



**OUTSTANDING FUEL ECONOMY | EXCELLENT POWER CHARACTERISTICS  
EXCEPTIONALLY QUIET AND SMOOTH | HIGH STRENGTH WITHOUT ADDED WEIGHT**

**MAXXFORCE**  
BIG BORE DIESEL POWER®

**BIG  
BORE**

**ALWAYS PERFORMING.**

# MAXXFORCE 11 and MAXXFORCE 13

## ALWAYS PERFORMING.

To succeed in a competitive business, you need an engine and an organization behind it that are always performing and working for you. Navistar's MaxxForce® Big Bore engines have 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, an exceptionally smooth and quiet ride, and high strength without added weight. And they're backed by the largest dealer and service network in North America.

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

## GOES THE EXTRA MILE. PER GALLON.

MaxxForce Big Bore engines combine the most advanced engine technologies to deliver more torque and responsiveness at low rpm for outstanding fuel efficiency. A high-pressure common-rail fuel system, dual staged turbos, innovative 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 FROM STOP SIGN TO RIDGELINE.

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

## MAXIMUM RELIABILITY AND DURABILITY.

MaxxForce Big Bore engines are built on a block of compacted graphite iron, a material far stronger than conventional grey iron. CG Iron provides superior strength, less fatigue and years and years of reliable service.

## QUIETLY GOES ABOUT YOUR BUSINESS.

The advanced, ribbed CG Iron block and high-pressure multi-shot injection system combine to produce 30% lower noise inside the cab and much lower vibration for increased driver comfort. It's also startlingly quiet outside, at idle and in action. The smooth, quiet ride of the MaxxForce Big Bore will take you by surprise. See and hear the difference at [www.MaxxForceBigBore.com](http://www.MaxxForceBigBore.com).

## IMPROVED SERVICEABILITY.

Ease of service also sets these new model MaxxForce Big Bore 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.

Unlike SCR after-treatment systems that put the burden of compliance on the vehicle owner, 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.

#### 1 ADVANCED FUEL INJECTION TECHNOLOGY

Our next-generation fuel injection systems are capable of delivering fuel into the cylinder multiple times per cycle and at higher pressures. Utilization of post-injections along with the main injection event means combustion can take place over a longer period and be more complete, resulting in reduced NOx emissions – as well as better fuel efficiency.

#### 2 PROPRIETARY COMBUSTION BOWL DESIGN

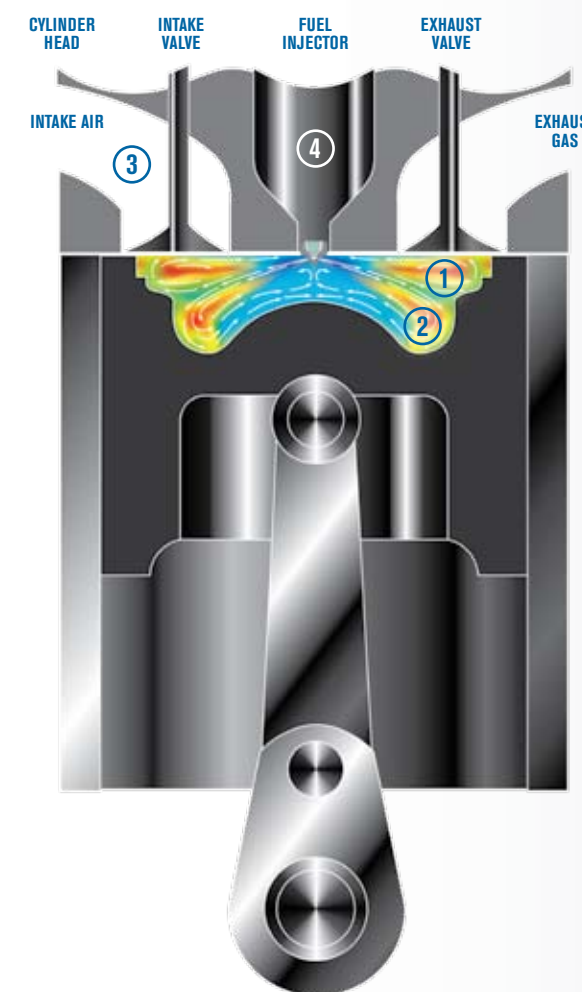
Our redesigned combustion bowl combines with the higher fuel injection pressure to break the fuel up into a finer mist spread more evenly inside the cylinder, resulting in a more complete and cleaner burn. That means more power to the wheels and less soot out the exhaust.

#### 3 ADVANCED AIR MANAGEMENT

By increasing the EGR rate of the engine – with precise turbo matching – combustion in the cylinder occurs more evenly and at a lower temperature, generating less NOx.

#### 4 ELECTRONIC CALIBRATION STRATEGIES

Engine controllers previously utilized pre-programmed look-up tables to determine the fuel-air mixture to burn. Increases in computing power now allow the engine controller to continuously calculate the optimum fuel-air mix to achieve maximum power and efficiency in many different operating conditions.



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

# TECHNOLOGIES DELIVERING PRODUCT EXCELLENCE.

## 1 HIGH-PRESSURE COMMON-RAIL FUEL SYSTEM

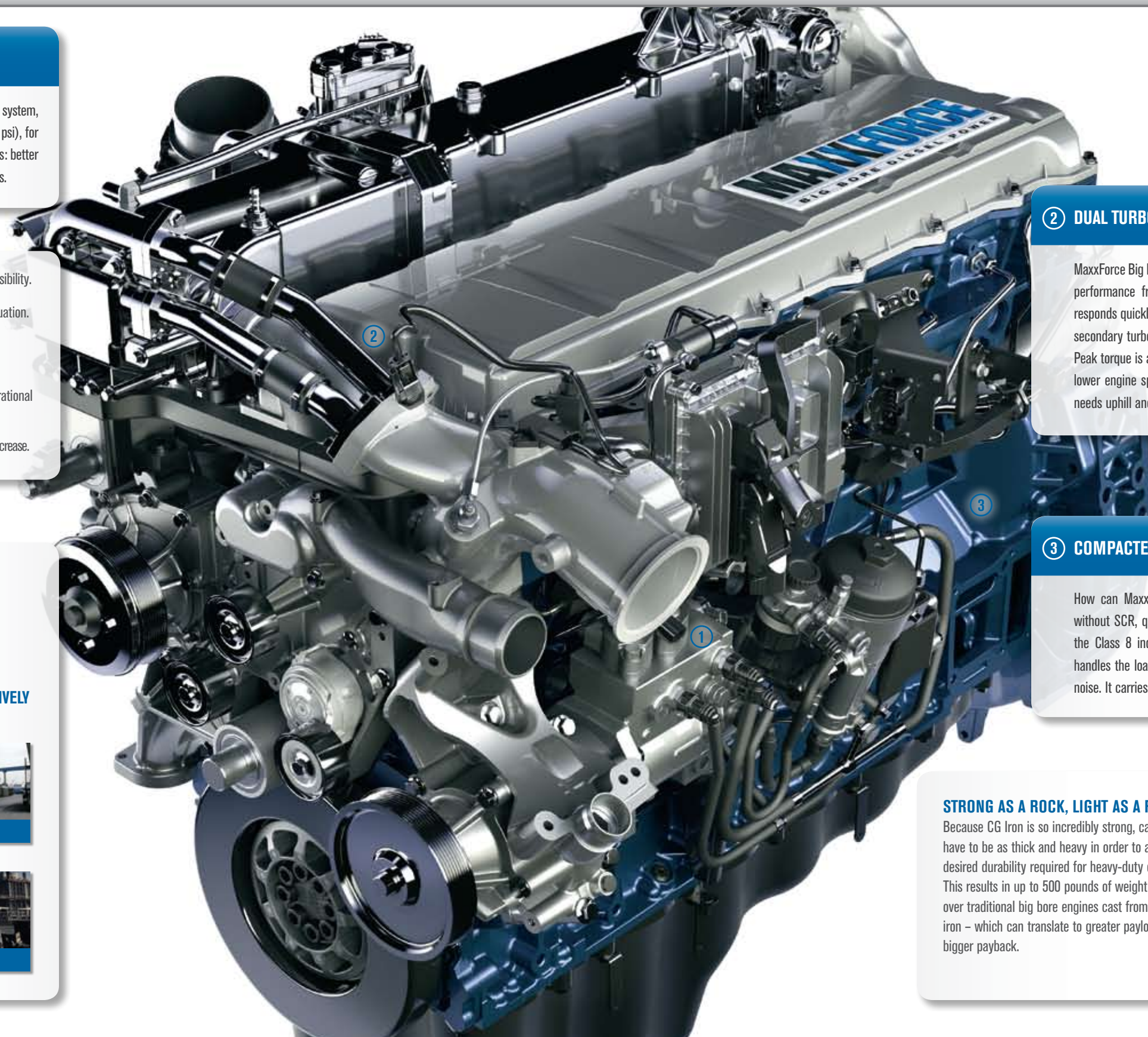
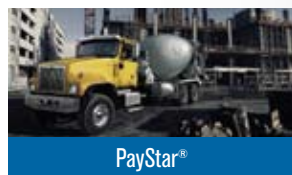
A major key to MaxxForce® Big Bore performance is its advanced fuel system, which features injection pressures of 2,200 bar (approximately 32,000 psi), for precise fuel dosing, injection timing and optimal combustion. The results: better fuel efficiency, quieter operation and in-cylinder reduction of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

- Fewer electrical connections within the controls make for easier accessibility.
- Pronounced ribbing in the crankcase provides additional noise attenuation.
- Multiple injection events provide optimum fuel/air mixture for more complete combustion, better fuel efficiency and lower noise.
- Overhead cam and rolling element bearing valve system reduce operational load to optimize engine efficiency.
- Interstage cooler increases air density to maintain peak power as speeds increase.

### VERSATILITY, WITH AVAILABLE OPTIONS:

- Optional engine compression retarder brake
- Programmable electronic parameters for increased fuel economy
- Optional integral rear PTO for mixer applications
- Optional front-end PTO for plow and other applications

### MAXXFORCE BIG BORE ENGINES ARE AVAILABLE EXCLUSIVELY IN THESE INTERNATIONAL® HEAVY VEHICLES:



## 2 DUAL TURBOS AND ADVANCED AIR-MANAGEMENT

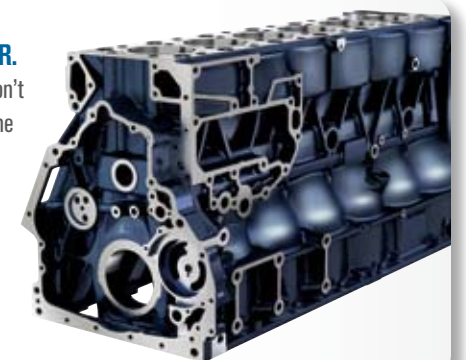
MaxxForce Big Bore engines use dual staged turbochargers to deliver powerful performance from stop light to mountaintop. The smaller, primary turbo responds quickly for immediate take-off at low engine speeds, and the larger, secondary turbo provides peak power at higher speeds and on steep grades. Peak torque is achieved at 1,000 rpm and holds steady to 1,200 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.

## 3 COMPACTED-GRAPHITE IRON BLOCK

How can MaxxForce deliver outstanding fuel efficiency, emissions control without SCR, quiet operation and maximum durability? A key component is the Class 8 industry's only CG Iron block. This incredibly strong platform handles the loads that deliver the best combustion and damps vibration and noise. It carries the load without weighing you down.

### STRONG AS A ROCK, LIGHT AS A FEATHER.

Because CG Iron is so incredibly strong, castings don't have to be as thick and heavy in order to achieve the desired durability required for heavy-duty diesel. This results in up to 500 pounds of weight savings over traditional big bore engines cast from gray iron – which can translate to greater payload and bigger payback.



# MAXXFORCE 11 and MAXXFORCE 13

## MAXXFORCE® 11 PERFORMANCE DATA

Horsepower (bhp @ 1700 rpm)	Torque (lb-ft @ 1000 rpm)	Gov. Speed (rpm) On-highway / Severe service	Clutch-Engagement Torque (lb-ft @ 800 rpm)
330	1250	1900 / 2100	686
370	1350	1900 / 2100	770
390	1450	1900 / 2100	811

## MAXXFORCE® 13 PERFORMANCE DATA

410	1450	1900 / 2100	828
430	1550	1900 / 2100	868
475	1700	1900 / 2100	959

## MAXXFORCE 11 SPECS

Engine Type	Diesel, 4-cycle
Configuration	Inline 6-cylinder
Displacement	10.5 L (641 cu. in.)
Bore and Stroke	4.72 in. & 6.10 in. (12 cm & 15.5 cm)
Compression Ratio	16.5:1
Aspiration	Dual Staged Turbochargers, Intercooler & Aftercooler
Combustion System	Direct Injection
Lubricating System Capacity	42 Quarts (40 L)
Total Engine Weight (dry)	2,400 lbs. (1,089 kg)
Dimensions	L 59 in. x W 37 in. x H 49 in. (L 150 cm x W 94 cm x H 125 cm)
Valves	4 Valves Per Cylinder, Overhead Cam Actuated

## MAXXFORCE 13 SPECS

Engine Type	Diesel, 4-cycle
Configuration	Inline 6-cylinder
Displacement	12.4 L (758 cu. in.)
Bore and Stroke	4.96 in. & 6.54 in. (12.6 cm & 16.6 cm)
Compression Ratio	17:1
Aspiration	Dual Staged Turbochargers, Intercooler & Aftercooler
Combustion System	Direct Injection
Lubricating System Capacity	42 Quarts (40 L)
Total Engine Weight (dry)	2,400 lbs. (1,089 kg)
Dimensions	L 59 in. x W 37 in. x H 49 in. (L 150 cm x W 94 cm x H 125 cm)
Valves	4 Valves Per Cylinder, Overhead Cam Actuated

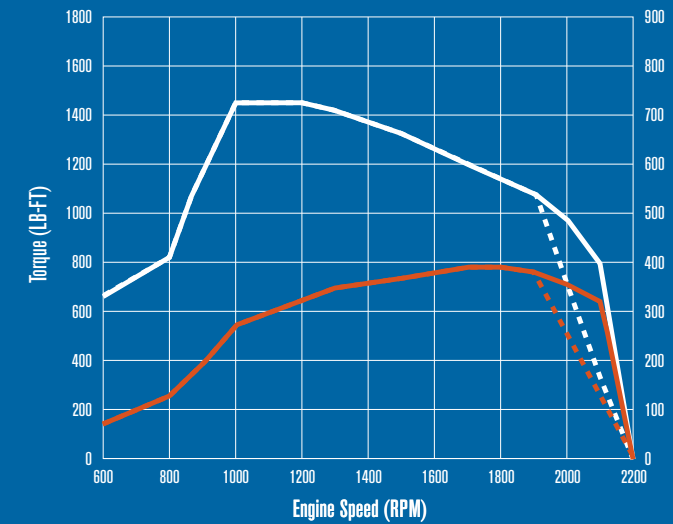
## PREVENTIVE MAINTENANCE INTERVALS

Change Engine Oil, Replace Oil Filter:	25,000 miles (40,234 km) / 12 months / 1,100 hours / 4,200 gallons (15,899)
Replace Fuel Filter:	25,000 miles (40,234 km) / 12 months / 1,100 hours / 4,200 gallons (15,899)
Replace Coolant*:	600,000 miles (965,606 km) / 6 years / 12,000 hours

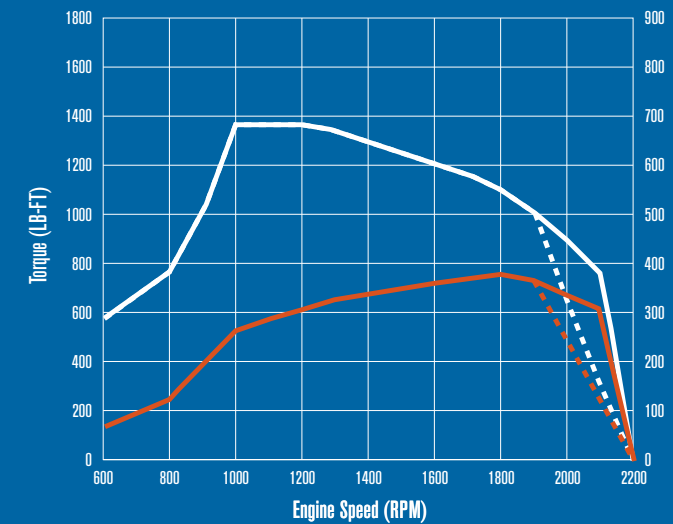
\*Add Extended Life Coolant (ELC) Extender @ 300,000 (482,803 km) miles / 3 years / 6,000 hours

## MAXXFORCE 11 PERFORMANCE

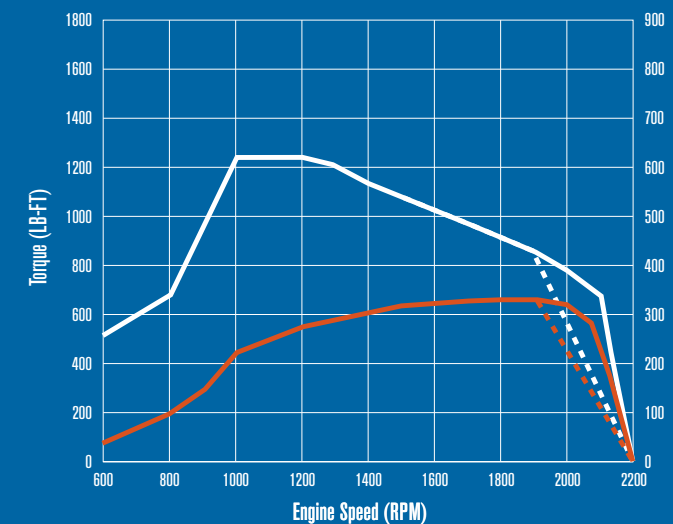
### 390 HP



### 370 HP

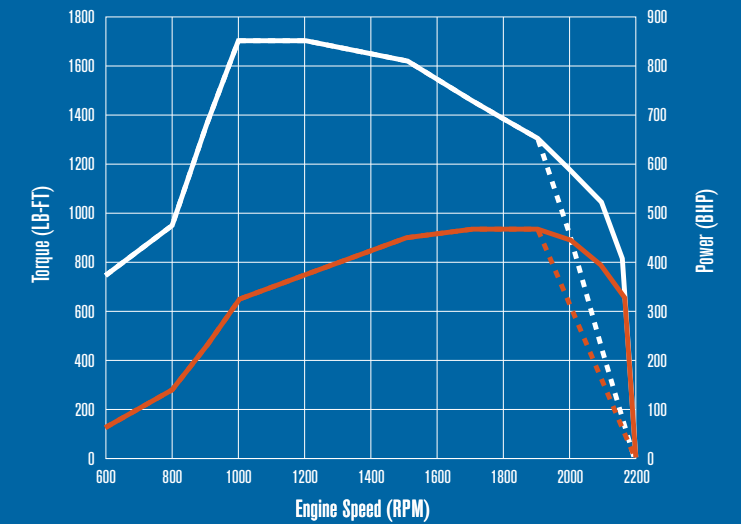


### 330 HP

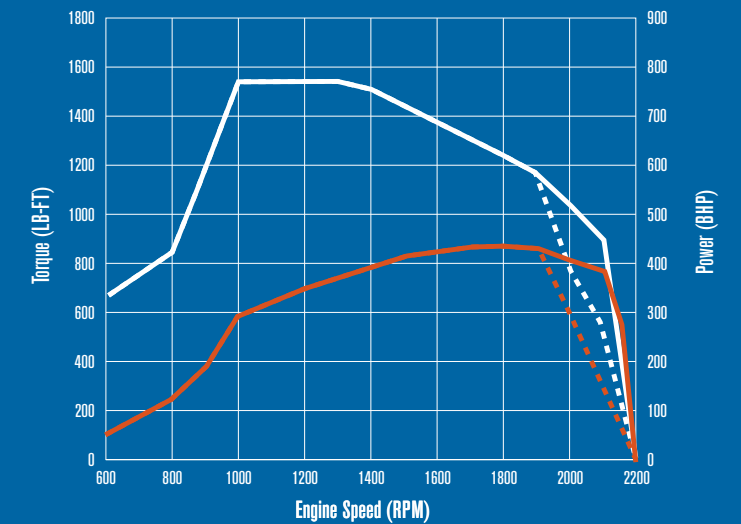


## MAXXFORCE 13 PERFORMANCE

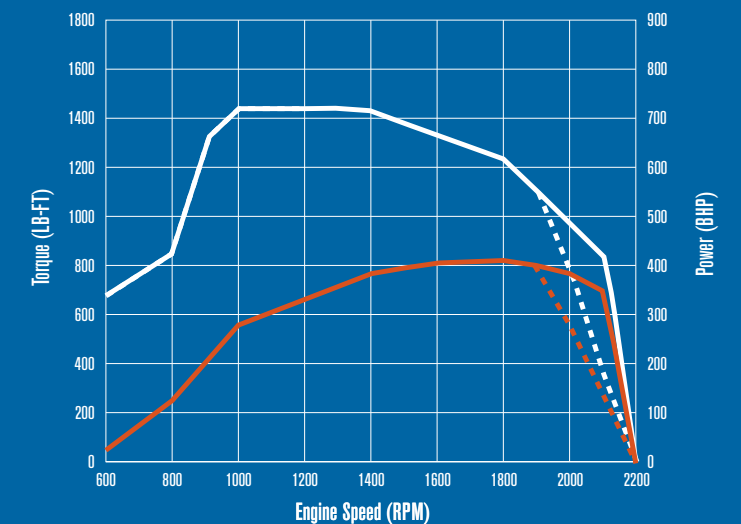
### 475 HP



### 430 HP



### 410 HP



SEVERE SERVICE TORQUE RATINGS (2,100 RPM)

ON-HIGHWAY TORQUE RATINGS (1,900 RPM)

SEVERE SERVICE HORSEPOWER RATINGS (2,100 RPM)

ON-HIGHWAY HORSEPOWER RATINGS (1,900 RPM)



## INTERNATIONAL'S GOT YOUR BACK.

When selecting a MaxxForce® Big Bore engine for your International® truck, you are completely covered by North America's largest commercial truck dealer network – with 900 dealer locations, 7,000 service technicians and unmatched parts availability.

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BIG BORE DIESEL POWER®

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® 11 and MaxxForce® 13 engines, visit your local International dealer or visit us at [www.MaxxForce.com](http://www.MaxxForce.com). MaxxForce® International 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)



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CGE-633 3/2009