

TRUCK ENGINE PERFORMANCE DATA [1LW08883]

NOVEMBER 27, 2019

Performance Number: DM2443

Change Level:

Sales Model: 3406EDITA	Combustion: DI	Aspr: TA
Engine Power: 475 HP	Speed: 2,100 RPM	After Cooler: ATAAC
Manifold Type: DRY	Governor Type: ELEC	After Cooler Temp(F): 115
Turbo Quantity:	Engine App: TR	Turbo Arrangement:
Application Type: TRUCK-ONHWY	Engine Rating: TR	Strategy:
Rating Type: HEAVY DUTY ON-HWY / ELEC	Certification: EPA 1998 - 1998 CARB 1998 - 1998	

General Performance Data 1

ENGINE SPEED RPM	ENGINE POWER BHP	ENGINE TORQUE LB.FT	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
2,100	475	1,188.21	200.45	0.33	22.16	112.82	44.81	1,144.2	957.2	724.1	2,648.6
2,000	485	1,273.77	214.95	0.32	22.24	111.38	45.55	1,108.88	969.98	736.34	2,599.16
1,900	490	1,354.9	228.73	0.32	22.19	110.84	46.08	1,066.5	988.88	754.52	2,542.66
1,800	490	1,430.87	241.35	0.31	22.06	110.48	46.43	1,020.59	1,011.38	777.2	2,475.56
1,700	490	1,514.95	255.56	0.31	21.9	109.58	46.52	971.15	1,036.76	804.38	2,408.46
1,600	490	1,609.36	271.51	0.31	21.64	108.14	46.26	921.71	1,066.1	836.24	2,330.77
1,500	490	1,716.3	289.64	0.31	21.16	105.98	45.13	854.62	1,097.06	869.36	2,228.36
1,400	463	1,736.22	292.98	0.31	20.24	103.28	42.61	773.39	1,128.2	902.3	2,076.5
1,300	430	1,738.43	293.42	0.31	19.05	99.5	39	685.11	1,159.7	935.42	1,892.87
1,200	400	1,750.23	295.3	0.31	17.7	95	34.59	596.82	1,193.18	970.52	1,688.04

Engine Heat Rejection Data

ENGINE SPEED RPM	ENGINE POWER BHP	REJ TO JW BTU/MN	REJ TO ATMOS BTU/MN	REJ TO EXHAUST BTU/MN	FROM OIL CLR BTU/MN	FROM AFT CLR BTU/MN	WORK ENERGY BTU/MN
2,100	475	6,767.5	4,265.2	15,980.4	2,553.5	3,872.8	20,131.9
2,000	485	6,653.8	4,356.2	15,866.7	2,559.1	3,787.5	20,586.9
1,900	490	6,540.0	4,430.2	15,639.2	2,553.5	3,702.2	20,814.4
1,800	490	6,483.2	4,498.4	15,468.6	2,542.1	3,599.9	20,814.4
1,700	490	6,483.2	4,572.3	15,127.4	2,519.3	3,457.7	20,814.4
1,600	490	6,540.0	4,634.9	14,615.6	2,496.6	3,281.4	20,814.4
1,500	490	6,483.2	4,646.3	13,876.2	2,445.4	3,048.2	20,814.4
1,400	463	6,369.4	4,521.2	13,648.8	2,343.0	2,735.4	19,620.1
1,300	430	6,142.0	4,310.7	13,193.8	2,212.2	2,354.4	18,255.2
1,200	400	6,028.2	4,043.4	12,397.6	2,064.4	1,933.6	16,947.2

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

Identification Reference and Notes			
Engine Arrangement:	1443350	Lube Oil Press @ Rated Spd(PSI):	65.3
Effective Serial No:	1LW00197	Piston Speed @ Rated Eng SPD (FT/Min):	--
Primary Engine Test Spec:	2T9479	Max Operating Altitude(FT):	10,006.6
Performance Parm Ref:	TM5740	PEEC Elect Control Module Ref	
Performance Data Ref:	DM2443	PEEC Personality Cont Mod Ref	145-4321
Aux Coolant Pump Perf Ref:			
Cooling System Perf Ref:		Turbocharger Model	BTG7513 1.26 VTF
Certification Ref:	EPA/CARB	Fuel Injector	1408993
Certification Year:	1998	Timing-Static (DEG):	--
Compression Ratio:	16.6	Timing-Static Advance (DEG):	--
Combustion System:	DI	Timing-Static (MM):	--
Aftercooler Temperature (F):	115	Unit Injector Timing (MM):	--
Crankcase Blowby Rate(CFH):	--	Torque Rise (percent)	47.0
Fuel Rate (Rated RPM) No Load (Gal/HR):	--	Peak Torque Speed RPM	1200
Lube Oil Press @ Low Idle Spd(PSI):	27.6	Peak Torque (LB.FT):	1,750.2

**Reference
Number: DM2443**

THIS ENGINE PERFORMANCE DATA IS TYPICAL OF THE ENGINES APPROVED BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA) AND THE CALIFORNIA AIR RESOURCES BOARD (CARB) FOR THE CALENDAR YEAR 1998. THIS ENGINE IS APPROVED FOR USE IN CANADA. THIS DATA MAY CHANGE SUBJECT TO EPA AND CARB APPROVED ENGINEERING CHANGES.
EPA 19981998T8CARB 19981998T8

**Parameters
Reference: TM5740**

TRUCK - ON HIGHWAY

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 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%

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 STANDARD ATMOSPHERIC PRESSURE AND TEMPERATURE IN ACCORDANCE WITH SAE J1995. 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 J1995, ISO 3046-2 & 8665 & 2288 & 9249 & 1585, EEC 80/1269 AND DIN 70020 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.

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:

MEDIUM DUTY - OUTPUT THAT SHOULD BE UTILIZED IN TRUCK TYPE VEHICLES PERFORMING SHORT HAUL PICK-UP AND DELIVERY OR OTHER URBAN TYPE SERVICES.

HEAVY-DUTY - OUTPUT THAT SHOULD BE UTILIZED IN TRUCK TYPE VEHICLES PERFORMING INTERCITY AND LONG HAUL SERVICES.

SOUND DEFINITIONS:

Date Released : 10/04/11
