ALL NEW FORD F-150 POWERTRAIN LINEUP DELIVERS BEST-IN-CLASS FUEL ECONOMY, POWER AND CAPABILITY

- The powertrain lineup for the 2011 Ford F-150 features four new truck engines: a 3.7-liter V6, 5.0-liter and 6.2-liter V8s, and a twin-turbocharged EcoBoost™ 3.5-liter
- Headlining the engine lineup is a new twin-turbo EcoBoost engine with Ti-VCT that has been specifically tuned, calibrated and tested for durability and reliability
- Each new engine delivers best-in-class towing and horsepower. The entire 2011 F-150 lineup will be at least 20 percent more fuel efficient than the 2010 F-150 lineup
- Ford is the first and only automaker to equip its entire full-size pickup lineup with fuel-saving six-speed automatic transmissions as standard equipment



The 3.7-liter V6 powering the 2011 Ford F-150 delivers an estimated 300 horsepower and 275 lb.-ft. of torque.
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DEARBORN, Mich., Aug. 11, 2010 – For the 2011 model year, the Ford F-150 is getting the most extensive powertrain overhaul in the truck's history. The 2011 F-150 has four new truck engines, all coupled to a revised six-speed automatic transmission.

Each engine delivers improved fuel economy, outstanding performance and class-leading capability. This versatile new powertrain lineup enables F-150 customers to choose the engine that best suits their needs.

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New 2011 F-150 3.7-Liter V6

New 2011 F-150 5.0-Liter V8

New 2011 F-150 6.2-Liter V8

New 2011 F-150 3.5-Liter EcoBoost

New 2011 F-150 Six-speed Automatic Transmission

2011 F-150 Powertrain Forum Webcast (8/11/10)

Photos

Available at launch are a 3.7-liter V6 and a 5.0-liter V8, each with fuel-saving and performance-enhancing twin independent variable camshaft timing (Ti-VCT) technology, and a version of the 6.2-liter V8 that is the base engine in the 2011 Ford F-Series Super Duty. A 3.5-liter EcoBoost engine, specially tuned and calibrated for the F-150, will be available in early 2011. Each of the engines offers an unequaled combination of attributes that matter most to F-150 customers: torque, horsepower, fuel economy, performance, durability, reliability and capability. The 2011 F-150 lineup will deliver best-in-class fuel economy. When the 3.5-liter EcoBoost engine joins the lineup, the 2011 F-150 will have up to 20 percent better fuel economy compared with the outgoing 2010 F-150.

"Our new engine lineup allows greater flexibility for customers to select the powertrain choice that best suits their needs," said Barb Samardzich, vice president of Powertrain Engineering. "We are in the midst of a powertrain revolution, with 30 new powertrains over the next two years, and our loyal F-150 customers are the next ones to benefit."

Extensive testing program to ensure truck application

To ensure the highest quality, most reliable engines, Ford engineers studied the warranty history of the outgoing engines and developed testing procedures based on the real-world driving experiences from current F-150 drivers.

Prototype engines underwent a wide range of tests to ensure complete compatibility with truck application and truck durability, with all components and systems passing testing to the equivalent of 150,000 miles. Components such as the exhaust manifolds and the crankshaft (forged steel) were upgraded, piston-cooling jets and oil coolers were added, and engines were specifically calibrated for improved heavy-duty operation and durability in F-150.

“Truck customers demand an engine that delivers outstanding low-speed torque to help tow or move heavy payloads, and sustained high-load, low-speed operation is a key attribute they look for,” said Samardzich. “The engine lineup for the 2011 Ford F-150 has been tuned specifically for truck operation needs and optimized for fuel economy. The result is a lineup that delivers class-leading towing and payload capability with outstanding horsepower, torque and fuel economy.”

Here are the highlights of each new engine:

3.7-liter four-valve Ti-VCT V6
The 3.7-liter will be the most powerful, capable and fuel-efficient base V6 of any truck in its class. Key attributes include:

- Best-in-class 300 horsepower (estimated) at 6,500 rpm
- 275 lb.-ft. of torque at 4,500 rpm
- Class-leading fuel economy
- Best-in-class 6,100 pounds maximum trailer tow
- Ti-VCT creates precise, variable timing control of both the intake and exhaust camshafts to optimize power, performance and fuel economy
- E85 flex fuel capability
- Piston-cooling jets, which squirt oil on the underside of the pistons to keep the piston crowns cool under extreme operating conditions
- Forged-steel crankshaft for improved durability
- Built at Cleveland Engine Plant

The 3.7-liter V6 powering the base 2011 F-150 is the latest application of the award-winning Duratec® V6 engine, with additional technology and upgrades for truck application. In particular, more work was done on the bottom end of the engine, a strong point of all Duratec V6 engines.

“This is a well-designed engine with a massive amount of attention to detail around the block and the structure of the block,” said Jim Mazuchowski, V6 engines program manager. “This attention to the stiffness and rigidity of the bottom end, how the engine is fastened with four-bolt mains and two side bolts, enhances durability and NVH (noise, vibration and harshness).”

Other enhancements for durability include a forged-steel crankshaft, cast-iron exhaust manifolds and a die-cast aluminum oil pan, which supports a 10,000-mile interval for oil changes. The design of the cylinder bore and piston rings has been optimized for efficient lubrication.

In addition to engine durability, Ti-VCT leads a host of technologies that increase overall engine efficiency. Ti-VCT’s precise and variable control of the intake and exhaust camshafts optimizes performance and fuel economy. The piston squirters enable faster engine warm-up, and the polished buckets reduce friction, which aids fuel economy.

5.0-liter four-valve dual-overhead-camshaft Ti-VCT V8
The 5.0-liter V8 in the 2011 F-150 offers many class bests compared with competitors’ entry-level V8s, including:

- Best-in-class 360 horsepower at 5,500 rpm and 380 lb.-ft. of torque at 4,250 rpm
- Class-leading fuel economy
- Best-in-class 9,800 pounds maximum trailer tow

- New strengthened block and new cylinder head optimized for performance and enhanced cooling
- Unique intake camshafts, combined with Ti-VCT, composite intake manifold and optimized compression ratio for improved low-speed torque and towing capability
- Forged-steel crank and all-new oil cooler enhance durability
- Piston-cooling jets, which squirt oil on the underside of the pistons to keep the piston crowns cool under extreme operating conditions
- E85 flex fuel capability
- Built at Essex Engine Plant; Windsor, Ontario

While this 5.0-liter V8 engine is similar to the one powering the 2011 Mustang GT, it has several important differences to optimize it for the harsh duty cycle truck customers demand. First, the camshafts were tuned to improve low-speed torque, which is key to truck customers. Also, the 10.5:1 compression ratio was optimized to reduce knock tendency at lower engine speeds while towing.

The hardware added to the 5.0 specifically for F-150 includes: an additional oil cooler, which helps extend the life of the oil to 10,000-mile intervals; foam covers for the fuel injectors to reduce NVH; and cast exhaust manifolds for improved durability. The new aluminum block is 70 pounds lighter than the 5.4-liter V8, which aids fuel economy and improves handling. The engine's forged-steel crankshaft also ensures durability.

"This engine uses proven technology to deliver a great combination of low-speed torque and fuel economy with the durability F-150 customers demand," said Mike Harrison, V8 engine programs manager.

6.2-liter two-valve single-overhead-camshaft V8
The 6.2-liter V8 is a premium engine offering on the 2011 F-150, with an expanded offering to F-150 SVT Raptor and other specialty applications. Its attributes include:

- Best-in-class 411 horsepower at 5,500 rpm and 434 lb.-ft. of torque at 4,500 rpm
- Best-in-class 11,300 pounds maximum trailer tow
- Competitive fuel economy
- Durability of race-proven components and technology showcased in November 2008 when a 6.2-liter Raptor R not only survived the grueling Baja 1000, it earned a podium finish. The same engine went on to complete every mile of the 2009 Best in the Desert series
- Utilizes a large bore and shorter stroke. This approach to creating power has its roots in storied Ford racing engines. The large bore allows for larger intake and exhaust valves for improved engine airflow, and the short stroke allows higher engine speed for increased horsepower
- Because of the large bore size, two spark plugs per cylinder are used to more efficiently burn the fuel-air mixture in the combustion chamber, enabling better fuel economy and increased engine torque. The twin plugs also help the engine maintain a smooth, stable idle
- Built at Romeo (Mich.) Engine Plant

The 6.2-liter V8, standard on the 2011 F-Series Super Duty, is uniquely tuned for the F-150 with a special cam profile. The engine will be standard on the 2011 F-150 SVT Raptor and other specialty applications, and pumps out up to 411 horsepower and 434 lb.-ft. of torque – making the F-150 the most powerful truck in its class.

"This engine has tons of torque, and already has been proved in the field with both the F-150 SVT Raptor and Super Duty," said Harrison.

3.5-liter Ti-VCT EcoBoost
The 3.5-liter EcoBoost is a premium engine offering available after launch with power comparable

to a naturally aspirated V8 and projected class-leading fuel economy. Its attributes include:

- Ti-VCT creates precise, variable timing control of both the intake and exhaust camshafts to optimize power, performance and fuel economy
- Fuel economy improves up to 20 percent versus 2010 model year F-150 5.4-liter V8
- Improved intake and exhaust camshafts optimized for improved fuel economy and performance
- Cast exhaust manifolds for heavy-duty operation and durability
- Improved manifold and cylinder heads for improved performance
- Direct-acting mechanical bucket (DAMB) valvetrain with polished buckets to reduce friction and improve fuel economy
- Built at Cleveland Engine Plant

Transmission features customer-driven enhancements
Ford Motor Company is the first and only manufacturer to equip its entire full-size pickup truck lineup with fuel-saving six-speed automatic transmissions as standard.

For the first time, a six-speed automatic transmission is standard in F-150 on all engines. Several available enhancements have been added to the proven 6R80 transmission to help F-150 customers tow more easily, including SelectShift with both progressive range select and manual functions.

Progressive range select allows the customer to reduce the range of available gears while in Drive. When the customer taps down into range select mode, the display shows the available gears and highlights the current gear state. This feature allows the driver to limit the use of upper gears when heavily loaded or while towing on grades.

With SelectShift, customers can get full manual function by pulling the shift lever into "M" for manual mode and then select the gear desired by pressing the "+" button for upshifts or the "-" button for downshifts. The control system will hold that gear for a full manual transmission feel.

The new engines for the Ford F-150 follow the all-new engine lineup for the 2011 Ford F-Series Super Duty introduced earlier this year and highlighted by the 6.7-liter Power Stroke® V8 turbocharged diesel, which delivers best-in-class torque, horsepower and fuel economy.

"The new powertrain lineup for the 2011 F-150 will provide a wide range of choices to customers to suit their needs, each tested for maximum durability and reliability with outstanding fuel economy," said Samardzich.

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About Ford Motor Company
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