

AUTODESK® POWERMILL® 2019

Expert high-speed and 5-axis machining software

2019.1 Feature Comparison

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

Project collaboration	PowerMill Standard	PowerMill Premium	PowerMill Ultimate
User-defined macros and templates <i>Embed your manufacturing expertise into macros and milling templates and share with your team.</i>	✓	✓	✓
Setup sheets <i>Share key process information with your team via electronic setup sheets.</i>	✓	✓	✓
Shared views <i>(subscription only)</i> <i>Share views of your PowerMill data with key stakeholders, anywhere, anytime with cloud-connected devices.</i>	✓	✓	✓
Autodesk Drive <i>(subscription only)</i> <i>Save PowerMill projects to your personal Autodesk cloud and invite collaborators to review using 3D viewers.</i>	✓	✓	✓
Fusion Production <i>(subscription only)</i> <i>Send key manufacturing data to Fusion Production for cloud based, job tracking, scheduling and CNC machine monitoring</i>	✓	✓	✓
Posts in the cloud <i>(subscription only)</i> <i>Use a secure cloud-based platform to store, manage and share post-processor option files with your team</i>	✓	✓	✓
Tool database <i>Embed your tool and holder details into a searchable database and share with your engineering team.</i>	✓	✓	✓

Collision checking and simulation	PowerMill Standard	PowerMill Premium	PowerMill Ultimate
Toolpath simulation <i>Simulate tool motion along your toolpaths.</i>	✓	✓	✓
Machine simulation <i>Simulate toolpaths using a virtual 3D CAD model of your CNC machine.</i>	✓	✓	✓
Tool collision-checking <i>Detect gouges, collisions, and near-misses between cutting tool assembly and workpiece.</i>	✓	✓	✓
Stock removal simulation <i>Simulate the removal of stock from a virtual block. Use thickness shading to identify unmachined stock.</i>	✓	✓	✓
Predictive surface finish visualization <i>Visualize the effects of feed, speed, and number of teeth on surface finish.</i>	-	✓	✓
Machine collision checking <i>Detect collisions and near misses involving a virtual 3D CAD model of your CNC machine.</i>	-	✓	✓
Dynamic machine control <i>Dynamically manipulate a virtual 5-axis machine tool to produce safer, more efficient 5-axis machine motion.</i>	-	✓	✓
Simulation analysis <i>Analyze toolpaths to identify axis reversals and other undesirable machine motion.</i>	-	✓	✓
Project verification <i>Check NC programs and toolpaths for collisions, tool and shank gouges, machine over-travel, and other faults.</i>	-	✓	✓
Interface to third-party verification software <i>Export tool, part, setup, and G-code data to CGTech Vericut and Fidia ViMill for additional verification.</i>	-	-	✓

Industry machining solutions	PowerMill Standard	PowerMill Premium	PowerMill Ultimate
Electrode machining <i>Import TRODE files from PowerShape and use to automatically machine families of electrodes.</i>	-	✓	✓
Rib machining <i>Create toolpaths for the efficient milling of thin/deep slots and grooves.</i>	-	✓	✓
Blade milling <i>Create 5-axis toolpaths for the manufacture of blades, vanes, and other airfoil geometry.</i>	-	-	✓
Blisk milling <i>Advanced 5-axis machining strategies for the production of blisks and IBRs.</i>	-	-	✓
Impeller milling <i>Dedicated roughing and finishing strategies for the 5-axis milling of impellers.</i>	-	-	✓
Port and manifold manufacture <i>Machine automotive parts and inlet manifolds with 3- and 5-axis toolpaths.</i>	-	-	✓