PERFORMANCE DATA[DM8426]

October 4, 2024

Performance Number: DM8426 **Change Level: 02**

SALES MODEL:	3508C	**COMBUSTION:**	DIRECT INJECTION
BRAND:	CAT	**ENGINE SPEED (RPM):**	1,600
MACHINE SALES MODEL:		**PEAK TORQUE SPEED (RPM):**	1,100
ENGINE POWER (BKW):	746.0	**ASPIRATION:**	TA
PEAK TORQUE (NM):	6,300.0	**AFTERCOOLER TYPE:**	SCAC
COMPRESSION RATIO:	14.7	**AFTERCOOLER CIRCUIT TYPE:**	JW+OC, AC
RATING LEVEL:	A RATING (UNRESTRICTED CONTINUOUS)	**AFTERCOOLER TEMP (C):**	48
PUMP QUANTITY:	2	**JACKET WATER TEMP (C):**	99
FUEL TYPE:	DIESEL	**TURBO CONFIGURATION:**	PARALLEL
MANIFOLD TYPE:	DRY	**TURBO QUANTITY:**	2
GOVERNOR TYPE:	ADEM3	**TURBOCHARGER MODEL:**	GTB4708BLN-52T-1.08
ELECTRONICS TYPE:	ADEM3	**CERTIFICATION YEAR:**	2007
CAMSHAFT TYPE:	STANDARD	**CRANKCASE BLOWBY RATE (M3/HR):**	28.3
IGNITION TYPE:	CI	**FUEL RATE (RATED RPM) NO LOAD (L/HR):**	19.5
INJECTOR TYPE:	EUI	**PISTON SPD @ RATED ENG SPD (M/SEC):**	10.1
FUEL INJECTOR:	2664387		
UNIT INJECTOR TIMING (MM):	64.34		
REF EXH STACK DIAMETER (MM):	203		
MAX OPERATING ALTITUDE (M):	700		

INDUSTRY	SUBINDUSTRY	APPLICATION
MARINE	DREDGE	MARINE PROPULSION
MARINE	FERRY	MARINE PROPULSION
MARINE	GENERAL CARGO	MARINE PROPULSION
MARINE	OFFSHORE	MARINE PROPULSION
MARINE	TUG & SALVAGE	MARINE PROPULSION
MARINE	FISHING	MARINE PROPULSION
MARINE	INLAND WATERWAY	MARINE PROPULSION

General Performance Data

ZONE 1

ENGINE SPEED	ENGINE POWER	ENGINE TORQUE	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)
RPM	BKW	NM	KPA	G/BKW-HR	G/BKW-HR	L/HR	L/HR
1,600	746	4,452	1,622	208.6	204.6	183.1	179.6
1,500	746	4,749	1,730	205.7	201.7	180.5	177.1
1,400	739	5,041	1,836	199.4	195.6	173.4	170.1
1,300	675	4,958	1,806	197.1	193.4	156.5	153.6
1,200	622	4,950	1,803	200.9	197.1	147.0	144.2
1,100	435	3,776	1,375	208.6	204.6	106.8	104.7
1,000	262	2,502	911	220.6	216.4	68.0	66.7
900	217	2,302	839	227.7	223.4	58.1	57.0
800	165	1,970	717	232.0	227.5	45.0	44.2

ZONE 1

ENGINE SPEED	ENGINE POWER	INLET MFLD PRES	INLET MFLD TEMP	EXH MFLD TEMP	EXH MFLD PRES	ENGINE OUTLET TEMP	COMPRESSOR OUTLET PRES	COMPRESSOR OUTLET TEMP
RPM	BKW	KPA	DEG C	DEG C	KPA	DEG C	KPA	DEG C
1,600	746	231.9	54.0	530.1	240.7	324.2	234	205.9
1,500	746	235.0	54.0	541.9	227.6	334.3	237	205.5
1,400	739	228.9	54.2	547.5	204.0	349.3	230	198.6
1,300	675	199.4	53.8	561.0	159.3	363.5	201	183.0
1,200	622	171.9	54.3	604.3	127.7	408.2	173	169.9
1,100	435	101.2	55.3	627.2	71.2	413.4	102	125.7
1,000	262	43.5	55.7	579.7	33.2	398.9	44	75.2
900	217	29.6	57.2	586.3	23.4	378.2	30	65.8
800	165	17.8	57.8	549.1	15.2	324.9	18	54.0

General Performance Data (Continued)

ZONE 1

ENGINE SPEED	ENGINE POWER	WET INLET AIR VOL	ENGINE OUTLET WET	WET INLET AIR MASS	WET EXH GAS MASS	ENGINE OUTLET WET	ENGINE OUTLET DRY

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		FLOW RATE	EXH GAS VOL FLOW RATE	FLOW RATE	FLOW RATE	EXH VOL FLOW RATE (0 DEG C AND 101 KPA)	EXH VOL FLOW RATE (0 DEG C AND 101 KPA)
RPM	BKW	M3/MIN	M3/MIN	KG/HR	KG/HR	M3/MIN	M3/MIN
1,600	746	72.1	150.8	5,086.1	5,241.6	69.0	63.5
1,500	746	67.7	144.1	4,782.3	4,935.7	64.8	59.3
1,400	739	63.1	136.8	4,432.8	4,580.2	60.0	54.9
1,300	675	53.8	119.3	3,761.3	3,894.4	51.2	46.6
1,200	622	45.6	107.6	3,162.8	3,287.8	43.1	38.9
1,100	435	31.7	74.9	2,162.0	2,252.5	29.8	26.9
1,000	262	20.5	46.7	1,387.2	1,445.0	19.0	17.2
900	217	16.3	36.5	1,115.1	1,164.5	15.3	13.8
800	165	12.9	26.6	885.4	923.6	12.1	11.0

ZONE 1-2

ENGINE SPEED	ENGINE POWER	ENGINE TORQUE	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)
RPM	BKW	NM	KPA	G/BKW-HR	G/BKW-HR	L/HR	L/HR
1,600	746	4,452	1,622	208.6	204.6	183.1	179.6
1,500	746	4,749	1,730	205.7	201.7	180.5	177.1
1,400	746	5,088	1,853	199.4	195.6	175.0	171.7
1,300	705	5,179	1,886	195.8	192.1	162.4	159.3
1,200	655	5,212	1,898	200.5	196.6	154.5	151.5
1,100	501	4,349	1,584	206.1	202.2	121.5	119.2
1,000	262	2,502	911	220.6	216.4	68.0	66.7
900	217	2,302	839	227.7	223.4	58.1	57.0
800	165	1,970	717	232.0	227.5	45.0	44.2

General Performance Data (Continued)

ZONE 1-2

ENGINE SPEED	ENGINE POWER	INLET MFLD PRES	INLET MFLD TEMP	EXH MFLD TEMP	EXH MFLD PRES	ENGINE OUTLET TEMP	COMPRESSOR OUTLET PRES	COMPRESSOR OUTLET TEMP
RPM	BKW	KPA	DEG C	DEG C	KPA	DEG C	KPA	DEG C
1,600	746	231.9	54.0	530.1	240.7	324.2	234	205.9
1,500	746	235.0	54.0	541.9	227.6	334.3	237	205.5
1,400	746	230.4	54.2	549.0	205.5	350.4	232	199.5
1,300	705	207.7	53.9	566.5	166.6	363.5	209	187.6
1,200	655	183.1	54.4	610.0	136.2	411.4	184	176.3
1,100	501	124.0	55.0	643.2	86.1	427.2	125	140.9
1,000	262	43.5	55.7	579.7	33.2	398.9	44	75.2
900	217	29.6	57.2	586.3	23.4	378.2	30	65.8
800	165	17.8	57.8	549.1	15.2	324.9	18	54.0

ZONE 1-2

ENGINE SPEED	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	ENGINE OUTLET WET EXH VOL FLOW RATE (0 DEG C AND 101 KPA)	ENGINE OUTLET DRY EXH VOL FLOW RATE (0 DEG C AND 101 KPA)
RPM	BKW	M3/MIN	M3/MIN	KG/HR	KG/HR	M3/MIN	M3/MIN
1,600	746	72.1	150.8	5,086.1	5,241.6	69.0	63.5
1,500	746	67.7	144.1	4,782.3	4,935.7	64.8	59.3
1,400	746	63.4	137.9	4,452.8	4,601.6	60.4	55.2
1,300	705	55.1	122.4	3,857.2	3,995.3	52.5	47.8
1,200	655	47.5	112.6	3,295.2	3,426.5	44.9	40.5
1,100	501	34.8	84.8	2,415.9	2,519.0	33.1	29.8
1,000	262	20.5	46.7	1,387.2	1,445.0	19.0	17.2
900	217	16.3	36.5	1,115.1	1,164.5	15.3	13.8
800	165	12.9	26.6	885.4	923.6	12.1	11.0

General Performance Data (Continued)

ZONE 2-3

ENGINE SPEED	ENGINE POWER	ENGINE TORQUE	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)
RPM	BKW	NM	KPA	G/BKW-HR	G/BKW-HR	L/HR	L/HR

1,600	746	4,452	1,622	208.6	204.6	183.1	179.6
1,500	746	4,749	1,730	205.7	201.7	180.5	177.1
1,400	746	5,088	1,853	199.4	195.6	175.0	171.7
1,300	733	5,384	1,961	195.2	191.5	168.4	165.1
1,200	687	5,467	1,991	200.1	196.2	161.7	158.6
1,100	736	6,389	2,327	201.6	197.8	174.6	171.3
1,000	262	2,502	911	220.6	216.4	68.0	66.7
900	217	2,302	839	227.7	223.4	58.1	57.0
800	165	1,970	717	232.0	227.5	45.0	44.2

ZONE 2-3

ENGINE SPEED	ENGINE POWER	INLET MFLD PRES	INLET MFLD TEMP	EXH MFLD TEMP	EXH MFLD PRES	ENGINE OUTLET TEMP	COMPRESSOR OUTLET PRES	COMPRESSOR OUTLET TEMP
RPM	BKW	KPA	DEG C	DEG C	KPA	DEG C	KPA	DEG C
1,600	746	231.9	54.0	530.1	240.7	324.2	234	205.9
1,500	746	235.0	54.0	541.9	227.6	334.3	237	205.5
1,400	746	230.4	54.2	549.0	205.5	350.4	232	199.5
1,300	733	215.7	54.1	572.5	173.8	365.7	217	192.1
1,200	687	194.1	54.6	615.4	144.7	414.0	195	182.5
1,100	736	211.3	52.7	678.6	145.5	440.6	213	196.0
1,000	262	43.5	55.7	579.7	33.2	398.9	44	75.2
900	217	29.6	57.2	586.3	23.4	378.2	30	65.8
800	165	17.8	57.8	549.1	15.2	324.9	18	54.0

General Performance Data (Continued)

ZONE 2-3

ENGINE SPEED	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	ENGINE OUTLET WET EXH VOL FLOW RATE (0 DEG C AND 101 KPA)	ENGINE OUTLET DRY EXH VOL FLOW RATE (0 DEG C AND 101 KPA)
RPM	BKW	M3/MIN	M3/MIN	KG/HR	KG/HR	M3/MIN	M3/MIN
1,600	746	72.1	150.8	5,086.1	5,241.6	69.0	63.5
1,500	746	67.7	144.1	4,782.3	4,935.7	64.8	59.3
1,400	746	63.4	137.9	4,452.8	4,601.6	60.4	55.2
1,300	733	56.4	126.0	3,950.6	4,093.7	53.9	48.9
1,200	687	49.3	117.4	3,424.9	3,562.3	46.7	42.0
1,100	736	48.1	119.0	3,319.1	3,467.3	45.5	40.7
1,000	262	20.5	46.7	1,387.2	1,445.0	19.0	17.2
900	217	16.3	36.5	1,115.1	1,164.5	15.3	13.8
800	165	12.9	26.6	885.4	923.6	12.1	11.0

MAXIMUM LIMIT

ENGINE SPEED	ENGINE POWER	ENGINE TORQUE	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)
RPM	BKW	NM	KPA	G/BKW-HR	G/BKW-HR	L/HR	L/HR
1,600	746	4,452	1,622	208.6	204.6	183.1	179.6
1,500	746	4,749	1,730	205.7	201.7	180.5	177.1
1,400	746	5,088	1,853	199.4	195.6	175.0	171.7
1,300	746	5,480	1,996	195.1	191.4	171.2	168.0
1,200	746	5,936	2,162	199.5	195.7	175.1	171.7
1,100	746	6,476	2,359	201.2	197.4	176.6	173.2
1,000	409	3,906	1,423	216.0	211.9	103.9	102.0
900	252	2,674	974	227.1	222.7	67.3	66.0
800	182	2,172	791	232.4	228.0	49.8	48.8

General Performance Data (Continued)

MAXIMUM LIMIT

ENGINE SPEED	ENGINE POWER	INLET MFLD PRES	INLET MFLD TEMP	EXH MFLD TEMP	EXH MFLD PRES	ENGINE OUTLET TEMP	COMPRESSOR OUTLET PRES	COMPRESSOR OUTLET TEMP
RPM	BKW	KPA	DEG C	DEG C	KPA	DEG C	KPA	DEG C
1,600	746	231.9	54.0	530.1	240.7	324.2	234	205.9
1,500	746	235.0	54.0	541.9	227.6	334.3	237	205.5
1,400	746	230.4	54.2	549.0	205.5	350.4	232	199.5
1,300	746	219.5	54.1	575.6	177.3	367.2	221	194.2

1,200	746	214.8	54.9	625.1	161.0	417.3	216	193.6
1,100	746	215.2	52.6	679.2	148.2	452.6	216	198.3
1,000	409	86.5	57.0	698.5	56.2	446.5	87	115.0
900	252	37.4	58.0	649.0	27.1	394.9	38	74.3
800	182	20.6	58.2	592.7	16.6	336.8	21	57.5

MAXIMUM LIMIT

ENGINE SPEED	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	ENGINE OUTLET WET EXH VOL FLOW RATE (0 DEG C AND 101 KPA)	ENGINE OUTLET DRY EXH VOL FLOW RATE (0 DEG C AND 101 KPA)
RPM	BKW	M3/MIN	M3/MIN	KG/HR	KG/HR	M3/MIN	M3/MIN
1,600	746	72.1	150.8	5,086.1	5,241.6	69.0	63.5
1,500	746	67.7	144.1	4,782.3	4,935.7	64.8	59.3
1,400	746	63.4	137.9	4,452.8	4,601.6	60.4	55.2
1,300	746	57.0	127.7	3,994.6	4,140.2	54.5	49.5
1,200	746	52.7	126.3	3,667.4	3,816.2	50.0	45.0
1,100	746	48.7	120.2	3,359.7	3,509.6	45.2	40.4
1,000	409	26.6	65.8	1,814.1	1,902.4	25.0	22.4
900	252	17.2	39.6	1,177.0	1,234.2	16.2	14.5
800	182	13.2	27.8	905.3	947.6	12.4	11.2

General Performance Data (Continued)

PROP DEMAND CURVE P

ENGINE SPEED	ENGINE POWER	ENGINE TORQUE	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)
RPM	BKW	NM	KPA	G/BKW-HR	G/BKW-HR	L/HR	L/HR
1,600	746	4,452	1,622	208.6	204.6	183.1	179.6
1,500	615	3,913	1,425	211.9	207.9	153.2	150.3
1,400	500	3,409	1,242	210.9	206.9	124.0	121.7
1,300	400	2,939	1,071	212.2	208.2	99.9	98.0
1,200	315	2,504	912	213.9	209.8	79.2	77.7
1,100	242	2,104	767	220.4	216.3	62.9	61.7
1,000	182	1,739	633	226.4	222.1	48.5	47.6
900	133	1,409	513	235.9	231.5	36.9	36.2
800	93.2	1,113	405	240.5	235.9	26.4	25.9

PROP DEMAND CURVE P

ENGINE SPEED	ENGINE POWER	INLET MFLD PRES	INLET MFLD TEMP	EXH MFLD TEMP	EXH MFLD PRES	ENGINE OUTLET TEMP	COMPRESSOR OUTLET PRES	COMPRESSOR OUTLET TEMP
RPM	BKW	KPA	DEG C	DEG C	KPA	DEG C	KPA	DEG C
1,600	746	231.9	54.0	530.1	240.7	324.2	234	205.9
1,500	615	208.1	53.7	508.2	199.0	313.7	210	188.5
1,400	500	163.0	53.2	496.8	144.2	335.0	164	160.6
1,300	400	115.8	53.1	510.4	94.2	348.9	117	132.6
1,200	315	70.0	53.9	518.3	58.2	369.7	71	101.4
1,100	242	44.2	54.6	506.9	38.2	364.3	45	76.8
1,000	182	27.5	54.9	474.8	24.6	331.3	28	58.7
900	133	15.4	54.3	412.4	16.1	296.8	16	49.1
800	93.2	8.6	54.9	353.7	10.6	221.3	9	42.8

General Performance Data (Continued)

PROP DEMAND CURVE P

ENGINE SPEED	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	ENGINE OUTLET WET EXH VOL FLOW RATE (0 DEG C AND 101 KPA)	ENGINE OUTLET DRY EXH VOL FLOW RATE (0 DEG C AND 101 KPA)
RPM	BKW	M3/MIN	M3/MIN	KG/HR	KG/HR	M3/MIN	M3/MIN
1,600	746	72.1	150.8	5,086.1	5,241.6	69.0	63.5
1,500	615	63.0	128.5	4,424.2	4,554.0	59.8	55.0
1,400	500	50.8	106.5	3,536.9	3,642.3	47.8	44.0
1,300	400	39.1	83.7	2,707.2	2,792.3	36.8	33.7
1,200	315	28.2	62.4	1,950.2	2,017.5	26.5	24.2
1,100	242	22.5	48.4	1,523.7	1,577.0	20.7	19.0
1,000	182	18.1	36.8	1,224.6	1,265.9	16.6	15.3

900	133	14.6	28.2	997.1	1,028.5	13.5	12.5
800	93.2	12.1	20.1	824.2	846.6	11.1	10.4

MAXIMUM POWER CURVE M

ENGINE SPEED	ENGINE POWER	ENGINE TORQUE	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)
RPM	BKW	NM	KPA	G/BKW-HR	G/BKW-HR	L/HR	L/HR
1,600	746	4,452	1,622	208.6	204.6	183.1	179.6
1,500	746	4,749	1,730	205.7	201.7	180.5	177.1
1,400	746	5,088	1,853	199.4	195.6	175.0	171.7
1,300	746	5,480	1,996	195.1	191.4	171.2	168.0
1,200	746	5,936	2,162	199.5	195.7	175.1	171.7
1,100	746	6,476	2,359	201.2	197.4	176.6	173.2
1,000	409	3,906	1,423	216.0	211.9	103.9	102.0
900	252	2,674	974	227.1	222.7	67.3	66.0
800	182	2,172	791	232.4	228.0	49.8	48.8

General Performance Data (Continued)

MAXIMUM POWER CURVE M

ENGINE SPEED	ENGINE POWER	INLET MFLD PRES	INLET MFLD TEMP	EXH MFLD TEMP	EXH MFLD PRES	ENGINE OUTLET TEMP	COMPRESSOR OUTLET PRES	COMPRESSOR OUTLET TEMP
RPM	BKW	KPA	DEG C	DEG C	KPA	DEG C	KPA	DEG C
1,600	746	231.9	54.0	530.1	240.7	324.2	234	205.9
1,500	746	235.0	54.0	541.9	227.6	334.3	237	205.5
1,400	746	230.4	54.2	549.0	205.5	350.4	232	199.5
1,300	746	219.5	54.1	575.6	177.3	367.2	221	194.2
1,200	746	214.8	54.9	625.1	161.0	417.3	216	193.6
1,100	746	215.2	52.6	679.2	148.2	452.6	216	198.3
1,000	409	86.5	57.0	698.5	56.2	446.5	87	115.0
900	252	37.4	58.0	649.0	27.1	394.9	38	74.3
800	182	20.6	58.2	592.7	16.6	336.8	21	57.5

MAXIMUM POWER CURVE M

ENGINE SPEED	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	ENGINE OUTLET WET EXH VOL FLOW RATE (0 DEG C AND 101 KPA)	ENGINE OUTLET DRY EXH VOL FLOW RATE (0 DEG C AND 101 KPA)
RPM	BKW	M3/MIN	M3/MIN	KG/HR	KG/HR	M3/MIN	M3/MIN
1,600	746	72.1	150.8	5,086.1	5,241.6	69.0	63.5
1,500	746	67.7	144.1	4,782.3	4,935.7	64.8	59.3
1,400	746	63.4	137.9	4,452.8	4,601.6	60.4	55.2
1,300	746	57.0	127.7	3,994.6	4,140.2	54.5	49.5
1,200	746	52.7	126.3	3,667.4	3,816.2	50.0	45.0
1,100	746	48.7	120.2	3,359.7	3,509.6	45.2	40.4
1,000	409	26.6	65.8	1,814.1	1,902.4	25.0	22.4
900	252	17.2	39.6	1,177.0	1,234.2	16.2	14.5
800	182	13.2	27.8	905.3	947.6	12.4	11.2

Heat Rejection Data

MAXIMUM LIMIT

ENGINE SPEED	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
RPM	BKW	KW	KW	KW	KW	KW	KW	KW	KW	KW
1,600	746	284	84.2	633	223	98.5	221	746	1,849	1,970
1,500	746	279	87.0	622	225	97.1	207	746	1,823	1,942
1,400	746	271	88.8	594	232	94.2	185	746	1,768	1,883
1,300	746	264	95.9	576	230	92.1	160	746	1,730	1,843
1,200	746	284	111	596	271	94.2	146	746	1,768	1,884
1,100	746	305	132	590	288	95.0	132	746	1,784	1,900

1,000	409	205	138	337	153	55.9	29.9	409	1,050	1,118
900	252	144	119	204	79.8	36.2	5.5	252	680	724
800	182	110	101	143	44.6	26.8	-0.2	182	503	535

Sound Data

EXHAUST:SOUND PRESSURE(OBCF) DISTANCE:1.5 METER PROP DEMAND CURVE P

ENGINE SPEED	ENGINE POWER	OVERALL SOUND	63 HZ	125 HZ	250 HZ	500 HZ
RPM	BKW	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
1,600	746	112.0	107.0	117.0	113.0	105.0
1,500	615	111.0	105.0	116.0	111.0	104.0
1,400	500	109.0	104.0	114.0	110.0	102.0
1,300	400	108.0	107.0	113.0	108.0	101.0
1,200	315	107.0	106.0	112.0	107.0	100.0
1,100	242	105.0	104.0	110.0	105.0	98.0
1,000	182	104.0	112.0	108.0	102.0	98.0
900	133	103.0	110.0	107.0	101.0	97.0
800	93.2	102.0	109.0	106.0	100.0	96.0

EXHAUST:SOUND PRESSURE(OBCF) DISTANCE:1.5 METER PROP DEMAND CURVE P

ENGINE SPEED	ENGINE POWER	1000 HZ	2000 HZ	4000 HZ	8000 HZ
RPM	BKW	dB(A)	dB(A)	dB(A)	dB(A)
1,600	746	104.0	105.0	106.0	103.0
1,500	615	102.0	104.0	104.0	101.0
1,400	500	101.0	102.0	103.0	100.0
1,300	400	99.0	102.0	101.0	99.0
1,200	315	98.0	101.0	100.0	98.0
1,100	242	97.0	100.0	98.0	96.0
1,000	182	97.0	100.0	93.0	89.0
900	133	96.0	99.0	92.0	87.0
800	93.2	95.0	98.0	91.0	86.0

EXHAUST:SOUND PRESSURE(OBCF) DISTANCE:7 METER PROP DEMAND CURVE P

ENGINE SPEED	ENGINE POWER	OVERALL SOUND	63 HZ	125 HZ	250 HZ	500 HZ
RPM	BKW	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
1,600	746	99.0	96.0	106.0	100.0	91.0
1,500	615	97.0	94.0	105.0	99.0	90.0
1,400	500	96.0	93.0	103.0	97.0	88.0
1,300	400	95.0	97.0	101.0	96.0	89.0
1,200	315	93.0	95.0	100.0	94.0	87.0
1,100	242	92.0	94.0	98.0	93.0	86.0
1,000	182	91.0	101.0	99.0	90.0	87.0
900	133	90.0	100.0	98.0	89.0	86.0
800	93.2	89.0	99.0	97.0	88.0	85.0

EXHAUST:SOUND PRESSURE(OBCF) DISTANCE:7 METER PROP DEMAND CURVE P

ENGINE SPEED	ENGINE POWER	1000 HZ	2000 HZ	4000 HZ	8000 HZ
RPM	BKW	dB(A)	dB(A)	dB(A)	dB(A)
1,600	746	91.0	92.0	93.0	88.0
1,500	615	89.0	90.0	91.0	86.0
1,400	500	88.0	89.0	90.0	85.0
1,300	400	88.0	89.0	89.0	84.0
1,200	315	87.0	88.0	87.0	82.0
1,100	242	86.0	86.0	86.0	81.0
1,000	182	85.0	85.0	80.0	76.0
900	133	84.0	84.0	79.0	75.0
800	93.2	83.0	83.0	78.0	73.0

PERFORMANCE DATA[DM8426]

October 4, 2024

EXHAUST:SOUND PRESSURE(OBCF) DISTANCE:15 METER PROP DEMAND CURVE P

ENGINE SPEED	ENGINE POWER	OVERALL SOUND	63 HZ	125 HZ	250 HZ	500 HZ
RPM	BKW	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
1,600	746	92.0	89.0	100.0	94.0	85.0
1,500	615	91.0	87.0	98.0	92.0	83.0
1,400	500	89.0	86.0	97.0	91.0	82.0
1,300	400	88.0	90.0	94.0	89.0	82.0
1,200	315	87.0	89.0	93.0	88.0	81.0
1,100	242	85.0	87.0	92.0	86.0	79.0
1,000	182	84.0	95.0	92.0	83.0	80.0
900	133	83.0	93.0	91.0	82.0	79.0
800	93.2	82.0	92.0	90.0	81.0	78.0

EXHAUST:SOUND PRESSURE(OBCF) DISTANCE:15 METER PROP DEMAND CURVE P

ENGINE SPEED	ENGINE POWER	1000 HZ	2000 HZ	4000 HZ	8000 HZ
RPM	BKW	dB(A)	dB(A)	dB(A)	dB(A)
1,600	746	84.0	85.0	86.0	81.0
1,500	615	83.0	84.0	84.0	80.0
1,400	500	81.0	82.0	83.0	78.0
1,300	400	82.0	82.0	82.0	77.0
1,200	315	80.0	81.0	81.0	76.0
1,100	242	79.0	80.0	79.0	74.0
1,000	182	79.0	78.0	73.0	69.0
900	133	77.0	77.0	72.0	68.0
800	93.2	76.0	76.0	71.0	67.0

MECHANICAL:SOUND PRESSURE(OBCF) DISTANCE:1 METER PROP DEMAND CURVE P

ENGINE SPEED	ENGINE POWER	OVERALL SOUND	63 HZ	125 HZ	250 HZ	500 HZ
RPM	BKW	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
1,600	746	102.0	93.0	98.0	97.0	94.0
1,500	615	101.0	93.0	97.0	96.0	93.0
1,400	500	101.0	92.0	96.0	95.0	92.0
1,300	400	100.0	96.0	97.0	94.0	90.0
1,200	315	100.0	95.0	96.0	93.0	89.0
1,100	242	99.0	95.0	95.0	93.0	88.0
1,000	182	98.0	94.0	95.0	92.0	88.0
900	133	98.0	93.0	94.0	91.0	87.0
800	93.2	97.0	93.0	94.0	91.0	87.0

MECHANICAL:SOUND PRESSURE(OBCF) DISTANCE:1 METER PROP DEMAND CURVE P

ENGINE SPEED	ENGINE POWER	1000 HZ	2000 HZ	4000 HZ	8000 HZ
RPM	BKW	dB(A)	dB(A)	dB(A)	dB(A)
1,600	746	97.0	97.0	95.0	99.0
1,500	615	96.0	96.0	94.0	98.0
1,400	500	95.0	96.0	94.0	97.0
1,300	400	95.0	95.0	92.0	96.0
1,200	315	94.0	95.0	92.0	95.0
1,100	242	93.0	94.0	91.0	94.0
1,000	182	93.0	94.0	90.0	94.0
900	133	92.0	93.0	90.0	93.0
800	93.2	91.0	92.0	89.0	93.0

MECHANICAL:SOUND PRESSURE(OBCF) DISTANCE:7 METER PROP DEMAND CURVE P

ENGINE SPEED	ENGINE POWER	OVERALL SOUND	63 HZ	125 HZ	250 HZ	500 HZ
RPM	BKW	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
1,600	746	90.0	81.0	86.0	85.0	82.0
1,500	615	89.0	81.0	85.0	84.0	81.0
1,400	500	89.0	80.0	84.0	83.0	80.0
1,300	400	88.0	84.0	85.0	82.0	78.0
1,200	315	88.0	83.0	84.0	81.0	77.0
1,100	242	87.0	83.0	83.0	81.0	76.0

1,000	182	86.0	82.0	83.0	80.0	76.0
900	133	86.0	81.0	82.0	79.0	75.0
800	93.2	85.0	81.0	82.0	79.0	75.0

MECHANICAL:SOUND PRESSURE(OBCF) DISTANCE:7 METER PROP DEMAND CURVE P

ENGINE SPEED	ENGINE POWER	1000 HZ	2000 HZ	4000 HZ	8000 HZ
RPM	BKW	dB(A)	dB(A)	dB(A)	dB(A)
1,600	746	85.0	85.0	83.0	87.0
1,500	615	84.0	84.0	82.0	86.0
1,400	500	83.0	84.0	82.0	85.0
1,300	400	83.0	83.0	80.0	84.0
1,200	315	82.0	83.0	80.0	83.0
1,100	242	81.0	82.0	79.0	82.0
1,000	182	81.0	82.0	78.0	82.0
900	133	80.0	81.0	78.0	81.0
800	93.2	79.0	80.0	77.0	81.0

MECHANICAL:SOUND PRESSURE(OBCF) DISTANCE:15 METER PROP DEMAND CURVE P

ENGINE SPEED	ENGINE POWER	OVERALL SOUND	63 HZ	125 HZ	250 HZ	500 HZ
RPM	BKW	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
1,600	746	84.0	75.0	80.0	79.0	76.0
1,500	615	83.0	75.0	79.0	78.0	75.0
1,400	500	83.0	74.0	78.0	77.0	74.0
1,300	400	82.0	78.0	79.0	76.0	72.0
1,200	315	82.0	77.0	78.0	75.0	71.0
1,100	242	81.0	77.0	77.0	75.0	70.0
1,000	182	80.0	76.0	77.0	74.0	70.0
900	133	80.0	75.0	76.0	73.0	69.0
800	93.2	79.0	75.0	76.0	73.0	69.0

MECHANICAL:SOUND PRESSURE(OBCF) DISTANCE:15 METER PROP DEMAND CURVE P

ENGINE SPEED	ENGINE POWER	1000 HZ	2000 HZ	4000 HZ	8000 HZ
RPM	BKW	dB(A)	dB(A)	dB(A)	dB(A)
1,600	746	79.0	79.0	77.0	81.0
1,500	615	78.0	78.0	76.0	80.0
1,400	500	77.0	78.0	76.0	79.0
1,300	400	77.0	77.0	74.0	78.0
1,200	315	76.0	77.0	74.0	77.0
1,100	242	75.0	76.0	73.0	76.0
1,000	182	75.0	76.0	72.0	76.0
900	133	74.0	75.0	72.0	75.0
800	93.2	73.0	74.0	71.0	75.0

Emissions Data

DIESEL

RATED SPEED NOMINAL DATA: 1600 RPM

ENGINE POWER		BKW	746	560	373	186	74.6
PERCENT LOAD		%	100	75	50	25	10
TOTAL NOX (AS NO2)		G/HR	5,637	2,961	2,237	1,341	859
TOTAL CO		G/HR	300	163	237	242	213
TOTAL HC		G/HR	119	98	118	105	82
TOTAL CO2		KG/HR	470	364	247	139	74
PART MATTER		G/HR	22.4	34.4	33.7	32.1	25.2
TOTAL NOX (AS NO2)	(CORR 5% O2)	MG/NM3	2,527.5	1,692.2	1,861.5	1,957.5	2,099.0
TOTAL CO	(CORR 5% O2)	MG/NM3	144.1	100.2	211.1	377.5	492.0
TOTAL HC	(CORR 5% O2)	MG/NM3	49.4	52.1	91.0	141.0	172.9
PART MATTER	(CORR 5% O2)	MG/NM3	9.1	18.1	26.4	44.3	55.4

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TOTAL NOX (AS NO2)	(CORR 15% O2)	MG/NM3	937.9	627.9	690.7	726.4	778.9
TOTAL CO	(CORR 15% O2)	MG/NM3	53.5	37.2	78.3	140.1	182.6
TOTAL HC	(CORR 15% O2)	MG/NM3	18.3	19.3	33.8	52.3	64.1
PART MATTER	(CORR 15% O2)	MG/NM3	3.4	6.7	9.8	16.4	20.6
TOTAL NOX (AS NO2)	(CORR 5% O2)	PPM	1,231	824	907	953	1,022
TOTAL CO	(CORR 5% O2)	PPM	115	80	169	302	394
TOTAL HC	(CORR 5% O2)	PPM	92	97	170	263	323
TOTAL NOX (AS NO2)	(CORR 15% O2)	PPM	457	306	336	354	379
TOTAL CO	(CORR 15% O2)	PPM	43	30	63	112	146
TOTAL HC	(CORR 15% O2)	PPM	34	36	63	98	120
TOTAL NOX (AS NO2)		G/HP-HR	5.68	3.98	4.50	5.39	8.63
TOTAL CO		G/HP-HR	0.30	0.22	0.48	0.97	2.14
TOTAL HC		G/HP-HR	0.12	0.13	0.24	0.42	0.82
PART MATTER		G/HP-HR	0.02	0.05	0.07	0.13	0.25
TOTAL NOX (AS NO2)		G/KW-HR	7.73	5.41	6.12	7.33	11.74
TOTAL CO		G/KW-HR	0.41	0.30	0.65	1.32	2.91
TOTAL HC		G/KW-HR	0.16	0.18	0.32	0.57	1.12
PART MATTER		G/KW-HR	0.03	0.06	0.09	0.18	0.34
TOTAL NOX (AS NO2)		LB/HR	12.43	6.53	4.93	2.96	1.89
TOTAL CO		LB/HR	0.66	0.36	0.52	0.53	0.47
TOTAL HC		LB/HR	0.26	0.22	0.26	0.23	0.18
TOTAL CO2		LB/HR	1,036	801	544	307	164
PART MATTER		LB/HR	0.05	0.08	0.07	0.07	0.06
OXYGEN IN EXH		%	12.1	13.3	14.2	15.4	16.4
DRY SMOKE OPACITY		%	0.8	0.8	1.3	1.8	1.9
BOSCH SMOKE NUMBER			0.73	0.73	0.83	0.90	0.93

RATED SPEED POTENTIAL SITE VARIATION: 1600 RPM

ENGINE POWER		**BKW**	**746**	**560**	**373**	**186**	**74.6**
PERCENT LOAD		**%**	**100**	**75**	**50**	**25**	**10**
TOTAL NOX (AS NO2)		G/HR	6,764	3,554	2,684	1,609	1,031
TOTAL CO		G/HR	540	294	426	436	384
TOTAL HC		G/HR	158	131	156	139	109
PART MATTER		G/HR	31.3	48.2	47.2	45.0	35.3
TOTAL NOX (AS NO2)	(CORR 5% O2)	MG/NM3	3,033.0	2,030.7	2,233.8	2,349.0	2,518.8
TOTAL CO	(CORR 5% O2)	MG/NM3	259.4	180.4	380.0	679.4	885.7
TOTAL HC	(CORR 5% O2)	MG/NM3	65.8	69.4	121.0	187.6	229.9
PART MATTER	(CORR 5% O2)	MG/NM3	12.7	25.3	36.9	62.0	77.5
TOTAL NOX (AS NO2)	(CORR 15% O2)	MG/NM3	1,125.5	753.5	828.9	871.6	934.6
TOTAL CO	(CORR 15% O2)	MG/NM3	96.2	66.9	141.0	252.1	328.6
TOTAL HC	(CORR 15% O2)	MG/NM3	24.4	25.7	44.9	69.6	85.3
PART MATTER	(CORR 15% O2)	MG/NM3	4.7	9.4	13.7	23.0	28.8
TOTAL NOX (AS NO2)	(CORR 5% O2)	PPM	1,477	989	1,088	1,144	1,227
TOTAL CO	(CORR 5% O2)	PPM	207	144	304	544	709
TOTAL HC	(CORR 5% O2)	PPM	123	129	226	350	429
TOTAL NOX (AS NO2)	(CORR 15% O2)	PPM	548	367	404	425	455
TOTAL CO	(CORR 15% O2)	PPM	77	54	113	202	263
TOTAL HC	(CORR 15% O2)	PPM	46	48	84	130	159
TOTAL NOX (AS NO2)		G/HP-HR	6.82	4.77	5.40	6.47	10.36
TOTAL CO		G/HP-HR	0.54	0.39	0.86	1.75	3.86
TOTAL HC		G/HP-HR	0.16	0.18	0.31	0.56	1.09
PART MATTER		G/HP-HR	0.03	0.06	0.09	0.18	0.35
TOTAL NOX (AS NO2)		G/KW-HR	9.27	6.49	7.34	8.79	14.09
TOTAL CO		G/KW-HR	0.74	0.54	1.16	2.38	5.24
TOTAL HC		G/KW-HR	0.22	0.24	0.43	0.76	1.48
PART MATTER		G/KW-HR	0.04	0.09	0.13	0.25	0.48
TOTAL NOX (AS NO2)		LB/HR	14.91	7.83	5.92	3.55	2.27
TOTAL CO		LB/HR	1.19	0.65	0.94	0.96	0.85
TOTAL HC		LB/HR	0.35	0.29	0.34	0.31	0.24
PART MATTER		LB/HR	0.07	0.11	0.10	0.10	0.08

Regulatory Information

EPA TIER 2	**2007 - 2011**
GASEOUS EMISSIONS DATA MEASUREMENTS PROVIDED TO THE EPA ARE CONSISTENT WITH THOSE DESCRIBED IN EPA 40 CFR PART 94.103 AND ISO 8178 FOR MEASURING HC, CO, PM, AND NOX. THIS ENGINE CONFORMS TO US EPA MARINE COMMERCIAL COMPRESSION-IGNITION EMISSION REGULATIONS. THE "MAX LIMITS" SHOWN BELOW ARE WEIGHTED CYCLE AVERAGES AND ARE IN COMPLIANCE WITH THE MARINE REGULATIONS.	

PERFORMANCE DATA[DM8426]

October 4, 2024

Locality	Agency	Regulation	Tier/Stage	Max Limits - G/BKW - HR
U.S. (INCL CALIF)	EPA	MARINE COMMERCIAL	TIER 2	CO: 5.0 NOx + HC: 7.2 PM: 0.20

EU STAGE IIIA	2009 - 2019			
GASEOUS EMISSION DATA MEASUREMENTS ARE CONSISTENT WITH THOSE DESCRIBED IN EU 97/68/EC (AS AMENDED BY EU 2004/26/EC) AND ISO 8178 FOR MEASURING HC, CO, PM, AND NOX. GASEOUS EMISSIONS VALUES ARE WEIGHTED CYCLE AVERAGES AND ARE IN COMPLIANCE WITH THE MARINE REGULATIONS.				
Locality	**Agency**	**Regulation**	**Tier/Stage**	**Max Limits - G/BKW - HR**
EUROPE	EU	MARINE COMMERCIAL	STAGE IIIA	CO: 5.0 NOx + HC: 7.2 PM: 0.20

IMO	2000 - 2010
GASEOUS EMISSIONS DATA MEASUREMENTS ARE CONSISTENT WITH THOSE DESCRIBED IN REGULATION 13 OF ANNEX VI OF MARPOL 73/78 AND ISO 8178 FOR MEASURING HC, CO, PM, AND NOX. THIS ENGINE CONFORMS TO INTERNATIONAL MARINE ORGANIZATION'S (IMO) MARINE COMPRESSION-IGNITION EMISSION REGULATIONS.	

IMO II	2011 - ----
GASEOUS EMISSIONS DATA MEASUREMENTS ARE CONSISTENT WITH THOSE DESCRIBED IN REGULATION 13 OF REVISED ANNEX VI OF MARPOL 73/78 AND ISO 8178 FOR MEASURING HC, CO, PM, AND NOX. THIS ENGINE CONFORMS TO INTERNATIONAL MARINE ORGANIZATION'S (IMO) MARINE COMPRESSION-IGNITION EMISSION REGULATIONS.	

Altitude Derate Data

STANDARD

ALTITUDE CORRECTED POWER CAPABILITY (BKW)

AMBIENT OPERATING TEMP (C)	0	5	10	15	20	25	30	35	40	45	50	55	60	NORMAL
ALTITUDE (M)														
0	746	746	746	746	746	746	746	746	746	739	727	716	705	746
250	746	746	746	746	746	746	746	740	729	717	706	695	685	746
500	746	746	746	746	746	743	730	719	707	696	685	675	665	737
750	742	742	742	742	733	721	709	697	686	675	665	655	645	719
1,000	720	720	720	720	711	699	688	676	666	655	645	635	626	702

Cross Reference

Test Spec	Setting	Engine Arrangement	Engineering Model	Engineering Model Version	Start Effective Serial Number	End Effective Serial Number
0K8006	LL5785	2829662	E899	-	TTB00202	TTB00603
0K8007	LL5786	2829662	E899	-	TTB00210	TTB00527
4369356	LL6545	3856990	EE138	-	PXB00200	PXB00393
4369359	LL6548	3856991	EE138	-	PXB00201	PXB00315

Supplementary Data

Type	Classification	Performance Number
SOUND	SOUND PRESSURE	DM8779
CHART	BSFC CONTOUR PLOT	DM9454

General Notes

General Notes DM8426 - 02
SOUND PRESSURE DATA FOR THIS RATING CAN BE FOUND IN PERFORMANCE NUMBER - DM8779

Performance Parameter Reference

Parameters Reference:DM9600-15
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%
Specific fuel consumption (C7-C18) +/- 4%
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 : 03/12/24

PERFORMANCE DATA[DM8426]

October 4, 2024