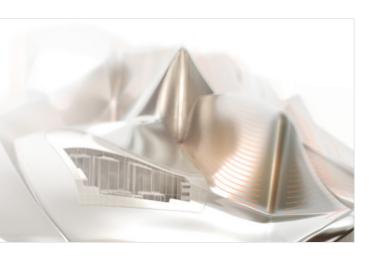


AUTODESK® **POWERMILL**® 2019

Expert high-speed and 5-axis machining software

2019.1 Feature Comparison



CAD Imports	PowerMill Standard	PowerMill Premium	PowerMill Ultimate
Neutral CAD import Import neutral CAD files including IGES, STEP, VDA-FS, and STL	✓	✓	✓
Native CAD import Open model files from third-party CAD software, including Siemens NX and Catia.	✓	✓	✓
Modeling companion Create basic wireframe and surface geometry to assist with your CAM programming.	-	✓	✓

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



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

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

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

