



Gen Set Package Performance Data [81Z18721]

December 30,2025

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Performance Number:TM3202

Change Level: 08 ▼

Sales Model: 3412CDIT	Combustion: DI	Aspr: T
Engine Power: 400 W/F EKW 409 W/O F EKW 590 HP	Speed: 1,500 RPM	After Cooler:
Manifold Type: DRY	Governor Type: HYDRA	After Cooler Temp(F): --
Turbo Quantity: 2	Engine App: GP	Turbo Arrangement:
Hertz: 50	Application Type: PACKAGE-DIE	Engine Rating: PGS
Rating Type: PRIME	Certification:	Strategy:

General Performance Data

GEN W/F EKW	PERCENT LOAD	ENGINE POWER BHP	ENGINE BMEP PSI	FUEL BSFC LB/BHP- HR	FUEL RATE GPH	INTAKE MFLD TEMP DEG F	INTAKE MFLD P IN-HG	INTAKE AIR FLOW CFM	EXH MFLD TEMP DEG F	EXH STACK TEMP DEG F	EXH GAS FLOW CFM
400	100	590	188.84	0.36	30.46	241.16	29.44	1,062.97	1,273.46	1,084.28	3,248.95
360	90	532	170.13	0.36	27.32	221.72	24.28	981.75	1,211.36	1,042.34	2,920.53
320	80	474	151.71	0.36	24.25	204.08	19.89	914.65	1,138.64	987.98	2,620.35
300	75	445	142.57	0.36	22.75	195.98	17.92	886.4	1,099.76	957.92	2,479.09
280	70	417	133.44	0.36	21.29	188.24	16.1	858.15	1,058.9	925.88	2,344.9
240	60	360	115.31	0.36	18.49	174.38	12.95	808.71	974.48	858.2	2,097.69
200	50	304	97.32	0.37	15.88	162.14	10.23	766.33	885.2	785.12	1,871.68
160	40	250	79.92	0.38	13.42	151.7	7.87	731.01	791.42	706.28	1,663.32
120	30	194	61.93	0.39	10.91	141.98	5.6	692.17	684.68	615.02	1,451.43
100	25	165	52.79	0.41	9.64	137.48	4.55	674.51	628.16	566.06	1,345.49
80	20	136	43.37	0.43	8.35	133.34	3.59	660.38	569.66	515.48	1,246.61
40	10	76	24.22	0.54	5.79	125.96	1.99	639.2	447.44	408.92	1,066.5

Engine Heat Rejection Data

GEN W/F EKW	PERCENT LOAD	REJ TO JW BTU/MN	REJ TO ATMOS BTU/MN	REJ TO EXHAUST BTU/MN	EXH RCOV TO 350F BTU/MN	FROM OIL CLR BTU/MN	WORK ENERGY BTU/MN	LHV ENERGY BTU/MN	HHV ENERGY BTU/MN
400	100	14,956.8	5,567.6	24,624.7	14,899.9	2,320.3	25,022.8	65,912.2	70,177.4
360	90	13,478.2	5,118.3	21,724.3	12,909.5	2,166.7	22,520.5	59,030.9	62,898.1
320	80	11,999.5	4,686.1	18,994.5	11,032.8	2,018.9	20,131.9	52,377.2	55,789.4
300	75	11,317.1	4,470.0	17,743.4	10,122.8	1,950.6	18,880.8	49,192.4	52,377.2
280	70	10,577.8	4,248.2	16,492.3	9,212.9	1,876.7	17,686.5	46,007.7	48,965.0
240	60	9,269.8	3,884.2	14,160.6	7,620.6	1,728.8	15,298.0	39,979.5	42,595.5
200	50	7,961.8	3,634.0	12,056.4	6,085.1	1,581.0	12,909.5	34,292.5	36,567.3
160	40	6,824.4	3,429.2	10,066.0	4,663.3	1,433.1	10,577.8	29,003.6	30,880.3
120	30	5,573.2	3,247.3	8,075.5	3,241.6	1,262.5	8,189.3	23,544.1	25,079.6
100	25	4,947.7	3,144.9	7,051.9	2,559.1	1,171.5	6,995.0	20,814.4	22,179.2
80	20	4,322.1	3,019.8	6,142.0	1,876.7	1,069.2	5,743.9	18,027.8	19,222.0
40	10	3,014.1	2,729.8	4,379.0	625.6	841.7	3,184.7	12,511.4	13,307.5

EXHAUST Sound Data: 4.92 FEET

GEN W/F EKW	PERCENT LOAD	OVERALL SOUND DB(A)	OBCF 63HZ DB	OBCF 125HZ DB	OBCF 250HZ DB	OBCF 500HZ DB	OBCF 1000HZ DB	OBCF 2000HZ DB	OBCF 4000HZ DB	OBCF 8000HZ DB
400	100	106	102	100	104	105	100	97	94	86
360	90	106	102	100	104	105	100	97	94	86
320	80	105	101	99	103	104	99	96	93	85

300	75	105	101	99	103	104	99	96	93	85
280	70	105	101	99	103	104	99	96	93	85
240	60	104	100	98	102	103	98	95	92	84
200	50	103	99	97	101	102	97	94	91	83
160	40	103	99	97	101	102	97	94	91	83
120	30	102	98	96	100	101	96	93	90	82
100	25	102	98	96	100	101	96	93	90	82
80	20	101	97	95	99	100	95	92	89	81
40	10	100	96	94	98	99	94	91	88	80

EXHAUST Sound Data: 22.97 FEET

GEN W/F EKW	PERCENT LOAD	OVERALL SOUND DB(A)	OBCF 63HZ DB	OBCF 125HZ DB	OBCF 250HZ DB	OBCF 500HZ DB	OBCF 1000HZ DB	OBCF 2000HZ DB	OBCF 4000HZ DB	OBCF 8000HZ DB
400	100	93	91	88	90	90	87	84	85	77
360	90	92	91	88	90	90	87	84	85	77
320	80	92	90	87	89	89	86	83	84	76
300	75	91	90	87	89	89	86	83	84	76
280	70	91	89	86	88	88	85	82	83	75
240	60	91	89	86	88	88	85	82	83	75
200	50	90	88	85	87	87	84	81	82	74
160	40	89	87	84	86	86	83	80	81	73
120	30	89	87	84	86	86	83	80	81	73
100	25	88	86	83	85	85	82	79	80	72
80	20	88	86	83	85	85	82	79	80	72
40	10	87	85	82	84	84	81	78	79	71

EXHAUST Sound Data: 49.21 FEET

GEN W/F EKW	PERCENT LOAD	OVERALL SOUND DB(A)	OBCF 63HZ DB	OBCF 125HZ DB	OBCF 250HZ DB	OBCF 500HZ DB	OBCF 1000HZ DB	OBCF 2000HZ DB	OBCF 4000HZ DB	OBCF 8000HZ DB
400	100	86	85	82	84	84	81	78	79	71
360	90	86	84	81	83	83	80	77	78	70
320	80	85	83	80	82	82	79	76	77	69
300	75	85	83	80	82	82	79	76	77	69
280	70	85	83	80	82	82	79	76	77	69
240	60	84	82	79	81	81	78	75	76	68
200	50	83	81	78	80	80	77	74	75	67
160	40	83	81	78	80	80	77	74	75	67
120	30	82	80	77	79	79	76	73	74	66
100	25	82	80	77	79	79	76	73	74	66
80	20	81	79	76	78	78	75	72	73	65
40	10	80	78	75	77	77	74	71	72	64

MECHANICAL Sound Data: 3.28 FEET

GEN W/F EKW	PERCENT LOAD	OVERALL SOUND DB(A)	OBCF 63HZ DB	OBCF 125HZ DB	OBCF 250HZ DB	OBCF 500HZ DB	OBCF 1000HZ DB	OBCF 2000HZ DB	OBCF 4000HZ DB	OBCF 8000HZ DB
400	100	102	100	107	98	95	98	97	91	80
360	90	102	100	107	98	95	98	97	91	80
320	80	102	100	107	98	95	98	97	91	80
300	75	102	100	107	98	95	98	97	91	80
280	70	102	100	107	98	95	98	97	91	80
240	60	102	100	107	98	95	98	97	91	80
200	50	102	100	107	98	95	98	97	91	80
160	40	102	100	107	98	95	98	97	91	80
120	30	102	100	107	98	95	98	97	91	80
100	25	102	100	107	98	95	98	97	91	80
80	20	102	100	107	98	95	98	97	91	80
40	10	101	99	107	98	93	96	95	89	78

MECHANICAL Sound Data: 22.97 FEET

GEN W/F EKW	PERCENT LOAD	OVERALL SOUND DB(A)	OBCF 63HZ DB	OBCF 125HZ DB	OBCF 250HZ DB	OBCF 500HZ DB	OBCF 1000HZ DB	OBCF 2000HZ DB	OBCF 4000HZ DB	OBCJ 8000HZ DB
400	100	90	89	95	87	82	86	85	77	67
360	90	90	89	95	87	82	86	85	77	67
320	80	90	89	95	87	82	86	85	77	67
300	75	90	89	95	87	82	86	85	77	67
280	70	90	89	95	87	82	86	85	77	67
240	60	90	89	95	87	82	86	85	77	67
200	50	90	89	95	87	82	86	85	77	67
160	40	90	89	95	87	82	86	85	77	67
120	30	90	89	95	87	82	86	85	77	67
100	25	90	89	95	87	82	86	85	77	67
80	20	90	89	95	87	82	86	85	77	67
40	10	89	88	95	86	81	84	83	75	65

MECHANICAL Sound Data: 49.21 FEET

GEN W/F EKW	PERCENT LOAD	OVERALL SOUND DB(A)	OBCF 63HZ DB	OBCF 125HZ DB	OBCF 250HZ DB	OBCF 500HZ DB	OBCF 1000HZ DB	OBCF 2000HZ DB	OBCF 4000HZ DB	OBCF 8000HZ DB
400	100	84	84	89	82	79	80	77	73	61
360	90	84	84	89	82	79	80	77	73	61
320	80	84	84	89	82	79	80	77	73	61
300	75	84	84	89	82	79	80	77	73	61
280	70	84	84	89	82	79	80	77	73	61
240	60	84	84	89	82	79	80	77	73	61
200	50	84	84	89	82	79	80	77	73	61
160	40	84	84	89	82	79	80	77	73	61
120	30	84	84	89	82	79	80	77	73	61
100	25	84	84	89	82	79	80	77	73	61
80	20	84	84	89	82	79	80	77	73	61
40	10	83	82	89	81	77	78	75	71	59

EMISSIONS DATA

Certification:

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

REFERENCE EXHAUST STACK DIAMETER	8 IN
WET EXHAUST MASS	4,929.5 LB/HR
WET EXHAUST FLOW (1,083.20 F STACK TEMP)	3,252.84 CFM
WET EXHAUST FLOW RATE (32 DEG F AND 29.98 IN HG)	1,000.00 STD CFM
DRY EXHAUST FLOW RATE (32 DEG F AND 29.98 IN HG)	916.06 STD CFM
FUEL FLOW RATE	30 GAL/HR

RATED SPEED "Potential site variation"

GEN PWR EKW	PERCENT LOAD	ENGINE POWER BHP	TOTAL NOX (AS NO2) LB/HR	TOTAL CO LB/HR	TOTAL HC LB/HR	PART MATTER LB/HR	OXYGEN IN EXHAUST PERCENT	DRY SMOKE OPACITY PERCENT	BOSCH SMOKE NUMBER
400	100	590	10.1100	5.2700	.0800	.5400	6.1000	6.7000	1.8200
300	75	445	8.4000	2.5400	.1000	.2600	7.8000	2.9000	1.3200
200	50	304	6.3100	1.0900	.1600	.2200	10.4000	2.3000	1.2700
100	25	165	4.5700	1.0500	.2000	.1400	13.8000	1.4000	1.2800
40	10	76	3.0300	1.4500	.3000	.1200	16.4000	.9000	1.2800

RATED SPEED "Nominal Data"

GEN PWR EKW	PERCENT LOAD	ENGINE POWER BHP	TOTAL NOX (AS NO2) LB/HR	TOTAL CO LB/HR	TOTAL HC LB/HR	TOTAL CO2 LB/HR	PART MATTER LB/HR	OXYGEN IN EXHAUST PERCENT	DRY SMOKE OPACITY PERCENT	BOSCH SMOKE NUMBER
400	100	590	8.3600	2.8200	.0400	650.6	.2800	6.1000	6.7000	1.8200
300	75	445	6.9400	1.3600	.0600	487.3	.1300	7.8000	2.9000	1.3200
200	50	304	5.2100	.5800	.0800	342	.1100	10.4000	2.3000	1.2700
100	25	165	3.7800	.5600	.1100	205.5	.0700	13.8000	1.4000	1.2800
40	10	76	2.5000	.7800	.1600	121.4	.0600	16.4000	.9000	1.2800

Altitude Capability Data(Corrected Power Altitude Capability)

Ambient Operating Temp.	50 F	68 F	86 F	104 F	122 F	NORMAL
Altitude						
0FT	590.05hp	590.05hp	590.05hp	590.05hp	590.05hp	590.05hp
984.25FT	590.05hp	590.05hp	590.05hp	590.05hp	582hp	590.05hp
1,640.42FT	590.05hp	590.05hp	590.05hp	586.03hp	567.25hp	590.05hp
3,280.84FT	590.05hp	588.71hp	569.93hp	551.16hp	533.73hp	582hp
4,921.26FT	573.96hp	553.84hp	536.41hp	518.97hp	502.88hp	552.5hp
6,561.68FT	539.09hp	521.66hp	504.22hp	488.13hp	472.04hp	525.68hp
8,202.1FT	506.91hp	489.47hp	473.38hp	458.63hp	443.88hp	498.86hp
9,842.52FT	476.06hp	459.97hp	443.88hp	430.47hp	417.06hp	474.72hp
11,482.94FT	446.56hp	431.81hp	417.06hp	403.65hp	391.58hp	450.58hp
13,123.36FT	418.4hp	403.65hp	390.24hp	378.17hp	366.1hp	426.44hp
14,763.78FT	391.58hp	378.17hp	366.1hp	354.03hp	343.3hp	404.99hp
16,404.2FT	366.1hp	354.03hp	341.96hp	331.23hp	320.5hp	383.53hp
18,044.62FT	341.96hp	331.23hp	320.5hp	309.78hp	300.39hp	362.08hp
19,685.04FT	319.16hp	308.43hp	299.05hp	289.66hp	280.27hp	343.3hp

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

Identification Reference and Notes

Engine Arrangement:	7E0147	Lube Oil Press @ Rated Spd(PSI):	63.5
Effective Serial No:	81Z20725	Piston Speed @ Rated Eng SPD(FT/Min):	1,389.8
Primary Engine Test Spec:	0T6325	Max Operating Altitude(FT):	2,788.7
Performance Parm Ref:	TM5739	PEEC Elect Control Module Ref	
Performance Data Ref:	TM3202	PEEC Personality Cont Mod Ref	
Aux Coolant Pump Perf Ref:	--		
Cooling System Perf Ref:	TD3041	Turbocharger Model	F555-3.86 VO
Certification Ref:		Fuel Injector	4W7018
Certification Year:		Timing-Static (DEG):	30.00
Compression Ratio:	14.5	Timing-Static Advance (DEG):	40.00
Combustion System:	DI	Timing-Static (MM):	13.00
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):	60.6	Peak Torque (LB.FT):	--

Reference Number: 81Z18721 THIS CURVE IS ALSO APPLICABLE TO TEST SPEC 0T-6326 WITH BEA 7E-0148.
*
EMODEL GS014
SPECS 2T9807 (HYDRA) AND 2T9809 (2301) ON ARRANGEMENTS
148-3592 (HYDRA) AND 148-3593 (2301) ARE ALSO APPLICABLE
TO THIS PERFORMANCE CURVE.

Parameters

Reference: TM5739 **GEN SET - PACKAGED - DIESEL**

TOLERANCES:

AMBIENT AIR CONDITIONS AND FUEL USED WILL AFFECT THESE VALUES.
EACH OF THE VALUES MAY VARY IN ACCORDANCE WITH THE FOLLOWING
TOLERANCES.

Power	+/- 3%
Exhaust Stack Temperature	+/- 8%
Generator Power	+/- 5%
Inlet Airflow	+/- 5%
Intake Manifold Pressure-gage	+/- 10%
Exhaust Flow	+/- 6%
Specific Fuel Consumption	+/- 3%
Fuel Rate	+/- 5%
Heat Rejection	+/- 5%
Heat Rejection - Exhaust Only	+/- 10%

T4i Tolerance Exceptions

C15: Power Tolerance	+4% , -0%
C27: Power Tolerance	+0% , -4%

CONDITIONS:

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

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

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

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

RATINGS MUST BE REDUCED TO COMPENSATE FOR ALTITUDE AND/OR AMBIENT TEMPERATURE CONDITIONS ACCORDING TO THE APPLICABLE DATA SHOWN ON THE PERFORMANCE DATA SET.

ALTITUDE:

ALTITUDE CAPABILITY - THE RECOMMENDED REDUCED POWER VALUES FOR SUSTAINED ENGINE OPERATION AT SPECIFIC ALTITUDE LEVELS AND AMBIENT TEMPERATURES.

COLUMN "N" DATA - THE FLYWHEEL POWER OUTPUT AT NORMAL AMBIENT TEMPERATURE.

AMBIENT TEMPERATURE - TO BE MEASURED AT THE AIR CLEANER AIR INLET DURING NORMAL ENGINE OPERATION.

NORMAL TEMPERATURE - THE NORMAL TEMPERATURE AT VARIOUS SPECIFIC ALTITUDE LEVELS IS FOUND ON TM2001.

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

GENERATOR SET RATINGS

EMERGENCY STANDBY POWER (ESP)

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

STANDBY POWER RATING

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

PRIME POWER RATING

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

CONTINUOUS POWER RATING

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

SOUND DEFINITIONS:

Sound Power : [DM8702](#)
Sound Pressure : [TM7080](#)

Date Released : 03/14/12

Caterpillar Confidential: **Green**
Content Owner: Commercial Processes Division
Web Master(s): [PSG Web Based Systems Support](#)
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