

RUN HARD. DREAM BIG.



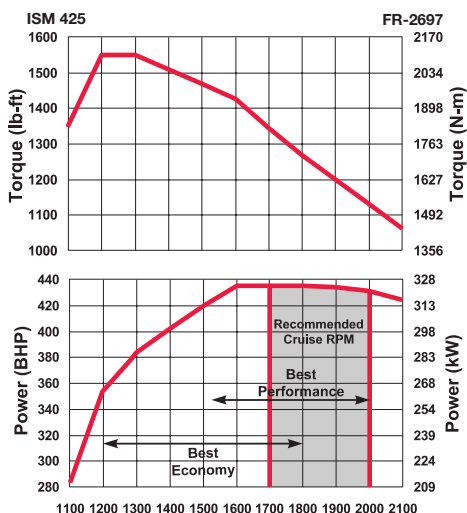
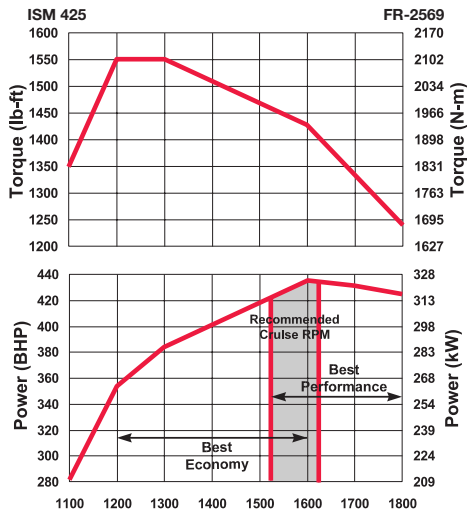
ISM 425

PERFORMANCE

Performance at SAE standard J1995 conditions of 300 ft (90 m) altitude (29.61 in. Hg [100 kPa] barometric pressure), 77 °F (25 °C) air intake temperature and 0.30 in. Hg (1 kPa) water vapor pressure with No. 2 diesel fuel will be within 5% of that shown at the time of engine shipment. Actual performance may vary with different ambient conditions.

Curves represent performance of the engine with fuel system, water pump, lubrication oil pump, air compressor (unloaded), and with 10 in. H₂O (250 mm) inlet air restriction and with 2.0 in. Hg (50 mm) exhaust restriction; not included are alternator, fan, optional equipment and driven components.

Within the recommended cruise range, gear to cruise at lower engine speeds for best economy, higher engine speeds for best performance.



SPECIFICATIONS

Advertised Horsepower	425 bhp	(317 kW)
Peak Torque	1550 lb-ft	(2102 N-m)
Governed Speed	1800/2100 rpm	
Clutch Engagement Torque	700 lb-ft	(950 N-m)
Number of Cylinders	6	
Bore and Stroke	4.9x5.8 in	(125x147 mm)
Engine Displacement	661.0 cu in	(10.8 L)
Compression Ratio	16.3:1	
Operating Cycles	4	(4)
Oil System Capacity	10.3 U.S. gal	(39 L)
Coolant Capacity	12 U.S. qt	(11.3 L)
Net Weight with Std. Accessories, Dry	2070 lb	(938 kg)
Installation Drawing Number	3170317	

DESIGN FEATURES

The ISM 425 retains the characteristics that made the Cummins M11 Plus a world leader - superior fuel economy, low maintenance costs, and high productivity.

Variable Wastegate Turbocharger System - Patented Four-Step Controller design optimizes turbocharger performance at any speed and load for maximum engine response and driver satisfaction.

Auto-Tensioning Belt Drive - Self-adjusting for optimum tension and belt life. Serpentine belt drives both the fan and alternator.

Extended Service Intervals - 10-micron LF9001 filter from Fleetguard allows up to 20,000 mile (32,187 km) oil change intervals in normal-duty applications for the ISM 425.

Cylinder Liners - Patented mid-stop design with advanced surface finish provides longer life and minimizes oil consumption. Fully replaceable for faster, easier rebuilds.

C Brake™ by Jacobs®* - The new Interact System is designed for easy integration of the Cummins C Brake by Jacobs, ensuring that the engine and engine brake work seamlessly together.

Water-In-Fuel Sensor - Optional fuel filter combines water separator with water-in-fuel sensor to alert drivers to contamination that could cause performance problems.

REPTO - The Rear Engine Power Take-Off option has advanced electronic controls.

Smart Accessories - Optimize usage of fan and air compressor for increased fuel economy.

Cylinder Head - One-piece cylinder head made from premium casting increases block strength.

Piston - Articulated design featuring forged steel crown and aluminum skirt allows for higher top ring position optimizing fuel efficiency.

High-Capacity ECM - New space-efficient Electronic Control Module packs ten times more memory and ten times more processing power into a smaller unit. Expanded memory lets you add features at a later date without changing the module. Located for easy accessibility. Enhances capabilities to use Cummins information products for management reporting and diagnostics.

Electronic Features - The Interact system includes full-authority electronics and is fully customizable. Features include diagnostics, asset protection, PTO, trip information, road speed governing, adjustable low idle speed, engine protection system, choice of engine governors, SAE J1587 and J1939 data links, real-time clock, Driver's Reward, Anti-Theft, and idle management features.

*C Brake is a trademark of Cummins Engine Co. Jacobs is a registered trademark of Jacobs Vehicle Systems.

CUSTOMER SUPPORT

Service Network - Cummins engines are backed by over 3,500 authorized service outlets with strategic locations in every state and province.

Customer Assistance Center - 1-800-DIESELS (1-800-343-7357). Cummins specialists provide technical assistance, service locator and product literature 24 hours/day, 365 days/year.



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ISM 425



APPLICATION AND GEARING RECOMMENDATIONS

The ISM 425 engine is ideal for on-highway applications hauling up to 80,000 lb GCW.



The engine delivers outstanding performance in the 1200-1800 rpm range. For an optimal balance between performance and fuel economy gear to cruise in the 1525-1625 RPM range. For cruise speeds greater than 65 MPH it is not recommended to gear taller than 1525 RPM @ 65 MPH.

The chart below lists some of the acceptable combinations for top gear road speeds between 58 and 68 MPH with approximate engine speeds in the 1500-1700 RPM range. These gearing combinations provide the full advantage of the performance and fuel economy benefits of the ISM 425. For gearing recommendations specific to your application consult your truck dealer or Cummins distributor.

Engine Cruise RPM with 516 rev/mile Tires

Transmission	9/10	9/10	9/10	9/10
Top Gear Ratio	Direct	Direct	0.74	0.74
Rear Axle Ratio	2.85	3.06	3.73	3.90
MPH	60	---	1579	---
	62	1519	1631	---
	65	1593	1710	1542
	68	1667	---	1613
			1613	1686

VOCATIONAL RECOMMENDATIONS

Vocational applications require special attention to low speed maneuverability and startability. Therefore, the overall gear reduction (lowest transmission gear X rear axle ratio) for mechanical transmissions should be approximately:

On/off highway 60:1

Dump 70:1

Mixer 100:1

It is recommended to gear vocational trucks to operate in the 1700-2000 RPM range. For automatic transmission and other specific gearing recommendations, consult your truck dealer or Cummins distributor.

Engine Cruise RPM with 501 rev/mile Tires

Transmission	8LL	8LL	9MLL	9MLL
Top Gear Ratio	0.74	0.74	0.73	0.73
Rear Axle Ratio	4.88	5.29	4.88	5.38
MPH	55	1658	1797	1636
	60	1809	1961	1785
	62	1870	2027	1844
	65	1960	---	1933
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If this 2100 RPM governed engine is used in linehaul applications follow the linehaul rating gearing recommendations.

Cummins has always been a pioneer in product improvement. Thus specifications may change without notice. Illustrations may include optional equipment.