

2013 Cadillac ATS Aids Driver Vision Using Smart Design, New Materials

Producing a car that was named 2013 North American Car of the Year means paying attention to detail. And that's just what Cadillac did when engineering the ATS's sight lines.

Engineers worked to identify the vehicle attributes needed to maximize ATS's driving character by making the most of sight lines. New visibility metrics developed from customer clinics in the United States and Germany consider exterior mirror and A-pillar area size, seat height, forward vision distance, side vision distance, and intrusive objects in windows such as rear headrests and the interior rearview mirror.

"Conducting clinics in Europe as well as the U.S. provided invaluable insight into the needs of drivers who use demanding roads like the Autobahn," said Raj Mehta, General Motors vehicle architecture engineering group manager. "The findings led to new ways of measuring and evaluating visibility despite its highly subjective sensory nature."

As with many cars today, ATS's driver visibility is significantly influenced by design criteria, including aerodynamics, styling, structural stiffness, safety and vehicle packaging. The steeply raked windshields and A-pillars common today help make the most of

aerodynamics for improved fuel economy, and higher hoods help provide pedestrian protection. Together, these measures can present visibility challenges.

Likewise, thicker roof pillars needed to accommodate air bags, lower roof heights required to decrease frontal area for improved aerodynamics, and higher decklids designed to accommodate customer cargo needs also pose visibility challenges.

A new visibility evaluation technique – known internally as "the Hedgehog" for its prickly appearance on computer screens – helps characterize the three-dimensional aspect of A-pillar sightlines.

Designers can quickly study how changes in windshield angle or section size affect the driver's ability to see targeted areas derived from careful evaluation of performance driving scenarios, such as the roads and tracks of the company's Milford Proving Ground.

These findings were validated and used to create a Driver Visibility Calculator.

ATS achieved a "very good" internal score for forward visibility because the development team kept the hood low and the A-pillars slim through the use of high-strength steel. Designers positioned the A-pillars wide to allow



2013 Cadillac ATS

a broad field of view and angled towards the driver to require minimal head movement to peer around. They also designed a narrow support structure for the exterior rearview mirrors, leading to a "very good" internal score on cornering visibility through turns.

The driver's rear view is aided by the ATS's available rear vision camera with dynamic guidelines. The camera provides a natural view of objects directly behind the ATS in the center stack display. Dynamic guidelines laid over the video image assist in parking maneuvers by showing the vehicle's path and available space.

The rear vision camera is part of Cadillac's "control and alert"

strategy that employs advanced technologies such as radar, cameras and ultrasonic sensors to help prevent crashes. These technologies bolster driver vision and awareness of road hazards, and intervene to help the driver avert potential crashes.

"Smart design and the use of advanced materials like ultra-high strength steel help provide ATS drivers with a clear view of the road ahead and advanced technologies help extend their vision around the car," said David Leone, executive chief engineer. "Our ability to execute good visibility based on robust scientific methods will be an important tool in the development of Cadillacs to come."

Ford Financial Statement Has Company in Good Shape

Ford Motor Company today filed with the U.S. Securities and Exchange Commission its preliminary proxy statement for the 2013 Annual Meeting of Shareholders.

The proxy announces details about the company's Annual Meeting, which is scheduled for 8:30 a.m. EDT Thursday, May 9 at the Hotel du Pont, 11th and Market Streets, Wilmington, Del.

Included in the proxy are six company and two shareholder proposals requiring the votes of shareholders. In addition, details of compensation for the Named Executive Officers are outlined.

"We believe our 2012 performance clearly shows our management team performed exceedingly well in a difficult environment," the company said in its proxy statement.

Ford continued on its road to sustained profitability in 2012 by delivering results. The company reported earning \$8 billion in pre-tax operating profit and \$5.7 billion in net income as well as posting Automotive operating-related cash flow of \$3.4 billion.

Ford also stated that it is increased its liquidity by \$2.1 billion over 2011 and ending the year with a strong liquidity position of \$34.5 billion and showed a record setting pre-tax profit and operating margin in North America, ending the year with \$8.3 billion in profit and a 10.4 percent operating margin.

Ford also delivered on its growth strategy in 2012, as it launched 25 new or redesigned vehicles and 31 powertrains globally. The company also achieved record revenue, wholesales and market share in Asia Pacific and China and continued its largest and fastest manufacturing expansion in more than 50 years, adding capacity to support aggressive growth plans in North America and Asia Pacific.

Additionally, Ford's credit rating was returned to investment grade by the second of three major credit agencies in May, allowing for the return of the company's pledged assets, including the Blue Oval. The Ford Motor Company Board of Directors also reinstated a dividend in 2012 and doubled the dividend during the first quarter of 2013, providing a direct return to investors.

Because of Ford's performance during 2012, the Compensation

Committee of the Ford Board of Directors approved payments for salaried employees under the company's Annual Incentive Compensation Plan (AICP). The proxy provides specific details of total 2012 compensation for six Named Executive Officers. (Note: The SEC requires companies to list chief financial officers among the five Named Executive Officers in proxy statements. Ford listed six NEOs in its 2013 proxy as Lewis Booth retired and Bob Shanks became CFO, both effective April 1, 2012.)

The amounts shown in the proxy statement for stock and option awards represent the grant date value of the awards under applicable accounting rules – not actual compensation received by named executives.

Total 2012 compensation for Ford's five current Named Executive Officers and its retired chief financial officer is as follows. Alan Mulally, president and CEO, earned \$2,000,000 in salary and \$3,950,000 in cash bonus in 2012. His total listed compensation in 2012 – including the grant date value of long-term stock options and other performance-based equity awards – was \$20,995,806.

Bill Ford, executive chairman, earned \$2,000,000 in salary and \$1,125,000 in cash bonus in 2012. Bill Ford's total listed compensation – including the grant date value of long-term stock options and other performance-based equity awards – was \$14,836,013.

Mark Fields, Ford chief operating officer, earned \$1,385,833 in salary and \$2,340,000 in cash bonus in 2012. His total listed compensation, including the grant date value of long-term stock options and other performance-based equity awards, was \$8,854,065.

Bob Shanks, Ford executive vice president and chief financial officer, earned \$700,000 in salary and \$790,000 in cash bonus in 2012. His total listed compensation – including the grant date value of long-term stock options and other performance-based equity – was \$5,181,848.

Jim Farley, Ford executive vice president, Global Marketing, Sales and Service and Lincoln, earned \$707,500 in salary and \$655,000 in cash bonus in 2012. His total listed compensation – including the grant date value of long-term stock options and oth-

er performance-based equity awards – was \$4,597,017.

Lewis Booth, retired Ford executive vice president and chief financial officer, earned \$312,500 in salary and \$234,375 in cash bonus in 2012. Total listed compensation, including the grant date value of long-term stock options and other performance-based equity, was \$3,103,087.

Lease Market Was Stronger In January

National car lease marketplace Swapalease.com reports its latest lease customer credit approval information, with positive trends continuing into 2013. According to U.S. Bank data, January credit approvals on Swapalease.com were 23.1 percent higher compared with the average approvals rate during the last five months of 2012.

Customer credit declines in January were down 20 percent during the same time of comparison. Credit is the lifeblood of vehicle leasing, and every buyer on the Swapalease.com marketplace must be credit-approved by the leasing company prior to a successful transfer.

"We're continuing to see a resilient economy bounce back from the recession of a few years ago," said Scot Hall, executive vp of Swapalease.com. "All eyes right now are on watching if the trend can continue following the payroll tax increase and the recent sequestration, two events that still may have negative consequences on consumer finances."

Looking at a year-over-year comparison, January credit approvals were 60 percent higher compared to January 2012.

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