

Performance Number: EM2120

Change Level: 02

SALES MODEL:	3516E	COMBUSTION:	DIRECT INJECTION
BRAND:	CAT	ENGINE SPEED (RPM):	1,808
MACHINE SALES MODEL:		HERTZ:	50
ENGINE POWER (BKW):	3,086.0	FAN POWER (KW):	120.0
GEN POWER WITH FAN (EKW):	2,800.0	ADDITIONAL PARASITICS (KW):	18.0
COMPRESSION RATIO:	14.7	ASPIRATION:	TA
RATING LEVEL:	MISSION CRITICAL STANDBY	AFTERCOOLER TYPE:	ATAAC
PUMP QUANTITY:	1	AFTERCOOLER CIRCUIT TYPE:	JW+OC, ATAAC
FUEL TYPE:	DIESEL	INLET MANIFOLD AIR TEMP (C):	50
MANIFOLD TYPE:	DRY	JACKET WATER TEMP (C):	104
GOVERNOR TYPE:	ADEM5	TURBO CONFIGURATION:	PARALLEL
ELECTRONICS TYPE:	ADEM5	TURBO QUANTITY:	4
IGNITION TYPE:	CI	TURBOCHARGER MODEL:	GTB6051N-44T-1.25
INJECTOR TYPE:	EUI	CERTIFICATION YEAR:	2018
FUEL INJECTOR:	3920221	CRANKCASE BLOWBY RATE (M3/HR):	117.0
UNIT INJECTOR TIMING (MM):	64.34	FUEL RATE (RATED RPM) NO LOAD (L/HR):	61.3
REF EXH STACK DIAMETER (MM):	305	PISTON SPD @ RATED ENG SPD (M/SEC):	13.0
MAX OPERATING ALTITUDE (M):	250		

INDUSTRY	SUBINDUSTRY	APPLICATION
ELECTRIC POWER	STANDARD	PACKAGED GENSET

General Performance Data

THE INLET MANIFOLD AIR TEMP LISTED IN THE HEADER, AND IN THE GENERAL PERFORMANCE DATA, IS THE AVERAGE INLET MANIFOLD TEMP FRONT TO REAR ON THE ENGINE.

THIS STANDBY RATING IS FOR A STANDBY ONLY ENGINE ARRANGEMENT. RERATING THE ENGINE TO A STANDARD PRIME OR CONTINUOUS RATING IS NOT PERMITTED.

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	BRAKE MEAN EFF PRES (BMEP)	BRAKE SPEC FUEL CONSUMPTN (BSFC)	ISO BRAKE SPEC FUEL CONSUMPTN (BSFC)	VOL FUEL CONSUMPTN (VFC)	ISO VOL FUEL CONSUMPTN (VFC)	ELEC SPEC FUEL CONSUMPTN (ESFC)	ISO ELEC SPEC FUEL CONSUMPTN (ESFC)
EKW	%	BKW	KPA	G/BKW-HR	G/BKW-HR	L/HR	L/HR	G/EKW-HR	G/EKW-HR
2,800.0	100	3,085	2,623	208.6	204.6	757.1	742.7	229.8	225.5
2,520.0	90	2,791	2,372	204.1	200.2	669.9	657.2	226.0	221.7
2,240.0	80	2,496	2,122	205.2	201.3	602.5	591.0	228.6	224.3
2,100.0	75	2,349	1,996	206.5	202.6	570.5	559.7	230.9	226.5
1,960.0	70	2,201	1,871	208.2	204.3	539.2	529.0	233.9	229.4
1,680.0	60	1,906	1,621	213.1	209.1	478.0	468.9	241.9	237.3
1,400.0	50	1,612	1,370	219.5	215.3	416.1	408.2	252.7	247.8
1,120.0	40	1,317	1,119	225.8	221.5	349.9	343.2	265.5	260.5
840.0	30	1,022	869	232.4	228.0	279.5	274.2	282.8	277.5
700.0	25	875	744	237.9	233.4	244.9	240.2	297.3	291.7
560.0	20	727	618	247.0	242.3	211.4	207.4	320.9	314.8
280.0	10	433	368	279.7	274.4	142.4	139.7	432.3	424.1

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	INLET MFLD PRES	INLET MFLD TEMP	EXH MFLD TEMP	EXH MFLD PRES	ENGINE OUTLET TEMP	COMPRESSOR OUTLET PRES	COMPRESSOR OUTLET TEMP
EKW	%	BKW	KPA	DEG C	DEG C	KPA	DEG C	KPA	DEG C
2,800.0	100	3,085	311.0	49.4	690.8	245.6	489.6	331	250.0
2,520.0	90	2,791	278.8	41.7	643.9	215.5	462.2	298	226.7
2,240.0	80	2,496	251.6	39.2	621.4	191.7	452.8	269	210.4
2,100.0	75	2,349	237.0	38.2	613.6	180.0	451.2	254	202.4
1,960.0	70	2,201	222.4	37.3	606.3	168.6	450.2	239	194.6
1,680.0	60	1,906	193.4	35.8	592.6	146.5	449.2	208	179.0
1,400.0	50	1,612	165.0	35.1	575.4	125.7	445.1	178	160.5
1,120.0	40	1,317	129.6	33.9	557.2	100.7	444.4	142	137.7
840.0	30	1,022	90.6	33.9	529.9	74.9	436.6	101	111.9
700.0	25	875	72.8	33.7	509.4	62.8	427.3	82	99.2
560.0	20	727	57.3	33.2	482.1	52.6	411.7	66	87.2
280.0	10	433	29.4	32.0	390.7	34.2	343.8	36	64.3

General Performance Data (Continued)

GENSET POWER	PERCENT LOAD	ENGINE POWER	WET INLET AIR VOL	ENGINE OUTLET	WET INLET AIR	WET EXH GAS	ENGINE OUTLET	ENGINE OUTLET
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WITH FAN			FLOW RATE	WET EXH GAS VOL FLOW RATE	MASS FLOW RATE	MASS FLOW RATE	WET EXH VOL FLOW RATE (0 DEG C AND 101 KPA)	DRY EXH VOL FLOW RATE (0 DEG C AND 101 KPA)
EKW	%	BKW	M3/MIN	M3/MIN	KG/HR	KG/HR	M3/MIN	M3/MIN
2,800.0	100	3,085	240.6	649.5	17,008.6	17,650.8	232.6	212.1
2,520.0	90	2,791	227.3	587.2	16,028.8	16,598.2	218.1	199.7
2,240.0	80	2,496	213.9	542.4	15,018.0	15,529.7	204.1	187.4
2,100.0	75	2,349	205.5	518.4	14,398.1	14,882.8	195.5	179.7
1,960.0	70	2,201	196.7	494.6	13,754.5	14,212.7	186.8	171.8
1,680.0	60	1,906	180.6	451.8	12,594.3	13,000.5	170.8	157.5
1,400.0	50	1,612	164.3	404.4	11,345.5	11,699.3	153.8	142.2
1,120.0	40	1,317	143.3	349.1	9,815.2	10,112.7	132.9	122.9
840.0	30	1,022	118.1	283.4	8,059.2	8,296.8	109.1	101.0
700.0	25	875	106.8	251.7	7,270.8	7,479.2	98.2	91.1
560.0	20	727	97.2	223.7	6,610.6	6,790.6	89.2	83.0
280.0	10	433	79.7	164.8	5,408.4	5,529.4	73.0	68.5

Heat Rejection Data

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	REJECTION TO JACKET WATER	REJECTION TO ATMOSPHERE	REJECTION TO EXH	EXH RECOVERY TO 177C	FROM OIL COOLER	FROM AFTERCOOLER	WORK ENERGY	LOW HEAT VALUE ENERGY	HIGH HEAT VALUE ENERGY
EKW	%	BKW	KW	KW	KW	KW	KW	KW	KW	KW	KW
2,800.0	100	3,085	918	167	2,961	1,638	407	1,013	3,085	7,648	8,147
2,520.0	90	2,791	838	149	2,556	1,397	360	872	2,791	6,767	7,209

Emissions Data

DIESEL

RATED SPEED NOMINAL DATA: 1808 RPM

GENSET POWER WITH FAN		EKW	2,800.0	2,100.0	1,400.0	700.0	280.0
PERCENT LOAD		%	100	75	50	25	10
ENGINE POWER		BKW	3,085	2,349	1,612	875	433
TOTAL NOX (AS NO2)		G/HR	20,380	13,146	6,755	3,705	3,901
TOTAL CO		G/HR	3,610	1,053	692	1,090	1,139
TOTAL HC		G/HR	258	272	265	232	190
TOTAL CO2		KG/HR	2,013	1,519	1,103	646	375
PART MATTER		G/HR	244.1	111.1	106.6	121.9	84.6
TOTAL NOX (AS NO2)	(CORR 5% O2)	MG/NM3	2,232.3	1,909.7	1,366.0	1,265.0	2,567.7
TOTAL CO	(CORR 5% O2)	MG/NM3	408.2	158.2	143.1	393.0	680.7
TOTAL HC	(CORR 5% O2)	MG/NM3	25.3	35.3	47.5	72.0	95.4
PART MATTER	(CORR 5% O2)	MG/NM3	22.9	14.0	18.8	36.9	43.7
TOTAL NOX (AS NO2)	(CORR 15% O2)	MG/NM3	828.3	708.6	506.9	469.4	952.8
TOTAL CO	(CORR 15% O2)	MG/NM3	151.5	58.7	53.1	145.8	252.6
TOTAL HC	(CORR 15% O2)	MG/NM3	9.4	13.1	17.6	26.7	35.4
PART MATTER	(CORR 15% O2)	MG/NM3	8.5	5.2	7.0	13.7	16.2
TOTAL NOX (AS NO2)	(CORR 5% O2)	PPM	1,087	930	665	616	1,251
TOTAL CO	(CORR 5% O2)	PPM	327	127	114	314	545
TOTAL HC	(CORR 5% O2)	PPM	47	66	89	134	178
TOTAL NOX (AS NO2)	(CORR 15% O2)	PPM	403	345	247	229	464
TOTAL CO	(CORR 15% O2)	PPM	121	47	42	117	202
TOTAL HC	(CORR 15% O2)	PPM	18	24	33	50	66
TOTAL NOX (AS NO2)		G/HP-HR	4.98	4.21	3.15	3.17	6.75
TOTAL CO		G/HP-HR	0.88	0.34	0.32	0.93	1.97
TOTAL HC		G/HP-HR	0.06	0.09	0.12	0.20	0.33
PART MATTER		G/HP-HR	0.06	0.04	0.05	0.10	0.15
TOTAL NOX (AS NO2)		G/KW-HR	6.78	5.73	4.28	4.31	9.18
TOTAL CO		G/KW-HR	1.20	0.46	0.44	1.27	2.68
TOTAL HC		G/KW-HR	0.09	0.12	0.17	0.27	0.45
PART MATTER		G/KW-HR	0.08	0.05	0.07	0.14	0.20
TOTAL NOX (AS NO2)		LB/HR	44.93	28.98	14.89	8.17	8.60

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TOTAL CO	LB/HR	7.96	2.32	1.52	2.40	2.51
TOTAL HC	LB/HR	0.57	0.60	0.58	0.51	0.42
TOTAL CO2	LB/HR	4,438	3,349	2,431	1,424	826
PART MATTER	LB/HR	0.54	0.24	0.24	0.27	0.19
OXYGEN IN EXH	%	9.5	10.7	11.6	12.4	14.3
DRY SMOKE OPACITY	%	3.5	1.7	2.0	3.3	2.4
BOSCH SMOKE NUMBER		1.18	0.58	0.66	1.13	0.81

RATED SPEED POTENTIAL SITE VARIATION: 1808 RPM

GENSET POWER WITH FAN	EKW	2,800.0	2,100.0	1,400.0	700.0	280.0
PERCENT LOAD	%	100	75	50	25	10
ENGINE POWER	BKW	3,085	2,349	1,612	875	433
TOTAL NOX (AS NO2)	G/HR	24,456	15,776	8,106	4,446	4,682
TOTAL CO	G/HR	5,054	1,475	968	1,526	1,595
TOTAL HC	G/HR	343	361	352	309	253
PART MATTER	G/HR	341.8	155.6	149.3	170.7	118.4
TOTAL NOX (AS NO2) (CORR 5% O2)	MG/NM3	2,678.8	2,291.7	1,639.2	1,518.0	3,081.3
TOTAL CO (CORR 5% O2)	MG/NM3	571.5	221.5	200.3	550.2	953.0
TOTAL HC (CORR 5% O2)	MG/NM3	33.6	47.0	63.2	95.7	126.8
PART MATTER (CORR 5% O2)	MG/NM3	32.1	19.6	26.3	51.7	61.2
TOTAL NOX (AS NO2) (CORR 15% O2)	MG/NM3	994.0	850.4	608.3	563.3	1,143.4
TOTAL CO (CORR 15% O2)	MG/NM3	212.1	82.2	74.3	204.2	353.6
TOTAL HC (CORR 15% O2)	MG/NM3	12.5	17.4	23.5	35.5	47.1
PART MATTER (CORR 15% O2)	MG/NM3	11.9	7.3	9.8	19.2	22.7
TOTAL NOX (AS NO2) (CORR 5% O2)	PPM	1,305	1,116	798	739	1,501
TOTAL CO (CORR 5% O2)	PPM	457	177	160	440	762
TOTAL HC (CORR 5% O2)	PPM	63	88	118	179	237
TOTAL NOX (AS NO2) (CORR 15% O2)	PPM	484	414	296	274	557
TOTAL CO (CORR 15% O2)	PPM	170	66	59	163	283
TOTAL HC (CORR 15% O2)	PPM	23	33	44	66	88
TOTAL NOX (AS NO2)	G/HP-HR	5.98	5.06	3.78	3.81	8.10
TOTAL CO	G/HP-HR	1.24	0.47	0.45	1.31	2.76
TOTAL HC	G/HP-HR	0.08	0.12	0.16	0.26	0.44
PART MATTER	G/HP-HR	0.08	0.05	0.07	0.15	0.20
TOTAL NOX (AS NO2)	G/KW-HR	8.13	6.87	5.13	5.18	11.01
TOTAL CO	G/KW-HR	1.68	0.64	0.61	1.78	3.75
TOTAL HC	G/KW-HR	0.11	0.16	0.22	0.36	0.59
PART MATTER	G/KW-HR	0.11	0.07	0.09	0.20	0.28
TOTAL NOX (AS NO2)	LB/HR	53.92	34.78	17.87	9.80	10.32
TOTAL CO	LB/HR	11.14	3.25	2.13	3.37	3.52
TOTAL HC	LB/HR	0.76	0.80	0.78	0.68	0.56
PART MATTER	LB/HR	0.75	0.34	0.33	0.38	0.26

Regulatory Information

EPA EMERGENCY STATIONARY					2011 - ---
GASEOUS EMISSIONS DATA MEASUREMENTS PROVIDED TO THE EPA ARE CONSISTENT WITH THOSE DESCRIBED IN EPA 40 CFR PART 60 SUBPART IIII AND ISO 8178 FOR MEASURING HC, CO, PM, AND NOX. THE "MAX LIMITS" SHOWN BELOW ARE WEIGHTED CYCLE AVERAGES AND ARE IN COMPLIANCE WITH THE EMERGENCY STATIONARY REGULATIONS.					
Locality	Agency	Regulation	Tier/Stage	Max Limits - G/BKW - HR	
U.S. (INCL CALIF)	EPA	STATIONARY	EMERGENCY STATIONARY	CO: 3.5 NOx + HC: 6.4 PM: 0.20	

Altitude Derate Data

THE TEMPERATURES LISTED IN THE CHART ARE AMBIENT TEMPERATURES. THE FOLLOWING DERATE CHART WAS CALCULATED ASSUMING A 5 DEG C RISE IN AIR TEMPERATURE BETWEEN AMBIENT AND THE TURBOCHARGER INLET.

STANDARD

ALTITUDE CORRECTED POWER CAPABILITY (BKW)

AMBIENT	0	5	10	15	20	25	30	35	40	45	50	55	60	NORMAL
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OPERATING TEMP (C)															
ALTITUDE (M)															
0	3,086	3,086	3,086	3,086	3,086	3,086	3,086	3,086	3,086	3,086	3,086	3,086	3,071	3,086	
250	3,086	3,086	3,086	3,086	3,086	3,086	3,086	3,086	3,086	3,086	3,086	3,086	3,037	2,956	3,086
500	3,086	3,086	3,054	3,054	3,054	3,054	3,054	3,051	2,995	2,912	2,812	2,732	2,728	3,054	
750	3,025	3,025	3,025	3,024	3,024	3,019	2,961	2,878	2,778	2,699	2,697	2,696	2,694	3,024	
1,000	2,966	2,965	2,964	2,964	2,963	2,955	2,894	2,807	2,705	2,628	2,626	2,624	2,622	2,963	
1,250	2,897	2,896	2,895	2,894	2,893	2,883	2,817	2,725	2,622	2,557	2,555	2,553	2,551	2,894	
1,500	2,828	2,827	2,825	2,824	2,823	2,808	2,739	2,644	2,553	2,493	2,491	2,489	2,487	2,824	
1,750	2,757	2,755	2,754	2,752	2,751	2,733	2,661	2,573	2,487	2,429	2,427	2,425	2,423	2,753	
2,000	2,678	2,676	2,675	2,673	2,671	2,650	2,583	2,501	2,415	2,342	2,339	2,338	2,335	2,674	
2,250	2,596	2,594	2,592	2,591	2,589	2,569	2,504	2,421	2,301	2,226	2,225	2,222	2,221	2,592	
2,500	2,523	2,521	2,520	2,518	2,517	2,493	2,426	2,308	2,184	2,114	2,112	2,110	2,109	2,520	
2,750	2,451	2,449	2,448	2,446	2,445	2,415	2,317	2,192	2,072	2,013	2,012	2,010	2,008	2,448	
3,000	2,362	2,360	2,359	2,358	2,356	2,313	2,213	2,088	1,979	1,924	1,922	1,921	1,919	2,360	
3,250	2,298	2,296	2,295	2,294	2,292	2,248	2,147	2,029	1,920	1,866	1,864	1,863	1,862	2,296	
3,500	2,235	2,234	2,233	2,231	2,230	2,184	2,086	1,971	1,861	1,809	1,808	1,807	1,805	2,234	
3,750	2,174	2,173	2,172	2,171	2,170	2,123	2,030	1,914	1,810	1,781	1,780	1,780	1,779	2,174	
4,000	2,116	2,115	2,114	2,113	2,113	2,068	1,975	1,858	1,781	1,752	1,752	1,751	1,751	2,116	
4,250	2,051	2,050	2,049	2,049	2,048	2,000	1,905	1,806	1,741	1,713	1,713	1,713	1,713	2,051	
4,500	1,968	1,967	1,967	1,967	1,966	1,913	1,825	1,754	1,684	1,658	1,659	1,659	1,659	1,968	

Cross Reference

Test Spec	Setting	Engine Arrangement	Engineering Model	Engineering Model Version	Start Effective Serial Number	End Effective Serial Number
4577279	LL1873	5272963	PG270	-	GWZ00001	

Performance Parameter Reference

Parameters Reference:DM9600-14
PERFORMANCE DEFINITIONS

PERFORMANCE DEFINITIONS DM9600

APPLICATION:

Engine performance tolerance values below are representative of a typical production engine tested in a calibrated dynamometer test cell at SAE J1995 standard reference conditions. Caterpillar maintains ISO9001:2000 certified quality management systems for engine test Facilities to assure accurate calibration of test equipment. Engine test data is corrected in accordance with SAE J1995. Additional reference material SAE J1228, J1349, ISO 8665, 3046-1:2002E, 3046-3:1989, 1585, 2534, 2288, and 9249 may apply in part or are similar to SAE J1995. Special engine rating request (SERR) test data shall be noted.

PERFORMANCE PARAMETER TOLERANCE FACTORS:

- Power +/- 3%
- Torque +/- 3%
- Exhaust stack temperature +/- 8%
- Inlet airflow +/- 5%
- Intake manifold pressure-gage +/- 10%
- Exhaust flow +/- 6%
- Specific fuel consumption +/- 3%
- Fuel rate +/- 5%
- Specific DEF consumption +/- 3%
- DEF rate +/- 5%
- Heat rejection +/- 5%
- Heat rejection exhaust only +/- 10%
- Heat rejection CEM only +/- 10%

Heat Rejection values based on using treated water.
 Torque is included for truck and industrial applications, do not use for Gen Set or steady state applications.
 On C7 - C18 engines, at speeds of 1100 RPM and under these values are provided for reference only, and may not meet the tolerance listed.
 On 3500 and C175 engines, at speeds below Peak Torque these values are provided for reference only, and may not meet the tolerance listed.

These values do not apply to C280/3600. For these models, see the tolerances listed below.

C280/3600 HEAT REJECTION TOLERANCE FACTORS:

- Heat rejection +/- 10%
- Heat rejection to Atmosphere +/- 50%
- Heat rejection to Lube Oil +/- 20%

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Heat rejection to Aftercooler +/- 5%

TEST CELL TRANSDUCER TOLERANCE FACTORS:

Torque +/- 0.5%

Speed +/- 0.2%

Fuel flow +/- 1.0%

Temperature +/- 2.0 C degrees

Intake manifold pressure +/- 0.1 kPa

OBSERVED ENGINE PERFORMANCE IS CORRECTED TO SAE J1995 REFERENCE AIR AND FUEL CONDITIONS.

REFERENCE ATMOSPHERIC INLET AIR

FOR 3500 ENGINES AND SMALLER

SAE J1228 AUG2002 for marine engines, and J1995 JAN2014 for other engines, reference atmospheric pressure is 100 KPA (29.61 in hg), and standard temperature is 25deg C (77 deg F) at 30% relative humidity at the stated aftercooler water temp, or inlet manifold temp.

FOR 3600 ENGINES

Engine rating obtained and presented in accordance with ISO 3046/1 and SAE J1995 JAN2014 reference atmospheric pressure is 100 KPA (29.61 in hg), and standard temperature is 25deg C (77 deg F) at 30% relative humidity and 150M altitude at the stated aftercooler water temperature.

MEASUREMENT LOCATION FOR INLET AIR TEMPERATURE

Location for air temperature measurement air cleaner inlet at stabilized operating conditions.

REFERENCE EXHAUST STACK DIAMETER

The Reference Exhaust Stack Diameter published with this dataset is only used for the calculation of Smoke Opacity values displayed in this dataset. This value does not necessarily represent the actual stack diameter of the engine due to the variety of exhaust stack adapter options available. Consult the price list, engine order or general dimension drawings for the actual stack diameter size ordered or options available.

REFERENCE FUEL

DIESEL

Reference fuel is #2 distillate diesel with a 35API gravity;

A lower heating value is 42,780 KJ/KG (18,390 BTU/LB) when used at 15 deg C (59 deg F), where the density is 850 G/Liter (7.0936 Lbs/Gal).

GAS

Reference natural gas fuel has a lower heating value of 33.74 KJ/L (905 BTU/CU Ft). Low BTU ratings are based on 18.64 KJ/L (500 BTU/CU FT) lower heating value gas. Propane ratings are based on 87.56 KJ/L (2350 BTU/CU Ft) lower heating value gas.

ENGINE POWER (NET) IS THE CORRECTED FLYWHEEL POWER (GROSS) LESS EXTERNAL AUXILIARY LOAD

Engine corrected gross output includes the power required to drive standard equipment; lube oil, scavenge lube oil, fuel transfer, common rail fuel, separate circuit aftercooler and jacket water pumps. Engine net power available for the external (flywheel) load is calculated by subtracting the sum of auxiliary load from the corrected gross flywheel out put power. Typical auxiliary loads are radiator cooling fans, hydraulic pumps, air compressors and battery charging alternators. For Tier 4 ratings additional Parasitic losses would also include Intake, and Exhaust Restrictions.

ALTITUDE CAPABILITY

Altitude capability is the maximum altitude above sea level at standard temperature and standard pressure at which the engine could develop full rated output power on the current performance data set.

Standard temperature values versus altitude could be seen on TM2001.

When viewing the altitude capability chart the ambient temperature is the inlet air temp at the compressor inlet.

Engines with ADEM MEUI and HEUI fuel systems operating at conditions above the defined altitude capability derate for atmospheric pressure and temperature conditions outside the values defined, see TM2001.

Mechanical governor controlled unit injector engines require a setting change for operation at conditions above the altitude defined on the engine performance sheet. See your Caterpillar technical representative for non standard ratings.

REGULATIONS AND PRODUCT COMPLIANCE

TMI Emissions information is presented at 'nominal' and 'Potential Site Variation' values for standard ratings. No tolerances are applied to the emissions data. These values are subject to change at any time. The controlling federal and local emission requirements need to be verified by your Caterpillar technical representative.

Customer's may have special emission site requirements that need to be verified by the Caterpillar Product Group engineer.

EMISSION CYCLE LIMITS:

Cycle emissions Max Limits apply to cycle-weighted averages only. Emissions at individual load points may exceed the cycle-weighted limit.

WET & DRY EXHAUST/EMISSIONS DESCRIPTION:

Wet - Total exhaust flow or concentration of total exhaust flow

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Dry - Total exhaust flow minus water vapor or concentration of exhaust flow with water vapor excluded

EMISSIONS DEFINITIONS:

Emissions : DM1176

EMISSION CYCLE DEFINITIONS

1. For constant-speed marine engines for ship main propulsion, including,diesel-electric drive, test cycle E2 shall be applied, for controllable-pitch propeller sets test cycle E2 shall be applied.

2. For propeller-law-operated main and propeller-law-operated auxiliary engines the test cycle E3 shall be applied.

3. For constant-speed auxiliary engines test cycle D2 shall be applied.

4. For variable-speed, variable-load auxiliary engines, not included above, test cycle C1 shall be applied.

HEAT REJECTION DEFINITIONS:

Diesel Circuit Type and HHV Balance : DM9500

HIGH DISPLACEMENT (HD) DEFINITIONS:

3500: EM1500

RATING DEFINITIONS:

Agriculture : TM6008

Fire Pump : TM6009

Generator Set : TM6035

Generator (Gas) : TM6041

Industrial Diesel : TM6010

Industrial (Gas) : TM6040

Irrigation : TM5749

Locomotive : TM6037

Marine Auxiliary : TM6036

Marine Prop (Except 3600) : TM5747

Marine Prop (3600 only) : TM5748

MSHA : TM6042

Oil Field (Petroleum) : TM6011

Off-Highway Truck : TM6039

On-Highway Truck : TM6038

SOUND DEFINITIONS:

Sound Power : DM8702

Sound Pressure : TM7080

Date Released : 10/27/21