Technical What's New
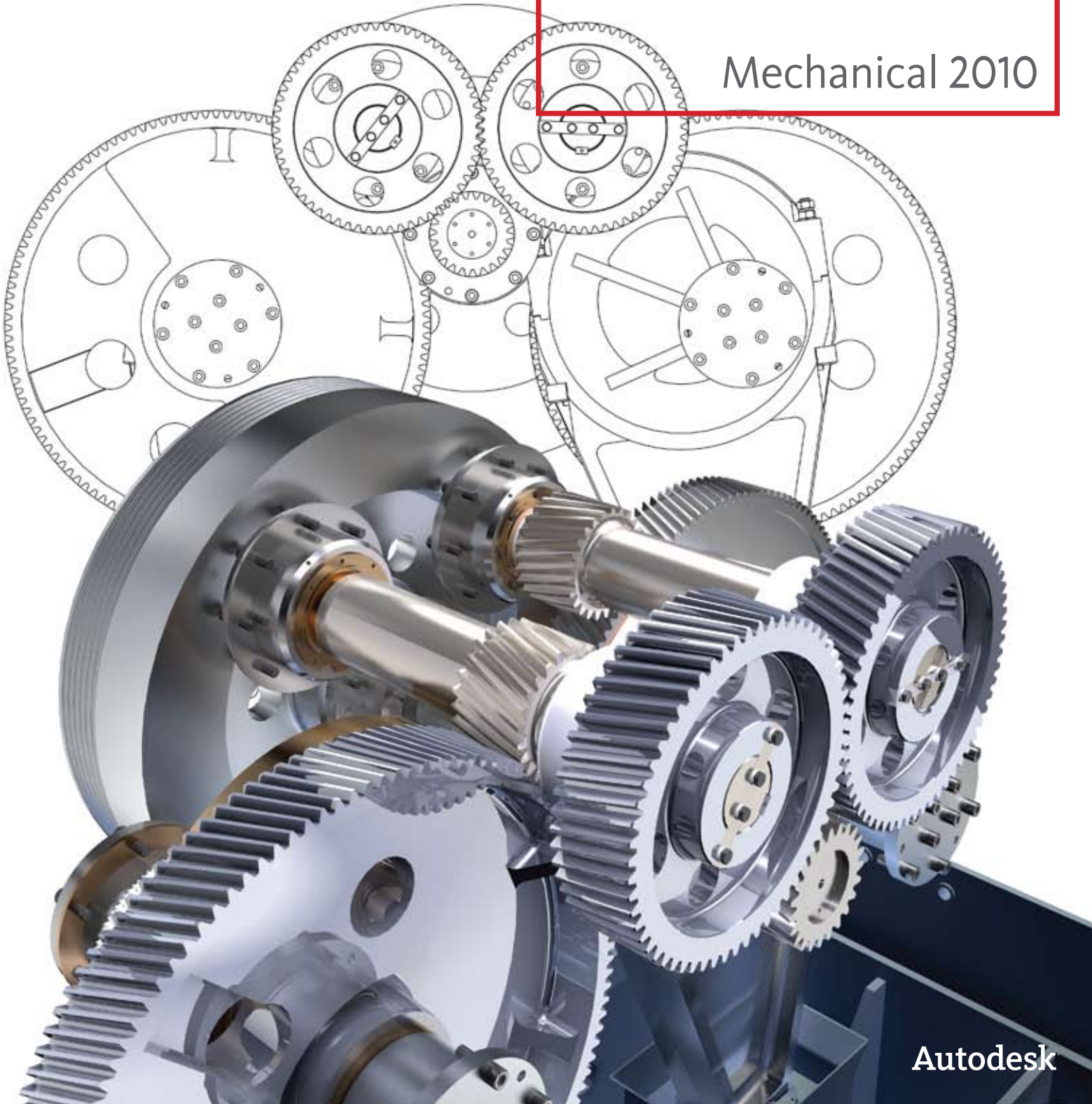
AutoCAD®

Mechanical 2010

Autodesk

Technical What's New

Welcome to AutoCAD® Mechanical 2010

Contents

Cover image courtesy of Prensa Jundiai, Brazil.

AutoCAD® Mechanical software is AutoCAD® for manufacturing, purpose-built to accelerate nearly every aspect of the mechanical design process. Use it to automate many common mechanical design tasks. Produce consistent results on the shop floor. And organize, find, and reuse valuable design data. AutoCAD Mechanical provides a library of more than 700,000 standard parts, supports multiple international design standards, and enables you to quickly detail and document digital prototypes created in AutoCAD® Inventor® software.

AutoCAD Mechanical 2010 includes new features and functionality designed to improve productivity while allowing you to maintain existing workflows. The software makes it even easier to save time, reduce errors, and speed adoption by AutoCAD users.
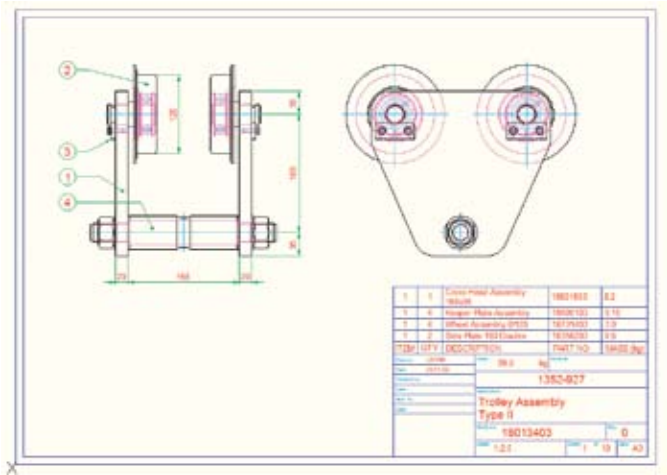
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User Interface

AutoCAD Mechanical 2010 features a new user interface designed with your productivity in mind. You can easily find the tools you need, and customize your environment to support your workflow.

Streamlined Design Environment

AutoCAD Mechanical 2010 features a streamlined user interface. Find your favorite tools and commands faster, locate lesser-used tools more efficiently, and discover relevant new features more easily. The result is less time searching through menus and toolbars, and more time getting your work done.
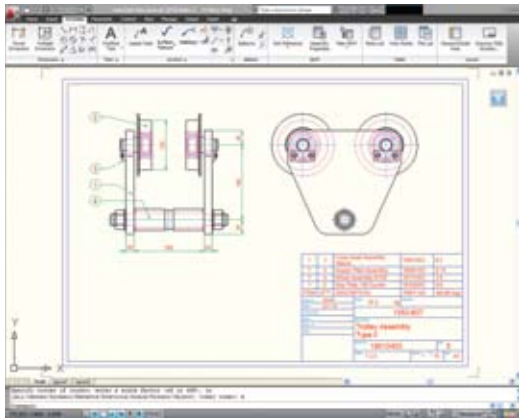

The AutoCAD-style ribbon interface is designed to make experienced users even more productive and to improve the ease of adoption for new users coming from basic AutoCAD. The ribbon interface has been optimized to offer easy access to common tools.

The ribbon houses task-based tools. Command buttons are displayed in a set of tabs, grouped according to task. File input/output operations such as New, Open, and Save are accessed via the Menu Browser. The Menu Browser search lists the location of found files in the ribbon, helping you become comfortable with the new user interface.

Workspaces

Choose a workspace—Mechanical, Structure, or Mechanical Classic—that fits your environment and workflow. You can customize your ribbon, tool palettes, and toolbars with the CUIx editor, and save changes into your workspace. Modify default workspaces or add frequently used commands to your interface.
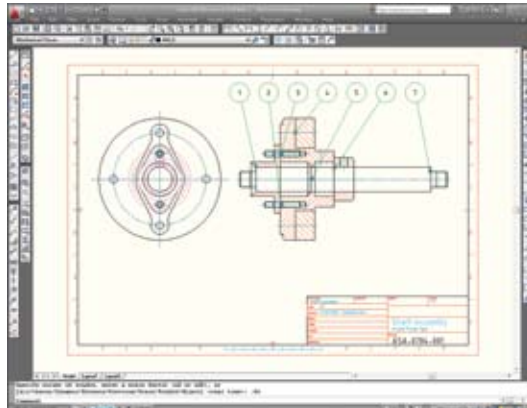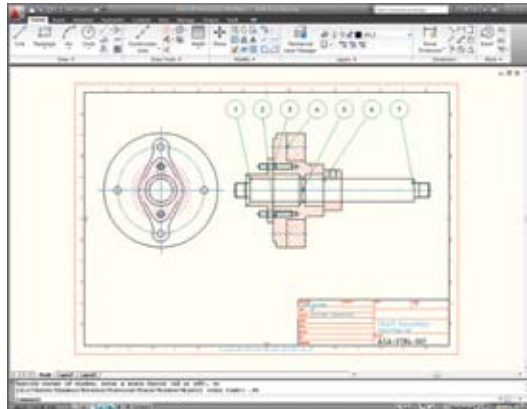
Tooltips

To get a short description of a command, access the command button's tooltip on the ribbon. For additional information—for example, an illustration of how a command works—place the pointer over any tooltip. Press F1 to access a help page with detailed command information.

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Productivity Tools

AutoCAD Mechanical 2010 includes several command enhancements that cut mechanical design time.

Constraint Manager

Design more intuitively and efficiently by defining parametric constraints instead of manually drafting part geometry. Using the constraint manager, users can easily build intelligence into their designs by incorporating dynamic constraint relationships such as parallel, tangent, and perpendicular. Once the parameters are defined, the constraint manager automatically updates geometry to maintain accurate relationships as the design changes.
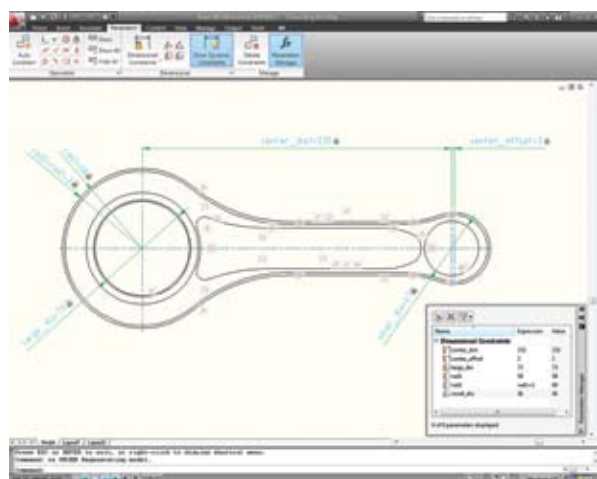
Rectangle

The Rectangle command is more flexible and easier to use, accepting dimensional input and letting you quickly change the start point for a rectangle. You can also chamfer the edges or draw centerlines as you create a rectangle.

Move Copy Rotate

The new AMCOPYRM command lets you perform sequential copy, rotate, and move operations on the same object, in one step rather than three.

BOM and Parts List Enhancements

Enhancements to AutoCAD Mechanical 2010 help you create accurate bills of material (BOMs) and parts lists even faster.

General Enhancements

BOM, Parts List, Balloon, and Part Reference dialog boxes have been redesigned with usability in mind. Enhancements include item type indicators, BOM type and current BOM indicators, collapsible BOM panels, and new toolbars. Visual cues now indicate cells with value overrides. Quickly restore default values by removing overrides.
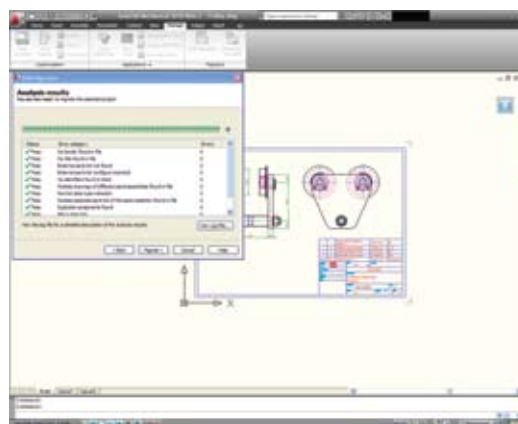
Without ever leaving the BOM dialog box, build relationships among multiple parts and assembly drawings. When you attach a part to an assembly drawing, the BOM automatically picks up the component properties from the part drawing and updates your parts list.

Automatic BOM Extraction

Save time and maintain accurate information when extracting BOM data from legacy DWG files. Easily reuse data and generate accurate BOM reports from legacy DWG files created with earlier versions of AutoCAD or third party applications.

You can now import non-AutoCAD Mechanical part and assembly drawings to AutoCAD Mechanical. AutoCAD Mechanical automatically replaces title blocks and parts lists with the corresponding AutoCAD Mechanical entity, and builds into the BOM the hierarchical relationships between parts and assemblies. Automatic extraction of both parts lists and title block information frees users from the error-prone process of manually opening and tracking sub-assemblies.

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Symbols

AutoCAD Mechanical symbols help you produce consistent, accurate results—quickly and efficiently.

Symbol Libraries

AutoCAD Mechanical 2010 supports welding and surface texture symbols, as well as libraries for dead joint, edge, and feature control frame symbols. Add the symbols and libraries you use the most to your ribbon, for instant access.
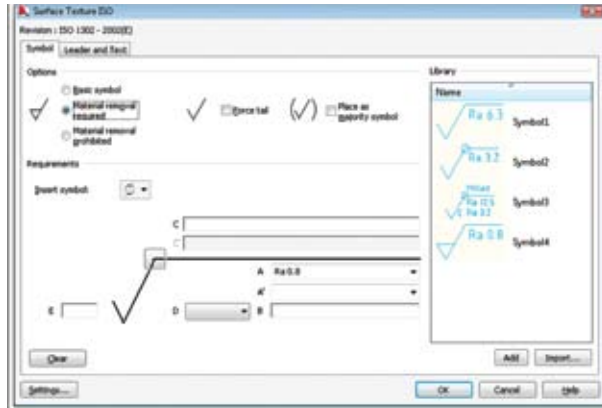

Taper and Slope Symbol

The Taper and Slope symbol now automatically calculates the slope of the line to which it's attached, and automatically detects whether an object is a slope or a taper. You choose whether the calculated value is expressed as a ratio or percentage. Override the default display when needed—for example, if you want to specify a taper as a Morse number.

Dead Joint Symbols

The GOST standard now supports dead joint symbols. Specify the requirements for dead joint seams that use soldering, gluing, stitching, or stitching with stapling (overlapping or corner joints).

There's no need to specify requirements every time you create a symbol. Just save frequently used symbol configurations to the symbol library and reuse them on demand—saving a lot of time, considering the numerous joints supported by dead joint symbols.
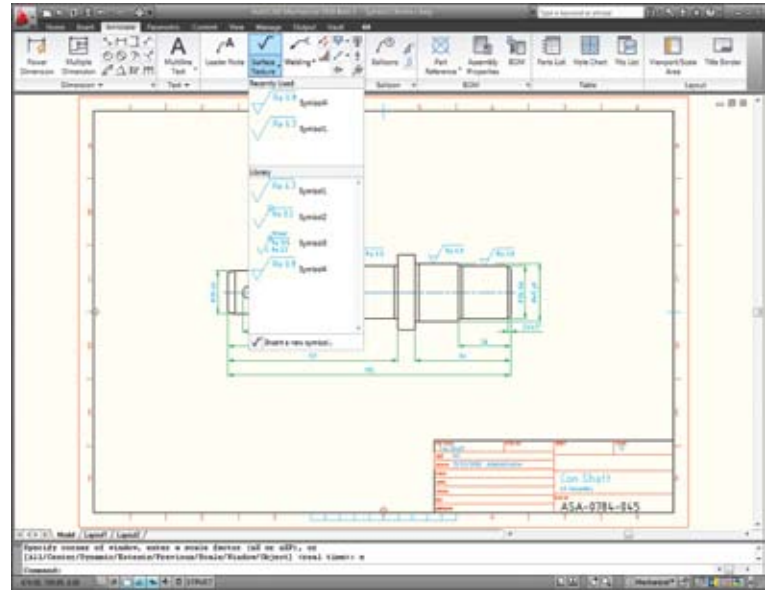
Common Symbol Palette

The symbol palette in AutoCAD Mechanical 2010 makes it easier to add special characters representing geometric characteristics in an annotation. The palette works consistently across all annotations requiring special characters. There's no need to remember complex control character sequences; simply click the Insert Symbol button and the palette shows a list of symbols, including custom-made characters. A quick-access section of the palette displays frequently used symbols for faster insertion.

Symbol Mirroring

Symbols added to symmetrical designs now react intelligently to the Mirror command. Symbols resulting from the command now honor the drafting standard on which they are based.

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Content Library

Create, manage, and standardize content more efficiently with enhancements to the Content Library for standard features and standard and user-defined parts.

Part Publishing

Users not only have access to the more than 750,000 standard parts and features included with AutoCAD Mechanical, but also can now easily leverage their existing part designs. Part publishing offers the capability to add new part families to the library, helping you save time and maintain consistency across projects.

Create custom parts and store them in the Content Library, using them as you would standard parts and features. Reuse standard and custom parts by sharing your Content Library with team members.
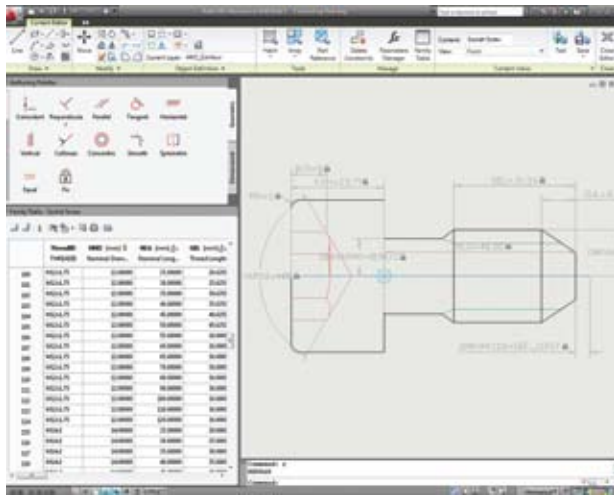

Content Management

Manage all content in AutoCAD Mechanical in one location—the Content Manager dialog box. From here you can:

- Load/unload an entire library or activate/deactivate selected folders in a library.
- Manage file paths for standard and custom content, or select a different ContentLib. XML file to load a new set of libraries.
- Create, delete, and attach custom libraries.
- Define selection filters for standard content.
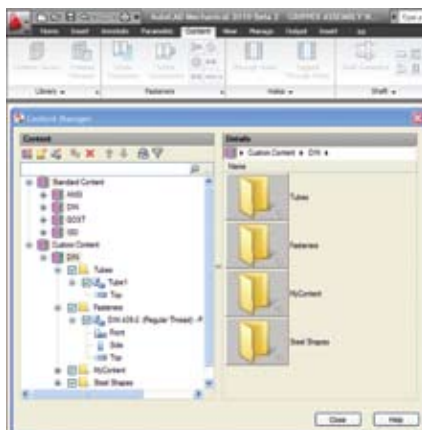
Content Insertion

Use the enhanced Content Library palette to select custom parts for insertion and create favorites for custom content. To edit geometry, click the lookup grip and choose from a drop-down list. By selecting a new diameter, you can change a standard part's size in your drawing using existing base point information.
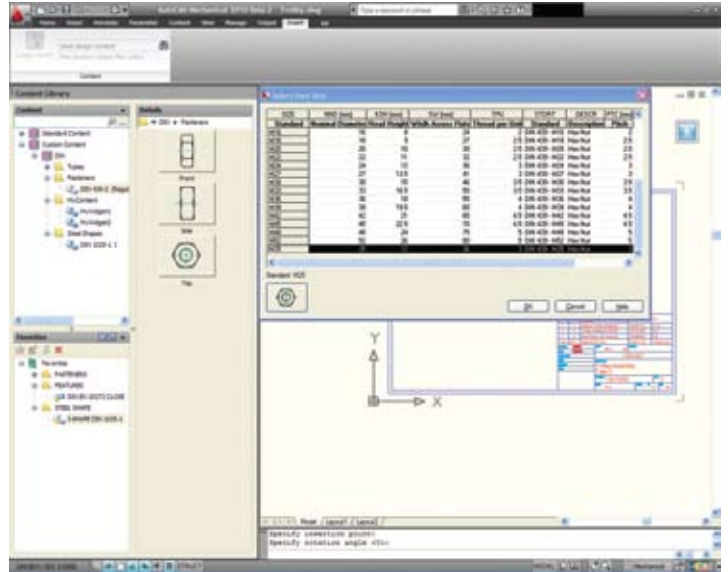
Updated Content

The Content Library contains standard parts and features based on revisions of ISO, DIN, and GOST standards—some as recent as 2007 (DIN 7969: 2007).

AMSETUPDWG

Enhancements to the AMSETUPDWG command improve its flexibility. You can now import selected standards, surface texture preset lists, note templates, and symbol libraries. A new wizard lets you customize and save imports for reuse. You can also preview changes to a drawing before import.

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Proven Benefits

An independent productivity study[1] comparing basic AutoCAD and AutoCAD Mechanical concluded that when using AutoCAD Mechanical:

• Drafting and annotation tasks are 55% faster

• Design and engineering tasks are 85% faster

• Users saw a 60% reduction in the number of commands used
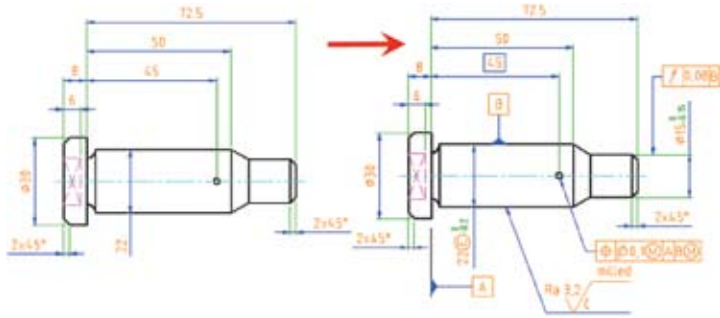
For the complete study, go to
www.autodesk.com/autocadmechanical-productivity.

Stay Up to Date

Autodesk gives you more. Gain access to technical expertise, utilize training and support programs direct from Autodesk, stay up to date with the latest product releases, and give us your feedback. Not only does Autodesk want to help you use AutoCAD Mechanical more effectively—we want to make sure that AutoCAD Mechanical is working effectively for you.

Subscription

Log into the Subscription Center to receive product updates, log and view support requests, or take eLearning courses. A valuable component of Autodesk® Subscription, eLearning provides a continually expanding curriculum of short training exercises.

Product Updates

If you experience an issue with AutoCAD Mechanical 2010 that has been solved in a service pack or hotfix, a dialog box appears when you submit the problem to Autodesk, enabling you to immediately install the new service pack or hotfix.

Licensing

Cascading network licensing supports customers who need to deploy multiple Autodesk products. AutoCAD Mechanical 2010 licenses can easily be combined with licenses for AutoCAD, all the way up to Inventor series. The manufacturing offerings from Autodesk fit together to form a complete solution.

Feedback

AutoCAD Mechanical customers can provide feedback to the AutoCAD Mechanical development team through several avenues:

• Provide tips or join newsgroups at
  www.autodesk.com/autocadmechanical.

• Keep up to date on what's happening in your industry, stay in touch with other industry professionals, and take advantage of a host of online resources at the Manufacturing Community Portal, at
  www.mfgcommunity.autodesk.com.

• Talk with your Autodesk Authorized Reseller and support staff.

Your input is crucial to our success, and we look forward to receiving your suggestions.

Conclusion

We thank you for your continued support of AutoCAD Mechanical and hope you feel we are listening to your needs. We developed the new and enhanced functionality in AutoCAD Mechanical 2010 to help make you more productive, make your company more competitive, and return true value to your bottom line.

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