STRIKER

Sheet Metal CAD/CAM & Nesting Software

SS-Nest™

SS-Nest provides automatic multiple part nesting for your production or job shop environment. When bundled with SS-Punch and/or SS-Profile, SS-Nest delivers exceptional material utilization and CNC machine throughput. A few of SS-Nest's features include:

- True Shape & Rectangular Nesting
- Effortless "Nest Wizard" Interface
- Part Library w/ Advanced Search
- Part In Part Nesting
- Filler Part Support
- Nest Layouts Saved in Industry Standard DWG or DXF Format

- Work In Process Tracking
- Combine Work Orders for Scrap Reduction
- Auto Best Sheet Selection
- Multiple Advanced Nesting Algorithms for Max Material Yield
- Batch Processing of DXF and DWG Files

- Part & Assembly Nesting
- Auto Sort on Material Type & Thickness
- Pre-Nested Part Cluster Support
- Part Prioritizing
- Irregular Remnant Creation, Tracking, and Nesting
- Auto NC Program Creation
- Extensive Nest Reports

SS-Nest also offers the following optional extended functionality...

Manufacturing Software Extension - Allows SS-Nest to accept production data from external manufacturing software such as MRP and ERP systems.

Multiple Torch Extension - Extends the functionality of SS-Nest to optimize the use of multiple torches for CNC machines with multiple torch configurations.

Shear Extension - Provides an additional SS-Nest algorithm specifically for guillotine shear operations. Optimizes rectangular blank shearing, providing shear cut locations and cut order.

SS-Nest Key Benefits

- True-Shape and Rectangular nesting included.

- Extended nesting algorithms optimize nested layouts for the widest variety of part configurations.

- Part-In-Part nesting reduces scrap and improves throughput.

- Automatically sorts parts into common sub-jobs based on material type and thickness, and designated work center (CNC machine).

- Construct nest job based on part or assembly selection.

- Batch process with schedule file from MRP, ERP, or other scheduling software.

- Automatic selection of optimum sheet sizes from available inventory.

- Available support for Multiple Torch nesting.

- Direct interface to Autodesk Inventor, SolidWorks, and Solid Edge.

- Uses the industry standard AutoCAD DWG file as the native file format. This eliminates proprietary files that can't be opened by any other software.

- Available as a stand-alone application or, for AutoCAD users, as a plug-in to the latest AutoCAD or AutoCAD Mechanical software.

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SS-Nest Feature List

The following partial feature list is intended to provide a more thorough look at the capabilities of SS-Nest automatic nesting software. Although comprehensive, it should not be considered all inclusive.

Please contact Striker Systems with specific SS-Nest software feature questions.

- **Nest Wizard Interface** – Windows Explorer style interface provides instant familiarity with product flow. Right-click access to nesting and reporting commands minimizes product training.

- **Enhanced Interactive Nesting** - Interactive drag and drop nesting with "bump" feature to insure consistent spacing between parts and sheet margins.

- **Nest from PARTshare Library** – SS-Nest includes a part library system (PARTshare) where repeat parts can be stored and retrieved as necessary. Each part in the library includes necessary manufacturing information. The PARTshare library can be networked and shared between multiple Striker Systems users, as well as with Autodesk Inventor, SolidWorks, and AutoCAD users.

- **Nest from MRP/ERP/Schedule File** – A nest job can be created by reading a delimited text file that may be generated by an MRP, ERP, or other scheduling system. The process may import parts from an external CAD system or retrieve parts from the PARTshare library as required.

- **Nest from External CAD Files** – Simply select the desired CAD files (DXF or DWG) from the file browser, and the nest job is automatically created. This import allows incoming layers to be mapped as necessary to match specific process layers in SS-Profile. Attribute information can also be mapped to define specific manufacturing data including material properties, routing information (CNC machine), grain constraint, etc.

- **OLE Interface** – As an alternative means of importing parts from SolidWorks, Autodesk Inventor, or Solid Edge, SS-Nest includes an OLE import feature.

- **Automatic Job Sorting** – Certain criteria keep parts from being nested together on a common sheet. For example, parts with a different material type or gage cannot be nested on the same sheet. Parts that are destined for the laser cannot be nested on the same sheet as parts that are destined for the turret punch press. Unlike many nesting systems that require you to pre-sort parts into these groups of like properties, SS-Nest will automatically sort parts into sub-jobs as required.

- **Parts in Parts Nesting** – If desired, SS-Nest will place smaller parts into the scrap area (cutouts) of larger parts to improve material utilization.

- **Kit in Kit Nesting** – A nest job or "kit" is simply a list of parts to be nested together with certain criteria applied. A beneficial feature of SS-Nest is the ability to add a kit to a kit. For instance, you may have a group of parts, perhaps an assembly or even an entire product line, that are always nested together. These parts can be defined as a nest kit. The entire nest kit can then be added to future nest jobs in the quantity required.

- **Automatic Part Labeling** - Automatically position part numbers and other desired part information during nesting operations.

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- **Part Priority Control** – Each part can be assigned to a nest job with a priority from 1 to 100. This priority dictates the order that the part is considered by the SS-Nest algorithms and the ultimate positioning in the nest.

- **Filler Part Nesting** – A part can be assigned to a nest as a "filler part" or an overrun quantity can be assigned to any part. This means that these parts will be nested only if there is room available after all other parts have been nested. This improves material utilization by mixing in ongoing "inventory" parts and positioning them in areas that would otherwise be scrap.

- **Fill Last Sheet Option** – The last sheet of a multiple sheet nest is often the one with the greatest scrap potential. This is simply because there are not enough remaining parts to be nested to fill the entire sheet. SS-Nest includes a "Fill Last Sheet" option, which will use filler parts to fill the remaining space if desired. Another option is to save the unused portion of the sheet as a "remnant" for future use.

- **Multiple Nesting Algorithms** – Different shapes and groupings of parts will nest differently when subjected to numerous nesting algorithms. SS-Nest includes multiple nesting algorithms (10 currently) that can be incorporated into the nest calculation. The algorithm generating the best part yield can be selected automatically, or the user can be provided an overview of the results to select the desired nest.

- **Automatic Sheet Selection** – SS-Nest includes the option to consider multiple sheet sizes when nesting. It can consider every sheet size available in inventory, or a subset can be defined. This insures that you are nesting on the sheet size that is going to generate the greatest yield.

- **Nest Style Support** - Nesting parameters such as part spacing and sheet margins can now be saved as a nest style. These nest styles can then be associated to desired machine drivers. This eliminates the need to adjust nesting parameters when calculating nests for different machine types.

- **Enhanced Optimization for Auto NC Operations** - Our newest tool-path optimization methods, found previously only through Workflow Wizard, can now be set as the default for Auto NC operations from SS-Nest.

- **Modified Nested Layouts** – Full control is provided over nested layouts. If desired, parts can be easily moved, copied, rotated, or deleted from a nested layout. Additional parts can be inserted from the PARTshare library, or even drawn right on the nested sheet!

- **Master Plate Control** – The goal of SS-Nest is maximum part yield. Through this process it is possible that SS-Nest will create a unique nested pattern for each sheet in the nest job. For CNC processes, this means that a unique NC program will be created for each sheet. If the preference is to minimize the number of NC programs, this can be controlled by activating Master Plate feature. This limits the nest to a single pattern, or to a reduced number of unique patterns while still achieving an acceptable material utilization.

- **Cluster Control** – It may be desirable to define a group or "cluster" of parts that will be treated like a single part when nesting. Clusters can be helpful in keeping parts grouped in a nest that will go to a like next process. The cluster of parts is assigned a unique name and description, but the parts defining the cluster are still tracked and reported on individually.

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- **Multiple Torch Nesting** – The optional Multi-Torch Extension of SS-Nest allows nest patterns to be duplicated to support multiple torch configurations on CNC cutting and burning machines. The number of duplicate patterns and pattern spacing can be defined to meet specific machine requirements. To optimize CNC machine run time, patterns will be duplicated as far as possible to keep all torches active.

- **True-Shape or Rectangular Nesting** – Parts can be added to a nest job for either true-shape or rectangular nesting. This is controlled on a per part basis and allows a nest to be automatically calculated for specific applications such as laser cutting or right-angle shear processing.

- **Raw Material (Sheet) Inventory** – Set up and maintain a raw material (sheet) inventory. SS-Nest can be configured to pull from the sheet inventory automatically based on best yield, defaults can be assigned, or sheet(s) can be assigned on a per-job basis.

- **Sheet Remnant Inventory** – If sheet remnants are generated from a nest job, they can be added to the sheet inventory for consideration in subsequent nest jobs.

- **CNC Code Generation** – SS-Nest is unique in its ability to create NC programs. Punch or profile process information (tool hits, leads, etc) can be pre-applied to parts or dynamically applied when the nest is generated. All machine functions such as repositions and drop doors, as well as tool sequencing and tool-path optimization, can be automatically or interactively processed as desired.

- **Nest Reports** – SS-Nest includes a powerful report module with a broad set of report templates to meet the needs of your organization. Nest reports include part lists, tool usage information, graphical layouts, and more.

- **Advanced CAD Features** – Unlike many nesting systems that offer little or no design capability, SS-Nest provides a powerful CAD software solution. SS-Design is bundled with every SS-Nest purchase, so the features of SS-Design should also be considered when comparing software product features.

- **PARTshare** – The precision sheet metal industry has rapidly embraced solid modeling technology. SS-Nest takes full advantage of this technology by including the PARTshare module with every SS-Nest purchase. PARTshare provides a library process through with Autodesk Inventor and SolidWorks part and/or assembly data can be passed seamlessly to SS-Nest for processing.

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System Requirements

Supported operating systems

32-bit & 64-bit

- Microsoft® Windows® 10
- Microsoft® Windows® 8/8.1 Professional and Enterprise
- Microsoft® Windows® 7 Professional, Ultimate, and Enterprise

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Supported CPU type

32-bit

- 32-bit Intel® Pentium® 4 or AMD Athlon™ Dual Core, 3.0 GHz or higher with SSE2 technology

64-bit

- AMD Athlon 64 with SSE2 technology
- AMD Opteron™ with SSE2 technology
- Intel® Xeon® with Intel EM64T support with SSE2 technology
- Intel Pentium 4 with Intel EM64T support with SSE2 technology

Memory

Minimum: 4 GB of RAM

Recommended: 8 GB of RAM

Graphics hardware

- Minimum – Display adapter capable of 1280 x 1024 at 24-bit true color
- Recommended – Display adapter capable of 1600 x 1050 at 24-bit true color

Hard disk space
- 3GB of free hard disk space (for installation)

.NET Framework
- .NET Framework Version 4.5

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