PERFORMANCE DATA[DM7967]

December 16, 2022

Performance Number: DM7967 **Change Level: 02**

SALES MODEL:	3516B	**COMBUSTION:**	DIRECT INJECTION
BRAND:	CAT	**ENGINE SPEED (RPM):**	1,500
MACHINE SALES MODEL:		**HERTZ:**	50
ENGINE POWER (BHP):	2,622	**FAN POWER (HP):**	61.7
GEN POWER WITH FAN (EKW):	1,820.0	**ASPIRATION:**	TA
COMPRESSION RATIO:	15.5	**AFTERCOOLER TYPE:**	SCAC
RATING LEVEL:	PRIME	**AFTERCOOLER CIRCUIT TYPE:**	JW+OC, AC
PUMP QUANTITY:	2	**AFTERCOOLER TEMP (F):**	86
FUEL TYPE:	DIESEL	**JACKET WATER TEMP (F):**	210.2
MANIFOLD TYPE:	DRY	**TURBO CONFIGURATION:**	PARALLEL
GOVERNOR TYPE:	ADEM3	**TURBO QUANTITY:**	4
ELECTRONICS TYPE:	ADEM3	**TURBOCHARGER MODEL:**	GTA5518BN-56T-1.24
CAMSHAFT TYPE:	STANDARD	**COMBUSTION STRATEGY:**	LOW BSFC
IGNITION TYPE:	CI	**CRANKCASE BLOWBY RATE (FT3/HR):**	2,620.1
INJECTOR TYPE:	EUI	**FUEL RATE (RATED RPM) NO LOAD (GAL/HR):**	11.7
FUEL INJECTOR:	3861754	**PISTON SPD @ RATED ENG SPD (FT/MIN):**	2,116.1
UNIT INJECTOR TIMING (IN):	64.34		
REF EXH STACK DIAMETER (IN):	12		
MAX OPERATING ALTITUDE (FT):	3,281		

INDUSTRY	SUBINDUSTRY	APPLICATION
ELECTRIC POWER	STANDARD	PACKAGED GENSET
OIL AND GAS	LAND PRODUCTION	PACKAGED GENSET

General Performance Data

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)
EKW	%	BHP	PSI	LB/BHP-HR	LB/BHP-HR	GAL/HR	GAL/HR
1,820.0	100	2,593	287	0.324	0.318	118.3	116.1
1,638.0	90	2,336	259	0.321	0.315	105.8	103.8
1,456.0	80	2,081	231	0.319	0.313	93.5	91.8
1,365.0	75	1,955	217	0.318	0.312	87.5	85.9
1,274.0	70	1,828	203	0.317	0.311	81.7	80.1
1,092.0	60	1,576	175	0.318	0.312	70.6	69.3
910.0	50	1,325	147	0.322	0.316	60.2	59.0
728.0	40	1,076	119	0.329	0.323	50.0	49.0
546.0	30	827	92	0.342	0.336	39.9	39.1
455.0	25	702	78	0.353	0.346	34.9	34.3
364.0	20	576	64	0.369	0.362	30.0	29.4
182.0	10	321	36	0.443	0.435	20.0	19.7

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	INLET MFLD PRES	INLET MFLD TEMP	EXH MFLD TEMP	ENGINE OUTLET TEMP	COMPRESSOR OUTLET PRES	COMPRESSOR OUTLET TEMP
EKW	%	BHP	IN-HG	DEG F	DEG F	DEG F	IN-HG	DEG F
1,820.0	100	2,593	66.6	115.9	1,100.5	853.5	68	390.0
1,638.0	90	2,336	59.1	109.9	1,046.8	816.4	60	360.0
1,456.0	80	2,081	50.4	105.6	1,004.7	795.2	52	326.5
1,365.0	75	1,955	46.0	103.9	984.2	785.8	47	309.7
1,274.0	70	1,828	41.6	102.6	963.9	777.0	43	293.0
1,092.0	60	1,576	33.4	100.6	922.8	760.6	35	260.6
910.0	50	1,325	26.4	99.0	879.1	744.4	28	230.4
728.0	40	1,076	19.9	97.4	823.0	722.8	21	200.7
546.0	30	827	14.0	95.9	749.4	688.6	15	171.8
455.0	25	702	11.5	95.5	702.8	656.3	13	158.9
364.0	20	576	9.2	95.4	650.2	616.1	10	146.7
182.0	10	321	5.2	95.7	526.2	510.9	6	124.8

General Performance Data (Continued)

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	WET INLET AIR VOL FLOW RATE	ENGINE OUTLET WET EXH GAS VOL FLOW RATE	WET INLET AIR MASS FLOW RATE	WET EXH GAS MASS FLOW RATE	WET EXH VOL FLOW RATE (32 DEG F AND 29.98 IN	DRY EXH VOL FLOW RATE (32 DEG F AND 29.98 IN

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							HG)	HG)
EKW	%	BHP	CFM	CFM	LB/HR	LB/HR	FT3/MIN	FT3/MIN
1,820.0	100	2,593	5,391.9	13,816.9	23,829.4	24,668.9	5,173.2	4,700.3
1,638.0	90	2,336	5,024.7	12,500.1	20,937.4	21,687.9	4,816.1	4,375.9
1,456.0	80	2,081	4,558.7	11,179.5	18,410.4	19,073.9	4,380.2	3,979.9
1,365.0	75	1,955	4,321.2	10,522.5	17,191.2	17,812.3	4,153.8	3,774.1
1,274.0	70	1,828	4,085.4	9,865.8	16,009.2	16,588.5	3,922.3	3,563.8
1,092.0	60	1,576	3,637.1	8,637.2	13,829.6	14,330.4	3,480.0	3,161.9
910.0	50	1,325	3,216.9	7,531.9	11,903.8	12,330.8	3,075.5	2,794.4
728.0	40	1,076	2,806.8	6,443.7	10,000.7	10,355.1	2,679.3	2,434.4
546.0	30	827	2,414.2	5,374.6	8,108.1	8,391.2	2,301.2	2,090.9
455.0	25	702	2,256.3	4,887.3	7,175.2	7,422.8	2,153.2	1,956.4
364.0	20	576	2,115.8	4,419.7	6,252.2	6,464.7	2,019.9	1,835.3
182.0	10	321	1,889.8	3,544.6	4,535.2	4,677.5	1,795.7	1,631.5

Heat Rejection Data

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	REJECTION TO JACKET WATER	REJECTION TO ATMOSPHERE	REJECTION TO EXH	EXHAUST RECOVERY TO 350F	FROM OIL COOLER	FROM AFTERCOOLER	WORK ENERGY	LOW HEAT VALUE ENERGY	HIGH HEAT VALUE ENERGY
EKW	%	BHP	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN
1,820.0	100	2,593	33,268	7,564	97,074	50,896	12,852	26,102	109,983	257,154	273,933
1,638.0	90	2,336	30,823	7,166	86,157	43,732	11,488	22,236	99,078	230,413	245,448
1,456.0	80	2,081	28,321	6,824	75,864	37,705	10,180	18,426	88,268	204,363	217,697
1,365.0	75	1,955	27,100	6,654	70,954	34,964	9,526	16,541	82,891	191,626	204,130
1,274.0	70	1,828	25,875	6,483	66,196	32,358	8,872	14,672	77,518	179,055	190,739
1,092.0	60	1,576	23,374	6,142	57,212	27,582	7,678	11,090	66,828	154,555	164,640
910.0	50	1,325	20,871	5,858	48,795	23,374	6,540	7,848	56,188	131,012	139,560
728.0	40	1,076	18,258	5,553	40,725	19,171	5,422	5,204	45,641	108,337	115,406
546.0	30	827	15,516	5,231	32,902	14,884	4,319	3,122	35,077	86,254	91,882
455.0	25	702	14,098	5,062	29,071	12,509	3,781	2,290	29,768	75,385	80,304
364.0	20	576	12,632	4,892	25,269	10,135	3,244	1,596	24,424	64,598	68,813
182.0	10	321	9,509	4,551	17,713	5,363	2,165	628	13,608	43,211	46,030

Sound Data

SOUND PRESSURE DATA FOR THIS RATING CAN BE FOUND IN PERFORMANCE NUMBER - DM8779.

EXHAUST:SOUND PRESSURE(OBCF) DISTANCE:1.5 METER

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	OVERALL SOUND	63 HZ	125 HZ	250 HZ	500 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
1,820.0	100	2,593	115.0	110.0	120.0	116.0	108.0
1,638.0	90	2,336	115.0	109.0	120.0	115.0	108.0
1,456.0	80	2,081	114.0	108.0	119.0	114.0	107.0
1,365.0	75	1,955	113.0	108.0	118.0	114.0	106.0
1,274.0	70	1,828	113.0	107.0	118.0	113.0	106.0
1,092.0	60	1,576	111.0	106.0	116.0	112.0	104.0
910.0	50	1,325	110.0	105.0	115.0	111.0	103.0
728.0	40	1,076	109.0	104.0	114.0	109.0	102.0
546.0	30	827	107.0	102.0	112.0	108.0	100.0
455.0	25	702	107.0	101.0	112.0	107.0	100.0
364.0	20	576	106.0	100.0	111.0	106.0	99.0
182.0	10	321	104.0	98.0	109.0	104.0	97.0

EXHAUST:SOUND PRESSURE(OBCF) DISTANCE:1.5 METER

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	1000 HZ	2000 HZ	4000 HZ	8000 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)
1,820.0	100	2,593	107.0	109.0	109.0	106.0

1,638.0	90	2,336	106.0	108.0	108.0	105.0
1,456.0	80	2,081	105.0	107.0	107.0	104.0
1,365.0	75	1,955	105.0	106.0	107.0	104.0
1,274.0	70	1,828	104.0	106.0	106.0	103.0
1,092.0	60	1,576	103.0	105.0	105.0	102.0
910.0	50	1,325	102.0	103.0	104.0	101.0
728.0	40	1,076	100.0	102.0	103.0	99.0
546.0	30	827	99.0	101.0	101.0	98.0
455.0	25	702	98.0	100.0	100.0	97.0
364.0	20	576	97.0	99.0	99.0	96.0
182.0	10	321	95.0	97.0	97.0	94.0

EXHAUST:SOUND PRESSURE(OBCF) DISTANCE:7 METER

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	OVERALL SOUND	63 HZ	125 HZ	250 HZ	500 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
1,820.0	100	2,593	102.0	99.0	110.0	104.0	95.0
1,638.0	90	2,336	101.0	98.0	109.0	103.0	94.0
1,456.0	80	2,081	100.0	97.0	108.0	102.0	93.0
1,365.0	75	1,955	100.0	96.0	107.0	101.0	92.0
1,274.0	70	1,828	99.0	96.0	107.0	101.0	92.0
1,092.0	60	1,576	98.0	95.0	106.0	100.0	91.0
910.0	50	1,325	97.0	94.0	104.0	98.0	89.0
728.0	40	1,076	96.0	92.0	103.0	97.0	88.0
546.0	30	827	94.0	91.0	102.0	96.0	87.0
455.0	25	702	93.0	90.0	101.0	95.0	86.0
364.0	20	576	92.0	89.0	100.0	94.0	85.0
182.0	10	321	90.0	87.0	98.0	92.0	83.0

EXHAUST:SOUND PRESSURE(OBCF) DISTANCE:7 METER

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	1000 HZ	2000 HZ	4000 HZ	8000 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)
1,820.0	100	2,593	94.0	95.0	96.0	91.0
1,638.0	90	2,336	93.0	94.0	95.0	90.0
1,456.0	80	2,081	92.0	93.0	94.0	89.0
1,365.0	75	1,955	92.0	93.0	93.0	89.0
1,274.0	70	1,828	91.0	92.0	93.0	88.0
1,092.0	60	1,576	90.0	91.0	92.0	87.0
910.0	50	1,325	89.0	90.0	91.0	86.0
728.0	40	1,076	88.0	89.0	89.0	85.0
546.0	30	827	86.0	87.0	88.0	83.0
455.0	25	702	85.0	86.0	87.0	82.0
364.0	20	576	84.0	86.0	86.0	81.0
182.0	10	321	82.0	83.0	84.0	79.0

EXHAUST:SOUND PRESSURE(OBCF) DISTANCE:15 METER

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	OVERALL SOUND	63 HZ	125 HZ	250 HZ	500 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
1,820.0	100	2,593	95.0	92.0	103.0	97.0	88.0
1,638.0	90	2,336	95.0	91.0	102.0	96.0	87.0
1,456.0	80	2,081	94.0	90.0	101.0	95.0	86.0
1,365.0	75	1,955	93.0	90.0	101.0	95.0	86.0
1,274.0	70	1,828	93.0	89.0	100.0	94.0	85.0
1,092.0	60	1,576	91.0	88.0	99.0	93.0	84.0
910.0	50	1,325	90.0	87.0	98.0	92.0	83.0
728.0	40	1,076	89.0	86.0	96.0	90.0	81.0
546.0	30	827	87.0	84.0	95.0	89.0	80.0
455.0	25	702	87.0	83.0	94.0	88.0	79.0
364.0	20	576	86.0	82.0	93.0	87.0	78.0
182.0	10	321	84.0	80.0	91.0	85.0	76.0

EXHAUST:SOUND PRESSURE(OBCF) DISTANCE:15 METER

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GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	1000 HZ	2000 HZ	4000 HZ	8000 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)
1,820.0	100	2,593	87.0	89.0	89.0	84.0
1,638.0	90	2,336	87.0	88.0	88.0	84.0
1,456.0	80	2,081	86.0	87.0	87.0	83.0
1,365.0	75	1,955	85.0	86.0	87.0	82.0
1,274.0	70	1,828	85.0	86.0	86.0	82.0
1,092.0	60	1,576	83.0	85.0	85.0	80.0
910.0	50	1,325	82.0	83.0	84.0	79.0
728.0	40	1,076	81.0	82.0	83.0	78.0
546.0	30	827	79.0	81.0	81.0	76.0
455.0	25	702	79.0	80.0	80.0	76.0
364.0	20	576	78.0	79.0	80.0	75.0
182.0	10	321	76.0	77.0	77.0	73.0

MECHANICAL:SOUND PRESSURE(OBCF) DISTANCE:1 METER

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	OVERALL SOUND	63 HZ	125 HZ	250 HZ	500 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
1,820.0	100	2,593	103.0	95.0	99.0	98.0	95.0
1,638.0	90	2,336	103.0	95.0	99.0	98.0	95.0
1,456.0	80	2,081	103.0	95.0	99.0	98.0	95.0
1,365.0	75	1,955	103.0	95.0	99.0	98.0	95.0
1,274.0	70	1,828	103.0	95.0	99.0	98.0	95.0
1,092.0	60	1,576	103.0	95.0	99.0	98.0	95.0
910.0	50	1,325	103.0	95.0	99.0	98.0	95.0
728.0	40	1,076	103.0	95.0	99.0	98.0	95.0
546.0	30	827	103.0	95.0	99.0	98.0	95.0
455.0	25	702	103.0	95.0	99.0	98.0	95.0
364.0	20	576	103.0	95.0	99.0	98.0	95.0
182.0	10	321	103.0	95.0	99.0	98.0	95.0

MECHANICAL:SOUND PRESSURE(OBCF) DISTANCE:1 METER

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	1000 HZ	2000 HZ	4000 HZ	8000 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)
1,820.0	100	2,593	98.0	98.0	96.0	100.0
1,638.0	90	2,336	98.0	98.0	96.0	100.0
1,456.0	80	2,081	98.0	98.0	96.0	100.0
1,365.0	75	1,955	98.0	98.0	96.0	100.0
1,274.0	70	1,828	98.0	98.0	96.0	100.0
1,092.0	60	1,576	98.0	98.0	96.0	100.0
910.0	50	1,325	98.0	98.0	96.0	100.0
728.0	40	1,076	98.0	98.0	96.0	100.0
546.0	30	827	98.0	98.0	96.0	100.0
455.0	25	702	98.0	98.0	96.0	100.0
364.0	20	576	98.0	98.0	96.0	100.0
182.0	10	321	98.0	98.0	96.0	100.0

MECHANICAL:SOUND PRESSURE(OBCF) DISTANCE:7 METER

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	OVERALL SOUND	63 HZ	125 HZ	250 HZ	500 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
1,820.0	100	2,593	92.0	83.0	87.0	86.0	83.0
1,638.0	90	2,336	92.0	83.0	87.0	86.0	83.0
1,456.0	80	2,081	92.0	83.0	87.0	86.0	83.0
1,365.0	75	1,955	92.0	83.0	87.0	86.0	83.0
1,274.0	70	1,828	92.0	83.0	87.0	86.0	83.0
1,092.0	60	1,576	92.0	83.0	87.0	86.0	83.0
910.0	50	1,325	92.0	83.0	87.0	86.0	83.0
728.0	40	1,076	92.0	83.0	87.0	86.0	83.0
546.0	30	827	92.0	83.0	87.0	86.0	83.0
455.0	25	702	92.0	83.0	87.0	86.0	83.0
364.0	20	576	92.0	83.0	87.0	86.0	83.0
182.0	10	321	92.0	83.0	87.0	86.0	83.0

MECHANICAL:SOUND PRESSURE(OBCF) DISTANCE:7 METER

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	1000 HZ	2000 HZ	4000 HZ	8000 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)
1,820.0	100	2,593	86.0	87.0	85.0	88.0
1,638.0	90	2,336	86.0	87.0	85.0	88.0
1,456.0	80	2,081	86.0	87.0	85.0	88.0
1,365.0	75	1,955	86.0	87.0	85.0	88.0
1,274.0	70	1,828	86.0	87.0	85.0	88.0
1,092.0	60	1,576	86.0	87.0	85.0	88.0
910.0	50	1,325	86.0	87.0	85.0	88.0
728.0	40	1,076	86.0	87.0	85.0	88.0
546.0	30	827	86.0	87.0	85.0	88.0
455.0	25	702	86.0	87.0	85.0	88.0
364.0	20	576	86.0	87.0	85.0	88.0
182.0	10	321	86.0	87.0	85.0	88.0

MECHANICAL:SOUND PRESSURE(OBCF) DISTANCE:15 METER

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	OVERALL SOUND	63 HZ	125 HZ	250 HZ	500 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
1,820.0	100	2,593	86.0	78.0	82.0	81.0	78.0
1,638.0	90	2,336	86.0	78.0	82.0	81.0	78.0
1,456.0	80	2,081	86.0	78.0	82.0	81.0	78.0
1,365.0	75	1,955	86.0	78.0	82.0	81.0	78.0
1,274.0	70	1,828	86.0	78.0	82.0	81.0	78.0
1,092.0	60	1,576	86.0	78.0	82.0	81.0	78.0
910.0	50	1,325	86.0	78.0	82.0	81.0	78.0
728.0	40	1,076	86.0	78.0	82.0	81.0	78.0
546.0	30	827	86.0	78.0	82.0	81.0	78.0
455.0	25	702	86.0	78.0	82.0	81.0	78.0
364.0	20	576	86.0	78.0	82.0	81.0	78.0
182.0	10	321	86.0	78.0	82.0	81.0	78.0

MECHANICAL:SOUND PRESSURE(OBCF) DISTANCE:15 METER

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	1000 HZ	2000 HZ	4000 HZ	8000 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)
1,820.0	100	2,593	81.0	81.0	79.0	83.0
1,638.0	90	2,336	81.0	81.0	79.0	83.0
1,456.0	80	2,081	81.0	81.0	79.0	83.0
1,365.0	75	1,955	81.0	81.0	79.0	83.0
1,274.0	70	1,828	81.0	81.0	79.0	83.0
1,092.0	60	1,576	81.0	81.0	79.0	83.0
910.0	50	1,325	81.0	81.0	79.0	83.0
728.0	40	1,076	81.0	81.0	79.0	83.0
546.0	30	827	81.0	81.0	79.0	83.0
455.0	25	702	81.0	81.0	79.0	83.0
364.0	20	576	81.0	81.0	79.0	83.0
182.0	10	321	81.0	81.0	79.0	83.0

Emissions Data

DIESEL

RATED SPEED NOMINAL DATA: 1500 RPM

GENSET POWER WITH FAN	EKW	1,820.0	1,365.0	910.0	455.0	182.0
PERCENT LOAD	%	100	75	50	25	10

PERFORMANCE DATA[DM7967]

December 16, 2022

ENGINE POWER		BHP	2,593	1,955	1,325	702	321
TOTAL NOX (AS NO2)		G/HR	14,658	13,689	11,997	7,396	4,033
TOTAL CO		G/HR	804	344	405	350	553
TOTAL HC		G/HR	380	281	224	190	226
TOTAL CO2		KG/HR	1,211	894	613	357	207
PART MATTER		G/HR	93.8	37.2	32.0	34.4	58.7
TOTAL NOX (AS NO2)	(CORR 5% O2)	MG/NM3	2,799.1	3,543.9	4,518.4	4,820.3	4,594.7
TOTAL CO	(CORR 5% O2)	MG/NM3	153.6	89.0	152.5	228.0	631.2
TOTAL HC	(CORR 5% O2)	MG/NM3	72.5	72.6	84.4	123.6	257.6
PART MATTER	(CORR 5% O2)	MG/NM3	17.9	9.6	12.1	22.4	67.0
TOTAL NOX (AS NO2)	(CORR 5% O2)	PPM	1,362	1,760	2,201	2,323	2,172
TOTAL CO	(CORR 5% O2)	PPM	123	69	123	190	526
TOTAL HC	(CORR 5% O2)	PPM	117	116	137	202	423
TOTAL NOX (AS NO2)		G/HP-HR	5.65	7.00	9.05	10.54	12.57
TOTAL CO		G/HP-HR	0.31	0.18	0.31	0.50	1.72
TOTAL HC		G/HP-HR	0.15	0.14	0.17	0.27	0.70
PART MATTER		G/HP-HR	0.04	0.02	0.02	0.05	0.18
TOTAL NOX (AS NO2)		LB/HR	32.31	30.18	26.45	16.31	8.89
TOTAL CO		LB/HR	1.77	0.76	0.89	0.77	1.22
TOTAL HC		LB/HR	0.84	0.62	0.49	0.42	0.50
TOTAL CO2		LB/HR	2,671	1,970	1,352	786	455
PART MATTER		LB/HR	0.21	0.08	0.07	0.08	0.13
OXYGEN IN EXH		%	10.5	11.4	12.1	13.7	16.1
DRY SMOKE OPACITY		%	1.4	1.0	1.0	1.0	1.0
BOSCH SMOKE NUMBER			0.49	0.37	0.37	0.37	0.37

RATED SPEED POTENTIAL SITE VARIATION: 1500 RPM

GENSET POWER WITH FAN		EKW	1,820.0	1,365.0	910.0	455.0	182.0
PERCENT LOAD		%	100	75	50	25	10
ENGINE POWER		BHP	2,593	1,955	1,325	702	321
TOTAL NOX (AS NO2)		G/HR	17,590	16,427	14,397	8,876	4,839
TOTAL CO		G/HR	1,447	619	729	630	996
TOTAL HC		G/HR	505	374	298	253	300
PART MATTER		G/HR	131.3	52.1	44.8	48.2	82.2
TOTAL NOX (AS NO2)	(CORR 5% O2)	MG/NM3	3,359.0	4,252.7	5,422.0	5,784.4	5,513.7
TOTAL CO	(CORR 5% O2)	MG/NM3	276.5	160.2	274.5	410.4	1,136.2
TOTAL HC	(CORR 5% O2)	MG/NM3	96.4	96.6	112.3	164.4	342.6
PART MATTER	(CORR 5% O2)	MG/NM3	25.1	13.4	16.9	31.4	93.7
TOTAL NOX (AS NO2)	(CORR 5% O2)	PPM	1,634	2,112	2,641	2,788	2,606
TOTAL CO	(CORR 5% O2)	PPM	221	124	221	342	947
TOTAL HC	(CORR 5% O2)	PPM	156	154	182	269	563
TOTAL NOX (AS NO2)		G/HP-HR	6.78	8.40	10.87	12.64	15.08
TOTAL CO		G/HP-HR	0.56	0.32	0.55	0.90	3.10
TOTAL HC		G/HP-HR	0.19	0.19	0.22	0.36	0.94
PART MATTER		G/HP-HR	0.05	0.03	0.03	0.07	0.26
TOTAL NOX (AS NO2)		LB/HR	38.78	36.21	31.74	19.57	10.67
TOTAL CO		LB/HR	3.19	1.37	1.61	1.39	2.20
TOTAL HC		LB/HR	1.11	0.82	0.66	0.56	0.66
PART MATTER		LB/HR	0.29	0.11	0.10	0.11	0.18

Regulatory Information

NON-CERTIFIED	1970 - 2100
THIS ENGINE RATING IS NOT EMISSIONS CERTIFIED BY ANY DOMESTIC OR FOREIGN AGENCY.	

Altitude Derate Data

STANDARD

ALTITUDE CORRECTED POWER CAPABILITY (BHP)

PERFORMANCE DATA[DM7967]

December 16, 2022

AMBIENT OPERATING TEMP (F)	30	40	50	60	70	80	90	100	110	120	130	140	NORMAL
ALTITUDE (FT)													
0	2,622	2,622	2,622	2,622	2,622	2,622	2,622	2,622	2,622	2,622	2,622	2,570	2,622
1,000	2,622	2,622	2,622	2,622	2,622	2,622	2,622	2,622	2,622	2,622	2,586	2,542	2,622
2,000	2,622	2,622	2,622	2,622	2,622	2,622	2,622	2,622	2,580	2,536	2,493	2,451	2,622
3,000	2,622	2,622	2,622	2,622	2,622	2,622	2,578	2,531	2,487	2,444	2,403	2,363	2,622
4,000	2,558	2,558	2,558	2,558	2,558	2,530	2,484	2,439	2,397	2,355	2,315	2,277	2,558
5,000	2,472	2,472	2,472	2,472	2,472	2,437	2,393	2,350	2,309	2,269	2,230	2,193	2,472
6,000	2,389	2,389	2,389	2,389	2,389	2,347	2,305	2,263	2,224	2,185	2,148	2,112	2,389
7,000	2,309	2,309	2,309	2,309	2,303	2,260	2,219	2,179	2,141	2,104	2,068	2,034	2,309
8,000	2,232	2,232	2,232	2,232	2,217	2,175	2,136	2,098	2,061	2,025	1,991	1,958	2,232
9,000	2,158	2,158	2,158	2,158	2,133	2,094	2,055	2,019	1,983	1,949	1,916	1,862	2,158
10,000	2,087	2,087	2,087	2,087	2,052	2,014	1,977	1,942	1,908	1,875	1,809	1,704	2,087
11,000	2,019	2,019	2,019	2,012	1,974	1,937	1,902	1,868	1,835	1,757	1,652	1,547	2,019
12,000	1,953	1,953	1,953	1,934	1,898	1,862	1,829	1,796	1,704	1,599	1,495	1,390	1,953
13,000	1,889	1,889	1,889	1,859	1,824	1,790	1,758	1,652	1,547	1,442	1,337	1,259	1,889
14,000	1,828	1,828	1,822	1,786	1,753	1,720	1,626	1,495	1,416	1,311	1,206	1,127	1,828
15,000	1,770	1,770	1,750	1,716	1,678	1,573	1,468	1,363	1,259	1,180	1,101	1,023	1,770

Cross Reference

Test Spec	Setting	Engine Arrangement	Engineering Model	Engineering Model Version	Start Effective Serial Number	End Effective Serial Number
0K6914	LL5705	2560760	GS226	-	ZAR00824	ZAR00825
0K6914	LL6253	2560760	GS226	-	ZAR00824	ZAR00825
0K9203	LL6051	3259345	GS500	-	YAW00410	YAW00411
0K9203	LL6234	3259345	GS500	-	YAW00410	YAW00411
4485848	LL6586	3844574	NAP	NAP	DC400001	DC400002
3704972	GG0615	3994242	GS714	-	DD400281	DD400282
3704949	GG0592	3994246	GS715	-	DD400311	DD400312
3704972	GG0615	5063093	GS500	-	YAW01000	YAW01001
3704949	GG0592	5063098	GS226	-	ZAR01000	ZAR01001
4581550	LL6746	5157713	PG236	-	LY400001	LY400002
4182985	GG0708	5271635	GS639	XJ	DB400001	DB400002

Supplementary Data

Type	Classification	Performance Number
AFTERCOOLER TEMP	60C	DM7968
AFTERCOOLER TEMP	90C	DM7969
SOUND	SOUND PRESSURE	DM8779

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%
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 JANJAN2014 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
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