

ENGINE TEST [1KZ01076]

(1KZ01076)-ENGINE (2FN01834)-GENERATOR
(CMJ00586)-GENSET

Sales Model: 3512

Built Date: 02Apr2003 Tested Date: 03Apr2003 Shipped Date: 09Apr2003

Tested: LB

Plant: Lafayette

Test Number: 01

Cell Number: 04

Test Element	Eng Updates	Test Value	Spec Value	Label
Spec Number		0K3134	0K3134	
Arrangement Number		1979048	1979048	
Corr Fl Power		1,880	1,865	HP
Speed		1,800	1,800	RPM
COR FL FUEL RATE		96.9	96.2	GAL/HR
CSFC		0.365	0.363	LB/HP-HR
Adj Boost		66.2	64.3	IN HG
Fuel Pressure		73	73	PSI
Oil Pressure		56	59	PSI
TQ COR FUEL RATE				GAL/HR
TQ CK CSFC				LB/HP-HR
TQ CK ADJ BST				IN HG
Torq Ck Speed				RPM
TQ CK COR TQ				LB/FT
Low Idle Speed		900	900	RPM
Low Idle Oil Pressure		53	54	PSI
High Idle Speed		1,818	1,818	RPM
Response Time				
FL Static Fuel Setting		1	1	IN
FT Static Fuel Setting		1	1	IN
Timing Dim				
FLS (INTRCPT)				
FTS (SLOPE)				
Advertised Power			1,818	hp
Advertised Speed			1,800	RPM
Advertised Torque				LB/FT

TEST SPEC [1KZ01076]

(1KZ01076)-ENGINE (2FN01834)-GENERATOR
(CMJ00586)-GENSET

Reference Number: 0K3134

Effective Serial Number:

1KZ00310

Model: 3512 DI TA JWAC

Make from Spec:

Test Spec Data				
Description	Measure	Nominal	Ceiling	Floor
Corr Full Load Power	hp	1,865	1,921	1,809
Full Load Speed	RPM	1800	1810	1790
Governor Setting Speed	RPM	1818	1823	1813
High Idle Speed	RPM	1818	1836	1800
Low Idle Speed	RPM	900	910	890
FL Static Fuel Setting	in	0.567		
FT Static Fuel Setting	in	0.567		
Corrected Fuel Rate	GAL/HR	96.2	103.0	89.4
CSFC	LB/HP.H	0.363	0.382	0.343
Adjusted Boost	IN_HG	64.3	73.9	54.6
Torque Check Speed	RPM			
Corr Torq Rise at TC RPM	%			
Corr Torque at TC RPM	LB/FT			
C Fuel Rate at TC RPM	GAL/HR			
CSFC at TC RPM	LB/HP.H			
ADJ Boost at TC RPM	IN_HG			
Power Loss/Cyl	% C FL PWR			
Specific Blowby	CU FT/HP.H			
Temp Jacket Water Pump Inlet	F	192	197	186
Delta T Jacket Water (out-in)	F	12	21	3
Inlet Manifold Temp	F			
Water Temp to Scac	F			
Scac Water Flow	GAL/MIN			
Oil Pressure	PSI	60	87	48
Oil Pressure Low Idle	PSI	55	87	39
Fuel Pressure	PSI	70	91	45
Inlet Fuel Pressure	PSI		6	
Inlet Fuel Temp	F	86	91	80
Inlet Air Pressure	IN_HG		31	26
Inlet Air Restriction	IN_HG		1.18	
Inlet Air Temperature	F		122	50
Fuel Density	DEG API		36.0	34.0
Boost Constant				
Governor Setting Constant				
Governor Setting Torque	% RTD TRQ	90.0	91.0	89.0
High Idle Stability	RPM			
Low Idle Stability	RPM			
Set Point RPM	RPM	1820	1830	1810

Engine Reference Information

Description	Measure	Variables
FL Static/FT Static Fuel Settings	in	0.567 / 0.567
Fuel Valve Part Number		
Unit Injector Part Number		1113718
Timing Dimension	in	3.421
Torque Control Group Number		Change Level:
Fuel Pump/Gov Grp Part Number		8N0237
Fuel Pump Type		UI
Flyweight Part Number/Attitude		
Turbo Part No and Model		1020290 / TV9215-2.00VTF
Advertised Power / Governor Speed		1,818hp 1,800 RPM
Compression Ratio		13.5
Torque Rise Cam Part Number		
Manifold Type		DRY
Engine Flash File Part Number		

**Torque Control Group
Spring Data**

Part No	Thickness	Quantity
No data found...		

**Torque Control Group
Spacer Data**

Part No	Thickness	Quantity
No data found...		

Timing Data
Mechanical Advance Part Number: Chg. Level:
Advance: 0.0 DEG
Dog Leg Differentials: RPM: -- KW: --

Description	Measure	Spec	Minimum	Maximum
Timing Static @ 0 RPM BTDC	DEG			

Governor Type

WDWRD

**GEN SET PACKAGE
PERFORMANCE DATA
[1KZ01076]**

NOVEMBER 30, 2009

(1KZ01076)-ENGINE (2FN01834)-GENERATOR
(CMJ00586)-GENSET

For Help Desk Phone Numbers [Click here](#)

Performance Number: DM6686

Change Level: 

Sales Model: 3512 DITA	Combustion: DI	Aspr: TA
Engine Power: 1250 W/F EKW 1252 W/O F EKW 1,818 HP	Speed: 1,800 RPM	After Cooler: JWAC
Manifold Type: DRY	Governor Type: WDWRD	After Cooler Temp(F): 180
Turbo Quantity: Hertz: 60	Engine App: GP	Turbo Arrangement:
Rating Type: STANDBY	Application Type: PACKAGE-DIE	Engine Rating: PGS
	Certification:	Strategy:

General Performance Data

GEN W/F EKW	PERCENT LOAD	ENGINE POWER BHP	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
1,250	100	1817	253.09	0.36	93.52	199.22	63.05	3,743.36	1,286.24	1,007.06	10,799.24
1,125	90	1638	228.15	0.35	82.71	195.44	57.75	3,549.13	1,186.7	928.58	9,665.63
1,000	80	1461	203.64	0.35	72.75	191.84	51.38	3,270.14	1,110.56	874.4	8,549.69
937.5	75	1373	191.31	0.35	68.47	190.04	47.5	3,114.76	1,080.14	863.6	8,069.41
875	70	1285	179.12	0.35	64.48	188.24	43.41	2,962.9	1,052.6	858.02	7,642.1

750	60	1111	154.76	0.36	56.64	185.36	35.33	2,673.32	1,009.4	845.96	6,826.33
625	50	937	130.54	0.36	48.85	182.84	27.6	2,390.81	971.6	829.22	6,024.69
500	40	768	106.89	0.38	41.26	180.5	20.49	2,118.88	929.66	808.52	5,240.7
375	30	595	82.96	0.39	33.52	177.98	14.13	1,843.43	865.22	777.02	4,442.59
312.5	25	508	70.78	0.41	29.59	176.72	11.28	1,705.7	825.26	755.78	4,040
250	20	420	58.45	0.43	25.65	175.64	8.65	1,571.5	779.72	730.94	3,633.88
125	10	241	33.65	0.51	17.73	174.2	4.98	1,377.27	654.62	629.06	2,909.93

Engine Heat Rejection Data

GEN W/F EKW	PERCENT LOAD	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
1,250	100	48,055.1	7,165.6	81,437.7	47,031.4	10,009.1	12,909.5	77,058.7	200,636.9	213,717.0
1,125	90	42,254.3	6,881.3	70,234.3	38,842.1	8,871.7	10,407.2	69,438.1	177,263.4	188,808.0
1,000	80	37,363.5	6,596.9	61,248.9	32,188.3	7,791.2	8,075.5	61,988.2	156,904.0	167,197.5
937.5	75	35,202.5	6,540.0	57,666.1	29,970.4	7,336.2	6,995.0	58,234.8	147,975.4	157,586.4
875	70	33,155.1	6,426.3	54,253.9	28,207.5	6,938.1	5,971.3	54,481.3	139,217.5	148,316.7
750	60	29,003.6	6,198.8	47,600.1	24,738.4	6,085.1	4,037.8	47,088.3	121,929.0	129,890.8
625	50	24,852.1	5,914.5	41,116.9	21,326.2	5,232.0	2,331.7	39,752.1	104,811.2	111,635.6
500	40	20,814.4	5,687.0	34,918.1	17,970.9	4,435.9	966.8	32,529.6	88,262.0	94,005.9
375	30	16,833.5	5,402.6	28,776.2	14,501.8	3,582.8	-56.9	25,250.2	71,599.2	76,319.4
312.5	25	14,843.0	5,288.9	25,705.2	12,682.0	3,184.7	-511.8	21,553.7	63,239.3	67,390.8
250	20	12,852.6	5,118.3	22,634.2	10,919.0	2,729.8	-853.0	17,800.3	54,879.4	58,462.2
125	10	8,871.7	4,890.8	16,492.3	6,881.3	1,876.7	-1,308.0	10,236.6	37,932.2	40,434.5

EXHAUST Sound Data: 4.92 FEET

GEN W/F EKW	PERCENT LOAD	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
1,250	100	115	105	120	116	108	106	108	107	106
1,125	90	114	104	119	115	107	105	107	107	105
1,000	80	113	103	118	114	106	105	106	106	104
937.5	75	113	103	118	114	106	104	105	105	103
875	70	112	102	117	113	105	104	105	105	103
750	60	111	101	116	112	104	102	104	104	102
625	50	110	100	115	111	103	101	103	102	101
500	40	109	99	114	110	102	100	101	101	99
375	30	107	98	112	108	100	99	100	100	98
312.5	25	107	97	112	108	100	98	99	99	97
250	20	106	96	111	107	99	97	98	98	96
125	10	104	94	109	105	97	95	96	96	94

EXHAUST Sound Data: 22.97 FEET

GEN W/F EKW	PERCENT LOAD	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
1,250	100	101	93	109	104	95	93	94	94	91
1,125	90	101	92	109	103	94	93	93	93	90
1,000	80	100	91	108	102	93	92	92	92	89
937.5	75	99	91	107	101	93	91	92	92	89
875	70	99	90	107	101	92	91	91	91	88
750	60	98	89	106	100	91	90	90	90	87
625	50	96	88	104	99	90	88	89	89	86
500	40	95	87	103	97	89	87	88	88	85
375	30	94	85	102	96	87	86	87	86	84
312.5	25	93	85	101	95	87	85	86	86	83
250	20	92	84	100	94	86	84	85	85	82
125	10	90	82	98	92	84	82	83	83	80

EXHAUST Sound Data: 49.21 FEET

GEN W/F EKW	PERCENT LOAD	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
1,250	100	95	86	103	97	88	87	88	87	85
1,125	90	94	85	102	96	88	86	87	87	84
1,000	80	93	84	101	95	87	85	86	86	83
937.5	75	93	84	101	95	86	85	85	85	82
875	70	92	83	100	94	86	84	85	85	82
750	60	91	82	99	93	85	83	84	84	81
625	50	90	81	98	92	83	82	83	82	80
500	40	89	80	97	91	82	81	81	81	78
375	30	87	79	95	89	81	79	80	80	77
312.5	25	87	78	95	89	80	79	79	79	76
250	20	86	77	94	88	79	78	78	78	75
125	10	84	75	92	86	77	76	76	76	73

MECHANICAL Sound Data: 3.28 FEET

GEN W/F EKW	PERCENT LOAD	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
1,250	100	113	116	125	116	107	101	100	98	102
1,125	90	113	116	125	116	107	101	100	98	102
1,000	80	113	116	125	116	107	101	100	98	102
937.5	75	113	116	125	116	107	101	100	98	102
875	70	113	116	125	116	107	101	100	98	102
750	60	113	116	125	116	107	101	100	98	102
625	50	113	116	125	116	107	101	100	98	102
500	40	113	116	125	116	107	101	100	98	102
375	30	113	116	125	116	107	101	100	98	102
312.5	25	113	116	125	116	107	101	100	98	102
250	20	113	116	125	116	107	101	100	98	102
125	10	113	116	125	116	107	101	100	98	102

MECHANICAL Sound Data: 22.97 FEET

GEN W/F EKW	PERCENT LOAD	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
1,250	100	100	102	112	102	94	89	89	86	90
1,125	90	100	102	112	102	94	89	89	86	90
1,000	80	100	102	112	102	94	89	89	86	90
937.5	75	100	102	112	102	94	89	89	86	90
875	70	100	102	112	102	94	89	89	86	90
750	60	100	102	112	102	94	89	89	86	90
625	50	100	102	112	102	94	89	89	86	90
500	40	100	102	112	102	94	89	89	86	90
375	30	100	102	112	102	94	89	89	86	90
312.5	25	100	102	112	102	94	89	89	86	90
250	20	100	102	112	102	94	89	89	86	90
125	10	100	102	112	102	94	89	89	86	90

MECHANICAL Sound Data: 49.21 FEET

GEN W/F EKW	PERCENT LOAD	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
1,250	100	93	96	105	96	87	83	83	80	84
1,125	90	93	96	105	96	87	83	83	80	84
1,000	80	93	96	105	96	87	83	83	80	84
937.5	75	93	96	105	96	87	83	83	80	84
875	70	93	96	105	96	87	83	83	80	84
750	60	93	96	105	96	87	83	83	80	84
625	50	93	96	105	96	87	83	83	80	84
500	40	93	96	105	96	87	83	83	80	84
375	30	93	96	105	96	87	83	83	80	84
312.5	25	93	96	105	96	87	83	83	80	84
250	20	93	96	105	96	87	83	83	80	84
125	10	93	96	105	96	87	83	83	80	84

EMISSIONS DATA

Certification:

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

REFERENCE EXHAUST STACK DIAMETER	10 IN
WET EXHAUST MASS	17,242.3 LB/HR
WET EXHAUST FLOW (1,005.80 F STACK TEMP)	10,806.30 CFM
WET EXHAUST FLOW RATE (32 DEG F AND 29.98 IN HG)	3,545.00 STD CFM
DRY EXHAUST FLOW RATE (32 DEG F AND 29.98 IN HG)	3,247.89 STD CFM
FUEL FLOW RATE	93 GAL/HR

RATED SPEED "Not to exceed data"

GEN PWR EKW	PERCENT LOAD	ENGINE POWER BHP	TOTAL NOX (AS NO2) LB/HR	TOTAL CO LB/HR	TOTAL HC LB/HR	PART MATTER LB/HR	OXYGEN IN EXHAUST PERCENT	DRY SMOKE OPACITY PERCENT	BOSCH SMOKE NUMBER
1,250	100	1817	47.7400	9.3300	.5300	1.0800	11.4000	2.9000	1.3200
937.5	75	1373	34.3900	4.8200	1.2800	.6000	11.8000	2.9000	1.2900
625	50	937	23.9100	3.0100	1.2500	.5700	12.7000	2.9000	1.3100
312.5	25	508	12.4800	2.6500	1.1000	.8000	13.8000	4.2000	1.3800
125	10	241	6.5600	2.9900	1.2600	.6300	15.1000	5.5000	1.5000

RATED SPEED "Nominal Data"

GEN PWR EKW	PERCENT LOAD	ENGINE POWER BHP	TOTAL NOX (AS NO2) LB/HR	TOTAL CO LB/HR	TOTAL HC LB/HR	TOTAL CO2 LB/HR	PART MATTER LB/HR	OXYGEN IN EXHAUST PERCENT	DRY SMOKE OPACITY PERCENT	BOSCH SMOKE NUMBER
1,250	100	1817	39.7800	5.1800	.4000	2,227.1	.7700	11.4000	2.9000	1.3200
937.5	75	1373	28.6600	2.6800	.9600	1,554.7	.4300	11.8000	2.9000	1.2900
625	50	937	19.9300	1.6700	.9400	1,101.7	.4100	12.7000	2.9000	1.3100
312.5	25	508	10.4000	1.4700	.8300	663.3	.5700	13.8000	4.2000	1.3800
125	10	241	5.4700	1.6600	.9500	391.2	.4500	15.1000	5.5000	1.5000

Altitude Capability Data(Corrected Power Altitude Capability)

Ambient Operating Temp. Altitude	50 F	68 F	86 F	104 F	122 F	NORMAL
0 F	1,818.42 hp	1,818.42 hp	1,818.42 hp	1,818.42 hp	1,818.42 hp	1,818.42 hp
984.25 F	1,818.42 hp	1,818.42 hp	1,818.42 hp	1,818.42 hp	1,791.6 hp	1,818.42 hp
1,640.42 F	1,818.42 hp	1,818.42 hp	1,818.42 hp	1,805.01 hp	1,748.69 hp	1,818.42 hp
3,280.84 F	1,818.42 hp	1,815.74 hp	1,755.4 hp	1,699.07 hp	1,646.77 hp	1,791.6 hp
4,921.26 F	1,768.81 hp	1,708.46 hp	1,652.14 hp	1,598.5 hp	1,548.88 hp	1,704.44 hp
6,561.68 F	1,662.86 hp	1,605.2 hp	1,552.9 hp	1,503.28 hp	1,456.35 hp	1,619.95 hp
8,202.1 F	1,562.29 hp	1,508.65 hp	1,459.03 hp	1,412.09 hp	1,369.18 hp	1,539.49 hp
9,842.52 F	1,467.08 hp	1,416.12 hp	1,369.18 hp	1,326.27 hp	1,284.7 hp	1,461.71 hp
10,498.69 F	1,429.53 hp	1,381.25 hp	1,335.66 hp	1,292.74 hp	1,252.51 hp	1,432.21 hp

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

Identification Reference and Notes

Engine Arrangement:	1979048	Lube Oil Press @ Rated Spd(PSI):	55.8
Effective Serial No:	1KZ00314	Piston Speed @ Rated Eng SPD(FT/Min):	2,173.2
Primary Engine Test Spec:	0K3134	Max Operating Altitude(FT):	2,788.7
Performance Parm Ref:	TM5739	PEEC Elect Control Module Ref	
Performance Data Ref:	DM6686	PEEC Personality Cont Mod Ref	
Aux Coolant Pump Perf Ref:			
Cooling System Perf Ref:	TM3097	Turbocharger Model	TV9211-1.7
Certification Ref:		Fuel Injector	1111775
Certification Year:		Timing-Static (DEG):	--
Compression Ratio:	13.5	Timing-Static Advance (DEG):	--
Combustion System:	DI	Timing-Static (MM):	--
Aftercooler Temperature (F):	180	Unit Injector Timing (MM):	86.8
Crankcase Blowby Rate(CFH):	907.6	Torque Rise (percent)	--
Fuel Rate (Rated RPM) No Load(Gal/HR):	8.1	Peak Torque Speed RPM	--
Lube Oil Press @ Low Idle Spd(PSI):	20.0	Peak Torque (LB/FT):	--

**Reference
Number: DM6686**

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**Parameters
Reference: TM5739**

GEN SET - PACKAGED - DIESEL
TOLERANCES:
AMBIENT AIR CONDITIONS AND FUEL USED WILL AFFECT
THESE VALUES.
EACH OF THE VALUES MAY VARY IN ACCORDANCE WITH
THE FOLLOWING
TOLERANCES.

ENGINE POWER	+/-	3%	
EXHAUST STACK TEMPERATURE	+/-	8%	
GENERATOR POWER	+/-	5%	
INLET AIR FLOW	+/-	5%	
INTAKE MANIFOLD PRESSURE - GAGE	+/-	10%	
EXHAUST FLOW	+/-	6%	
SPECIFIC FUEL CONSUMPTION	+/-	3%	
FUEL RATE	+/-	5%	
HEAT REJECTION	+/-	5%	
HEAT REJECTION EXHAUST ONLY	+/-	10%	

CONDITIONS:
ENGINE PERFORMANCE IS CORRECTED TO INLET AIR
STANDARD CONDITIONS
OF 99 KPA (29.31 IN HG) AND 25 DEG C (77 DEG F).

THESE VALUES CORRESPOND TO THE STANDARD
ATMOSPHERIC PRESSURE AND
TEMPERATURE IN ACCORDANCE WITH SAE J1349. ALSO
INCLUDED IS A
CORRECTION TO STANDARD FUEL GRAVITY OF 35 DEGREES
API HAVING A
LOWER HEATING VALUE OF 42,780 KJ/KG (18,390 BTU/LB)
WHEN USED AT
29 DEG C (84.2 DEG F) WHERE THE DENSITY IS 838.9 G/L (7.002
LB/GAL).

THE CORRECTED PERFORMANCE VALUES SHOWN FOR
CATERPILLAR ENGINES WILL
APPROXIMATE THE VALUES OBTAINED WHEN THE
OBSERVED PERFORMANCE
DATA IS CORRECTED TO SAE J1349, ISO 3046-2 & 8665 & 2288 &
9249 &
1585, EEC 80/1269 AND DIN70020 STANDARD REFERENCE
CONDITIONS.

ENGINES ARE EQUIPPED WITH STANDARD ACCESSORIES;
LUBE OIL, FUEL
PUMP AND JACKET WATER PUMP. THE POWER REQUIRED TO
DRIVE
AUXILIARIES MUST BE DEDUCTED FROM THE GROSS OUTPUT
TO ARRIVE AT THE
NET POWER AVAILABLE FOR THE EXTERNAL (FLYWHEEL)
LOAD. TYPICAL
AUXILIARIES INCLUDE COOLING FANS, AIR COMPRESSORS,
AND CHARGING
ALTERNATORS.

RATINGS MUST BE REDUCED TO COMPENSATE FOR
ALTITUDE AND/OR AMBIENT

TEMPERATURE CONDITIONS ACCORDING TO THE
APPLICABLE DATA SHOWN ON
THE PERFORMANCE DATA SET.

GEN SET - PACKAGED - DIESEL

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 IS FOUND ON TM2001.

THE GENERATOR POWER CURVE TABULAR DATA
REPRESENTS THE NET
ELECTRICAL POWER OUTPUT OF THE GENERATOR.

GENERATOR SET RATINGS

EMERGENCY STANDBY POWER (ESP)

OUTPUT AVAILABLE WITH VARYING LOAD FOR THE
DURATION OF AN EMERGENCY
OUTAGE. AVERAGE POWER OUTPUT IS 70% OF THE ESP
RATING. TYPICAL
OPERATION IS 50 HOURS PER YEAR, WITH MAXIMUM
EXPECTED USAGE OF 200
HOURS PER YEAR.

STANDBY POWER RATING

OUTPUT AVAILABLE WITH VARYING LOAD FOR THE
DURATION OF AN EMERGENCY
OUTAGE. AVERAGE POWER OUTPUT IS 70% OF THE
STANDBY POWER RATING.
TYPICAL OPERATION IS 200 HOURS PER YEAR, WITH
MAXIMUM EXPECTED USAGE
OF 500 HOURS PER YEAR.

PRIME POWER RATING

OUTPUT AVAILABLE WITH VARYING LOAD FOR AN
UNLIMITED TIME. AVERAGE
POWER OUTPUT IS 70% OF THE PRIME POWER RATING.
TYPICAL PEAK DEMAND IS
100% OF PRIME RATED EKW WITH 10% OVERLOAD
CAPABILITY FOR EMERGENCY
USE FOR A MAXIMUM OF 1 HOUR IN 12. OVERLOAD
OPERATION CANNOT EXCEED
25 HOURS PER YEAR.

CONTINUOUS POWER RATING

OUTPUT AVAILABLE WITH NON-VARYING LOAD FOR AN UNLIMITED TIME.
AVERAGE POWER OUTPUT IS 70-100% OF THE CONTINUOUS POWER RATING.
TYPICAL PEAK DEMAND IS 100% OF CONTINUOUS RATED EKW FOR 100% OF OPERATING HOURS.

SYSTEMS DATA [1KZ01076]

(1KZ01076)-ENGINE (2FN01834)-GENERATOR
(CMJ00586)-GENSET

NOVEMBER 30, 2009

For Help Desk Phone Numbers [Click here](#)

Reference Number: 1979048

Version Symbol: -

Change Level: 07

Sales Model: 3512 DI TA JWAC

Eff. Serial Number Prefix: 1KZ

Engr. Model: GS036

Description	Answer	Unit
Air Intake System		
The installed system must comply with the system limits below for all emissions certified engines to assure regulatory compliance.		
MAX ALLOW INTAKE RESTR W/CLEAN ELEMENT	10.0	IN WTR
MAX ALLOW INTAKE RESTR W/DIRTY ELEMENT	24.9	IN WTR
Cooling System		
ENGINE ONLY COOLANT CAPACITY	41.4	GAL
MAX ALLOW ENGINE COOLANT OUTLET TEMP	210	DEG F
REGULATOR START-TO-OPEN TEMP	180	DEG F
REGULATOR FULL OPENING TEMPERATURE	198	DEG F
REGULATOR LOCATION	OUTLET	
MAX UNINTERRUPTED FILL RATE	5	GPM
Engine Spec System		
CYLINDER ARRANGEMENT	60V	
NUMBER OF CYLINDERS	12	CYL
CYLINDER BORE DIAMETER	6.6929	IN
PISTON STROKE	7.4803	IN
TOTAL CYLINDER DISPLACEMENT	3,161	CU IN
COMPRESSION RATIO (TO ONE)	13.5	
CRANKSHAFT ROTATION (FROM FLYWHEEL END)	STD	
CYLINDER FIRING ORDER	1-12-9-4-5	
CYLINDER FIRING ORDER - CONTINUED	-8-11-2-3-	
CYLINDER FIRING ORDER - CONTINUED	10-7-6	
NUMBER 1 CYLINDER LOCATION	R FRONT	
STROKES/COMBUSTION CYCLE	4	STROKES
Exhaust System		
The installed system must comply with the system limits below for		

all

emissions certified engines to assure regulatory compliance.

MAX ALLOWABLE SYSTEM BACK PRESSURE	26.9	IN WTR
MANIFOLD TYPE	DRY	
MAX ALLOW STATIC WT ON EXHAUST CONN	64	LB
MAX ALLOW STATIC BEND MOMENT ON EXH CONN	32	FT LB

Fuel System

MAX FUEL FLOW TO TRANSFER PUMP (TO ENG)	332.9	GPH
MAX ALLOW FUEL SUPPLY LINE RESTRICTION	8.9	IN HG
MAX ALLOW FUEL TMP FROM TRANSFER PUMP IN	151	DEG F
MAX FUEL FLOW TO RETURN LINE (FROM ENG)	324.7	GPH
MAX ALLOW FUEL RETURN LINE RESTR	8.0	IN HG
NORMAL FUEL PRESSURE-CLEAN SYSTEM	60.2	PSI
FUEL SYSTEM TYPE	UI	

Lube System

RECOMMENDED OIL TYPE (API OR CAT SPEC)	CAT ECF-1	
OIL FILTER TYPE	FULL FLOW	
LUBE SYSTEM OIL COOLER TYPE	BUNDLE	
NOM OIL PRESS W/SAE 10W30 OIL @ 99 DEG C	60.9	PSI
MIN LI OP W/SAE 10W30 OIL @ 99 DEG C	50.8	PSI

Mounting System

C/G LOC - X DIMEN - FRM REAR FACE OF BLK	34.6456	IN
CENTER OF GRAVITY LOCATION Y DIMENSION	8.5039	IN
CENTER OF GRAVITY LOCATION Z DIMENSION	0.4724	IN
STD - FLYWHEEL HOUSING SIZE-SAE NUMBER	00	
GENERAL DIMENSION DRG REF NUM (ENG ONLY)	NAV	
MASS MOMENT OF INERTIA - X AXIS	8,850.7451	LB IN SEC2
MASS MOMENT OF INERTIA - Y AXIS	61,955.2148	LB IN SEC2
MASS MOMENT OF INERTIA - Z AXIS	61,955.2148	LB IN SEC2
DRY WT ENG ONLY (DRAINED OF FLUIDS)	13,486	LB
CRANKSHAFT DESIGN ENDPLAY	0.0157	IN
CSHFT DESIGN ENDPLAY TOLERANCE + OR -	0.0091	IN
ENGINE LENGTH	105.3541	IN
ENGINE HEIGHT	67.7164	IN
ENGINE WIDTH	67.0077	IN

Starting System

MIN CRANKING SPD REQUIRED FOR START-RPM	120	RPM
LOWEST AMBIENT START TEMP W/O AIDS	32	DEG F

GENERATOR DATA [1KZ01076]

NOVEMBER 30, 2009

(1KZ01076)-ENGINE (2FN01834)-GENERATOR
(CMJ00586)-GENSET

For Help Desk Phone Numbers [Click here](#)

Generator Details:							
Model:	3512	Engine Type:	Any	Hertz:	Any	Rating Type:	Any
KW:	Any	Frame No:	Any	Pow'r Factor:	Any	Arrange. No:	Any
		Voltage:	Any	Connection:	Any		

Application/Performance Data

Description	Measure	Variable
Application Identification		224 GS PACKAGED
Engine Sales Model and Series		3512
Combustion System type		DI
Aspiration Type		TA
Engine Source Factory Ref Number		88
Power Setting PL/PP Ref Number		GG0070
Engine Perf Data Ref No and Change Level		DM6686
Multi Engine Torq/Rating		
Emissions Family		
Generator Rating W/O Fan	EKW	1252
Generator	HZ	60
Brakesaver test		
Certified Engine Rating	hp	
Engineering Model Ref		GS036
Low Idle In-Veh Speed	RPM	

Altitude Derating Information

Description	Measure	Data:
Altitude - Maximum	FT	2,788
Engine Power (ADV)	hp	
Engine Power (Test)	hp	1,818
High Idle Speed	RPM	
FL Static Fuel Setting	in	
FT Static Fuel Setting	in	0.567
Corrected Fuel Rate	GAL/HR	96.2
FL Boost Pressure	IN_HG	

Spec Number vs. Arrangement Number Cross Reference

Arrangement	Arrangement	Arrangement	Arrangement	Arrangement
1979048	2074837			

GENERATOR DATA [1KZ01076]**(1KZ01076)-ENGINE (2FN01834)-GENERATOR
(CMJ00586)-GENSET****NOVEMBER 30, 2009**For Help Desk Phone Numbers [Click here](#)**Generator Details:**

Model:	3512	Engine Type:	Any	Hertz:	Any	Rating Type:	Any
KW:	Any	Frame No:	Any	Pow'r Factor:	Any	Arrange. No:	Any
		Voltage:	Any	Connection:	Any		

Selection Results:

<u>Model</u>	<u>Eng Type</u>	<u>Hz</u>	<u>Rating Type</u>	<u>Rating KW</u>	<u>Volt</u>	<u>Power Factor</u>	<u>Gen. Arr.</u>	<u>Gen. Frame</u>	<u>Connect'n</u>	<u>Exc. Type</u>	<u>Pitch</u>	<u>Fetch</u>
3512	DI	60	SB	1250.00	240	0.80	1441758	695	PARALLEL STAR	PM	0.7333	Fetch...
3512	DI	60	SB	1250.00	240	0.90	1441758	695	PARALLEL STAR	PM	0.7333	Fetch...
3512	DI	60	SB	1250.00	240	1.00	1441758	695	SERIES DELTA	PM	0.7333	Fetch...
3512	DI	60	SB	1250.00	240	1.00	1441758	695	PARALLEL STAR	PM	0.7333	Fetch...
3512	DI	60	SB	1250.00	440	0.90	1441758	695	SERIES STAR	PM	0.7333	Fetch...
3512	DI	60	SB	1250.00	440	1.00	1441758	695	SERIES STAR	PM	0.7333	Fetch...
3512	DI	60	SB	1250.00	480	0.80	1441758	695	SERIES STAR	PM	0.7333	Fetch...
3512	DI	60	SB	1250.00	480	0.90	1441758	695	SERIES STAR	PM	0.7333	Fetch...
3512	DI	60	SB	1250.00	480	1.00	1441758	695	SERIES STAR	PM	0.7333	Fetch...

Part Numbers

Reference Number	Eng	Chg	Quantity	ASM	LESS	Set Type	Description	BreakDown
GG0070		00	1	I			1818 BHP 1250 GEN KW W/F 60 HZ	BreakDown...
0V2022			1	I			0V2022 EPG EB PRICEMPGM20-00	BreakDown...
0V1652			1	I			0V1652 EPG SA 2001 PGM944-00	BreakDown...
LE0015		06	1	I			ENGINE AR 3512 DITA PKG	BreakDown...
1980967		00	1	I			GENERAL ARRANGEMENT - GENSET	BreakDown...

3L0414		1	I	SINGLE BEARING GEN ALIGN-3500	BreakDown...
3L0432		1	I	*TEST - PKG GEN SET (EMCP II)*	BreakDown...
3L0456		1	I	PROCEDURE - DVR PROG AND TEST	BreakDown...
3N7056	00	1	I	BATTERY RACK	BreakDown...
5N2438	05	1	I	FLEXIBLE FUEL LINES	BreakDown...
5N8877	06	1	I	VIBRATION ISOLATORS	BreakDown...
5P2506	00	1	I	LITERATURE - ENGLISH	BreakDown...
5P2586	03	1	I	OIL-BULK-1 LITER: DO NOT DRAIN	BreakDown...
7N6782	08	1	I	RESTRICTION INDICATOR	BreakDown...
7W0825	01	1	I	BATTERY CABLES	BreakDown...
7W3953	09	1	I	FAN DRIVE	BreakDown...
7W5224	01	1	I	FAN PULLEY 0.428 RATIO	BreakDown...
7W5639	03	1	I	BLOWER FAN 1829 MM (72 IN.)	BreakDown...
7W6669	01	1	I	GUARD GP - DAMPER	BreakDown...
7W7214	05	1	I	BELT GUARD	BreakDown...
7W9465	05	1	I	FUEL PRIMING PUMP RH	BreakDown...
8N9302	08	1	I	CLEANER GP	BreakDown...
8N9639	04	1	I	GUARD GP- DAMPER	BreakDown...
9Y5563	02	1	I	FUMES DISPOSAL	BreakDown...
9Y6676	05	1	I	RADIATOR GP (C) (46/CV) (IEA)	BreakDown...
9Y8234	05	1	I	VIBRATION ISOLATORS - RADIATOR	BreakDown...
1012844	04	1	I	COOLANT MTG GP -	BreakDown...
1044704	03	1	I	CONTROL PNL (EMCP II)	BreakDown...
1085555	04	1	I	SWITCH GP- DISCONNECT	BreakDown...
1213364	01	1	I	COOLANT LEVEL SENSOR	BreakDown...
1216202	06	1	I	REGULATOR GP	BreakDown...
1218855	06	1	I	CONNECTION GP	BreakDown...
1381973	07	1	I	2301A SPEED CONTROL	BreakDown...

				GOVERNOR	
1411808	03	1	I	BOX GP-BASIC	BreakDown...
1441758	03	1	I	GENERATOR 695 FRAME PM	BreakDown...
1455138	01	1	I	WIRING GP - DVR POWER	BreakDown...
1473738	00	1	I	OIL SAMPLING VALVE	BreakDown...
1519228	02	1	I	GUARD GROUP- ALTERNATOR	BreakDown...
1526787	02	1	I	RAIL GP-ENG, RAD, GEN,& FLARED	BreakDown...
1530191	06	1	I	INSTALLATION AR-GENERATOR	BreakDown...
1876308	10	1	I	PANEL AS - EMCP II	BreakDown...
1876312	04	1	I	WIRING GP - 40 PIN MUI HARNESS	BreakDown...
1979048	05	1	I	ENGINE ARR - 3512	BreakDown...
1981905	00	1	I	PAINT - FINISH	BreakDown...
1985460	05	1	I	WIRING GP EMCP II LOW VOLTAGE	BreakDown...
2010549	03	1	I	DRAIN GP - OIL PAN	BreakDown...
2057860	01	1	I	MOUNTING GP - 17 DIGIT PIN	BreakDown...
4W0472	04	1	I	FUMES DISPOSAL	BreakDown...
3L0284		1	I	*****TEST - PKG GEN SET*****	BreakDown...
1214713	00	1	I	ENGLISH DISPLAY UNITS	BreakDown...
LE0320	01	1	I	ENGINE FAILURE RELAY	BreakDown...
1341157	01	1	I	ENGINE FAILURE RELAY	BreakDown...
LE0305	01	1	I	ALARM MODULE - 8 LIGHTS	BreakDown...
1879371	03	1	I	MODULE GP	BreakDown...
LE0303	01	1	I	CUSTOM ALRM MODULE (CAM)	BreakDown...
1879372	03	1	I	MODULE GP	BreakDown...
LE0311	01	1	I	REMOTE ANNUNCIATOR MODULE	BreakDown...
1311965	02	1	I	CUSTOM REM. ANNUNCIATOR MODULE	BreakDown...
LE0195	01	1	I	PRIMARY FUEL	BreakDown...

				FILTER	
8N6435	02	1	I	PRIMARY FUEL FILTER	BreakDown...
LE0223	00	1	I	FLANGE GP - A, 46/CV	BreakDown...
9Y7822	04	1	I	DUCT FLANGE	BreakDown...
LE0617	01	1	I	SPACE HEATER RELAY	BreakDown...
2210752	00	1	I	SPACE HEATER RELAY	BreakDown...
LE0174	00	1	I	HEAVY DUTY ELECTRIC STARTING	BreakDown...
8N3896	14	1	I	ELECTRIC STARTING MOTOR 24VDC	BreakDown...
LE0951	04	1	I	REMOVAL AR, BATTERIES,	BreakDown...
LE0176	04	1	I	OVERSIZE BATTERY - 2600CCA	BreakDown...
7L7872	09	1	I	24 VOLT BATTERY SET - DRY	BreakDown...
LE0210	00	1	I	JACKET WATER HEATER - DUAL	BreakDown...
7E6247	04	1	I	JACKET WATER HEATER	BreakDown...
1369370	06	1	I	MOUNTING GP-JW	BreakDown...
1666653	03	1	I	MOUNTING GP - JW HEATER	BreakDown...
LE2131	00	1	I	NEUTRAL GROUNDING CONNECTION	BreakDown...
1219480	02	1	I	NEUTRAL GROUNDING CONNECTION	BreakDown...
LE0335	02	1	I	CIRCUIT BREAKER 1600A	BreakDown...
1220317	02	1	I	PANEL AS.	BreakDown...
1220319	04	1	I	MOUNTING GP.	BreakDown...
1220320	02	1	I	WIRING GP.- SHUNT TRIP	BreakDown...
1220329	02	1	I	CONNECTION GP	BreakDown...
2071740	00	1	I	BREAKER GP - CIRCUIT	BreakDown...
2081195	00	1	I	MOUNTING GROUP	BreakDown...
5N9597		1	I	VOLTAGE INDICATOR 480V,	BreakDown...

				60HZ	
0V1065		1	I	END USE: GENERAL EPG	BreakDown...
0P9715		3	I	EXTRA LITERATURE - ENGLISH	BreakDown...
LA1330	00	1	I	CSA TEST AND CERTIFICATION	BreakDown...
3L0224		1	I	*****DIELECTRIC TEST - CSA****	BreakDown...
3L0334		1	I	*****NAMEPLATE INFORMATION*****	BreakDown...
0P1910		1	I	STD. GEN SET TEST CHARGE	BreakDown...
CA0866	05	1	I	LANGUAGE MARKINGS- ENGLISH	BreakDown...
GG0070	00	1	I	1818 BHP 1250 GEN KW W/F 60 HZ	BreakDown...
0K3134		1	I	1356 BKW (1818 BHP) @ 1800 RPM	BreakDown...