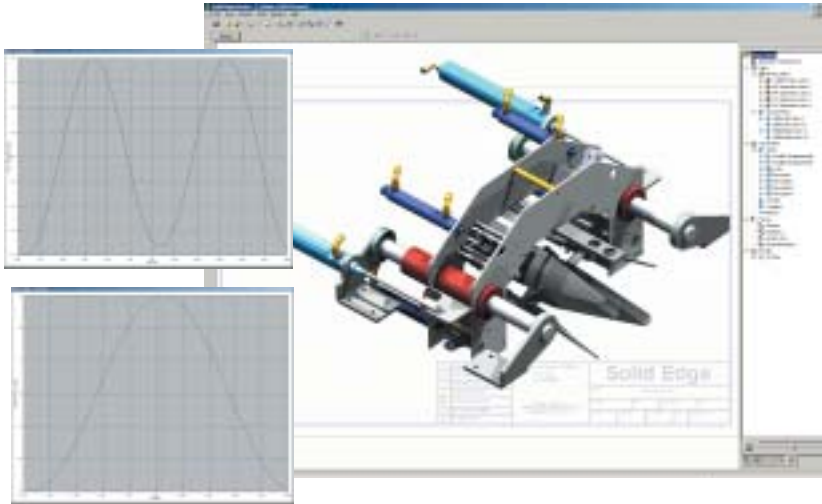


MSC.Dynamic Designer™ for Solid Edge®

Virtual Product Development in your Solid Edge environment



Your company has made a significant investment in the latest design tools for its designers and engineers. New products are now created using realistic 3D solid models that allow the form and the fit of designs to be investigated without ever building any hardware. When a prototype is built, the parts usually fit, assembly interferences are much less of a problem, and "getting it right the first time" is becoming more than just a slogan. But you are probably still relying on hardware prototypes to answer one final question: Does my design work? If you had the tools to investigate the function of your design at the same time you evaluate form and fit, you would have all the pieces in place to start to realize the benefits of Digital Product Development.

MSC.Dynamic Designer 2003 gives you the tools to answer the "Does it work?" question. It can also provide information critical to answering another important question: "Will it break?" Best of all, these questions can be answered by you, right inside Solid Edge, the CAD system you use every day.

The technology underlying MSC.Dynamic Designer has evolved over a period of 20 years ago and has gained widespread acceptance by large companies developing sophisticated products such as automobiles, aircraft, and space vehicles. By investigating the functional aspects of their designs on the computer, before a prototype is built, these organizations have been able to deliver their products to market faster and cut their overall development costs while evaluating many more design alternatives.

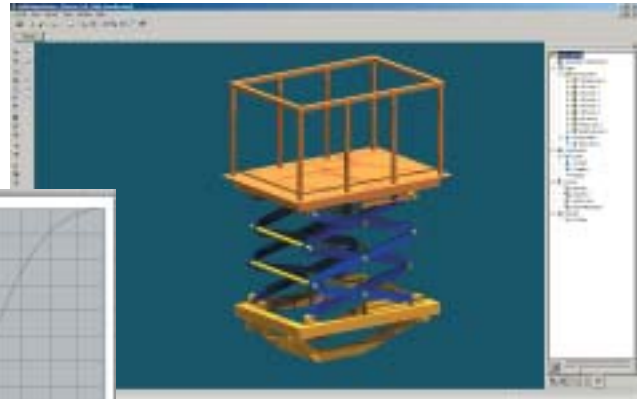
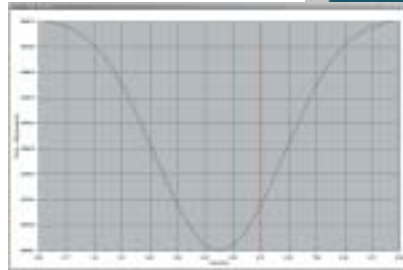
PRODUCT LINE

MSC.Dynamic Designer™

HIGHLIGHTS

- Solid Edge Certified Select Voyager Partner application means single window integration with Solid Edge. No need to learn a new user interface.
- Multiple products, Simply Motion, Motion, and Motion Professional allows you to choose the level of product that fits your needs today with the assurance that the product will grow as your needs expand.
- Large set of motion specific objects allows a broad class of engineering problems to be solved. Everything from simple mechanisms to complicated assemblies containing gears, cams, latches, and sophisticated contacts.
- Automatically generate a large portion of the functional model directly from the Solid Edge assembly model.
- Efficient multiple contact types for modeling collisions between bodies. Simple Impact force for point-to-point contact, 2D curve contact for collisions that occur in a plane, and general 3D surface contact.
- Friction supported on joints and contacts.
- Materials database containing contact and friction properties of commonly used materials.
- MSC.ADAMS™ solver provides reliable, accurate, and efficient dynamic motion calculations.
- Calculated results include displacements, velocities, accelerations, trace curves and reaction forces.
- Animate the motion of your design and save it in AVI or VRML formats for collaboration via the web.
- Check for interference between parts as your design moves through its operating range.
- Generate accurate loads for Finite Element Analysis.
- Automation API allows for user programmable control.

MSC.Dynamic Designer delivers this same technology in a package suitable for use by designers and engineers, embedded in Solid Edge, at a price affordable for even the smallest organization or workgroup. The MSC.Dynamic Designer product family consists of Simply Motion, Motion, and Motion Professional, each providing a more sophisticated answer to the "Does it work?" question. You can start with Simply Motion today, it comes with every copy of Solid Edge, and as your designs and your need for functional information becomes more complex, you can upgrade to one of the other MSC.Dynamic Designer products. Your company's investment in training and in previously created information is preserved because all three products share a common user interface, a common data structure, and interact with Solid Edge in the same manner.



MSC.Dynamic Designer Motion Professional provides the most complete simulation environment for modeling complex, real world problems. It allows the effects of forces to be studied and its ability to calculate reaction forces from a dynamic simulation provides you with the information necessary to size motors and actuators and to obtain accurate stress results from FEA applications.

Simply Motion allows the functional performance of designs containing components such as linkages, motors, actuators, and springs to be evaluated by creating animations of the design as it works and by checking for interference between all the components in your design as it operates. Best of all, you already have it, Simply Motion comes with every copy of Solid Edge.

MSC.Dynamic Designer Motion adds to Simply Motion's capabilities by allowing designs with more complicated features such as cams, gears, latches, and contact to be evaluated. In addition to animation and moving interference detection, basic performance information such as linear and angular displacements, part velocities, and accelerations can be evaluated graphically and through XY plots.

MSC.Dynamic Designer Motion Professional provides additional functional performance data about your design. It allows you to size motors and actuators, determine power consumption, and generate operating loads suitable for use by Finite Element Analysis. Motion Professional provides the most complete answer to the "Does it work?" question and generates data critical to answering the "Does it break?" question.

If you use Finite Element Analysis (FEA) applications to answer the "Does it break?" question by analyzing parts or assemblies that move, Motion Professional can provide information that can substantially increase the accuracy of your analyses. As parts or assemblies move, it becomes very difficult to know what loads to add to your FEA model, and in what position the worst case loading conditions occur. Motion Professional calculates accurate loading

conditions, including inertia effects, and can help you determine where the maximum stresses will occur. Motion Professional supports a direct interface to the industry's leading FEA products.

MSC.Dynamic Designer's User Interface is a seamless extension of Solid Edge. MSC.Dynamic Designer adds a motion specific tab to the Solid Edge Edge Bar. This tab contains the Intelli-Motion Browser, the easiest and simplest way to add motion to a Solid Edge assembly model using techniques like drag and drop, and context sensitive pop-up menus. Finally, for new users and those that just need a little more assistance, the Intelli-Motion Builder leads you through each step in the process.

No matter which product you choose, you can be assured that the underlying technology is proven, your investment in Solid Edge software and training will be preserved and enhanced, and you will have a powerful new tool to evaluate the form and fit and function of your product designs.

All products in the MSC.Dynamic Designer family are completely embedded inside Solid Edge. Unlike other products, which are merely separate applications that exchange geometric data with Solid Edge, MSC.Dynamic Designer operates directly on the same geometry that describes your design.



What used to take weeks or months to physically build and test can now be done in just hours with MSC.Dynamic Designer Motion. You can test your initial design concepts and accurately predict their real-world operation quickly exploring many "what-if" alternatives, viewing simulation results in animation or plotting them in graphs.

Powered by MSC.ADAMS

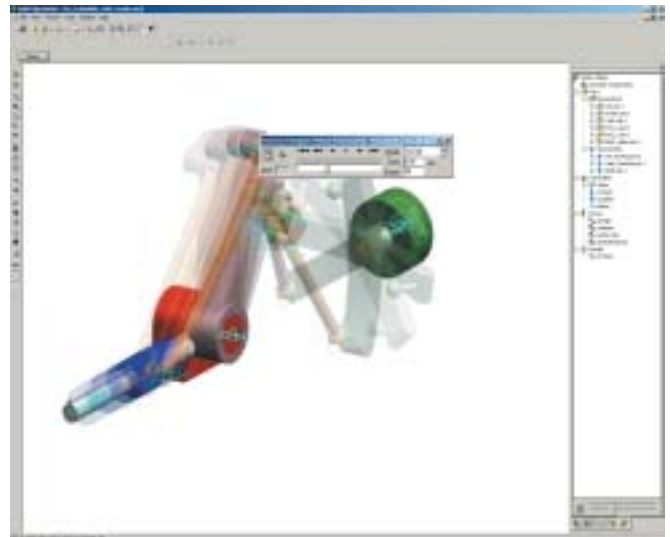
Large companies have known it for years: When it comes to mechanical design simulation, you can't go wrong with MSC.ADAMS.

All products in the MSC.Dynamic Designer family are built upon MSC.Software's powerful MSC.ADAMS dynamic solution engine. It's the world's most widely used mechanical system simulation tool and the same functional virtual prototyping technology that's used and trusted by every major automaker and thousands of other leading manufacturers worldwide.

This seamless embedding in your design environment means you don't have to learn a new user interface - just new functions in the same Solid Edge interface you already know. Data integrity is maintained because MSC.Dynamic Designer stores its data in the same place your design data is stored, the Solid Edge data files. Finally, MSC.Dynamic Designer always works with the most up to date design data. There are no data files to be synchronized. If a change is made to the Solid Edge model, it is automatically reflected in the MSC.Dynamic Designer simulation model.

Don't be misled by products that claim to be integrated with Solid Edge. Make sure that integration means the same user interface, same data repository and no duplication of

Simply Motion allows you to add motion to your Solid Edge assembly, generating animations and checking for interference as your parts move. Simply Motion's intuitive user interface means you will be productive in a matter of hours.



**DOWNLOAD A FREE TRIAL COPY AT:
www.dynamicdesignermotion.com**

Solid Edge data.

All at one glance!

Feature	Simply Motion	Motion	Motion Professional
Geometry			
Associative to motion model	•	•	•
Automatic mass properties	•	•	•
Joints			
Joints generated from assembly constraints	•	•	•
Revolute, one rotational DOF	•	•	•
Cylindrical, one rotational, one translational DOF	•	•	•
Spherical, three rotational DOFs	•	•	•
Universal, two rotational DOFs	•	•	•
Translational, one translational DOF	•	•	•
Planar, two translational, one rotational DOFs	•	•	•
Fixed, restrains all DOFs	•	•	•
Screw, rotary to linear	•	•	•
Inline		•	•
Inplane		•	•
Orientation		•	•
Parallel Axis		•	•
Perpendicular		•	•
Supports Friction			•
Joint Couplers		•	•
Contact			
Point on Curve constraint		•	•
Curve to Curve constraint		•	•
Curve to Curve 2D		•	•
General 3D surface		•	•
Contact Containers		•	•
Motion Generators			
Add motion to joints	•	•	•
Add motion to a part		•	•
Forces			
Isotopic Bushings			•
Linear and torsion springs	•	•	•
Linear and torsion dampers			•
Action-only force and moment			•
Action/reaction force and moment			•
Point to point impact force			•
Animated/Rendered 3D Springs		•	•
Motion and forcing functions			
Constant	•	•	•
Harmonic	•	•	•
Step	•	•	•
Data points	•	•	•
ADAMS functions			•
Simulation			
Kinematic	•	•	•
Dynamic	•	•	•
Dynamic Dragging	•	•	•
Results			
Animation	•	•	•
Moving interference checking	•	•	•
Find first point of interference	•	•	•
Animation to AVI	•	•	•
Animation to VRML	•	•	•
Calculated Results			
Linear displacement		•	•
Angular displacement		•	•
Velocity		•	•
Acceleration		•	•
Reaction forces and moments			•
Animated Results Vectors for Velocity and Acceleration		•	•
Animated Results Force Vectors			•
Internal results plotting		•	•
Export to CSV		•	•
Export to Excel		•	•
Multiple plots		•	•
Minimum distance calculation	•	•	•
Interfaces			
Universal FEA Export File			•
MSC.ADAMS			•
Dynamic Designer Automation API			•
Network (floating) license		•	•

MSC.Software, the leading engineering software, systems and services provider, helps over 9000 companies worldwide develop better products faster. Number one in the product simulation market, MSC.Software products enhance and automate the product design and manufacturing process reducing development costs, time to market and warranty costs.

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