



# Locomotive Engine

# 3516

1350-1975 hp



Engine Arrangement  
May Be Shown with  
Optional Equipment

## STANDARD EQUIPMENT

- Aftercooler core, corrosion resistant coated (air side)
- Air cleaner with service indicators
- Breather, crankcase, top mounted
- Cooler, lubricating oil
- Damper guard
- Filters – fuel, left hand with service indicators;  
lubricating oil, left hand
- Flywheel
- Flywheel housing, SAE No. 00
- Front housing, two sided
- Governor, 3161, right hand, air-fuel ratio control
- Instrument panel, left hand
  - engine oil pressure gauge
  - fuel pressure gauge
  - oil filter differential gauge
  - jacket water temperature gauge
  - service meter, electric
- Lifting eyes
- Manifold, exhaust dry
- Oil filler and dipstick, left hand
- Oil pan, shallow
- Pumps, fuel and lubricating
  - fuel priming
  - fuel transfer
  - lubricating oil
- Pumps, water – jacket water
- Shutoff system, electrical (64 V DC)
  - oil pressure, water temperature, and overspeed
  - 3161 governor includes solenoid, energized to run with air inlet shutoff
- Shutoff, manual left hand
- Thermostats and housing
- Vibration damper

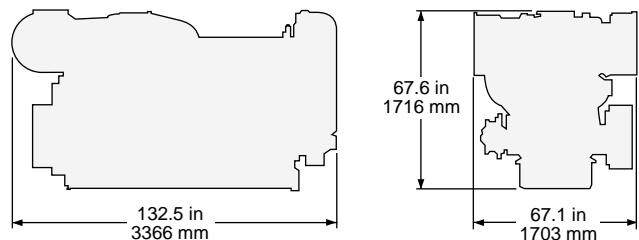
## SPECIFICATIONS

- 16 cylinder, 4-stroke-cycle diesel
- Bore—in (mm) . . . . .6.7 (170)
- Stroke—in (mm) . . . . .7.5 (190)
- Displacement—cu in (L) . . . . .4,210 (69)
- Aspiration . . . . .Turbocharged-Aftercooled
- Rotation (from flywheel end) . . . . .Counterclockwise
- Capacity for Liquids—U.S. gal (L)
  - Cooling System . . . . .61.6 (233)
  - Lube Oil System (refill) . . . . .106 (402)
- Weight, Net Dry (approx)—lb (kg)
  - Including Flywheel . . . . .16,835 (7636)

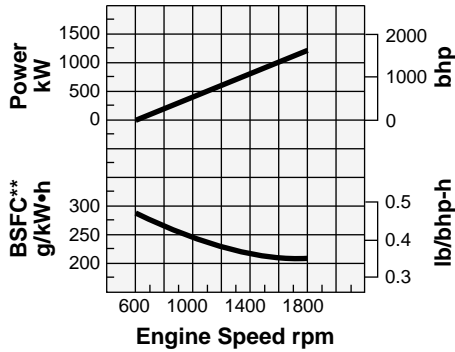
## OPTIONAL EQUIPMENT

- Air cleaners
  - heavy duty/dual element
- Exhaust fittings and manifolds
- Exhaust pyrometer and thermocouples
- Flywheel
- Gauge
  - water level switch
- Governor
  - programmable electronic engine control (PEEC)
- Oil pan
  - deep sump
- Starting systems and accessories
- Switches
  - alarm

## DIMENSIONS

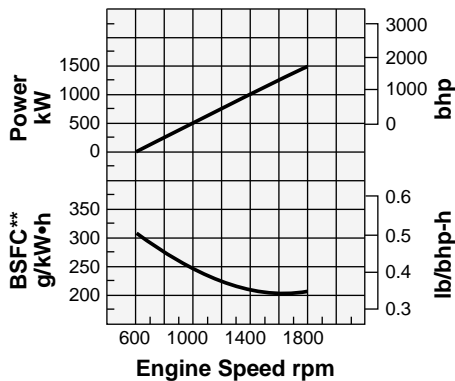


**PERFORMANCE CURVES AND DATA\***



**Mainline Operation**

Rated hp (kW) . . . . .	1,600 (1194)
Full Load rpm . . . . .	1,800
Low Idle rpm . . . . .	600
Operating Range (rpm) . . . . .	1,200
Altitude Capability — ft (m) . . . . .	10,500 (3200)



**Shunting/Branch Line**

Rated hp (kW) . . . . .	1,975 (1473)
Full Load rpm . . . . .	1,800
Low Idle rpm . . . . .	600
Operating Range (rpm) . . . . .	1,200
Altitude Capability — ft (m) . . . . .	7,500 (2300)

\* 1300 and 1500 rpm ratings also available.

\*\* Brake Specific Fuel Consumption

**RATING CONDITIONS AND DEFINITIONS**

**Ratings** are based on SAE J1349 standard conditions of 100 kPa (29.61 in Hg) and 25° C (77° F). Ratings also apply at DIN6271 standard conditions of 100 kPa (29.61 in Hg), 27° C (81° F) and 60% relative humidity.

**Fuel consumption** is based on fuel oil having an LHV of 42 780 kJ/kg (18,390 Btu/lb) and weighing 838.9 g/liter (7.043 lb/U.S. gal).

Engine equipped with fuel, lube oil, and jacket water pumps but without fan.

Intermittent is the horsepower and speed capability of the engine which can be used for about one hour, followed by an hour of operation at or below the continuous rating.

Continuous is the horsepower and speed capability of the engine which can be used without interruption or load cycling.

Additional ratings including high torque rise are available for specific customer requirements. Consult your Caterpillar dealer.