



Special Interest Articles:

- CATFORM for CATIA V5 Released



- Honda North America Utilizes CATFORM
- FASTBLANK Results Verified by Accurate Die Design

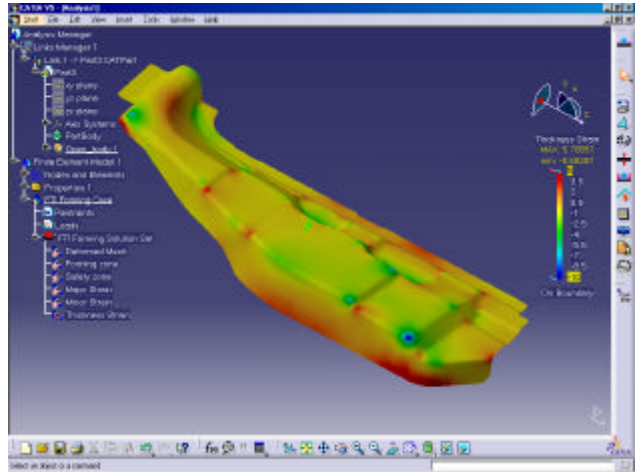
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CATFORM Released

At the CATIA Operators Exchange Spring 2003 Conference & TechniFair, Forming Technologies Inc., (FTI) announced the worldwide release of CATFORM CAA V5 Based for CATIA V5 R10. Developed in close partnership with Dassault Systèmes, CATFORM provides CATIA V5 product designers with a fully integrated tool for conducting forming feasibility analyses on complex sheet metal

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CATFORM is now available as a plug-in for CATIA CAA V5 Based operators.

Honda R&D Americas Utilizes CATFORM

At a recent CATIA Operators Exchange Conference & TechniFair, Dan Turk, P.E., Senior Systems Engineer at Honda Research & Development Americas in Raymond, OH, USA. His presentation, entitled "CATIA Based CAE at Honda R&D Americas", focused on the activities related to the Acura MDX Luxury Sports Utility Vehicle (SUV).

Honda design engineers used CATIA based CAE tools to solve both product performance and manufacturing problems.

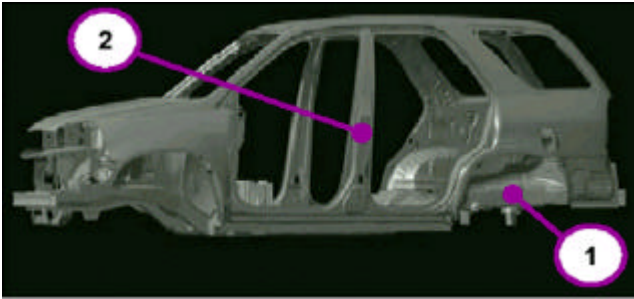


Honda engineers applied breakthrough technology to create the Acura MDX.

The tools used included: CATIA's Generative Part Analysis (GPA), Finite Element Modeler (FEM), NASTRAN interface (NAS), and Scientific Presentation Manager

(SPM). Additional CAE tools were utilized from Forming Technologies for product and process feasibility, MSC Software for both NVH simulation and structural analysis and

Honda - CATFORM (cont'd)

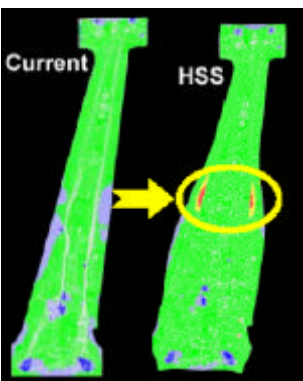


“CATFORM provides an early warning system for stamped parts.”

Dan Turk P.E.
Honda R&D Americas



“The final result was that 12 of the 13 target parts could be formed from high strength steel.”



LSTC's LS-DYNA for crash simulation.

CATFORM is an inverse, one-step sheet metal forming package that is integrated within CATIA. It is based on the standalone FASTFORM Advanced product. CATFORM “provides an early warning system for stamped parts”, says Turk. “Additionally, it displays results for safety zones, forming zones, major/minor strains, thinning and thickness. CATFORM also generates an accurate CATIA “face” for the blank shape.”

Thirteen “white body” components were identified and two of them are shown in the adjacent figure.

The first was a Rear Frame Rail, the second was the Center Pillar Stiffener. The overall problem was that Honda wanted to increase body rigidity and structural strength.

They considered two options: increase the size or thickness of the parts

or use high strength steel (HSS) for the parts. Increasing thickness would increase the vehicle's weight but would have a negative impact on the vehicle's overall performance. Changing to HSS was challenging because the parts have complex shapes and were difficult to stamp with the current steel. HSS does not have the same formability characteristics.

Both CATFORM and FASTFORM Advanced were used in body design engineering to check the formability of the HSS parts. Areas of concern were identified and, if design constraints allowed, shape changes were made.

“The final result was that 12 of the 13 target parts could be formed from high strength steel. The body construction method was set with confidence that the direction would not change due to major formability problems at die trial time”, added Turk.

Since it first roared into view, the MDX has won a special place in the hearts of the people who drive SUVs, as well as the people who write about them. There seems to have been a consensus: The MDX joined Car and Driver's 10 Best a month before being named best mid-sized sport utility vehicle by Automobile Magazine.

Acura's MDX earned top marks for safety. The U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA) named the '03 MDX as the first mid-size SUV ever to receive its top Five Star safety rating in all front- and side-impact crash tests. The high marks for the MDX “further demonstrate our commitment to safety,” said Dick Colliver, American Honda Executive Vice President.



Acura MDX has received top Five Star safety rating in all front- and side-impact crash tests.

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CATFORM for CATIA V5 (cont'd)

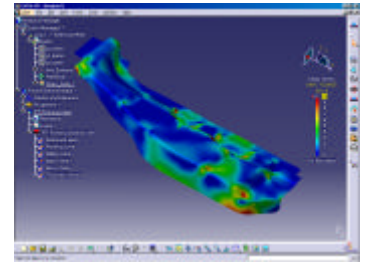
designs.

"CATFORM takes the guess work out of formability prediction by enabling CATIA operators to conduct early feasibility assessments using only product geometry," said Dan Marinac, Director – Product & Business Development at FTI. "Research has shown that 33% of all engineering changes on automotive components are due to formability problems. CATFORM identifies these problems in minutes, enabling product designers to implement changes earlier in the product life cycle. Finding formability problems early substantially reduces

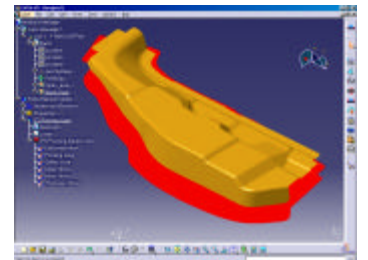
product and process development time, which ultimately saves corporations millions of dollars annually."

CATFORM provides CATIA V5 users with fast formability analyses for evaluation and validation of stamped components. Results are based on component geometry and account for material properties, friction, and blank holder force. CATFORM determines if a component can be stamped, consistently, with minimum cost, while fulfilling all product performance requirements. CATFORM is fully integrated into Dassault Systèmes' PLM solutions.

"Automotive and aerospace engineers perform accurate formability and cost analyses earlier in the PLM process. As a result, potential errors are reduced and time-to-market is shortened. As a member of the CAA V5 Software Community Program, FTI has leveraged the CAA V5 architecture to rapidly develop an integrated V5 application," said Severin Lanfranchi, Director R&D, CATIA Simulation - Dassault Systèmes. "The openness of CAA V5 and its support of associative analysis



Thinning plot helps identify potential hot spots.



Major strain identifies severity of stretch.

applications enable FTI to provide customers with a fast and intuitive sheet metal formability application".

Advanced Die Design Confirms Results

Accurate Die Design, in New Berlin, WI, USA has over 40 years of combined experience in progressive, transfer draw, and fineblank die design. They provide accurate and robust die designs, from a diemaker's perspective, that balance maximum die up time with economy. FTI had, a chance recently, to interview Ray Proeber, President.

"A few years ago, unfolding true 3D parts using special software was very expensive. The software to do this cost well over \$10,000, annually and the

learning curve was such that you needed someone who had a good deal of time to learn to use it. This left most of us behind, forced to use the same old crude methods of either a wild guess or some form of rough development", says Proeber.

"Several months ago, I used FTI's FastBlank software for the first time and was shocked by how accurate and affordable it was," adds Proeber. "I was even more surprised to find that, with no training whatsoever, I

was getting results from the product within an hour of downloading it."

"I know firsthand how skeptical tool makers and designers can be, so we've started to compile real life examples from actual dies that we've designed - comparing the FTI predicted blank to the actual blank that the production die ends up producing."

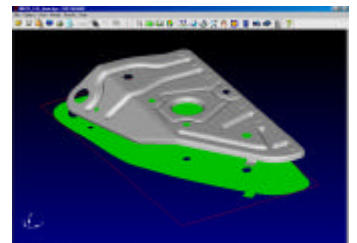
"The results have been remarkably close. Estimated blank results have been within anywhere from .000

Accurate Die Design, Inc.

Progressive, Transfer, and Draw Dies



Automotive motor mount bracket.



FASTBLANK depicts part and blank.

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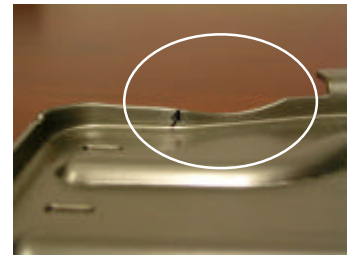
"Look forward to our next issue of **Forming Opinions** where we discuss FASTFORM Advanced."

to .010" of the actual blank", states Proeber. The software also predicts metal thinning and gathering, which is extremely valuable information when designing a tool. Having this type of knowledge upfront substantially reduces development time and avoids future problems.

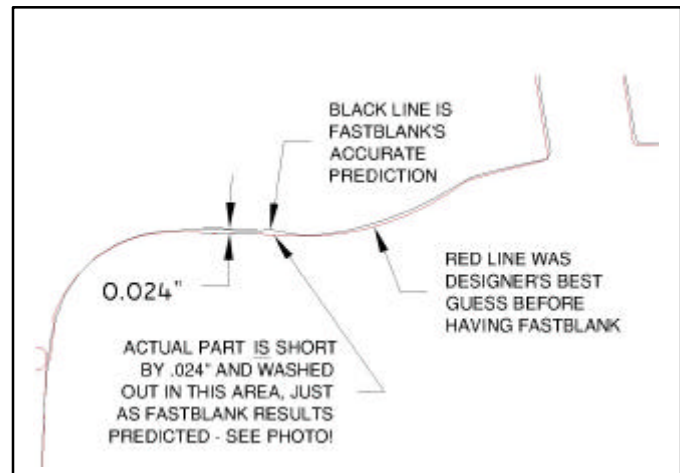
"I will continue with my testing since I know that there is no such thing as having too much evidence for some tool and die makers, designers and estimators. It's one of those technologies that have come upon us so quickly; we have to see it to believe it."

FASTBLANK is now

available standalone, or integrated with SolidWorks or Solid Edge. The free 14 day trial download makes it easy for anyone to evaluate for themselves how accurate and easy to use it is. Please visit Accurate Die Design at: www.accuratediedesign.com.



Washed out area is indicated by black arrow.



FTI Release Guidelines

Frequency of Release

In an effort to evolve the FTI product family and improve its quality, we have decided to share with you our established guidelines for FTI releases. We expect that this will help both resellers and licensees plan their activities, accordingly.

Typically, we follow a 6-month production cycle. However, we might deviate from these guidelines on an as-needed basis, either by increasing or decreasing the time between releases.

We plan to release future versions of the

FB, FF and BN family of products on the following general schedule:

FB 5.0	July 2003
FF 10.0	July 2003
BN 4.0	June 2003
FB 5.x	Dec 2003
FF 10.x	Dec 2003
BN 4.x	Dec 2003

The FB family includes FASTBLANK stand-alone, BlankWorks, and FASTBLANK for Solid Edge. CATFORM and FASTFORM Advanced follow a slightly different release schedule.

Release Numbering

For major new feature releases, the first digit is incremented (4.0, 5.0).



Subsequent maintenance releases are denoted by incrementing the second digit.

- 4.2
- ||
- ||
- | Maintenance release
- |
- Major features release