

MARINE ENGINE PERFORMANCE DATA [9RC PREFIX]										MAY 07, 2009	
For Help Desk Phone Numbers Click here											

Performance Number: TM8882	
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Sales Model: 3612 DITA	Combustion: DI	Aspr: TA
Engine Power: 5,445 HP	Speed: 1,000 RPM	After Cooler: SCAC
Manifold Type: DRY	Governor Type:	After Cooler Temp(F): 122
Turbo Quantity:	Engine App: MP	Turbo Arrangement:
Application Type: M PROP ENG	Engine Rating: MP	Strategy:
Rating Type: L-MAX-CONT	Certification:	

General Performance Data :Curve 3: Zone 2-3											
ENGINE SPEED RPM	ENGINE POWER BHP	ENGINE TORQUE LB.FT	ENGINE BMEP PSI	FUEL BSFC LB/BHP-HR	FUEL RATE GPH	INTAKE MFLD TEMP DEG F	INTAKE MFLD P IN-HG	INTAKE AIR FLOW CFM	EXH MFLD TEMP DEG F	EXH STACK TEMP DEG F	EXH GAS FLOW CFM
1,000	5445	28,595.2	318.8	0.33	256.09	149	73.59	13,465.5	1,082.84	773.06	30,847.39
900	5079	29,638.85	330.4	0.32	234.29	145.58	67.4	11,678.57	1,102.64	812.3	27,654.94
800	4157	27,288.98	304.15	0.32	192.03	140.18	49.37	8,563.82	1,167.26	905.18	21,654.97
700	2633	19,754.81	220.17	0.34	128.36	137.66	23.22	5,127.69	1,186.52	977.36	13,825.71
600	1862	16,301.55	181.74	0.38	102.26	136.04	13.83	34,753.2	1,171.4	983.84	89,098.99
500	1427	14,990.17	167.09	0.39	79.28	135.68	8.8	26,980.43	1,131.8	955.4	69,086.15
400	1002	13,162.5	146.78	0.41	59.44	141.62	5.09	4,057.66	1,148.18	949.64	10,474.34
350	609	9,131.73	101.82	0.42	36.83	139.46	1.78	1,462.03	865.04	699.44	3,181.85

General Performance Data :Maximum Limit											
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ENGINE SPEED RPM	ENGINE POWER BHP	ENGINE TORQUE LB.FT	ENGINE BMEP PSI	FUEL BSFC LB/BHP-HR	FUEL RATE GPH	INTAKE MFLD TEMP DEG F	INTAKE MFLD P IN-HG	INTAKE AIR FLOW CFM	EXH MFLD TEMP DEG F	EXH STACK TEMP DEG F	EXH GAS FLOW CFM
1,000	5445	28,595.2	318.8	0.33	256.09	149	73.59	13,465.5	1,082.84	773.06	30,847.39
900	5079	29,638.85	330.4	0.32	234.29	145.58	67.4	11,678.57	1,102.64	812.3	27,654.94
800	4157	27,288.98	304.15	0.32	192.03	140.18	49.37	8,563.82	1,167.26	905.18	21,654.97
700	2633	19,754.81	220.17	0.34	128.36	137.66	23.22	5,127.69	1,186.52	977.36	13,825.71
600	1862	16,301.55	181.74	0.38	102.26	136.04	13.83	34,753.2	1,171.4	983.84	89,098.99
500	1427	14,990.17	167.09	0.39	79.28	135.68	8.8	26,980.43	1,131.8	955.4	69,086.15
400	1002	13,162.5	146.78	0.41	59.44	141.62	5.09	4,057.66	1,148.18	949.64	10,474.34
350	609	9,131.73	101.82	0.42	36.83	139.46	1.78	1,462.03	865.04	699.44	3,181.85

General Performance Data :Prop Demand Curve P											
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ENGINE SPEED	ENGINE POWER	ENGINE TORQUE	ENGINE BMEP PSI	FUEL BSFC LB/BHP-HR	FUEL RATE	INTAKE MFLD TEMP	INTAKE MFLD P IN-	INTAKE AIR FLOW CFM	EXH MFLD TEMP DEG F	EXH STACK	EXH GAS FLOW CFM
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RPM	BHP	LB.FT			GPH	DEG F	HG			TEMP DEG F	
1,000	4628	24,306.29	270.93	0.33	217.76	144.32	59.35	11,657.38	1,039.46	764.96	26,515.69
900	3374	19,687.69	219.45	0.33	160.09	138.92	35.6	7,861.05	1,051.34	830.3	18,885.24
800	2369	15,555.88	173.47	0.34	115.73	137.3	18.86	5,155.95	1,057.28	867.38	12,835.83
700	1587	11,910.12	132.71	0.36	81.26	138.02	8.97	3,612.69	994.1	827.78	8,695.19
600	1000	8,750.41	97.61	0.37	53.6	138.56	3.64	2,588.57	845.96	699.8	5,585.73
500	579	6,076.76	67.73	0.4	33.13	139.28	0.98	1,938.78	648.14	539.06	3,581.62
400	296	3,889.15	43.37	0.48	20.42	138.56	-0.09	1,454.97	505.4	427.1	2,359.73
350	198	2,977.53	33.21	0.46	13.08	137.66	-0.44	1,239.55	409.82	352.94	1,843.07

Engine Heat Rejection Data :Maximum Limit

ENGINE SPEED RPM	ENGINE POWER BHP	REJ TO JW BTU/MN	REJ TO ATMOS BTU/MN	REJ TO EXHAUST BTU/MN	EXH RCOV TO 350F BTU/MN	FROM OIL CLR BTU/MN	FROM AFT CLR BTU/MN	WORK ENERGY BTU/MN	LHV ENERGY BTU/MN	HHV ENERGY BTU/MN
1,000	5445	44,017.3	11,032.8	234,588.2	122,042.8	23,657.9	44,699.7	230,891.7	552,832.1	588,944.5
900	5079	44,586.0	10,066.0	204,561.0	109,076.4	22,065.5	41,913.1	215,366.2	505,630.1	538,614.6
800	4157	33,951.3	7,222.5	192,220.2	111,578.7	19,051.4	17,686.5	176,296.6	419,074.2	446,428.6
700	2633	27,126.9	5,573.2	126,876.7	76,433.1	17,572.8	8,132.4	111,635.6	278,776.2	296,974.5
600	1862	21,098.7	3,696.5	104,071.9	63,694.3	15,923.6	966.8	78,992.3	210,930.4	224,692.9
500	1427	19,392.6	2,957.2	77,058.7	46,178.3	15,241.1	-739.3	60,509.6	163,728.4	174,419.9
400	1002	14,558.7	1,990.4	66,651.5	40,377.6	12,738.8	-1,421.8	42,538.7	128,639.7	136,999.5
350	609	12,283.9	1,592.4	35,714.3	17,345.3	11,544.6	-2,047.3	25,818.9	79,731.6	84,906.7

EXHAUST Sound Data: 4.92 FEET

ENGINE SPEED RPM	ENGINE POWER BHP	OVERALL SOUND DB(A)	OBCF 63HZ DB	OBCF 125HZ DB	OBCF 250HZ DB	OBCF 500HZ DB	OBCF 1000HZ DB	OBCF 2000HZ DB	OBCF 4000HZ DB	OBCF 8000HZ DB
1,000	5445	119	131	128	119	114	110	110	109	103
900	5079	119	130	128	119	114	109	110	108	103
800	4157	117	129	127	117	113	108	109	107	101
700	2633	115	127	124	115	110	106	106	105	99
600	1862	113	125	123	114	109	104	105	103	98
500	1427	112	124	122	113	108	103	104	102	97
400	1002	111	123	121	112	107	102	103	101	96
350	609	110	122	120	110	106	101	102	100	94

EXHAUST Sound Data: 22.97 FEET

ENGINE SPEED RPM	ENGINE POWER BHP	OVERALL SOUND DB(A)	OBCF 63HZ DB	OBCF 125HZ DB	OBCF 250HZ DB	OBCF 500HZ DB	OBCF 1000HZ DB	OBCF 2000HZ DB	OBCF 4000HZ DB	OBCF 8000HZ DB
1,000	5445	106	117	115	106	101	96	97	95	90
900	5079	105	117	115	105	100	96	97	95	89
800	4157	104	116	113	104	99	95	95	94	88
700	2633	102	113	111	102	97	92	93	91	86
600	1862	100	112	110	100	95	91	92	90	84
500	1427	99	111	109	99	94	90	91	89	83

400	1002	98	110	108	98	93	89	90	88	82
350	609	97	109	106	97	92	88	88	87	81

EXHAUST Sound Data: 49.21 FEET

ENGINE SPEED RPM	ENGINE POWER BHP	OVERALL SOUND DB(A)	OBCF 63HZ DB	OBCF 125HZ DB	OBCF 250HZ DB	OBCF 500HZ DB	OBCF 1000HZ DB	OBCF 2000HZ DB	OBCF 4000HZ DB	OBCF 8000HZ DB
1,000	5445	99	111	108	99	94	90	90	89	83
900	5079	99	110	108	99	94	89	90	88	83
800	4157	97	109	107	97	93	88	89	87	81
700	2633	95	107	104	95	90	86	86	85	79
600	1862	93	105	103	94	89	84	85	83	78
500	1427	92	104	102	93	88	83	84	82	77
400	1002	91	103	101	92	87	82	83	81	76
350	609	90	102	100	90	86	81	82	80	74

MECHANICAL Sound Data: 3.28 FEET

ENGINE SPEED RPM	ENGINE POWER BHP	OVERALL SOUND DB(A)	OBCF 63HZ DB	OBCF 125HZ DB	OBCF 250HZ DB	OBCF 500HZ DB	OBCF 1000HZ DB	OBCF 2000HZ DB	OBCF 4000HZ DB	OBCF 8000HZ DB
1,000	5445	109	99	105	104	105	104	102	101	98
900	5079	108	97	103	103	103	102	100	99	97
800	4157	106	96	102	101	102	101	99	98	95
700	2633	105	94	100	100	100	99	97	96	94
600	1862	103	93	99	98	99	98	96	95	92
500	1427	102	91	97	97	97	96	94	93	91
400	1002	100	90	96	95	96	95	93	92	89
350	609	100	89	95	95	95	94	92	91	89

MECHANICAL Sound Data: 22.97 FEET

ENGINE SPEED RPM	ENGINE POWER BHP	OVERALL SOUND DB(A)	OBCF 63HZ DB	OBCF 125HZ DB	OBCF 250HZ DB	OBCF 500HZ DB	OBCF 1000HZ DB	OBCF 2000HZ DB	OBCF 4000HZ DB	OBCJ 8000HZ DB
1,000	5445	98	87	93	93	93	92	90	89	87
900	5079	96	86	92	91	92	91	89	88	85
800	4157	95	84	90	90	90	89	87	86	84
700	2633	93	83	89	88	89	88	86	85	82
600	1862	92	81	87	87	87	86	84	83	81
500	1427	90	80	86	85	86	85	83	82	79
400	1002	89	78	84	84	84	83	81	80	78
350	609	88	78	84	83	84	83	81	79	77

MECHANICAL Sound Data: 49.21 FEET

ENGINE SPEED RPM	ENGINE POWER BHP	OVERALL SOUND DB(A)	OBCF 63HZ DB	OBCF 125HZ DB	OBCF 250HZ DB	OBCF 500HZ DB	OBCF 1000HZ DB	OBCF 2000HZ DB	OBCF 4000HZ DB	OBCF 8000HZ DB
1,000	5445	92	82	88	87	88	87	85	83	81
900	5079	91	80	86	86	86	85	83	82	80

800	4157	89	79	85	84	85	84	82	80	78
700	2633	88	77	83	83	83	82	80	79	77
600	1862	86	76	82	81	82	81	79	77	75
500	1427	85	74	80	80	80	79	77	76	74
400	1002	83	73	79	78	79	78	76	74	72
350	609	82	72	78	77	78	77	75	74	71

EMISSIONS DATA

Certification:

To properly apply this data you must refer to performance parameter DM1176 for additional information...

REFERENCE EXHAUST STACK DIAMETER	--
WET EXHAUST MASS	--
WET EXHAUST FLOW (-- STACK TEMP)	--
WET EXHAUST FLOW RATE (32 DEG F AND 29.98 IN HG)	--
DRY EXHAUST FLOW RATE (32 DEG F AND 29.98 IN HG)	--
FUEL FLOW RATE	--

Altitude Capability Data(Corrected Power Altitude Capability)

Ambient Operating Temp.	50 F	68 F	86 F	104 F	122 F
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Altitude

0 F	5,444.54 hp	5,444.54 hp	5,444.54 hp	5,444.54 hp	5,444.54 hp
984.25 F	5,444.54 hp	5,444.54 hp	5,444.54 hp	5,444.54 hp	5,444.54 hp
1,640.42 F	5,444.54 hp	5,444.54 hp	5,444.54 hp	5,444.54 hp	5,354.69 hp
3,280.84 F	5,444.54 hp	5,444.54 hp	5,374.81 hp	5,201.82 hp	5,040.89 hp
4,921.26 F	5,413.7 hp	5,228.64 hp	5,055.65 hp	4,894.72 hp	4,743.19 hp
6,561.68 F	5,089.17 hp	4,916.18 hp	4,753.92 hp	4,601.04 hp	4,458.89 hp
8,202.1 F	4,782.08 hp	4,618.47 hp	4,465.6 hp	4,323.45 hp	4,189.35 hp
9,842.52 F	4,489.73 hp	4,335.52 hp	4,193.37 hp	4,059.27 hp	3,933.21 hp
10,498.69 F	4,377.09 hp	4,226.9 hp	4,087.43 hp	3,957.35 hp	3,833.98 hp

The powers listed above and all the Powers displayed are Corrected Powers

Identification Reference and Notes

Engine Arrangement:	7E1012	Lube Oil Press @ Rated Spd(Psi):	65.3
Effective Serial No:		Piston Speed @ Rated Eng SPD(FT/Min):	1,968.5
Primary Engine Test Spec:		Max Operating Altitude(FT):	3,444.9
Performance Parm Ref:	TM6024	PEEC Elect Control Module Ref	

Performance Data Ref:	TM8882	PEEC Personality Cont Mod Ref	
Aux Coolant Pump Perf Ref:			
Cooling System Perf Ref:		Turbocharger Model	VG11HF10HA4-WG08EF18EA3
Certification Ref:		Fuel Injector	7C5645
Certification Year:		Timing-Static (DEG):	21.00
Compression Ratio:	13.0	Timing-Static Advance (DEG):	--
Combustion System:	DI	Timing-Static (MM):	404.00
Aftercooler Temperature (F):	122	Unit Injector Timing (MM):	--
Crankcase Blowby Rate(CFH):	--	Torque Rise (percent)	--
Fuel Rate (Rated RPM) No Load(Gal/HR):	--	Peak Torque Speed RPM	--
Lube Oil Press @ Low Idle Spd(PSI):	27.6	Peak Torque (LB/FT):	--

Reference Number: TM8882	THIS DATA SET DOES NOT CURRENTLY INCLUDE EMISSIONS **RATING AVAILABLE IN DISTILLATE FUEL ONLY** ENGR. REF: DF02013MDB
Parameters Reference: TM6024	MARINE PROPULSION - 3600 LIMIT DEFINITIONS: ZONE A - FOR CONTINUOUS OPERATION, INCLUDING DREDGE ENGINES, WITHOUT INTERRUPTION OR LOAD CYCLING ON OR UNDER CURVE A. ZONE A-L - OPERATION LIMITED TO 1 HOUR IN 12 HOURS OF TOTAL OPERATING TIME. CURVE P (OPTIMUM LOAD) - REPRESENTS THE POWER DEMAND OF A TYPICAL FIXED PITCH PROPELLER. SHAFT POWER MAY BE ASSUMED TO BE 97% OF THE BRAKE ENGINE POWER SHOWN. TOLERANCES: CURVES REPRESENT TYPICAL VALUES OBTAINED UNDER NORMAL OPERATING CONDITIONS. AMBIENT AIR CONDITIONS AND FUEL USED WILL AFFECT THESE VALUES. EACH OF THE VALUES MAY VARY IN ACCORDANCE WITH THE FOLLOWING TOLERANCES. POWER +/- 3% EXHAUST STACK TEMPERATURE +/- 8% INLET AIR FLOW +/- 5% INTAKE MANIFOLD PRESSURE - GAGE +/- 10% EXHAUST FLOW +/- 6% SPECIFIC FUEL CONSUMPTION +/- 3% HEAT REJECTION +/- 5% FUEL RATE +/- 5% CONDITIONS: PERFORMANCE IS BASED ON ISO 3046/1 STANDARD CONDITIONS OF 100 KPA (29.61 IN HG), 30% RELATIVE HUMIDITY AND 25 DEG C (77 DEG F) AT STATED AFTERCOOLER TEMPERATURE. PERFORMANCE ALSO APPLIES AT DIN6271/1, BS5514/1 AND SAE J1228 STANDARD REFERENCE CONDITIONS.

PERFORMANCE AND FUEL CONSUMPTION ARE BASED ON 35 DEGREE API FUEL
HAVING A LOWER HEATING VALUE OF 42.78 MJ/KG (18.39 BTU/LB) USED
AT 29 DEG C (84.2 DEG F) WITH A DENSITY OF 838.9 G/LITER
(7.002 LBS/GAL).

DATA IS GROSS OUTPUT CAPABILITY OF AN ENGINE EQUIPPED WITH FUEL,
LUBE OIL AND JACKET WATER PUMP. POWER TO DRIVE AUXILIARIES MUST
BE DEDUCTED FROM THE GROSS OUTPUT TO ARRIVE AT THE NET POWER
AVAILABLE. AUXILIARIES INCLUDE MARINE TRANSMISSIONS, AUXILIARY
GENERATORS AND AUXILIARY WATER PUMPS.

NO ENGINE DERATION IS REQUIRED FOR AMBIENT TEMPERATURES UP TO
52 DEG C (125.6 DEG F), EXCEPT AS SHOWN ON THE APPLICABLE ENGINE
ALTITUDE DERATING SCHEDULE.

ALTITUDE:

ALTITUDE CAPABILITY - THE RECOMMENDED REDUCED POWER VALUES
FOR
SUSTAINED ENGINE OPERATION AT SPECIFIC ALTITUDE LEVELS AND
AMBIENT TEMPERATURES.

COLUMN "N" DATA - THE FLYWHEEL POWER OUTPUT AT NORMAL
AMBIENT
TEMPERATURE.

AMBIENT TEMPERATURE - TO BE MEASURED AT THE AIR CLEANER AIR INLET
DURING NORMAL ENGINE OPERATION.

NORMAL TEMPERATURE - THE NORMAL TEMPERATURE AT VARIOUS
SPECIFIC
ALTITUDE LEVELS FOUND ON TM2001.