10

Lubrication System

Oil Pressure.....	
Rated Speed-lbf/in ² (kPa).....	60(414)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-250(93-121)
Oil Flow-gal/min(L/min).....	37(140)
Oil Pan Capacity.....	
High-qt(L).....	20.0(18.9)
Low-qt(L).....	16.0(15.1)
Total Engine Oil Capacity with filters-qt(L).....	22.0(20.8)
Bypass Oil Filter Orifice-In(mm).....	0.101(2.57)
Engine Angularity Limits.....	
Front up - degrees.....	VARIABLES WITH MODEL
Front down - degrees.....	VARIABLES WITH MODEL
Side tilt - degrees.....	VARIABLES WITH MODEL

Emission Data

CO-gm/hr.....	NOT AVAILABLE
HC-gm/hr.....	NOT AVAILABLE
NO _x -gm/hr.....	NOT AVAILABLE
SO ₂ -gm/hr.....	350
Smoke.....	
Rated Speed - Bosch Number.....	NOT AVAILABLE
Peak Torque Speed - Bosch Number.....	NOT AVAILABLE
Noise - dBA @ 1m.....	NOT AVAILABLE
Certification Approval.....	FEDERAL 1985

Cooling System

Engine Heat Rejection-Btu/min(kW).....	6450(113.5)
Engine Radiated Heat-Btu/min(kW).....	1000(18)
Coolant Flow-gal/min(L/min).....	109(413)
Thermostat.....	
Start to Open-°F(°C).....	180(82.2)
Fully Open-°F(°C).....	197(91.7)
Maximum Water Pump Inlet Restriction-In Hg(kPa).....	0
Engine Coolant Capacity-qt(L).....	28(26.5)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C).....	210(99)
Minimum Top Tank Temperature-°F(°C).....	160(71)
Minimum Coolant Fill Rate-gal/min(L/min).....	3.0(11.4)
Cooling Index.....	
Minimum Air to Boil-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(55.6)
Ram Air Flow - Mile/hr(km/hr).....	15(24)
Deaeration-Air Injection Capacity-ft ³ /min(m ³ /min).....	0.6(0.017)
Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever Is Larger)-qt(L).....	4.0(3.8)

Air System

Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C).....	30(16.7)
Air Intake Restriction Maximum Limit.....	
Dirty Air Cleaner-In H ₂ O(kPa).....	20(5.0)
Clean Air Cleaner-In H ₂ O(kPa).....	12(3.0)
Engine Air Flow - ft ³ /min(m ³ /min).....	760(21.6)
Engine Air Box/Manifold Pressure-In Hg(kPa).....	35(118)
Recommended Intake Pipe Dia.-In(mm).....	6.0(152)

Exhaust System

Exhaust Flow-ft ³ /min(m ³ /min).....	1460(41.4)
Exhaust Temperature-°F(°C).....	570(300)
Maximum Allowable Back Pressure-In Hg(kPa).....	2.5(8.4)
Recommended Exhaust Pipe Dia. Single-In(mm).....	5.0(127)
Dual-In(mm).....	NOT APPLICABLE
Exhaust Brake Max. Allowable Back Pressure-In Hg(kPa).....	NOT APPLICABLE

Electrical System

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

Performance Data

Power Output-bhp(kW).....	200(149)
Full Load Speed-r/min.....	2100
Peak Torque-lb ft(N m).....	625(847)
Peak Torque Speed-r/min.....	1000
BMEP-lbf/in ² (kPa).....	88.6(611)
Friction Power.....	
Rated Speed-bhp(kW).....	57(43)
Peak Torque Speed-bhp(kW).....	17(13)
Altitude Capability-ft(m).....	16000(4880)
Torque Available at 800 r/min-lb ft (N m).....	550(746)

Engine

Speed r/min	Power bhp(kW)	Torque lb ft(N m)	BSEC lb/bhp hr (g/kW hr)
2100	200(149)	500(678)	.376(228)
2000	196(146)	515(698)	.372(226)
1800	188(140)	549(744)	.361(219)
1600	176(131)	578(783)	.355(216)
1400	160(119)	602(816)	.353(215)
1200	141(103)	619(839)	.354(215)
1000	119 (89)	625(847)	.365(222)

Note: Performance shown is with Diesel No. 2 fuel.

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

Curve No. E4-7067-32-4
Date: 8-6-84
Rev./Date: 1/9-11-84
Sht. 2 of 2



ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

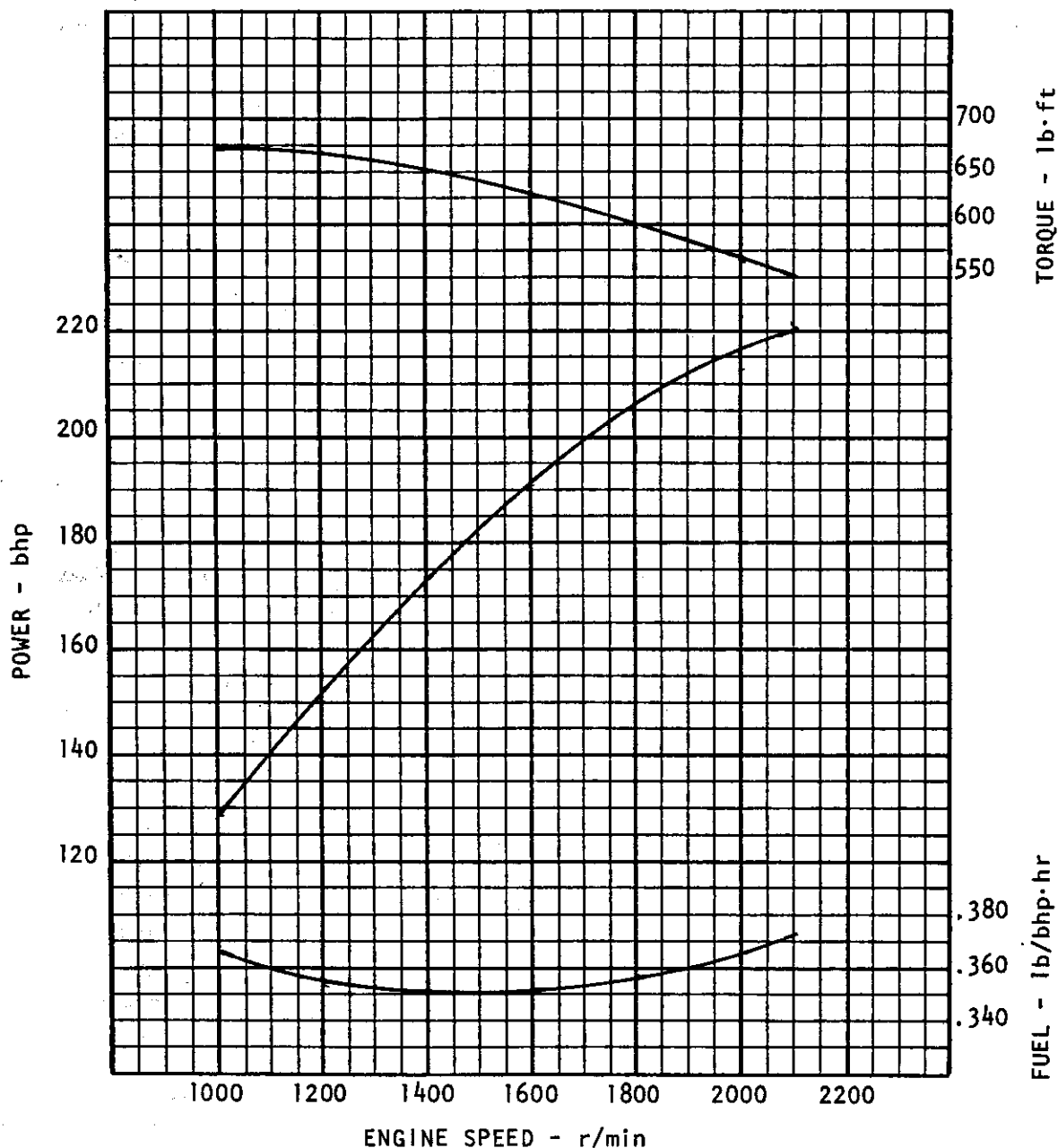
APPLICATION: AUTOMOTIVE - COACH
DIESEL FUEL NO. 2

CERTIFICATION: FEDERAL 1985

MODEL: 6V-71TA

220 bhp @ 2100 r/min

672 lb·ft @ 1000 r/min



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:

STAFF ENGINEER

CURVE NO.

E4-7067-32-3

DATE: 8-6-84

REV./DATE: 1/9-11-84

SHT. 1 OF 2

ENGINE SPECIFICATION DATA

General Data

Model.....	6V-71TA COACH
Number of Cylinders.....	6
Bore and Stroke-in(mm).....	4.25x5.00(108x127)
Displacement-in ³ (L).....	426(6.9)
Compression Ratio.....	18.7:1
Piston Speed-ft/min(m/min).....	1750(533)
Valves Per Cylinder.....	
Intake.....	NOT APPLICABLE
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	63.5° VEE - 2 CYCLE
Aspiration.....	TURBOCHARGED

Configuration

Turbocharger.....	TV7503(1.08 A/R)
Charge Air Cooling System.....	JWAC
Blower Type.....	BYPASS
Blower Drive Ratio.....	2.05:1
Low Idle Speed-r/min.....	550
High Idle Speed-r/min.....	2250
Thrust Bearing Load Limit.....	
Continuous-lbf(N).....	600(2670)
Intermittent-lbf(N).....	1800(8000)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-in H ₂ O(kPa).....	2.0(0.50)

Physical Data

Size.....	
Length-in(mm).....	VARIES WITH MODEL
Width-in(mm).....	VARIES WITH MODEL
Height-in(mm).....	VARIES WITH MODEL
Weight, dry-lb(kg).....	2080(943)
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.....	VARIES WITH MODEL
Maximum Allowable Static Bending Moment at Rear Face of FW Hsg-lbf ft(N m).....	600(814)

Fuel System

Fuel Injector/Timing.....	N60/1.474
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	81.8(37.1)
Fuel Consumption-gal/hr(L/hr).....	11.7(44.2)
Fuel Spill Rate-lb/hr(kg/hr).....	503.3(228.3)
Fuel Spill Rate-gal/hr(L/hr).....	72.0(272.5)
Total Fuel Flow-lb/hr(kg/hr).....	585.1(265.4)
Total Fuel Flow-gal/hr(L/hr).....	83.7(316.9)
Maximum Allowable Fuel Pump Suction.....	
Clean System-in Hg(kPa).....	6(20)
Dirty System-in Hg(kPa).....	12(41)
Fuel Filter Micron Size.....	
Primary - Micron.....	30
Secondary - Micron.....	10

Lubrication System

Oil Pressure.....	
Rated Speed-lbf/in ² (kPa).....	60(414)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-250(93-121)
Oil Flow-gal/min(L/min).....	37(140)
Oil Pan Capacity.....	
High-qt(L).....	20.0(18.9)
Low-qt(L).....	16.0(15.1)
Total Engine Oil Capacity with filters-qt(L).....	22.0(20.8)
Bypass Oil Filter Orifice-in(mm).....	0.101(2.57)
Engine Angularity Limits.....	
Front up - degrees.....	VARIES WITH MODEL
Front down - degrees.....	VARIES WITH MODEL
Side tilt - degrees.....	VARIES WITH MODEL

Emission Data

CO-gm/hr.....	NOT AVAILABLE
HC-gm/hr.....	NOT AVAILABLE
NO _x -gm/hr.....	NOT AVAILABLE
SO ₂ -gm/hr.....	370
Smoke.....	
Rated Speed - Bosch Number.....	NOT AVAILABLE
Peak Torque Speed - Bosch Number.....	NOT AVAILABLE
Noise - dBA @ 1m.....	NOT AVAILABLE
Certification Approval.....	FEDERAL 1985

Cooling System

Engine Heat Rejection-Btu/min(kW).....	7300(128.5)
Engine Radiated Heat-Btu/min(kW).....	1080(19)
Coolant Flow-gal/min(L/min).....	109(413)
Thermostat.....	
Start to Open-°F(°C).....	180(82.2)
Fully Open-°F(°C).....	197(91.7)
Maximum Water Pump Inlet.....	
Restriction-in Hg(kPa).....	0
Engine Coolant Capacity-qt(L).....	28(26.5)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C).....	210(99)
Minimum Top Tank Temperature-°F(°C).....	160(71)
Minimum Coolant Fill Rate-gal/min(L/min).....	3.0(11.4)
Cooling Index.....	
Minimum Air to Boil-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(55.6)
Ram Air Flow - Mile/hr(km/hr).....	15(24)
Deaeration-Air Injection.....	
Capacity-ft ³ /min(m ³ /min).....	0.6(0.017)
Drawdown - Minimum Requirement for 10% of Cooling System Capacity-Whichever is Larger-qt(L).....	4.0(3.8)

Air System

Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C).....	30(16.7)
Air Intake Restriction Maximum Limit.....	
Dirty Air Cleaner-in H ₂ O(kPa).....	20(5.0)
Clean Air Cleaner-lb H ₂ O(kPa).....	12(3.0)
Engine Air Flow - ft ³ /min(m ³ /min).....	800(22.7)
Engine Air Box/Manifold Pressure-in Hg(kPa).....	39(131)
Recommended Intake Pipe Dia.-in(mm).....	6.0(152)

Exhaust System

Exhaust Flow-ft ³ /min(m ³ /min).....	1560(44.2)
Exhaust Temperature-°F(°C).....	590(310)
Maximum Allowable Back Pressure-in Hg(kPa).....	2.5(8.4)
Recommended Exhaust Pipe Dia.....	
Single-in(mm).....	5.0(127)
Dual-in(mm).....	NOT APPLICABLE
Exhaust Brake Max. Allowable Back Pressure-in Hg(kPa).....	NOT APPLICABLE

Electrical System

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

Performance Data

Power Output-bhp(kW).....	220(164)
Full Load Speed-r/min.....	2100
Peak Torque-lb ft(N m).....	672(911)
Peak Torque Speed-r/min.....	1000
BMEP-lbf/in ² (kPa).....	97.5(672)
Friction Power.....	
Rated Speed-bhp(kW).....	57(43)
Peak Torque Speed-bhp(kW).....	17(13)
Altitude Capability-ft(m).....	16000(4880)
Torque Available at 800 r/min-lb ft (N m).....	605(820)

Engine

Speed r/min	Power bhp(kW)	Torque lb ft(N m)	BSFC lb/bhp hr (g/kW hr)
2100	220(164)	550(745)	.372(226)
2000	215(160)	565(766)	.368(224)
1800	205(153)	599(812)	.358(217)
1600	191(142)	629(853)	.352(214)
1400	173(129)	651(882)	.351(213)
1200	153(114)	671(910)	.352(214)
1000	128 (95)	672(911)	.364(221)

Note: Performance shown is with Diesel No. 2 fuel.

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

Curve No. E4-7067-32-3
Date: 8-6-84
Rev./Date: 1/9-11-84
Shr. 2 of 2



ENGINE PERFORMANCE CURVE

RATING: RATED BRAKE POWER

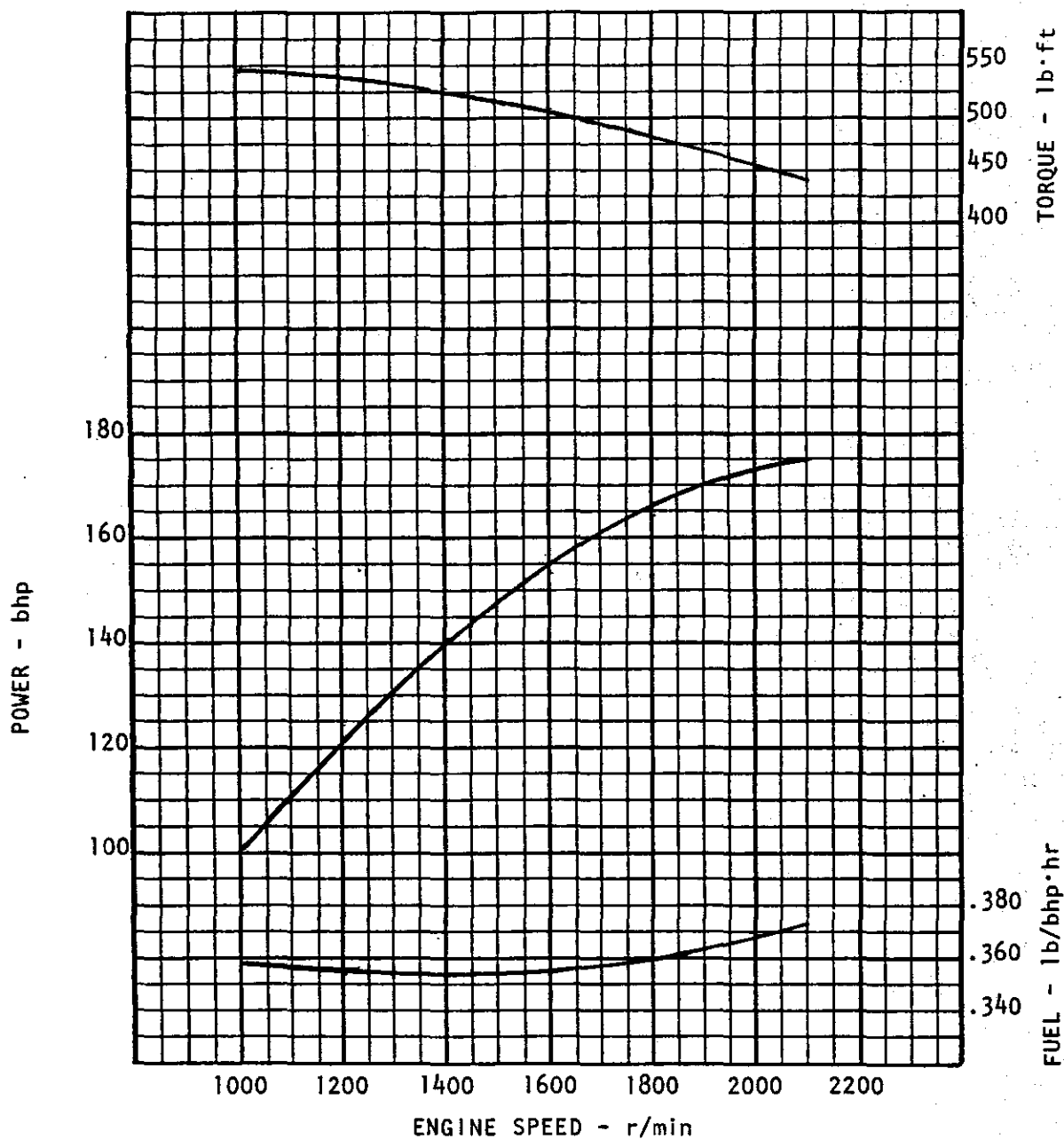
APPLICATION: AUTOMOTIVE - COACH
DIESEL FUEL NO. 1

CERTIFICATION: FEDERAL 1985

MODEL: 6V-71TA

175 bhp @ 2100 r/min

545 lb·ft @ 1000 r/min



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 (.816 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:

STAFF ENGINEER

CURVE NO.

E4-7067-32-8

DATE: 8-7-84

REV./DATE: 1/9-11-84

SHT. 1 OF 2

ENGINE SPECIFICATION DATA

General Data

Model.....	6V-71TA COACH
Number of Cylinders.....	6
Bore and Stroke-In(mm).....	4.25x5.00(108x127)
Displacement-In ³ (L).....	426(6.9)
Compression Ratio.....	18.7:1
Piston Speed-ft/min(m/min).....	1750(533)
Valves Per Cylinder	
Intake.....	NOT APPLICABLE
Exhaust.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	63.5° VEE - 2 CYCLE
Aspiration.....	TURBOCHARGED

Configuration

Turbocharger.....	TV7503(1.08 A/R)
Charge Air Cooling System.....	JWAC
Blower Type.....	BYPASS
Blower Drive Ratio.....	2.05:1
Low Idle Speed-r/min.....	550
High Idle Speed-r/min.....	2250
Thrust Bearing Load Limit	
Continuous-lbf(N).....	600(2670)
Intermittent-lbf(N).....	1800(8000)
Engine Crankcase Vent System.....	OPEN
Maximum Pressure-In H ₂ O(kPa).....	2.0(0.50)

Physical Data

Size	
Length-In(mm).....	VARIES WITH MODEL
Width-In(mm).....	VARIES WITH MODEL
Height-In(mm).....	VARIES WITH MODEL
Weight-dry-lb(kg).....	2080(943)
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.....	VARIES WITH MODEL
Maximum Allowable Static Bending Moment at Rear Face of FM Hsg-lbf ft(N m)....	600(814)

Fuel System

Fuel Injector/Timing.....	71N5/1.488
Fuel Injection Pump/Timing.....	NOT APPLICABLE
Fuel Consumption-lb/hr(kg/hr).....	65.5(29.8)
Fuel Consumption-gal/hr(L/hr).....	9.4(35.6)
Fuel Split Rate-lb/hr(kg/hr).....	503.3(228.3)
Fuel Split Rate-gal/hr(L/hr).....	72.0(272.5)
Total Fuel Flow-lb/hr(kg/hr).....	568.8(258.6)
Total Fuel Flow-gal/hr(L/hr).....	81.3(307.6)
Maximum Allowable Fuel Pump Suction	
Clean System-In Hg(kPa).....	6(20)
Dirty System-In Hg(kPa).....	12(41)
Fuel Filter Micron Size	
Primary - Micron.....	30
Secondary - Micron.....	10

Lubrication System

Oil Pressure	
Rated Speed-lbf/in ² (kPa).....	60(414)
Low Idle-lbf/in ² (kPa).....	5(34)
In Pan Oil Temperature-°F(°C).....	200-250(93-121)
Oil Flow-gal/min(L/min).....	37(140)
Oil Pan Capacity	
High-qt(L).....	20.0(18.9)
Low-qt(L).....	16.0(15.1)
Total Engine Oil Capacity with filters-qt(L).....	22.0(20.8)
Bypass Oil Filter Orifice-In(mm).....	0.101(2.57)
Engine Angularity Limits	
Front up - degrees.....	VARIES WITH MODEL
Front down - degrees.....	VARIES WITH MODEL
Side tilt - degrees.....	VARIES WITH MODEL

Emission Data

CO-gm/hr.....	NOT AVAILABLE
HC-gm/hr.....	NOT AVAILABLE
NO _x -gm/hr.....	NOT AVAILABLE
SO ₂ -gm/hr.....	300
Smoke	
Rated Speed - Bosch Number.....	NOT AVAILABLE
Peak Torque Speed - Bosch Number.....	NOT AVAILABLE
Noise - dB(A) @ 1m.....	NOT AVAILABLE
Certification Approval.....	FEDERAL 1985

Cooling System

Engine Heat Rejection-Btu/min(kW).....	5500(96.8)
Engine Radiated Heat-Btu/min(kW).....	880(15)
Coolant Flow-gal/min(L/min).....	109(413)
Thermostat	
Start to Open-°F(°C).....	180(82.2)
Fully Open-°F(°C).....	197(91.7)
Maximum Water Pump Inlet	
Restriction-In Hg(kPa).....	0
Engine Coolant Capacity-qt(L).....	28(26.5)
Minimum Pressure Cap-lbf/in ² (kPa).....	9.0(62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap)-lbf/in ² (kPa).....	NOT AVAILABLE
Maximum Top Tank Temperature-°F(°C).....	210(99)
Minimum Top Tank Temperature-°F(°C).....	160(71)
Minimum Coolant Fill Rate-gal/min(L/min).....	3.0(11.4)
Cooling Index	
Minimum Air to Boil-°F(°C).....	112(44.4)
Maximum Air to Water Diff.-°F(°C).....	100(53.6)
Ram Air Flow - Mile/hr(km/hr).....	15(24)
Deaeration-Air Injection	
Capacity-ft ³ /min(m ³ /min).....	0.6(0.017)
Drawdown - Minimum Requirement (or 10% of Cooling System Capacity-Whichever is Larger)-qt(L).....	4.0(3.8)

Air System

Maximum Allowable Temperature Rise (Ambient Air to Engine Inlet)-°F(°C).....	30(16.7)
Air Intake Restriction Maximum Limit	
Dirty Air Cleaner-In H ₂ O(kPa).....	20(5.0)
Clean Air Cleaner-lg H ₂ O(kPa).....	12(3.0)
Engine Air Flow - ft ³ /min(m ³ /min).....	700(19.9)
Engine Air Box/Manifold Pressure-In Hg(kPa).....	31(104)
Recommended Intake Pipe Dia.-In(mm).....	6.0(152)

Exhaust System

Exhaust Flow-ft ³ /min(m ³ /min).....	1300(36.9)
Exhaust Temperature-°F(°C).....	540(282)
Maximum Allowable Back Pressure-In Hg(kPa).....	2.5(8.4)
Recommended Exhaust Pipe Dia.	
Single-In(mm).....	5.0(127)
Dual-In(mm).....	NOT APPLICABLE
Exhaust Brake Max. Allowable Back Pressure-In Hg(kPa).....	NOT APPLICABLE

Electrical System

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

Performance Data

Power Output-bhp(kW).....	175(131)
Full Load Speed-r/min.....	2100
Peak Torque-lb ft(N m).....	545(739)
Peak Torque Speed-r/min.....	1000
BMEP-lbf/in ² (kPa).....	77.6(535)
Friction Power	
Rated Speed-bhp(kW).....	57(43)
Peak Torque Speed-bhp(kW).....	17(13)
Altitude Capability-ft(m).....	16000(4880)
Torque Available at 800 r/min-lb ft (N m).....	510(691)

Engine

Speed r/min	Power bhp(kW)	Torque lb ft(N m)	BSEC lb/bhp hr (g/kW hr)
2100	175(131)	438(594)	.374(227)
2000	172(128)	452(613)	.369(224)
1800	164(122)	479(649)	.360(219)
1600	154(115)	505(685)	.353(215)
1400	140(104)	526(713)	.350(213)
1200	124(93)	543(736)	.353(215)
1000	104(78)	545(739)	.358(218)

Notes: Performance shown is with Diesel No. 1 fuel.

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

Curve No. E4-7067-32-8
Date: 8-7-84
Rev./Date: 1/9-11-84
Sht. 2 of 2