MOTION

Motion Ribbon	The tools on the new Motion ribbon can be used to easily mechanize your model and perform a motion analysis.
Ground Parts	The new Ground tool allows you to designate one or more parts that are considered to be ground and therefore immovable during motion analysis.
Rigid Groups	The new Rigid Groups tool allows you to group a collection of parts together so they are treated as one rigid body for the purposes of motion analysis. This allows for efficiencies when building up motion models.
Joints	The enhanced Joints tool allows you to connect parts together based on neighboring parts and designate whether they should be locked, active, or free. It also includes a greater variety of joint types that can be created (hinge, cylindrical, translational, ball and socket, planar) and finds more locations where joints can be placed (spherical, cylindrical, planar, and multi-planar pairs).
Motors	The new Motors tool allows you to drive parts in a rotational manner and define angle, speed, or acceleration with built-in profile functions. The Use Controller option helps you to better diagnose situations where mechanical lock-up or motor stalling may occur.
Actuators	The new Actuators tool allows you to drive parts in a translational manner and define displacement, speed, or acceleration with built-in profile functions. The Connected Parts option automatically finds connected part pairs that can be actuated.
Springs	The new Springs tools allow you to create coil springs and torsion springs between parts. Movement of the spring-dampers can be visualized during analysis and review of the motion results.
Gravity	The new Gravity tool allows you to visualize the direction of gravity in your model and reorient it using the Move tool.
Run Motion Analysis	You can run a motion analysis using the Quick Run button on the Analyze icon to view instant feedback on how your model moves during motion analysis. Use the Run Settings to define whether to run a static or transient analysis and to define other run parameters.
Review Motion Results	Motion analysis results can be played back for review. Results like forces, displacement, velocities, etc., can be plotted in a chart by clicking on an entity or selecting it from the Model Browser. A context menu on the chart allows you to export to .csv format.

GEOMETRY

Partitions	The new Partition tool can be used to divide a part into design and non–design regions by selecting a hole, pocket, or face to offset.

STRUCTURE

Bead Patterns	Bead patterns have been moved out of the Property Editor and are now a tool on the Structure ribbon. The visualization has been changed to make it clearer where the bead boundaries are.
Grounded Fasteners and Joints	When defining connections, you can now create grounded bolts, grounded screws, grounded pins and grounded sliding pins that act as supports in load cases.
Fastener Optimization	When optimizing using grounded fasteners or cylindrical supports, you can now constrain the axial and shear forces using the optimization properties in the Property Editor.
Connection Stiffness	You can now enable connection stiffness in the Property Editor, which allows for better approximation of axial and shear stiffness in grounded fasteners, grounded joints, and cylindrical supports.
Joints	The enhanced Joints tool includes a greater variety of joint types that can be created (hinge, cylindrical, translational, ball and socket, planar) and finds more locations where joints can be placed (spherical, cylindrical, planar, and multi-planar pairs).
Part-to-Part Contacts	Contacts can now be defined between surfaces or manually created between parts.