

# NAVISTAR®

ENGINE GROUP



HEAVY-DUTY POWER | HEAVY-DUTY DURABILITY

# MAXXFORCE® 15

ALWAYS PERFORMING.

# MAXXFORCE 15

## ALWAYS PERFORMING.

Navistar's MaxxForce® 15 liter engines share the already proven and advanced technology with the MaxxForce 11 & 13 engines, but are built for customers who have heavier loads or travel steeper terrain. The MaxxForce 15 has revolutionized how the world looks at Class 8 commercial diesels.

Designed specifically for International® brand heavy vehicles, with a combination of technologically advanced materials and components, these engines deliver outstanding fuel economy, excellent power characteristics and an exceptionally smooth and quiet ride. And they're backed by the largest dealer and service network in North America.

Those advantages ensure your business will be "Always Performing."

## FUEL EFFICIENT TECHNOLOGY.

MaxxForce 15 liter engines combine the most advanced engine technologies to deliver more torque and responsiveness at low rpm for outstanding fuel efficiency in heavy-duty vehicles. A high-pressure common-rail fuel system, dual sequential turbos, effective heat-management system and low-friction design convert the highest percentage of your fuel into power you can use. And that adds up to low cost of ownership.

## BIG POWER IN TOUGH TERRAIN.

One look at the MaxxForce 15 liter power curves tells the story. Dual sequential turbos and a high-pressure injection system help deliver peak torque at 1,000 rpm versus typical 1,200 rpm for most competitors. All the power you need, whenever and wherever you need it.

## PROVEN PERFORMANCE:

The MaxxForce 15 uses gray iron design that is proven in over 1.2 million on-road units.

## EASE OF SERVICEABILITY.

Ease of service also sets these new model MaxxForce 15 liter engines apart, because uptime for you is top of mind for us. All key systems and components are easily accessed, from valve cover to oil filter to fuel filter. A single ECM and fewer electrical connections throughout mean less diagnostic and maintenance time.



2010 Emissions Solution: Lower Operating Costs, Less Hassle

## MAXXFORCE ADVANCED EGR

### FULL COMPLIANCE WITHOUT COMPROMISE.

Navistar's MaxxForce Advanced EGR emissions technology prevents NOx from forming in-cylinder. Four key technologies make it work, so you don't have the taxing work of sourcing urea, filling a urea tank and maintaining additional components. The result is optimal performance and low cost of ownership.

### COMPONENT LIFE INCREASED

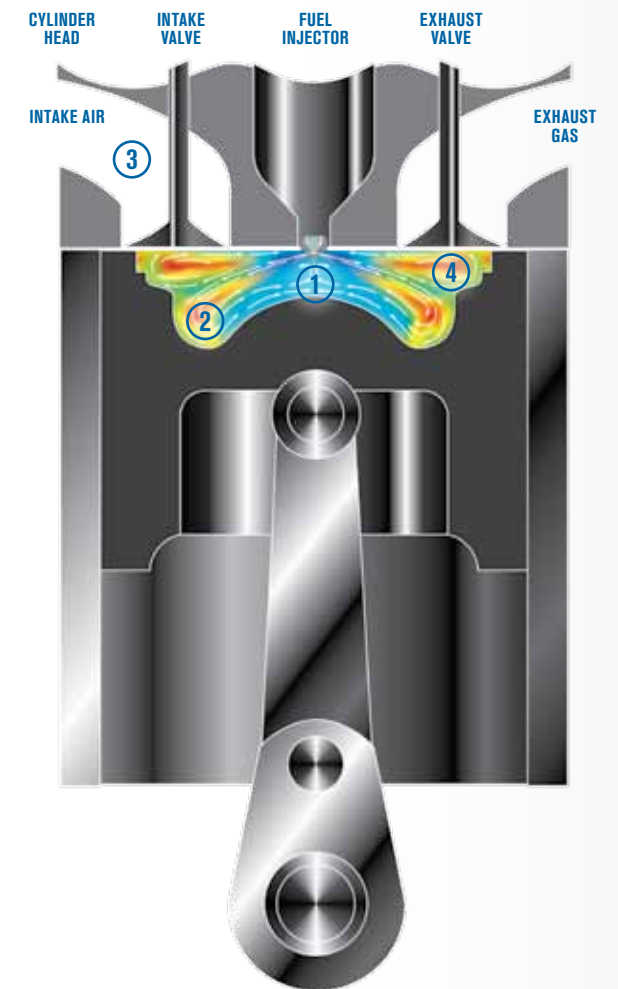
Advanced design delivers advanced EGR results. The floating core of the EGR cooler assures extended component life.

- Torsional stress and thermal cycling are the two issues that diminish cooler life – the floating core design neutralizes these stress factors
- The cast aluminum housing reduces corrosion

### VALUE AND RELIABILITY REDEFINED

The EGR valve uses advanced electronics instead of pneumatic or hydraulic systems for more precise control of exhaust gas recirculation.

- The valve is able to increase transient air response
- OBD capable and ready
- Water cooled
- Brushless DC motor increases life and reduces motor maintenance
- Electronics protected to 302° F (150° C)
- Positive opening and closing – no spring wear or fatigue to compromise function



TO LEARN WHY MAXXFORCE ADVANCED EGR IS THE BEST PATH IN 2010 AND BEYOND, VISIT [WWW.MAXXFORCE.COM/2010](http://WWW.MAXXFORCE.COM/2010).

# TECHNOLOGIES DELIVERING PRODUCT EXCELLENCE.

## HIGH-PRESSURE COMMON-RAIL FUEL SYSTEM

A major key to MaxxFORCE® 15 liter engine's performance is its advanced fuel system, which features injection pressures of 2,200 bar (approximately 32,000 psi), for precise fuel metering, injection timing and optimal combustion. The results: better fuel efficiency, quieter operation and in-cylinder reduction of emissions.

- High pressure fuel delivery at low RPMs improves performance and fuel economy
- Engine can operate at full power when component friction is lowest
- Multiple injection events ensure low NVH and clean operation
- Tenths of a percentage improvement and fuel economy means huge annual savings for Class 8 truck operations

## ADVANCED AIR-MANAGEMENT SYSTEM

MaxxFORCE 15 liter engines use dual sequential turbochargers to deliver powerful performance from stop light to mountaintop.

- The smaller, primary turbo responds quickly for immediate take-off at low engine speeds, and the larger, secondary turbo provides peak power at higher speeds and on steep grades
- Peak torque is achieved at 1,000 rpm holds steady to around 1450 rpm, a much lower engine speed than other big bore engines. This reduces gear-shifting needs uphill and allows for shifting at lower speeds when accelerating
- This system offers performance and reliability without the complexity of a variable geometry turbocharger

## CONNECTING RODS

Designed for heavy duty and heavy haul, the MaxxFORCE 15 incorporates the only four-bolt connecting rod design in the industry. This assures extraordinary strength for these key power generation components.

- Outstanding strength and resilience
- Key contributor to the million-mile-plus design life of the MaxxFORCE 15
- Four-bolt design assures the clamping force and rigidity required for the extreme loads and terrain for which the 15 liter is designed



## ADDITIONAL ADVANTAGES:

- Fewer electrical connections increase system reliability.
- Multiple injection events provide optimum fuel/air mixture for more complete combustion, better fuel efficiency and lower noise.
- Premium overhead cam and rolling element valvetrain system reduce friction and operational load to maintain peak efficiency across the power band.
- Interstage cooling between the turbos increases air density to maintain peak power as speeds increase.
- Premium foam-molded wire harness secures wiring and connections for increased reliability and durability.
- Lower noise and reduced emissions.
- Isolated oil pan to reduce engine noise.

## MAXXFORCE 15L ENGINE BRAKE

A Standard on the MaxxFORCE 15L engine is a "best-in-class" engine brake with braking horsepower rated above 600bhp. A properly used engine brake helps a driver maintain control of the vehicle when it is necessary to control speed while driving down very steep grades and long slopes, reducing wear on the service brakes lowering maintenance costs.

HEAVY-DUTY POWER • HEAVY-DUTY DURABILITY

# MAXXFORCE 15

## MAXXFORCE® 15 PERFORMANCE DATA

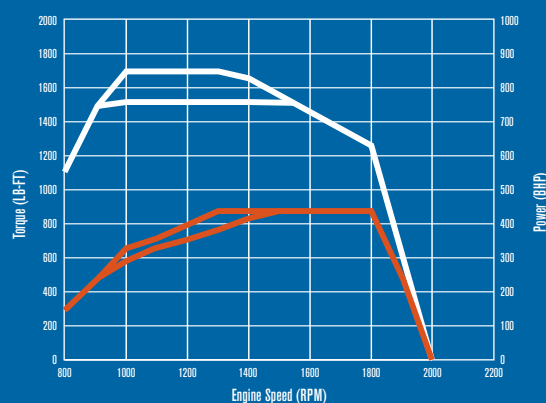
Horsepower (bhp @ 1600 rpm)	Torque Peak (lb-ft @ 1000 rpm)	Gov. Speed (rpm)	Clutch-Engagement Torque (lb-ft @ 800 rpm)
435	1550/1750	1800	1150
450	1550	1800/2100	1150
450	1550/1750	1800	1150
450	1750	2100	1150
500	1650	1800/2100	1150
500	1650/1850	1800	1150
500	1850	1800/2100	1150
550	1850	2100	1150

## MAXXFORCE 15 SPECS

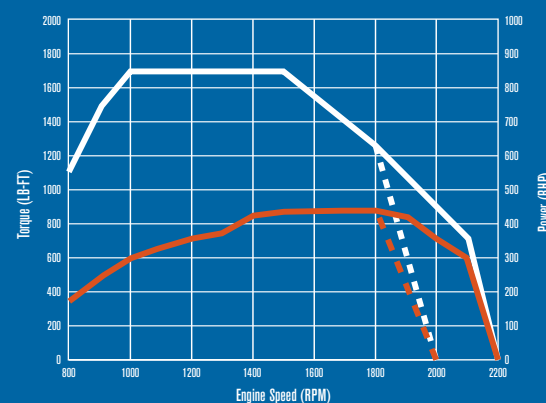
Engine Type	Diesel, 4-cycle
Configuration	Inline 6-cylinder
Displacement	15.21 L (928.17 cu. in.)
Bore and Stroke	5.4 in. & 6.75 in. (137 mm & 171 mm)
Compression Ratio	16.0:1
Aspiration	Dual Sequential Turbochargers, Intercooler & Aftercooler
Combustion System	Direct Injection
Lubricating System Capacity	40 Quarts (38 L)
Total Engine Weight (dry)	3,150 lbs. (1,430 kg)
Dimensions	L 56.6 in. x W 49 in. x H 51 in. (L 146 cm x W 124 cm x H 129 cm)
Valves	4 Valves Per Cylinder, Overhead Cam Actuated
Design Life	1,200,000 Mi (1,931,000 km)

### MAXXFORCE 15 PERFORMANCE

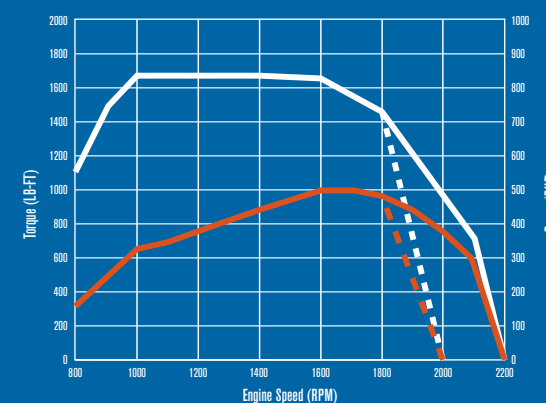
435 HP / 1550/1750 lb-ft



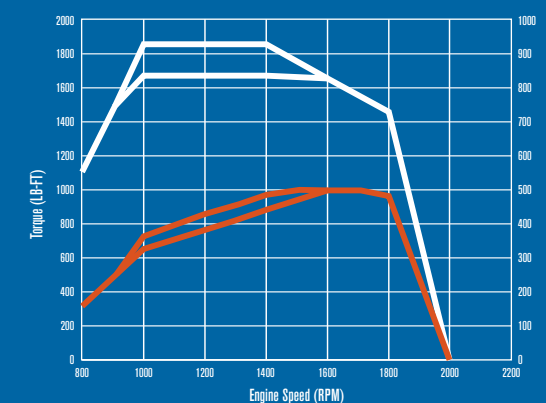
450 HP / 1550 lb-ft



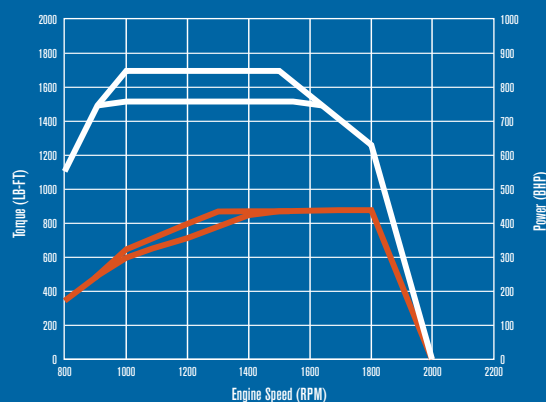
500 HP / 1650 lb-ft



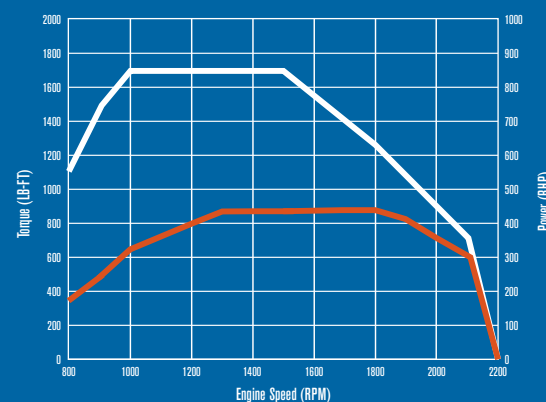
500 HP / 1650/1850 lb-ft



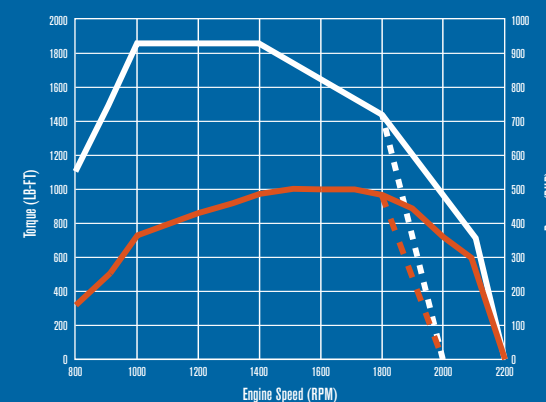
450 HP / 1550/1750 lb-ft



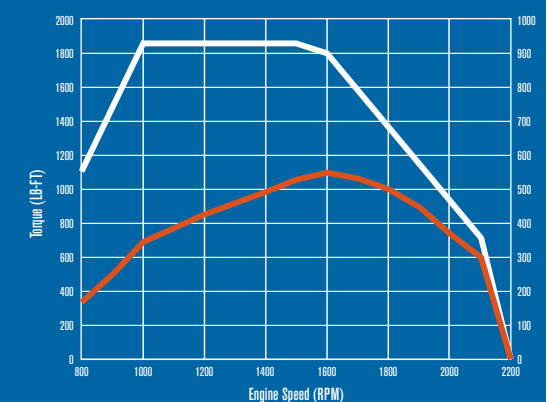
450 HP / 1750 lb-ft



500 HP / 1850 lb-ft



550 HP / 1850 lb-ft



SEVERE SERVICE TORQUE RATINGS (2100 RPM)

ON-HIGHWAY TORQUE RATINGS (1800 RPM)

SEVERE SERVICE HORSEPOWER RATINGS (2100 RPM)

ON-HIGHWAY HORSEPOWER RATINGS (1800 RPM)

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**NAVISTAR**<sup>®</sup>  
**ENGINE GROUP**

**MAXXFORCE**<sup>®</sup>

ALWAYS PERFORMING.

**WITH NAVISTAR ENGINE GROUP AND MAXXFORCE ENGINES, YOU GET PRODUCTS  
AND AN ORGANIZATION BEHIND THEM THAT ARE ALWAYS PERFORMING.**

For more information on the MaxxForce<sup>®</sup> 15 engines, visit us at [www.MaxxForce.com](http://www.MaxxForce.com). MaxxForce<sup>®</sup> Advanced Diesel Power is the signature brand for Navistar engines for a wide array of commercial vehicle applications. MaxxForce engines are designed, engineered and built to deliver what you expect—power, performance, reliability and durability.

[www.MaxxForce.com](http://www.MaxxForce.com)