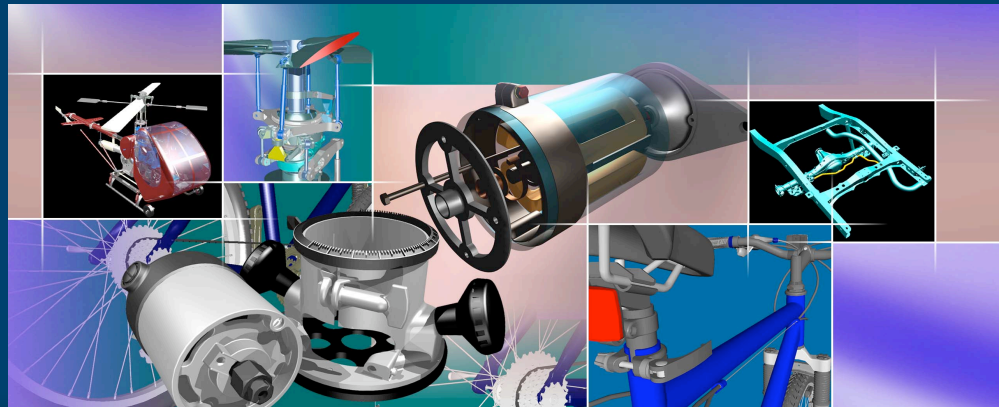




I-deas 10 NX Series





Introducing I-deas 10 NX Series

I-deas 10 NX Series:

... provides measurable productivity gains
across core vertical industries

and

... delivers immediate 'NX' capabilities and
value



I-deas 10 Themes

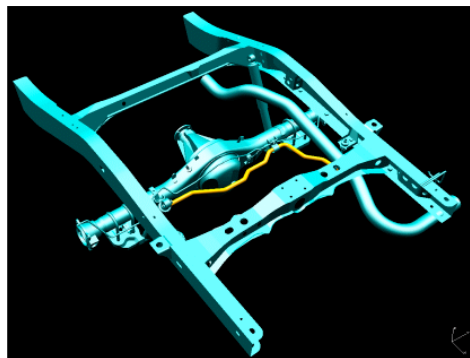
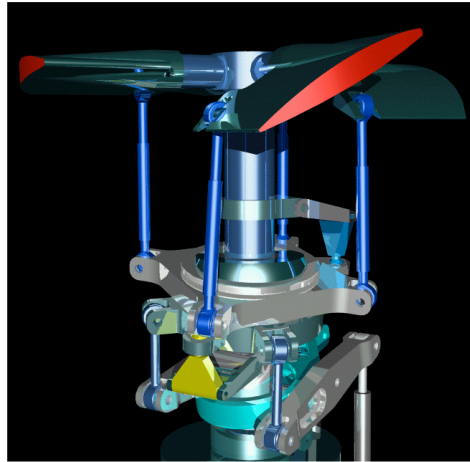
Available February 2003

- Customer Workflow Productivity
- Customer Responsiveness
- World Class CAM from Unigraphics NX
- Expanding Our Leadership Position in CAE
- Moving I-deas Customers Forward with NX





I-deas 10 Design Enhancements



- Part Components and Feature Copy
- Boolean Robustness, Partial Results and Diagnostics
- Extrude Improvements, Material Side, New Cut Add
- Inter-Part and Intra-Part Construction
- Section Builder
- History Access Form
- Fillet Rollover
- Shell Large Part Performance
- Enhanced Part Diagnostics
- Surface – Surface Intersection
- Match Edges
- Overcrown Stitchability Option
- Unconstrained Free Edge Mapping
- Excel Link (Windows Platform Only)



Part Components

New Capability Drives Workflow Productivity

- New Create Component Command
 - Re-use Part Features
 - Full Intra-Part Associativity
 - Copy History across Branches
- History Tree
 - Guides Bushy History Tree
 - Faster Replay than Linear Trees
- Benefits
 - Simplify Data Hierarchies
 - Improves Part Update Performance
 - Reduces Time Spent on Modifications
 - Improved Ability to Re-use Part Data

"For companies looking to evaluate design alternatives in an automated fashion, I-deas' Part Components offers an innovative approach. This significant new capability in I-deas 10 NX Series merits close investigation."

Bruce Jenkins

Executive Vice President

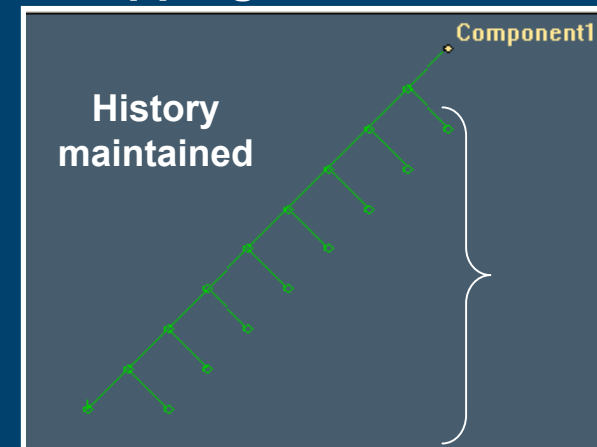
Daratech, Inc.



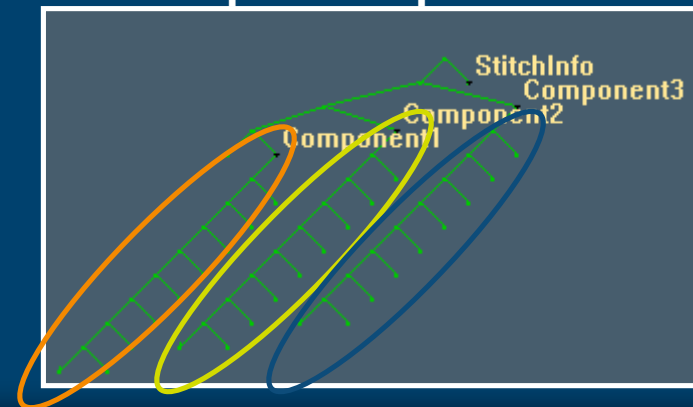
Create Component Command

- Create Component Command
 - Turn an Existing Part into a Component
 - Turn History Tree Branch into a Component
 - Create a Part Component from Scratch as New Part
- 'Map' New Component into an Existing Design
 - Similar to Orphans
 - Part Components Maintain History

Component Node Contains 'Surface' and 'Feature' Mapping Information



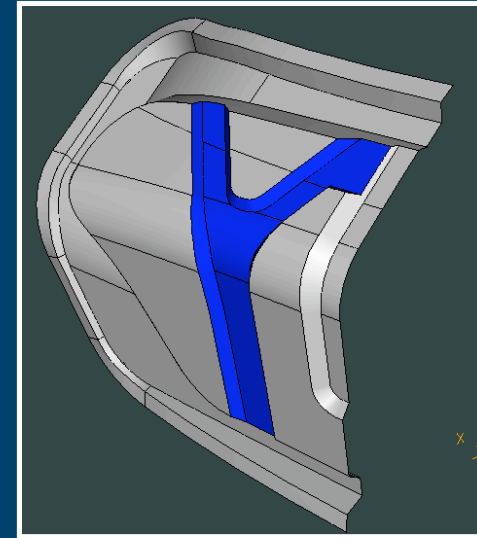
Single Part can Contain Multiple Components





Part Component Example - Decklid

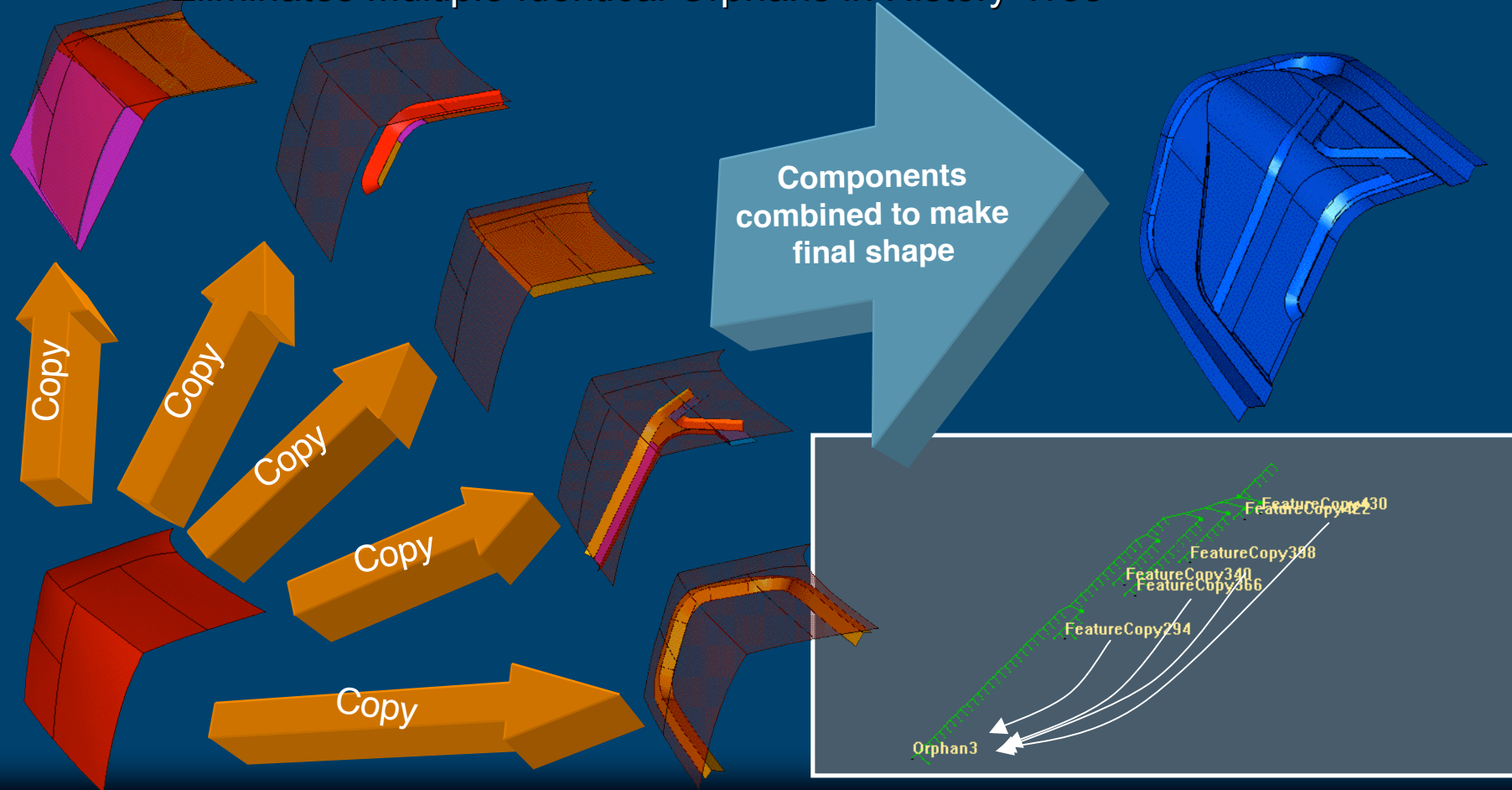
- Decklid 6 Key Engineering Design Decisions:
 - Styling, Support, Seal, Lock
 - Hinge, Inner Structure Shape
- Decklid Inner Structure Design Decision Options
 - “W” and “Y” Bone Structures
 - Both Options Exist as Components
 - Component is Embedded in Decklid Solid Part
 - Each Structure Component Option is Related to Styling Orphan via “Feature Copy”





Part Component / Feature Copy - Decklid

- Part Feature (Orphan) can be Copied to Component Branch(es)
- Associativity Maintained after Feature Replace
- Eliminates Multiple Identical Orphans in History Tree

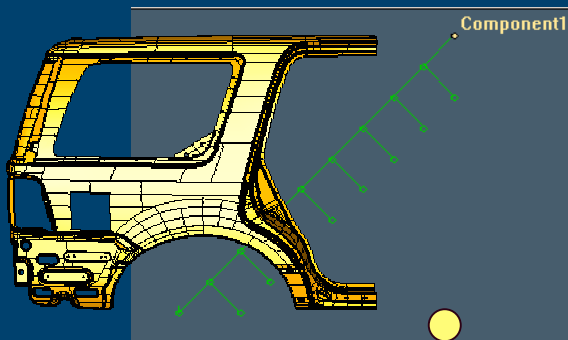
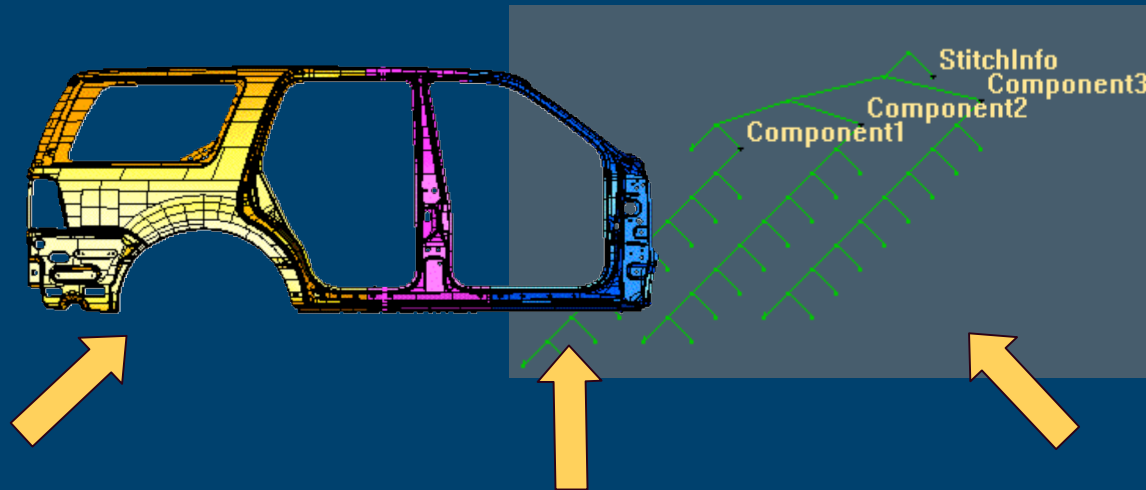




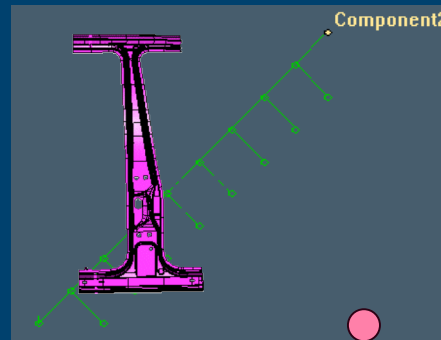
Part Components Facilitate Team Design

Multiple People Easily Work on the Same Part

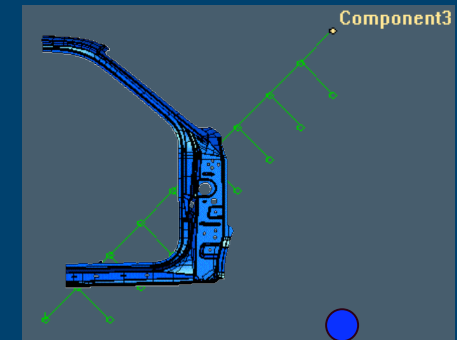
Designer A 
(responsible for Final Part)



Designer B 
(responsible for Component 1)



Designer C 
(responsible for Component 2)



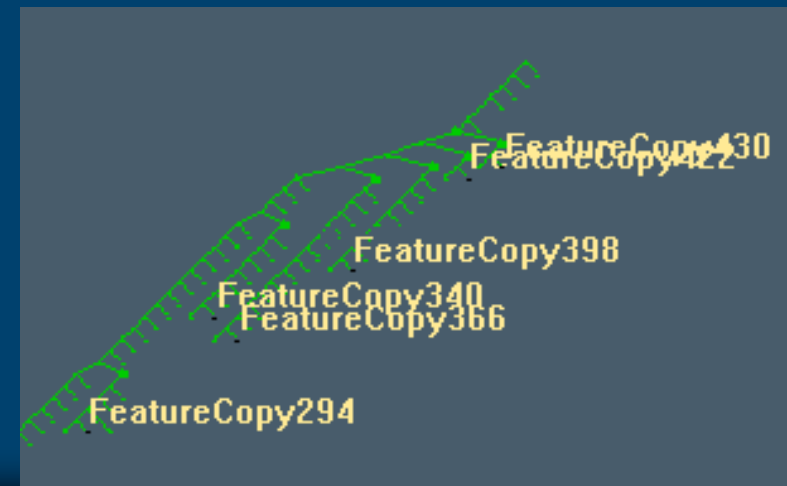
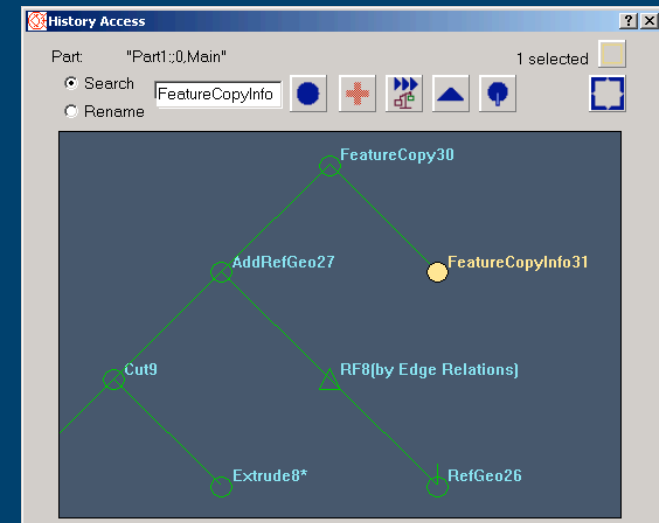
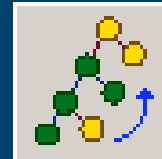
Designer D 
(responsible for Component 3)



Feature Copy

- Introduced in I-deas 8 M3
 - Associated Copy of Feature(s)
 - Optional Un-associated Copy
 - Auto Placement using Reference Points and Vertices

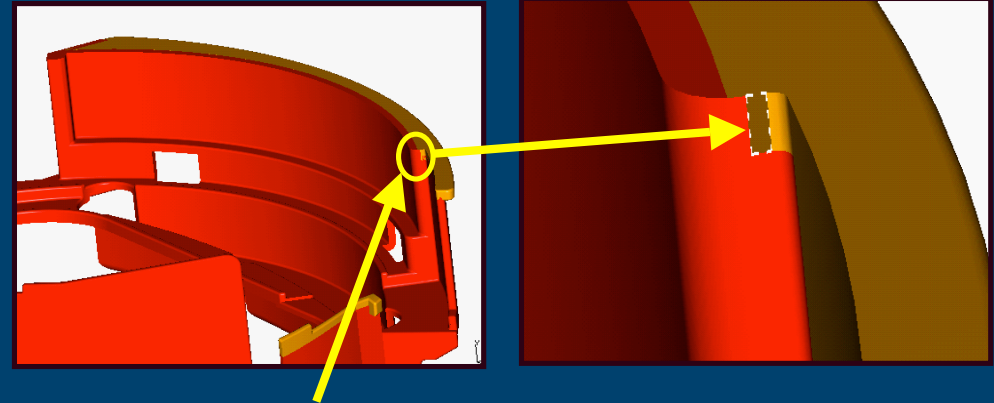
- New in I-deas 10
 - Feature Copy with Relations
 - Control over Copy Location
 - Feature Copy Across Branches





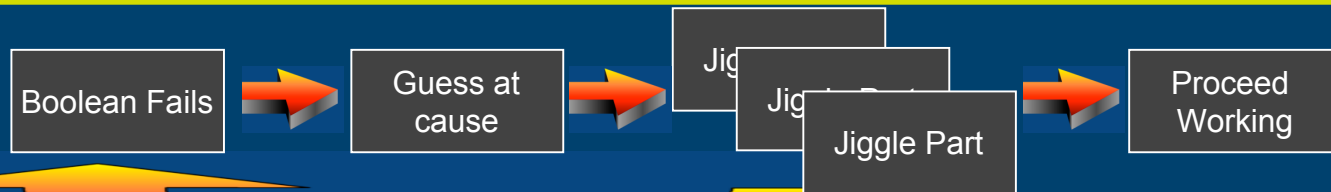
Boolean Workflow Drivers - Partial Results

- Boolean Partial Results
 - Output Partial Results to Easily Identify Steps to Achieve Desired Result
 - Provides Visual Indication of Problem Area
 - Diagnostic Messages

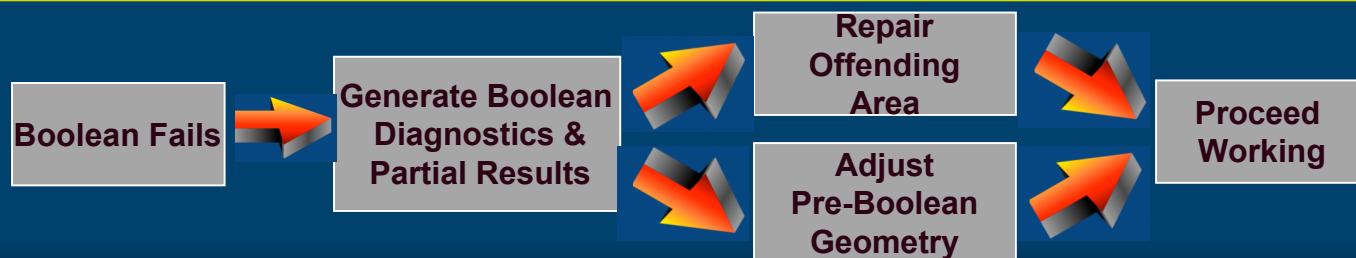


Partial Results Identifies Areas Needing Attention

I-deas 9
Workflow:



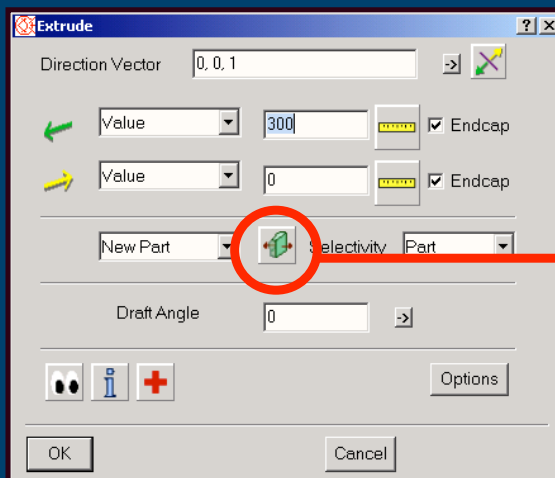
I-deas 10
Workflow:





Extrude Improvements

- Permit Construction Type Modification
 - Easy Modification of Construction Type
- Material Side Single Operator Framework
 - Material Side can be Applied during Extrude Operation
 - Improves Ease-of-Use when Modeling Open Parts
 - Material Side Stored in the Boolean Operation Node



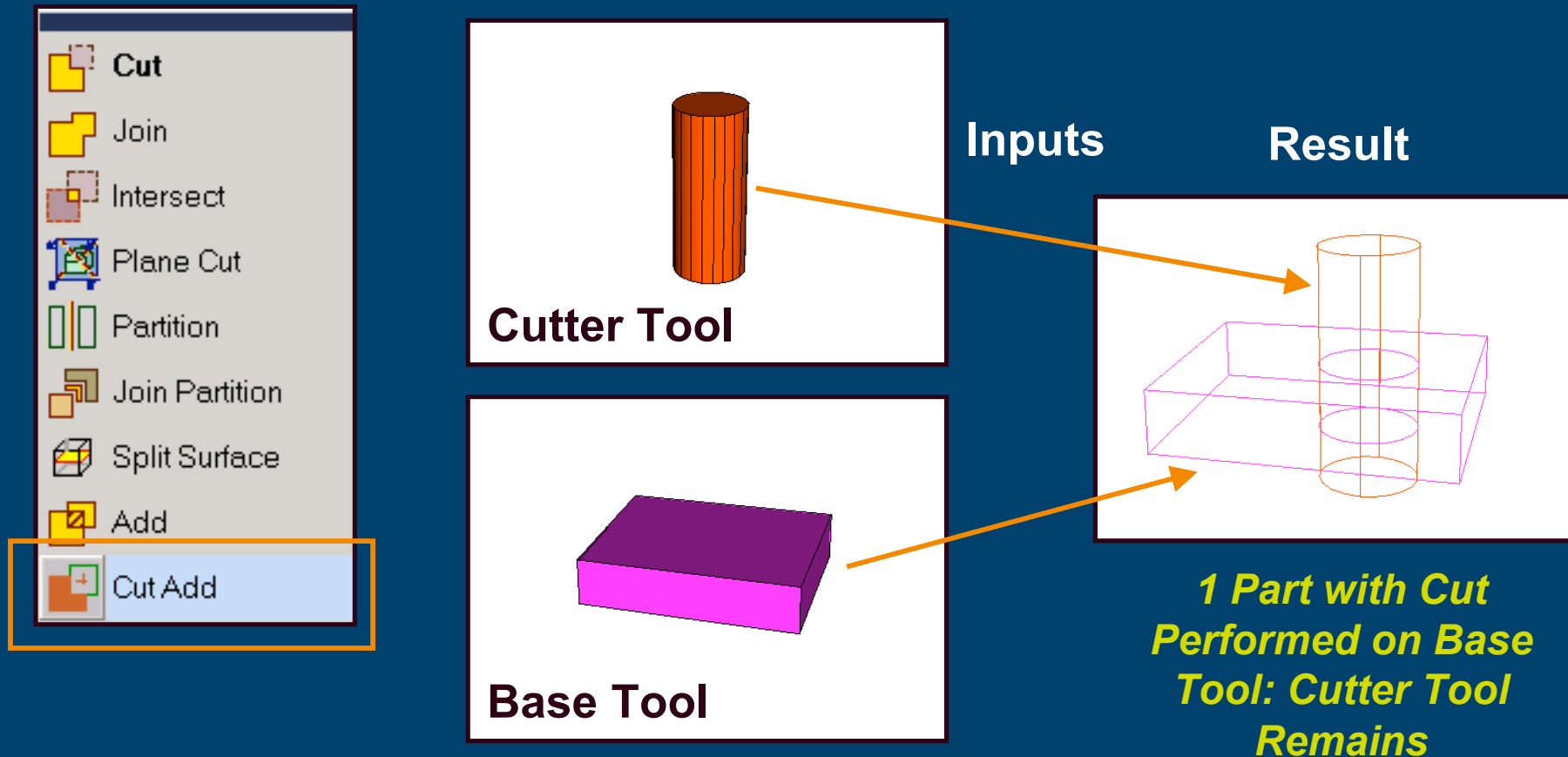
“Enhancements such material side within construct operation commands will definitely help to speed up the modeling and modification processes.”

Dave Brierley
Engineer – Interior Trim
Aston Martin Ltd
United Kingdom



New Cut Add Construct Operator

- New “Cut Add” Construction Option
 - Keeps Cutter Tool Available after Cut is Performed





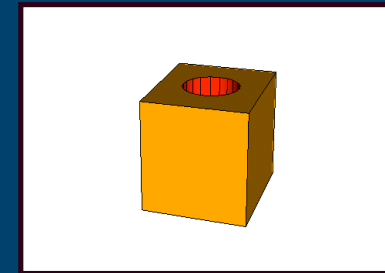
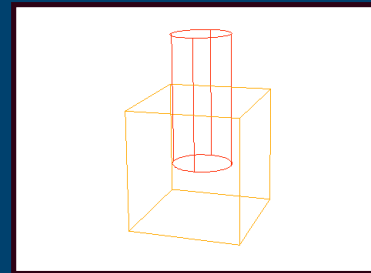
Inter-Part and Intra-Part Construction

- Inter-part and Intra-part Construction
 - Supported Combinations

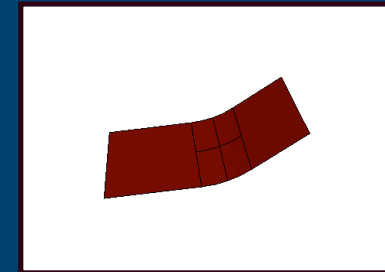
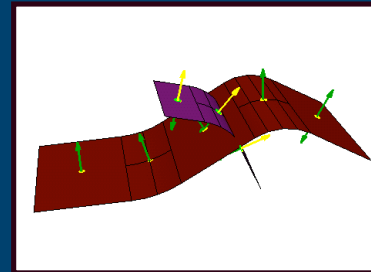
Combination and Options

Inputs → Result

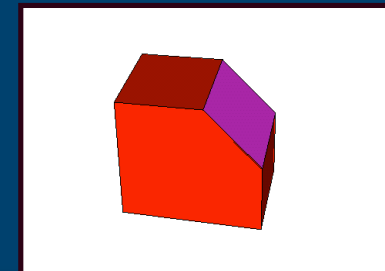
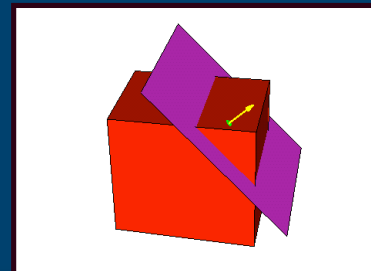
Solid / Solid



Sheet / Sheet



Sheet / Solid



Solid / Sheet



Section Builder Improvements

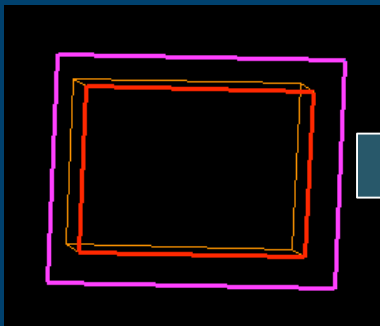
- Section Offset Selection Intent
 - More Robust Replay of Offset Sections after Modification
- Fillet Section Selection Intent
 - Improved Replay of Tangent Sections built with Fillet Wireframe

Step 3

Features replayed

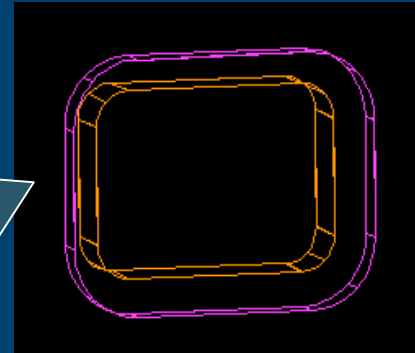
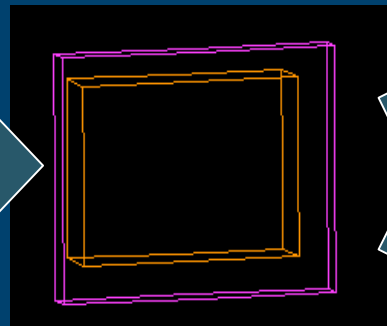
Step 1

Feature created with offset section

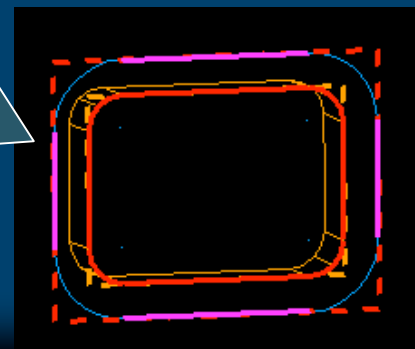


Step 2

Initial section is modified to include fillets



I-deas 10
Offset Section
replays with
fillets, no manual
repair necessary



I-deas 9
Offset Section
does not include
fillets, must be
repaired manually

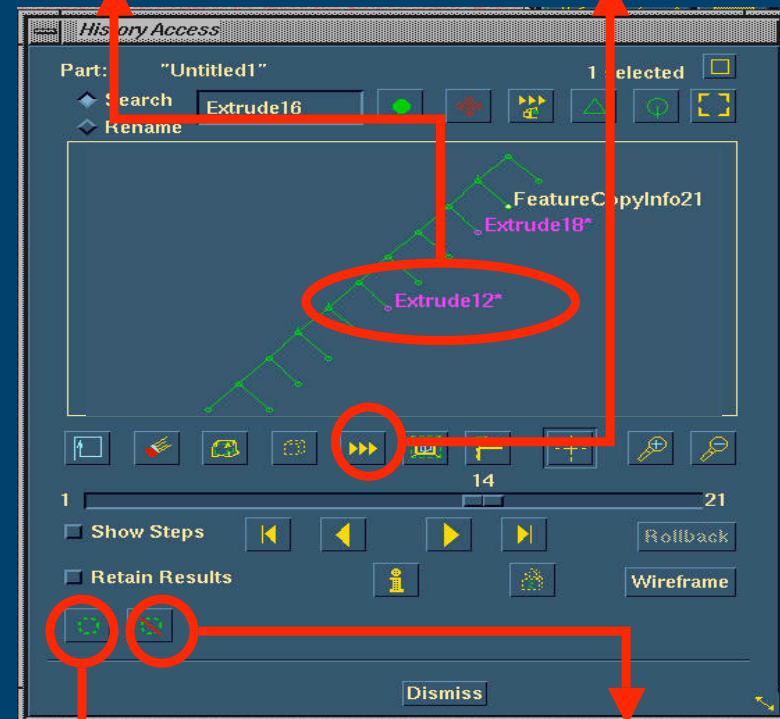


History Access Form Enhancements

- Part History Interaction Productivity Improvement
 - Display Performance for Parts with Large History Trees
 - On Average Twice as Fast as I-deas 9
 - Remember Last Zoom/Pan Position with Dismiss
 - Display Feature Copy Relationships
 - New Update Option within History Access Form
 - Improved Color Indicators

Feature Copy Dependencies Shown in Magenta

Update Button active when part needs update or is in a rolled-back state



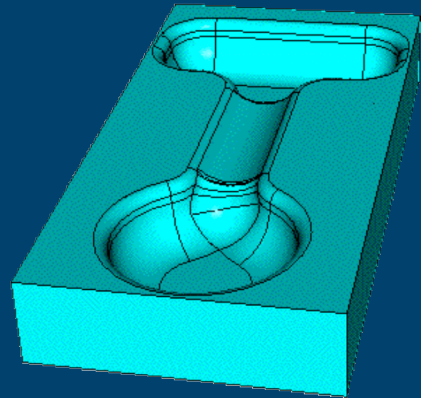
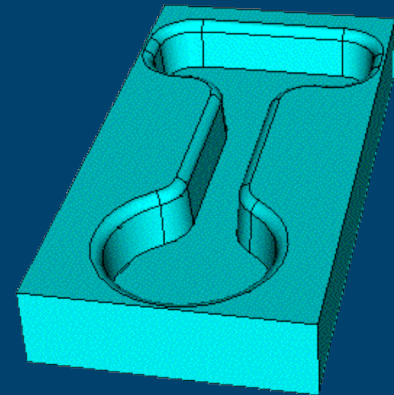
Retain Results on existing Branch Nodes

Clear Results on existing Branch Nodes



Fillet Enhancements

- Fillet Rollover
 - Fillet Algorithmic Enhancement
- Fillet User Interface Enhancements
 - Fillet Between Selection Improvement
 - Status Window
- Fillet Diagnostics
 - Edge Based Fillet and Fillet Between



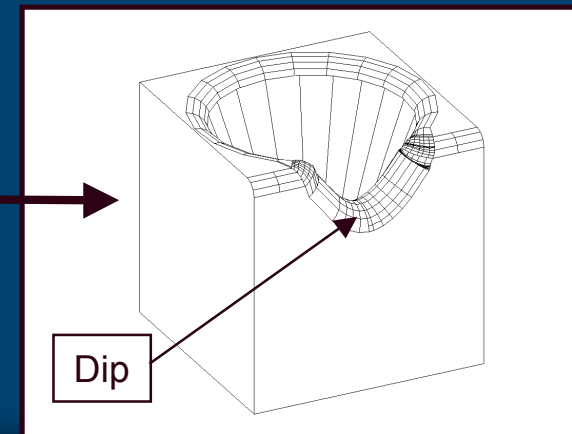
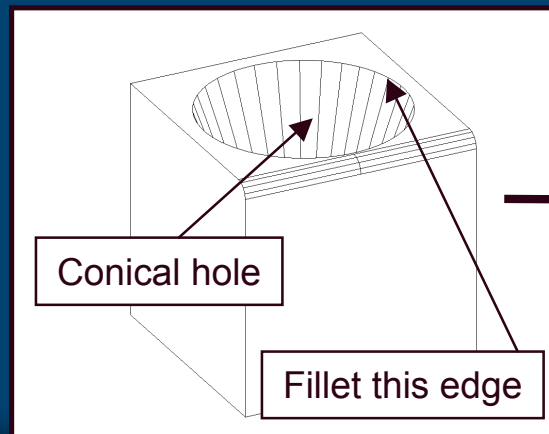
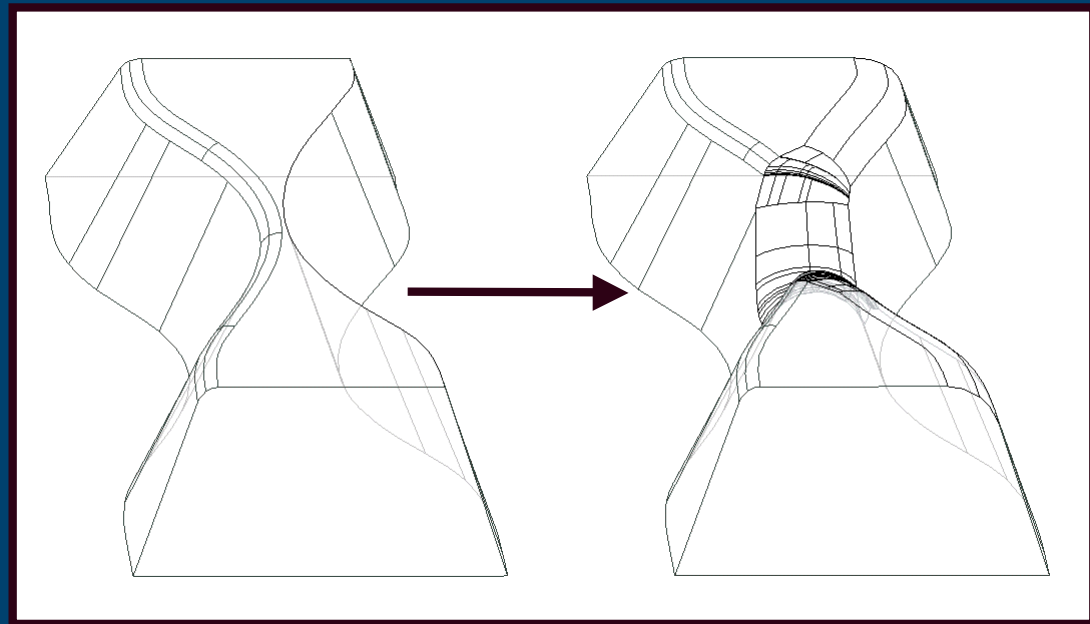
*Automotive Powertrain
Worm Trail Example for
Fillet Rollover*



Fillet Rollover

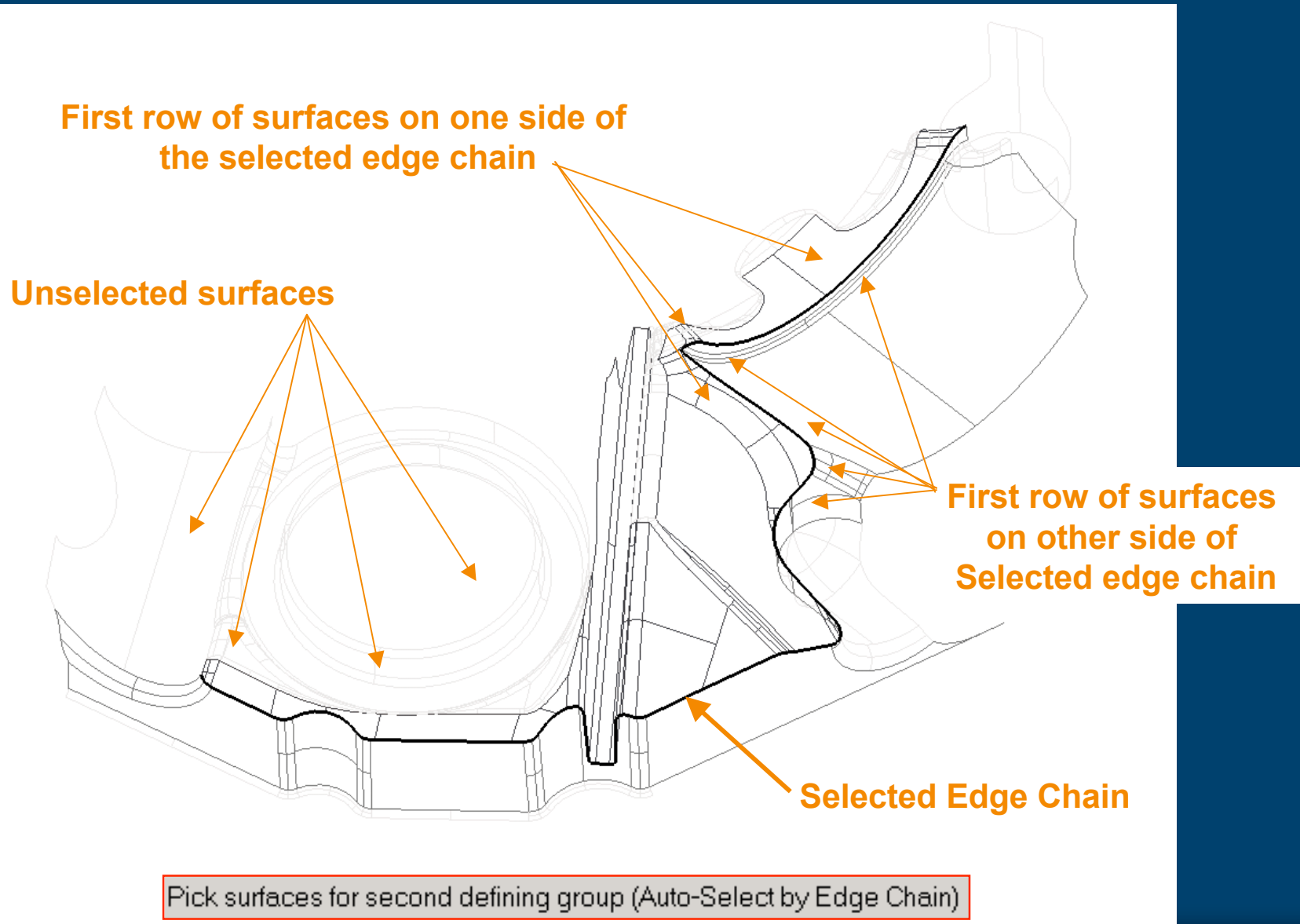
■ Fillet Rollover

- Ability for a Fillet to Roll Over Smooth Edges to Create Desired Solution
- Rollover is where the Fillet Trajectory Encounters a Smooth Edge of another Fillet or Surface
- Provides Robust Fillet Rollover to Handle Customer Provided Geometric Situations





Fillet Between User Interface

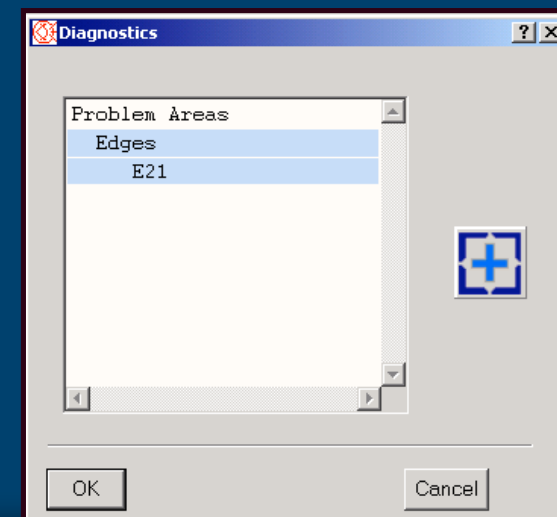
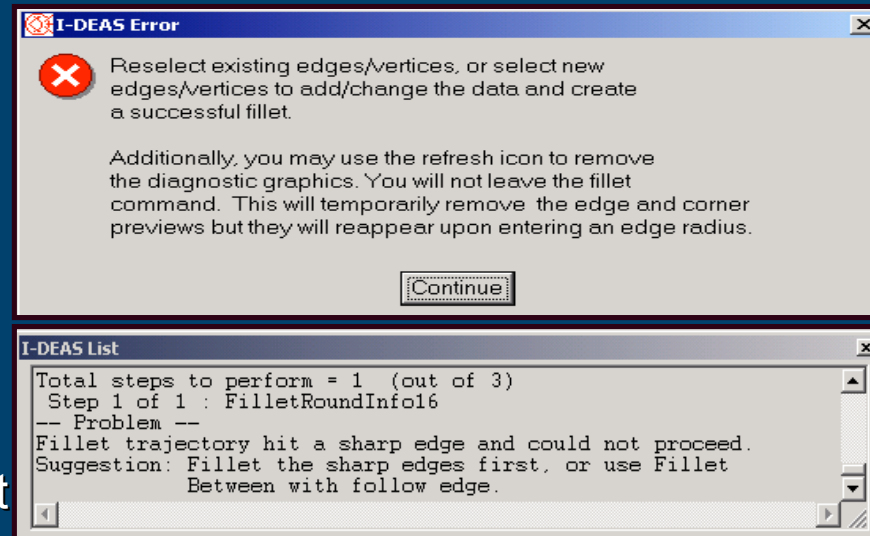




Fillet Diagnostics

- Fillet Diagnostics
 - RMB Option
 - Provides user-understandable description of the problem that caused the fillet to fail and if possible, recommend a way to fix it
 - Provides appropriate list region information about the fillet result / expected result
 - Provides graphical display and interaction that allows user to identify the problem area (similar to Shell and Construct Operations)

Do Diagnostics

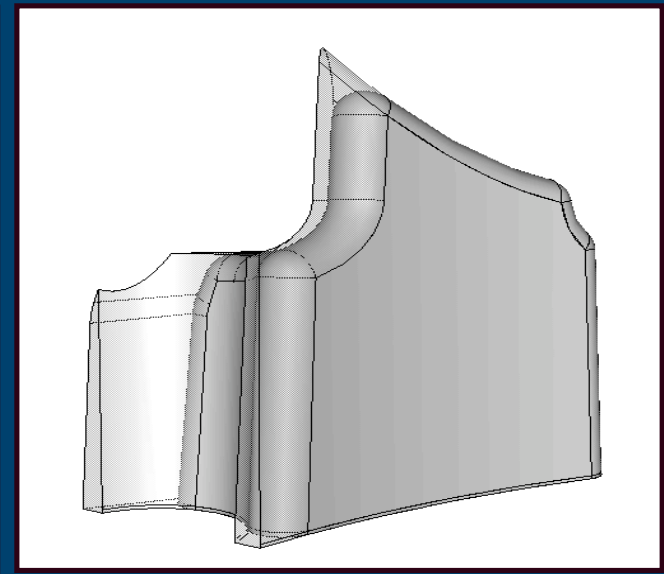
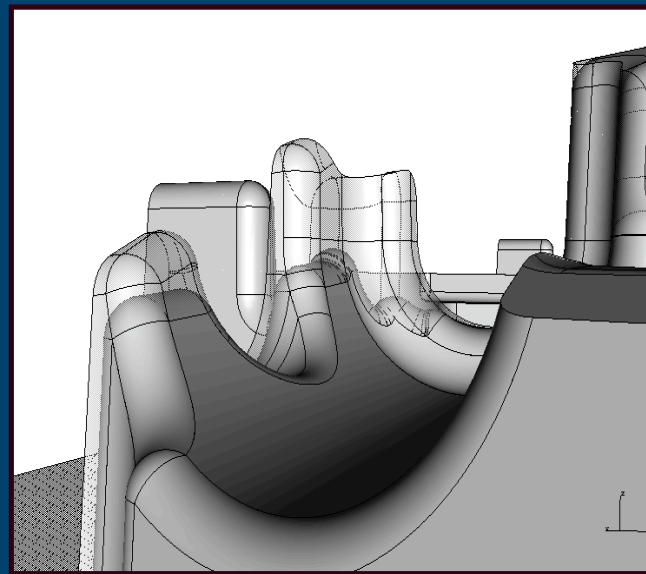
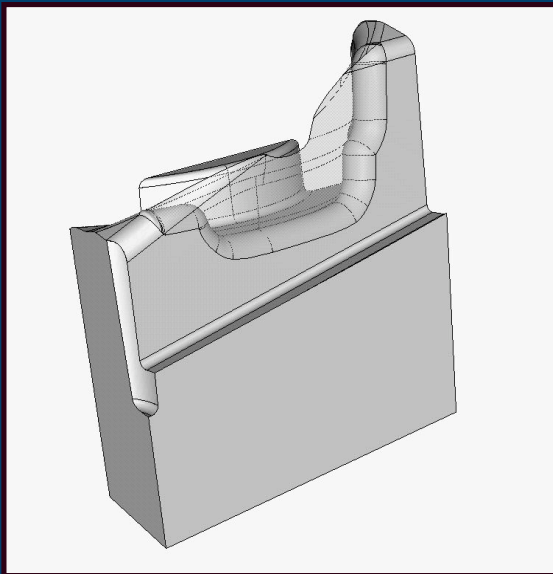




Fillet Customer Experiences

“Filleting is noticeably more complete and robust in I-deas 10 as compared to I-deas 9.”

Mark Bown
Senior Engineer – Chassis
Aston Martin Ltd.
United Kingdom

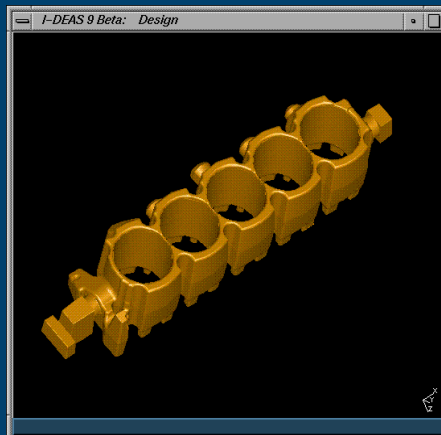


Workflow Fillet Cases

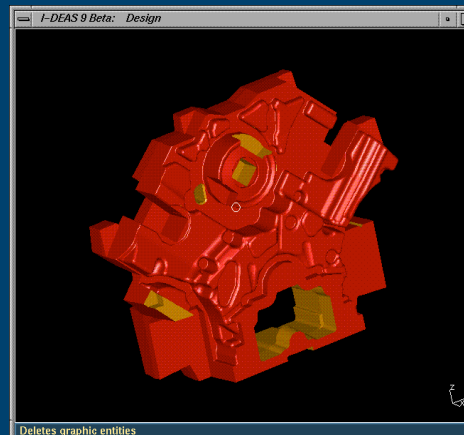


Shell Large Part Robustness Directions

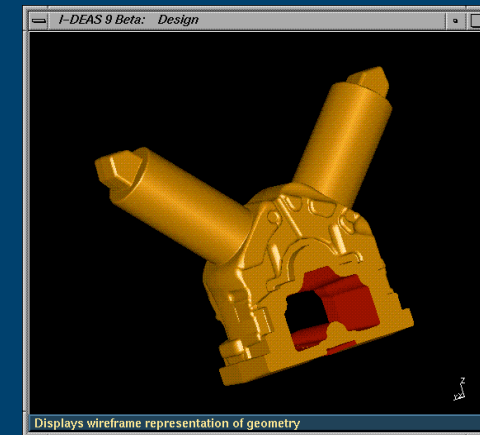
- Strong Positive Feedback from I-deas 9 Shell Enhancements
- I-deas 10 Targets Large Part Shell Improvements
 - Work Toughest Customer Provided Examples
- Provides New Shell Options for Handling Large Parts
 - Quick partial results
 - Surface Simplification
 - Partially Stitched Result



Example 1: 3588 Faces



Example 2: >3000 Faces



Example 3: 886 Faces



New Diagnose Part Options

- Objective to Provide Information About State of a Part
 - Data Integrity Diagnosis
- New “Diagnose Part” checks
 - Small Surfaces
 - Discontinuity within an Edge
 - Edge-Edge near Tangency
 - Edge-Edge Anti-Tangency (cusp)
 - Non-Manifold Models
 - Improved Invalid Geometry Checking
 - Improved Questionable Geometry Checking
 - Edges that End in the Middle of a Face (Scar Edges)
- HTML Output Summary
- Pre-Selection of Identified Entities

Diagnose Part

I-DEAS Validity Check Group Invalid_Geom

Questionable Geometry Checks

Small Geometry Checks

Short edge, less than 0.1 MM Group Short_Edge

Small surface, less than 0.01 MM² Group Small_Surf

Tangency Checks

Discontinuity within a surface Group Discontinuity_Sur

Discontinuity within an edge Group Discontinuity_Edg

Edge-edge near-tangency, angle (deg.) Group Two_Edge_Near_T

Min 0.5 , Max 5

Surface-surface near-tangency, angle (deg.) Group Two_Surface_Near

Min 0.5 , Max 5

Edge-edge anti-tangency, angle (deg.) Group Two_Edge_Anti_Ta

Max 5

Topology Checks

Non-manifold model Group Non_Manifold

Duplicate surfaces Group Duplicate_Surface

Edges that end in the middle of a face Group Scar_Edge

Surface self intersection Group Surface_Self_Inter

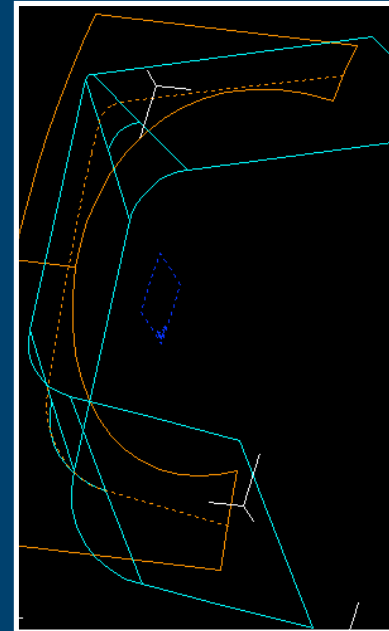
Free (unstitched) edges Group Free_Edge

OK Cancel



Quilt / Quilt Intersection

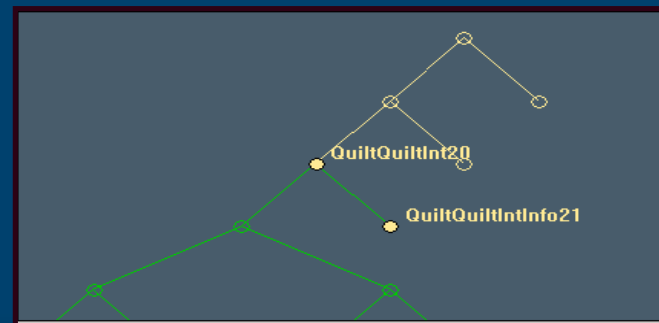
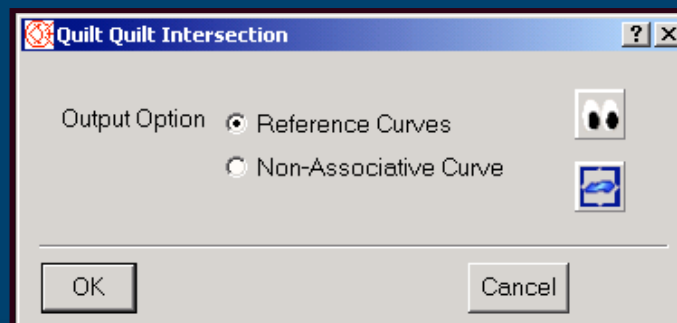
- New Operator / New Command
 - Works on a Collection of Connected Surfaces
 - Creates Associative Intersections
 - History Support (New Node)
 - Provides Selection Intent during Part Replay
 - Replaces Surface – Surface Intersection Command



RefCurves



Green Curves



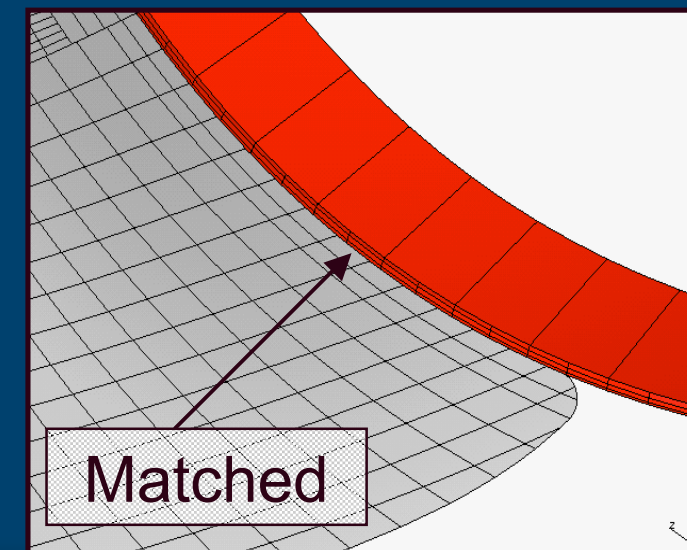
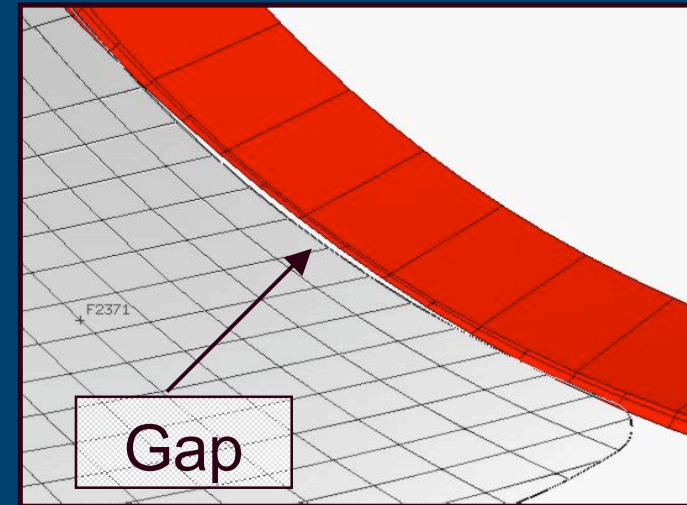


Match Edges

- Match Edges Provides the Ability to Match Quilt Boundaries with:
 - Quilt Boundary Coincidence (G0)
 - Quilt Boundary Tangency (G1)
- Matched Quilt will be Adjusted According to Target Quilt in order to Influence Tangency, while Preserving Shape

“The new “match edges” functionality reduced the job of healing geometry of an imported part from four hours down to twenty minutes. This ability to heal gaps by making faces tangent and their edges coincident will provide tremendous productivity gains, as we often import geometry through STEP and IGES.”

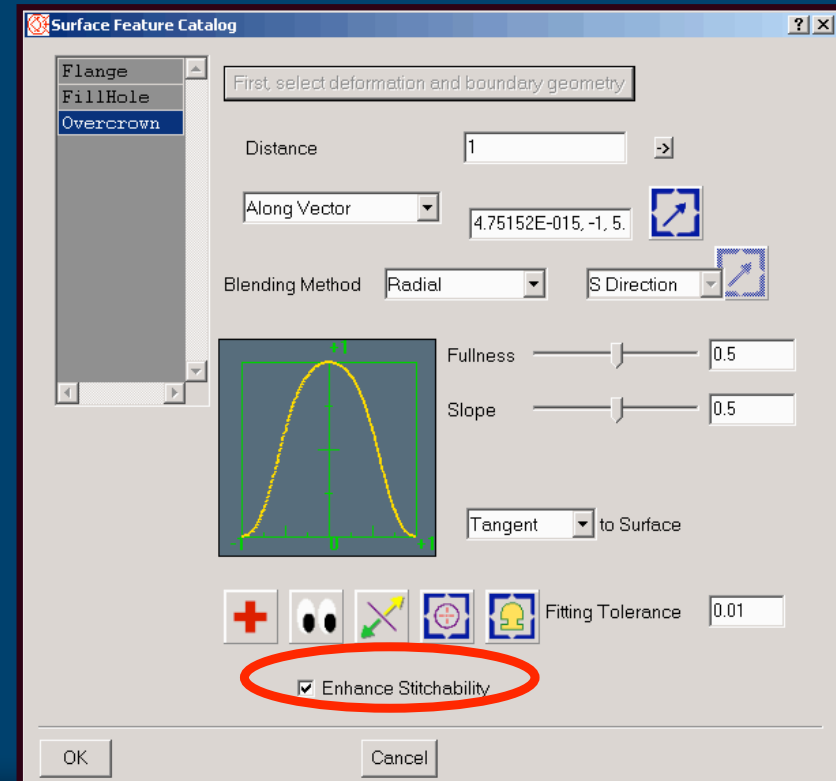
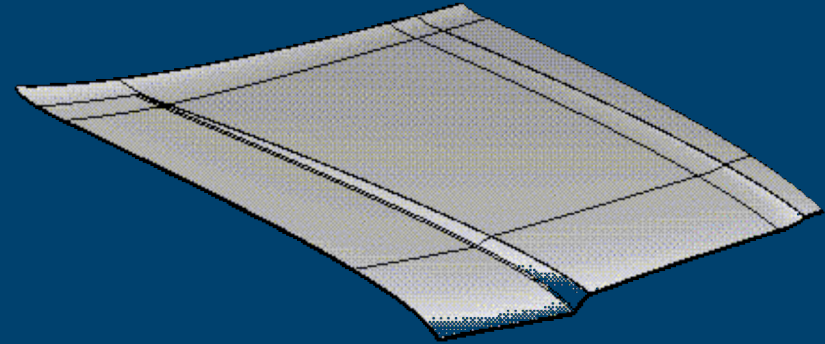
**Keith Irvine, CAD/CAM Engineer
Vertex Pacific Limited, New Zealand**





Overcrown

- New Option to Produce Free (Unstitched) Edges
- New Functionality in I-deas 9
 - Creates Constrained, Stitched Edges
- User Request Option to Turn Edge Constraining Off
 - Result is Unconstrained, Unstitched Edges
 - Implemented as User Interface Option
 - Some Users Believe this will Result in Better Quality Overcrown Surface





Unconstrained Free Edge Mapping

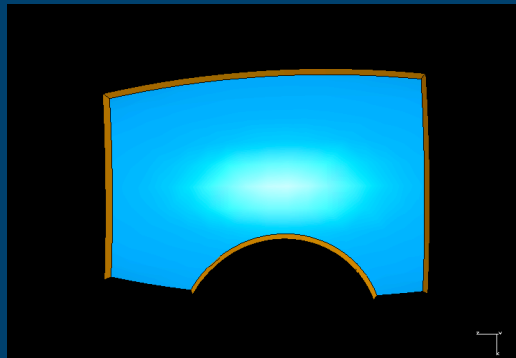
Orphan Replace Mapping Enhancements

- Challenge
 - Provide Additional Choices to User for Mapping Boundaries
 - User's Need to Be Able to Assign Roles of Boundaries to Ensure Downstream Update in All Cases
 - Downstream Feature Dependencies Maintained for Successful Update
- I-deas 9 and New I-deas 10 Workflow Productivity Improvement Comparison Highlighted on Following 2 Slides

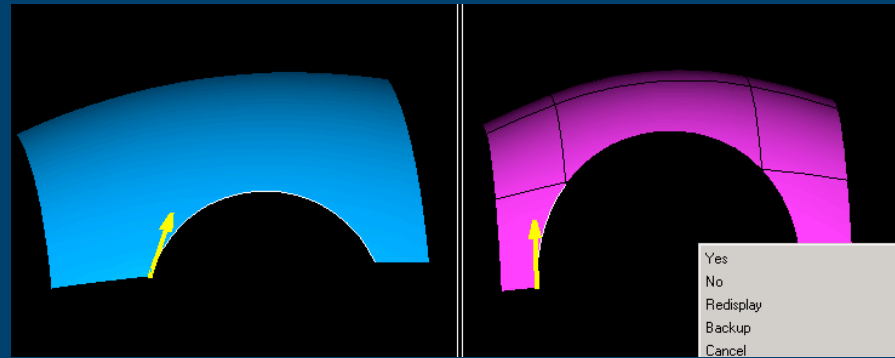


Existing Workflow - Orphan Replace Mapping

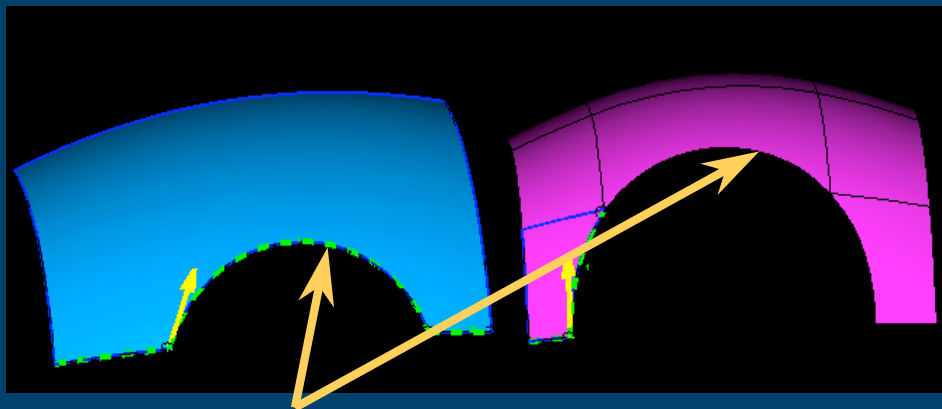
I-deas 9 Orphan Replace Mapping Workflow



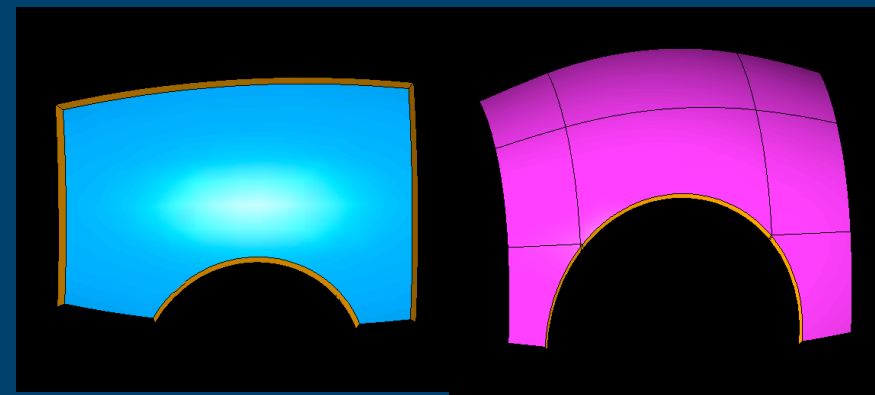
Step 1: Surface Model with Flanges Attached



Step 2: Replace Base Orphan with New Definition



Step 3: First Surface Mapped, No Opportunity to Map Remaining Edges

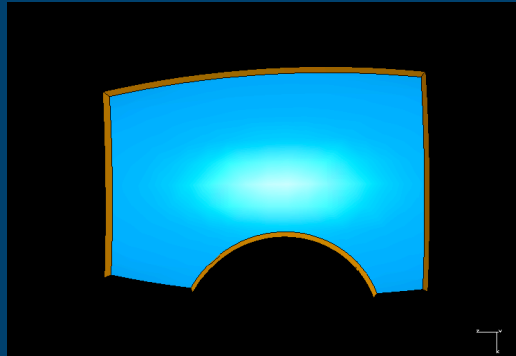


Step 4: Results in Missing Flanges Along Unmapped Boundaries

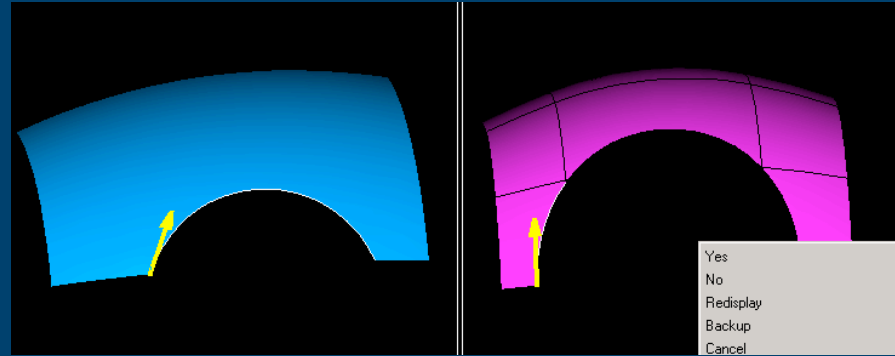


New Workflow – Orphan Replace Mapping

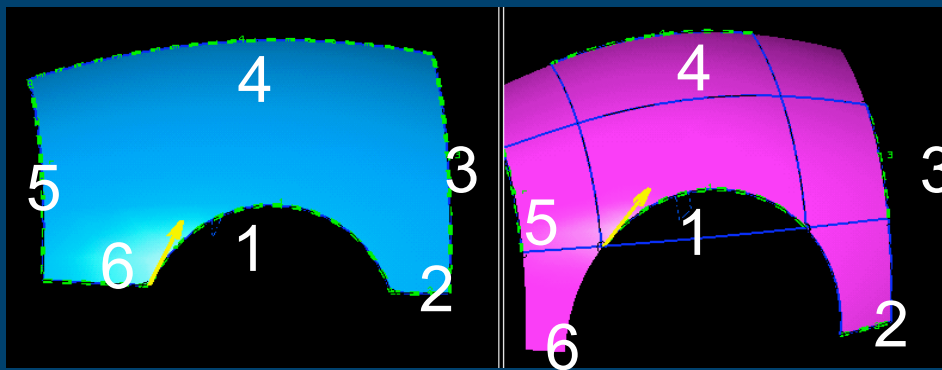
I-deas 10 New Orphan Replace Mapping Workflow



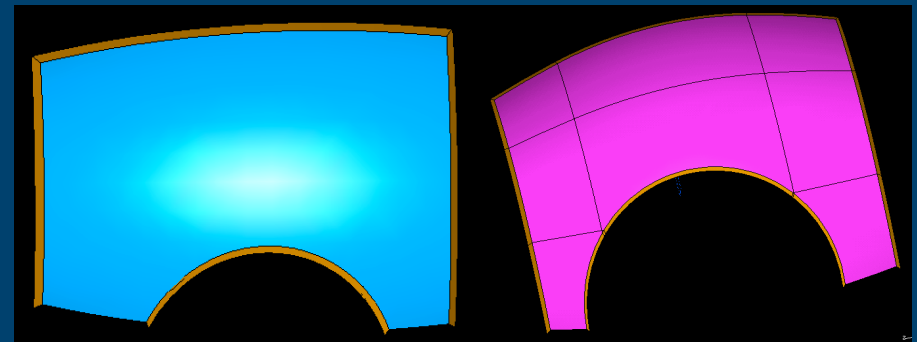
Step 1: Surface Model with Flanges Attached



Step 2: Replace Base Orphan with new Definition



Step 3: User Now Has Flexibility to Choose Desired Target Edges for Mapping

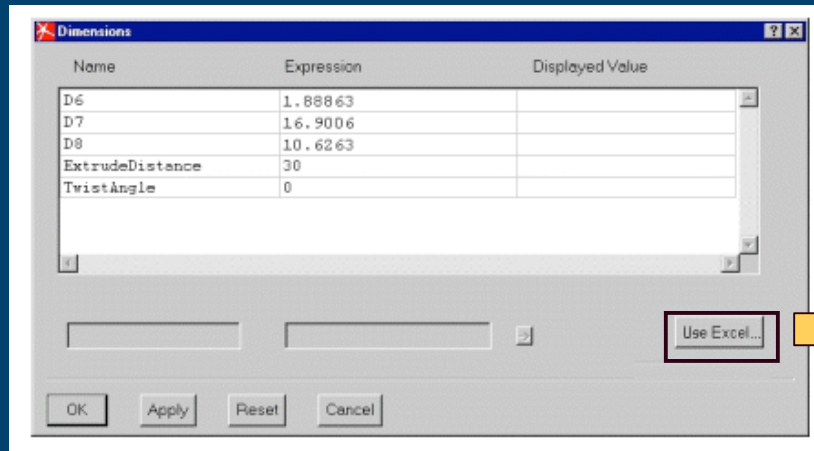


Step 4: Downstream Features Replay as Desired



Excel Link

- General Usability and Associativity Workflow Improvement
 - Support Part and Assembly Dimensions Driven from Spreadsheet
 - Associatively Replay Part and Assembly based on Changes to Driving Parameters in Excel
 - Spreadsheet can be Imported and Exported
 - Windows Platform Only



Name	Expression	Result of I-Units	Status
Part name	Base		
Part numb	00-233C		
D6	1.88863	mm	New value from I-DEAS
D7	16.9006	mm	New value from I-DEAS
D8	10.6263	mm	New value from I-DEAS
ExtrudeDis	30	mm	New value from I-DEAS
TwistAnge	0	degrees	New value from I-DEAS



I-deas 10 Open I-deas Enhancements

- New Open I-deas Support for the Following Modeling Operations
 - Create Lofted Surface
 - Create Surface by Boundary
 - Fit Surface Through Set of Points
- Orbix 2000 Implementation
 - Moves I-deas from Basic Object Adaptor to Portable Object Adaptor
 - Conforms to CORBA 2.3 Standard
 - Will Require Some Open I-deas Program Updates
- Open Architecture (OA)
 - Announced Withdraw of OA at I-deas 9
 - OA Removed from I-deas 10



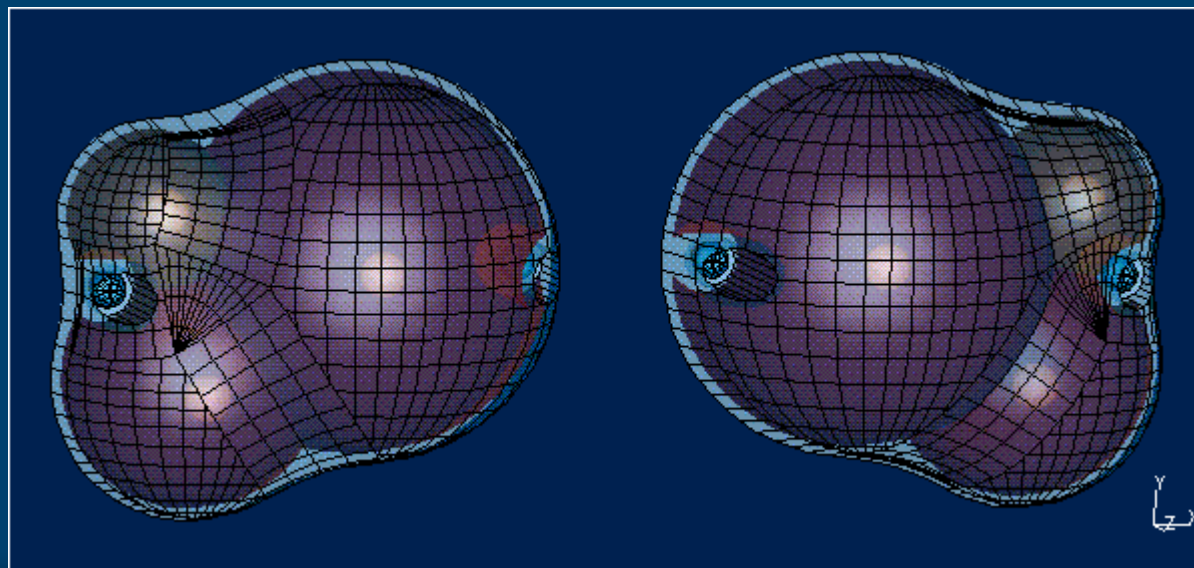
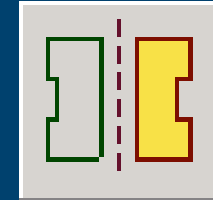
I-deas 10 Harness Design Enhancements

- Selective Open I-deas Layer for Harness Design
 - Select Harness and Harness Components
 - Query Records for Given Harness Content (Bundle Shape, Attributes)
 - Modify Bundle Segments, Curve Geometry, and Color of Bundles
 - Add User Defined Attributes to Bundles
- Path Shape Tool Enhancements
 - Modify Bundle Path Shape by Reducing Control Points
 - Modify Through Point Constraints
 - Option to Display Bundle and Dressing Meshes While Shaping the Path
- Splice as Bundle Non-Terminator
 - New Type of Cable and Wire Terminator Part
- Preserve User Defined Wirelist Data in I-deas Harness Database
 - Improves ECAD and Harness Workflow



Assembly Reflect

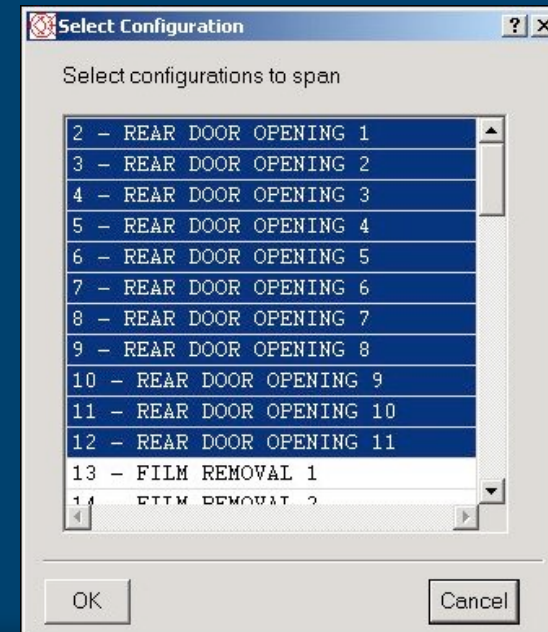
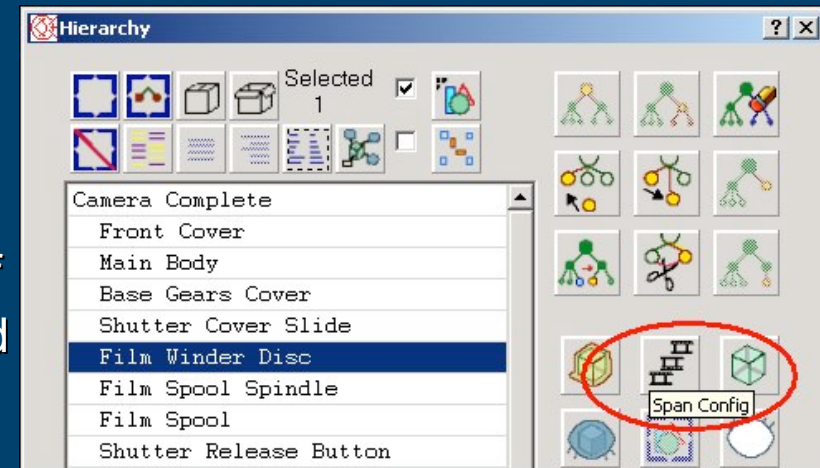
- Assembly Reflect
 - Reflect Assemblies or SubAssemblies
 - Reorient Symmetric Components
 - Associatively Reflect Asymmetric Components (ACF)
 - Non-Associatively Reflect Asymmetric Components
 - Optionally Reuse Components Previously Reflected





Span Configurations

- New Icon in the Hierarchy Form
- Copying the Hide/Suppress state of selected instances to other selected configurations





Assembly Owned Reference Geometry

- Apply Assembly Constraints to Assembly Reference Geometry Tracking a Single Instance
 - Assembly Constraint/Dimension Creation
 - Relations Browser - Undo Create Constraint
 - Show Free - Info Listing
 - Assembly Drag - Constraint Loop Detection
 - Dimensional / Geometric Constraint Repair
 - Color code status evaluation for constraints tracking ARG
 - Modifications to Allow VG Solve of an Assembly with Constraints Tracking ARG
- Create Assembly Owned Standalone Reference Point Series
- Allow Assembly Reference Geometry to be Owned by a Harness



Assembly Performance Improvements

Building on Performance Gains from I-deas 9 M Releases

- Large Assembly Performance Improvements for Assemblies and SubAssemblies with a Lot of 3D Annotation and Model Views
 - Improved Performance for the Following operations:
 - Get to Workbench
 - Unpruning Assemblies
 - Change Config (especially for models with 3D views)
- Assembly Operations on Assemblies with lots of Assembly Features
- Assembly Hierarchy Node Queries a lot faster
- Bounding Box Computation Improvements
 - Improved "Zoom All" and PMI Display Operations
- General Code Efficiency Improvements throughout Assembly



Dynamic Display Switching

- Dynamic Display Switching
 - Very Fast Graphics Display Switching Between Hardware Shading, Line, Hardware Hidden Line and Mixed
 - Iso Line Density Maintained in All Modes



Shaded Hardware



Hidden Hardware



Line

Ctrl+L



Mixed

“I-deas 10 is the most robust Beta code I have tested. Specifically the display performance enhancements, feature copy, and assembly reference geometry all look great and will be a significant help to our process !”

Egon Welter, CAD Manager
Siemens Power, Transmission and Distribution
Frankfurt, Germany

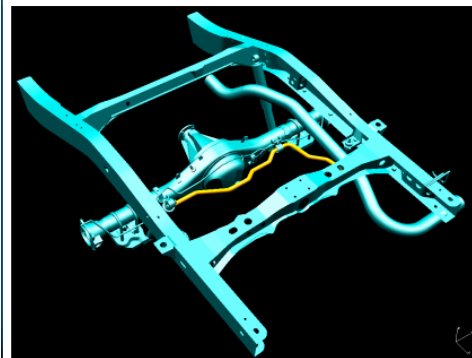


I-deas Team Data Manager (TDM) Integrity

- New “miadmin” Command Line Utility
 - Report on the Integrity of One or Many TDMs
 - Duplicate Version Numbers
 - Blank Item Names and Numbers
 - Different Item Names For the Same Item
 - Different Item Numbers For the Same Item
 - Latest Version Is Not Import/Export Locked in Multiple TDMs
 - Duplicate Version Numbers for All Versions of Both Items Representing a Migrated Drawing
 - Copies of a Migrated Drawing Related to Its Legacy Drawing
 - Multiple Migrated Drawings for Any Legacy Drawing
 - Duplicate Part Numbers
 - Correct Issues Identified in Report



I-deas 10 Annotation & Drafting Enhancements

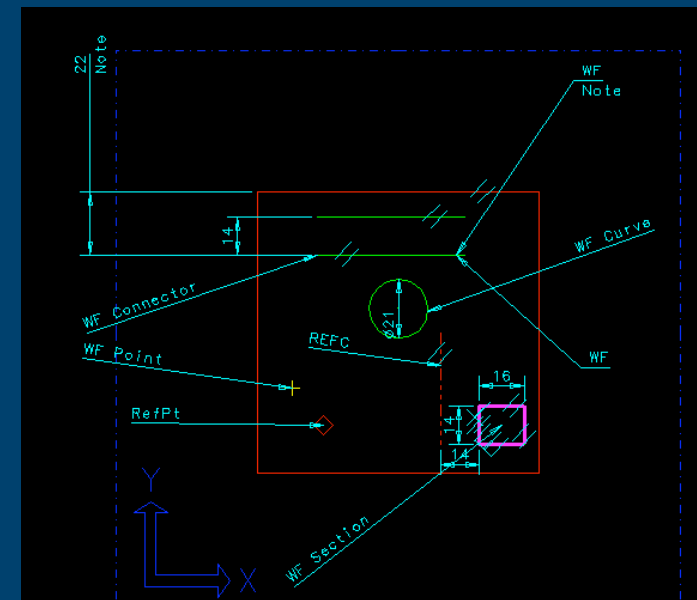
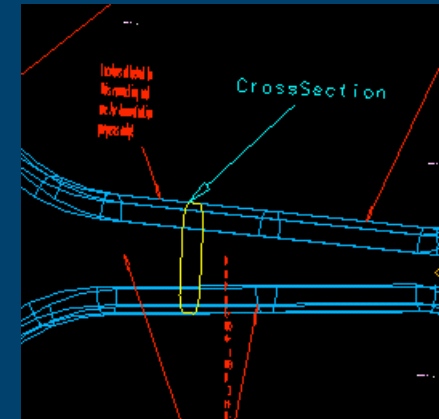


- 3D Annotation
 - Annotate 3D Wireframe
 - Persistent Reference Point
- Drafting
 - Unfolded Assembly Section View
 - New View Type
 - New User Controls to Identify Drawing Dimensions that Change Value Driven by Part/Assembly Changes



Annotate 3D Wireframe Geometry

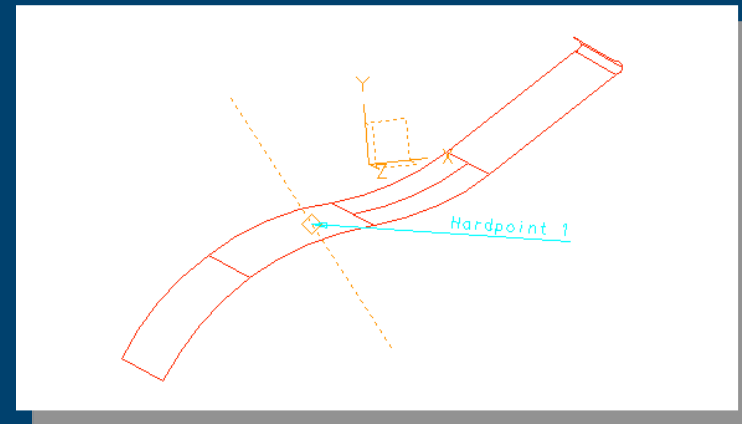
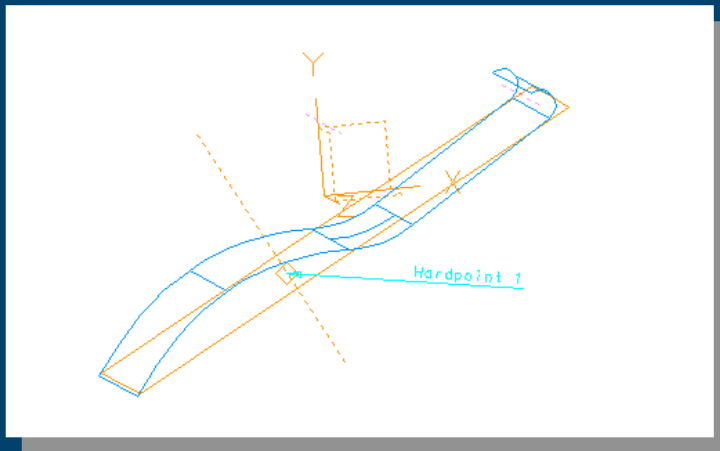
- Attach and Associate PMI Symbols and Annotation Dimensions to Wireframe Geometry
- Supported Wireframe Types
 - Points
 - Curves
 - Connectors
 - Sections
- Wireframe Geometry will be Selectable for Use by Assembly Owned Annotation if Annotation Owned by a Part
- Option to Process to Master Drafting





Persistent Reference Point

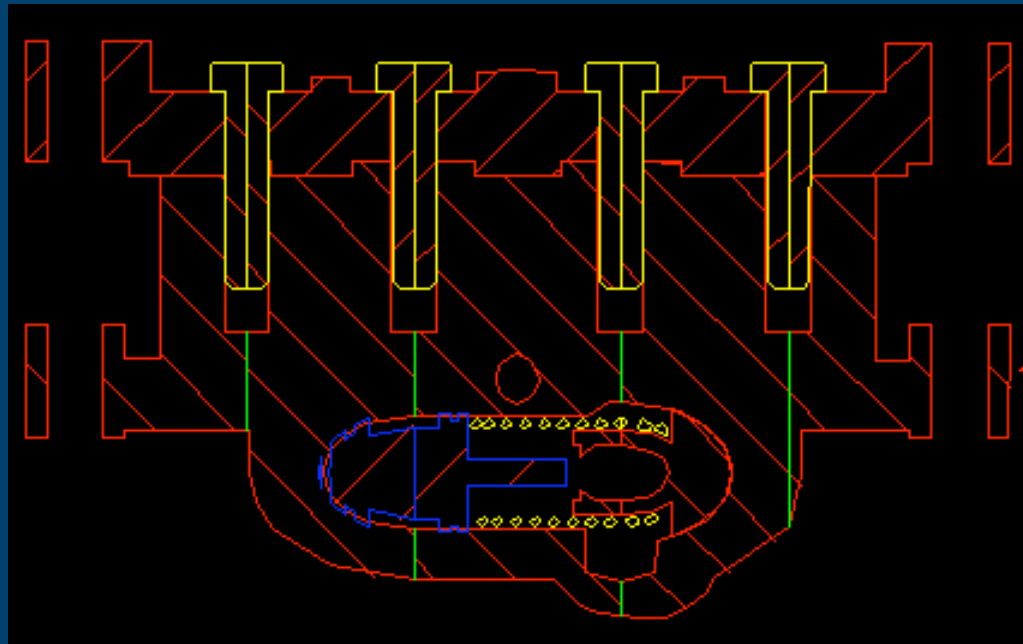
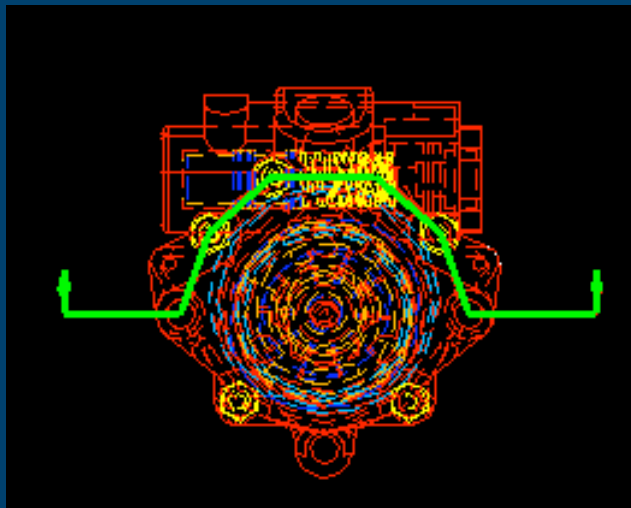
- PMI Tracks Persistent Reference Points in I-deas 9
 - Intersection of Line and Surface
- Two Additional Persistent Reference Point Tracking Methods
 - Automatic Update to Nearest Surface based on Vector and Position within Defined Tolerance
 - Automatic Update to Nearest Point Location within a Tolerance





New Section View Type

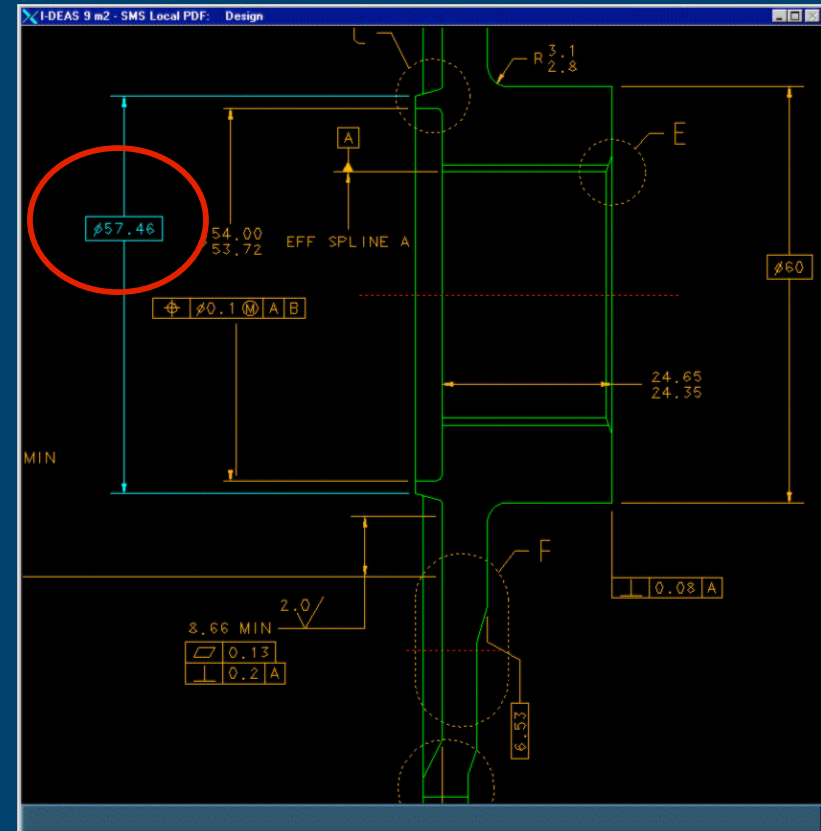
- Unfolded Assembly Section Views
 - Plane-only Result may now be Unfolded
 - Results from All Instances in One Plane
 - New for Assemblies, Already Exists for Parts





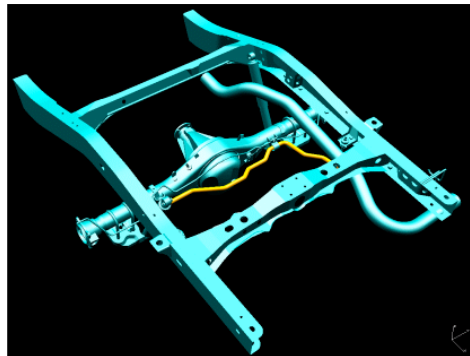
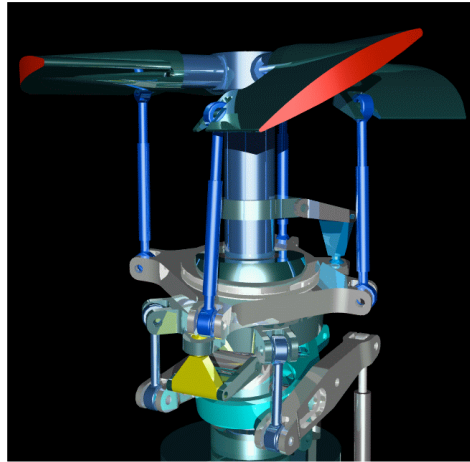
Identify Dimension Engineering Changes

- New User Controls to Identify Drawing Dimensions that Change Value Driven by Part/Assembly Changes
 - Identify these Dimensions by moving to new layer and/or changing to new color
 - Method is User Definable via masterdrafting.mm or masterdrafting.in parameter file





I-deas 10 CAE Pre-Processing Enhancements

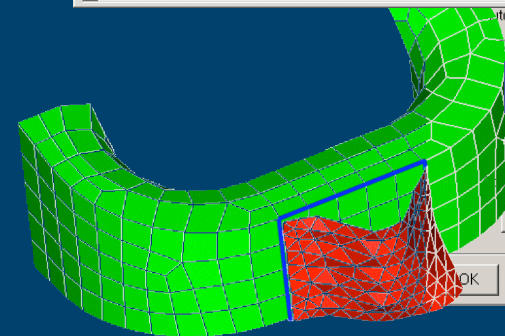
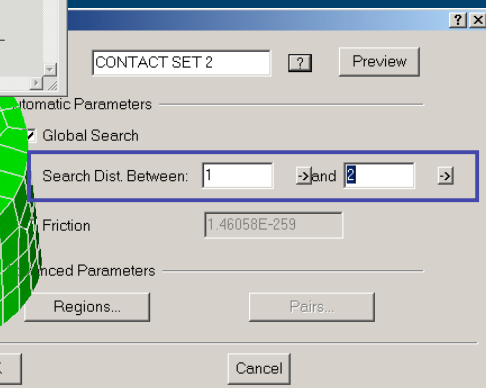
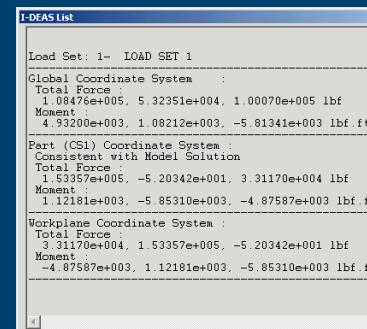
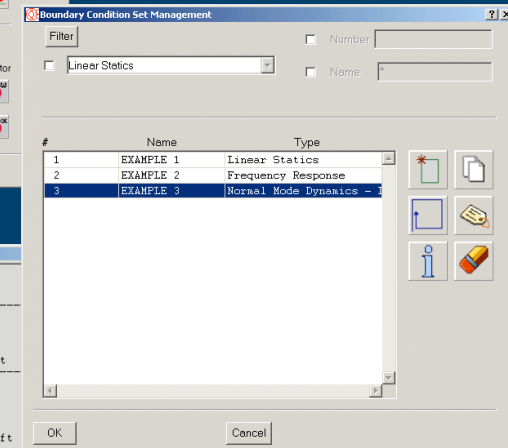
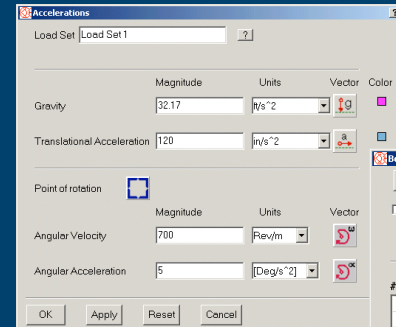


- Boundary Conditions Updates
 - Usability and Functionality
- FEM Point Connectors
 - Quickly connect components in a CAE assembly
- FE Model Checks
 - Graphical feedback of model quality
- Mapped Mesh Around Holes
 - Automatic generation of uniform meshes around features
- Interference Check/Fix
 - Automatic detection and correction of overlapping elements
- Section Meshing Updates
 - More tools for abstracting CAD geometry
- Large Model Abstraction and Meshing
 - Performance and Functionality
- Model Documentation
 - Automatic HTML reports of model statistics



Boundary Condition Updates

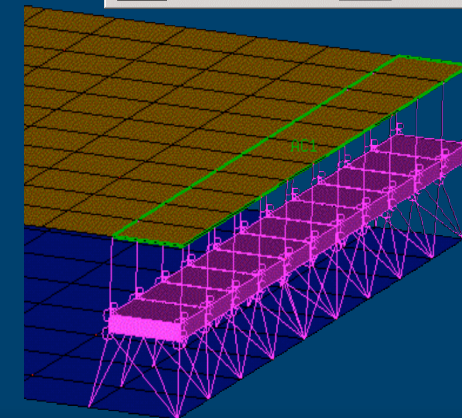
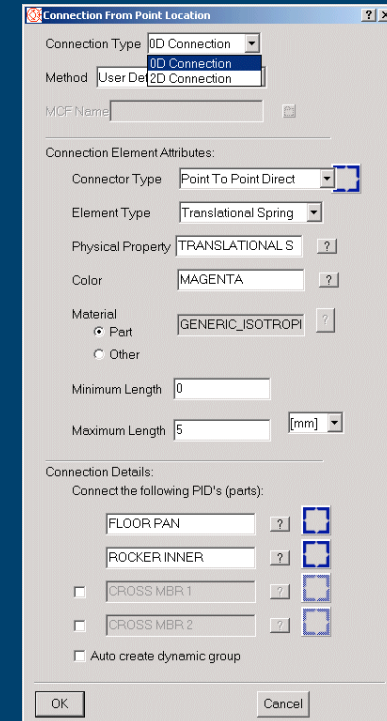
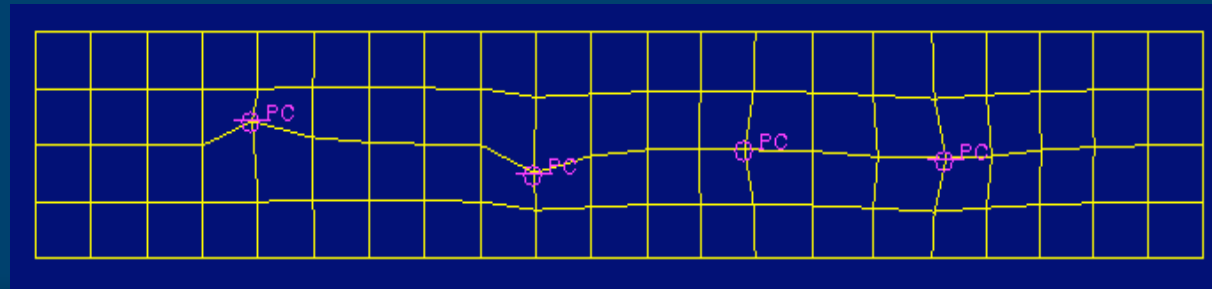
- New Acceleration User Interface
 - Forms based Data Input
 - Graphical Depiction
- New BC Set Management UI
 - Consistent with other BC Forms
- Model Check Sum
 - Total Load without Solving
- Contact Updates
 - Easier Input of Contact
- Data Surfaces on Sections
 - Now Supports Sections on Mesh
 - Non Uniform Data on any Geometry





FE Connectors

- Automated Method of Modeling Connections such as Spot Welds, Rivets, Fasteners, Adhesives
- Expands Existing FE Connection Utilities
- Point-to-point Direct Connectors (ACM1)
 - Modifies Target Mesh to Align with Defining Points, Creates Point-to-Point Elements
- Area Connectors (ACM1)
 - Creates Flexible Solids between Target Meshes and Connects with Constraints

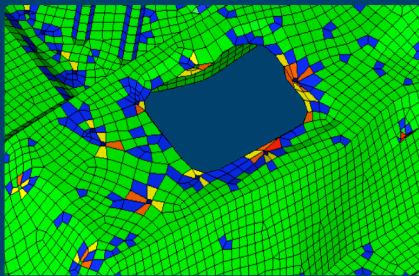




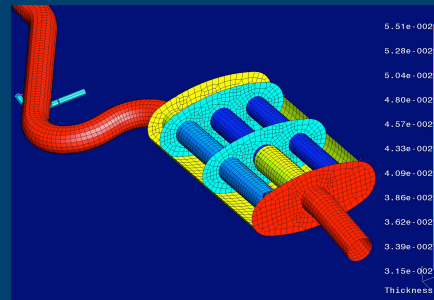
Model Check Displays

- Persistent Display of Element Quality, Attributes, Boundary Conditions or Mesh Section Quality

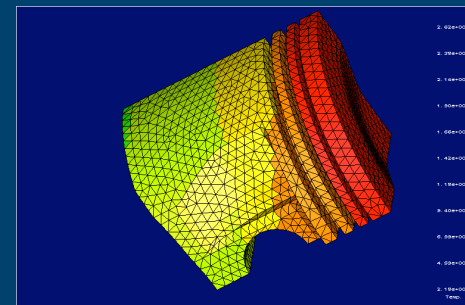
Element Quality Check



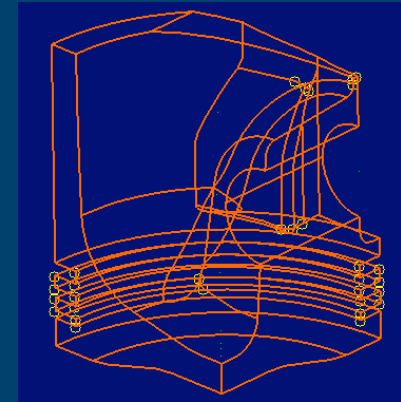
Element Thickness Check



Nodal Temperature Check



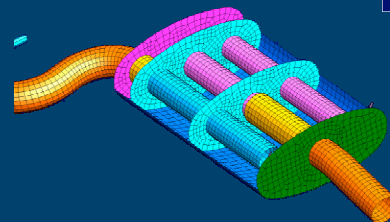
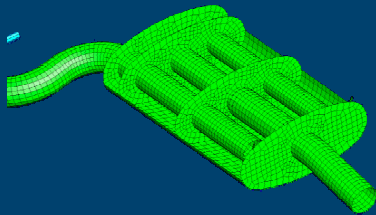
Mesh Section Quality



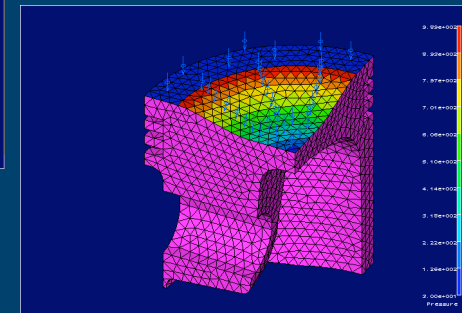
Physical Property Tables

Model Check OFF

Model Check ON



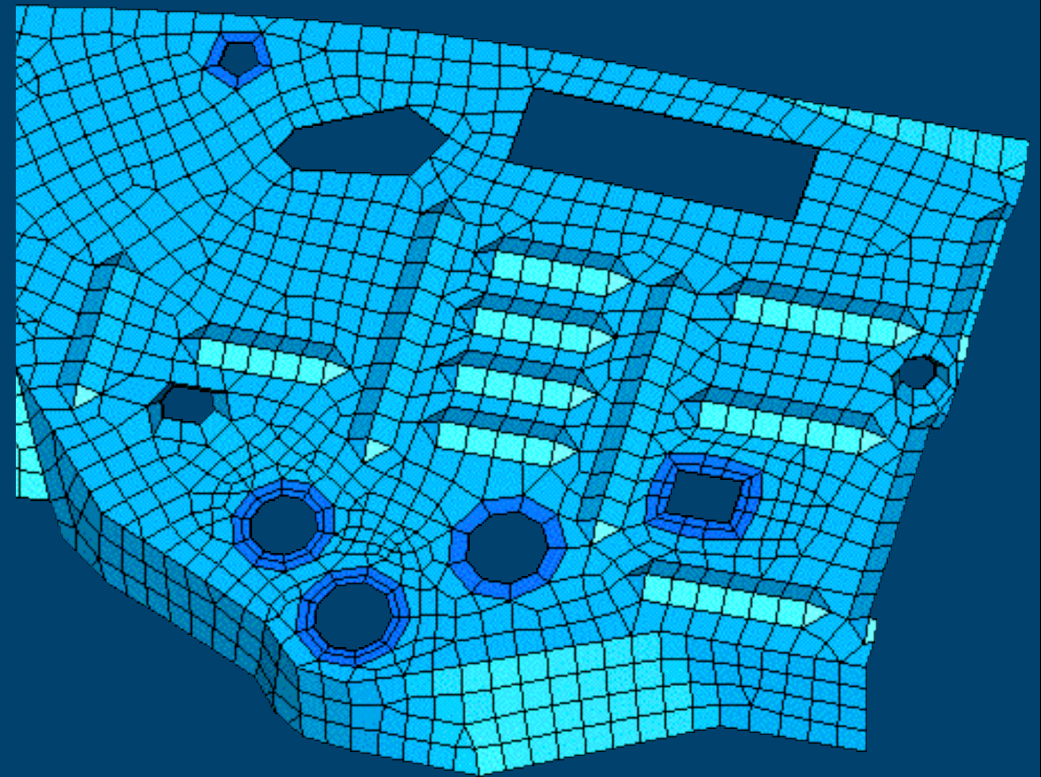
Pressure Check





Mapped Meshes Around Holes

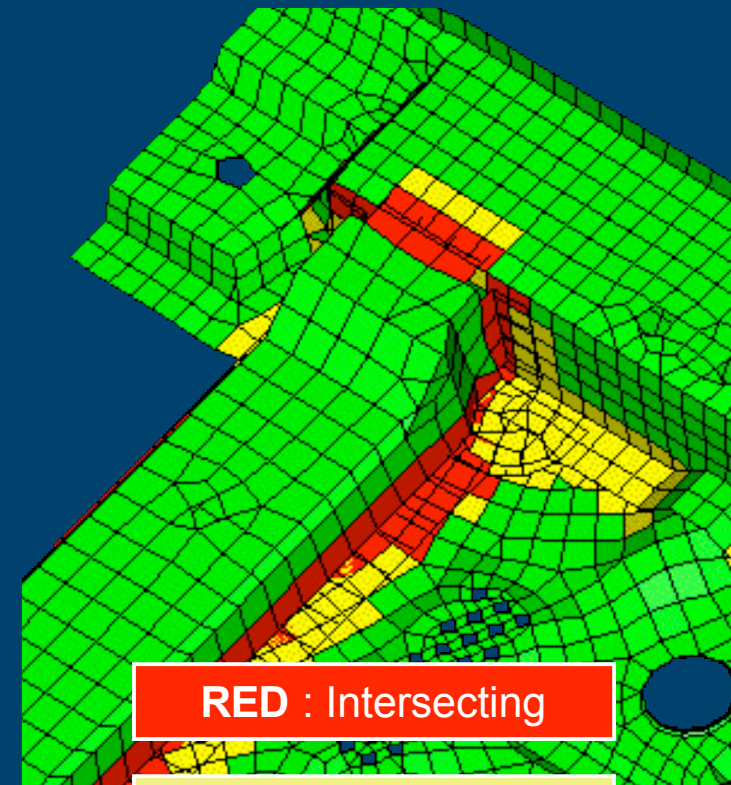
- Provides Extra Control in the Regions of Highest Interest
- Combines Free Meshes with Structured (Mapped) Meshes
- No Geometry Manipulation, Element Density and Layers are Simply Attributes of Holes





Interference Check/Fix

- Automatic Detection of Interfering Shell Elements
 - Accounts for Shell Thicknesses
- Required Check for Many Crash and non-Linear Solvers
- Automatically Moves Elements to Fix
 - User has Complete Control over Element Movement



RED : Intersecting

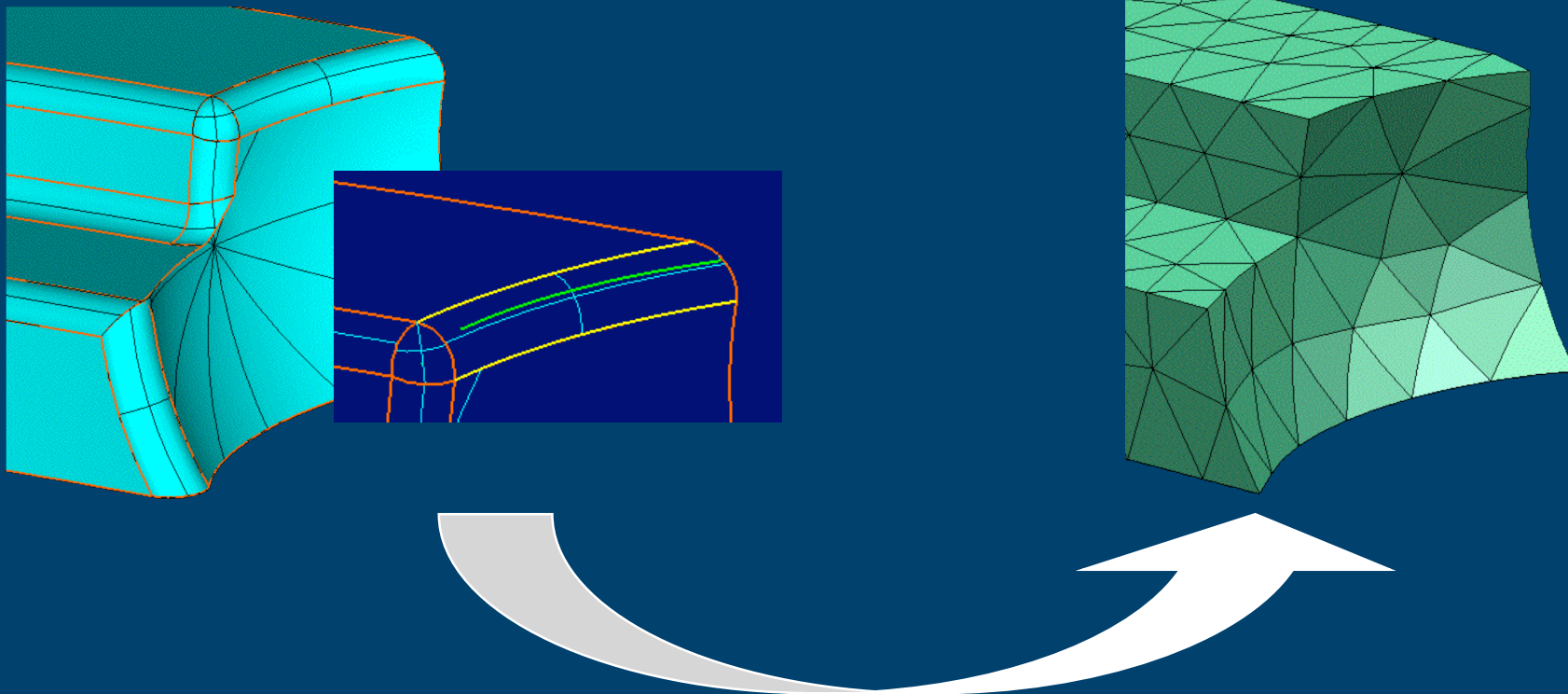
YELLOW : Interfering
(Only in Element
thickness)

GREEN : OK



Section Meshing Updates

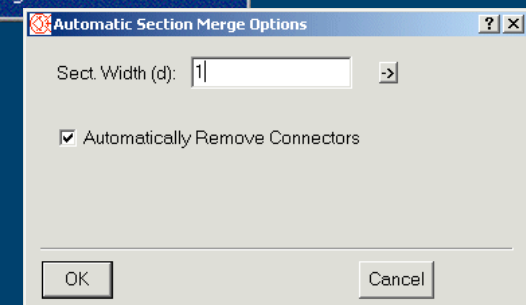
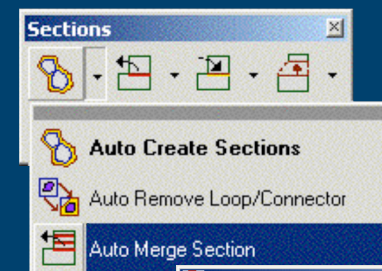
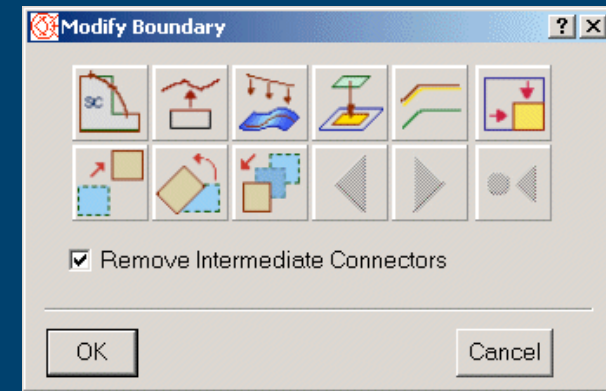
- CAD Fillet/Blend Suppression
 - Recover Edge and Recover Corner Operators Suppress the Fillets
 - Allows Geometry Simplification without Modifying CAD Geometry





Section Meshing Updates

- Advanced Tools for Morphing Section Boundaries
 - Applies to Sections on Surface and Sections on Mesh
 - Smooth boundary, replace curve, closest point project, vector project, offset, scale, translate, rotate, dynamic orient
- Auto Merge Sections
 - Automatically Removes Small Sections based on Desired Section Width
 - Simplifies Model for Meshing without Sacrificing Detail





Section Meshing Performance Improvements

- Section AutoCreate Performance
 - I-deas 9 M2 is 2 Times Faster on Parts with more than 10,000 Surfaces
- Shell Meshing Performance
 - I-deas 10 is 33% Faster
- Mesh Delete Performance
 - I-deas 9 M2 is 3 Times Faster with Mesh Delete Command
- Wireframe Edits w/out Slowdown when Mesh is Present
 - Up to 5 Times Faster on Large Parts Partially Meshed



FE Model Documentation

■ Automatic HTML Report of FE Model Status

FE Model:use for movie	
Node Label Range	1 - 2455, 2182 Total
Element Label Range	1 - 849, 828 Total
Element Types	linear beam : 47 parabolic beam : 60 thin shell parabolic triangle : 40 thin shell parabolic quadrilateral : 680 lumped mass : 1
Physical Properties	LINEAR & PARA BEAM2 : 107 BASE SHELLS THICKNESS .05 : 360 COUNTER_BALANCE : 1 DISH THICKNESS .03 : 360
Materials	Unknown : 1 GENERIC_ISOTROPIC_STEEL : 5 ALUMINUM 694A 1060 : 360 TITANIUM TI-10V-2FE-3AL_3.001-4" : 80 GRAPHITE : 22 AL_LATEX : 360
Beams	7 - PIPE 3.0 X 0.05 : 22 8 - PIPE 3.0 X 0.010 : 1 10 - PIPE 5.0 X 0.5 : 4 14 - HAT 1.7 X 4.0 X 0.6 : 80

Label ranges

Element types

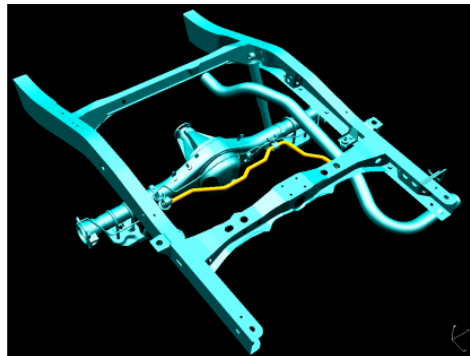
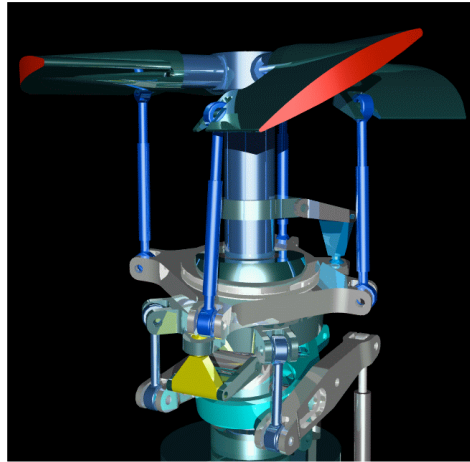
Physical properties

Materials

Beam cross sections



I-deas 10 Solvers and Post-Processing

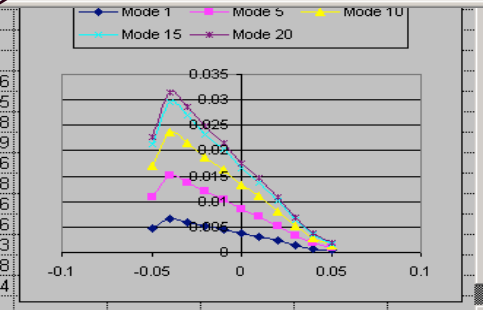
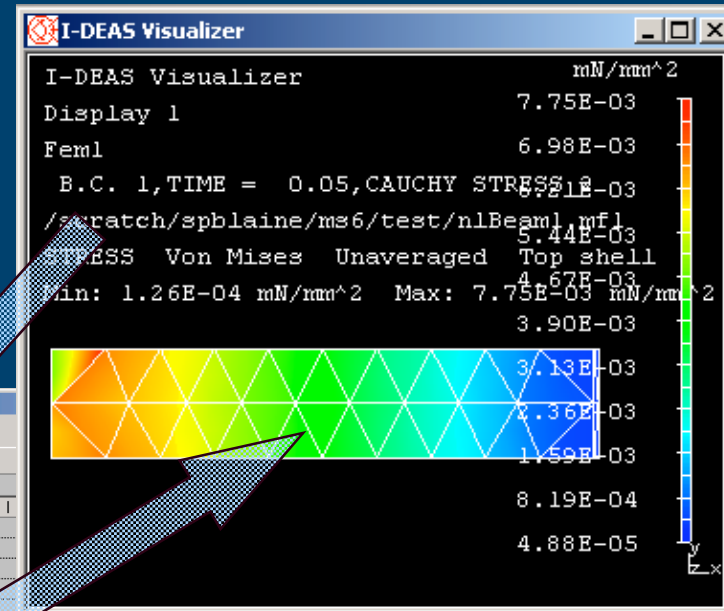
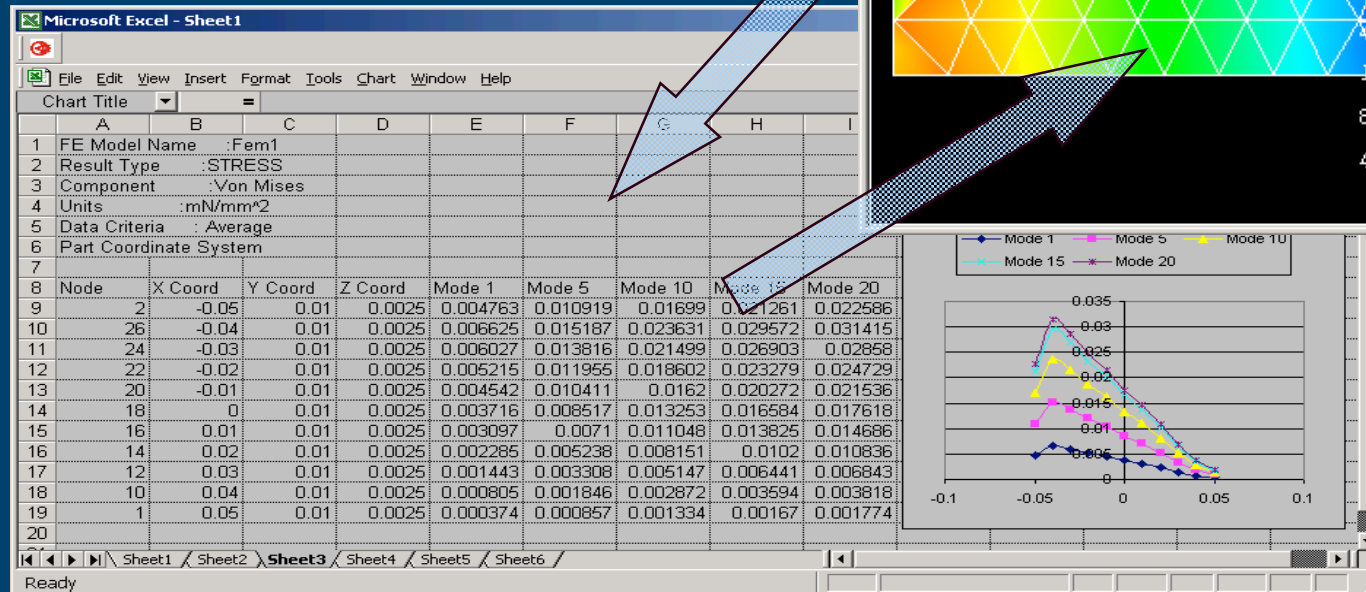


- Visualizer Spreadsheet Interface
- External Solver Translators
 - Improved NASTRAN Interface
- Automotive Crash Translator Interfaces
- Contact Supports Section Meshed Models
- Direct Frequency Response
- Model Solution Memory Management
- 64-Bit Solver
- Binary Results File
- Contact and Auto Select Sparse/Iterative



Visualizer Spreadsheet Interface

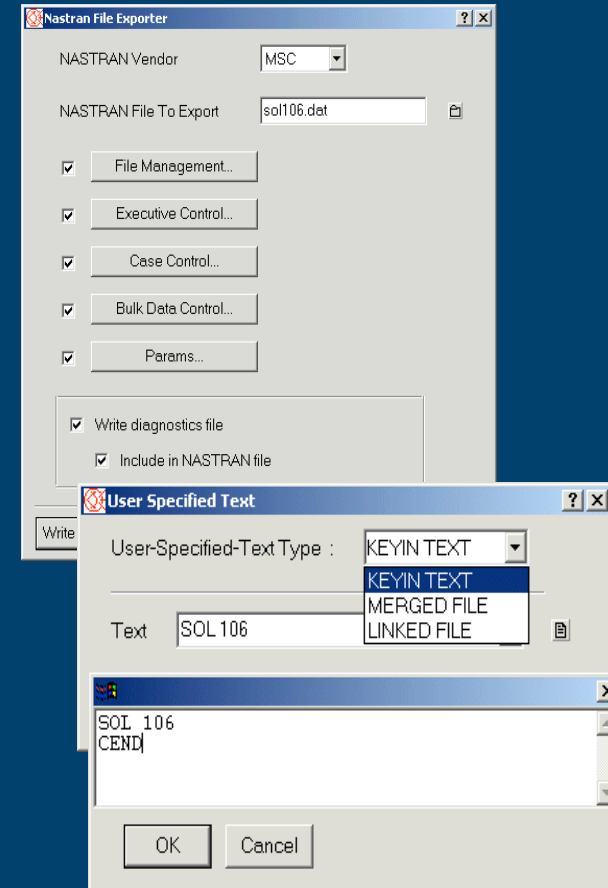
- New Capability to write to and read from Excel
- Direct access to Visualizer Post Processing data
- Users can display and manipulate analysis results within Excel, then return data back to Visualizer





NASTRAN Exporter

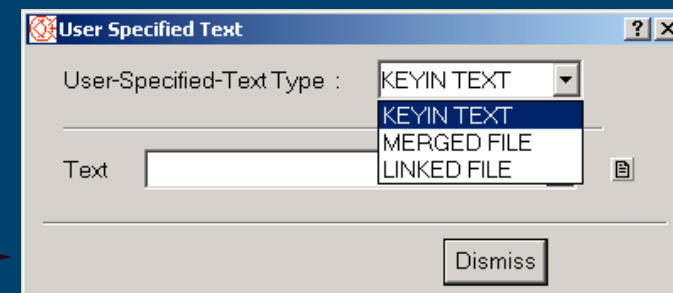
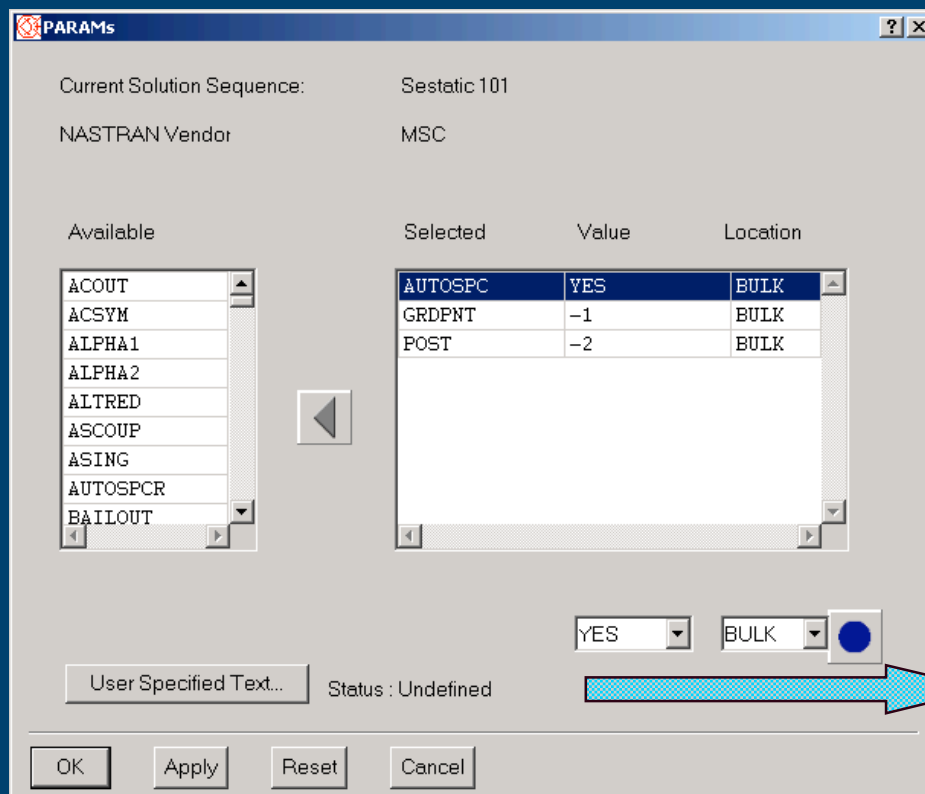
- Virtually eliminates manual editing of most Nastran bulk data decks
- Enhanced round-tripping
 - Permanent SPCs on GRID cards
 - CORD1/CORD2 cards
 - PLOTEL card labeling
- Export I-DEAS traction loads
- Support linear buckling solution 105
- Export user defined text
 - Key-in text, merged or linked files
- Write out I-DEAS groups as Case Control Sets





NASTRAN Exporter

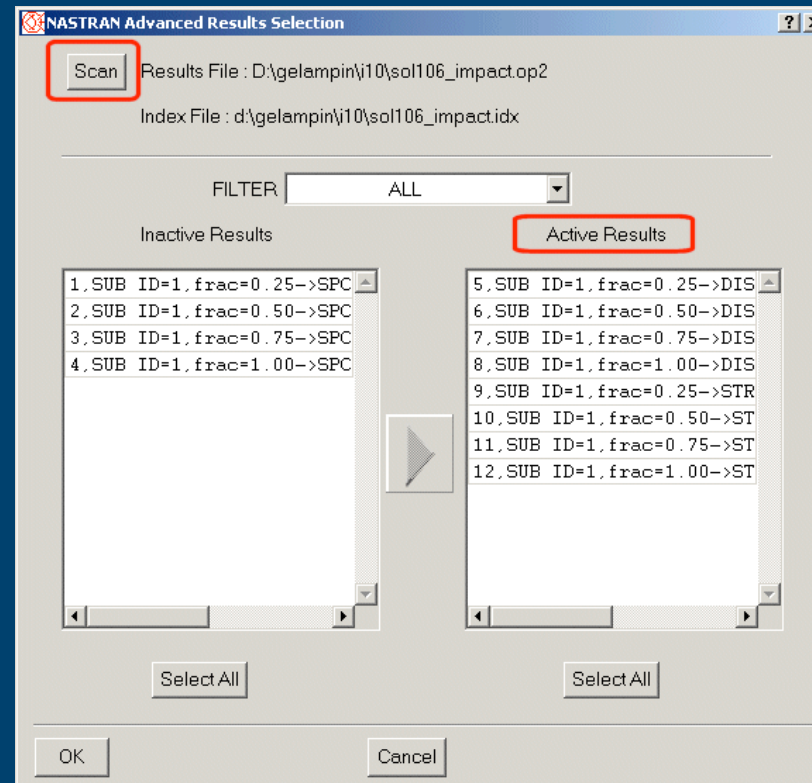
- New PARAMs UI
- Enhanced 'Include File' functionality





NASTRAN Importer

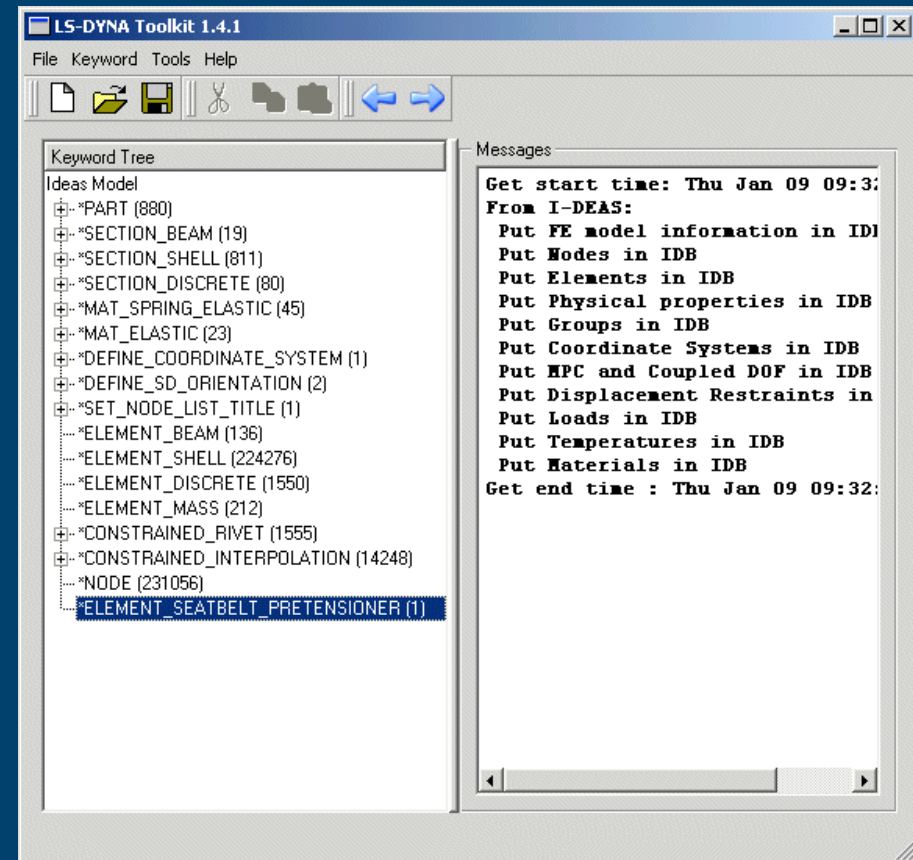
- Selective import of results
- Non-linear stresses and strains
- Case Control import of:
 - Boundary Condition Sets
 - Sets
- SORT2 data imported as functions





Automotive Crash Translators

- New Support of Automotive Crash Translators
- LS-DYNA and RADIOSS
 - Operates via Toolkit
 - File from I-deas
 - File to I-deas
 - Keyword Tree
- PamCRASH in I-deas 10 M1





I-deas 10 NX Series & Hardware Requirements

- Increased Hardware Memory Requirements
 - RAM Memory
 - 256 Mb Minimum Required
 - 512 Mb or More Recommended
 - Swap or Paging File Space
 - 512 Mb Minimum Required
 - More Recommended for Larger Models
 - 2 to 3 Times Physical Memory
 - Recommendation
 - RAM + Swap of 1 Gb When Solving Large Models



I-deas 10 NX Series and Microsoft Windows OS

- I-deas 10 NX Series Supports Windows 2000 and Windows XP
 - I-deas Will No Longer Support Windows NT
- Microsoft has Withdrawn Windows NT
 - Microsoft Stopped Selling Windows NT as of October 2001
 - Microsoft Withdrew Normal Support for Windows NT on January 2003
 - Microsoft Will Withdraw All Windows NT Support Options as of June 2004
 - For More Information, Please Reference:
 - <http://www.microsoft.com/windows/lifecycle.msp>



I-deas 10 NX Series Summary



Real World.
Real Smart.
Real Fast.



"I-deas 10 NX Series is much more than just a collection of functionality enhancements. This release includes significant new capabilities and concepts that we expect will be notable elements of UGS PLM' NX strategy."

*Bruce Jenkins, Executive Vice President
Daratech, Inc.*

"There is no fluff in this product – it's an industrial strength tool, designed to get the job done fast."

*Evan Yares, CADWire, February 7, 2003
Daratech, Inc.*



I-deas NX Series



Real World. Real Smart. Real Fast.