

CATERPILLAR

Industrial Engine

3306

125-325 bhp/93-243 kW

2000-2200 rpm



Shown with
Optional Equipment



FEATURES

FUEL ECONOMY

Consistent performance ... variable-timed fuel injection ... broad rpm turbocharger match ... excellent fuel economy over entire operating range.

RELIABILITY AND DIESEL DURABILITY

Diesel tough components ... precise balance and conservative speed for smooth operation and long engine life.

SPECIFICATIONS

In-Line, 6 Cylinder, 4-Stroke-Cycle Diesel

Bore—in (mm)..... 4.75 (121)

Stroke—in (mm).....6.00 (152)

Displacement—cu in (L)..... 638 (10.5)

Combustion System..... Direct injection

Rotation (from flywheel end)... Counterclockwise

Capacity for Liquids—U.S. Gal (L>

Cooling System (engine only)

DITA..... 4.8(18.2)

DINA & DIT.....4.2(15.9)

Lube Oil System (refill)..... 7.3 (27.4)

Engine Weight, Net Dry (approx)—lb (kg)

Turbocharged (T)..... 2160 (980)

Turbocharged-Aftercooled <TA>..... 2220 (1007)

Naturally Aspirated (NA)..... 2050 (930)

STANDARD EQUIPMENT

Air Intake

single stage, dry air cleaner

Cooling

lube oil, jacket water pump, thermostats

Exhaust

dry, flanged outlet

Fuel

priming and transfer pumps, filter

Instruments and Gauges

instrument panel, fuel pressure and lube oil

pressure gauges, service meter

Lubricating

oil cooler, oil filter

Flywheel and Flywheel Housing, SAE No.1

FLEXIBLE APPLICATION RANGE

High torque rise... big displacement... convenient installation ... more performance for your money.

WORLDWIDE PRODUCT SUPPORT AND PARTS AVAILABILITY

OPTIONAL EQUIPMENT

Alternator

Cooling

raditor, fan drive, belt tightener, Vee belt

Exhaust

flexible fittings, mufflers, watercooled manifolds

Instruments and Gauges

electric gauges, tachometer

Lubricating

dipstick, oil filler, oil filter

Power Takeoffs

auxiliary drive pulleys, front and rear enclosed

clutches, hydraulic pump

Protection Devices

electrical and mechanical shutoffs, oil pressure and water temperature alarm switches

Starting

air, electric

CATERPILLAR

3306 INDUSTRIAL ENGINE

PERFORMANCE DATA

Turbocharged- Aftercooled

Rating Level	E			D			C			B			A		
Rated rpm	2200			2200			2200			2000			2000		
Engine Power@ rpm	335 bhp (250 kW>			330 bhp (249 kW>			325 bhp (242 kW)			295 bhp (220 kW)			275 bhp (194 kW)		
rpm	2200	1800	1500	2200	1800	1500	2200	1800	1500	2000	1700	1500	2000	1700	1500
bhp	335	331	317	330	318	300	325	302	281	295	280	261	275	259	244
lb/hp-hr	.380	.358	.339	.381	.357	.349	.380	.353	.340	.357	.350	.340	.357	.345	.340
	18.2	16.9	15.3	18.0	16.2	14.9	17.6	15.2	13.7	15.0	14.0	12.7	14.0	12.8	11.9
kW	250	247	236	249	240	226	242	225	210	220	209	195	205	193	182
a/kW-hr	231	218	206	237	217	212	231	215	207	217	213	207	217	210	207
L/hr	68.8	64.1	58.0	68.1	61.3	56.5	66.7	57.7	51.7	56.9	53.0	48.0	53.0	48.3	44.9

Turbocharged-Aftercooled

Rating Level	E			D			C			B			A		
Rated rpm	2200			2200			2200			2000			2000		
Engine Power @ rpm	325 bhp (243 kW>			310 bhp (231 kW)			300 bhp (224 kW)			275 bhp (205 kW)			260 bhp <194 kW)		
rpm	2200	1800	1500	2200	1800	1500	2200	1800	1500	2000	1700	1500	2000	1700	1500
bhp	325	323	310	310	307	281	300	285	250	275	261	213	260	230	180
lb/hp-hr	.385	.362	.362	.381	.360	.358	.380	.358	.357	.363	.355	.357	.363	.355	.360
gal/hr	17.9	16.7	16.0	16.9	15.8	14.4	16.3	14.6	12.7	14.3	13.2	10.9	13.5	11.7	9.3
kW	243	241	231	231	229	210	224	213	187	205	195	159	194	172	134
q/kW-hr	234	220	220	237	219	218	231	218	217	221	216	217	221	216	219
L/hr	67.6	63.2	60.6	63.9	59.8	54.5	61.6	55.2	48.2	54.0	50.1	41.1	51.1	44.2	35.0

Turbocharged

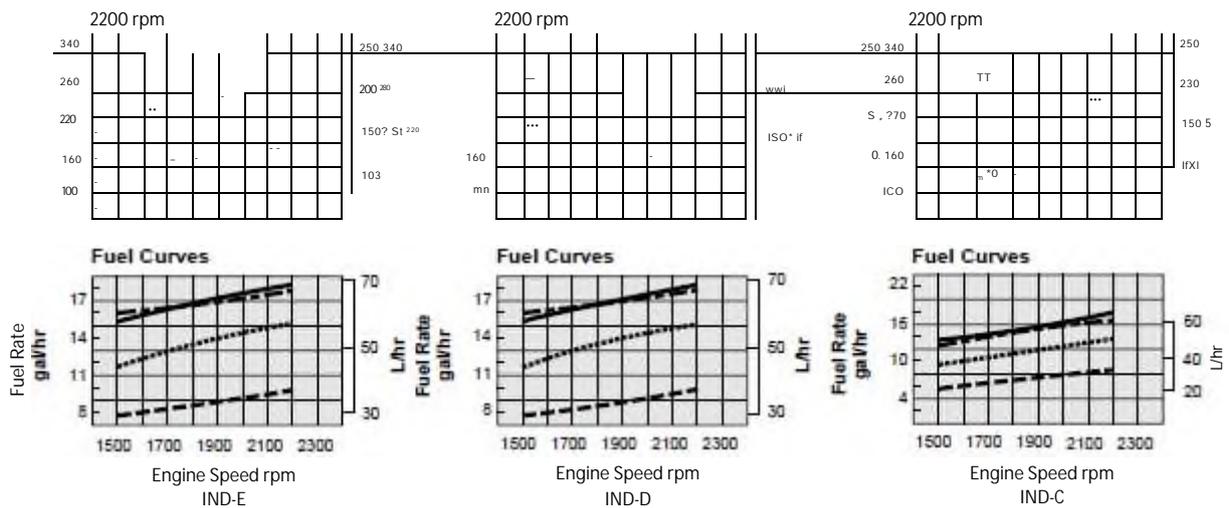
Rating Level	E			D			C			B			A		
Rated rpm	2200			2200			2200			2000			2000		
Engine Power @ rpm	275 bhp (205 kW>			268 bhp (200 kW)			249 bhp (186 kW)			225 bhp (168 kW)			190 bhp <142 kW*		
rpm	2200	1800	1500	2200	1800	1500	2200	1800	1500	2000	1700	1500	2000	1700	1500
bhp	275	255	219	268	244	205	249	214	178	225	191	169	190	165	145
lb/hp-hr	.385	.372	.373	.383	.368	.372	.378	.365	.368	.368	.365	.367	.373	.363	.365
	15.1	13.5	11.7	14.7	12.8	10.9	13.4	11.2	9.4	11.8	10.0	8.8	10.1	8.6	7.6
kW	205	190	163	200	182	153	186	160	133	168	143	126	142	123	108
q/kW-hr	234	226	227	233	224	226	230	222	224	224	222	223	227	221	222
L/hr	57.2	51.2	44.2	55.5	48.6	41.2	50.9	42.2	35.4	44.8	37.7	33.5	38.3	32.4	28.6

NA

Rating Level	E			D			C			B			A		
Rated rpm	2200			2200			2200			2000			2000		
Engine Power @ rpm	170 bhp (127 kW)			160 bhp (120 kW)			150 bhp (112 kW)			135 bhp (101 kW)			125 bhp (93 kW)		
rpm	2200	1800	1500	2200	1800	1500	2200	1800	1500	2000	1700	1500	2000	1700	1500
bhp	170	156	140	160	149	135	150	129	107	135	115	102	125	106	94
lb/hp-hr	.406	.381	.388	.401	.376	.380	.399	.378	.367	.386	.376	.368	.386	.375	.368
gal/hr	9.9	8.5	7.8	9.2	8.0	7.3	8.6	7.0	5.6	7.4	6.2	5.4	6.9	5.7	4.9
kW	127	116	104	120	111	100	112	96	80	101	86	76	93	79	70
q/kW-hr	247	232	236	244	229	231	243	230	223	235	229	224	235	228	228
L/hr	37.3	32.2	29.4	34.7	30.3	27.7	32.4	26.4	21.2	28.2	23.4	20.3	26.1	21.5	18.7

RATING CURVES

DITA
DITA
DIT
DINA



INDUSTRIAL RATINGS

IND-E

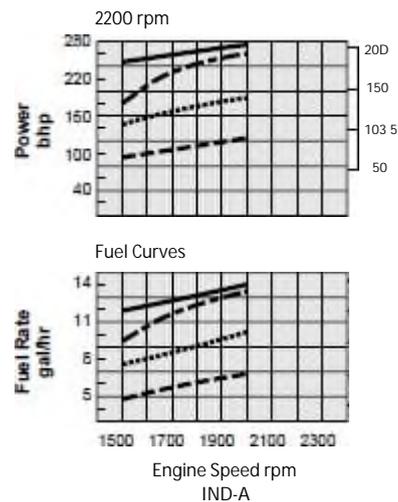
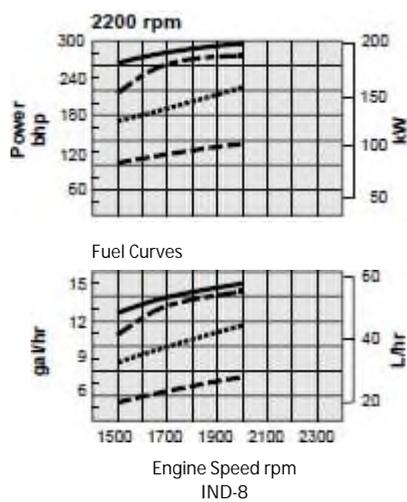
IND-E ratings are for service where speed and power are required for a short time for initial starting or sudden overload. For emergency service where standard power is unavailable. The maximum horsepower and speed capability of the engine can be utilized for a maximum of 15 uninterrupted minutes followed by one hour at intermittent or duration of the emergency.

Operating limits are:

1. Time at full load not to exceed 5% of the duty cycle or 15 minutes max.
2. Load factor limited to 35%.
3. The maximum horsepower and speed capability of the engine can be utilized for a maximum of 15 minutes followed by one hour at intermittent or duration of the emergency.
4. Typical operating hours per year is 500.

Examples of an IND-E industrial application are:

1. Standby centrifugal water pumps
2. Oil field well servicing
3. Crash trucks
4. Gas turbine starters

RATING CURVESINDUSTRIAL RATINGS/cont'd**IND-D**

IND-D ratings are for service where rated power is required by period overloads. The maximum horse-power and speed capability of the engine can be utilized for a minimum of 30 uninterrupted minutes followed by one hour at intermittent.

Operating limits are:

1. Time at full load not to exceed 10% of the duty cycle or 30 min max
2. Load factor limited to 50%.
3. Full load operation to a maximum of 30 minutes followed by one hour at intermittent.
4. Typical operating hours per year is 1500.

Examples of an IND-D industrial application are:

1. Offshore cranes
2. Runway snowblowers
3. Water well drills
4. Portable air compressors
5. Fire pump certification power (advertised power)

IND-C (INTERMITTENT)

IND-C ratings are for service where power and/or speed are cyclic. The horsepower and speed of the engine which can be utilized for one uninterrupted hour followed by one hour of operation at or below the continuous rating. Operating limits are:

1. Time at full load not to exceed 50% of the duty cycle or one hour max.
2. Load factor limited to 70%.
3. Full load operation limited to one uninterrupted hour followed by one hour of operation at or below the continuous rating.
4. Typical operating hours per year is 3000 hours.

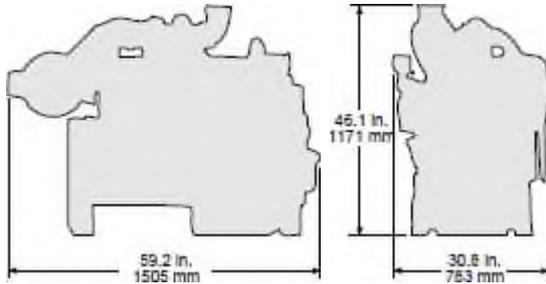
Examples of an IND-C industrial application are:

1. Agricultural tractors, harvesters, and combines
2. Truck - off highway
3. Fire pump application power (90% of certified power)
4. Blast hole drills
5. Rock crushers and wood chippers with high torque rise
6. Oil field hoisting

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CATERPILLAR

DIMENSIONS



INDUSTRIAL RATINGS

IND-B

IND-B ratings are for moderate-duty service where power and for speed are cyclic.

Operating limits are:

1. Time at full load not to exceed 80% of the duty cycle.
2. Load factor limited to 85%.
3. Typical operating hours per year is 4000 hours.

Examples of an IND-B industrial application are:

1. Irrigation where normal pump demand is 85% of engine rating
2. Oil field mechanical pumping/drilling
3. Stationary/plant air compressors

IND-A (CONTINUOUS!)

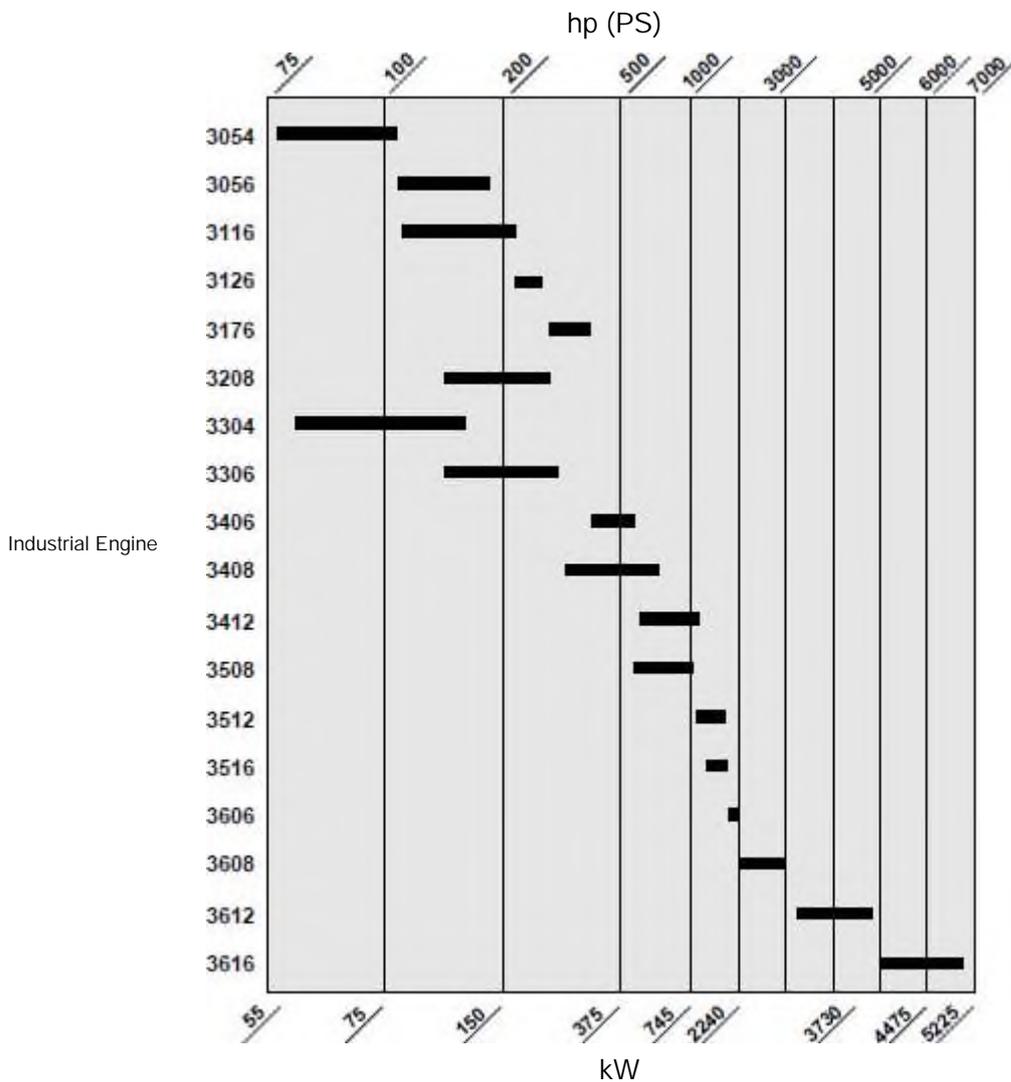
Continuous ratings are for heavy-duty service when the engine is operated at rated load and speed up to 100% of the time without interruption or load cycling. Operating limits are:

1. No hour or load factor limitation.
2. Continuous operation at full load.
3. Average load factor to approach 100%.
4. Typical operating hours per year is over 4000 hours.

Examples of an IND-A industrial application are:

1. Pipeline pumping
2. Ventilation
3. Customer specs

Match a Reliable Cat[®] Diesel to Your Application



RATING DEFINITIONS & CONDITIONS

Ratings are based on SAE J1349 standard conditions. These ratings also apply at ISO3046/1, DIN6271, and BS5514 standard conditions.

Additional ratings are available for specific customer requirements. Consult your Caterpillar dealer.

Fuel rates are based on ISO3046 and on fuel oil of 35° API (<60° F or 16° C) gravity having an LHV of 18 390 Btu/lb (<42 780 kJ/kg) when used at 85° F (<29° C) and weighing 7.001 lbs/U.S. gal. (838.9 g/L).

LEHHM18 110-95)
Supersedes LEHA8583. LEHH2214. LEHH2215.
LEHH2216. LEHH4119. IEHH623B. IEHK8S86

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