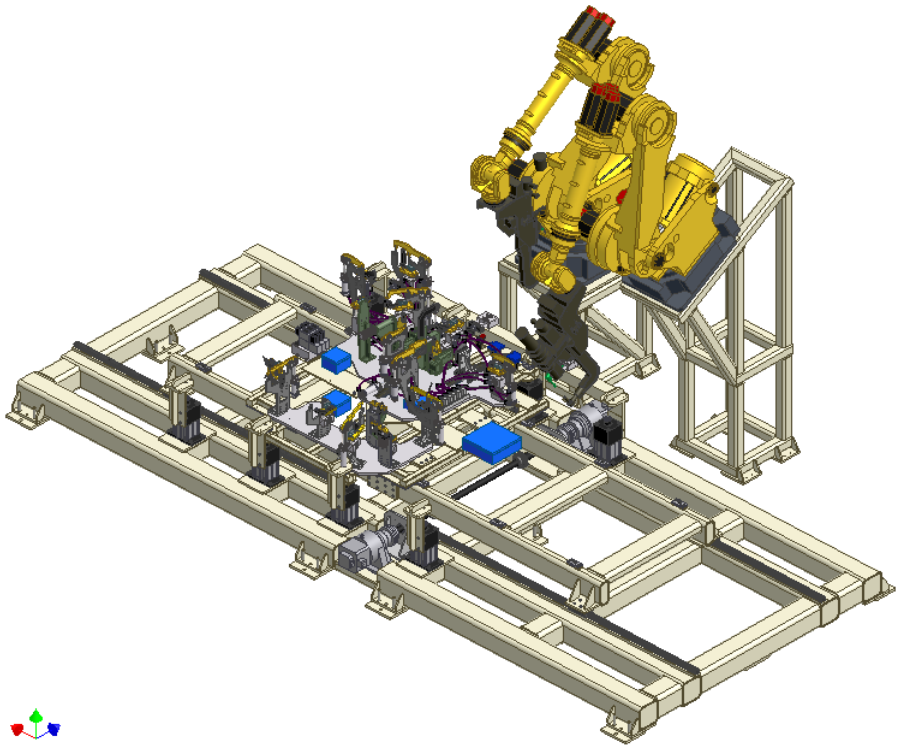
Autodesk Inventor 10 – What's New?

Autodesk®

Autodesk Inventor Series

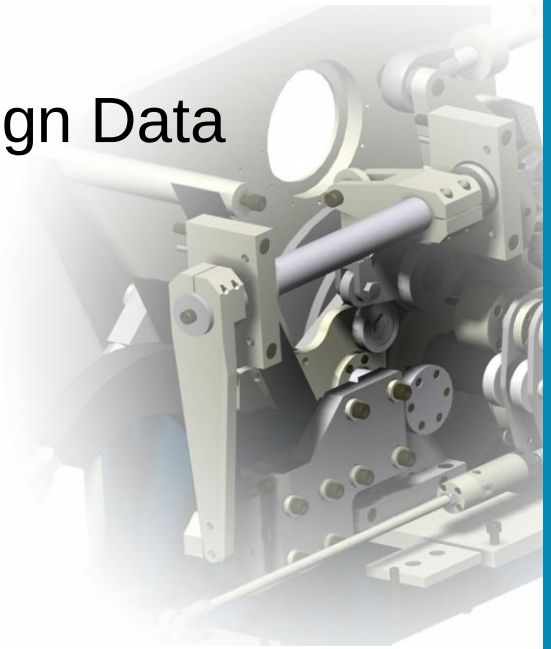
Themes

- Powerful and Complete
- Create Quality
- Design Faster
- Production Ready
- Share
- Easier to learn



Autodesk Inventor 10

- The power to design the complete product line
- Deliver the design in less time
- Fastest way to production ready drawings
- Communicate and Manage Design Data
- Fastest to learn and deploy



Autodesk

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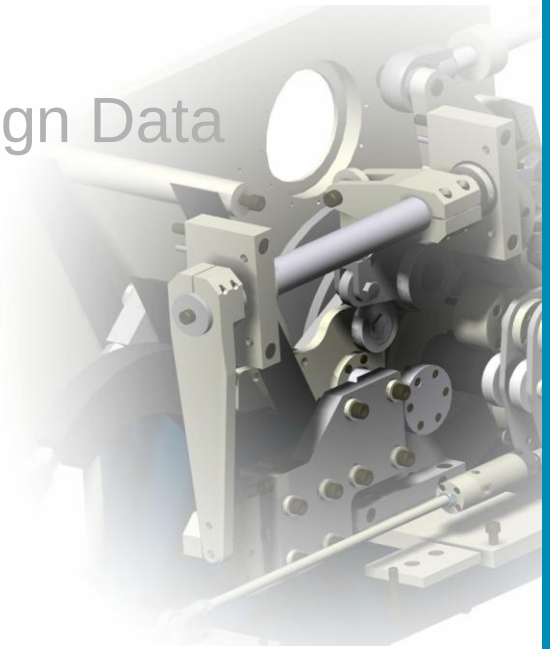
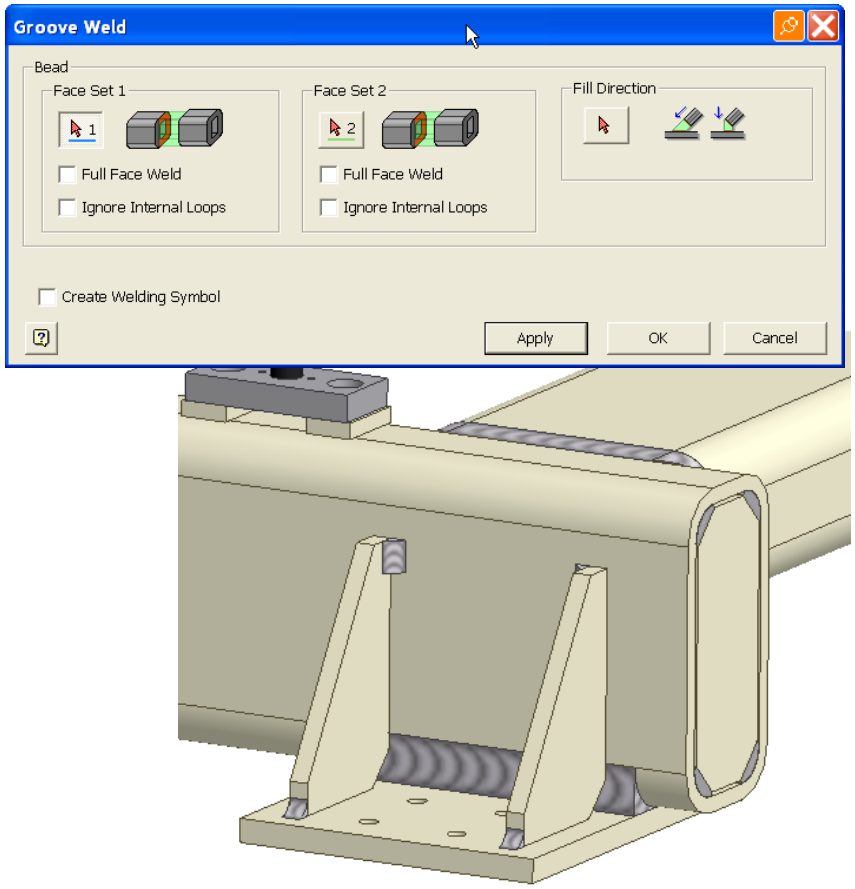


Autodesk

Enhanced Weldment Design

- **New 3D gap/groove welds**
- **Enhanced 3D fillet welds**
- **Ability to modify weld preparations**
- **Streamlined weld symbol creation**
  - **Group multiple beads**
- **Analysis and reporting**

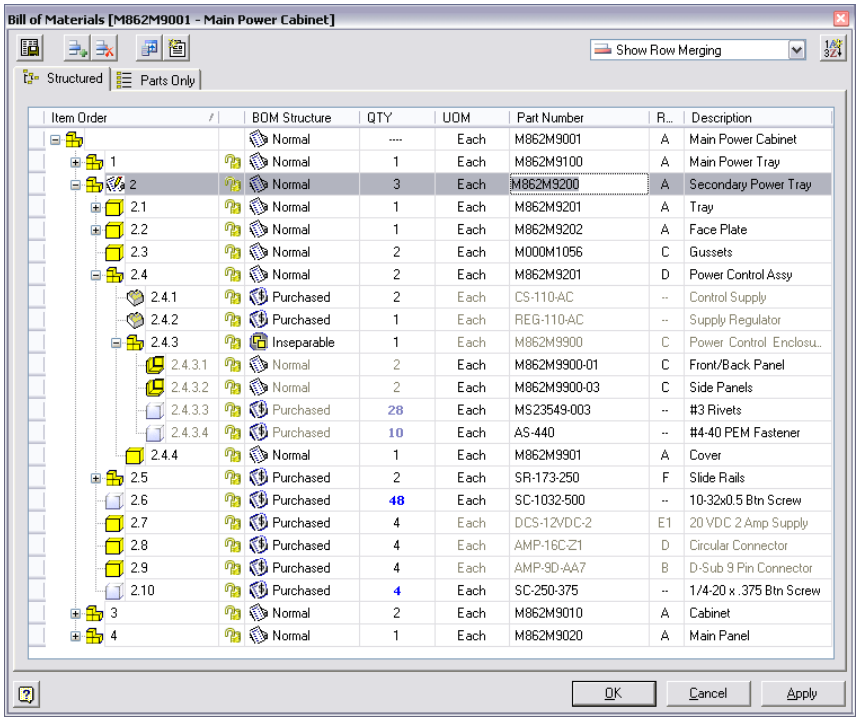


Comprehensive best-in-class weldment design and analysis

Autodesk

Bill of Materials

- **Manage assembly structure of purchased and non-purchased components**
- **Accurate reporting to data management**
- **Virtual components**
- **Comprehensive property editor**



Item Order	BOM Structure	QTY	UOM	Part Number	R...	Description
	Normal	----	Each	M862M9001	A	Main Power Cabinet
1	Normal	1	Each	M862M9100	A	Main Power Tray
2	Normal	3	Each	M862M9200	A	Secondary Power Tray
2.1	Normal	1	Each	M862M9201	A	Tray
2.2	Normal	1	Each	M862M9202	A	Face Plate
2.3	Normal	2	Each	M000M1056	C	Gussets
2.4	Normal	2	Each	M862M9201	D	Power Control Assy
2.4.1	Purchased	2	Each	CS-110-AC	--	Control Supply
2.4.2	Purchased	1	Each	REG-110-AC	--	Supply Regulator
2.4.3	Inseparable	1	Each	M862M9900	C	Power Control Enclosu..
2.4.3.1	Normal	2	Each	M862M9900-01	C	Front/Back Panel
2.4.3.2	Normal	2	Each	M862M9900-03	C	Side Panels
2.4.3.3	Purchased	28	Each	MS23549-003	--	#3 Rivets
2.4.3.4	Purchased	10	Each	AS-440	--	#4-40 PEM Fastener
2.4.4	Normal	1	Each	M862M9901	A	Cover
2.5	Purchased	2	Each	SR-173-250	F	Slide Rails
2.6	Purchased	48	Each	SC-1032-500	--	10-32x0.5 Btn Screw
2.7	Purchased	4	Each	DCS-12VDC-2	E1	20 VDC 2 Amp Supply
2.8	Purchased	4	Each	AMP-16C-Z1	D	Circular Connector
2.9	Purchased	4	Each	AMP-9D-AA7	B	D-Sub 9 Pin Connector
2.10	Purchased	4	Each	SC-250-375	--	1/4-20 x .375 Btn Screw
3	Normal	2	Each	M862M9010	A	Cabinet
4	Normal	1	Each	M862M9020	A	Main Panel

Eliminate errors and save time generating consistent BOMs

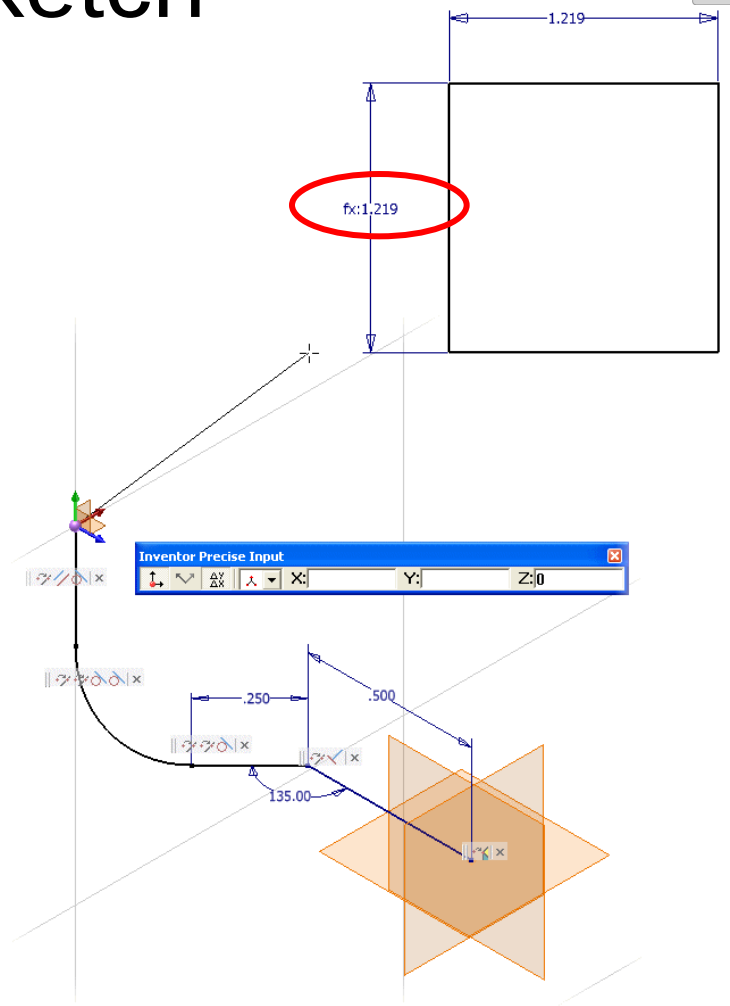
Enhanced 2D & 3D Sketch

2D Sketch

- Visually identify equation driven dimensions
- Show/Hide dimensions
- Create lines and splines using precise coordinates

3D Sketch

- Constraint based sketches and precise coordinate entry
- Freehand sketching
- Show 3D sketch in Drawing Manager



Rapidly create and manage conceptual 2D sketches for your designs

Autodesk

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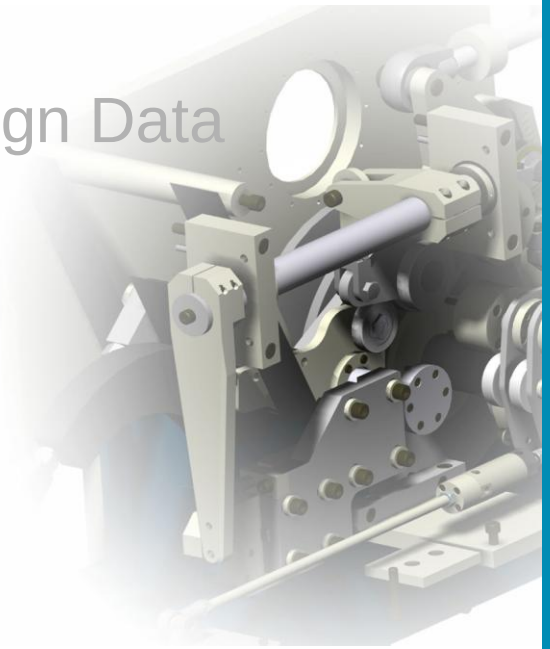

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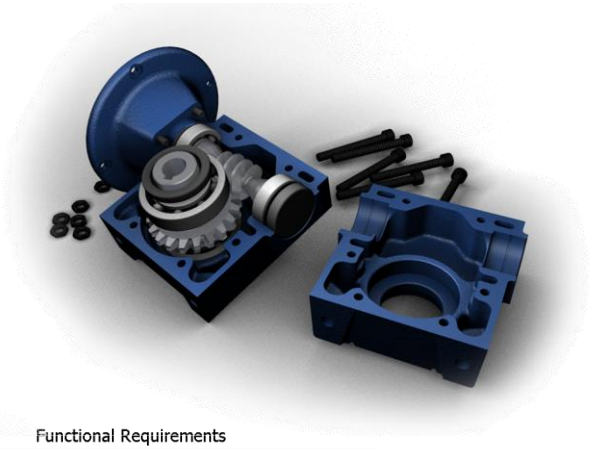
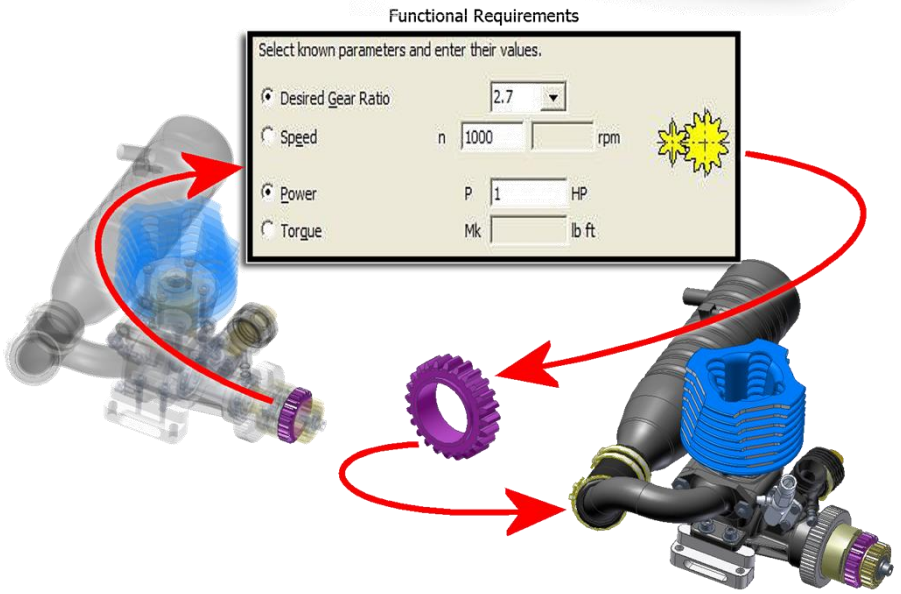
Design Accelerator

- **Engineering function drives the design**
- **Rapidly design, analyze and create commonly used machine components**
  - Component Generators
  - Mechanical Calculators
  - Engineer's Handbook



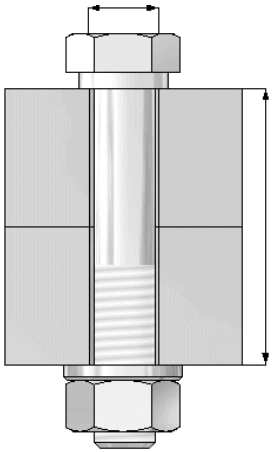


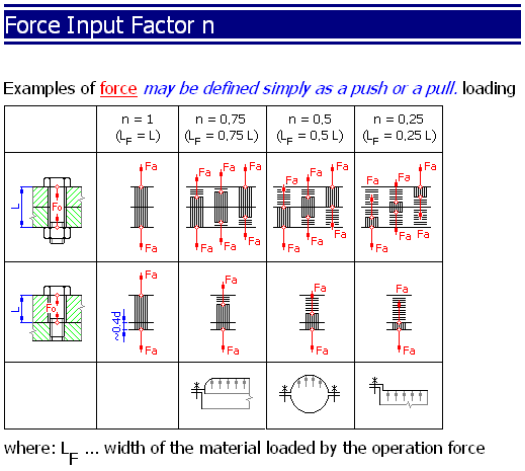
Accelerate beyond 2D and 3D with Functional Design

Autodesk

Component Generators

- **Mechanical connections**
- **Shafts, hubs, and gears**
- **Belt and chain drives**
- **Power screws**
- **Springs**
- **O-Rings**



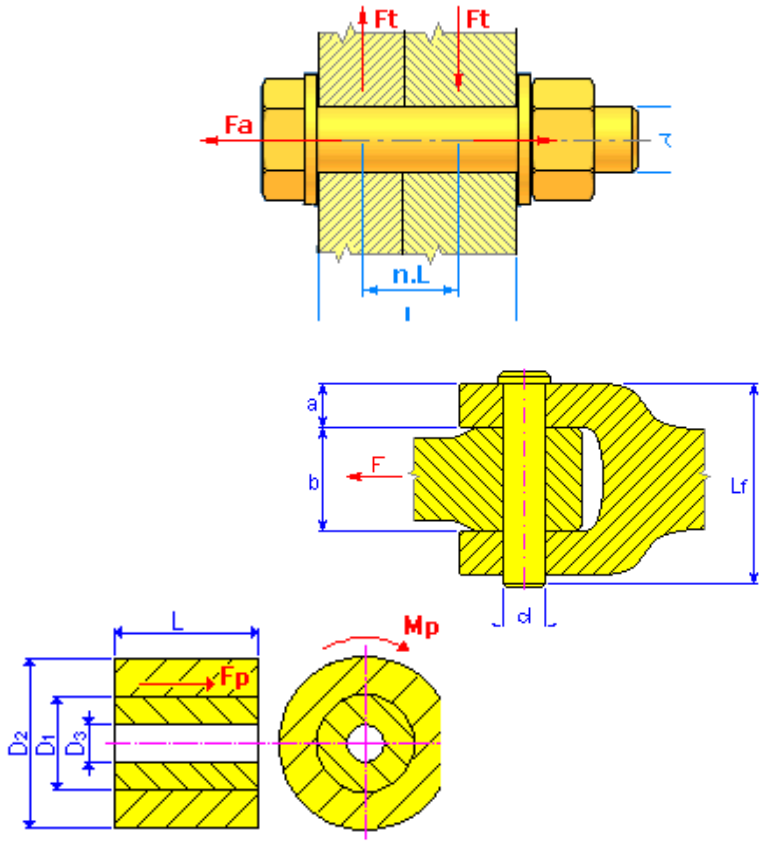


Rapidly design, analyze and create machine components based on functional requirements and specifications

Mechanical Connection Generators

Create and validate mechanical connections based on industry standards for:

- Bolt and screw Connections
- Clevis pins
- Pins
- Pressure connections



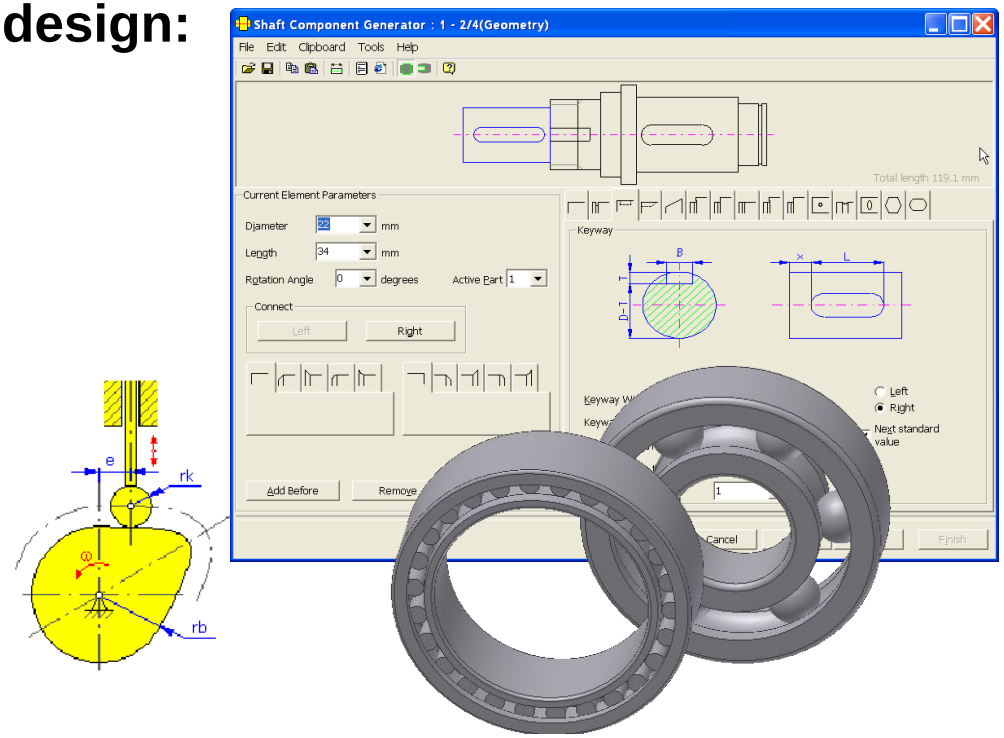
Confidently design mechanical connections

Autodesk

Shaft and Hub Generators

Automated shaft and hub design:

- Keyways
- Involute splines
- Straight-sided splines
- Cams
- Bearings



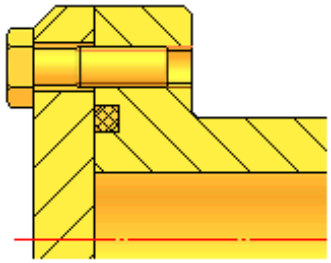
Rapidly design, validate and create

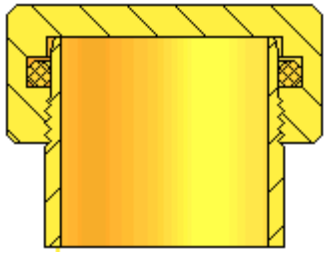
Autodesk

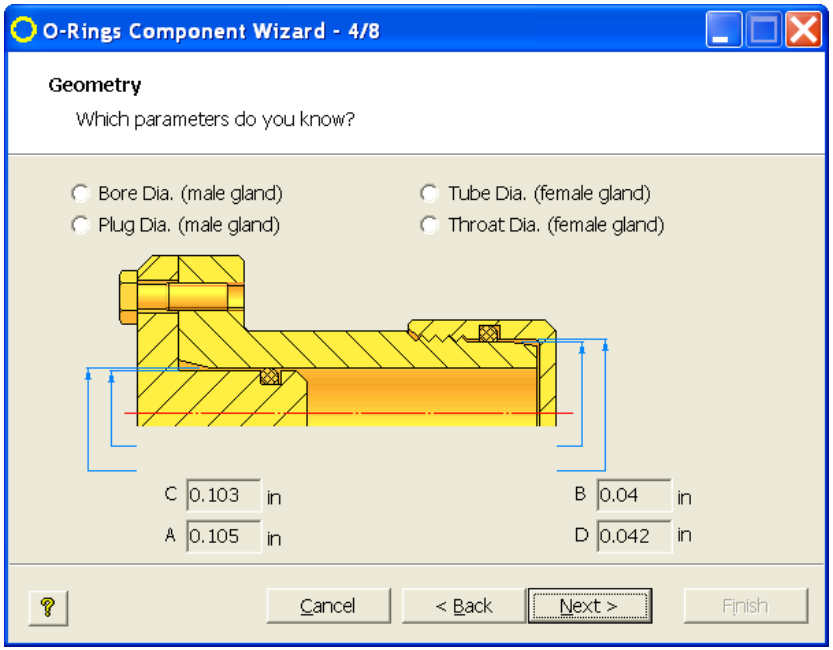
O-Ring Generator

Easily calculate, design and place o-ring seals

- Industrial static seals
- Face seals







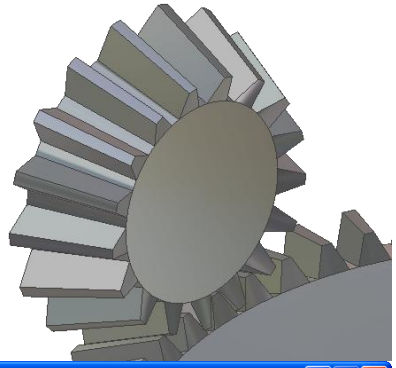
Automate O-Ring seal creation

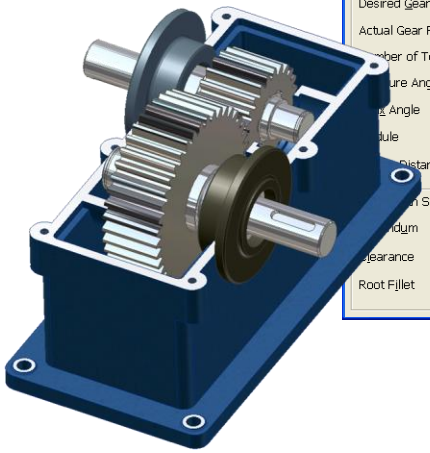
Autodesk

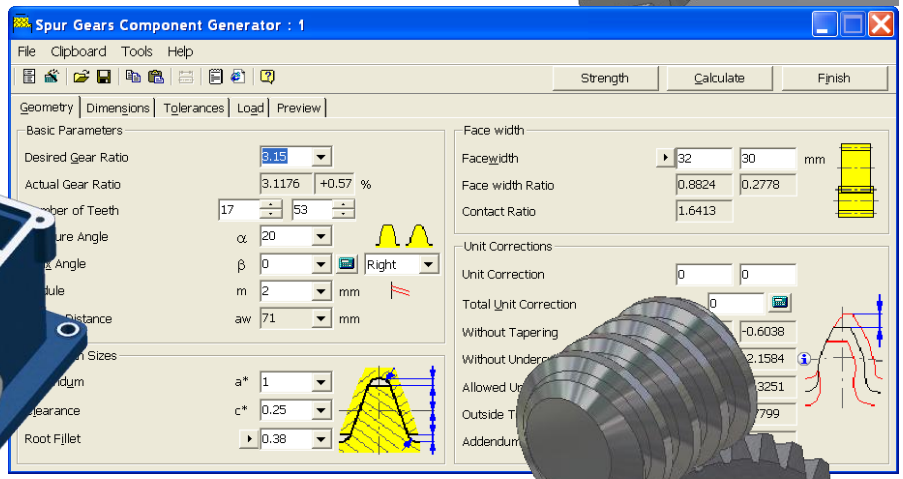
Gear Design Generator

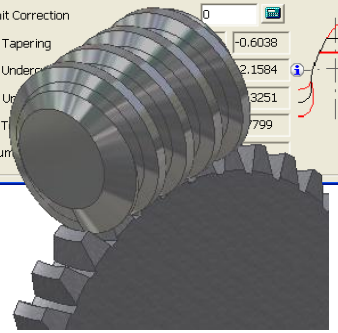
Automated gear assembly design, validation and creation

- Spur gears
- Bevel gears
- Worm gears







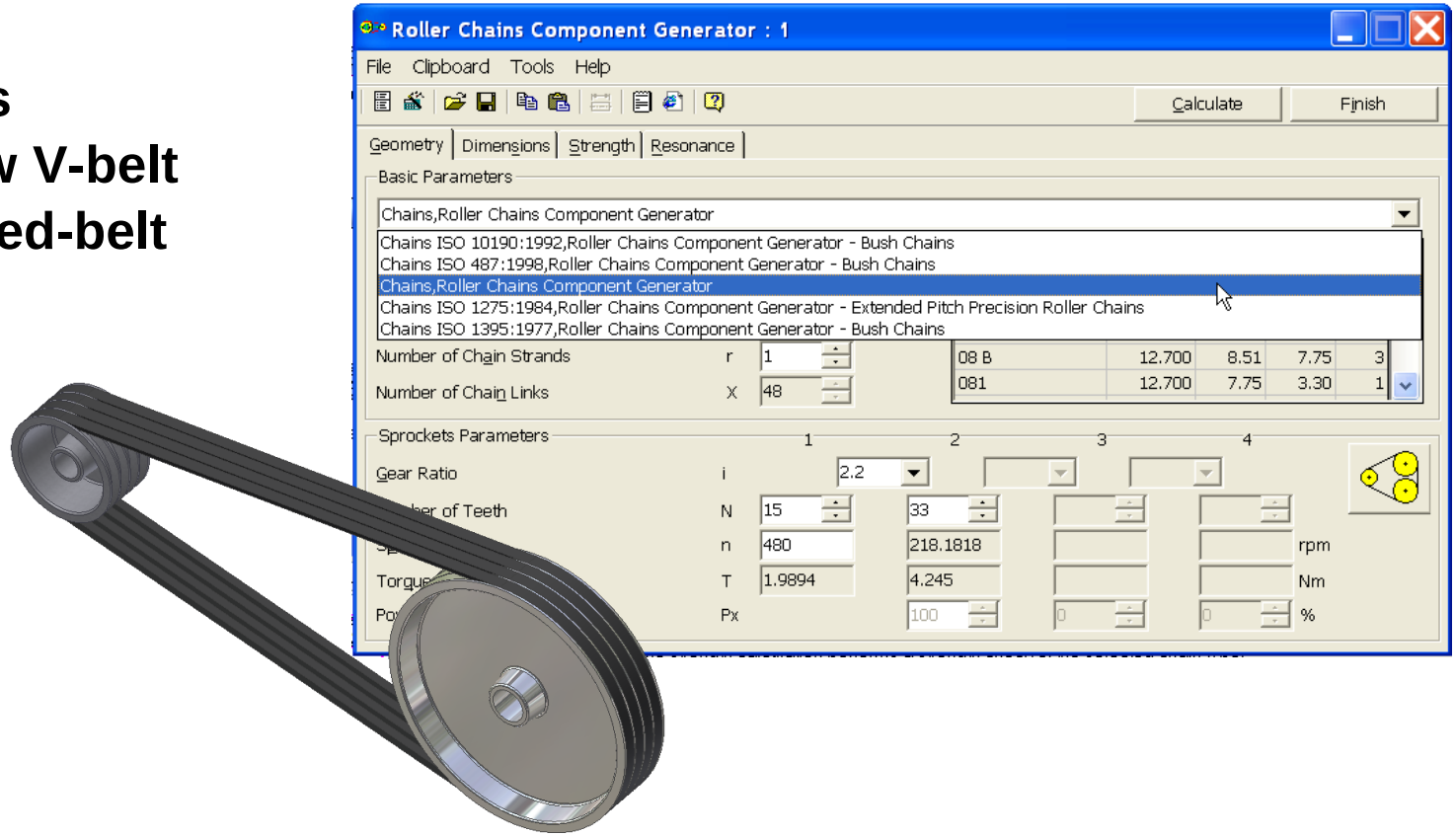


Rapidly design, validate and create gear assemblies

Autodesk

Belt and Chain Drive Generator

- **Chains**
- **Narrow V-belt**
- **Indented-belt**

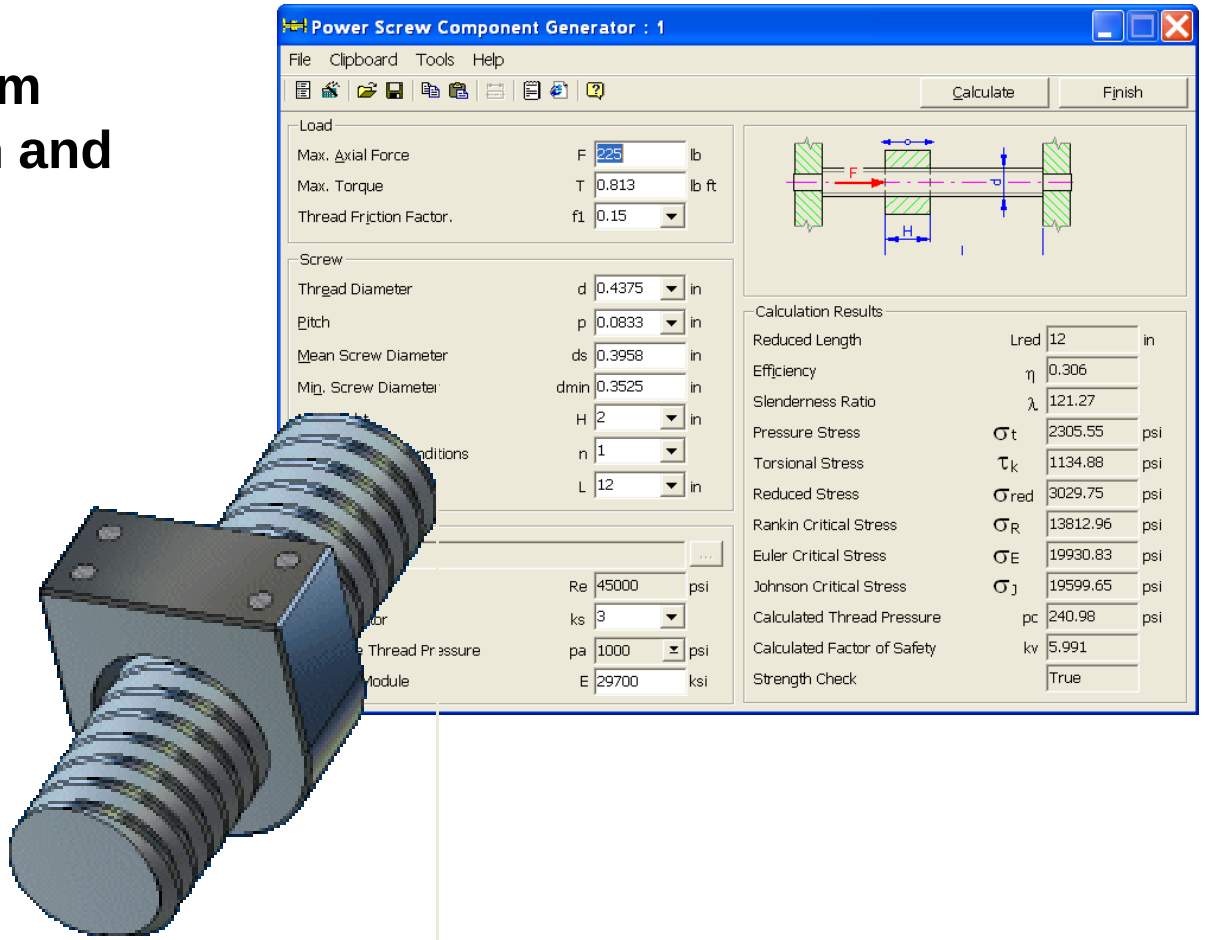


Optimize design of chain and belt drive systems

Autodesk

Power Screw Generator

Lead screw system design, validation and creation

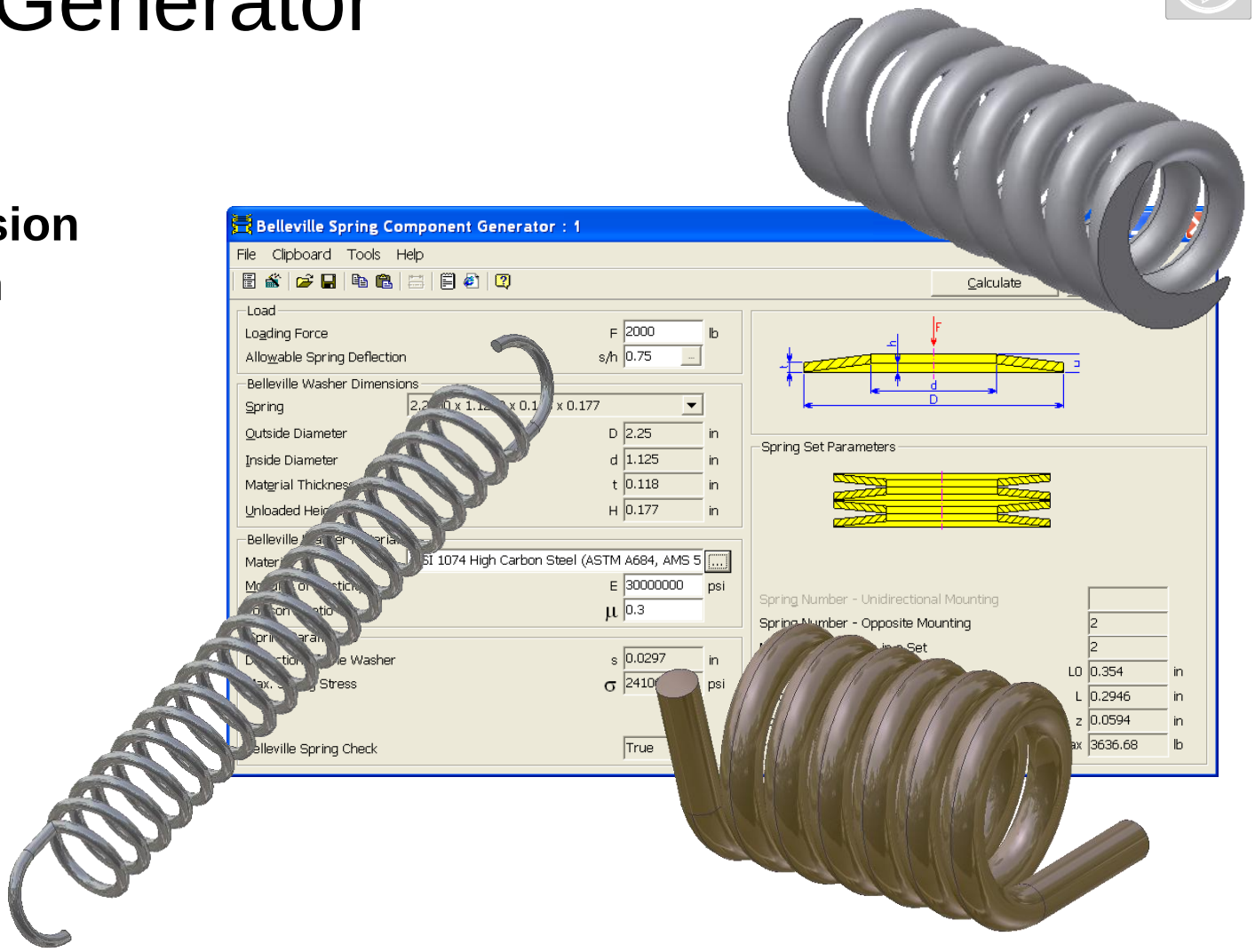


Design to functional requirements, validate and create

Autodesk

Spring Generator

- **Compression**
- **Extension**
- **Torsion**
- **Belleville**

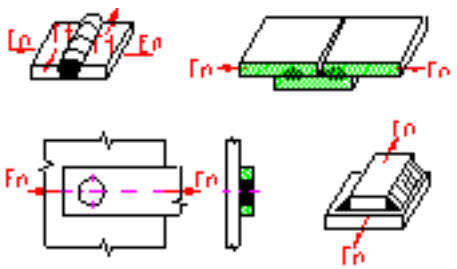


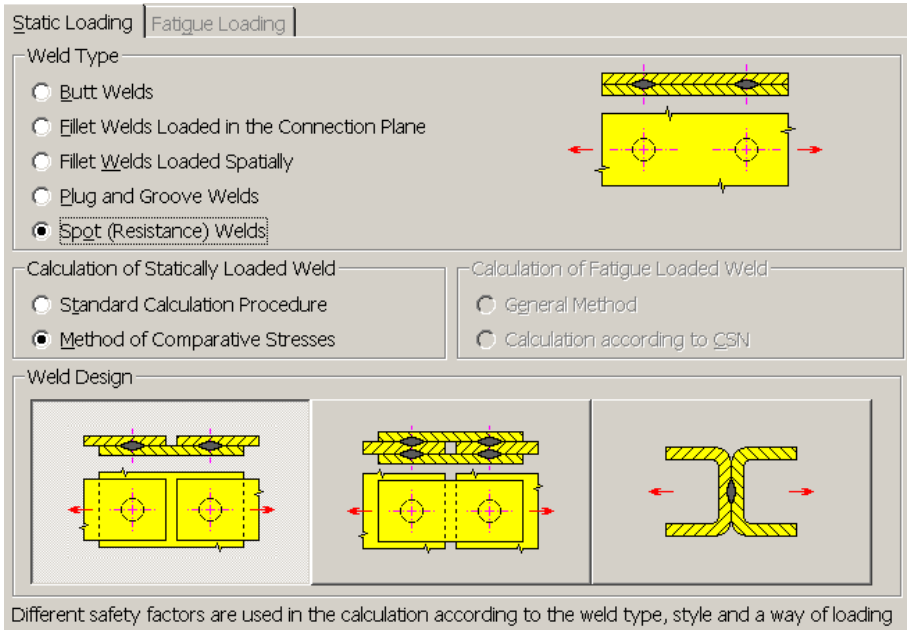
Automate spring design for predictable results the first time

Autodesk

Mechanical Calculators

- **Weld and solder joints**
- **Plates**
- **Bearings**
- **Brakes**
- **Clamping joints**
- **Fit and tolerance**





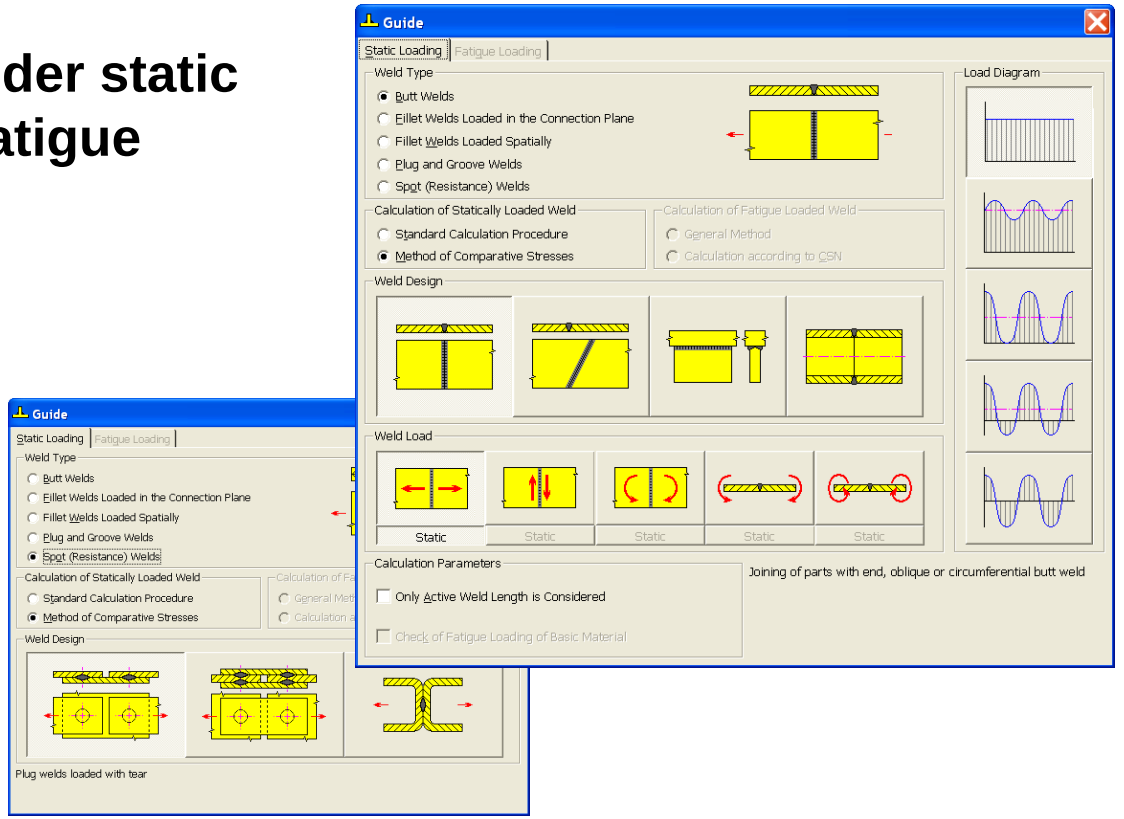
Avoid costly rework and improve design efficiency

Autodesk

Weld and Solder Calculator

Design and analyze under static or dynamic loads for fatigue strength.

- Plugs welds
- Slots welds
- Butt welds
- Solder joints

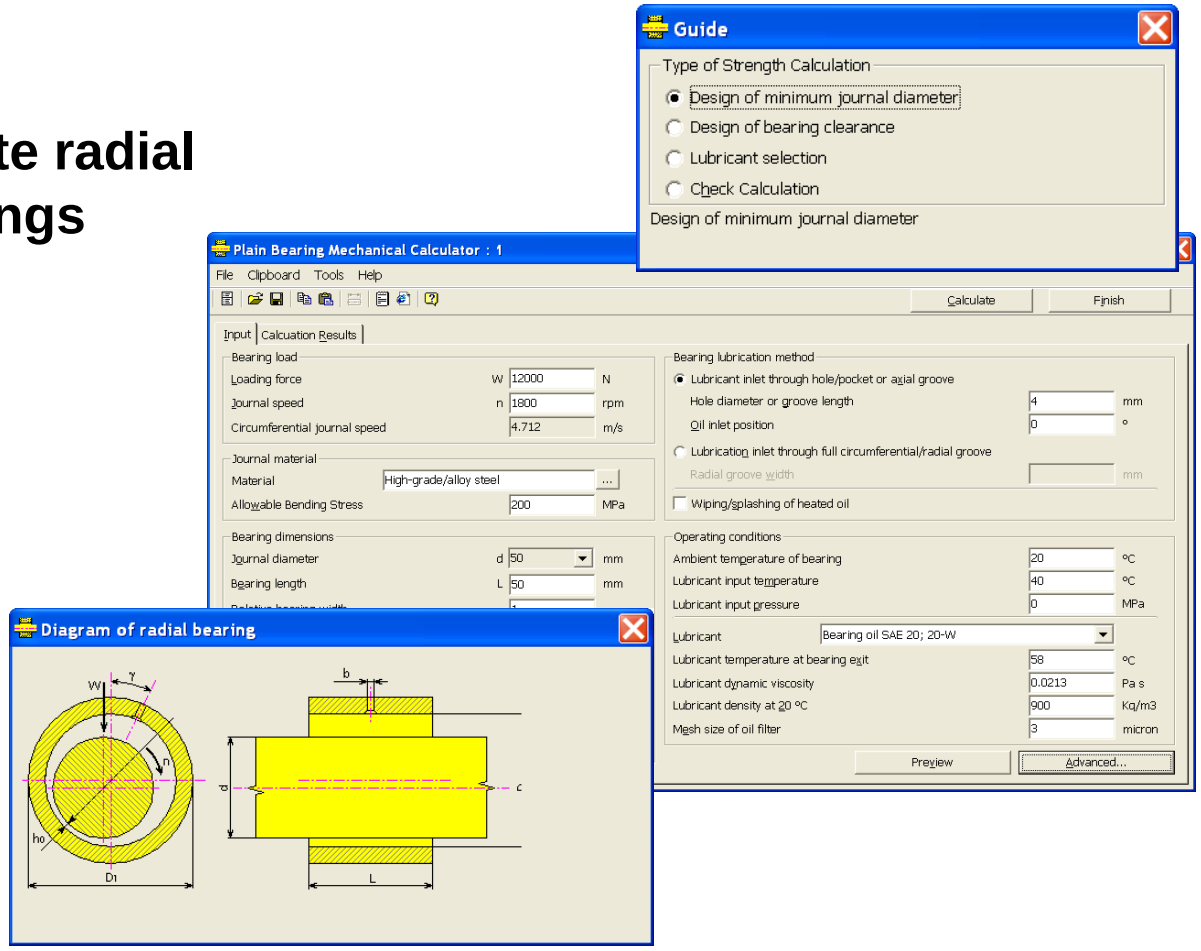


Avoid costly rework of weldments and soldered connections

Autodesk

Plain Bearing Calculator

Design and validate radial loaded plain bearings



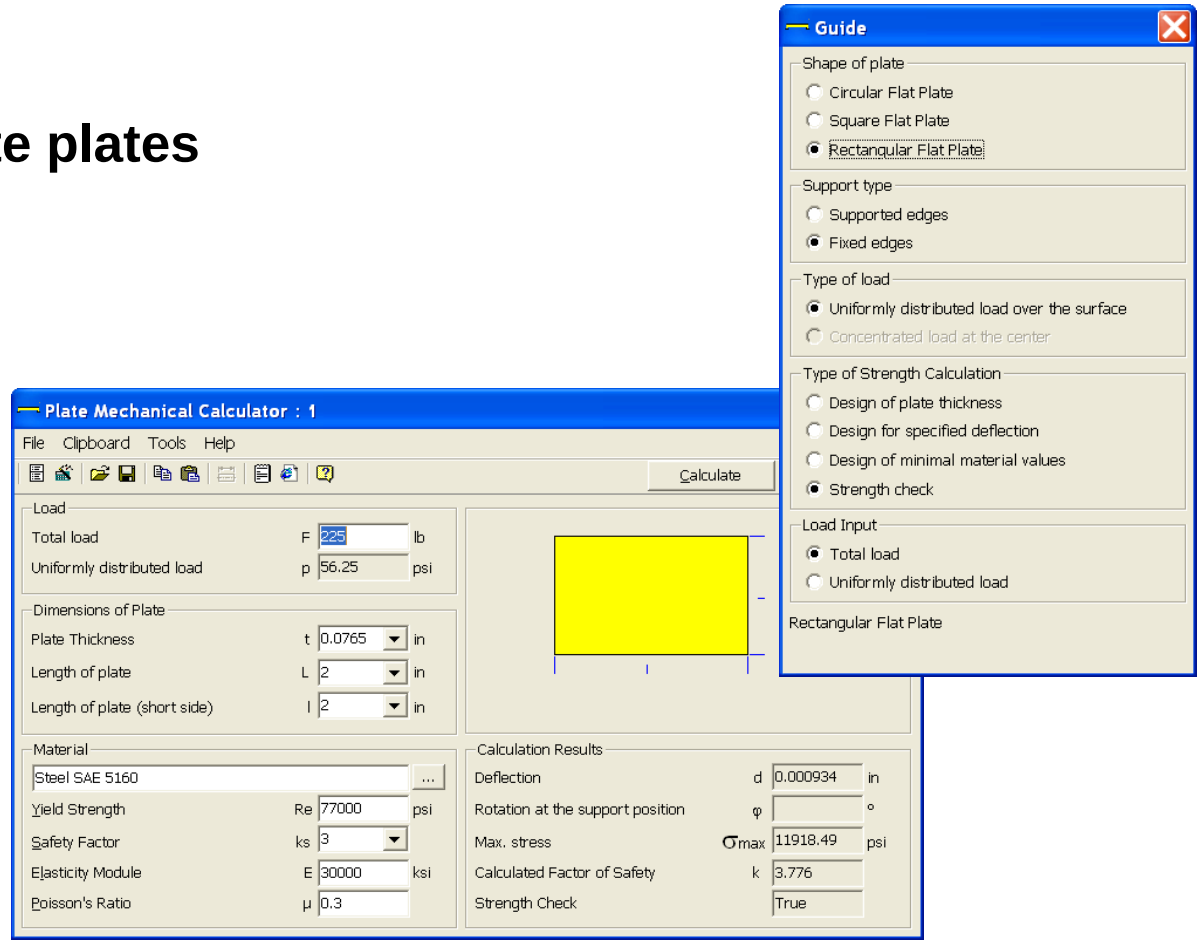
Optimize bearing life using proven engineering principals

Autodesk

Plate Calculator

Design and validate plates

- Circular
- Square
- Rectangular



Optimize and validate the design of plates

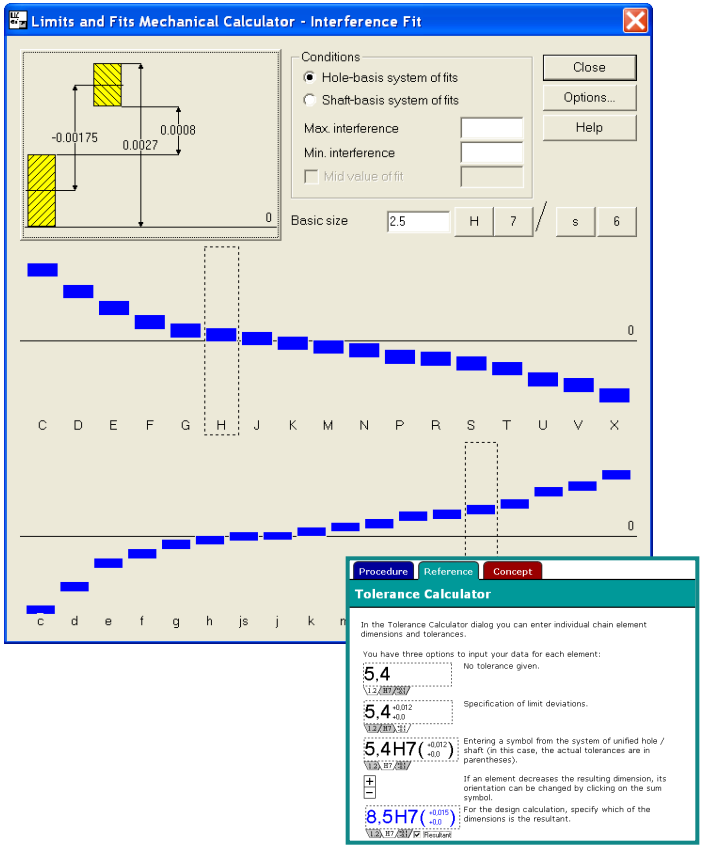
Autodesk

Fit and Tolerance Calculators

Design and validate shafts and holes based on:

- Clearance
- Transition
- Interferences

Calculate chains of dimensions and tolerances existing within parts or assemblies

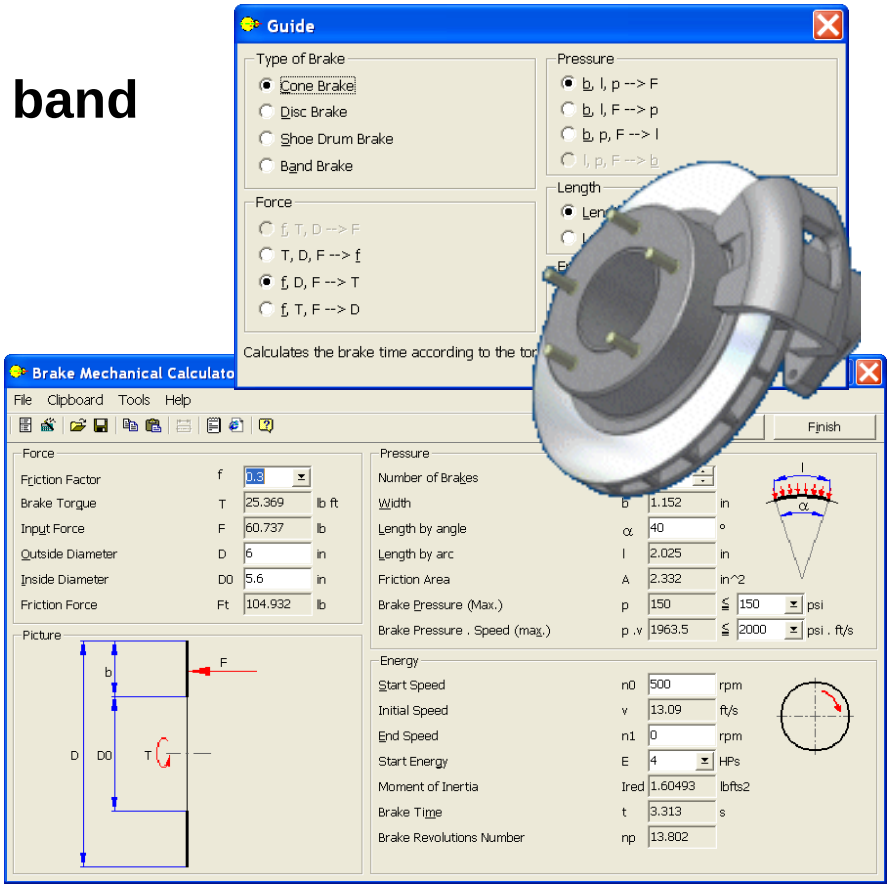


Gain insight on fits and tolerances and improve design quality

Brake Calculator

Calculate cone, disc, shoe and band brake systems based upon:

- Braking torque
- Forces
- Pressure
- Dimensional restrictions
- Time and revolutions for stopping

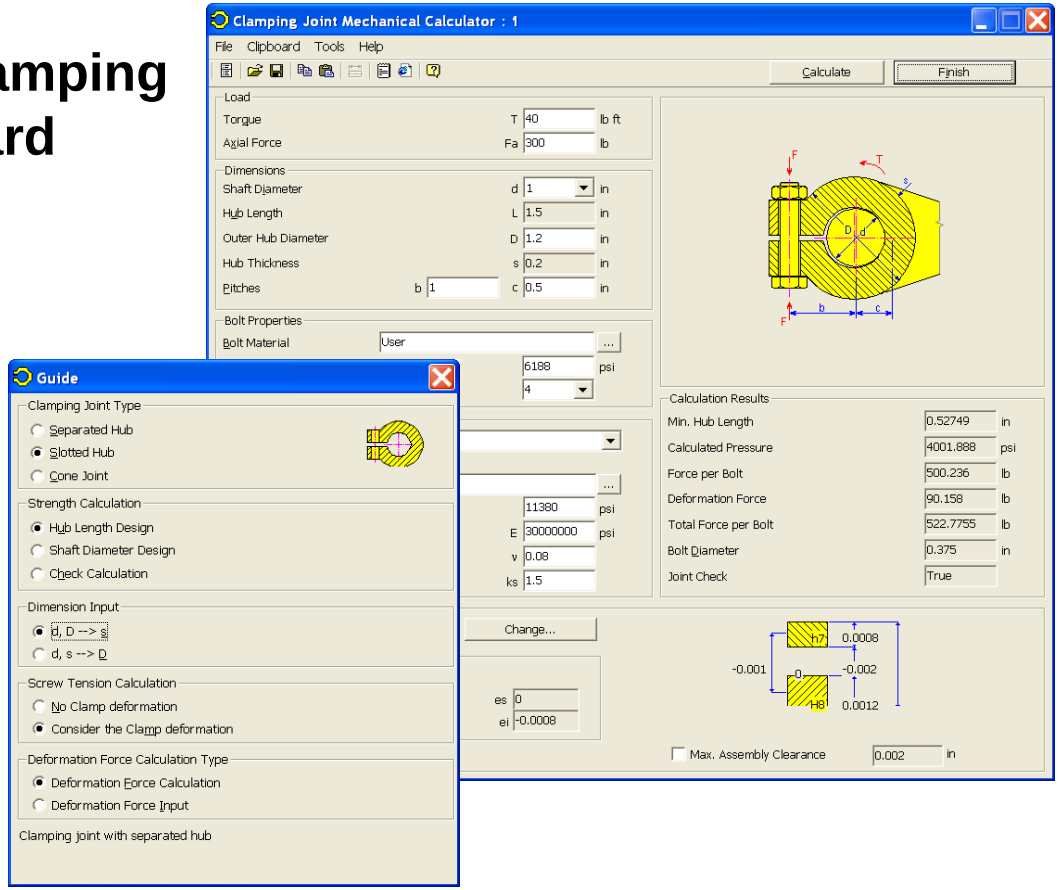


Optimize for mechanical conditions and avoid braking failures

Clamping Joint Calculator

Calculate and validate clamping joints based upon standard machinery practices

- Separate hub
- One-sided hub
- Cone hub

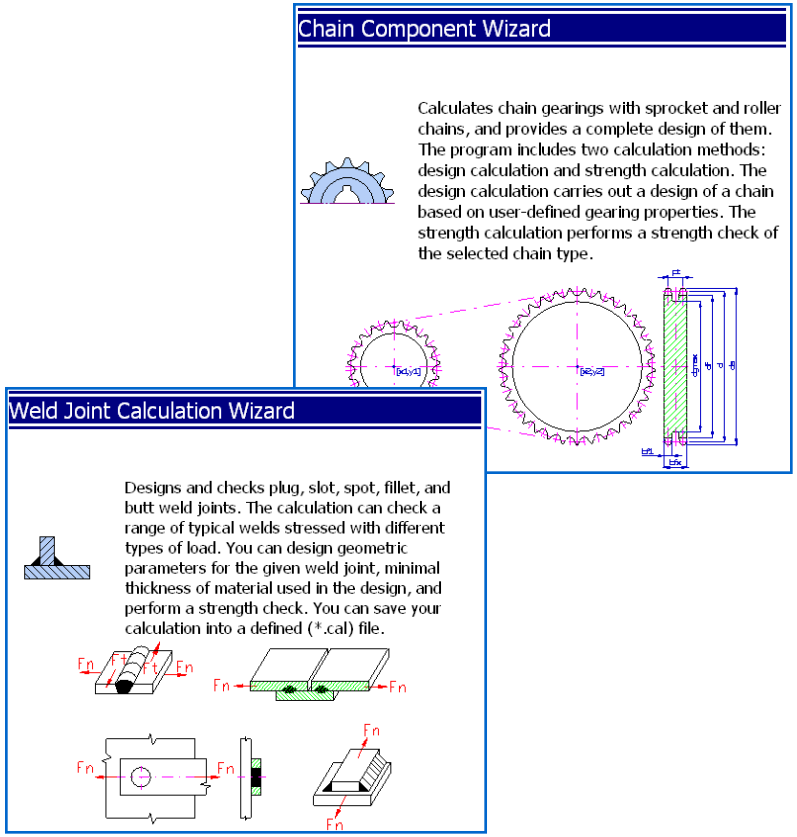


Remove the guesswork and improve design quality

Autodesk

Engineer's Handbook

- **Engineering theory, formulas and algorithms used in machine design**
- **Industry proven machinery design reference library**
- **Background reference and theory for generators and calculators**

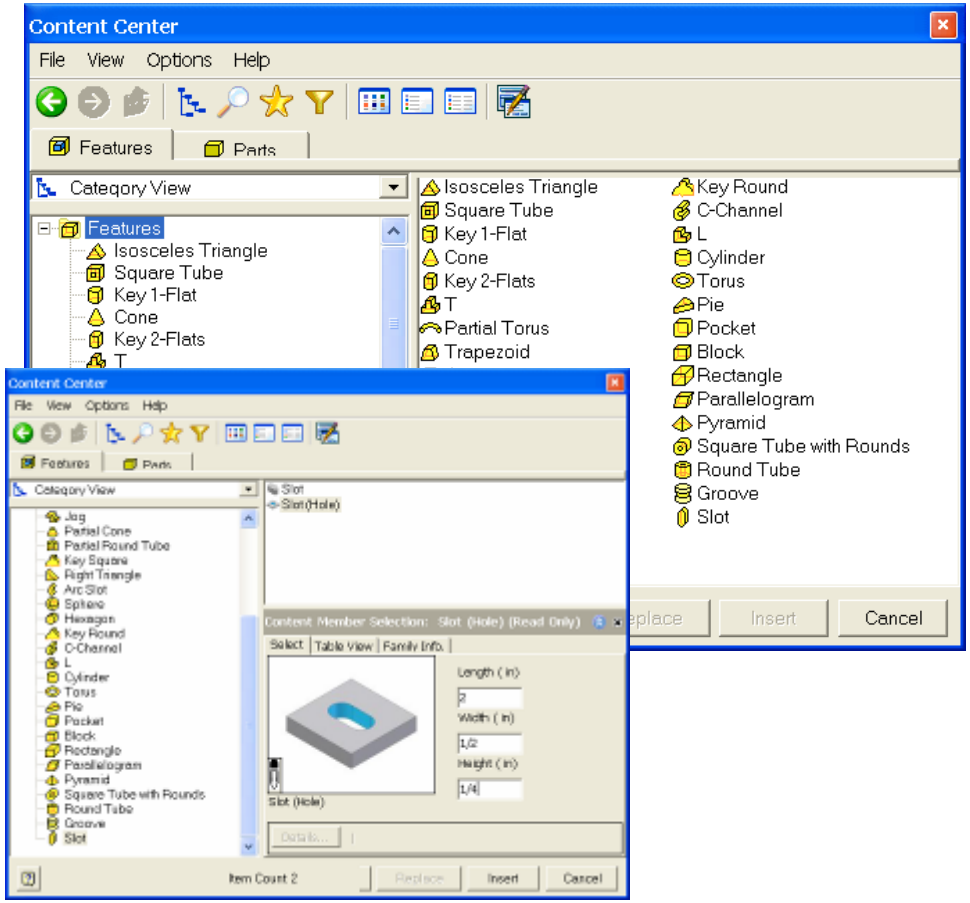


Dramatically save time researching engineering information

Autodesk

Feature Generator

- **Easy transition to parametric modeling**
- **Drag-n-drop operations**
- **Features can be edited by 3D Grips**

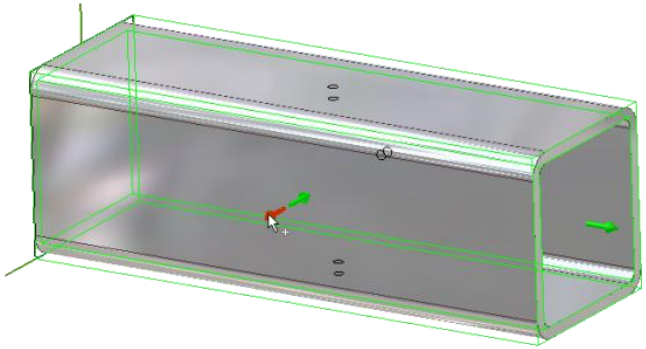


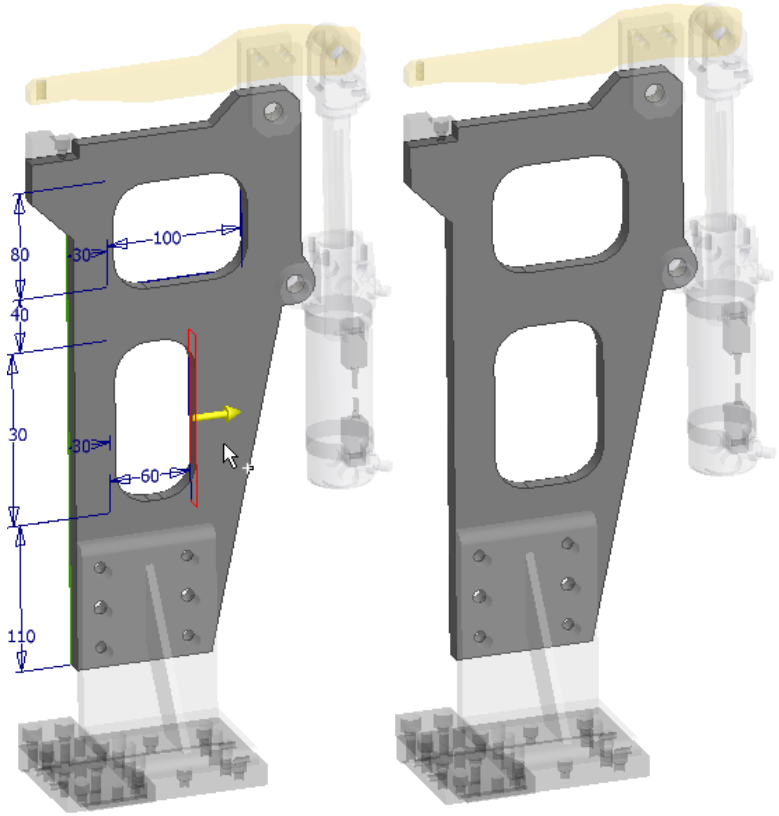
Accelerate 3D design with intelligent drag and drop feature creation

Autodesk

3D Grips

- **Feature modification with AutoCAD-like “Grip” editing**
- **Edit new and existing designs**



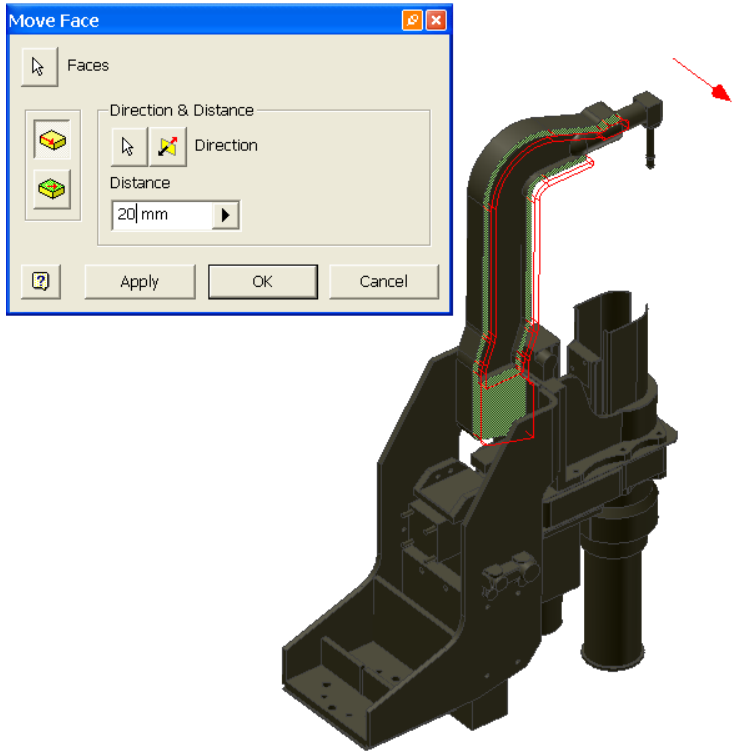


Speed design change with intuitive drag-based editing

Autodesk

Modeling Enhancements

- **Move face editing of parametric parts**
- **Optimized variable radius fillets**
- **Loft smoothing**
- **Support median tolerances**
- **Parameters Dialog**
  - **Tab between columns**
  - **Remember column size**
- **Delete/Suppress below the browser stop node**
- **iPart hole update when thread changes**

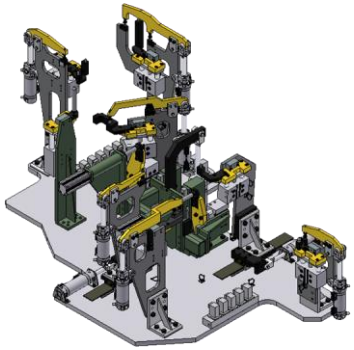


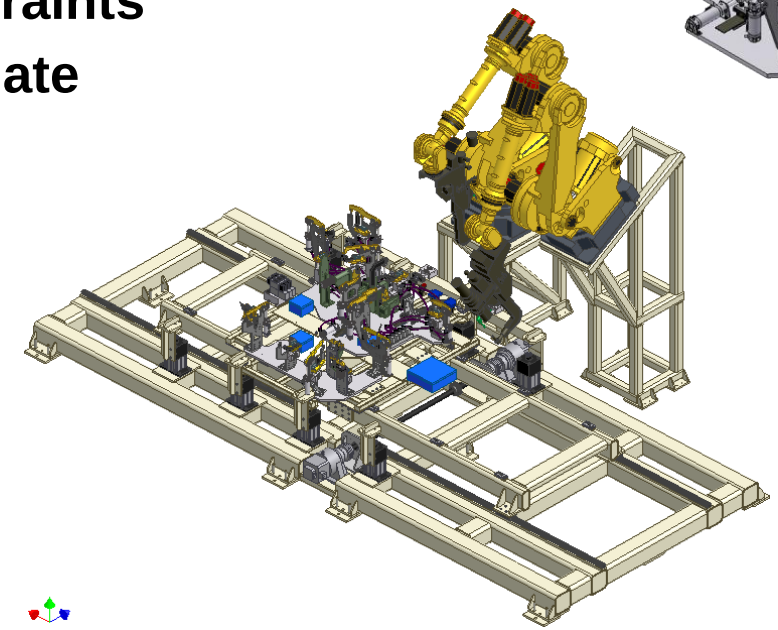
Design more innovative products with advanced modeling tools

Autodesk

Assembly Enhancements

- **Patterning of Assembly Features**
- **Assembly Mirror and Copy**
- **Enhanced assembly constraints**
- **Improved derived part update performance**





Design more innovative products with advanced assembly tools

Autodesk

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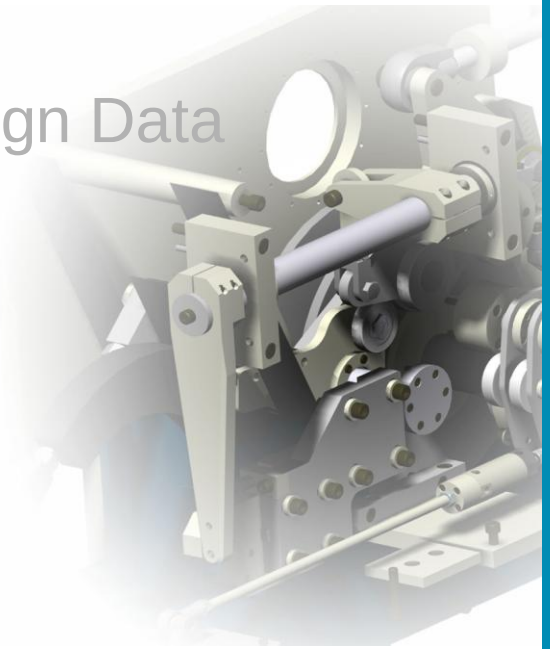
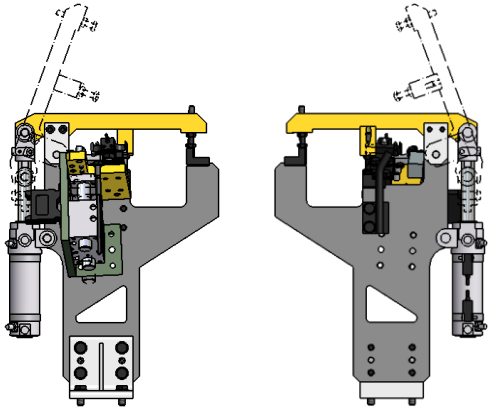
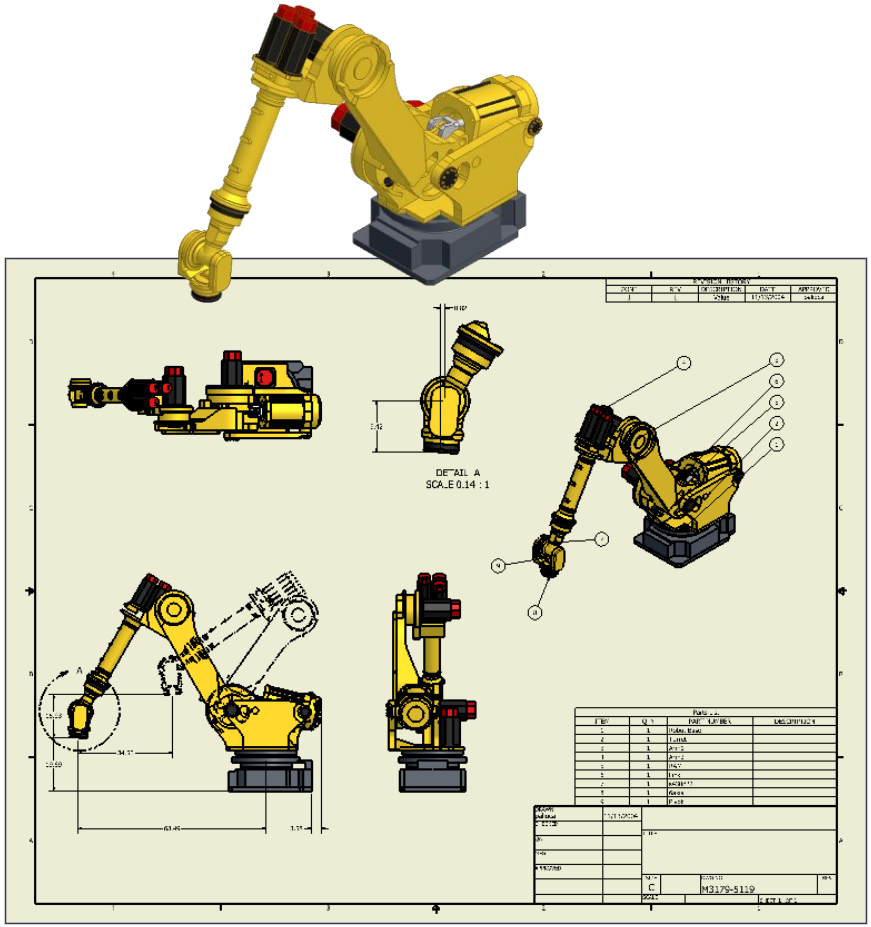


Autodesk

Positional Overlays

- **Create drawing views which overlay design motion**

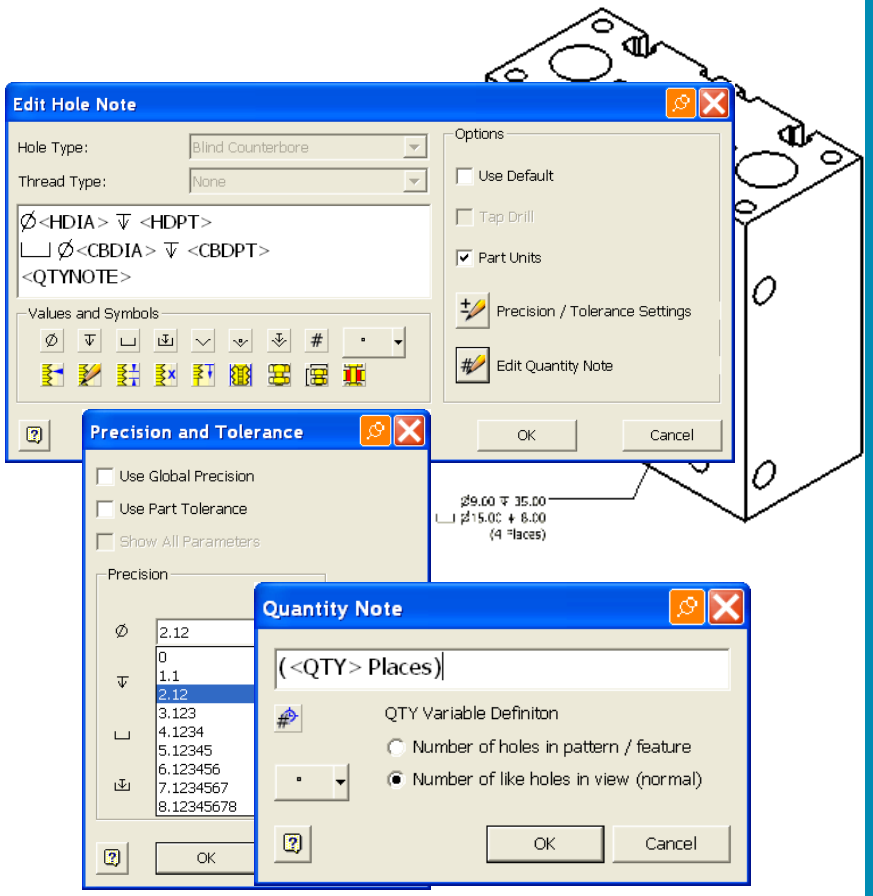




Quickly and easily capture design positions on assembly drawings

Hole and Thread Notes

- **Precision on all parameters**
- **Custom thread designations**
- **Recover fastener clearance information**
- **Insert user defined hole quantity notes**
- **Rollup quantity for identical holes**

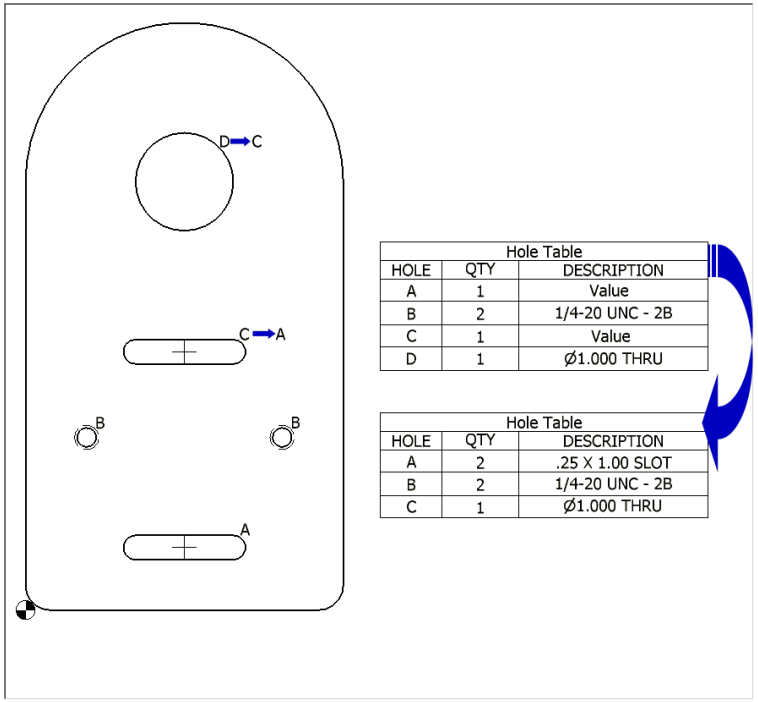


Provides greater flexibility for documenting your design

Autodesk

Hole Tables

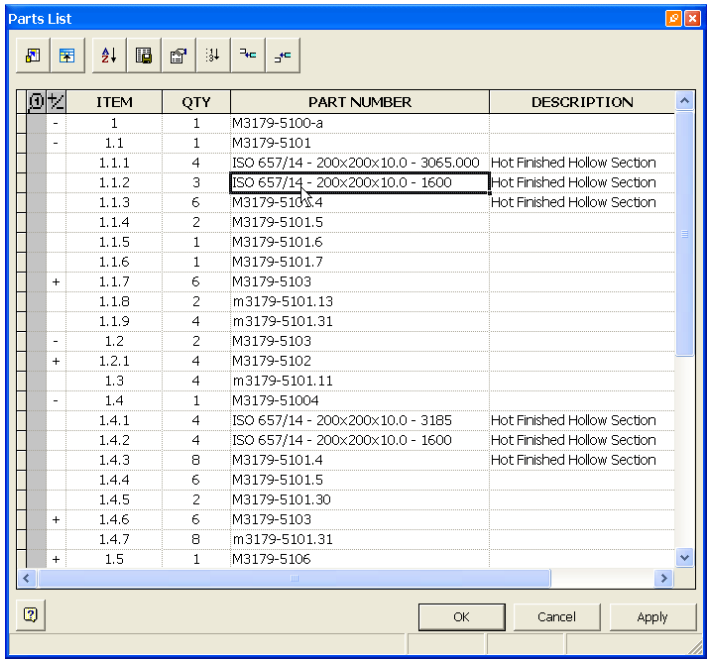
- **Sort and tag hole tables**
- **Insert custom descriptions and positional tolerances**
- **Recognize circular cuts, iFeatures and center-marks as hole table features**



Provides greater flexibility for documenting your design

Parts List

- **Add multiple parts lists on a single drawing**
- **Create without a drawing view**
- **Edit properties, group line items, sum rows, and control visibility**
- **Maintain consistent item numbering across multiple sheets in Drawing Manager and Presentations.**

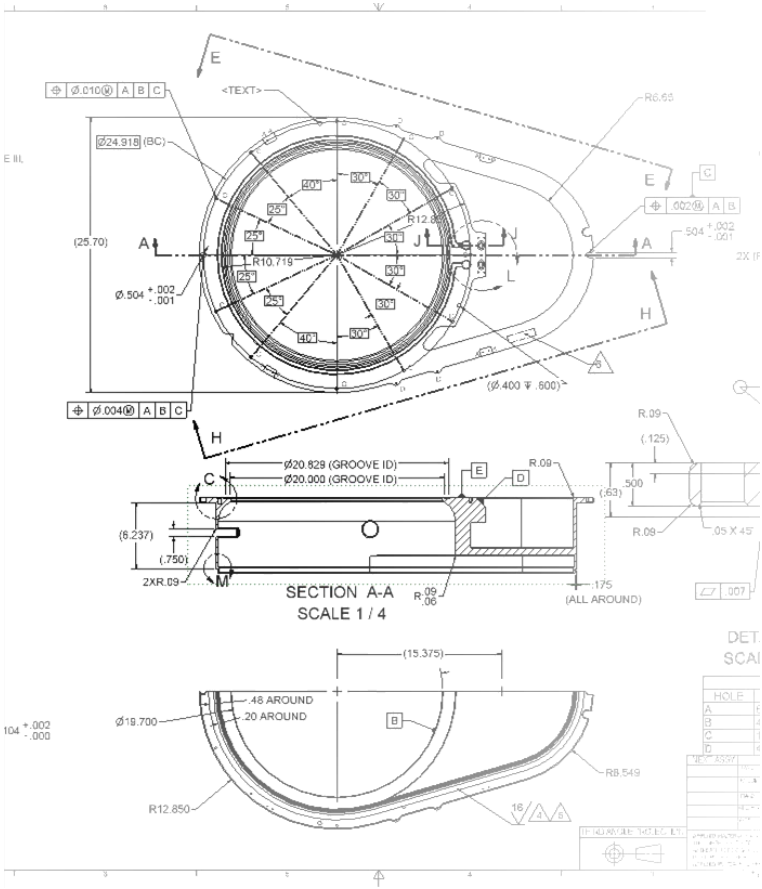


Reduce costly errors with automatic creation of assembly parts list

Autodesk

Drawing Enhancements

- **Drawing view creation of surfaces**
- **Drawing Resource Transfer Wizard**
- **Auto Centerline Retrieval**
- **Styles – Layers & Holes**
- **Hidden Lines of References Parts**
- **AutoCAD Mechanical 2006 drawing views of assemblies**

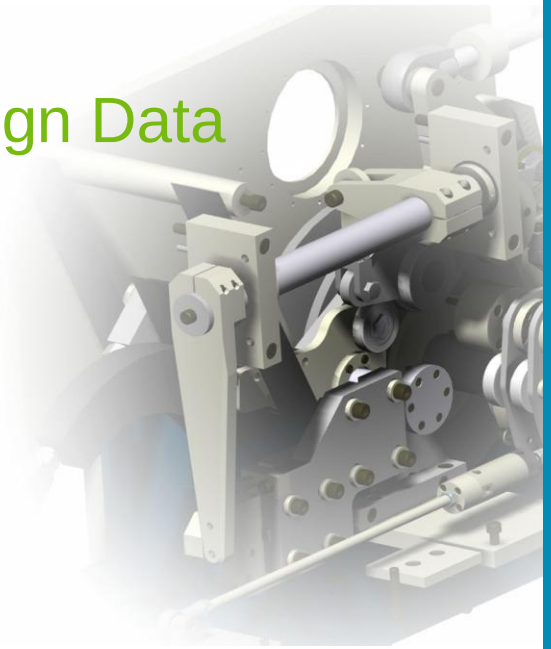


Save time creating and managing drawings

Autodesk

Autodesk Inventor 10

- The power to design the complete product line
- Deliver the design in less time
- Fastest way to production ready drawings
- **Communicate and Manage Design Data**
- Fastest to learn and deploy



Autodesk

IGES and STEP Import &Export

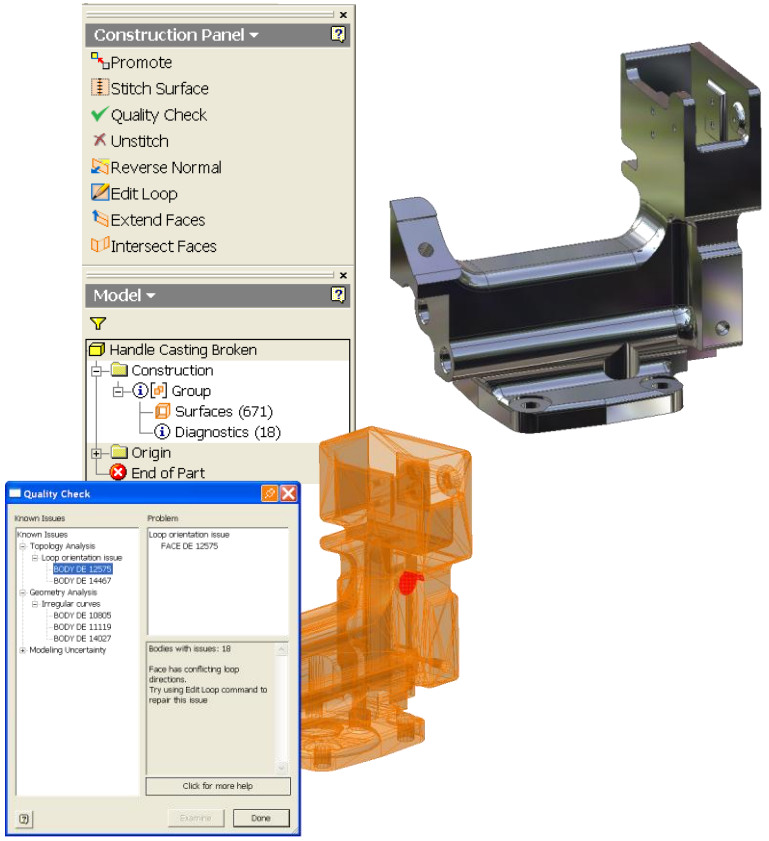
- **Increased performance importing large STEP files**
- **Increased control of imported data**
  - Support “Layers” in STEP
  - Support “Levels” in IGES
  - Improved automatic surface healing

Reliable, easy, accurate collaboration, re-use and sharing

Autodesk

Construction Environment

- **Organize, inspect imported geometry in preparation for use**
- **Group by layer, level and geometry type**
- **Edit and clean up surfaces**
  - Trim and extend
  - Quilting
  - Flip face normals
- **Quality checking**
- **Update IGES/STEP**

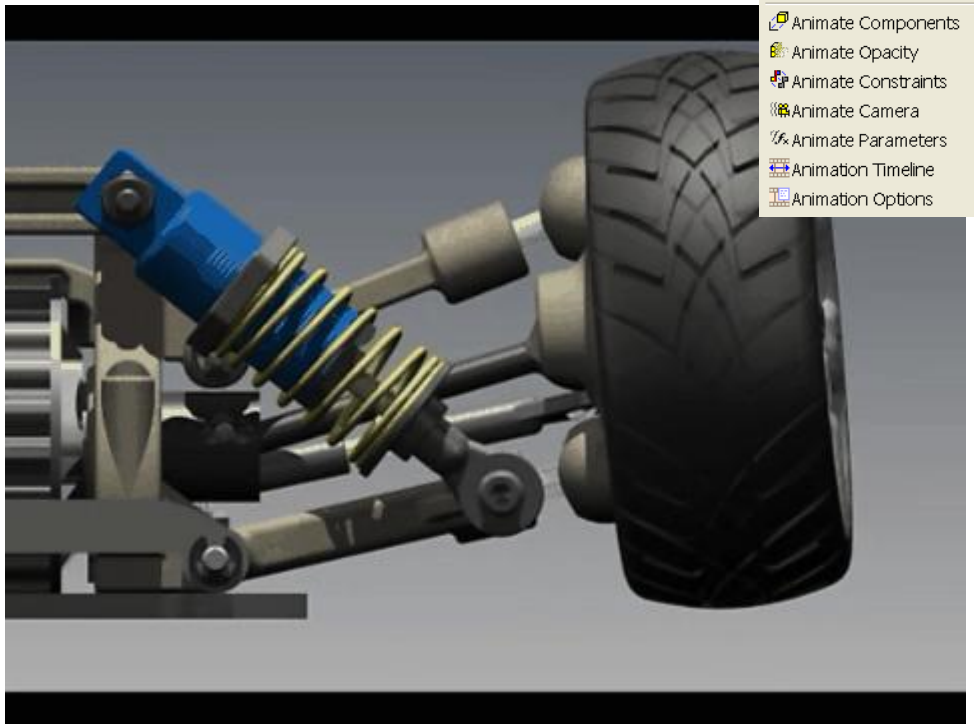


Easy, accurate collaboration, re-use and sharing

Autodesk

Autodesk Inventor Studio

- **State-of-art photo-realistic rendering and animations**
- **Streamlined within the design environment**



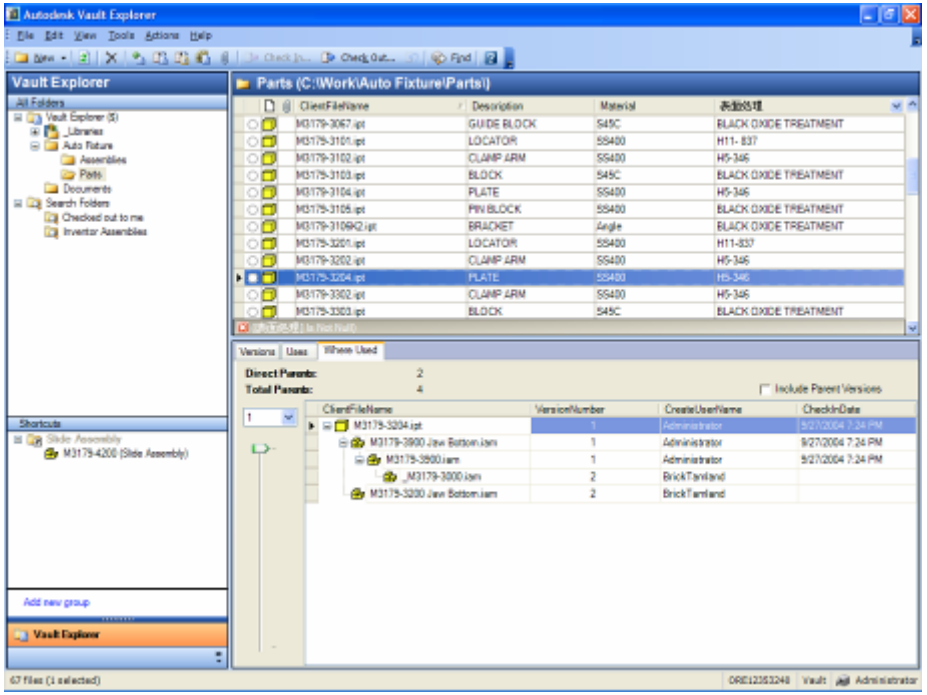
Create compelling images and quickly illustrate concepts

Autodesk

Autodesk Vault

Autodesk Vault provides easy-to-use work-in-progress data management integrated with the design applications you use today

- Manage Work-in-Progress
- Easy to Use and Administer
- Organize & Reuse
- Protect and Secure

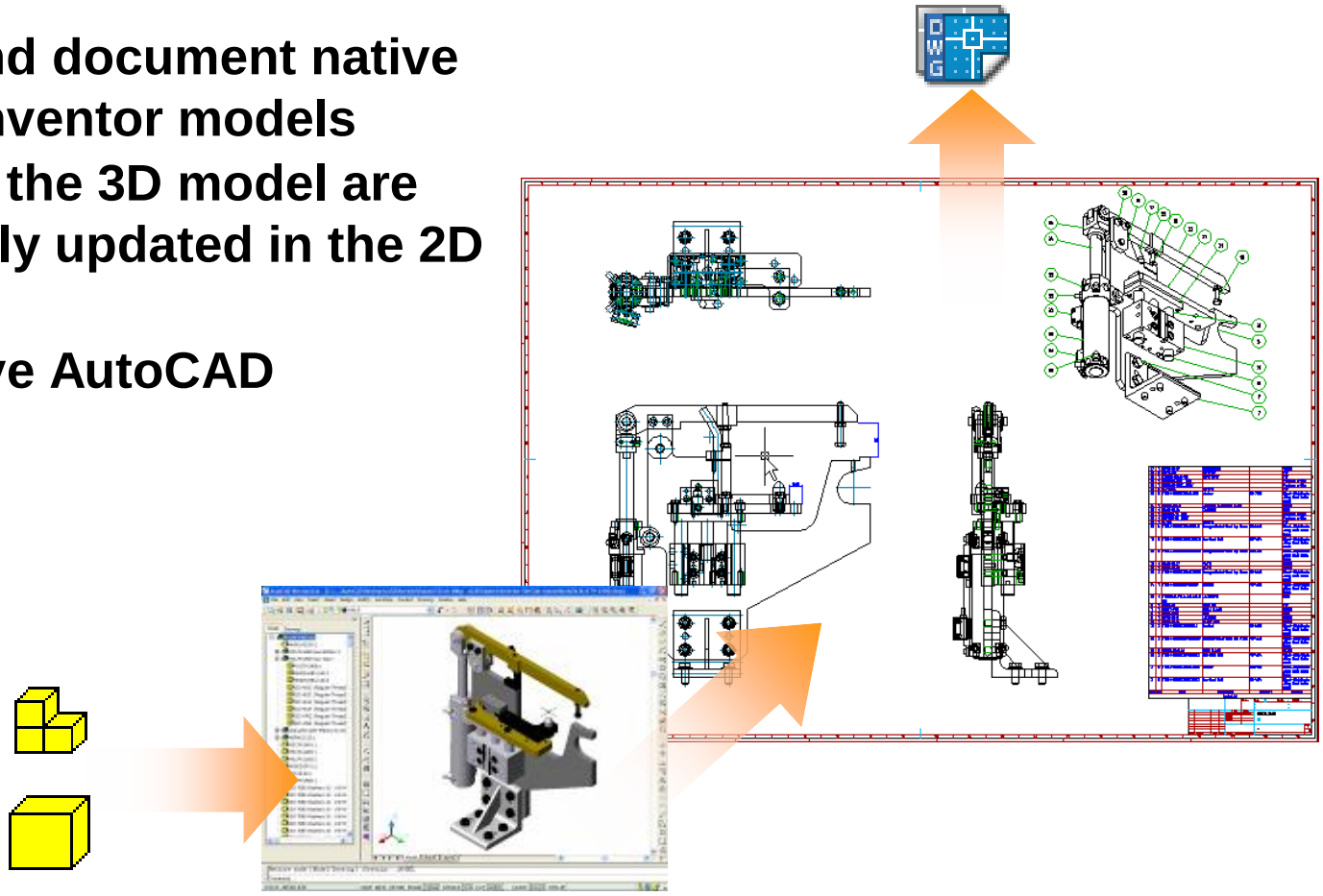


Centralize design storage and improve design reuse

Autodesk

AutoCAD Mechanical Associativity

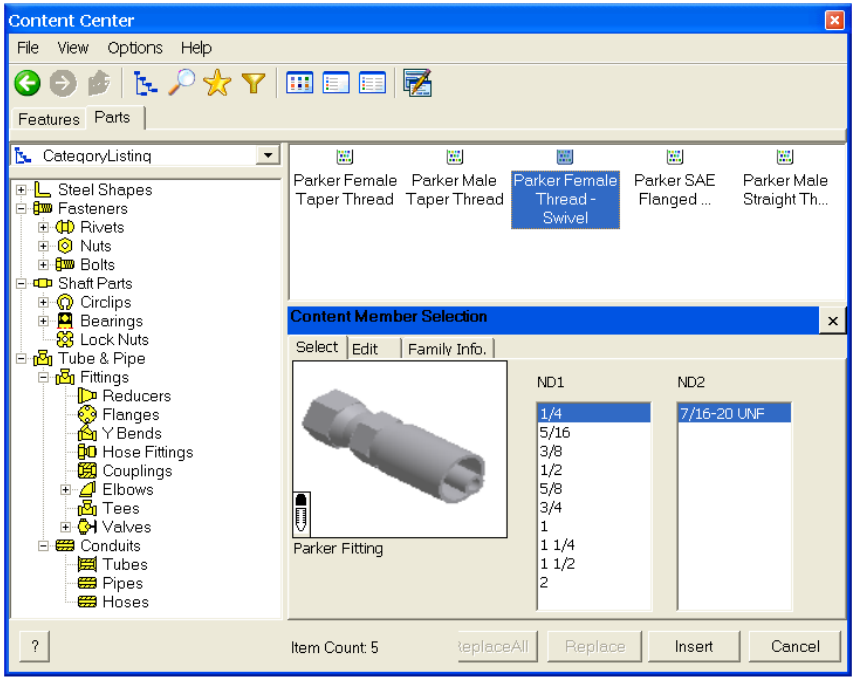
- **Visualize and document native Autodesk Inventor models**
- **Changes to the 3D model are automatically updated in the 2D drawings**
- **Create native AutoCAD Mechanical DWG files**



Only Autodesk delivers cross platform 3D to 2D associativity

Content Center

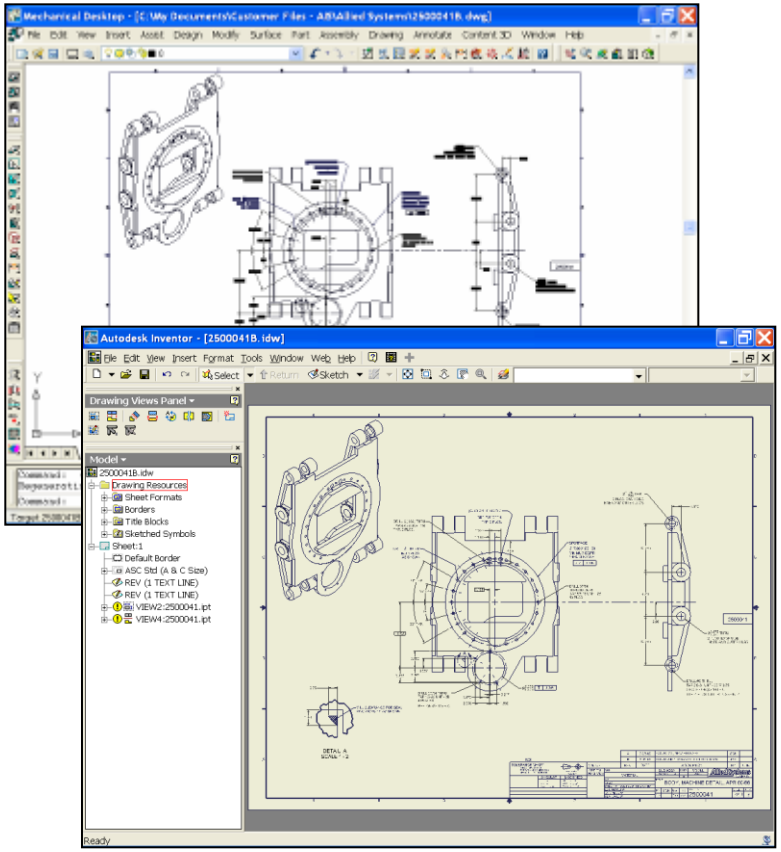
- **Author and publish**
- **Central content repository**
- **Customized favorites**
- **Single content library**
  - Tube & pipe



Easy to access the right content when you need it

Enhanced Mechanical Desktop Import

- **Re-use models and drawings from Mechanical Desktop**
- **Maintain original design intent, constraints and drawing relationships**
- **Automate drawing view creation on import**
  - Model to drawing associativity including annotations, scenes and unit settings

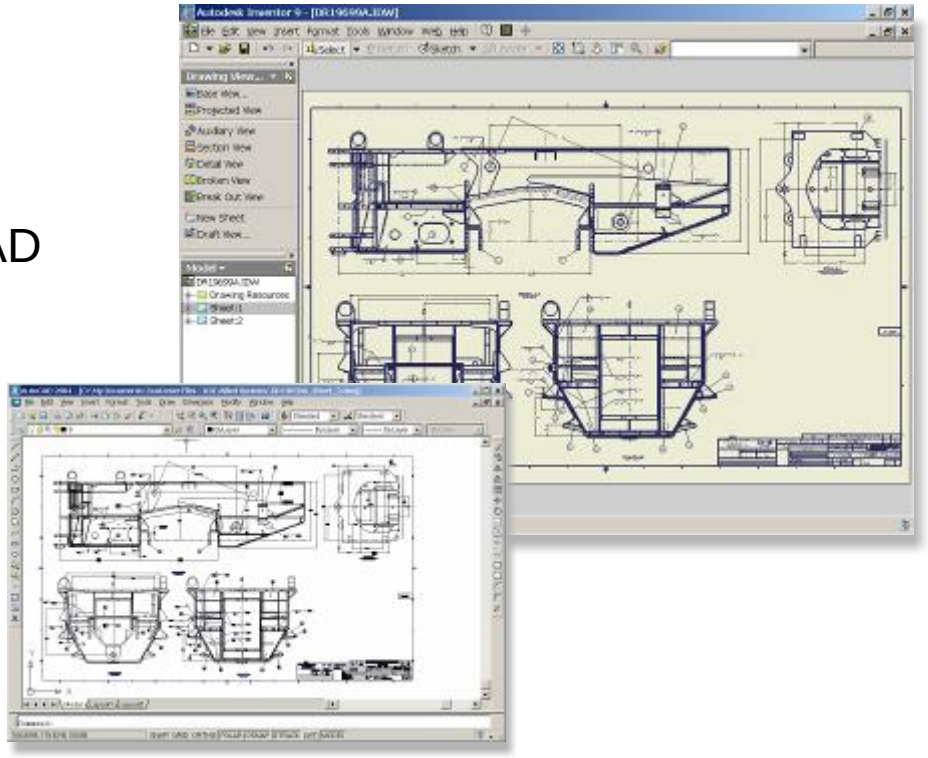


Automate Mechanical Desktop import to Inventor

Autodesk

Industry's Best .DWG Compatibility

- **Import .DWG**
  - Automatic units detection
  - "Constrain end points" option
- **Export to .DWG**
  - Hole/Leader notes as AutoCAD leader objects
- **AutoCAD 2006 ready**

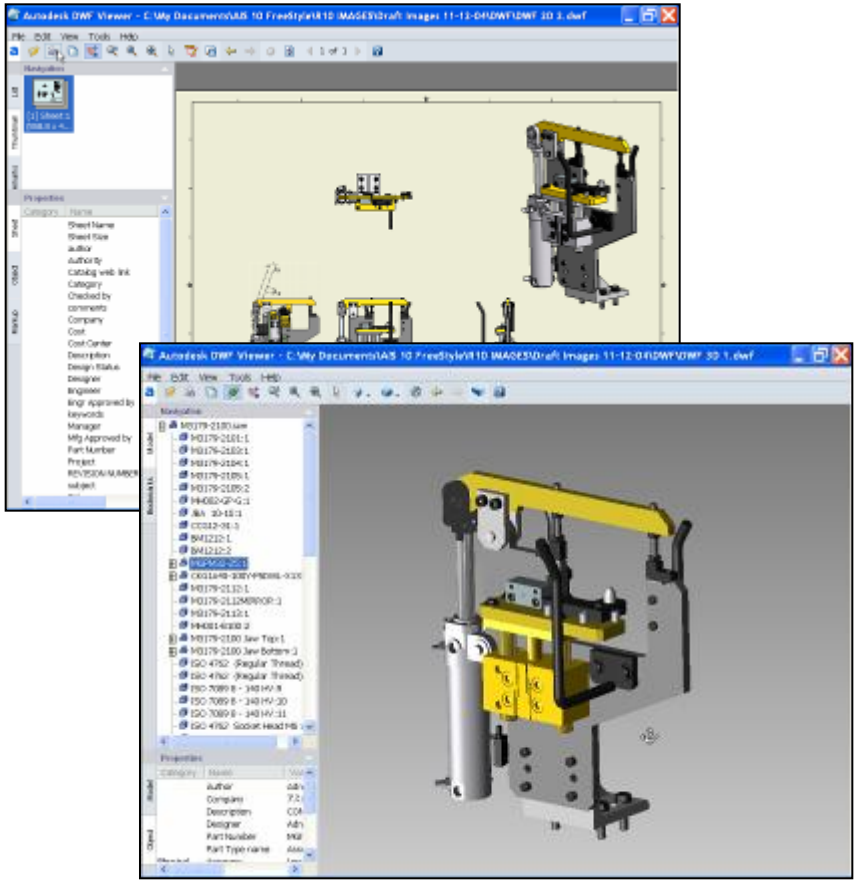


Easy, accurate collaboration and sharing with AutoCAD users

Autodesk

Enhanced DWF

- **Publish Presentation files**
  - Static exploded views
- **Publish 3D wireframe**



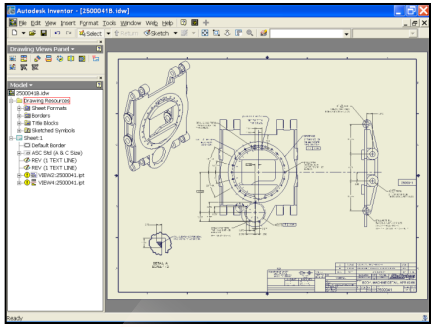
Easily share designs with the extended manufacturing team

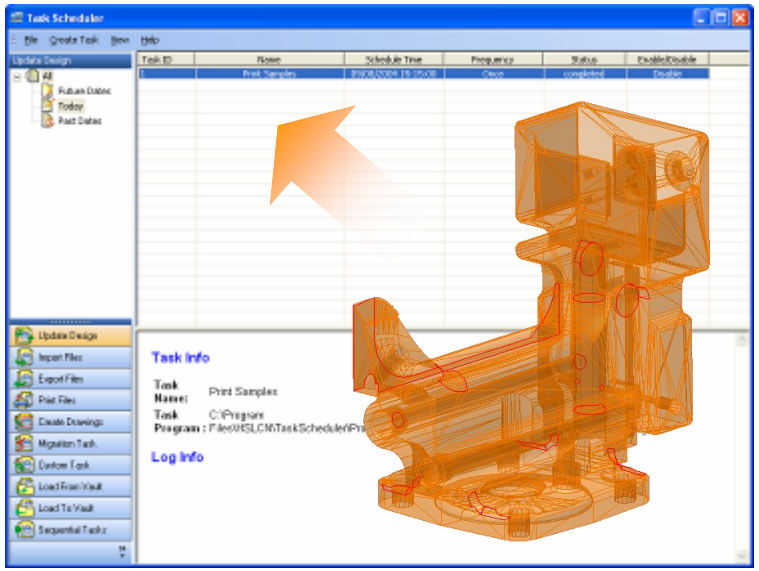
Autodesk

Task Scheduler

Schedule single or multiple automated tasks

- AutoCAD, Mechanical Desktop and Inventor file migrations
- Assembly and drawing updates
- Print jobs and DWF publishing
- DWG, IGES and STEP import/export
- User defined tasks



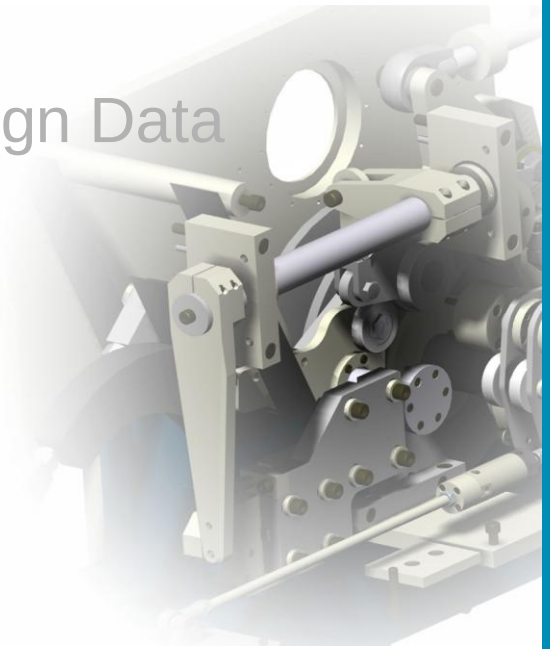


Easily automate repetitive tasks

Autodesk

Autodesk Inventor 10

- The power to design the complete product line
- Deliver the design in less time
- Fastest way to production ready drawings
- Communicate and Manage Design Data
- Fastest to learn and deploy

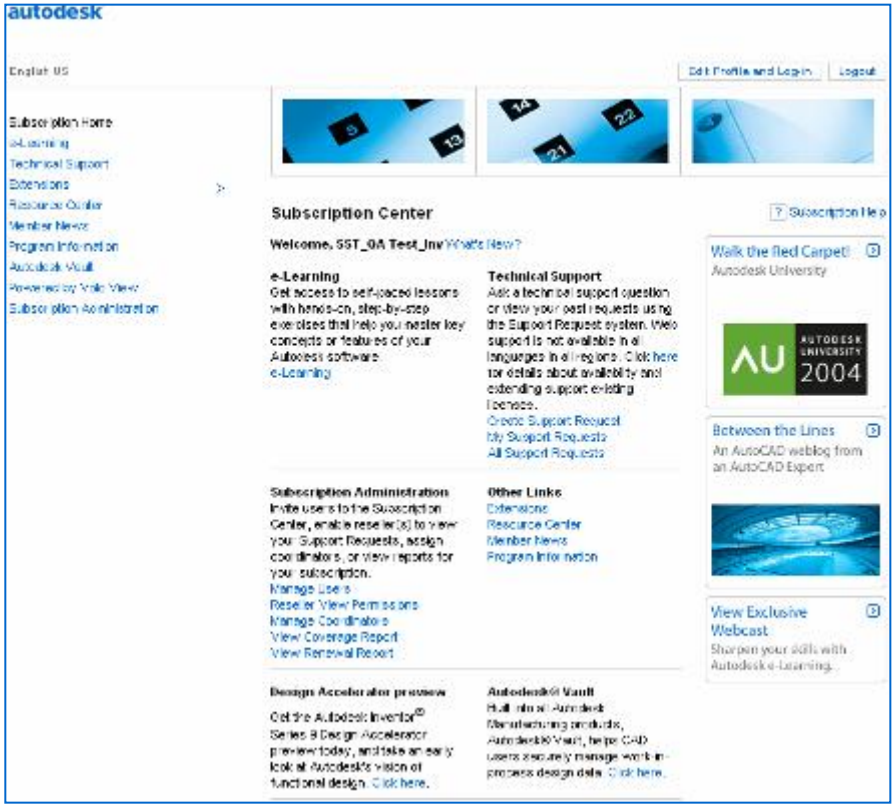


Autodesk

Subscription Aware

Allows Autodesk subscription customers to access subscription services directly through the help menu.

- Extended eLearning
- Support
- Updates



Instant access to up-to-date support and training

Autodesk

Autodesk Inventor 10

- **Best-in-class weldments**
- **Drag-based editing “3D Grips”**
- **Functional design**
- **Content Center**
- **Data re-use and collaboration**
- **Inventor Studio**