

# CoCreate® Advanced Design

Extended 3D design capabilities for your CoCreate Modeling environment

CoCreate Advanced Design helps you create design variations, simulate realistic motion, simplify design geometry, define inspection plans, and utilize dedicated design capabilities for plastic parts.

The CoCreate Advanced Design module extends your CoCreate Modeling-based 3D product development platform with a complete set of powerful capabilities.

## Evaluate real-world motion

Visualize moving mechanisms within CoCreate Modeling, and easily identify design interference. Generate product design animation sequences for assembly procedures and team communication.

## Develop relationships and conditions

Generate and create design variants with part and assembly relationships and conditions. Attach logical, value, and measure relations to product design data from both CoCreate Modeling and imported CAD data.

## Optimize for injection molding

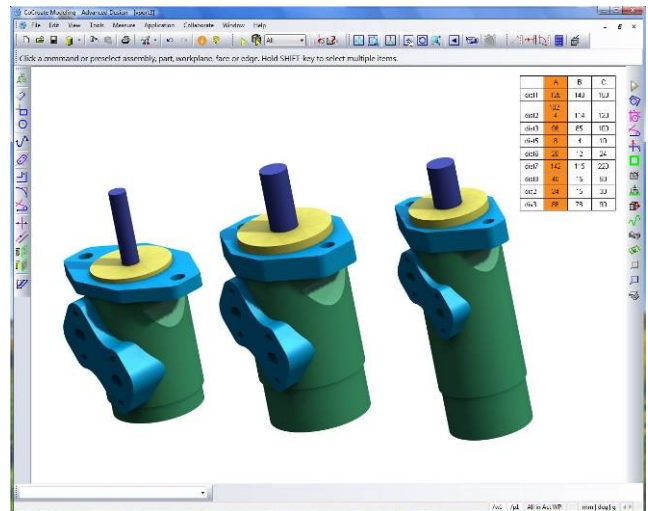
Directly use your 3D design to create parting surfaces and produce accurate core and cavity mold blocks. Manufacture plastic injection molds with industry-standard mold bases and automatically generate all required components.

## Protect intellectual property and system performance

Create simplified representations of your designs. Protect intellectual property by suppressing product details when you share design data with external teams. Or, use it to speed system performance when working with large assemblies.

## Prepare for inspection

Prepare and export dimensional measurement plans for Quality Control departments by providing accurate metrology measurement points for comparing manufactured products with 3D CAD specifications. Inspection uses 3D Documentation to attach tolerances and design specifications to your design.



Easily create relations within parts and assemblies. You can easily generate design alternatives by changing relations interactively or via pre-defined table values

## Key Benefits

- Reduces design time by establishing relationships on both parts and assemblies to automatically create design variations (such as family of parts) and add intelligence for design modification
- Shows the realistic motion of mechanisms and helps you quickly identify clash interferences
- Protects intellectual property. You can simplify product designs so you share only relevant product data with external teams
- Saves time and reduces errors by creating mold designs directly from 3D models. Automatically generates mating cores and cavities and speed the development of manufacturing tooling

## Features and Specifications

### Realistically Simulate Motion

- Add motion simulation to parts and assemblies, including assembly, disassembly, and mechanism studies
- Review multiple simulation studies for identical parts and assemblies
- Run pre-defined mechanism motions, including rack, gear, screw, cam
- Detect clashes dynamically and "stop on clash" based on model data
- Record and playback simulations, including optional AVI output
- Generate animation AVIs with photo-realistic frames
- Analyze physical behavior; interactively and in simulations

### Create Part and Assembly Relations to Add Intelligence for Design Modification

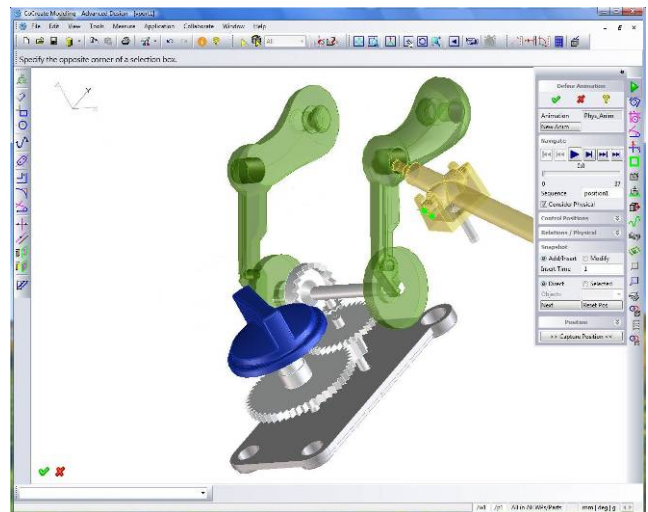
- Add logical relations such as parallel, coincident, and tangent
- Add value relations such as distance, angle, radius, and diameter
- Add measure values such as distance, angle, or value
- Specify formulas for value relations and table editing
- Apply relations to both native and imported parts and assemblies
- Create and modify relation-based feature patterns
- Support curve and surface modification

### Design with Plastics: Dedicated Capabilities for Plastic Parts

- Design and analyze: Broad range of predefined plastic form features, user-definable design rules, isotropic and anisotropic scaling
- Analyze undercuts, draft, and wall thickness

### Simplify Part and Assembly Geometry

- Automatically detect and remove features such as through holes, bosses, pockets, ribs, slots, blend, and helical surfaces
- Remove certain features based on parameters such as height, depth, radius, and box size
- Remove small parts, hidden parts, and selected parts
- Maintain assembly structure and simplify all parts in one step
- Merge assemblies to create a geometrically merged single structure
- Maintain associativity between original and simplified part in CoCreate Model Manager



Virtually define and simulate the motion of assemblies. CoCreate Advanced Design helps you identify and solve clash and touching issues immediately, reducing the need for physical prototyping

### Create Cores and Cavities

- Automatically split parts into core, cavity, undercut, etc.
- Part splitting to define faces dedicated to different parting types
- Create additional parting lines and fill surfaces
- Automatically create core, cavity, insert, side pull, or slider geometry
- Create injection, grease, and gas vent grooves

### Ensure Accuracy with 3D Inspection

- Specify measurement points and dimensions on the 3D model
- Automatically create an exportable measurement plan, CMM readable
- Update with physical measurement results and receive graphical feedback on the original model

### Prerequisites

CoCreate Modeling

### System Requirements

CoCreate Advanced Design 2008 supported operating systems:

- Windows Vista™ 32-bit and 64-bit Editions of Ultimate, Enterprise, and Business
- Windows® XP™ Professional 32-bit and 64-bit Editions

For more information, visit [www.ptc.com/products/cocreate](http://www.ptc.com/products/cocreate)

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