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Autodesk Subscription Advantage Packs provide Subscription customers with early access to the latest product enhancements. Available for select products, Subscription Advantage Packs vary and can include:

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- Robust design content to enhance visualizations and enrich renderings

Subscription Advantage Packs are available for download from Subscription Center and from select Autodesk software products via in-product access. They are not physically shipped to customers.

Several on-demand videos are available on the EMA website that showcase the benefits of Subscription Advantage Packs for Inventor, AutoCAD, and Autodesk 3ds Max. These movies can be viewed at [www.ema-eda.com/ms1](http://www.ema-eda.com/ms1).

For more information on the benefits of Autodesk Subscription, please contact EMA at 877.362.3321 or [ema@ema-eda.com](mailto:ema@ema-eda.com).

## Zurn Chooses EMA for BIM Competitive Edge

By Joe Mignano, Marketing Specialist, EMA Design Automation

In today's competitive environment, it is not enough for manufacturers to build better products; they need to put those products in front of customers at design time. Building information modeling (BIM) is a design process which is used to ensure clear and concise information across the scope of an architectural project, from the design phase through to post-construction. Today, successful manufacturers are creating BIM compliant models in order to allow direct design-in by their customers (and inevitably win more business). This allows their AEC customers to explore a project's key physical and functional characteristics digitally—before it is built—reducing project time, expenses, and waste.

Zurn Engineered Water Solutions, located in Erie, Pennsylvania, is one of the largest manufacturers and distributors of plumbing products in the world. It is important for their products to be available to architects in a format they can use; BIM offers the perfect way to meet this requirement.

Doug Wroblewski, Manager of Specification Drainage Engineering at Zurn, turned to EMA for their BIM modeling expertise. In this article, he talks about how BIM helps Zurn compete, and why he chose to use EMA for BIM.

**EMA:** How did BIM force Zurn to evaluate their design flow?

**Doug:** Historically, Zurn invested in software solutions which were primarily focused on internal

design and manufacturing needs, but also served the architectural and engineering community in a limited fashion (as many other manufacturers currently do). Once the use and popularity of BIM began to increase, we investigated BIM in great detail. Our investigation confirmed our current software would not allow us to effectively create BIM compliant files for our architectural and engineering customers. To meet this demand, we knew we would need a new solution.

**EMA:** What does your new solution look like?

**Doug:** Our updated design flow includes numerous seats of AutoCAD® Inventor® and AutoCAD Revit® Architecture/MEP suites for Digital Prototyping and producing BIM compliant models, as well as several Autodesk® Vault Collaboration seats for data management and revision control.

**EMA:** How did EMA help with the transition to the new software?

**Doug:** EMA, which in this case was supported initially by Autodesk, worked with our team on all phases of the transition. On-site visits to assist with software implementation, data migration, training, and real time design tasks were an integral part of making the transition within our

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## EMA Offers Autodesk Virtual Training

Aggressive time-to-market goals and project schedules are forcing users and organizations to find more efficient ways to receive training. At the same time, budget cuts are forcing management teams to cut down on travel expenses and reduce time spent out of the office.

To meet the challenges of today's market, EMA (an Autodesk Authorized Training Center) has created a virtual classroom training program for Autodesk products. EMA's virtual classroom training is delivered over the Internet by a live instructor. Attendees receive a hard copy of the training manual a week prior to the class, and use the manual as a reference or workbook as they follow along virtually with the instructor. When it is time to do the lab exercises, attendees access a virtual desktop which has the software and lab files already installed. Breakout sessions are available for those that need special attention.

This class style provides several benefits over standard classroom training:

- Reduced time away from office
- Elimination of travel and lodging expenses
- Enables multi-site training, as team members spread across geographic regions can collaborate in the same training sessions
- Half-day sessions allow for maximum productivity

Products covered in the virtual classroom training program include AutoCAD, AutoCAD Electrical, Inventor, and Vault. To see a schedule of available classes, please visit [www.ema-eda.com/ms2](http://www.ema-eda.com/ms2).

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desired time frame. EMA was there through every step of the process.

**EMA:** Why did Zurn decide to outsource their BIM modeling?

**Doug:** Serving our customers and industry is Zurn's top priority. We realized that the time frame required to fully educate ourselves on BIM standards and become familiar with the BIM features in the new software would take a little longer than we had anticipated. We certainly did not want to extend the time frame for getting files ready for our customers. Delegating the initial BIM modeling process to an outside company allowed us to become proficient in developing the BIM compliant files ourselves while leveraging EMA's BIM expertise to give our customers BIM compliant models quickly.

**EMA:** What made EMA your best choice for BIM modeling?

**Doug:** EMA was a single vendor capable of satisfying all our requirements. They were competitive from a cost standpoint, had a strong relationship with Autodesk, and could assist with all our soft-

ware and BIM needs. Consequently, we were very enthusiastic about working with EMA, and the decision was an easy one. We knew we could trust EMA to perform our modeling requests.

**EMA:** Will you continue to choose EMA for your BIM modeling work in the future?

**Doug:** We will continue to use EMA for our BIM modeling as circumstances require. The models they have converted for us have met all our quality standards, and have even impressed people in charge of Autodesk Seek. We know we can pick up the phone and speak with the BIM Project Manager at EMA or another EMA team member whenever an issue arises.

Does your company need help making BIM compliant models? Don't hesitate to contact EMA for a personalized assessment of your modeling needs. EMA's services department is fully equipped with knowledgeable, experienced experts on BIM modeling and is ready to help you get your products into the BIM world.

For more information on EMA's BIM services for product manufacturers, please visit [www.ema-eda.com/ms3](http://www.ema-eda.com/ms3).

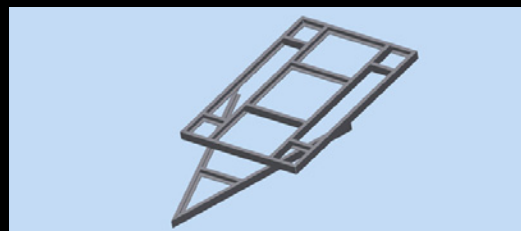
## Autodesk Inventor Productivity Series: Got Structure? Use Frame Generator!

By Greg Shaffer  
Application Engineer, EMA Design Automation

Inventor is a powerful 3D Digital Prototyping program with hundreds of features that can save hours, days, or even weeks of design time. The parametric design capabilities alone are enough to convince most designers that moving to 3D is essential in order to shorten their time-to-market and increase their profitability. But in addition to the well-known benefits of Digital Prototyping with Inventor, there are tools within Inventor that can make the solution even more beneficial to

individual users. This article is the first in a series that will examine some of these tools and how they can make you more productive.

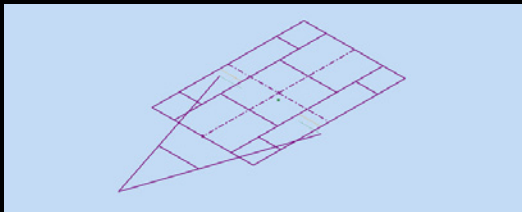
If you design any product with a framework or structure, there is a tool available in all Inventor suites that you should be using: Frame Generator. This tool drastically simplifies the process of creating frameworks by eliminating the need to create frame components individually, whether they be for small objects (like electronics enclosures) or large ones (like trailers or airplanes). It makes the sizing, placing, and trimming of frame components faster and easier, and creates vast time savings during the frame generation process.



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Since a framework is essentially an assembly of parts, the frame must be created in an assembly (.iam) file. Frame components are placed onto (or associated to) lines of sketches or edges of solids. Therefore, you will need a sketch or solid to attach the frame components to. If the frame you are creating is a simple rectangle or square (if you are designing a dog pen, for example), then using a simple extruded solid is the easiest method for creating a frame. If the frame is going to be more complex (say a frame for a car trailer), then a series of sketches is more desirable.

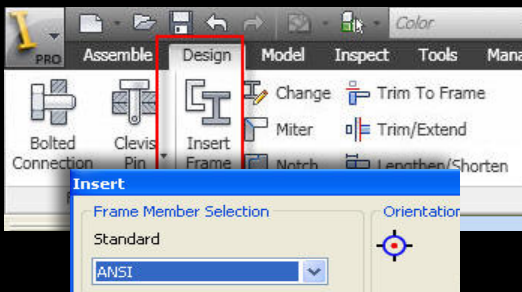


The process of creating a frame using the Frame Generator tool in Inventor is as follows:

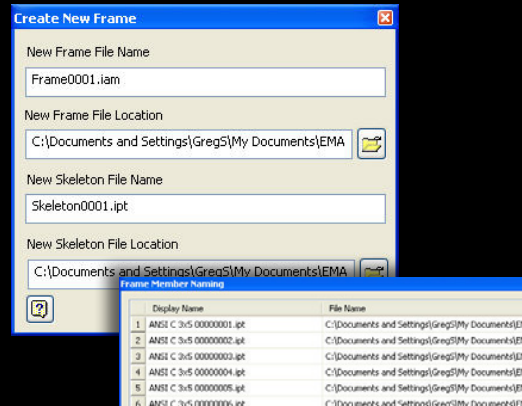
### Step 1: Populating Lines or Edges with Frame Components

First, start a new .iam file and save it. Place the .ipt (sketch or solid) that you created into the assembly.

You are now ready to populate the lines or edges with frame components. On the Design tab of the Ribbon interface, find the Insert Frame button. This will open the Frame Generator Insert dialog box. On the left side of the Insert dialog box you can choose a design standard, such as ANSI, DIN, JIS, etc. Next, you can choose a Family, such as flat bar steel, rectangular tubes, round bars, w-shapes, etc. Finally, select a size along with any material and color style preferences. For convenience, the Frame Generator tool utilizes the shapes from within the Content Center. The shape used is determined by the Family chosen in the previous step. If you require other shapes and/or sizes, they can be added to the Content Center and will be available to you within the Frame Generator.



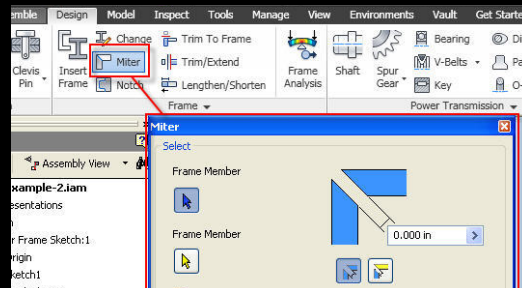
On the right side of the dialog box, you can choose how the frame components will be positioned (oriented) on the lines/edges. They can be centered, placed on the edge or at the midway point of the components, or placed at an offset distance from a particular point. You can also set an angle of rotation. The Insert Members on Edge placement button is used for most sketches and solids, but you have the ability to place components between points by selecting the Between Points button. At this point, you can begin picking lines or edges that you want to populate with the selected frame component. Click OK when you have selected what you want to populate with the selected frame component. The Create New Frame dialog box will now open, which allows you to name and determine a location for this new assembly file. Click OK, which prompts the Frame Members Naming dialog box to open. These are the part files for the individual members being created. Each frame component is created in an individual .ipt file. You are given the opportunity to rename these as needed.



Next, click OK and the lines or edges will be populated with the frame components.

### Step 2: Applying End Treatments

The next step in the process of creating a framework is to apply end treatments to the ends of the frame components. One of the options is to miter the ends. In the Ribbon, select Miter to open the Miter dialog box.



## Try Autodesk Algor Simulation for Free!

Mechanical designers need to predict product performance both with confidence and without building multiple physical prototypes. Autodesk Algor Simulation software provides Inventor users expanded simulation capabilities that enable designers and engineers to bring product performance knowledge into early stages of the design cycle, helping to improve collaboration, design better and safer products, save time, and reduce manufacturing costs.

Through October 1, 2011, Inventor users with an active Autodesk Subscription agreement have the ability to download an extended free trial of Algor Simulation software. After a user downloads and registers for the extended free trial, it will run until October 14th, 2011.

Inventor users can download the trial through the Autodesk Subscription Center using the "Algor free trial" promo box link. Once clicked, the customer will need to enter in their user information, subscription contract number, and reseller of record before downloading the free trial version. Inventor users may also access the free trial at [www.autodesk.com/validateyourinventor](http://www.autodesk.com/validateyourinventor).

For more information on Algor Simulation software, please visit [www.ema-eda.com/ms4](http://www.ema-eda.com/ms4).

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## EMA is “Rookie Partner of the Year”

EMA Design Automation earned the Autodesk “Rookie Partner of the Year” award for 2011. EMA won the honor by achieving top bookings for Autodesk’s fiscal year, exhibiting strong partnership and collaboration with Autodesk, and sharing best practices with the Autodesk channel. “We have worked hard during our first full year to become a successful member of the Autodesk family. I believe we earned this award by focusing first on providing our customers the best engineering solutions possible,” said Manny Marcano, President and CEO of EMA Design Automation.

## Google Earth Extension for AutoCAD and AutoCAD-based Products

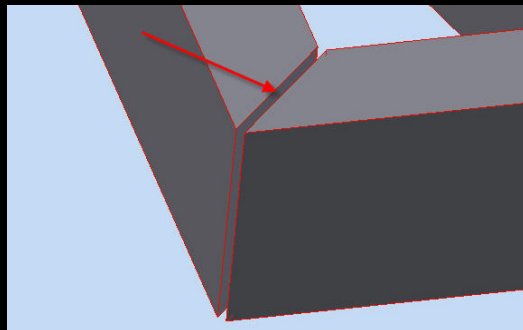
Google Earth Extension® (available in its development phase for free on [labs.autodesk.com](http://labs.autodesk.com)) allows you to publish AutoCAD® based 3D models to Google Earth. The technology preview allows you to import a Google Earth image into AutoCAD, publish your 3D model to Google Earth, drape a Google Earth image onto a 3D mesh in AutoCAD, and attach time span information to your model.

The Google Earth Extension currently supports Google Earth 5.x. The extension creates a link between the AutoCAD and Google Earth using the Microsoft Component Object Model (COM) application program interface (API). With the recent release of Google Earth 6, Google Earth no longer supports the COM interface. Autodesk is formulating a plan for supporting the new API, but there is no exact date as to when that will be ready.

Please visit [labs.autodesk.com](http://labs.autodesk.com) for download instructions and other information on this software.

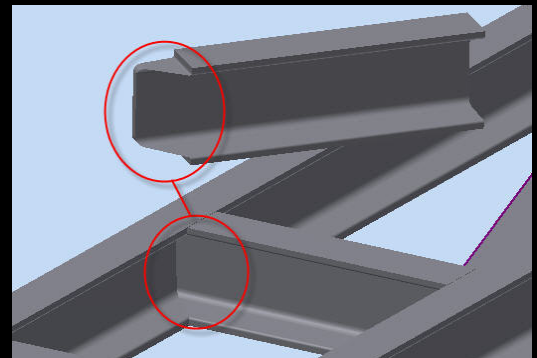
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Here you can set a gap distance and choose an optional offset for the gap. Click the blue Frame Member arrow button and pick on the first frame component to miter. Then pick the second component (the yellow arrow is automatically selected in the dialog box for the second selection). Hit Apply and the ends will be mitered. This functionality provides a substantial time savings (up to 75%) over applying end treatments manually in the individual part files.



You also have the option to trim angled members to the faces of adjacent members. In the Ribbon, select Trim/Extend. In the Trim/Extend dialog box, the blue frame component arrow is already selected. Pick the angled frame component, then the component it contacts. You can choose to add a gap here as well.

There are other end treatment tools available in addition to the ones just described. You can use Trim to Frame to trim off the end of a member to the face of a component that is perpendicular to it. Lengthen/Shorten allows you to add or remove length either at the end or in the middle of a component. You also have the choice to remove any end treatments that already exist. Notch is a handy tool if you are working with i-beams (such as w-shapes) or channels and need to “cope” one component into the other.



Finally, there is also a handy Beam & Column Calculator available under the expanded Frame Ribbon section that allows you to calculate loads on beams and columns.

As you can see, utilizing the Frame Generator tool (available in all Inventor suites) can save time and effort in the creation of any type of structural framework. This tool eliminates the process of creating frame components individually and then controlling their lengths with constraints. If you do not use the Frame Generator tool, you will have to create the shape (or use a shape from the Content Center) and then extrude each shape to the correct length in order to design your frameworks, which is clearly not the most productive way to spend your time. In future articles, we will take a look at some of the other design tools inside of Inventor that can save you time.

EMA offers training classes and consulting services that can help you be more productive every day. For more information on our training classes or consulting services, please contact us at [877.362.3321](tel:877.362.3321) or [ema@ema-eda.com](mailto:ema@ema-eda.com).

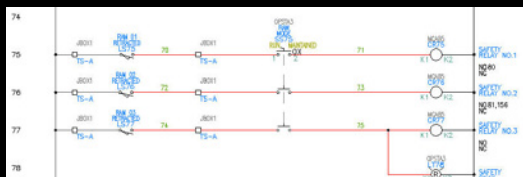
# Why Switch from AutoCAD to AutoCAD Electrical?

By Greg Schaffer

Application Engineer, EMA Design Automation

If you are an electrical controls designer who has not switched from AutoCAD to AutoCAD Electrical for designing schematics and panel layouts, then you are definitely missing the boat. If there were ever a no-brainer choice, this is it. In this article, I will explain why AutoCAD Electrical is the software of choice for electrical controls designers, and how it can save you substantial time and frustration over using plain AutoCAD.

How much time would you need to save using AutoCAD Electrical to consider the time savings “substantial”? An independent study was done comparing using AutoCAD Electrical with AutoCAD to create electrical designs. It showed that for the average designer, creation of new designs was 84% faster, editing existing designs was 77% faster, and 30% fewer commands were used. Under pretty much any circumstances I would call these numbers substantial! And in my experience of teaching and supporting this software, I agree that these are realistic numbers. Our customers do, in fact, report these types of time savings.



Many AutoCAD users express frustration at using AutoCAD for their designing. But how can we measure how much frustration is saved by moving to AutoCAD Electrical? In order to address this, let's look at what causes frustration during the design process. Most designers report that the areas that are the most challenging are maintaining spreadsheets of components used, tracking Parent/Child relationships, tracking wire from-to information, ensuring that the same component is called out on the schematic and the layout, wire and component numbering and renumbering (especially when design changes occur), and creating an accurate Bill of Material. Of course it would also be nice if there were a library of standard symbols as well as a catalog full of components from major suppliers that we could access at the click of a button. Well, guess what? AutoCAD Electrical addresses all of these common frustrations, and many more.

CATALOG	MANUFACTURE	DESCRIPTION	TYPE	STYLE	ACTION LINE
CR115801	GE	Sort: A to Z	RECESSION SNAP-ACTING	BUTTON SWITCH	
CR115802	GE	Sort: Z to A	RECESSION SNAP-ACTING	BUTTON SWITCH	
CR1158009	GE	Collect All	RECESSION SNAP-ACTING	ROLLER LEVER S...	
CR1158010	GE	AB	RECESSION SNAP-ACTING	ROLLER LEVER S...	
CR1158011	GE	ABB	RECESSION SNAP-ACTING	ROLLER LEVER S...	
CR1158012	GE	AUTOPARTS/EMERECT	RECESSION SNAP-ACTING	ROLLER LEVER S...	
CR1158013	GE	FRS/NO	RECESSION SNAP-ACTING	ROLLER LEVER S...	
CR1158014	GE	ELUT	RECESSION SNAP-ACTING	ROLLER LEVER S...	

Here are the top 10 reasons to switch from AutoCAD to AutoCAD Electrical:

1. Comprehensive symbol library (over 2,000 standards-based schematic symbols are included)
2. Automatic wire numbering and component retagging (sequential or reference based numbering, customizable as needed)
3. Automatic project reports (create standard reports or create your own customized reports)
4. Real-time error checking (design-phase error checking with automatic alerts)
5. Real-time coil and contact cross-referencing (parent/child relationships as well as the number of contacts available are constantly tracked, and errors are displayed)
6. Ability to create smart panel layout drawings
7. Electrical-specific drafting features (the comprehensive set of purpose-built tools in ACAD Electrical make creating and editing electrical drawings faster and easier)
8. Automatic creation of PLC I/O drawings from spreadsheets (create new PLC drawings automatically, complete with ladders, from a Microsoft® Excel® spreadsheet)
9. Share drawings with customers and suppliers, and track their changes
10. Reuse existing drawings (powerful Project Manager tool allows for re-use of existing projects by creating copies of all or selected existing drawings for new designs)

Let's take a closer look at a few of the more significant reasons listed.

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## Do More with AutoCAD

Autodesk Design Suite software is designed to help AutoCAD users present their designs to clients more effectively by combining AutoCAD design and drafting software with several product visualization and animation products. Having this simplified workflow will help you present your designs to clients more effectively and reach new business. And it only costs \$1,000 more than AutoCAD.

Benefits of the new Autodesk Design Suites include:

- Improved productivity and enhanced design with a single suite of products that integrates easily into your existing workflow
- Clearer communication with clients and a smoother approval process at every stage of design
- Easy creation of compelling, emotionally engaging visualizations that inspire confidence in your presentation — and help you win more business

An on-demand screencast is available that demonstrates how Autodesk Design Suites extend the AutoCAD workflow by adding Autodesk's industry leading visualization software in a single, cost-effective package. Please visit [www.ema-eda.com/ms5](http://www.ema-eda.com/ms5) to view the demo; no registration required!

## Free AutoCAD Inventor Professional Trial Software

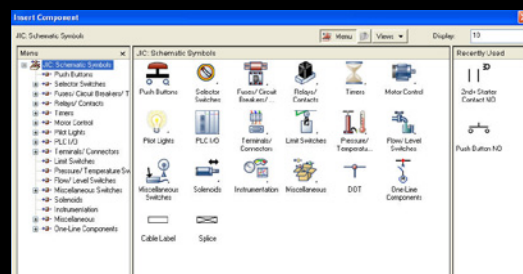
Project Krypton Technology Preview, available in its development phase for free on Autodesk Labs ([labs.autodesk.com](http://labs.autodesk.com)) provides early stage design advice to plastic part designers. Seamlessly integrated into the Inventor®, Autodesk® Inventor LT™, SolidWorks®, and Pro/ENGINEER® environments, this add-on provides real-time feedback on a plastic part's manufacturability, cost efficiency, and the environmental impact of the selected material. This helps designers make better decisions to ensure their products can be properly manufactured, are more cost-effective, and are produced using materials with a lower environmental impact.

Project Krypton Technology Preview automatically assesses the part after each design modification and raises alerts regarding potential concerns. Users can review details of each concern and view problem areas highlighted directly on the model. Design advice is offered, which helps the user make appropriate design changes to address the concerns.

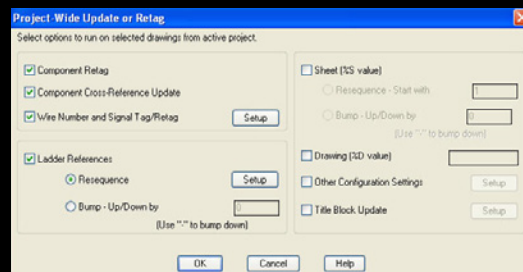
This software is only applicable for injection molded plastic parts designs. The free executable will operate until March 21, 2011. Please visit [labs.autodesk.com/utilities/krypton](http://labs.autodesk.com/utilities/krypton) for download instructions and other information on this software.

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Let's start with the symbol library. Speed and consistency during the schematic design phase can finally be a reality due to the ability to drop any of the 2,000 symbols included in the AutoCAD Electrical symbol library right into your design. You also have the ability to use your existing AutoCAD Blocks as symbols and even to easily create your own customized symbols. Placing symbols has never been easier. After placing a schematic symbol, AutoCAD Electrical can automatically trim your wires, and even rotate the symbol into either a horizontal or vertical orientations. And the software supports both single and 3-phase wiring schemes.



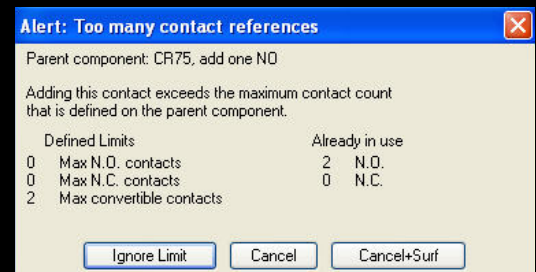
Two other features that make design creation easier are automatic wire numbering and component tagging. AutoCAD Electrical automatically numbers wires and tags components sequentially, or based on line reference. The format of this numbering and tagging is customizable in order to fit with your specific standards. Need to switch from sequential to reference-based numbering in the middle of a project? No problem. You can run the automatic renumbering and retagging at anytime...as often as you like. And it only takes a few moments to retag, even on an entire project.



The purpose-built tools for controls design that are included with AutoCAD Electrical make working with schematics and panel layouts much easier. Insert Wire, Trim Wire, Scoot, Stretch Connector, Insert Component and Edit Component are just a few in an array of editing tools specifically designed for the type of work you do. For example, Insert Ladder allows you to insert a ladder of any size with any rung spacing with only a few clicks, and in just seconds, not minutes. Need to stretch a connector

to add another pin, but the connector is a block? No problem in AutoCAD Electrical. With the connector editing tools, you can stretch the block, add pins, swap pins, delete pins, and much more with just a couple of clicks. No more exploding the block to make the edits like you would need to in AutoCAD.

Have you ever connected too many Child components to a Parent with a specific number of contacts? Did you find out after the design phase, when the product was being built? AutoCAD Electrical tracks all Parent/Child relationships, and even tracks the number of contacts and how many components are attached to it. If you try to add too many, AutoCAD Electrical warns you and gives you options, including going to the catalog to choose a new component with more contacts. In this way, these types of errors are caught at the design phase where they are much cheaper to fix.



With AutoCAD Electrical, adding wires and busses is as easy as a click of the mouse. And wiring point-to-point components, such as connectors, can be done by inserting multiple wires at one time. 3-phase busses and circuits are a snap with the Insert Multiple Wire command. And there are a large number of 3-phase components that can be inserted with a single click.

Finally, one of the most important sets of tools included in AutoCAD Electrical are the automatic project reports. Everything from Wire From/To, Component and Component Exception, BOMs, and PLC I/O Reports are included. And you can customize any report in a multitude of ways to create even more reports, then save the reports and run them all with a single click.

By now I am sure you can see that if you design electrical controls, power circuits, PLCs, automotive or aircraft point-to-point circuits, or just about any other sort of electrical or cable design, AutoCAD Electrical is designed specifically to save you time and frustration. Contact EMA at **877.362.3321** or [info@ema-eda.com](mailto:info@ema-eda.com) for more information on making the switch from AutoCAD to AutoCAD Electrical.

# Importing AutoCAD Solids into Autodesk Inventor

By Jerry Berns  
Application Engineer, EMA Design Automation

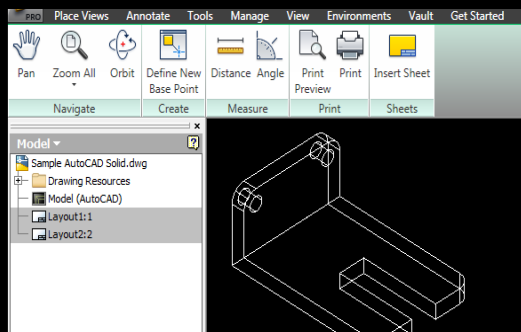
Enhancements to solid modeling in AutoCAD 2011 have provided new methods for design teams to create their concept models. After creation in AutoCAD, these models are often used in an Inventor assembly to leverage the parametric power and associative drawing capabilities available with that technology. But before this can happen, users must import the AutoCAD solids into Inventor. This article will explain the best practices for this task, and will also discuss a tool that can extract the AutoCAD model features and convert them to parametric features, which can then be edited by Inventor.

AutoCAD 3D solid modeling commands allow users to create designs with simple primitive objects or complex surfaces. The example below was built from box and cylinder primitives. Union and Subtraction Boolean operations were performed followed by a fillet operation in order to assemble this solid.

Let's take a closer look at the different options users have during the import of solids to Inventor.

## Inventor Open Command Options - Open vs. Import

AutoCAD drawings can be opened or imported into Inventor. These options can be controlled by using the Options button available in the Open dialog box.

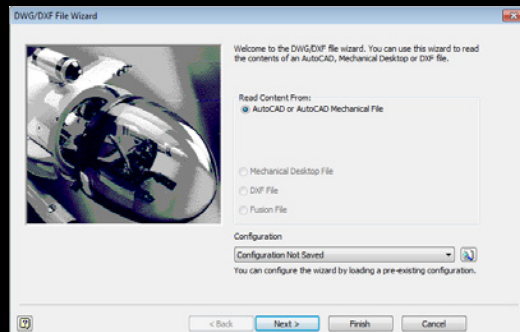


The Open option is well suited for viewing or limited editing of 2D AutoCAD drawings. It will allow you to view an AutoCAD 3D solid, but no editing or conversion can be performed.

Since no model feature conversion takes place, a limited command panel will be displayed providing display and measurement tools. No editing is permitted if the 3D model is "opened".

Clearly, this is not the most effective way to begin the process of importing a solid into Inventor.

However, the Import option is very well suited to working with AutoCAD 3D solids. It will recognize the solid features and create a solid body. This imported solid can then be edited. Upon selecting the import option and opening the file, a dialog box will appear to walk you through the Import process. Use the Next button to advance.



Be certain to enable the 3D Solids option.

Select the part window after importing is complete. The part will open as a base solid because AutoCAD cannot create parametric features or geometric/dimensional constraints on 3D solids.

However, the part is a solid and can be edited by the user. There are several methods available for editing the solid, including:

- Inventor Fusion: <http://labs.autodesk.com/technologies/fusion>
- Feature Recognition: [http://labs.autodesk.com/utilities/feature\\_recognition](http://labs.autodesk.com/utilities/feature_recognition)
- User created sketched or placed features

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## Try AutoCAD Inventor Professional Today

Now is the time to experience the full benefits of Digital Prototyping at your own pace with a free hands-on test drive of AutoCAD Inventor Professional. The Inventor Professional suite contains everything you need to design, visualize, and simulate complete 3D digital prototypes, and provides all Autodesk Inventor functionality to users.

Inventor is the most trusted resource for leveraging and safe-guarding your DWG data. Inventor is not only the leader in bringing innovative capabilities to the manufacturing market, but it is also the best-selling 3D mechanical design software, having outsold all competitors seven years running. Inventor is the foundation for Digital Prototyping, producing an accurate 3D model that validates the form, fit, and function of a design before it is built. The Inventor product line provides an integrated set of tools for 3D mechanical design and documentation, creating routed systems, and digitally validating design data to minimize the need for physical prototypes. Inventor lets users reuse valuable DWG data to build accurate 3D part models, reducing the risk of inaccurate data translations. Product bundles include AutoCAD Mechanical for associative 2D and 3D collaboration and data management software to manage and track all the design components of a digital prototype.

To receive a free 30-day test drive DVD of Inventor Professional (which contains all the capabilities of Autodesk Inventor), please visit: [www.ema-eda.com/ms6](http://www.ema-eda.com/ms6).

## Content Wanted

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Using Inventor Fusion, the model can be modified with tools to move or rotate faces, push/pull lengths, widths, heights, or radiuses. However, no parametric sketches or features can be built. Parametrics can be achieved through a second editing method, the Feature Recognition tool for Inventor.

The best option available to users is the Feature Recognition tool. Using the Feature Recognition tool (available from Autodesk Labs), the imported AutoCAD solid features (extrusions, revolutions, holes, fillets, chambers) can be converted to Inventor features while saving designers the time and effort required to start from scratch. The Feature Recognition tool also allows the created sketches and features to be edited as if they were originally created in Inventor.

The third editing method is simply to add sketches and features to the imported base solid. Any number of features could be created. One could include the Delete Face tool as a method to remove an existing imported “feature”.

### Summary

With the increasing need to share 3D models amongst designers, users must have knowledge of how to manipulate these components. Tools available from Autodesk allow the designer this freedom to import and change.

Contact EMA at 877.362.3321 or [info@ema-eda.com](mailto:info@ema-eda.com) for more information on solids in Inventor and AutoCAD.

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