

## Specifications

	<u>Metric</u>
Number of Cylinders . . . . .	8
Bore and Stroke . . . 4 3/4 in. x 3 3/4 in.	117 x 95mm
Piston Displacement . . . . .	8.3 l
Operating Cycles . . . . .	4
Crankcase Oil Cap. . . . .	22 l
Engine Coolant Cap. . . . .	32 l
Net Weight with Std. Accessories, Dry . . . . .	874 kg

Specific ratings are shown on rear page.

## Design Features

**Bearings:** Precision type, steel backed inserts. 5 main bearings, 3.5 in. (89mm) diameter. Connecting Rod – 2.5 in. (64mm) diameter.

**Camshaft:** Single camshaft controls all valve and injector movement. Induction hardened alloy steel with gear drive.

**Camshaft Followers:** Roller type for long cam and follower life.

**Connecting Rods:** Drop forged, 6.020 in. (153mm) center to center length. Rifle drilled for pressure lubrication of piston pin. Taper piston pin end reduces unit pressures.

**Cooler, Lubricating Oil:** Tubular type, jacket water cooled.

**Crankshaft:** High tensile strength steel forging. Bearing journals are induction hardened. Fully counterweighted.

**Cylinder Block:** Alloy cast iron with removable, wet liners.

**Cylinder Heads:** Two, one each bank. All fuel lines are drilled passages. Individual intake and exhaust porting for each cylinder.

**Fuel System:** Cummins PTR Fuel system with integral, flyball type, mechanical variable speed governor. Camshaft actuated injectors.

**Gear Train:** Heavy duty, located at rear of cylinder block.

**Lubrication:** Force feed to all bearings. Gear type pump.

**Pistons:** Aluminum, cam ground, with two compression and one oil ring.

**Piston Pins:** 1.375 in. (35mm) diameter, full floating.

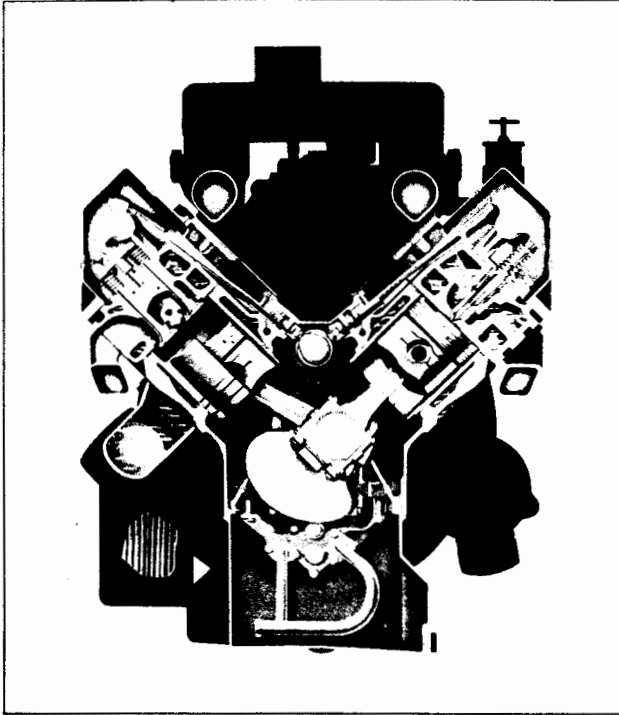
**Valves:** Dual intake and exhaust each cylinder. Each valve 1.625 in. (41mm) diameter.



Listed under Underwriters' Laboratories, Inc., reexamination service for fire protection applications.

Listed by Associated Factory Mutual Fire Insurance Companies for fire protection applications.

Listed under Underwriters' Laboratories of Canada reexamination service for fire protection applications.



### Big Displacement Design Features

- 1 **Internal Fuel Lines:** Drilled passages in cylinder heads eliminate threaded fuel line connectors and external lines.
- 2 **Large Intake and Exhaust Passages:** Minimize restriction of air and exhaust flow. Allows maximum air charge for clean burning, top economy.
- 3 **Overhead Valves:** Precision machined from high strength steel. Intake and exhaust valves are of stainless steel for high temperature strength and corrosion resistance.
- 4 **Open Type Combustion Chamber:** Gives most efficient combustion . . . most power from each gallon of fuel.
- 5 **Replaceable Wet-type Cylinder Liners:** Dissipate heat faster. Liners are easily replaced without reboring block.
- 6 **Conventional Push Rod and Rocker Lever Arrangement:** Activates valves and injectors from a single camshaft. Roller type camshaft followers are used for long life.
- 7 **Cam-ground Pistons:** Assure perfect fit at operating temperatures.
- 8 **Alloy Cast Iron Cylinder Block:** Follows proven design and material specifications to achieve maximum durability.
- 9 **Large Volume Water Passages:** Give even flow of coolant around cylinder liners, valves, and injectors to draw excess heat from combustion chamber. Centrifugal pump circulates large volumes of water.
- 10 **Connecting Rods:** Forged from high tensile strength alloy steel. I-beam section gives maximum strength. Large diameter piston pins are full-floating. Tapered piston pin end used for superior load distribution and maximum piston crown material.
- 11 **Counterweighted Crankshaft:** Precision machined from high tensile strength steel forgings. Bearing journals are induction hardened for long life.

### LISTED AGENCY RATINGS

#### Underwriters' Laboratories:

116 HP @ 1750 RPM  
 135 HP @ 2000 RPM  
 145 HP @ 2200 RPM

#### Factory Mutual:

116 HP @ 1750 RPM  
 135 HP @ 2000 RPM  
 145 HP @ 2200 RPM

#### Underwriters' Laboratories of Canada:

116 HP @ 1750 RPM  
 135 HP @ 2000 RPM  
 145 HP @ 2200 RPM

The agency-approved horsepower ratings shown are already derated for fire pump service and available for driving the fire pump at sea level altitude (29.92 in. Hg) and 60°F. intake air temperature. The only additional deration necessary is for higher ambient temperatures and elevations as follows: 3% for each 1000 feet above sea level and 1% for each 10 degrees above 60°F. in accordance with National Fire Protection Association Pamphlet No. 20.

### Installation Considerations

Maximum raw water pressure must not exceed 50. Minimum acceptable raw water flow at 90°F. raw water temperature and 100°F. ambient air temperature shall be at least 32 G.P.M. at the 2200 RPM listed rating.

Ventilation air required for engine combustion is CFM at 2200 RPM rating. This is for engine combustion only and does not take into consideration additional air required for normal room cooling.

**Cummins Engine Company, Inc.,** Columbus, Indiana 472  
**Cummins Americas, Inc.,** Columbus, Indiana, U.S.A.  
**Cummins Diesel Australia,** Ringwood, Australia  
**Cummins Diesel International Ltd.**  
**Cummins Engine Company Ltd.,** London, England



