

ENGINE TEST

MARCH 14, 2024

For Help Desk Phone Numbers Click here

Sales Model: 3516

TMI Load Date: 02Nov1999

Built Date: 01Nov1999

Tested Date: 02Nov1999

Tested: B

Plant: Lafayette

Shipped Date: 24Nov1999

Cell Number: 510

Show entries

Search:

Test Element	Eng Updates	Test Value	Test Spec Value	Measure
Spec Number		2T5634	2T5634	
Arrangement Number		4P8336	4P8336	
CORR FL PWR		1,086	1,085	HP
Speed		1,201	1,200	RPM
CORR FL FUEL RATE		128,099.2	126,770.5	BTU/MIN
CSCF		7,079	7,011	BTU/HP-H
Jacket Water Temp		192	192	F
IN SCAC H2O		126	129	F
Compressor Out Pressure		33.79	33.07	PSIA
Inlet Manifold Pressure		30.46	30.31	PSIA
Excess Oxygen		8.8	8.2	%
NOx Level			310	PPM
FL Oil Press		61	60	PSI
High Speed		1,201	1,200	RPM
Diff Fuel Pressure High		0.10	0.12	PSI
Low Idle Speed		898	900	RPM
Low Idle Oil Pressure		61	60	PSI
Fuel Pressure		18		PSIA
Timing BTDC			22.00	DEG

Showing 1 to 19 of 19 entries

Previous

Next

Advised Power
Advised Speed

Value
1,085
1,200

Unit
HP
RPM

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 Content Owner: Commercial Processes Division
 Web Master(s): PSG Web Based Systems Support
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ORDER INVOICE WITH ENGINEERING BREAKDOWN

MARCH 14, 2024
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Caution Ordering Parts from TMI Order Invoice with Engineering Breakdown
 Order Invoice with Engineering Breakdown information is provided by the orders system, once you click breakdown of a part, TMI pulls the information from the Engineering Data System (EDS).

EDS is not a manufacturing bill of material system but a engineering part in effect system. TMI uses the built date and calls EDS to pull the part in effect at that time. Recently, TMI added an as manufactured tab. This tab provides the consist as reported from the engine factory. This data is limited but growing for new manufactured engines. To see an example enter "AT400559"
 As-Manufactured tab is refreshed with correct data. The history records as well as the current data with wrong details are deleted. From 28th march 2019, TMI is maintaining only current data which possesses correct details.

To validate you are ordering a correct part, TMI encourages you to contact Morton Parts. 800-566-7782 or <https://pscrmwebforms.cat.com/GDSNquickentry.aspx>

The below option will email full breakdown of the serial number

Excel PDF

[FullBreakDown](#)

Sales Model: 3516 SITA

Invoice Number:

Dealer: B293

S.O. Number:

Invoice Date: 1999-11-29

Part Numbers

Part Numbers Top

59 results found, displaying 1 to 59

Reference Number	Eng Chg	Quantity	ASM	LESS	Set Type	Description	Reference Drawing	SIS Part Diagram
PA4873	11	1	1					
- 4P8336	08	1	1			G3516 LE GEN SET ENGINE	Drawing...	View Diagram
- 5P2506	00	1	1			G3516 SITa LE EIS ENGINE AR	Drawing...	View Diagram
- 8N9639	04	1	1			LITERATURE GP - ENGLISH		View Diagram
- 1079020	02	1	1			GUARD GP-DAMPER		View Diagram
- 1079022	03	1	1			GAGE AS - SERVICE METER		View Diagram
- 1079023	01	1	1			PYROMETER AND THERMOCOUPLES		View Diagram
- 1079024	01	1	1			ENGINE OIL PRESSURE GAUGE		View Diagram
						ENGINE WATER TEMPERATURE GAUGE		View Diagram

Help

- 1079025	01	1	I	MANIFOLD PRESSURE GAUGE	View Diagram
- 1079026	01	1	I	OIL FILTER DIFF PRESSURE GAUGE	View Diagram
- 9Y6496	02	1	I	CUSTOMER INTERFACE MODULE-CIM	View Diagram
- 1083921	02	1	I	MANIFOLD AIR TEMPERATURE GAUGE	View Diagram
- 1180474	04	1	I	HARNNESS INTERCONNECT AS.	View Diagram
- 2W5616	04	1	I	OIL PAN DRAIN COVER	View Diagram
9Y8179	02	1	I	INLET/OUTLET CONNECTION	View Diagram
LA1170	00	1	I	LUBRICATING OIL	View Diagram
- 7X2425	01	1	I	OIL - BULK - 1 LITER	View Diagram
5N4659	06	1	I	OIL LEVEL REGULATOR	View Diagram
1106206	00	1	I	OIL PAN DRAIN VALVE	View Diagram
8N8510	07	1	I	EXPLOSION RELIEF VALVE	View Diagram
LA1110	00	1	I	JACKET WATER HEATER - DUAL	View Diagram
- 6I1043	03	1	I	MOUNTING GP - JACKET WATER HTR	View Diagram
- 6I1044	07	1	I	MOUNTING GP - JACKET WATER HTR	View Diagram
- 7E6247	03	1	I	JACKET WATER HEATER	View Diagram
- 1097034	01	1	I	LOW WATER TEMPERATURE SWITCH	View Diagram
3N7056	00	1	I	BATTERY RACK	View Diagram
7L7872	08	1	I	24 VOLT BATTERY SET - DRY	View Diagram
7W0825	01	1	I	BATTERY CABLES	View Diagram
5N8877	04	1	I	VIBRATION ISOLATORS	View Diagram
1665183	00	1	I	CONNECTION GP - TERMINAL ST	View Diagram
1046203	05	1	I	INSTALLATION AR	View Diagram
3L0467	00	1	I	TWO BEARING GEN ALIGNMENT-3500	View Diagram
LA3173	00	1	I	ELECTRIC STARTING MOTOR LH	View Diagram
- 7C0527	02	1	I	ELECTRIC STARTING MOTOR LH	View Diagram
- 1348621	00	1	I	SWITCH GP - MAGNETIC - DUAL	View Diagram
LA0040	00	1	I	LOW PRESSURE GAS CONVERSION	View Diagram
- 4P9088	02	1	I	CLEANER GP - AIR	View Diagram
- 4P9090	00	1	I	REGULATOR GP	View Diagram
- 4P9091	03	1	I	CARBURETOR GP	View Diagram
- 4P9596	04	1	I	VALVE GP - SOLENOID	View Diagram
- 4P9597	01	1	I	INDICATOR GP	View Diagram
- 7E9202	01	1	I	THROTTLE GP	View Diagram
LA1461	01	1	I	701A DUAL GAIN GOVERNOR	View Diagram
- 1036193	07	1	I	PANEL AS - CONTROL	View Diagram
- 1315457	01	1	I	701A DUAL GAIN GOVERNOR	View Diagram
1729406	01	1	I	GENERATOR GROUP	View Diagram
1665176	00	1	I	BOX GP - BASIC	View Diagram
1665168	00	1	I	BOX GP - EXTENSION	View Diagram
1390377	02	1	I	TRANSFORMER GP - CCCT	View Diagram
1502535	00	1	I	RAIL GP - ENGINE SUPPORT	View Diagram
7W6555	01	1	I	THERMOSTATIC VALVE	View Diagram
1353393	04	1	I	REGULATOR AS. - VOLTAGE	View Diagram
8Q9795	00	1	I	PACKAGING AR.	View Diagram
9Y0851	00	1	I	RAIL GROUP - ENGINE SUPPORT	View Diagram
0P9715	00	6	L	EXTRA LITERATURE - ENGLISH	View Diagram
0P8707	00	1	I	QUOTE NO.	View Diagram
5N9606	00	1	I	VOLTAGE INDICATOR 13200V, 60HZ	View Diagram
LL9213	00	1	I	1084 BHP 761 GEN KW WOF 60 HZ	View Diagram
- 2T5634	00	1	I	809 KW @ 1200 RPM (1085 BHP)	View Diagram

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Content Owner: Commercial Processes Division

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GEN SET PERFORMANCE DATA

MARCH 14, 2024

Performance Number: DM5149

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 Change Level:

Sales Model: 3516 SITA	Combustion: SI	Aspr: TA
Engine Power: 765 W/O F EKW 1,085 HP	Speed: 1,200 RPM	After Cooler: SCAC
Manifold Type: ASWC	Governor Type:	After Cooler Temp(F): 129
Turbo Quantity:	Engine App: GS	Turbo Arrangement:
Hertz: 60	Application Type: EPG-CONT	Engine Rating: GS
Rating Type: CONT-FLP GAS	Certification:	Strategy:
Fuel: NAT GAS	Fuel Press (PSI): 1.5	NOx Level: 2 g/bhp-hr
IGN: EIS	JW Temp (F): 210	ELEK A/F CONT: NO
Cam Type: STD	Piston:	
CARB: IMPCO	C/R: 11.0:1	

General Performance Data

GEN PWR EKW	PERCENT LOAD	ENGINE POWER BHP	ENGINE BMEP PSI	FUEL BSFC BTU-BHP/HR	FUEL RATE CFH	INTAKE MFLD 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
765	100	1085	169.99	6,997.19	8,388.3	142.7	58.51	2,175.39	1,085.9	780.8	5,459.65
573.8	75	814	127.49	7,173.89	6,450.94	139.1	42.82	1,518.53	1,068.8	811.4	3,919.93
382.5	50	542	84.99	7,817.06	4,688.03	137.3	30.64	1,041.78	1,028.3	813.2	2,705.11

General Performance Data 2

ENGINE SPEED RPM	PERCENT LOAD	ENGINE POWER BHP	COMPRESSION PRESS IN-HG	COMPRESSION OUT TEMP DEG F
1,200	157	1085	37.63	272.3
1,200	157	814	27.77	226.58
1,200	157	542	14.22	165.92

Engine Heat Rejection Data

GEN PWR EKW	PERCENT LOAD	REL TO JW BTU/MN	REL TO ATMOS BTU/MN	REL TO EXHAUST BTU/MN	EXH RCOV TO BTU/MN	FROM AFT CLR BTU/MN	WORK ENERGY BTU/MN	LHV ENERGY BTU/MN	HHV ENERGY BTU/MN
765	100	36,510.5	4,549.6	33,837.6	23,714.74	5,573.2	46,007.7	126,478.6	140,639.2
573.8	75	31,733.4	3,810.3	24,454.1	17,686.53	2,729.8	34,508.6	97,247.5	108,166.5
382.5	50	26,899.4	3,014.1	16,947.2	12,283.89	796.2	23,003.9	70,689.3	78,594.2

EXHAUST Sound Data: 4.92 FEET

GEN PWR 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
765	100	112	100	104	106	102	103	105	107	100

EXHAUST Sound Data: 22.97 FEET

GEN PWR 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
765	100	98	89	92	93	90	92	92	92	85

EXHAUST Sound Data: 49.21 FEET

GEN PWR 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
765	100	92	83	85	87	83	85	85	86	79

MECHANICAL Sound Data: 3.28 FEET

GEN PWR 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
765	100	96	96	92	86	87	90	92	88	80

MECHANICAL Sound Data: 22.97 FEET

GEN PWR 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
765	100	87	86	83	77	78	80	82	79	70

MECHANICAL Sound Data: 49.21 FEET

GEN PWR 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
765	100	81	81	77	71	72	75	77	73	65

EMISSIONS DATA

Certification:

EMISSIONS DATA MEASUREMENT IS CONSISTENT WITH THOSE DESCRIBED IN EPA CFR 40 PART 89 SUBPART D & E AND ISO 8178-1 FOR MEASURING HC, CO, CO2 AND NOX. THESE PROCEDURES ARE VERY SIMILAR TO THE METHODS DESCRIBED IN EPA CFR 40 PART 60 APPENDIX A METHOD 25A FOR HYDROCARBONS, METHOD 10 FOR CO, METHOD 7E FOR NOX. DATA SHOWN IS BASED ON STEADY STATE ENGINE OPERATING CONDITIONS OF 77 DEG F, 28.43 INCHES HG AND FUEL HAVING A LHV OF 911 BTU PER CUBIC FOOT AT 30.00 INCHES HG ABSOLUTE AND 32 DEG F. FUEL RATE IS BASED ON A STANDARD CUBIC FOOT AT 30.00 INCHES HG ABSOLUTE AND 32 DEG F.

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

REFERENCE EXHAUST STACK DIAMETER --
 WET EXHAUST MASS 10,002.4 LB/HR
 WET EXHAUST FLOW (780.80 F STACK TEMP) 5,459.65 CFM
 WET EXHAUST FLOW RATE (32 DEG F AND 29.98 IN HG) 2,028.00 STD CFM
 DRY EXHAUST FLOW RATE (32 DEG F AND 29.98 IN HG) 1,857.55 STD CFM
 FUEL FLOW RATE 140 CFM

RATED SPEED "Potential site variation"

EKW	PERCENT LOAD	ENGINE POWER BHP	TOTAL NOX (AS NO2) LB/HR	TOTAL CO LB/HR	TOTAL HC LB/HR	NON-METH HC LB/HR	OXYGEN IN EXHAUST PERCENT	LAMBDA
765	100	1085	4.7100	3.3500	9.1100	1.37	8.7000	1.64
573.8	75	814	9.9700	2.6500	5.1900	0.78	7.2500	1.49
382.5	50	542	9.7200	1.8100	3.6600	0.55	6.1000	1.41

Altitude Capability Data(Corrected Power Altitude Capability)

Ambient Operating Temp.	Altitude	50 F	68 F	86 F	104 F	122 F	NORMAL
	0 FT	1,084.89 hp	1,084.89 hp	1,084.89 hp	1,084.89 hp	1,084.89 hp	1,084.89 hp
	820.21 FT	1,084.89 hp	1,084.89 hp	1,084.89 hp	1,084.89 hp	1,064.77 hp	1,064.77 hp
	1,640.42 FT	1,084.89 hp	1,084.89 hp	1,084.89 hp	1,066.11 hp	1,032.59 hp	1,032.59 hp
	2,460.63 FT	1,084.89 hp	1,084.89 hp	1,068.79 hp	1,033.93 hp	1,001.74 hp	1,001.74 hp
	3,280.84 FT	1,084.89 hp	1,071.47 hp	1,036.61 hp	1,003.08 hp	972.24 hp	972.24 hp
	4,101.05 FT	1,076.84 hp	1,039.29 hp	1,005.77 hp	973.58 hp	942.74 hp	942.74 hp
	4,921.26 FT	1,043.31 hp	1,008.45 hp	974.92 hp	944.08 hp	914.58 hp	914.58 hp
	5,741.47 FT	1,012.47 hp	977.6 hp	945.42 hp	915.92 hp	886.41 hp	886.41 hp

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

Identification Reference and Notes		
Engine Arrangement:		--
Effective Serial No:	4EK00001	--
Primary Engine Test Spec:	Piston Speed @ Rated Eng SPD(FT/Min): Max Operating Altitude(FT):	2,493.4
Performance Parm Ref:	TM0001	
Performance Data Ref:	PEEC Elect Control Module Ref PEEC Personality Cont Mod Ref	
Aux Coolant Pump Perf Ref:		
Cooling System Perf Ref:	Turbocharger Model	UTW8329-1.37
Certification Ref:	Fuel Injector	
Certification Year:	Timing-Static (DEG):	--
Compression Ratio:	Timing-Static Advance (DEG):	--
Combustion System:	Timing-Static (MM):	--
Aftercooler Temperature (F):	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):	Peak Torque (LB.FT):	--

Reference
Number: DM5149

Parameters
Reference: TM0001

GAS ENGINE PERFORMANCE

TOLERANCES:
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 ABSOLUTE PRESSURE - NA	+/- 5%
INTAKE MANIFOLD ABSOLUTE PRESSURE - TA	+/- 5%
INTAKE MANIFOLD TEMPERATURE	+/- 5 DEG C
EXHAUST GAS FLOW	+/- 6%
SPECIFIC FUEL CONSUMPTION	+/- 5%
FUEL RATE	+/- 5%

CONDITIONS:
POWER FOR GAS ENGINES IS BASED ON FUEL HAVING A LHV OF 33.74 KJ/L
(905 BTU/CU FT) AT 101 KPA (29.91 IN HG) AND 15 DEG C (59 DEG F).
FUEL RATE IS BASED ON A CUBIC METER AT 100 KPA (29.61 IN HG) AND
15.6 DEG C (60.1 DEG F). AIR FLOW IS BASED ON A CUBIC FOOT AT
100 KPA (29.61 IN HG) AND 25 DEG C (77 DEG F). EXHAUST FLOW IS
BASED ON A CUBIC FOOT AT 100 KPA (29.61 IN HG) AND STACK
TEMPERATURE.

ENGINE PERFORMANCE IS OBTAINED IN ACCORDANCE WITH SAE J1995,
ISO 3046/1, BS5514/1 AND DIN 6271/1 STANDARDS.

TRANSIENT RESPONSE DATA IS ACQUIRED FROM AN ENGINE/GENERATOR

COMBINATION AT NORMAL OPERATING TEMPERATURE AND IN ACCORDANCE WITH ISO 3046/1 STANDARD AMBIENT CONDITIONS. ALSO IN ACCORDANCE WITH SAE J1995, B5514/1 AND DIN 6271/1 STANDARD REFERENCE CONDITIONS.

ENGINES ARE EQUIPPED WITH STANDARD ACCESSORIES: LUBE OIL PUMP, JACKET WATER PUMP, SEPARATE CIRCUIT AFTERCOOLER WATER PUMP AND MAGNETO (EXCEPT EIS). POWER REQUIRED TO DRIVE AUXILIARIES MUST BE DEDUCTED FROM THE GROSS OUTPUT TO ARRIVE AT THE NET POWER AVAILABLE FOR THE EXTERNAL (FLYWHEEL OR GENERATOR) 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.

DEFINITIONS:

INDUSTRIAL CONTINUOUS - THE POWER AND SPEED CAPABILITY OF THE ENGINE WHICH CAN BE USED WITHOUT INTERRUPTION OR LOAD CYCLING.

GENERATOR SET CONTINUOUS - OUTPUT WHICH MAY BE UTILIZED CONTINUOUSLY WITHOUT LOAD CYCLING.

ALTITUDE:

ALTITUDE CAPABILITY - THE RECOMMENDED POWER VALUES FOR SUSTAINED ENGINE OPERATION AT SPECIFIC 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.

HEAT REJECTION

TOLERANCES:

LHV OR HHV ENERGY	+/- 5%
WORK ENERGY	+/- 3%
REJECTION TO COOLANT	+/- 10%
REJECTION TO EXHAUST	+/- 10%
EXHAUST RECOVERY	+/- 10%
FROM OIL COOLER	+/- 20%
FROM AFTERCOOLER	+/- 5%
REJECTION TO ATMOSPHERE	+/- 50%

THE FOLLOWING FORMULAS APPLY WHEN DOING AN ENERGY BALANCE:

STANDARD TEMPERATURE SYSTEM

HHV ENERGY = REJ TO COOLANT + REJ TO ATMOS + REJ TO EXH +
FROM AFTCLR + WORK ENERGY

COGENERATION (HIGH TEMPERATURE) SYSTEM AND G3600

HHV ENERGY = REJ TO COOLANT + REJ TO ATMOS + REJ TO EXH +
FROM OIL CLR + FROM AFTCLR + WORK ENERGY

DEFINITIONS:

REJ TO COOLANT (JACKET WATER) - TOTAL AMOUNT OF HEAT PICKED UP BY THE ENGINE COOLING SYSTEM. FOR STANDARD TEMPERATURE SYSTEMS THE OIL COOLER HEAT REJECTION IS INCLUDED. FOR COGENERATION SYSTEM AND G3600 THE OIL COOLER IS SEPARATE FROM THE JACKET WATER. THEREFORE, THE OIL COOLER HEAT REJECTION IS NOT INCLUDED IN THE REJ TO COOLANT.

REJECTION TO EXHAUST - IS BASED ON COOLING EXHAUST STACK FLOW TO 25 DEG C (77 DEG F) AND IS USED IN THE ENERGY BALANCE.

EXHAUST RECOVERY - IS THE ENERGY AVAILABLE IF THE EXHAUST STACK FLOW IS COOLED TO 177 DEG C (350.6 DEG F).

SOUND DEFINITIONS:

Sound Power : DM8702

Sound Pressure : TM7080

Caterpillar Confidential: Green

Content Owner: Commercial Processes Division

Web Master(s): [PSG Web Based Systems Support](#)

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