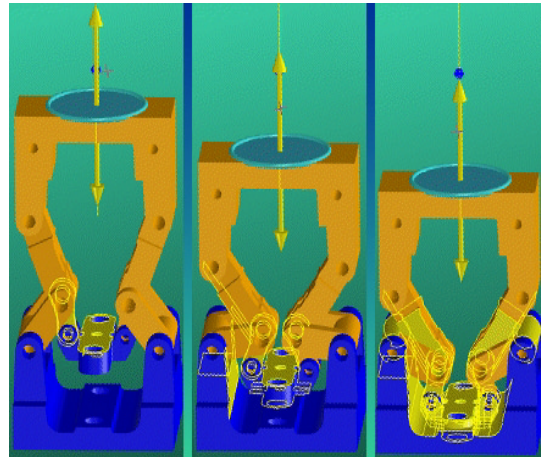


## OneSpace Designer Modeling

# Assembly

The Assembly module enables designers to specify and maintain relationships between parts and assemblies, and to carry out mechanism analysis of parts within an assembly. This significantly enhances the productivity of teams engaged in the collaborative development of assemblies.



### Defining Positional Design Intent

The Assembly module enables designers to set up relative positioning rules for parts and assemblies at any time in the design process. The rules can be applied to native or imported models, making the Assembly module an ideal solution for team-based collaborative development using models from multiple design systems.

The assembly model retains all the positioning information for use in the event of changes at a later stage. Designers can therefore work as a team, but focus independently on individual parts without having to know what relationships have been established.

Should any part changes impact the assembly, OneSpace Designer Modeling ensures continued design integrity throughout the assembly model.

### Key Features

The Assembly module enables designers to specify relationships between parts and assemblies with respect to reference elements such as faces, edges or vertices. The relationships can be grouped into one or more relation sets and stored with the model. Relationships can be created or modified at any time in the design process, regardless of the kind of model involved.

After subsequent modification, designers can easily reapply the rules defined in the relation set. This is done with a single click of a button. In order to avoid problems in the team-based environment, the designer will receive a notification should a modification threaten to break the specified design intent.

Designers can define mechanism relationships, analyze mechanism behavior, and view animations. Using

dynamic clashing, any collisions are detected and made visible during the animation by highlighting the affected faces and/or stopping the animation at the point when interference occurs.

For positioning parts and assemblies, and defining and analyzing mechanisms, designers can set up relations of different types:

- Value relations such as distance or angle.
- Logical relations such as parallel, perpendicular, coincident, tangent, fixed in space, or rigid (treated as a single unit).
- Independent variables such as distance, angle, or value.
- Measure values such as distance, angle, length, or radius.

The reference elements for relations can be points, curves or surfaces of any analytical type. Value relations can be expressed as discrete values or by mathematical or conditional expressions. Independent variables allow the designer to enter values or expressions without any direct reference to the model. Like measure values, they can be used as reference values within expressions involving distance and angle relations.

Supporting mechanism analysis and collision detection results in significantly improved quality within the assembly modeling process, especially where multiple designers work on a common assembly.

Capabilities for mechanism animation include animation of one parameter at a time, definition of incremental step size, and specification of the number of steps. Creation of animated documentation is also supported, as is the creation of the movement path of a selected vertex.

## OneSpace Designer Modeling

# Assembly

### Specific Product Features

- Add-on module to OneSpace Designer Modeling
- Fully integrated within OneSpace Designer Modeling user interface
- Empowers team-based assembly modeling
- Relations between parts and assemblies can be set, modified or removed at any time in the design process
- Ability to apply relations to imported models from multiple systems
- Definition of one or more relation sets
- Logical and value relations possible
- Formula for value relations possible
- Under-constrained and over-constrained models supported
- Fast and easy handling
- Activation and deactivation of single relations or relation sets

- Definition of mechanisms
- Mechanism animation
- Mechanism analysis using dynamic clashing

### System Requirements

OneSpace 2002 and later.

Runs on same platforms as OneSpace Designer Modeling:

- HP-UX<sup>®</sup> 11.0/11i (ACE 1199)
- Windows NT<sup>™</sup> 4.0
- Windows 2000<sup>™</sup>
- Windows XP<sup>™</sup> professional

See also Parametrics, which provides complementary capabilities for specifying design intent on part level. Parametrics enables users to rapidly develop new products using parameterized parts.

Windows 2000, Windows NT, and Windows XP are registered trademarks of Microsoft Corporation.  
HP-UX is a registered trademark of Hewlett-Packard Corporation.

<b>Ordering Information</b>	
Assembly	C220
Assembly Support	C220A
<b>Prerequisites</b>	
Modeling	C200
Electronic manuals are available on the OneSpace media.	

# Co|Create

For more information, please contact the following CoCreate offices or visit  
[www.cocreate.com](http://www.cocreate.com)  
[www.cocreate.com/eSupport](http://www.cocreate.com/eSupport)

**Germany**  
Phone: +49 (7031) 951-0

**United Kingdom  
and other European countries**  
Phone: +44 (1789) 778549

**USA**  
Phone: +1 (970) 267-8000  
Toll free: +1 (888) CoCreate

**France and Spain**  
Phone: +33 (1) 69189-113

**Italy**  
Phone: +39 (02) 924425-21

**Singapore**  
Phone: +65 (550) 9665

**Japan**  
Phone: +81 (42) 352-5654

All rights to this documentation, including duplication, distribution and translation rights, are reserved.  
Right of technical modifications reserved.  
© CoCreate Software GmbH & Co. KG, 05/02

C220\_E\_2002+