

# Dodge Diesel breakthrough



**New Dodge 7DV - First Australian  
truck with high speed V8 Diesel**

# Dodge Diesel breakthrough with Cummins high-speed V8 power

Dodge goes further ahead in the heavy-duty diesel class with a truck that combines Chrysler engineering leadership in truck transport features, and a brilliant new Cummins V8 diesel engine of advanced concept yet proven power, efficiency and economy.

A new era in diesel power has commenced with the introduction of the Dodge 750 Series trucks. These are not just new vehicles, but a new concept in truck transportation on the American continent.

Diesel power has naturally proved a steadily increasing share of the heavy-duty truck market due to its rugged dependability, low maintenance costs and excellent fuel economy. However, to improve the diesel has required vast developments of both cost and weight over past engines which resulted in heavy vehicle design and reduction of equipment payload that could be hauled.

## SPECIAL BLAST

To overcome these problems, designers went far beyond producing an advanced performance diesel. They had first dealt with the inherent disadvantages of diesel fuel and weight and to do this by a 20% increase in torque over Cummins' and a 10% increase in BHP. A 10% cost — 5% less weight was achieved with remarkable economy.

The new design is all of configuration, large displacement, without increased overall dimensions. This achieving of horsepower high power to weight ratio. The compact design also allows engine installation into the passenger compartment—reduced in weight by eliminating an air pump, exhaust fan across the full width of the cab.

## LOW PISTON SPEED

Substantially, the new design permits high rotational speeds without increasing torque output. Because of the over-square bore-stroke concept this results in increased piston force, greater low speed torque and increased life. 1000 RPM resulting in increased life expectancy because the piston speed is lower than the piston speed in the prime case of engine wear.



Detail of the Cummins 6B-190 demonstrates compact, clever design. New placement of auxiliary components.

In fact, each stroke in the Cummins V8 travels a far shorter distance than those of comparable size speed long stroke diesel engines—no such as 6B's 10.5 in stroke ratio!

Yet another attribute is the fuel injection system, atomized, high pressure fuel lines.

## CAMSHAFT-CONTROLLED INJECTION

A gear fuel pump operates a variable fuel pressure and the function of timing and timing per performs by camshaft-controlled operation—timing control via or become in-cylinder air and the pump stops automatically to wear and fuel economy.

This system, together with an engine design incorporating four valves per cylinder (two int., two exhaust) and highly advanced rear type auxiliary injection valves, increases breathing and combustion efficiency for outstanding fuel economy.

With other inherent V8 advantages such as reduction of vibration due to the balanced quality of rotating masses—approximating the unbalanced but cancelling out—the Cummins V8 has the potential to easily surpass all the benefits of conventional long-stroke diesel engines.

## FASTER 4 TO 6 TIMES

Low weight and high horsepower output result in substantial advantages in engine time from point A to point B with increased payload.

Developing 160 hp at 1,500 rpm, the Cummins V8 produces 600 peak torque at 700 rpm, allowing power to be increased to the rear wheels by the increased gear reduction due to the transmission of large torque torques through the drive shaft of the power train. The excellent combination of lower compression and forward rear axle are combined in the Dodge V8 to insure maximum performance, durability and stop ability.

With the new Cummins, the Dodge 750 Series trucks, with all their normal advantages of dependability, power, load-carrying and job-rated ability, go even further ahead in their field.

Overall, Dodge 750 PERFORMANCE is up 20 per cent, in High RPM and 10 per cent, in Low RPM over the previous 1900 and 1750 models.

## EXTRA BENEFITS

The new 750 Series also features turbochargers, AIR FILTER by Rockwell—new oil separator, ALTERNATOR—new 60 amp, 12 VOLT, COMPRESSOR gear driven and mounted in the manifold canopy—the STEP TANK of 100 gallon capacity, mounted forward to reduce maximum weight transfer to the rear axle—NEW LIGHTS—NEW HOSES at 3/8" ID, including an hydraulic brake as standard equipment—making the Dodge 750 a versatile vehicle, in any class—one you can afford to operate with anything new!

## UNIQUE INJECTION SYSTEM:

The Cummins Diesel uses a fixed size opening in a simple injector, and variable pressure from the fuel pump to meter the fuel charge. Pressure is regulated by the throttle and/or governor. The time interval during which the metering orifice is uncoupled is determined by the engine speed. This unique system provides the following major benefits.

- Greater simplicity as a simple injector accomplishes both metering and injection functions.
- Vary atomized fuel metering, high pressure injection, atomized injection timing.
- Fuel is injected and ignited at the same piston position at all engine speeds.
- Eliminates troublesome timing governors and high pressure fuel lines.
- Is self adjusting and can burn all grades of diesel fuel without recalibration.
- As injection takes place excess fuel is returned by the common scavange manifold . . . carrying away injector heat with it to the fuel tank where it helps lower fuel viscosity.

## CUMMINS V8 ENGINE FEATURES:

- Cummins exclusive PT fuel system provides long trouble-free life. It does not require timing adjustments.
- Internal engine fuel lines eliminate external tubes and lines. This feature cuts maintenance, labour and costly replacement of tubes and fittings.
- Dual intake and exhaust valves provide free breathing for optimum air to fuel ratio and maximum fuel economy.
- Exhaust valve seats exhaust valve and head life.
- Single depth, hardened camshaft and roller type cam followers give long camshaft and follower life.
- Replaceable wet type cylinder liner takes heat away faster. This feature also makes "in line" over-hauls practical by eliminating the need to rebore the cylinder block.
- Cast ground aluminum piston provides perfect fit at operating temperatures, and top ring groove insert extends life.
- Crankshaft has induction hardened journals. Rigid design provides long life and also allows multiple bearings.
- Flat guard painted paper oil filter provides the longest oil change periods and maximum engine protection.

The Cummins-Cummins engine plant in the U.K. especially built to produce the new Cummins diesel engines.



## DODGE SERIES 7 DIESEL SPECIFICATION

### WEIGHT RATINGS:

	MODEL 760DV 160"	MODEL 775DV 175"
Wheelbase - - - - -		
Front axle, unladen weight - -	3,096 lbs.	3,091 lbs.
Rear axle, unladen weight - -	3,423 lbs.	3,997 lbs.
Total tare weight - - - - -	6,718 lbs.	9,088 lbs.
Available for body and payload		
G.V.W. - - - - -	16,400 lbs.	16,113 lbs.
G.C.W. - - - - -	25,080 lbs.	25,900 lbs.

### CHASSIS DIMENSIONS:

	MODEL 760DV	MODEL 775DV
Wheelbase - - - - -	(W.B.) 160"	175"
Overall length including bumper	(O.A.L.) 230"	260"
Back of cab to rear axle - - -	(C.A.) 91"	106"
Rear axle to end of frame - - -	(A.F.) 35"	70"
Frame length from back of cab	(O.F.) 128"	176"
Bumper to front axle - - - - -	(B.A.) 55"	80"
Bumper to back of cab - - - -	(B.C.) 164"	194"
Height, top of chassis frame—		
Rear loaded - - - - -	(R.H.) 34"	34"
Minimum road clearance Rear		
axle (loaded) - - - - -	(R.C.) 11"	11"
Maximum width (henders) - - -	80"	80"
Overall width—rear axle - - -	(O.W.) 94"	94"
Track—Front wheels - - - - -	(T.W.) 67"	67"
Rear wheels - - - - -	(T.W.) 72"	72"

**FRAME:** Pressed steel channel. Dimensions 10" x 3" x .312" ( $\frac{5}{16}$ ") with 9-38" x 2-89" x -187" ( $\frac{5}{16}$ ") reinforcement. Frame width 34" SAE Standard.

**ENGINE:** Diesel 6 cylinder; Bore 4-625"; Stroke 3-50"; Displacement 470 cu.ins.; Horsepower 185 b.h.p. @ 3,300 r.p.m.; Torque 328 lbs.ft. @ 1,800 r.p.m.; Comp. Ratio 17-4:1; Dual intake and exhaust valves, exhaust and inlet valves have heat resistant, stainless steel heads, stainless inlet valve inserts. Mechanical governor built integral with fuel pump.

**LUBRICATION:** Force feed Gear-type pump in oil pan. Full-flow by pass oil filters. Engine oil capacity 40 pints including filters.

**COOLING SYSTEM:** Fin and tube-type radiator. Frontal area 585 sq.ins. 20" fan. Total cooling system capacity 53 pints including 2 gallon Auxiliary tank. Electro-chemical corrosion resistor.

**ELECTRICAL SYSTEM:** Electrical supply by 42 amp. alternator, 12 volt 200 amp.hr. battery. Turn signal lights front and rear. Four sealed headlights. Dual rear lights. Front parking lights. Two-speed windscreen wipers.

**FUEL SYSTEM:** Injectors, exclusive Cummins PT cam actuated metering type. Paper element internal air cleaner. Fuel line filter. Dual step tanks, 100 gallons total capacity.

**CLUTCH:** 14" diameter heavy duty single plate dry disc incorporating spring centre hub vibration damper. Hydraulic actuation.

**TRANSMISSION:** Five-Speed synchromesh. Ratios: 1st, 7-08; 2nd, 4-37; 3rd 2-72; 4th, 1-62; 5th, 1-00; Reverse, 7-50. P.T.O. opening both sides.

**PROPELLER SHAFT:** Two-piece shaft with centre bearing.

**AXLE FRONT:** Capacity 7,000 lbs.

**AXLE REAR:** Capacity 18,500 lbs. Ratios 7-10 and 9-01. Full floating double reduction 2-speed hypoid with four pinion differential. Control by electric shift.

**BRAKES, HAND:** External contracting on transmission. Quick release "Orscheln" handbrake lever under R.H. side instrument panel. Handbrake lining area 99.6 sq.ins.

**BRAKES, SERVICE:** Type: A/hydraulic. Front brakes, 16" dia. single cylinder. Rear, 16" dia. two cylinder, floating shoe. Total lining area 617-4 sq.ins.

**SPRINGING:** Semi-elliptic. Front 48" x 3". Rear: main, 56" x 3"; auxiliary, 43" x 3". Wrapped fixed eye front springs. Capacities, Front 3,100 lbs. Rear 8,200 lbs.

**STEERING:** Worm and 3 tooth roller. Ratio in gear 28-0:1. Safety dished 20" dia. steering wheel. Turning circles: 7600-65', 7750-57'.

**WHEELS:** 20 x 7-00 cast spaks.

**TYRES:** 9-00 x 20 x 12.

**STANDARD EQUIPMENT:** Cab and chassis; front bumper; spare wheel; tool kit; jack; Dual step tanks.

**OPTIONAL EQUIPMENT:** Road lag tyres; Spare tyre and tube—Vac. Hydraulic Brakes. Rear axle ratio 6-00/7-61:1.

**FINISH:** Frame and wheels, black. Bumper white, grille and headlight bezels, side flash—iron gray metallic.

**INSTRUMENTS:** Tachometer, speedometer, ammeter, oil pressure, temperature and fuel gauges, air pressure gauge.

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