



Award-Winning Power



Mazda Motor Corp.

- DISI 2.3L Turbocharged DOHC I-4
- Duratec 35 3.5L DOHC V-6



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10 WARD'S
Best
Engines



The Ward's 10 Best Engines list is considered the auto industry's benchmark for powertrain excellence. Mazda earned its seventh Ward's 10-Best Engines honor in 2007 for the 2.3L direct injection spark ignition (DISI) turbocharged DOHC I-4 engine tested in the MazdaSpeed3 compact hatchback. In 2006 it won 10 Best honors in the MazdaSpeed6 performance sedan. The award-winning engine also powers the Mazda CX-7 cross/utility vehicle and won kudos from Ward's editors in that application as well.

The DURATEC 35 3.5L V-6, which powers the new Mazda CX-9, is another of Ward's 10 Best in 2007. Further information on both award-winning engines is available at WardsAuto.com.

Mazda CX-7

Big-horsepower engines are nothing new to the Ward's 10 Best Engines competition. Even big-horsepower engines at incredibly accessible prices are not unusual. Those two attributes provide the foundation of a good 10 Best Engines resume.

It's no wonder, then, Mazda Motor Corp.'s sizzling 2.3L DISI turbocharged DOHC I-4 has landed in the winner's circle two years in a row.

Featured in the Mazda CX-7 cross/utility vehicle, the MazdaSpeed6 sport sedan and MazdaSpeed3 compact pocket rocket, few hoods in the U.S. market cover a hotter engine that costs less.

In its highest performance trim in the MazdaSpeed6, the

2.3L 4-cyl. pounds out 119 horsepower per liter and 280 lb.-ft. (380 Nm) of torque, meaning this 2.3L 4-cyl. out-torques Porsche's 3.4L DOHC H-6 in the \$83,300 Cayman S, as well as just about any other normally aspirated 6-cyl. around.

And even in its lower output guise in the Mazda CX-7, where it produces 244 hp, and 258 lb.-ft. of torque (350 Nm), the engine still is very impressive.

Mazda has taken its widely known 2.3L "global" 4-cyl. foundation and applied direct-injection gasoline (DIG) technology to increase torque and improve economy and emissions.

And as we have seen with other 10 Best Engines winners that use DIG and turbocharging in concert such as the Audi A3, there is no better teaming of technology.

The enhanced low-rpm torque production that comes from DIG sweetly compensates for turbo lag.

While most non-DIG turbocharged engines wallow at low speed, waiting for their turbos to wind up, the new DIG turbo mills snap to attention directly from idle. When the torque benefits of DIG are bleeding off at higher rpm, the turbocharger already is making efficient boost. Magnificent!

It would've been enough to generate the giant power numbers and call it a day, but this engine never gives the sensation that refinement got "costed."

It helps that Mazda's foundation architecture is excellent, including high-cost items such as infinitely variable valve tim-

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ing, twin balance shafts and strengthened internals.

Mazda engineers have fully addressed noise, vibration and harshness concerns. The aluminum block has been braced to absorb the higher stresses, and the twin balance shafts certainly earn their keep.

Some *10 Best Engines* testers even admit to preferring Mazda's mini-dynamo DISI 2.3L turbo I-4 in the CX-7 CUV or the Mazdaspeed6 midsize sedan (both of which calm this brute with all-wheel drive), instead of the MazdaSpeed3 pocket rocket, but all agree this engine is a special example of affordable-engine development. <<

Mazda CX-9 Duratec 35 V-6

The development goals for the new Duratec 35 V-6 were premium performance and drivability, improved fuel economy and decreased emissions, and the engine wins its first *10 Best Engines* award largely for the versatility those goals suggest.

The engine is thrifty and refined and demonstrates decent, if not necessarily game-changing, fuel-economy (we've yet to see a "performance" V-6 sip fuel).

The Duratec 35 also is particularly delightful in the mid-range, where it revs viciously with even light throttle applica-

tions. In fact, revving all over the place is one of this new engine's strong suits.

Often, larger-displacement V-6s can be slow to start revving with gusto, but the Duratec 35 delivers some of the crispest throttle response we can recall.

Our guess: Exceptionally fine control of the variably timed intake valves helps the Duratec 35 often seem even more powerful than its brawny 263 hp and 249 lb.-ft. (338 Nm) torque rating suggest.

Along with inspired mid-range snap, the Duratec 35 3.5L DOHC V-6 fronts what we believe to be class-leading refinement.

Vibration, in particular, is bewilderingly absent. All sorts of low-friction detail engineering and big-ticket items, such as the deep-skirt block and weight-optimized DOHC valvetrain, make this one of the silkiest sixes you'll find short of one with all the pistons in a row.

The Duratec 35 is a brilliant performer, convincingly developed in all areas, and it's particularly impressive when one considers it's all done with a 10.3:1 compression ratio on regular unleaded gasoline.

Performance and refinement at this level, on regular unleaded, sets a new standard for V-6s; bridging the gap between those with workaday specs and refinement and the big-dollar, big-power premium V-6s that require, or at least recommend, premium unleaded. <<

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The Mazdaspeed3 and the Mazdaspeed6 also feature the 2.3L DISI turbocharged DOHC I-4 engine that was named one of *Ward's 10 Best Engines* of 2007.



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“There’s serious engineering at play here, the kind of action that elevates this engine (the Mazda 2.3L I-4) above others we’ve tested that offer a great performance-per-dollar quotient.”



Mazda Motor Corp. DISI 2.3L Turbocharged DOHC I-4



Engine Specs:

Engine type: 2.3L Turbocharged DOHC I-4
 Displacement (cc): 2,260
 Block/head material: aluminum/aluminum
 Bore x stroke: 87.5 x 94
 Horsepower (SAE net): 244 @ 5,000 rpm
 Torque: 258 lb.-ft. (350 Nm) @ 2,500 rpm
 Specific output: 106 hp/L
 Compression ratio: 9.5:1
 EPA fuel economy, city/highway (mpg): 2WD: 19/24
 4WD: 18/24

Mazda Motor Corp. DURATEC 35 3.5L DOHC V-6



Engine Specs:

Engine type: 3.5L DOHC 60° V-6
 Displacement (cc): 3,496
 Block/head material: aluminum/aluminum
 Bore x stroke: 92.5 x 86.7
 Horsepower (SAE net): 263 @ 6,250 rpm
 Torque: 249 lb.-ft. (338 Nm) @ 4,500 rpm
 Specific output: 75 hp/L
 Compression ratio: 10.3:1
 EPA fuel economy, city/highway (mpg): FWD: 18/24
 AWD: 16/22