

Mesh To Solid for AutoCAD Help

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Mesh To Solid for AutoCAD Help

Welcome to *Mesh To Solid for AutoCAD* Help!

This help file provides all the information you need to understand and use *Mesh To Solid for AutoCAD*. Click the links below or use the Contents tab on the left to browse help topics. You can also scroll the topics on the above right hand pane.

The *Mesh To Solid for AutoCAD* help file is divided into the following sections:

- [Introduction](#) - Introduction to *Mesh To Solid for AutoCAD*.
- [Command Reference](#) - Quick reference of all the commands in *Mesh To Solid for AutoCAD*.
- [Tutorials](#) - Tutorials to get you started in the shortest possible time.

If you need any additional information please [contact](#) SYCODE.

Note:

- If you have trouble loading the *Mesh To Solid for AutoCAD* plug-in file into the AutoCAD environment please refer to the [ReadMe](#) file.
- Please read the [license agreement](#) before using the software.

Introduction

Mesh To Solid for AutoCAD is a plug-in for AutoCAD which gives AutoCAD the ability to convert a mesh to a 3D solid.

General solid modeling software, such as AutoCAD, does not have methods to manipulate or modify mesh objects. Solid modeling operations such as boolean operations (union, subtraction, intersection), extrusion, offset, taper, shell, etc. are possible only with solid or surface objects. Moreover, there is no way to convert a mesh into a solid so that the solid modeling operations can be carried out on it. *Mesh To Solid for AutoCAD* solves this problem by giving AutoCAD the ability to convert a mesh to a 3D solid.

Meshes in AutoCAD are of two types: PolyFace Mesh and Polygon Mesh. *Mesh To Solid for AutoCAD* can create a solid from both these types of meshes.

Mesh To Solid for AutoCAD is designed to work with the following versions of AutoCAD:

- AutoCAD 2011 (32 & 64 Bit)
- AutoCAD 2010 (32 & 64 Bit)
- AutoCAD 2009 (32 & 64 Bit)
- AutoCAD 2008 (32 & 64 Bit)
- AutoCAD 2007
- AutoCAD 2006
- AutoCAD 2005
- AutoCAD 2004
- AutoCAD 2002
- AutoCAD 2000i
- AutoCAD 2000

Mesh To Solid for AutoCAD is very easy to use. Once installed, it must be loaded into the AutoCAD environment. There are simple instructions for this in the [ReadMe](#) file. Once loaded it adds new commands to AutoCAD's existing commands and a new submenu called "*MeshToSolid*" to the AutoCAD menu containing these newly added commands.

Mesh To Solid for AutoCAD comes with detailed documentation for each command as well as a set of [tutorials](#) to get you started in the shortest possible time.

If you need any additional information please [contact](#) SYCODE.

ReadMe

This is the *Mesh To Solid for AutoCAD* ReadMe file.

Thank you for installing Mesh To Solid for AutoCAD.

Please read this ReadMe document carefully and completely. It contains important information which is vital to the proper working of Mesh To Solid for AutoCAD.

Since Mesh To Solid for AutoCAD is a plug-in for AutoCAD, it has to be loaded into the AutoCAD environment before it can be used. Loading is a one time process. Mesh To Solid for AutoCAD will automatically load itself into AutoCAD the next time you run AutoCAD.

The Mesh To Solid for AutoCAD plug-in files are installed into the Mesh To Solid for AutoCAD installation folder (typically "C:\Program Files\SYCODE\Mesh To Solid for AutoCAD\"). The plug-in files have an extension of ".arx".

The list of plug-in files along with the version of AutoCAD is shown below. Please be sure to use the plug-in file that corresponds to your version of AutoCAD.

```
MeshToSolid_VC60.arx    -> AutoCAD 2000, 2000i, 2002
MeshToSolid_VC70.arx    -> AutoCAD 2004, 2005, 2006
MeshToSolid_VC80.arx    -> AutoCAD 2007, 2008 (32 Bit), 2009 (32 Bit)
MeshToSolid_VC80x64.arx -> AutoCAD 2008 (64 Bit), 2009 (64 Bit)
MeshToSolid_VC90.arx    -> AutoCAD 2010 (32 Bit)
MeshToSolid_VC90x64.arx -> AutoCAD 2010 (64 Bit)
MeshToSolid_VC90.arx    -> AutoCAD 2011 (32 Bit)
MeshToSolid_VC90x64.arx -> AutoCAD 2011 (64 Bit)
```

To load Mesh To Solid for AutoCAD into AutoCAD please follow the steps listed below:

- (1) Select "Load Application..." from "Tools" menu or enter the "_APpload" command.
- (2) Click the "Contents" button in "Startup Suite"
- (3) Click the "Add" button.
- (4) Browse for the plug-in file for your version of AutoCAD (see list above).
- (5) Click the "Add" button on the Add File to Startup Suite dialog box.
- (6) Click the "Close" button to close the Startup Suite dialog box.
- (7) Click the "Close" button to close the Load/Unload Applications dialog box.

Now Mesh To Solid for AutoCAD is completely installed and ready for use.

Usage:

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Mesh To Solid for AutoCAD adds new commands to AutoCAD. To differentiate these new commands from other commands, they all begin with "MS", which stands for "Mesh To Solid". A new menu called "MeshToSolid" is added to the

Mesh To Solid for AutoCAD Help

AutoCAD menu containing these newly added commands. The commands added are:

- 1) MSConvertMesh - Converts AutoCAD meshes into ACIS 3D solids
 - 2) MSOptions - Displays the Mesh To Solid for AutoCAD options dialog box
 - 3) MSMeshProperties - Display mesh properties.
 - 4) MSMeshMerge - Merge meshes into a single mesh.
 - 5) MSHelp - Displays the Mesh to Solid for AutoCAD help file
 - 6) MSRegister - Displays the Mesh To Solid for AutoCAD registration dialog box
 - 7) MSAbout - Displays information about Mesh To Solid for AutoCAD
- The Mesh To Solid for AutoCAD help file is a good place to start.

Support:

=====

For support, please E-Mail support@sycode.com

Contact

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Command Reference

Mesh To Solid for AutoCAD adds a new menu to the AutoCAD menu called 'MeshToSolid'. The "MeshToSolid" Menu consists of the following commands:

MSConvertMesh	Converts AutoCAD meshes into ACIS 3D solids
<i>Tools</i>	Displays the <i>Mesh To Solid for AutoCAD</i> options dialog box
MSOptions	Convert a mesh in an external file into a solid
MSMeshProperties	Display mesh properties
MSMeshMerge	Merge meshes into a single mesh
MSHelp	Displays the <i>Mesh to Solid for AutoCAD</i> help file
MSRegister	Register your copy of Mesh To Solid for AutoCAD
MSAbout	Displays information about <i>Mesh To Solid for AutoCAD</i>

MSConvertMesh

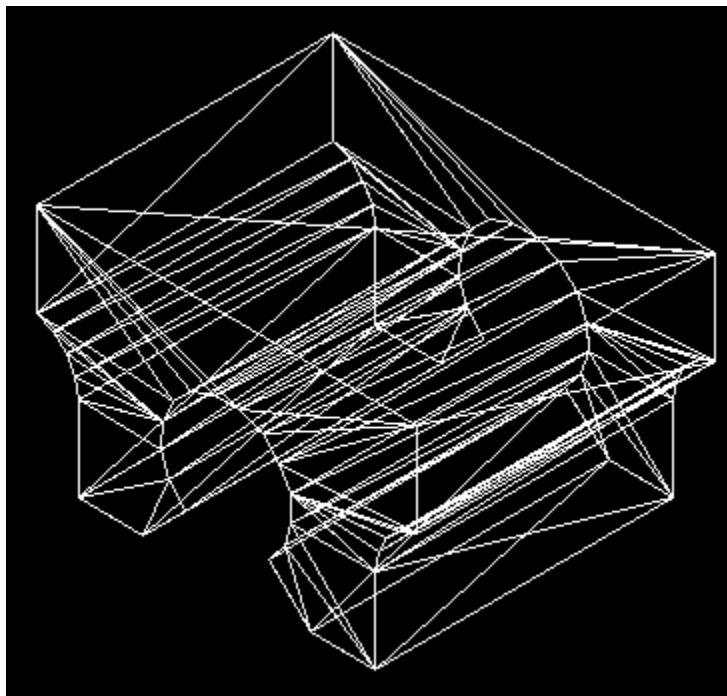
Menu Button MeshToSolid > Convert Mesh

Command MSConvertMesh

This command converts a mesh into a solid.

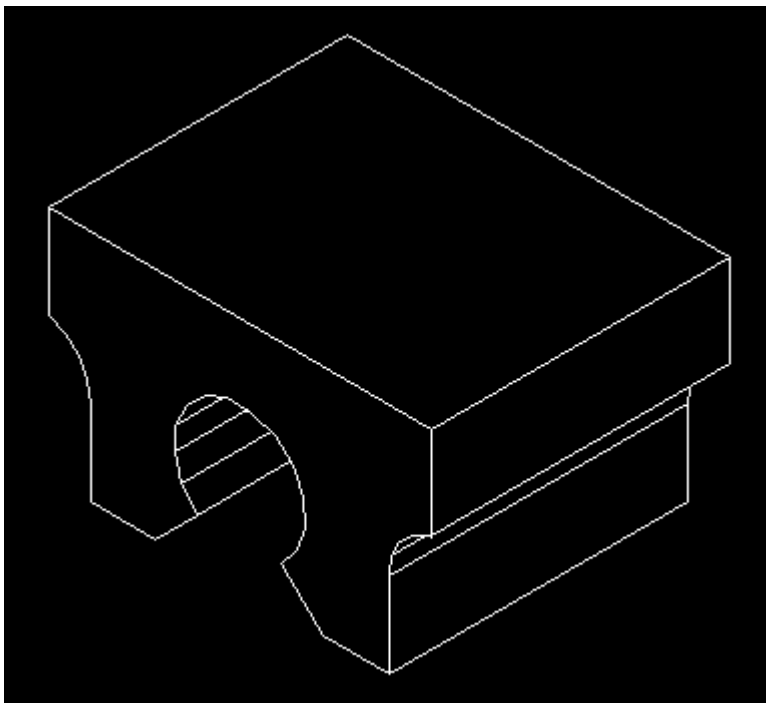
To Convert a Mesh to Solid

1. Select *Convert Mesh* from the "MeshToSolid" menu or type *MSConvertMesh* at the AutoCAD command prompt and press *Enter*.



The above figure shows a mesh before converting into a solid.

2. At the *Select meshes* command prompt, select the meshes and press *Enter*.



The above figure shows a solid created from mesh.

Note:

- You can use the [MSOptions](#) command to customize the working of this command.

Related commands:

[MSOptions](#)

[MSMeshProperties](#)

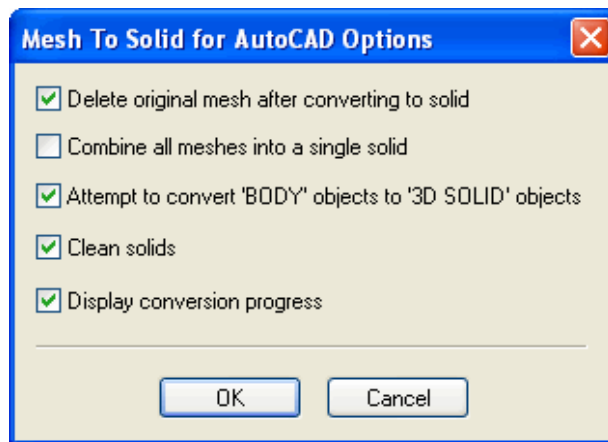
[MSMeshMerge](#)

Tools

MSOptions

Menu Button MeshToSolid > Tools > Options
Command MSOptions

This command displays the *Mesh To Solid for AutoCAD* options dialog box (shown below).



Delete original mesh after converting to solid

This option is used in the [MSConvertMesh](#) command. Checking this box will delete the original mesh if a solid was successfully created.

Combine all meshes in mesh file into a single solid

A mesh file may contain more than one meshes. Leaving this box unchecked will create one solid each for each mesh object in the mesh file.

Attempt to convert 'BODY' objects to '3D SOLID' objects

If the mesh does not represent a watertight solid, it results in a 'BODY' object. For example, this may happen in the case of a mesh describing a hemisphere. Checking this box will attempt to convert the 'BODY' objects into '3D SOLID' objects. This is desirable because some solid modeling operations work only in '3D SOLID' objects.

Clean solids

Almost always a mesh has several faces that describe a single feature of the object. For example, a simple square face may be described by two adjacent triangular faces. This increases the complexity and size of the resulting solid and leads to complications in further solid modeling operations. Checking this box, will remove all redundant vertices and edges from solids which are not necessary to support the geometry of the object.

Display conversion progress

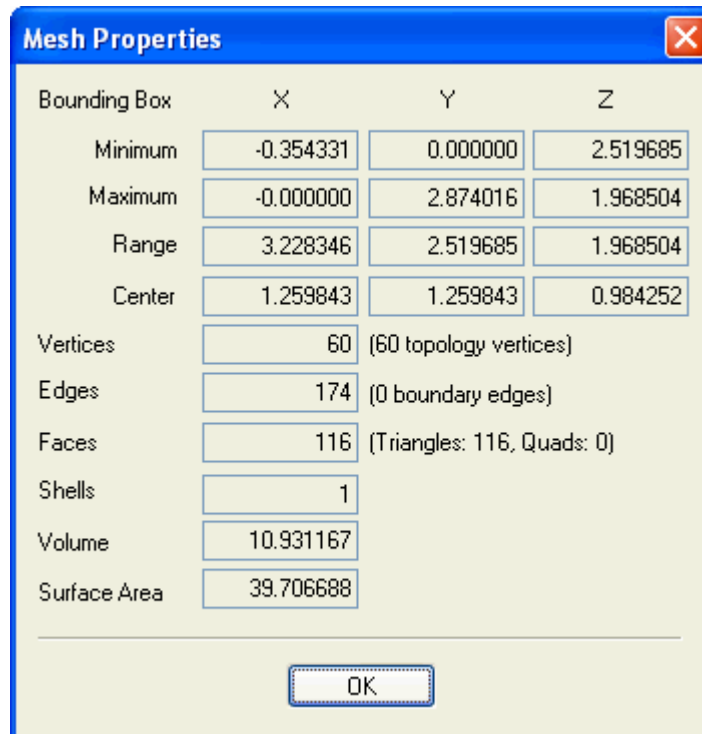
This option is used to view the progress bar.

MSMeshProperties

Menu Button MeshToSolid > Tools > Mesh Properties

Command MSMeshProperties

This command displays the "Mesh Properties" dialog box.



MSMeshMerge

Menu Button	MeshToSolid > Tools > Mesh Merge
Command	MSMeshMerge

This command is used to Merge meshes into a single mesh.

To Merge into a single Mesh

1. Select *Mesh Merge* from "MeshToSolid -->Tools" submenu or type *MSMeshMerge* at the AutoCAD command prompt and press *Enter*.
2. At the "Select meshes" command prompt select the meshes and press *Enter*.

The selected meshes are combined into a single mesh.

MSHelp

Menu Button	Mesh To Solid > Help
Command	MSHelp

This command displays the help file. The [Welcome](#) page is a good place to start.

MSRegister

Menu Button	MeshToSolid > Register
Command	MSRegister

This command is used to register your copy of *Mesh To Solid for AutoCAD*.

You need a license key to start using the software. A license key can be of two types: Trial or Permanent. A trial key is issued to you instantly and completely free of cost so that you may try the software before you purchase a license. A permanent key is issued after you have purchased a license.

The screenshot shows the SYCODE License Server dialog box. It has a blue title bar with the SYCODE logo and the text 'SYCODE License Server'. The main area contains three input fields: 'Product Name' with the value 'Mesh To Solid for AutoCAD 2010 version 1.0', 'Host ID' with the value '00-1D-7D-FD-AD-1D', and 'License Key' with a long alphanumeric string. To the right of these fields are three buttons: 'Buy Online', 'Request Key', and 'Update Key'. Below the License Key field is a button labeled 'How do I get a license key?'. At the bottom of the dialog, there is a section titled '=== LICENSE KEY PARAMETERS ===' which displays the following information: 'Key type: Trial', 'Expires: 17-Aug-2009', and 'Runs remaining: 10'. A 'Close' button is located at the very bottom center of the dialog.

How do I get a Trial Key?

Simply click the 'Request Key' button and select 'TRIAL KEY' as the type of key being requested. Fill the form and submit it. A trial key will be immediately sent to you by email.

How do I get a Permanent Key?

To get a permanent key you need to have already purchased a license. If you have not yet purchased a license you can do so by clicking the 'Buy Online' button. After you place your order click the 'Request Key' button and select 'PERMANENT KEY' as the type of key being requested. Fill the form and submit it. Your order will be verified and a permanent key will be sent to you by email within one business day.

IMPORTANT:

- (1) Please ensure that your computer is connected to the internet before you request for a key.
- (2) Please be sure to enter a valid email address as the key will be sent to you by email.

Mesh To Solid for AutoCAD Help

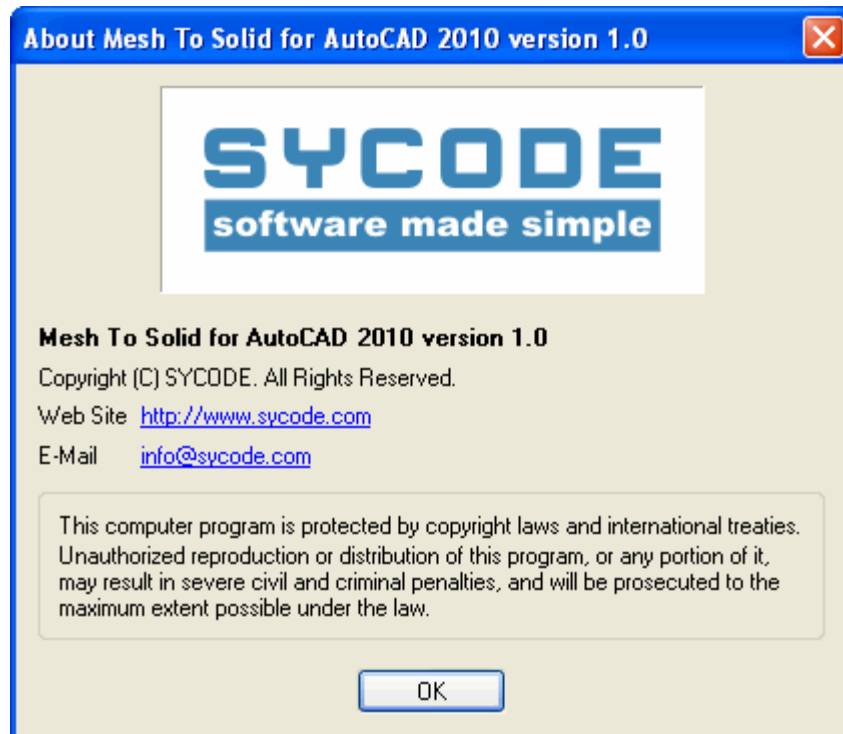
(3) To avoid disruption in your work-flow we urge you to place your order before the trial period ends.

If you need anything else please send an email to register@sycode.com

MSAbout

Menu Button	MeshToSolid > About
Command	MSAbout

This command is used to display the *Mesh To Solid for AutoCAD* About box. The About box lists the software and its version.



Mesh To Solid for AutoCAD adds a new menu to the AutoCAD menu called 'MeshToSolid'. The "MeshToSolid" Menu consists of the following commands:

MSConvertMesh	Converts AutoCAD meshes into ACIS 3D solids
<i>Tools</i>	Displays the <i>Mesh To Solid for AutoCAD</i> options dialog box
MSOptions	Convert a mesh in an external file into a solid
MSMeshProperties	Display mesh properties
MSMeshMerge	Merge meshes into a single mesh
MSHelp	Displays the <i>Mesh to Solid for AutoCAD</i> help file
MSRegister	Register your copy of Mesh To Solid for AutoCAD
MSAbout	Displays information about <i>Mesh To Solid for AutoCAD</i>

Tutorials

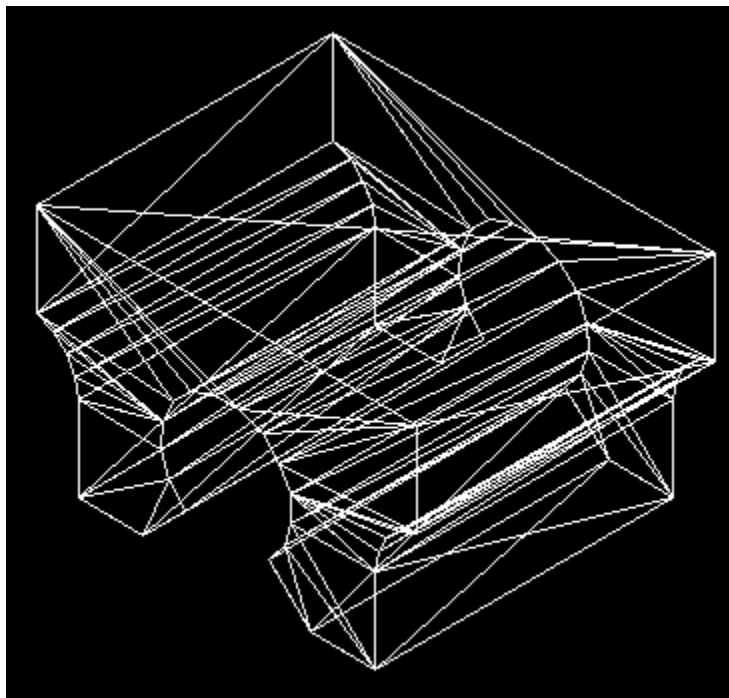
Tutorial - Convert mesh to solid

The purpose of these tutorials is to provide the necessary information and hands-on experience to help you get started with *Mesh To Solid for AutoCAD* in the shortest possible time.

In this tutorial we will learn how to convert a mesh into a solid.

Step 1: Start AutoCAD

Step 2: Open the file C:\Program Files\SYCODE\Mesh To Solid for AutoCAD\Samples\Sample 1.dwg. Use the [MSOptions](#) command to customize the working of this command.

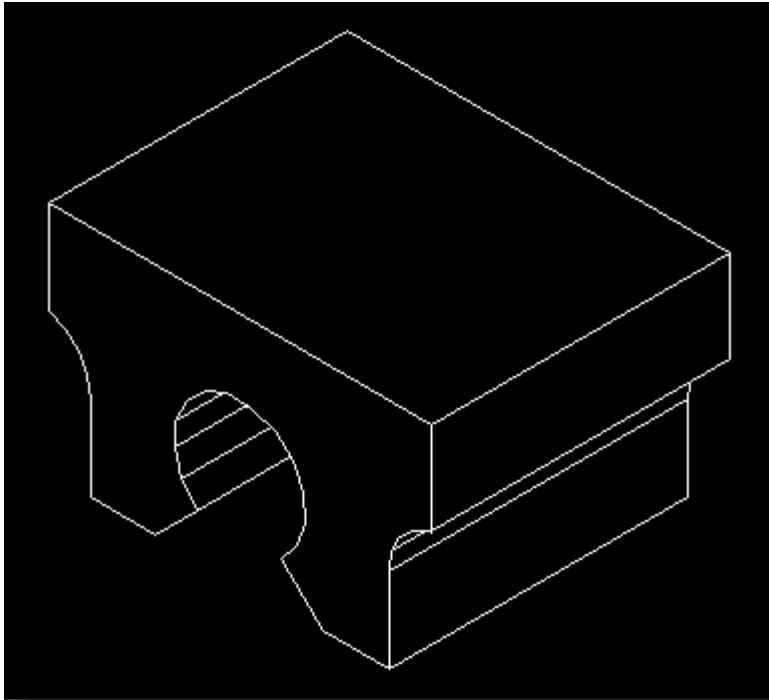


Step 3: Run the *Convert Mesh* command from the "MeshToSolid" menu or type *MSConvertMesh* at the AutoCAD command prompt.

Step 5: At the AutoCAD prompt *Select meshes*, select the mesh and press Enter.

Mesh To Solid for AutoCAD Help

The mesh is converted into a solid having the same color and layer as the original mesh and the result of the operation is reported in the command window. This is shown in the below figure.



This tutorial shows the ease at which a mesh can be converted into a solid.