



FastCAM[®] System v7

Feature Comparison Chart (NC – Standard - Professional)

| Feature | Description and Benefit | | NC | STD | PRO |
|------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-----|-----|
| PART CREATION / DRAFTING | | | | | |
| Fully Integrated Drawing System | Create accurate 2D geometry in a fast and simple way using the inbuilt drawing editor. | No need for separate cost in buying and learning complicated CAD software. The FastCAM Editor is very easy to learn. | ✓ | ✓ | ✓ |
| CAD/DXF Compatibility Industry format Compatibility | DXF & DSTV for structural, are the most common file formats for transferring files between CAD & CAM Systems. All FastCAM systems can import DXF, DWG, DSTV, IGES and StruCAD formats. | CAD -> NC. Fabricators are supplied job data in a variety of formats. To solve this problem, FastCAM can not only load a range of file types, it includes a suite of CAD smart tools for conversion to NC-ready code making the job input seamless and automatic. | ✓ | ✓ | ✓ |
| Bulk DXF import | Import multiple CAD drawings. | Increases job processing speed. | | | ✓ |
| DXF Layer Support | Layers are automatically matched to machine processes like marking, drilling etc | Automatically interprets CAD files ready for all processing. | ✓ | ✓ | ✓ |
| ESSI, EIA language support | Support for industry standard machine file formats. | FastCAM® supports all combinations of machine and controller as well as ESSI, EIA and ISO NC languages in both inch and metric. NC output can be Absolute or Incremental. | ✓ | ✓ | ✓ |
| NC File Import | Reads and nests all NC files including PC and Unix based. | Will work with your old job files (existing NC files). | ✓ | ✓ | ✓ |
| Reverse Engineering CNC -> CAM/DXF | CNC file conversion back to geometry using a path from CNC through CAM and to DXF providing complete flexibility for any format at input or output. | Has been invaluable to users when they've lost their original drawing files! | ✓ | ✓ | ✓ |
| Manual Part Extraction from CAD files | This is where single or multiple parts are extracted from a CAD drawing (where the file is a large drawing with irrelevant data for cutting). | Saves programming time. You can also save further time by automatically adding text to parts when extracting files in this manner. | ✓ | ✓ | ✓ |
| CAD Extract and Explode | Automatically extracts all parts from DXF drawings and produces a cutting list. Includes 'auto-naming' of parts during bulk import. | Saves programming time. | ✓ | ✓ | ✓ |

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| CAD Compress | This feature reduces entities and replaces them with true lines and arcs. CAD file sizes can often drop 80-90%. They even cut better as well! | Improves cut quality when working with customer supplied files. | ✓ | ✓ | ✓ |
| CAD Clean | Many CAD systems produce arcs as many small line movements which are unsuitable. Even tiny corner errors can confuse automatic tool path generation routines. This feature joins the lines which results in smooth cutting. | Improves cut quality when working with customer supplied files. Finds potential stoppage issues before they reach the cutting floor. | ✓ | ✓ | ✓ |
| Convert Holes to Points | In structural parts often the holes are to be drilled, not cut. Conversely, often the CAD file only has datum points for burning holes. This function will convert those points to holes at the required size. | Very useful feature for drilling, not found in CAD system. Saves programming time. | ✓ | ✓ | ✓ |
| TOOL PATH GENERATION | | | | | |
| Tabbing | Allows tabs to be added on the part edge. | Most commonly used to hold the part in place while it is being cut. | | ✓ | ✓ |
| Move Pierce Function | Allows you to move entries/pierce points after nesting. | Programming control and flexibility. | | ✓ | ✓ |
| FastPATH™ Automatic Tool Pathing | The software automatically analyzes nests, calculates cutting direction, kerf, entries/exits, sequencing, batch processing, hole avoidance and tabs. | Can eliminate 50% of programming time on tool pathing. All paths are reduced to a single mouse click. A substantial time and consumable saver, especially on complex nests and on a large number of cutouts. | | ✓ | ✓ |
| Line Marking Support | Line marking is frequently used for marking the reference lines for subsequent operations such as bending, welding etc. Center points for drilling are also marked on the machine itself. | The purpose of marking on the cutting machine is to reduce cycle time and improve relative dimensional accuracy of various operations. | ✓ | ✓ | ✓ |
| VERIFY AND COST JOBS | | | | | |
| FastPLOT™ NC Visual Simulation | Easy editing and visual, graphic verification for CAM, DXF and NC code. You can visually check NC code for collisions or general behaviour, convert NC code to DXF, kerf offset NC code, plot NC code or nests for optical or documentation. | Minimizes risk on postprocessor by allowing checks on nests. Provides cutting time & distances and gross material utilization, making it ideal for costing and estimating individual parts or complete nests. Shows exactly what will happen when cutting. | ✓ | ✓ | ✓ |
| Automatic Accurate Collision Checking - QUALITY CONTROL | Replaces visual verification with computer based checks. Determines if a cut path intersects with another cut part and whether a part is off a plate in nesting. | Especially important in big and complex nests where even with the best efforts, a small overlap can be missed in visual checking and an overlap will ruin at least two parts. A simple bumped part can produce an expensive mistake in processing. | | | ✓ |
| Automatic Cut List | Automatically creates a multiple list of parts from the DXF file after exploding which are to be nested. The list can be modified I by adding or deleting parts as desired. | The output from the nest gives a cut-list of how many parts could be placed on the plate against the requirement, so a decision can be made if a second plate is needed. | | | ✓ |

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| NESTING & POST NEST OPTIMIZATION | | | | |
| Nest a Variety of file formats | Full shape nesting with DXF, IGES, NC, CAM, DSTV inputs. Large range of NC controls for output. Can output DXF nests. | | | ✓ |
| Array Nesting | Automatically matches similar parts. | | ✓ | ✓ |
| Full Shape Nesting | C-Shaped and L-Shaped parts are allowed to interlock which allows unlike parts to be nested together as well as nesting one part inside the cutout of another part. The rotations of the parts are all considered before the shapes are laid out. | | ✓ | ✓ |
| Blocks Array Base Nesting | This is accomplished by "blocking" a part, originally drawn or imported and setting up "blocks copy" thereby creating an array of almost any size and composition. | ✓ | ✓ | ✓ |
| Interactive Nesting | A semi-automatic method of nesting parts on materials. Single profile parts can be automatically nested onto any size plate. Nest parts onto a plate, rectangular or remnant. | | ✓ | ✓ |
| Interactive Part Placement | Select, click and drag and drop parts to desired placement. Flip, mirror on any axes, rotate, move. | | ✓ | ✓ |
| Automatic Nesting | Nest into remnant or odd size plate. Full shape nesting compatible with all industry standards including DXF, IGES, NC, CAM, DSTV input and a large range of NC controls for output. | | | ✓ |
| Remnant Nesting | Nesting into previously cut plate (not just FastCAM) but virtually any source, any size, shape or weight. | | ✓ | ✓ |
| Bump Nesting | Ensures that manually placed parts do not overlap. | | ✓ | ✓ |
| Cut Nest by Process or Part | Cut on a process by process basis (e.g. mark entire nest then drill entire nest, then cut entire nest) | | | ✓ |
| Part Marking - NEST | You can add Text to the screen which becomes a 'Text Entity'. | ✓ | ✓ | ✓ |
| Plate Marking | FastCAM converts text into simple lines and arcs to make use of marking tools. We also support printer heads that use their own format and accept a string only as input from the NC file. | | | ✓ |
| Gas Axe Skeleton Breakup | FastCAM Gas Axe will selectively apply post cuts to any nests | | Manual | Auto |

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| PIERCE REDUCTION & SPEED CUTTING | | | | |
| Bridging of Parts- Traditional | A simple positive bridge is where parts are connected together linked by two parallel cuts (bridge). Bridges allow continuous cutting and are traditional in many shipbuilding applications. | | | ✓ |
| Bridging – Overcut or Negative | Continuous cutting with the immediate separation of parts that has the advantages of bridging but cuts out the bridge on the return. | | | ✓ |
| Bridging – Skip | Here you have additional piercing and the parts are held together by a bridge but the bridge is not cut. A simple gap bridge forms much the same function for lighter materials where the resultant tabs can be broken manually. In this case, additional pierces are required rather than fewer. (This function is aimed at aluminium routers but can be used in any instance where the programmer does not want the bridge to be cut). | | | ✓ |
| Bridging – Skip with Entries | As with Skip Bridging, but pierces are away from the part edge. | | | ✓ |
| Manual Bridging | Apply a simple bridge to a manual array in the FastCAM drawing editor. | ✓ | ✓ | ✓ |
| Common Cutting – Pairs | Common cut pairs is used most often in shipbuilding as it is common to encounter left and right hand pairs. | | | ✓ |
| Common Cutting – Nests | Compared with traditional nesting of separate parts each with their own external entry and exit, Common Cut Nest gives you the ability to set the part spacing to exactly the cut width before nesting. Achieves 'zero gap' common cutting by cutting entire nests using a start on (part) edge approach. In many nests this will usually eliminate piercing time and halve cutting time. | | | ✓ |
| Chain Cutting and Stitch Cutting | Option to move from one cut to another (instead of using RAPID). Implements automatic chain cutting for some parts. | | | ✓ |
| Multiple Strip Cutting & Multi Pass Cutting | Supports varying multi torch cutting and a fixed number of torches. Multi pass Nesting is as for a single torch. The software looks for opportunities to use multiple passes. | | | ✓ |

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| OUTPUT | | | | | |
| Multiple file formats | FastCAM® can read or convert CAM, DXF, IGES, ESSI, Word Address, (EIA) files and Unix NC code files. FastCAM can save into CAM, DXF and IGES formats. | Industry Compatibility. Even specialized applications like automated tube cutting machines can be driven. | ✓ | ✓ | ✓ |
| Support for Popular cutting equipment Integrated Post-Processors | FastCAM offers support for single or multi-torch, oxy and plasma cutting, Hi Def Plasma, Laser, Water-Jet plus Oxy and Plasma Beveling. Note: Based on our published list of 'out of the box' postprocessors on our web site. FastCAM Laser is separate. Well constructed postprocessors are very important. | FastCAM has integrated postprocessors that take the generic nesting data and convert it to CNC program instructions that each specific machine will understand. As an internal or integrated function to the CAM system the code is highly efficient so that you can get the best out of your machine. | ✓ | ✓ | ✓ |
| Process Support | All secondary processes like marking are supported. Multiple primary process are also supported including Oxy-Fuel, Plasma even bevel cutting. | Extract the best value out of your machine by combining two or even three fabricating technologies. | ✓ | ✓ | ✓ |
| Multiple Posts | FastCAM comes with approximately 50 posts to choose from. Our service department will configure/setup additional posts for a modest fee. Cost varies. | If you replace or add another type of cutting machine you don't need to change your programming system! FastCAM can 'drive' multiple combinations of cutting machines and controllers. Eliminates the need to train staff on multiple systems. | ✓ | ✓ | ✓ |
| Varying multi torch cutting | Varying multi torch cutting as opposed to a fixed number of torches in a single pass at a fixed spacing remnants in one piece. | For users who want multiple passes over the same nest to maximize cutting efficiency. | | | ✓ |
| PC based Kerf Compensation | Kerf compensation can be calculated automatically on your PC. | Speeds older controllers with very slow kerf computation. | | ✓ | ✓ |
| Incremental and Absolute NC Output | OutputsPC based NC file format. FastCAM will operate in Incremental or Absolute format (the default is Incremental). | The ability to change to absolute is of benefit with some older controllers. | ✓ | ✓ | ✓ |

FastCAM is available in 3 different versions to suit your needs and budget. On May 1, 2013 we introduced the ability to purchase FastCAM® NC products over the internet at reduced pricing, making NC programming and nesting even more affordable.

About FastCAM

The FastCAM product was first shipped in 1976 and was originally developed because CAD systems were over complicated for workshop personnel. Even now, many current MIS solutions are complex, slow and inadequate, particularly for heavy plate shapes. The people who operate and service the machinery need to be able to use the system with absolute ease. FastCAM's unique integrated multiple postprocessors, NC verification and NC code nesting still set it apart from other CAM and CAD/CAM systems and the new generation of FastCAM software is used by thousands of users around the world. Today the product line has been expanded to include dozens of trademarked products encompassing many industries and distribution points and FastCAM is used in many different environments including shipbuilding, mining, construction, heavy fabrication, wind towers, signcutting and service centers.