

# AUTODESK® POWERMILL® 2019

Expert high-speed and 5-axis machining software

## 2019 Feature Comparison

CAD Imports	PowerMill Standard	PowerMill Premium	PowerMill Ultimate
<b>Neutral CAD import</b> <i>Import neutral CAD files including IGES, STEP, VDA-FS, and STL.</i>	✓	✓	✓
<b>Native CAD import</b> <i>Open model files from third-party CAD software, including Siemens NX and Catia.</i>	✓	✓	✓
<b>Modeling companion</b> <i>Create basic wireframe and surface geometry to assist with your CAM programming.</i>	-	✓	✓
CAM programming	PowerMill Standard	PowerMill Premium	PowerMill Ultimate
<b>2.5D machining</b> <i>Interactive programming of holes, pockets, slots, and other 2D features.</i>	✓	✓	✓
<b>Mill-turn turning</b> <i>Generate turning toolpaths for your 5-axis mill-turn machines.</i>	✓	✓	✓
<b>3-axis roughing</b> <i>Create high efficiency roughing and rest-roughing toolpaths.</i>	✓	✓	✓
<b>3-axis finishing</b> <i>Full access to all 3-axis finishing toolpath types (excludes Rib machining).</i>	✓	✓	✓
<b>3-axis toolpath editing</b> <i>Make global or localized edits to toolpaths after calculation. Divide, limit, reverse, and reorder for improved milling control.</i>	✓	✓	✓
<b>3+2 machining</b> <i>Use the rotary axes of your machine to access key features with 3-axis milling.</i>	✓	✓	✓
<b>4-axis programming</b> <i>Create rotary toolpaths for use on your 4-axis machine tool.</i>	✓	✓	✓
<b>5-axis machining</b> <i>Simultaneously use all five axes of your CNC machine to manufacture complex parts.</i>	-	✓	✓
<b>5-axis toolaxis editing</b> <i>Optimize toolaxis motion on whole toolpaths or individual segments.</i>	-	✓	✓
<b>Automatic 5-axis collision avoidance</b> <i>Avoid collisions by automatically applying 5-axis tool tilting to toolpaths.</i>	-	✓	✓
<b>Robotic programming</b> <i>Offline programming of industrial robotics with control over travel limits and singularities.</i>	-	✓	✓
<b>Additive manufacturing</b> <i>(subscription only)</i> <i>Create, control and simulate deposition strategies for driving high-rate additive processes</i>	-	-	✓

	PowerMill Standard	PowerMill Premium	PowerMill Ultimate
<b>Project collaboration</b>			
<b>User-defined macros and templates</b> <i>Embed your manufacturing expertise into macros and milling templates and share with your team.</i>	✓	✓	✓
<b>Setup sheets</b> <i>Share key process information with your team via electronic setup sheets.</i>	✓	✓	✓
<b>Shared views</b> <i>(subscription only)</i> <i>Share views of your PowerMill data with key stakeholders, anywhere, anytime with cloud-connected devices.</i>	✓	✓	✓
<b>Autodesk Drive</b> <i>(subscription only)</i> <i>Save PowerMill projects to your personal Autodesk cloud and invite collaborators to review using 3D viewers.</i>	✓	✓	✓
<b>Fusion Production</b> <i>(subscription only)</i> <i>Send key manufacturing data to Fusion Production for cloud based, job tracking, scheduling and CNC machine monitoring</i>	✓	✓	✓
<b>Tool database</b> <i>Embed your tool and holder details into a searchable database and share with your engineering team.</i>	✓	✓	✓
<b>Collision checking and simulation</b>	PowerMill Standard	PowerMill Premium	PowerMill Ultimate
<b>Toolpath simulation</b> <i>Simulate tool motion along your toolpaths.</i>	✓	✓	✓
<b>Machine simulation</b> <i>Simulate toolpaths using a virtual 3D CAD model of your CNC machine.</i>	✓	✓	✓
<b>Tool collision-checking</b> <i>Detect gouges, collisions, and near-misses between cutting tool assembly and workpiece.</i>	✓	✓	✓
<b>Stock removal simulation</b> <i>Use ViewMill to simulate the removal of stock from a virtual block.</i>	✓	✓	✓
<b>Predictive surface finish visualization</b> <i>Visualize the effects of feed, speed, and number of teeth on surface finish.</i>	-	✓	✓
<b>Machine collision checking</b> <i>Detect collisions and near misses involving a virtual 3D CAD model of your CNC machine.</i>	-	✓	✓
<b>Dynamic machine control</b> <i>Dynamically manipulate your virtual 5-axis machine tool. Update toolpaths for safer, more efficient 5-axis machining.</i>	-	✓	✓
<b>Simulation analysis</b> <i>Analyze toolpaths to identify axis reversals and other undesirable machine motion.</i>	-	✓	✓
<b>Project verification</b> <i>Check NC programs and toolpaths for collisions, tool and shank gouges, machine over-travel, and other faults.</i>	-	✓	✓
<b>Interface to third-party verification software</b> <i>Export tool, part, setup, and NC code information to CGTech Vericut and Fidia ViMill for additional G-code verification.</i>	-	-	✓
<b>Industry machining solutions</b>	PowerMill Standard	PowerMill Premium	PowerMill Ultimate
<b>Electrode machining</b> <i>Import TRODE files from PowerShape and use to automatically machine families of electrodes.</i>	-	✓	✓
<b>Rib machining</b> <i>Create toolpaths for the efficient milling of thin/deep slots and grooves.</i>	-	✓	✓
<b>Blade milling</b> <i>Create 5-axis toolpaths for the manufacture of blades, vanes, and other airfoil geometry.</i>	-	-	✓
<b>Blisk milling</b> <i>Advanced 5-axis machining strategies for the production of blisks and IBRs.</i>	-	-	✓
<b>Impeller milling</b> <i>Dedicated roughing and finishing strategies for the 5-axis milling of impellers.</i>	-	-	✓
<b>Port and manifold manufacture</b> <i>Machine automotive ports and inlet manifolds with 3- and 5-axis toolpaths.</i>	-	-	✓