

ProNest[®] 2019

Nesting Software

What's New

ProNest 2019 v13.1

Released April 2019

- [Identical parts](#)
- [Automatically add scribe text](#)
- [PDF import](#)
- [Reposition work zones](#)
- [Part dimensions](#)
- [Nesting System Optimization](#)
- [Inventor[®] Interface speed enhancement](#)
- [SOLIDWORKS[®] interface speed enhancement](#)
- [Drill support for SOLIDWORKS parts](#)
- [Selecting Land dimension](#)
- [Adjustable Land Height for X-cut bevels](#)
- [AutoBevel support for DSTV \(.nc1\) files](#)
- [Suggest a Feature](#)

ProNest 2019 v13.0

Released April 2018

- [Importing raster images](#)
- [Manual Nesting: Smart Drag](#)
- [Ignore leads during nesting](#)
- [Lead styles](#)
- [Fly cutting](#)
- [Skeleton Cut-Up: Integrate sequence with parts](#)
- [Breadcrumbs style folder navigation](#)
- [Pin lead styles](#)
- [Assembly information](#)
- [Safe zones](#)
- [Design2Fab Integration](#)
- [History database performance improvements](#)
- [SOLIDWORKS bend lines](#)
- [Work orders: Re-using nests](#)
- [Production Manager](#)
- [Production Kiosk](#)
- [STRUMIS nesting system optimization](#)

New Features and Enhancements

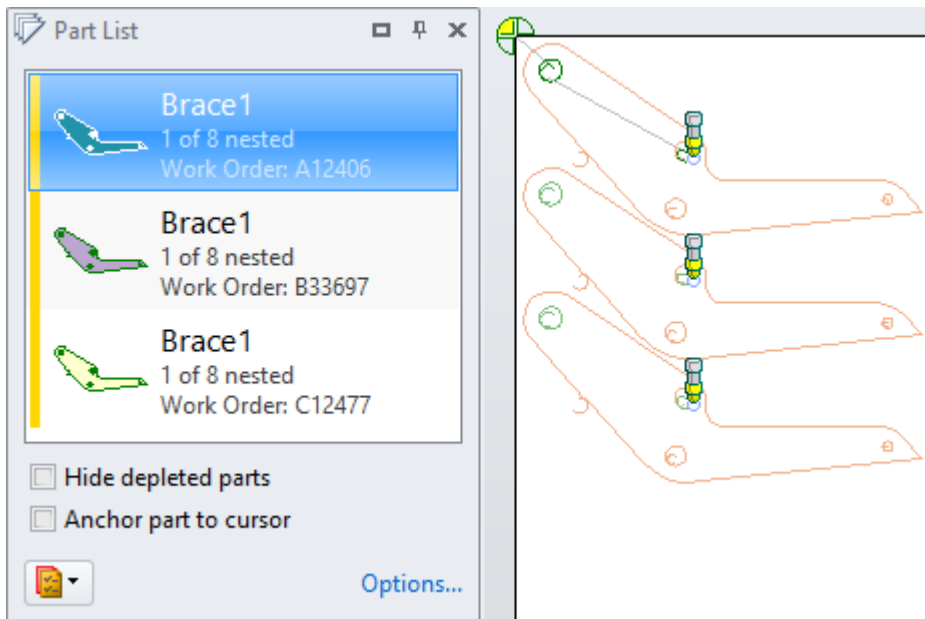
The following enhancements are available in the ProNest 13.1 release:

Machine

Identical parts

Different parts that are geometrically identical (and meet other criteria) can be detected as Identical Parts and are treated as the same part for the purposes of editing and nesting. This feature is useful if parts need to be kept separate, such as for different work orders, but should be cut, nested, or edited together.

Identical Parts can be cut with multiple torches as master/subordinate parts, and changes to one part, such as editing the cut sequence in Advanced Edit, can also update all identical parts.



Identical parts can be cut with multiple torches.

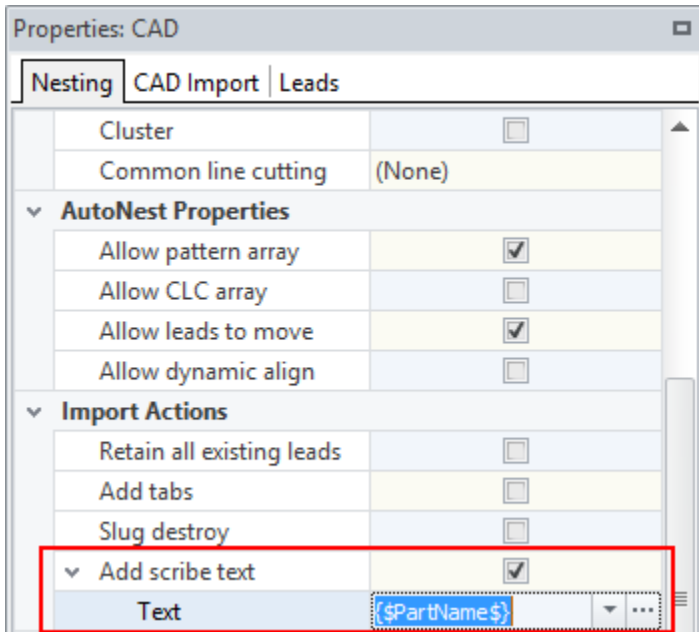
Activate this feature by going to **Settings > Machine** and selecting **Detect identical parts**.

Importing Parts

Automatically add scribe text

Scribe text can now be automatically added to parts during part import. With this feature, there is no need to manually add scribe text to each individual part in Advanced Edit.

Using variables in the text enables you to automatically mark parts with unique identifying information such as part name, work order number, customer, and so on. You may make other changes to scribe text, including its position on a part, later in Advanced Edit.

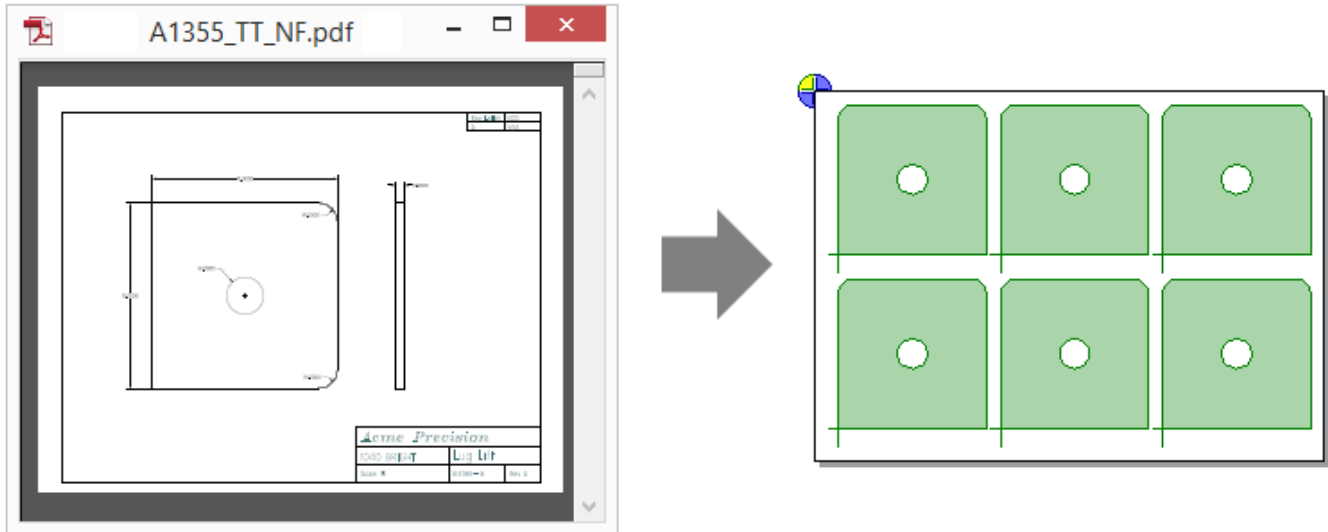


Add scribe text option in the Edit Part List window, using default text from the Settings page.

In settings, you can configure default options for automatically added scribe text, including text height and position.

PDF import

ProNest now supports importing parts from PDF files. Vector part geometry (scalable drawing information such as lines, arcs, and text) can be brought into the part list, ready for nesting. This is useful for quickly importing engineering drawings, spec sheets, artistic drawings, logos and graphics.



Benefits include:

- Easier file exchange. Quickly bring in parts from PDF files for quoting/estimating or cutting without the intermediate step of creating separate CAD files.
- Multiple parts on a single page can be imported together as a block or as separate parts in the part list.
- Prior to import, remove any objects you don't need from the PDF, such as title blocks, using CAD Cleanup (Simple or 2D CAD).
- Quickly adjust scale from the Edit Part List prior to import.
- Text can be brought in as either scribe/mark or cut geometry.

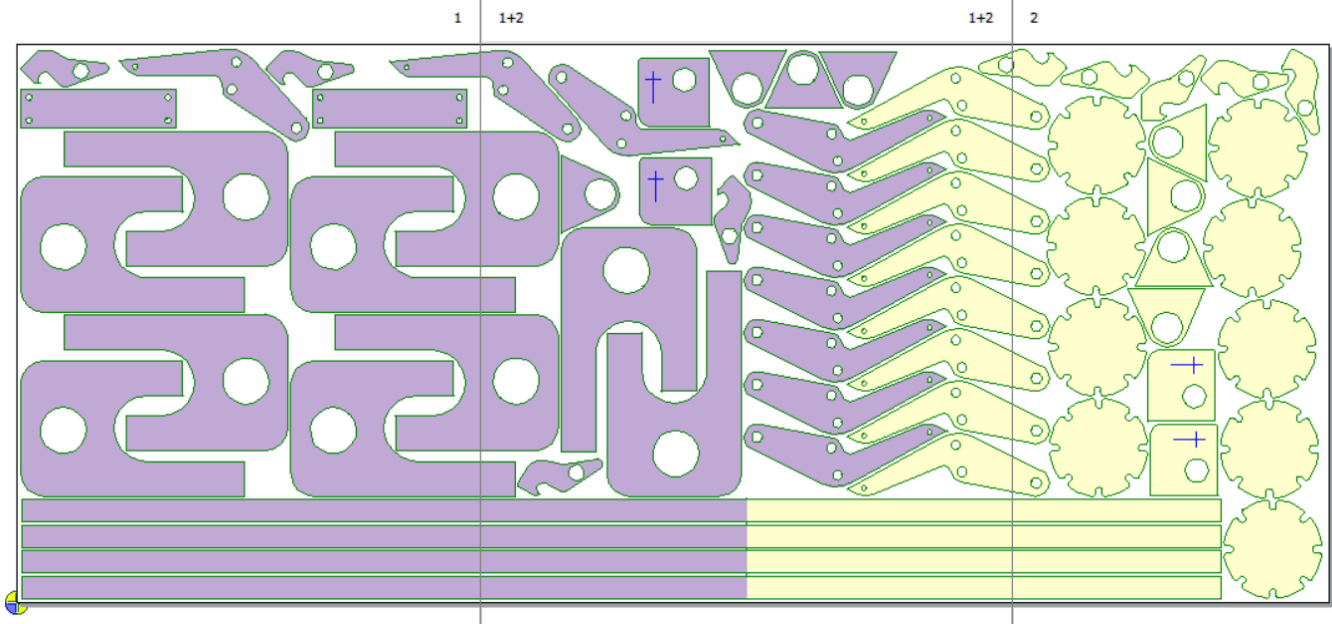
Reposition Machine Interface

Reposition work zones

Parts that span multiple work zones can be split and cut according to the work zones to which the profiles belong. In cases of overlapping work zones, ProNest will split parts appropriately to avoid undesirable scenarios where only a small portion of a part is cut in a work zone.

Additional benefits include:

- Work zone is available as a part color fill property in the Color Legend.
- Parts that span work zones and have split profiles appear multi-colored on the nest after applying the cut sequence.
- Leads can be applied at split points or not applied to parts at all.
- Reports can display split profiles.
- Costing reflects split profile geometry and pierce points.



A nest image showing two work zones, with parts color-filled by the Work zone property.

Ease of Use

Part dimensions

The dimensions (length x width) of a selected part are now shown in the Preview pane in the Edit Part List.

Nesting and Utilization

Nesting System Optimization

In order to try to find a good balance between material utilization and production cost, nesting system optimization is now able to automatically cycle through different numbers of torches while using equal torch spacing for each plate and nesting strategy. This is designed to work for Fixed torches where Torch spacing type is Equal.

To use this feature, enable **Cycle though multiple torches** on the Optimization settings page.

3D Process Modules

Inventor® Interface speed enhancement

Importing Inventor parts and assemblies is now significantly faster (Inventor 2016 v20 or later).

SOLIDWORKS® Interface speed enhancement

Importing SOLIDWORKS parts and assemblies is now significantly faster.

Drill support for SOLIDWORKS parts

For SOLIDWORKS parts that contain holes that will be drilled, you can set up ProNest to recognize these holes and assign them to the correct tool when the part is imported. ProNest supports the following drill hole types for SOLIDWORKS parts:

- Straight drill holes
- Threaded holes that require tapping
- Countersunk holes

(This feature was originally released in ProNest v13.0.1.)

Bevel Machine Interface

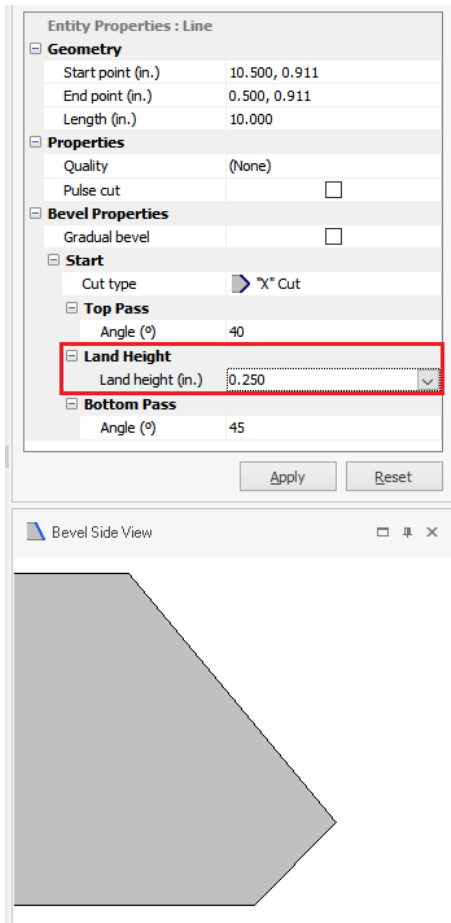
Selecting Land dimension

When entering a Land dimension in Advanced Edit for a multi-pass bevel, such as a Y cut or a K cut, the Land box is now a drop-down which displays all of the lengths listed in the Bevel spreadsheet. This makes it easier to view and select supported Land dimensions and reduces warnings or errors during output.

(Originally introduced in ProNest v13.0.2.)

Adjustable Land Height for X-cut bevels

In Advanced Edit, a new “Land Height” field for X-cut bevel parts is available. Previously, ProNest defined X-cut bevels such that the top and bottom pass always intersect at the horizontal bisector (the middle of the plate thickness). Now, you can use the Land Height field to create an offset X-cut bevel, which measures the offset from the bottom of the material.



AutoBevel supported for DSTV (.nc1) files

DSTV parts that contain bevel information can now be autoveled during import into ProNest. All bevel types are supported, including A, V, Y, X, and K cuts. To use this feature, select Use AutoBevel in Bevel settings.

(Originally introduced in ProNest v13.0.2)

User Experience

Suggest a Feature

A link to the Suggest a Feature page in the knowledge base has been added on the File tab > Help page.

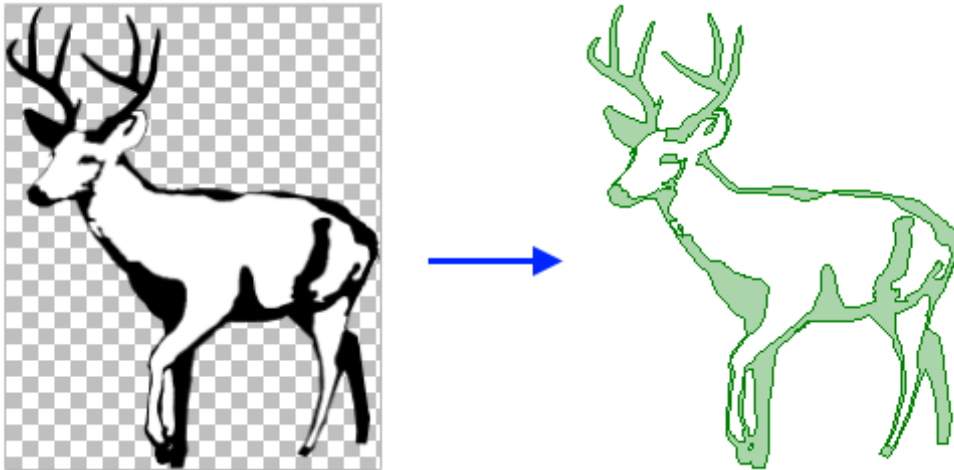
New Features and Enhancements

The following enhancements are available in the ProNest 13.0 release:

CAD Import

Importing raster images

ProNest can import raster image files and convert them to vector parts that can be cut on your machine.



The following image file formats can be imported:

- PNG
- JPG, JPEG
- BMP
- GIF

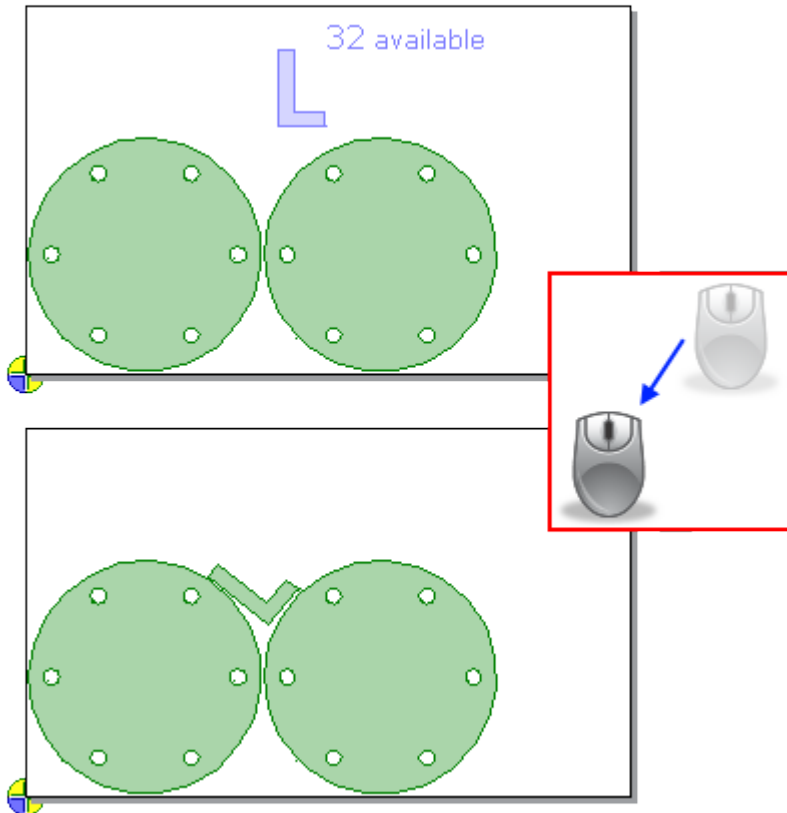
New settings enable you to fine-tune the image prior to import, to get the best result. Once the image has been converted to a part, it can be nested and output.

For images that will be cut more than once, you can easily save a vector version of the part in the part library or save it as a DXF or DWG file using 2D CAD.

Nesting and Utilization

Manual Nesting: Smart Drag

Manual nesting is now much more fluid and intuitive. With existing parts on the nest, fitting in parts along the contours of other nested parts and the plate edges is much easier.



When dragging a part on the nest, the part will bump up against existing parts or plate edges and then rotate to fit. You can glide the part along edges of neighboring parts to get the best result. This makes it easy to fit parts into empty spaces on the nest, without the need to manually rotate the part to just to right angle.

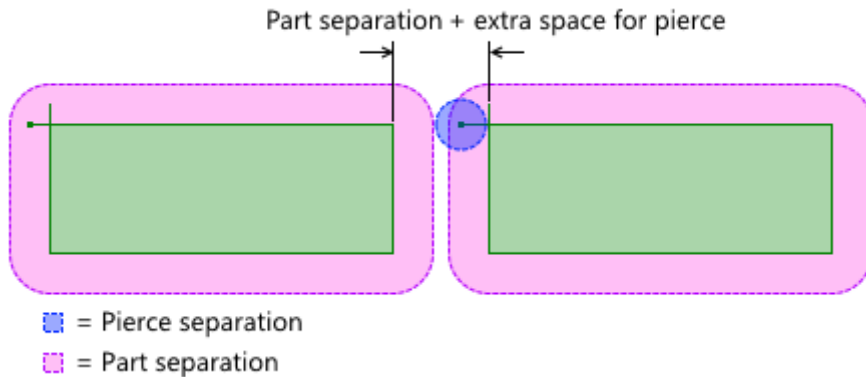
Benefits include:

- Faster and easier to create tighter nests during manual nesting
- Achieve better plate utilization, especially when nesting around the contours of larger parts

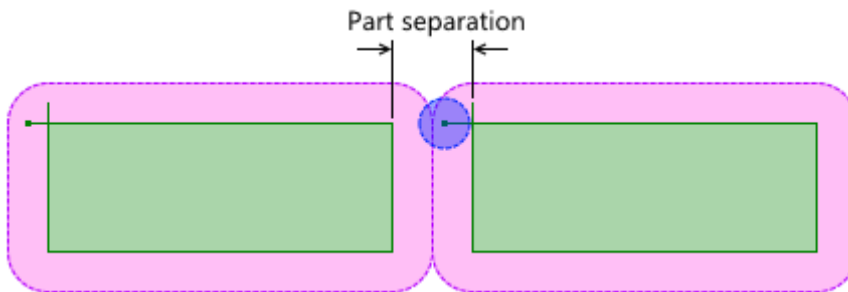
This feature can be quickly turned on or off in the main window.

Ignore leads during nesting

In previous versions of ProNest, during manual and automatic nesting, you could either take all part leads into account or ignore leads altogether, regardless of lead size or the plate material. Taking all leads into account during nesting sometimes results in extra, unneeded space between parts.



Now, you can ignore only certain leads during nesting, based on whether they're smaller than a user-defined percentage of the part separation.



This is useful in cases where some leads/pierces are insignificant and should not affect the spacing between parts, but others are larger and should not be ignored, in case they cause real conflicts with neighboring parts.

Benefits include:

- Better material utilization by nesting parts closer together. In some scenarios, this may be the difference between a part set requiring two plates and fitting everything on a single plate.
- Reduce instances where there are conflicts shown on the nest, but there wouldn't actually be a problem during cutting.
- No need to enter Settings and turn the **Ignore part leads** setting on or off prior to nesting, based on material or lead length.
- Useful for both laser and plasma cutting.

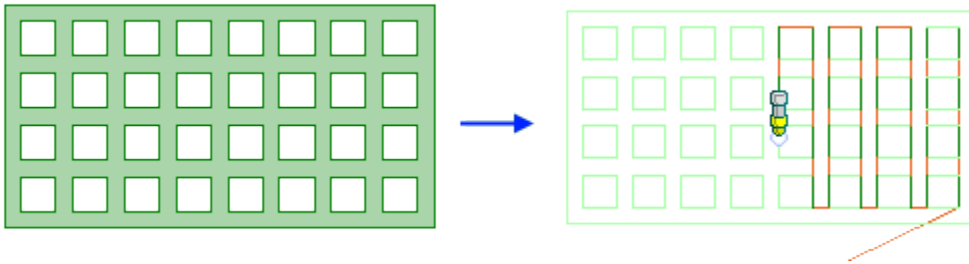
Lead styles

Any lead style is available and can be selected in all areas of ProNest, including the Edit Part List, the main window, and the Leads settings spreadsheet. Previously, custom lead styles had to be applied manually in Advanced Edit.

Productivity Modules

Fly cutting

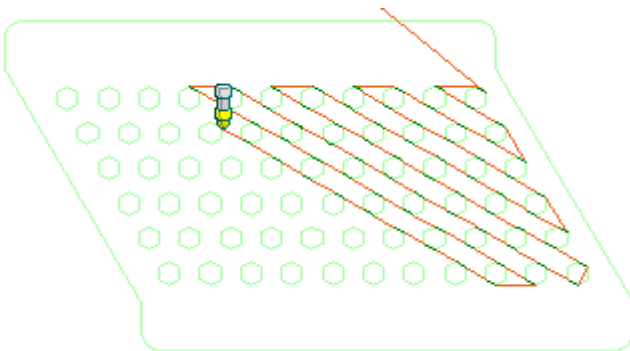
Designed for laser cutting on thin materials, fly cutting is a method of cutting the aligned edges of *different* interior profiles together in a straight line. Pierces are made without slowing down or stopping the cutting head.



This technique provides faster cutting with fewer slowdowns required by changes of direction. Mechanical stress on the machine is reduced as the head is not making numerous changes in cut direction (compared with cutting interiors one by one).

Fly cutting straight edges

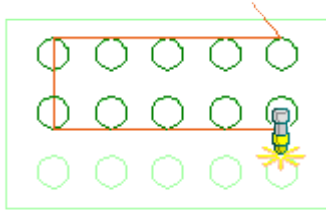
When fly cutting is enabled for a part, ProNest detects interior grids containing aligned edges. The interior sequence of the part is then changed so that aligned entities are cut one after the other in a line.



ProNest supports fly cutting for grids of various shapes, including square/rectangular, triangular, hexagonal, octagonal, and mixed.

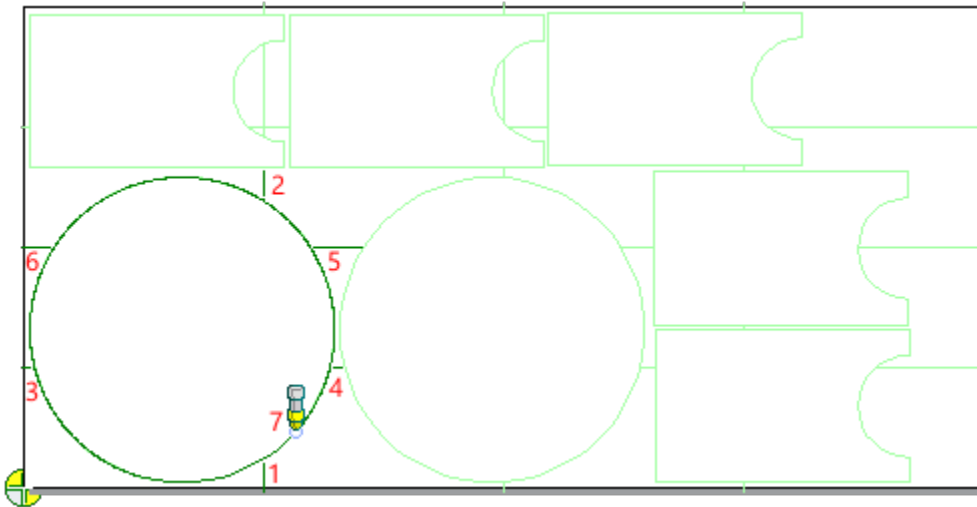
Fast cutting arcs

For grids of aligned circles or slots, a similar fast cutting technique is used. Unlike with straight edges, these interiors are cut one by one, but pierces are still made without slowing down or stopping the cutting head.



Skeleton Cut-Up: Integrate sequence with parts

A new setting allows skeleton lines and exterior part profiles to be cut together in groups. All skeleton lines intersecting the exterior profile will be cut first, followed by the exterior profile. The sequence will then move on to the next group of skeleton lines and parts.

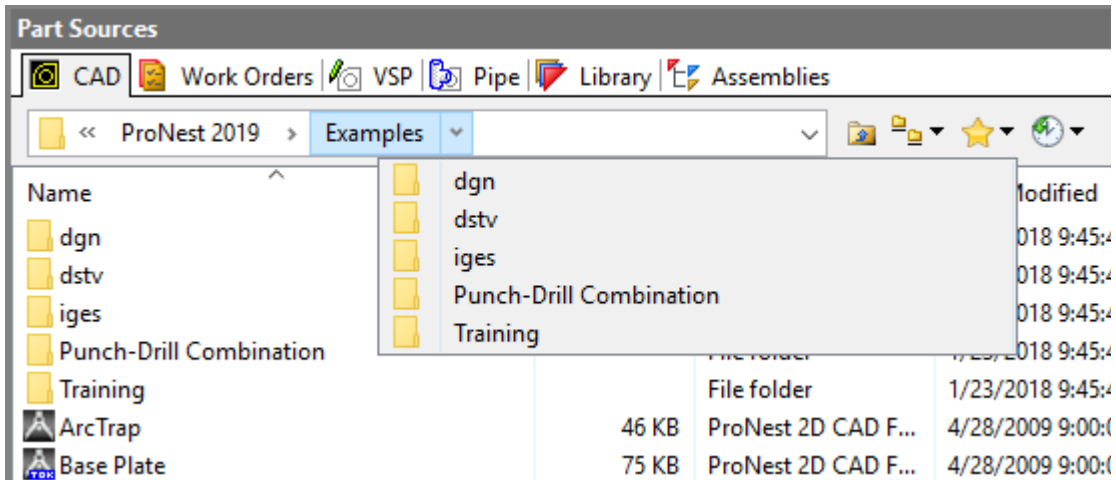


Selecting this setting can reduce part defects due to plate movement and lessen the chance of collisions with tipped-up parts.

Ease of Use

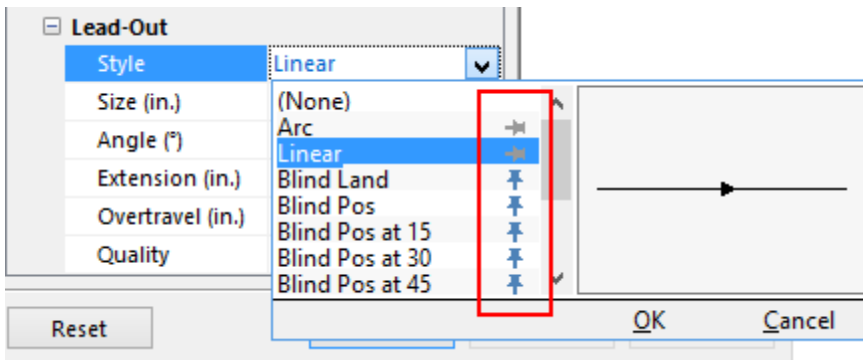
Breadcrumbs style folder navigation

Several areas in ProNest now use a more modern breadcrumb style folder explorer, making it faster and easier to browse for folders and files.



Pin lead styles

When selecting leads, commonly used lead styles can now be pinned to the top of the list, for quick access.



Pinned lead styles are saved with the ProNest machine, so that machine-specific lead styles will always be readily available.

Assembly information

- If a part belongs to a ProNest assembly, the assembly name is now displayed in the Properties pane in the main window.
- Assembly name can now be selected when color-filling parts based on a part property. This can help you easily identify parts that belong to a particular assembly on a nest.

Job setup

Safe zones

A default safe zone scheme can now be applied for an entire machine. The default safe zones are applied to all plates, prior to nesting. For machines that have stops or clamps to hold the plate in place, you no longer have to apply a safe zone scheme each time a new nest is created or a plate is added to the plate list.

- You can specify a maximum material thickness to use default safe zones, which is useful for thicker plate that may not require clamps.

Design2Fab

Design2Fab Integration

Roundtrip Design2Fab integration has been added to ProNest, enabling you to leave a ProNest job, add fittings in Design2Fab and return to the ProNest job with the patterns added to the part list, ready for nesting and NC output.

(Introduced in ProNest 2017 version 12.1.3.)

Performance

History database performance improvements

For ProNest 2019, history data is stored in the main production database, instead of an external History database. History views are now schema-bound, resulting in several benefits:

- Faster queries that run against both production and history data. Speed improvements are particularly noticeable on larger databases with lots of history data.
- Prevention of unauthorized or accidental database changes.
- Faster installation of ProNest database.

3D Process Modules

SOLIDWORKS® Interface

For some sheet metal parts, ProNest automatically creates additional bend lines which are placed parallel to and on either side of a main bend line. Previously, these bend lines were always placed on the same layer as the main bend line during import. Now, you can have these bend lines placed on a different layer from the main bend line, in case they should be mapped to a different process or excluded altogether.

To set a custom layer name for automatically-generated bend lines, edit the following section in the User.Prefs file:

```
[SolidWorks]
```

```
AutoBendLineLayerName=MyLayerName
```

Enterprise Modules

Work orders: Re-using nests

For cases where the same parts are cut repeatedly, you can now process the same nest over and over using different Work Orders for the parts in the nest. This allows nests that have good utilization and productivity to be re-used as needed.

Production Manager

Improvements to the Production Manager module include:

- A new preference allows nesting on remnants before the original nest is completed
- Production Manager editor is now available from the Data tab in ProNest or as a shortcut in the Windows Start menu.
- The Production Manager user interface updated with newer look and feel.
- Production Kiosk time data is now shown in the grid view.

Production Kiosk

The Production Kiosk (formerly called "Kiosk App") has a number of improvements:

- Kiosk production data, including machine, operator, start/stop time, and elapsed time, is now available in the ProNest database.
- Multiple machines are supported.
- Current nests in production can be temporarily placed on hold, in case a priority job needs to be cut.
- Multiple instances of the Production Kiosk application can be run from a single PC.
- Plate size and inventory information is displayed for available nests.
- Redesigned user interface for better ease of use.

STRUMIS

Nesting System Optimization for STRUMIS now supports the "Must nest all parts" setting. When selected, all optimization results are discarded unless all parts can be nested. (Originally introduced in ProNest 2017 12.1.1).