

# AUTODESK® POWERSHAPE® 2019

Prepare complex models for manufacture

## 2019 Feature Comparison

	PowerShape Standard	PowerShape Premium	PowerShape Ultimate
<b>Project collaboration</b>			
<b>CAD model import/export</b> <i>Import neutral and third-party CAD files, including IGES, STEP, AutoCAD, Siemens NX and Catia. Export models in a range of file formats for collaboration and downstream manufacturing.</i>	✓	✓	✓
<b>Autodesk Drive</b> (Subscription only) <i>Save model data to a personal cloud site and invite project stakeholders to review and collaborate.</i>	✓	✓	✓
<b>Shared views</b> (Subscription only) <i>Share secure 3D views of models. Access anywhere, anytime with desktop and cloud-connected devices.</i>	✓	✓	✓
<b>Surface &amp; solid modeling</b>			
<b>Wireframe modeling</b> <i>Create lines, arcs, and curves using intelligent cursor sketching or precise coordinate entry.</i>	✓	✓	✓
<b>Wireframe nesting</b> <i>Nest groups of wireframe geometry into pre-defined outer boundaries.</i>	✓	✓	✓
<b>Surface modeling</b> <i>Create and manipulate parametric primitive surfaces. Use Smart wizards to rapidly create complex doubly-curved shapes. Use powerful curve editing tools to modify complex surfaces.</i>	✓	✓	✓
<b>Solid modeling</b> <i>Create complex solid models and combine with associative model history. Recognize parametric features contained within imported solid models.</i>	✓	✓	✓
<b>Solid/surface hybrid modeling</b> <i>Use boolean commands to combine open surfaces and solids into hybrid models.</i>	✓	✓	✓
<b>Analysis and repair</b> <i>Quickly find and repair common faults with imported models. Use shading tools to analyze undercuts, smoothness, minimum radius, wall thickness, and CNC machine accessibility.</i>	✓	✓	✓
<b>Assembly modeling</b> <i>Define libraries of components and assemble using drag-and-drop attachment points.</i>	✓	✓	✓
<b>Power features</b> <i>Add extra intelligence to assembly sub-components. Use to add fit and function clearance when multiple components are assembled together.</i>	-	✓	✓
<b>Model comparison analysis</b> <i>Visualize the differences between CAD models. Simplify customer design changes and modifications.</i>	-	✓	✓
<b>Model morphing</b> <i>Use morphing tools to distort the shape of models. Choose to morph using 3D cages, point clouds or STL meshes. Use to counter the effects of gravity or stress relief on pressed parts.</i>	-	✓	✓

	PowerShape Standard	PowerShape Premium	PowerShape Ultimate
<b>Modeling for tool and die</b>			
<b>2D drawing creation</b> <i>Create 2D part drawings including elevation, isometric, and sectional views, then add text and dimensions.</i>	✓	✓	✓
<b>Draft surface/curve creation</b> <i>Add draft to models to improve ejection of parts from molds and dies.</i>	✓	✓	✓
<b>Core/cavity separation</b> <i>Use wizards to split models into core and cavity halves, identify undercuts and design sliding cores.</i>	✓	✓	✓
<b>Die wizard</b> <i>Use a wizard to convert models into die blocks, apply shrinkage, create split curves and add parting surfaces.</i>	✓	✓	✓
<b>Rib capping</b> <i>Rapidly create tangential surfaces to cap off long, thin ribs on molds and dies prior to CNC machining.</i>	✓	✓	✓
<b>Curve wrapping/unwrapping</b> <i>Wrap 2D curves onto 3D surfaces and solids. Unwrap 3D curves to form 2D profiles for trimming applications.</i>	-	✓	✓
<b>Electrode wizard</b> <i>Automate the creation of electrodes for EDM. Detect burn regions, add blanks and holders from a library, check for collisions and create electronic setup sheets.</i>	-	✓	✓
<b>Electrode integration with PowerMill/PowerInspect</b> <i>Transfer electrode data to PowerMill and PowerInspect to simplify CAM programming and part inspection.</i>	-	✓	✓
<b>Export electrodes to EDM hardware</b> <i>Export burn position, rotation, and spark gap data to EDM hardware for automated burning of electrodes.</i>	-	✓	✓
<b>Specialist press-die surfaces</b> <i>Create addendum and other complex parting surfaces used in the design of advanced press-tools.</i>	-	-	✓
<b>Mold base design wizard</b> <i>Build complete mold-bases using standard plates and components from Hasco, DME, DMS, Strack, and others.</i>	-	-	✓
<b>Standard component catalogs</b> <i>Use catalogs of components to create assemblies of parts.</i>	-	-	✓
<b>Reverse engineering</b>			
<b>Import/export STL meshes</b> <i>Import large, unorganized STL mesh files. Export STL meshes in binary or ascii format.</i>	✓	✓	✓
<b>Working with point clouds</b> <i>Import point cloud files in formats including ASCII. Limit, trim and remove undesirable faults.</i>	-	✓	✓
<b>Connect with scanning hardware</b> <i>Connect with scanning hardware including Artec, Creaform, Faro, and Kreon to import scan data.</i>	-	✓	✓
<b>Mesh fixing</b> <i>Use automated wizards to rapidly find and fix common faults with imported STL meshes.</i>	-	✓	✓
<b>Model alignment</b> <i>Automatically align meshes and other models using best-fitting.</i>	-	✓	✓
<b>Texturing and logos</b> <i>Wrap 3D reliefs onto surface and solid models to add high-value logos and textures.</i>	-	✓	✓
<b>Mesh segmentation</b> <i>Automatically fit prismatic planes, cones, and cylinders to STL meshes.</i>	-	✓	✓
<b>Reverse engineered surfaces</b> <i>Sketch doubly curved surfaces onto imported STL meshes. Create complex shrink wrap surfaces with ease.</i>	-	✓	✓
<b>Tribrid modeling</b> <i>Combine surfaces, solids, and meshes with boolean commands to create tribrid CAD models.</i>	-	✓	✓
<b>Interactive mesh sculpting</b> <i>Dynamically add and subtract material from STL meshes with interactive blending in regions.</i>	-	✓	✓