

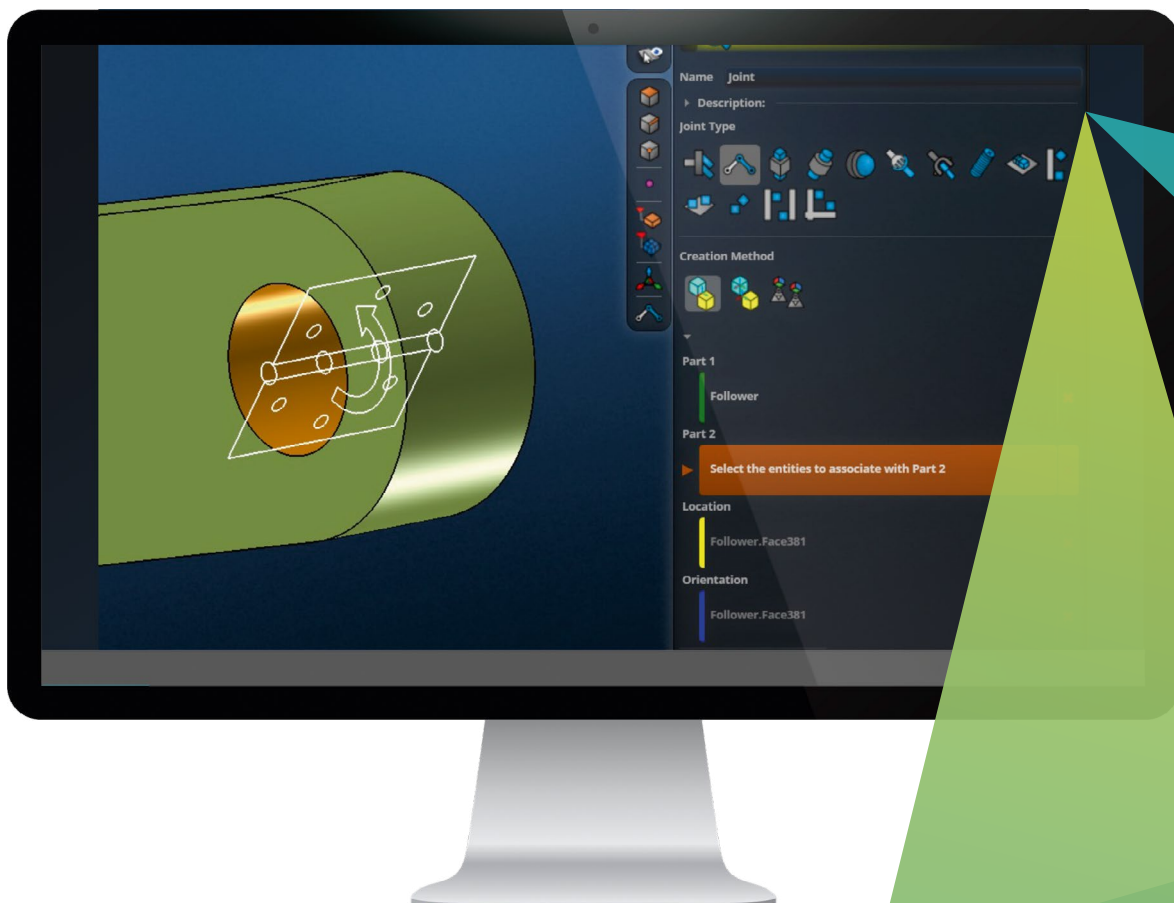
Effective Model Exploration for Multibody Dynamics Simulations

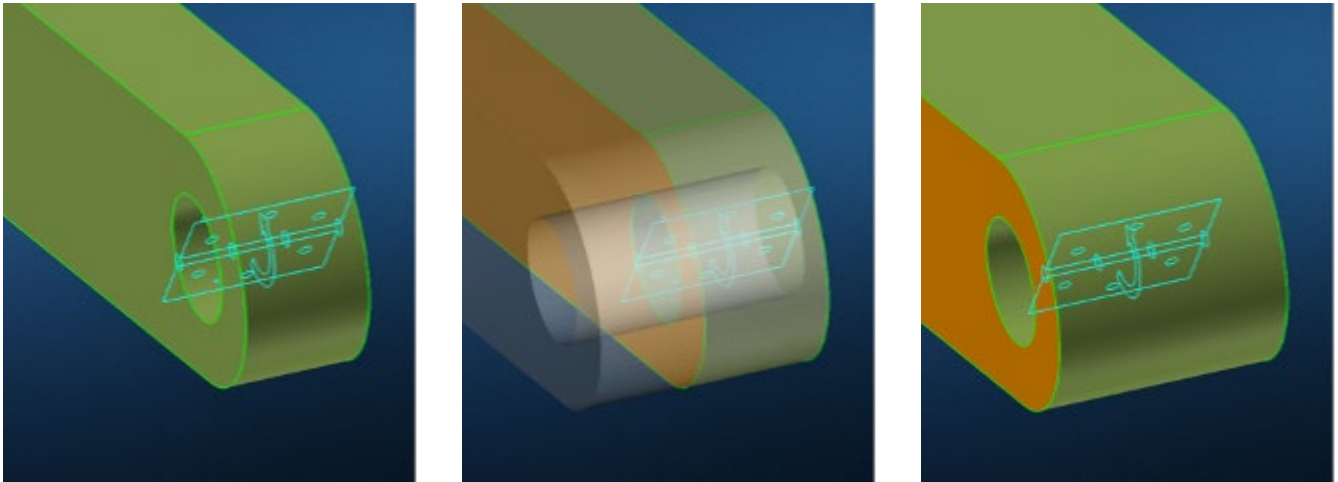
More efficient workflows with Adams Modeler

Overview

As the complexity of mechanical systems have increased in recent years, so have the multibody dynamics models used to validate operation and performance. The time and effort associated with modeling these large assemblies can be quite substantial. The efficiency in how quickly you can define, modify and interact with these models play a key role in reducing this. Design exploration is a critical part of modern product development. Hence the ability to make quick design changes and compare results across iterations is highly valued.

Adams Modeler delivers an environment to tackle these challenges. The product is founded on the principle of minimizing picks and clicks to create models and define relationships are a geometry level. For example, Adams modeling objects such as constraints and forces can be defined with geometry that incorporate intelligent selections (accelerators) to reduce the selections needed to fully define the objects. As an example, one can locate a joint in the middle of a cylindrical hole between two parts (click on the cylindrical face define first part, the location, and orientation, and then a second click on the second part). If the geometry the joint is associated with is modified (e.g adjust the width or hole location), the joint will automatically update to the new hole center.



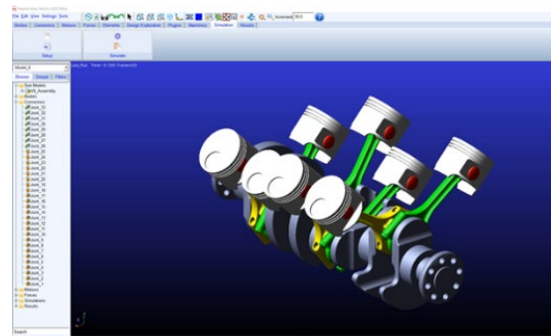
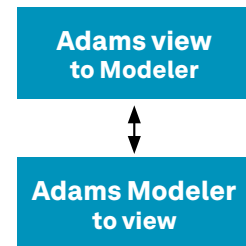
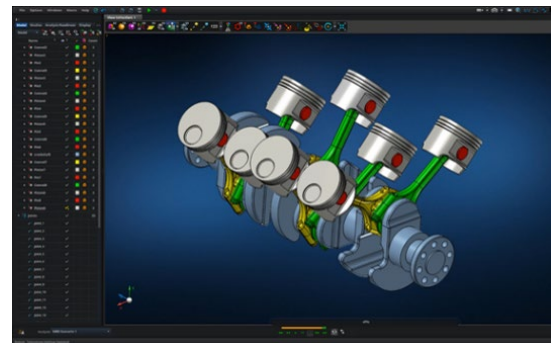


in addition to the model building efficiencies, Adams Modeler also improves the ability to define different model variations and retain their results. For example, parts can have a rigid and flex body representations that can readily be toggled between. All simulations (scenarios) retain numerical results as well as a snapshot of the geometry used for the run. These can then be reviewed in the POST environment to compare the design iterations.

Adams Modeler interfaces

At the heart of Adams Modeler is the “bi-directional” interface which can be used to toggle between the Adams View and the Adams Modeler modeling environments while working on the same model. By toggling between the interfaces, users can accomplish modeling tasks not yet supported in Modeler. Within the same session, users can work on their model in the fully-functional Adams View interface and take advantage of the new capabilities in the Modeler interface. Users are also able to leverage their existing investments with Adams View created models within Adams Modeler.

The combination of the associative modeling paradigm, the ability to generatively update model objects, and switch between the View and the Modeler interfaces provides users with an efficient and user friendly user experience to accelerate mechanism development.



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