

Release Notes for SimMechanics™ Link

How to Contact MathWorks



www.mathworks.com Web
comp.soft-sys.matlab Newsgroup
www.mathworks.com/contact_TS.html Technical Support



suggest@mathworks.com Product enhancement suggestions
bugs@mathworks.com Bug reports
doc@mathworks.com Documentation error reports
service@mathworks.com Order status, license renewals, passcodes
info@mathworks.com Sales, pricing, and general information



508-647-7000 (Phone)



508-647-7001 (Fax)



The MathWorks, Inc.
3 Apple Hill Drive
Natick, MA 01760-2098

For contact information about worldwide offices, see the MathWorks Web site.

Release Notes for SimMechanics™ Link

© COPYRIGHT 2008-2013 by The MathWorks, Inc.

The software described in this document is furnished under a license agreement. The software may be used or copied only under the terms of the license agreement. No part of this manual may be photocopied or reproduced in any form without prior written consent from The MathWorks, Inc.

FEDERAL ACQUISITION: This provision applies to all acquisitions of the Program and Documentation by, for, or through the federal government of the United States. By accepting delivery of the Program or Documentation, the government hereby agrees that this software or documentation qualifies as commercial computer software or commercial computer software documentation as such terms are used or defined in FAR 12.212, DFARS Part 227.72, and DFARS 252.227-7014. Accordingly, the terms and conditions of this Agreement and only those rights specified in this Agreement, shall pertain to and govern the use, modification, reproduction, release, performance, display, and disclosure of the Program and Documentation by the federal government (or other entity acquiring for or through the federal government) and shall supersede any conflicting contractual terms or conditions. If this License fails to meet the government's needs or is inconsistent in any respect with federal procurement law, the government agrees to return the Program and Documentation, unused, to The MathWorks, Inc.

Trademarks

MATLAB and Simulink are registered trademarks of The MathWorks, Inc. See www.mathworks.com/trademarks for a list of additional trademarks. Other product or brand names may be trademarks or registered trademarks of their respective holders.

Patents

MathWorks products are protected by one or more U.S. patents. Please see www.mathworks.com/patents for more information.

R2013a

No New Features or Changes

R2012b

CAD export into SimMechanics second-generation
models 4

R2012a

No New Features or Changes

R2011b

No New Features or Changes

R2011a

No New Features or Changes

R2010b

No New Features or Changes

R2010a

Export of Reference Coordinate Systems from Supported CAD Assemblies	14
New Example	15

R2009b

Improved and Expanded Documentation	18
---	----

R2009a

Autodesk Inventor CAD Platform Now Supported	20
Pro/ENGINEER CAD Translation Now Supported on 64-Bit Windows	21
Web Video Example Now Available	22
Pro/ENGINEER CAD Translation Case Study	23

R2008b

Introduction to SimMechanics Link Utility	26
SimMechanics Link Operating System and CAD Platform Support	27
Using SimMechanics Link Utility with SimMechanics Software	28
Relationship of SimMechanics Link Utility and CAD-to-SimMechanics Translators	29

R2013a

Version: 4.2
New Features: No
Bug Fixes: No

No New Features or Changes

R2012b

Version: 4.1
New Features: Yes
Bug Fixes: No

CAD export into SimMechanics second-generation models

SimMechanics Link™ introduces CAD export for SimMechanics™ second-generation models. SimMechanics Link generates a SimMechanics Import XML file that contains CAD assembly structure and parameters in SimMechanics second-generation format. You can choose between SimMechanics first- and second-generation formats.

SimMechanics Link supports CAD export in SimMechanics second-generation format from the following CAD platforms:

- Autodesk Inventor®
- Creo® (Pro/Engineer®)
- SolidWorks®

R2012a

Version: 4.0
New Features: No
Bug Fixes: No

No New Features or Changes

R2011b

Version: 3.2.3
New Features: No
Bug Fixes: No

No New Features or Changes

R2011a

Version: 3.2.2
New Features: No
Bug Fixes: No

No New Features or Changes

R2010b

Version: 3.2.1
New Features: No
Bug Fixes: No

No New Features or Changes

R2010a

Version: 3.2
New Features: Yes
Bug Fixes: No

Export of Reference Coordinate Systems from Supported CAD Assemblies

You can now export reference coordinate systems that you insert and define in your CAD assemblies into Physical Modeling XML. When you import this XML file into a generated SimMechanics model, these coordinate systems appear on the corresponding Body blocks.

Note Export of reference coordinate system is not supported for all CAD platforms supported by SimMechanics Link software. See the *SimMechanics Link Reference*.

New Example

Exporting Reference Coordinate Systems from CAD Assemblies

The example User Added Coordinate Systems explains how to export optional reference coordinate systems from a CAD assembly that represents a gear set. The example assembly requires SolidWorks.

R2009b

Version: 3.1.1
New Features: Yes
Bug Fixes: No

Improved and Expanded Documentation

Installation and Linking Documentation

The documentation for downloading, installing, and linking SimMechanics Link software has been expanded and improved. See *Installing and Linking SimMechanics Link Software*.

Application Programming Interface Documentation

The documentation for the SimMechanics Link application programming interface (API) has been expanded and improved. You use the API to create custom links from SimMechanics Link software to external applications. This documentation includes:

- The API tutorial chapter, *Custom Linking to CAD and Other External Applications*
- The API Reference, which contains reference information on every function, data type, and object handle class in the API.

R2009a

Version: 3.1
New Features: Yes
Bug Fixes: No

Autodesk Inventor CAD Platform Now Supported

SimMechanics Link now directly supports the Autodesk® Inventor® CAD platform for exporting assemblies into Physical Modeling XML. See the Linking and Using the Autodesk Inventor Add-In reference chapter.

Pro/ENGINEER CAD Translation Now Supported on 64-Bit Windows

Direct SimMechanics Link support for these CAD platforms and operating systems has expanded.

CAD Platform	Operating Systems
Autodesk Inventor	Windows® 32-bit and 64-bit
Pro/ENGINEER®	Windows 32-bit and 64-bit
SolidWorks	Windows 32-bit and 64-bit

Web Video Example Now Available

A new Web-based video demonstrates how to translate and retranslate CAD assemblies into SimMechanics models, using SimMechanics Link software. See “Watch a CAD Import Video”.

Pro/ENGINEER CAD Translation Case Study

The CAD translation chapter now contains a case study demonstrating assembly export and re-export, along with model import and update. The study uses SimMechanics and SimMechanics Link software, together with Pro/ENGINEER, and models a double pendulum, subsequently modified to a triple pendulum. The study illustrates how you can update an existing generated CAD-based model with successive changes to the original CAD assembly.

R2008b

Version: 3.0
New Features: Yes
Bug Fixes: No

Introduction to SimMechanics Link Utility

The new SimMechanics Link utility requires only MATLAB®, but is intended for use with SimMechanics software. Separate product documentation and examples are provided for this utility.

The SimMechanics Link utility generates Physical Modeling XML files from external applications such as computer-aided design (CAD) platforms. These Physical Modeling XML files can be used with SimMechanics software to generate SimMechanics models representing mechanical systems.

SimMechanics Link Version Numbers

The SimMechanics Link version numbers are identical, for each MATLAB release, to the parallel SimMechanics version numbers. The versions begin with 3.0.

SimMechanics Link Operating System and CAD Platform Support

The SimMechanics Link utility directly supports these CAD platforms on these operating systems.

CAD Platform	Operating Systems
Pro/ENGINEER	Windows 32-bit
SolidWorks	Windows 32-bit and 64-bit

Custom Interfaces for Combinations Not Directly Supported

For all other combinations of operating systems and CAD platforms (or other external applications), you must write a custom interface to connect to the SimMechanics Link utility. Such custom interfaces are supported on all operating systems that support MATLAB.

See Custom Linking to CAD and Other External Applications in the *SimMechanics Link User's Guide*.

Using SimMechanics Link Utility with SimMechanics Software

The SimMechanics command reads Physical Modeling XML files mech_import generated by the SimMechanics Link utility to generate SimMechanics models of machines with externally specified data.

Consult the SimMechanics documentation for more about SimMechanics models and model generation.

Relationship of SimMechanics Link Utility and CAD-to-SimMechanics Translators

Compatibility Considerations: Yes

The SimMechanics Link utility replaces the obsolete CAD-to-SimMechanics translators, continuing to support those CAD platforms already supported, Pro/ENGINEER and SolidWorks.

Compatibility Considerations

The SimMechanics Link utility cannot update SimMechanics models that were generated from the old CAD-to-SimMechanics translators. The simplest workaround is to start with the original CAD assembly, export a new Physical Modeling XML file, and import it to generate a new model.