

# AMNEST Version V3.0 Patch A-I Update (05/29/08)

## NOTE

This is a cumulative patch file update for Amnest V3.0 that fixes the following problems and adds the following enhancements for nesting. A list of Amnest V3.0 Patch I changes can be found at the end of the document.

## ENHANCEMENT:

### General:

1. Parts geometry preview is added to the parts select window of the nesting parts data entry.
2. When oversized blank sheet (in Y axis) is selected for a nest, Amnest gives a warning and lets user select Continue or Quit.
3. Additional features in Layout Edit:

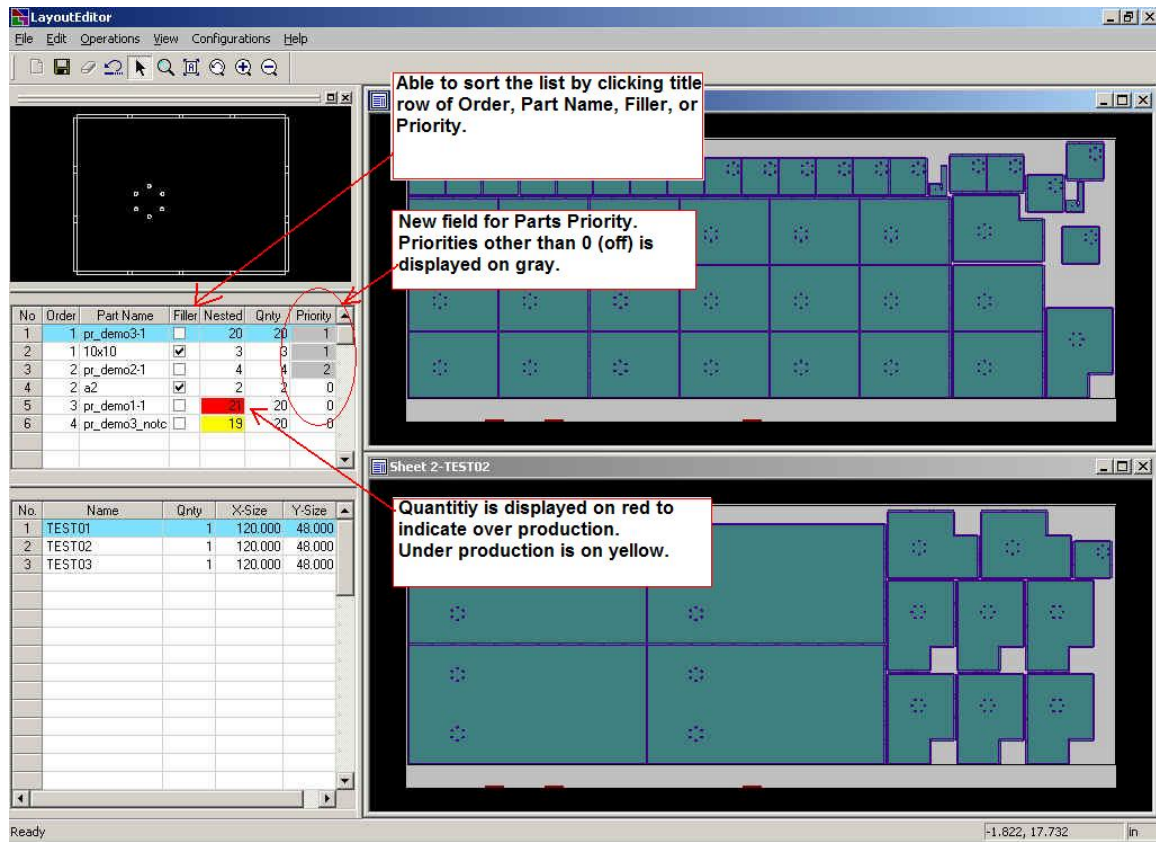


Figure 1.

- Parts Priority field has been added and displayed on gray background.
  - Over production part quantity is displayed on red background.
  - Able to sort the parts list by Order, Part Name, Filler, and Priority field.
  - Dragging mouse while holding right mouse button activates the rubber band zoom.
4. In the Step Draw of G-code Simulation, it allows user to delete multiple lines at once.
  5. Allow user to enter a part quantity of multiple lines at once by highlighting multiple lines and clicking the title row on the Quantity field.
  6. Added "180 Only" option to the selection of rotation default in Nesting Configuration. (Shape Nest Type).
  7. Display the Windows "Print setup" dialog before printing pages from Nesting Data Manager. (Applied to all printing items except when printing "Pattern Plot" of multiple patterns.)
  8. Able to write and print instruction for each production schedule in Nesting Data Manager.

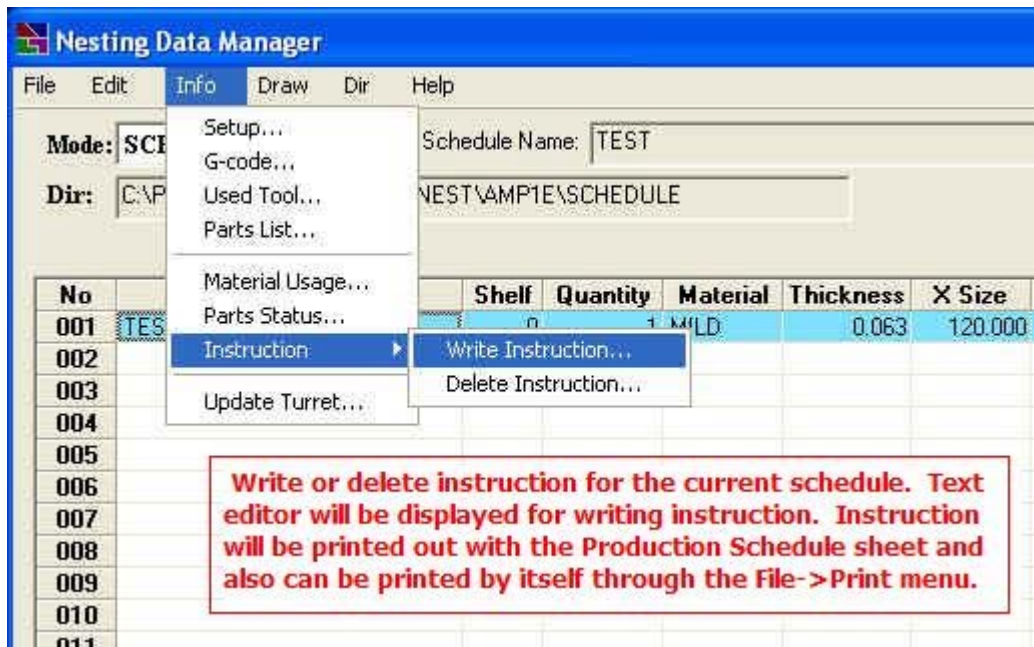


Figure 2.

9. The AMNEST Help has been converted into HTML format.
10. Able to export schedule file for AMNC-IT line controller.  
(It requires AMNC-IT version 2.02.01 to read the exported schedule file.)

11. Added “Process Window Nest Parts First” option in Nesting Configuration.

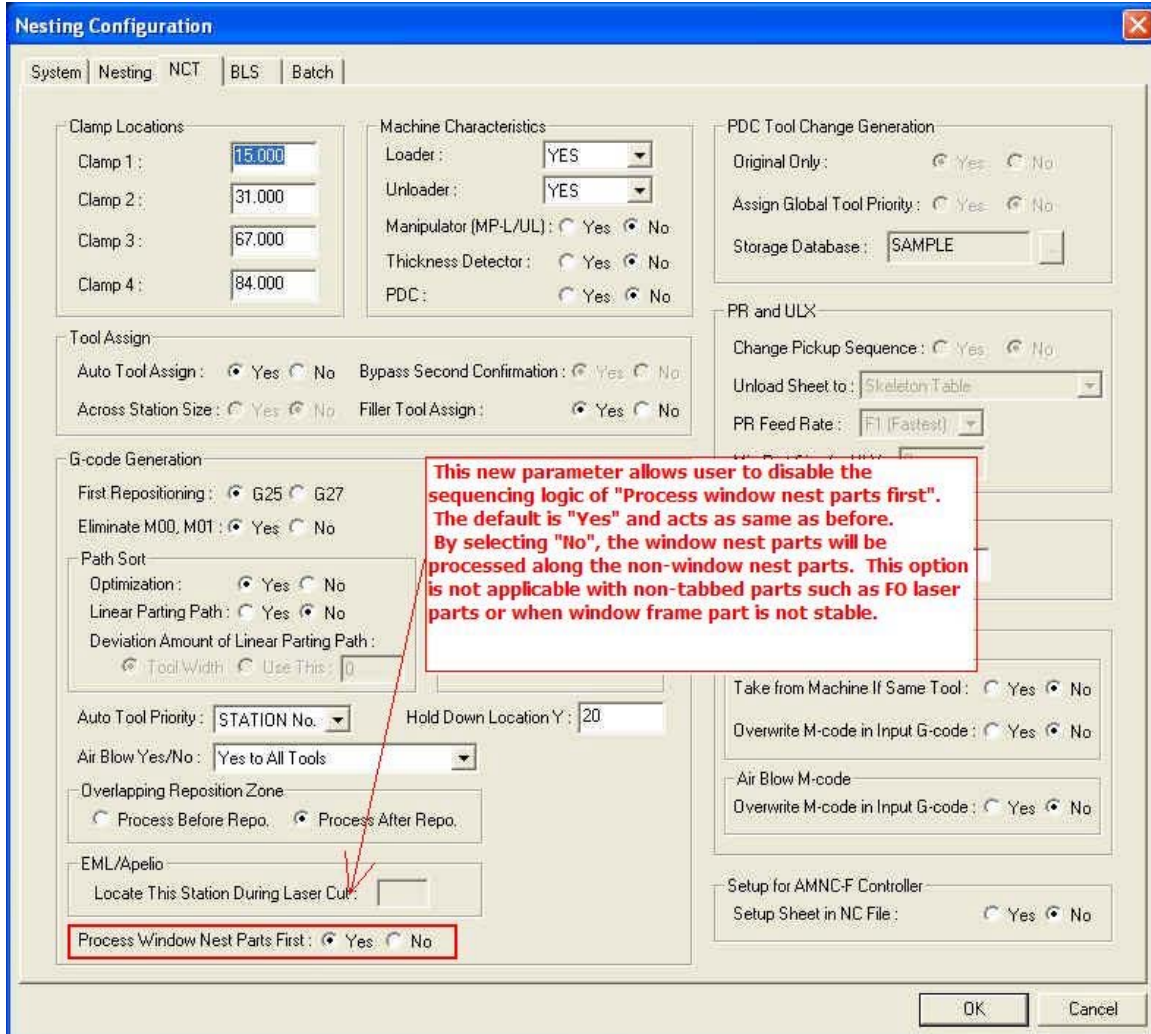


Figure 3.

12. When a part is selected (highlighted) in the parts list, Layout Editor automatically highlights the nested pattern names that contain the part in the sheet.
13. The maximum number of parts entries that can be nested has been increased from 200 to 600. (Max. number for BLS and DX nesting remains the same 200.)

14. Semi-auto mode support (Manual Unloading Option) for ASRCR, ASRM, and LMP.

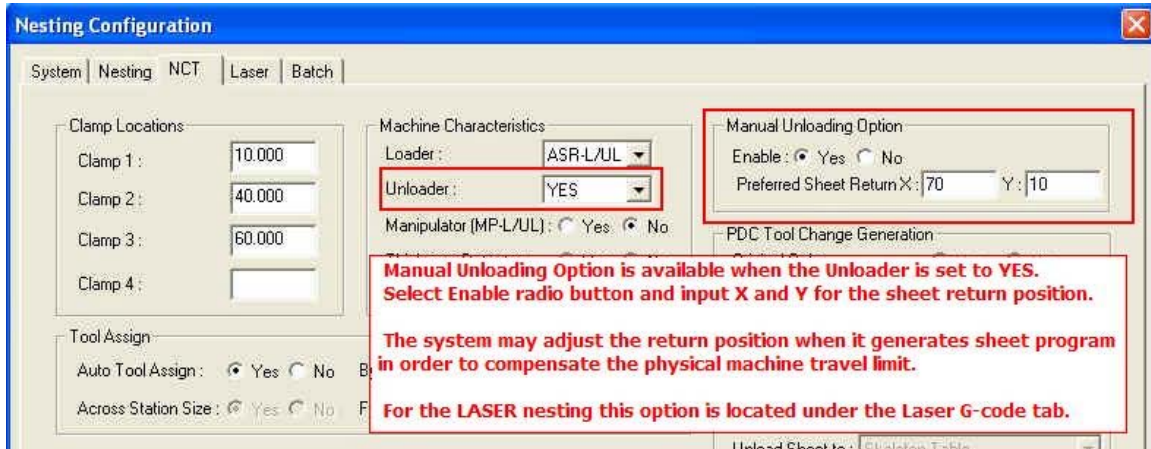


Figure 4.

**Punch Nesting:**

1. Support wheel type ribbing tool.
  - Users must register their wheel type tool M codes through Utility menu → M-code registration.
  - Please refer "Wheel Type Tool Limitation.pdf" for software limitations.
2. DXF to SPO (special tool file) conversion utility is added under Utility menu → Import Special Tool File → DXF.
3. 32 station custom turret for COMA 555 is added.
4. The turret layout form of 58 station with 2 AI has been updated (EM). Now all of the inner A size (1/2") stations are keyed.
5. Utility to alter shear RE tool of existing parts programs to a shear SP tool is added under the Utility menu. Utility -> Alter Shear RE Tool to SP.
6. Place a % sign after the G50 in the nesting output code.
7. EM3510 is added in the machine templates.

**PR/PRUL Nesting:**

1. Allow user to assign different unloading spot for rotated parts.
2. Allow user to edit PRUL parts in G-code simulation.

3. Allow user to define size and location of multiple rectangles to represent the skids on the parts unloading table in Unloading Layout.
4. Able to manually edit PR parts pickup order.

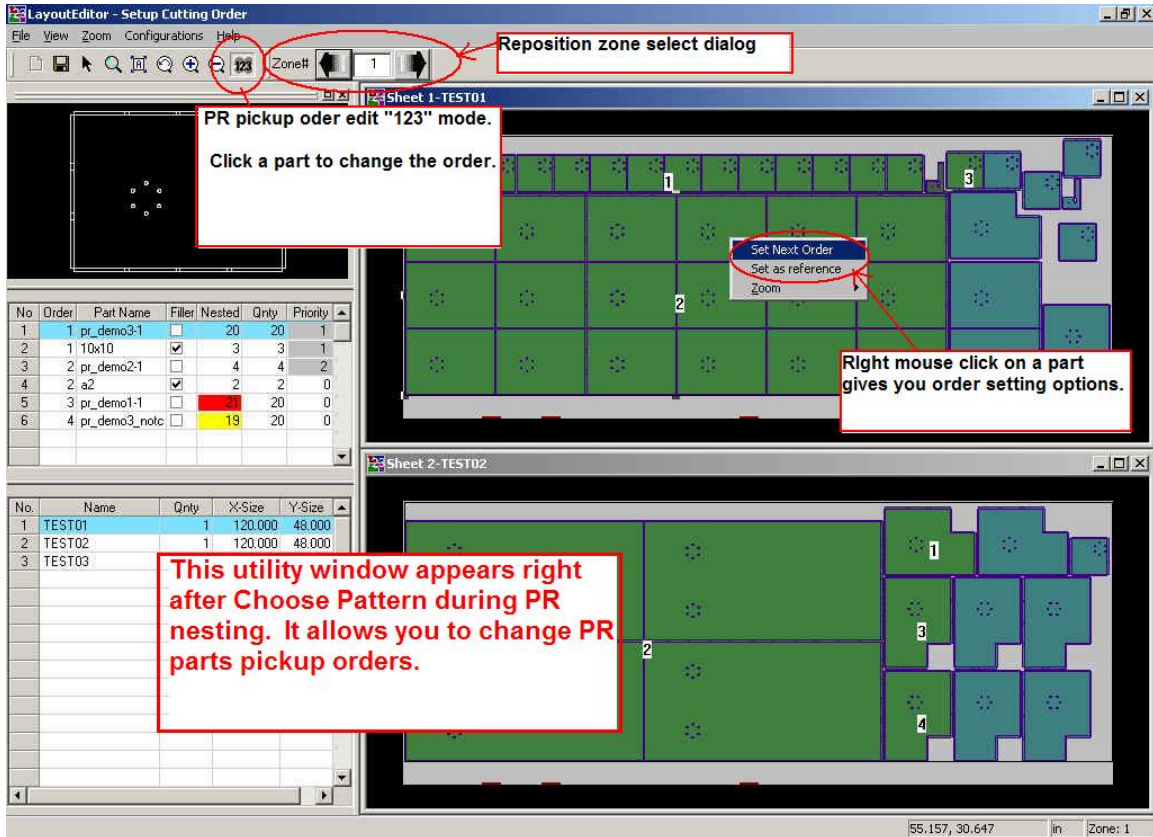


Figure 5.

5. Able to draw and print PR parts unloading layout from Nesting Data Manager.
6. G28 and G79 punch patterns are acceptable for conversion to corner and last hit.
7. Use true geometry of SP tool when analyzing the geometry of the parts in Last Hit Assign and Unloading Layout.

8. Allow user to input X, Y coordinate or use Arrow keys to move parts in the Unloading Layout.

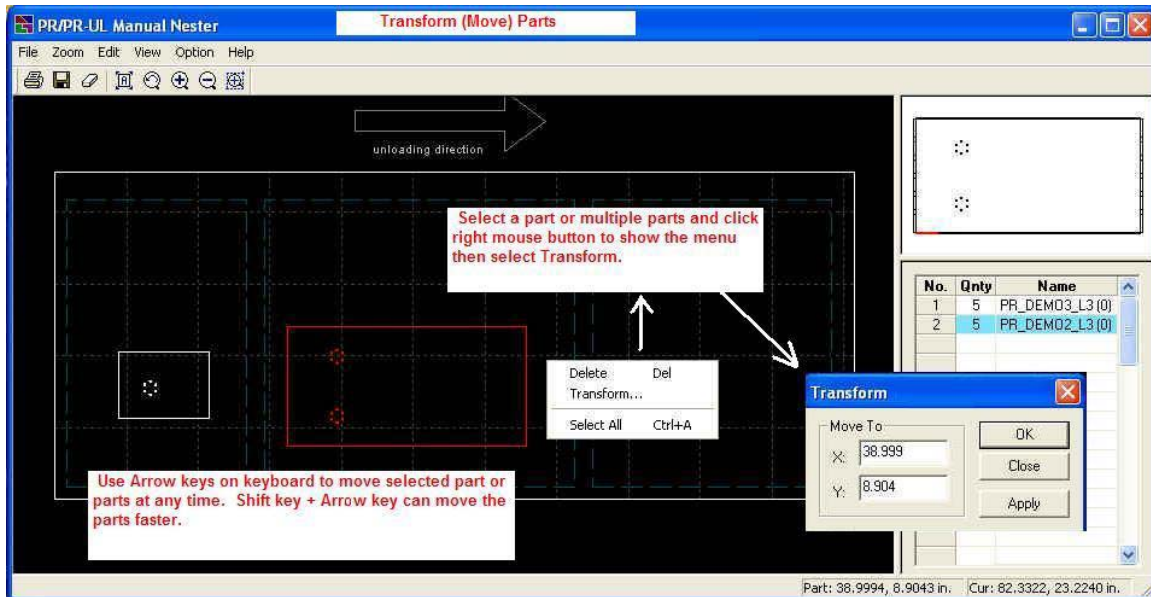


Figure 6.

9. Able to open parts NC file (other than GCD/GMT) directly in the Last Hit Assign.
10. Display and print the reference grid lines and pallet boxes by different line types for easier viewing.
11. Support mouse wheel for zoom and pan in the Last Hit Assign and Unloading Layout.
12. Support Part-in-Part nesting layout in the PR pickup order editing.
13. Able to select PR's feed rate for parts removal - F1, F2, or F3.

#### **BLS and Vipros L-Shear Nesting:**

1. Ability to output M3050 for scrap when longer blank sheet interferes with M03 scrap bin. (This requires system registry setting). (Vipros L-Shear Nesting).
2. When Amnest assigns a part to Low left Corner Parts, Amnest checks NCT lower travel limit so that NCT over travel by inner station tool is avoided.
3. If oversized sheet (in Y axis) is selected for a nest, Amnest doesn't use the sheet area above the travel limit of the shear.
4. Able to generate L-Shear code to Bypass BLS on Vipros L-Shear.

5. Improved the placement of the last shear to minimize the effect of the shear conveyor pulling big parts during the shear.

### **Laser Nesting:**

1. JKA file is supported for importing cutting condition from laser.
2. FOL shuttle clamp dead zone is supported.  
It creates single rectangular dead zone over all four clamps. No individual clamp dead zone is handled.

Users must register the following parameters for FOL shuttle clamp and dead zone.

In the Machine Parameter Manager:

- Clamp on Shuttle: Left Side
- Clamp Width: 1.575" (40 mm)
- Clamp Depth: 0.394" (10 mm)
- Clamp Dead Zone X: 1.575" (40 mm)
- Clamp Dead Zone Y: 1.969" (50 mm)

In the Nesting Configuration - Nesting Page:

- Clamp locations: 1=11.220" (285 mm), 2=23.622" (600 mm),  
3=36.614" (930 mm), 4=49.213" (1250 mm)
- Shuttle Clamp Dead Zone Width: 1.575" (40 mm)

These numbers are recommended. Please check with Amada Laser specialist.

3. User option of cutting order Grid Direction (Horizontal/Vertical) is added under the Laser G-code tab in the Nesting Configuration.

4. Option to create Pre-Cut for cutting condition inspection.

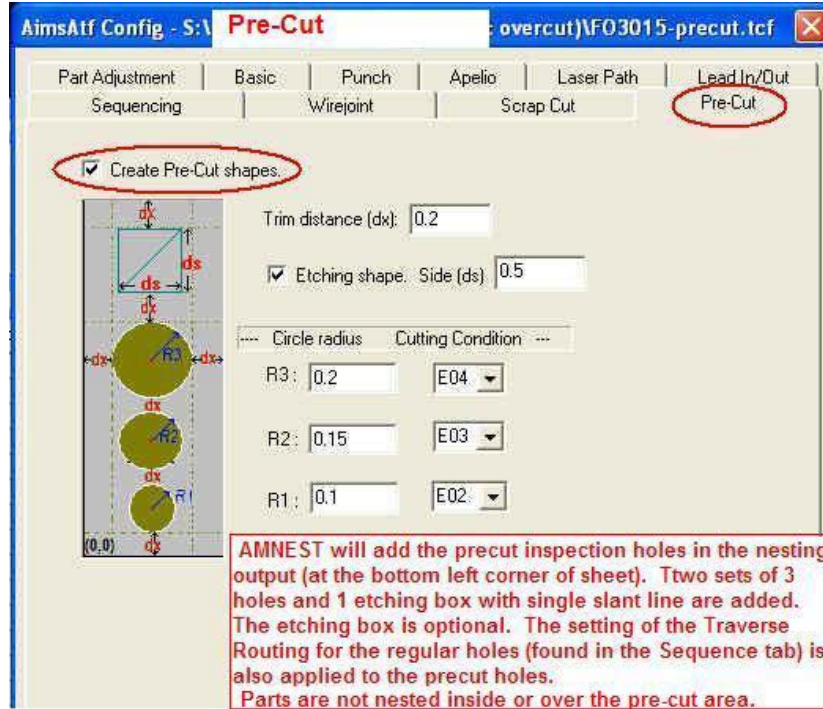


Figure 7.

5. Option to create Over-Cut and/or Lead-Out to clean up surface of pin holes. (See Figure 8.)



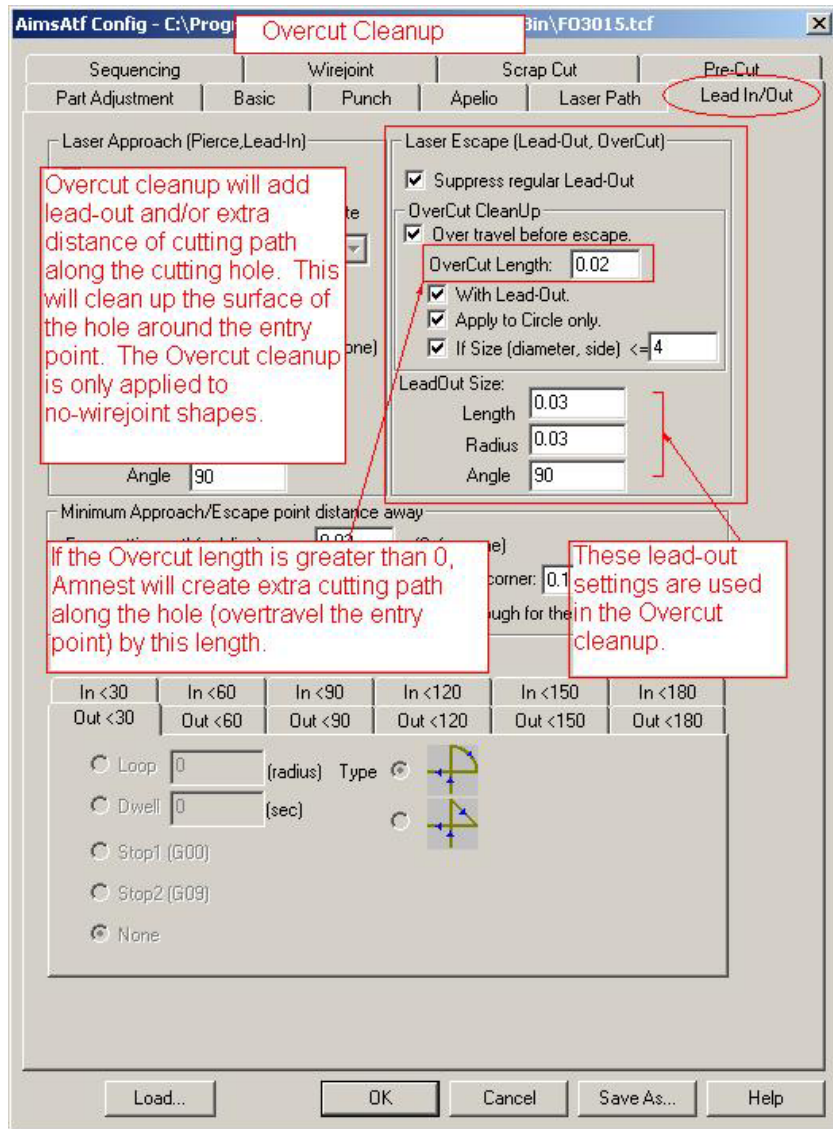


Figure 8.

6. Menu and icon for "Edit Current TCF" is added in the main window.

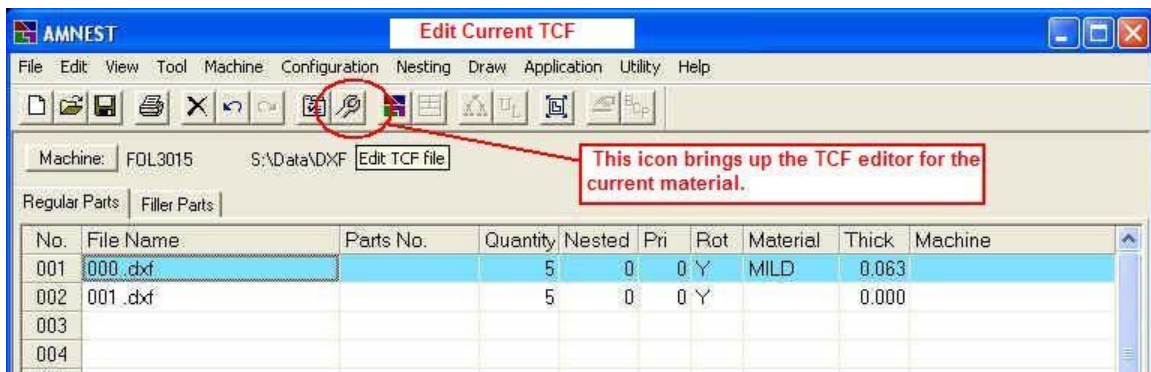


Figure 9.

7. Support mouse wheel for zoom and pan in the part DXF viewer.

**AIMS Nesting:**

1. Able to execute Laser Cutting Condition editor from AIMS.

**BUG FIX:**

**General:**

1. Parts Data Entry produced an application error when user tries to select a material for nesting, while more than 99 different combinations of material type & thickness existed in the Blank Sheet Registration.
2. Parts Priority nest did not work properly.
3. Larger sheet size (in Y direction) with lower material utilization was improperly used in some nesting cases.
4. Incorrect printing scale for nested sheet. (Nesting Data Manager → File → Print → Pattern Plot).  
The bug affected single nesting pattern as well as multiple nesting patterns.
5. Material utilization ratio of common line layout nest becomes incorrect when user edits the layout in Layout Editor.
6. Parts Select window (where select parts to be added to nest) automatically closes out when more than 120 parts are selected at once with shift key.
7. Fnstnest.exe MFC Application error during some cases of nesting with conjunction of parts window nest and Nest One Sheet Size option.
8. Unnecessary reposition of tiny distance was generated with long size parts when Process After Reposition option is selected.
9. Print preview of G-code Simulation did not work on some computers.
10. Quick part preview on the Parts Selection window failed to properly display some DXF geometry.
11. A bug in the nesting logic was fixed. The bug was preventing user from placing an odd number of parts (odd number of pieces) in single row for some layout.
12. G-code list in the Step Draw of G-code Simulation was not scrolled properly.

13. Inappropriate warning message of "order number" at the time of application start has been removed.
14. Parts reference number is not shown when printing METRIC nesting sheet from G-code Simulator.
15. G-code Simulation - The display of step draw dialogue becomes incorrect when the DPI setting of monitor screen was changed.
16. Work Chute code - Missing M81 after G04 when G66 pattern is used to separate the part.
17. Unable to load multiple parts at once from the Parts Select window if the Display button/function was used before pressing Open button.
18. Laser arc of near 360 degree is not displayed in the Parts Select preview. Also the laser direction arrow drawn on such arc in G-code Simulation was incorrect.

**Punch Nesting:**

1. Deviation amount by tool width for Linear Parting Path is incorrect when auto index tool was used at 90 degrees.
2. An error message about "NsGetSpToolName" is displayed during nesting for "30A" type turret.
3. AIMAP.exe application error occurred when more than 99 different angles of auto index tools are present.

**Laser Nesting:**

1. G-code simulation was unable to display nested program with a sub-program output.
2. If .DXF and .LMT for a same part exist in same folder, information such as machine name and material type and thickness for the DXF part were loaded from .LMT.
3. Laser G-code simulation fails to find error message string for error #211.
4. Laser G-code simulation displays "file open error" when .LCD parts file includes setup footer data with string of "OFFSET".
5. AIMS nesting did not allow vertical scrap cut (ending cut) when G-code part is input.

6. Clamp avoidance sequence of the Pulsar type laser (with clamps at bottom of sheet) was generated. (FOL).
7. Fixed a problem with long text string in DXF file.
8. Parts DXF viewer was unable to display DXF entity with Insert attribute or displayed arc in a wrong way.
9. Scrap Cut generation function never returned when Parts Distance in the Nesting Configuration is set to 0.0.
10. Inappropriate warning message of "clamp outside sheet" on FOL nesting has been removed.
11. The Pre-Cut code generator should not be executed when TCF is not registered for the nest.
12. In some cases scrap cut overlaps over a nested part when the part DXF contains unwanted lines while the Support mark and Check edge safe zone are both selected in the TCF.
13. Reordering TCF file list by material thickness in the TCF file registration was incorrect under certain pattern.
14. Post processor gives application error after applying scrap cut to a nest of a DXF part with insert entity. (Rarely happens.)
15. When nesting a part longer than the laser table size, cutting condition E number was lost or output incorrectly by resequencing the laser path order. (Pulsar laser).

**DX Shear Nesting:**

1. The post processor created "Too big scrap" error and exited out when a low left part was nested and the scrap material above the low left corner part is larger than the "Chop Size".

**ULX Nesting:**

1. Unloading BIN numbers are not registered for the parts after assigning them in the ULX Unloading Layout.
2. Turret station tracks were not counted for ULX arm offset in the Last Hit Assignment function.

**EML, Apelio, and Laser Nesting:**

1. Tool change command in the beginning of P & F process causes EML machine to stop. (EML Nesting).
2. Laser clamp avoid path is improper and causes clamp dead zone alarm.

**BLS and Vipros L-Shear Nesting:**

1. An error message "BLS common line is not supported by LayoutEditor" is displayed during BLS common line parts nest.
2. Sheet Y area size adjustment with machine's travel zone was incorrect.
3. G-code simulator displays "Copy File Name Error" message and unable to simulate blank parts nest programs. (Vipros L-shear).
4. Part bin size check fails when it was reassigned to bin #50.
5. Application error at the end of post-processor. Happened on some Windows XP computer.

**PDC Punch Nesting:**

1. G-code Simulation couldn't properly draw tools of PDC dynamic tool change.
2. BLS G-code Simulation was disabled when nested sheet has PDC dynamic tool change.

**PR/PRUL Nesting:**

1. 90 degree part rotation was prohibited in the Layout Editor when the last hit was assigned to only 0 degree and 90 degree rotation shapes.
2. Unloading layout printout was incorrect when a part is rotated.
3. Placement of the horizontal grid lines on the unloading layout (display and printout) in the Nesting Data Manager was incorrect.
4. Last Hit Assign inserted the last hit code in wrong location when input part program contains a G10 statement before G50.
5. M13 to cancel press M code is not output before the last hit.
6. Unloading Layout is unable to handle METRIC parts and machine.

7. Layout Editor won't let user rotate a part when PR last hit is assigned to either only "0 and 90 degree" or "0, 90 and 180 degree" rotation angles.
8. Duplicate set of G06 and M13 command is output to the single part program when PR last hit is assigned to a rotated angle.

**Punch Wheel Rib Tool Nesting:**

1. Modal G01 call in part program caused incorrect nesting output code.

**AIMS Nesting:**

1. Nesting module generates an error at the end of process when running on a fast CPU computer.

**NOTE**

Ensure that Amnest software is closed and exited before installing the patch file. Also, it is always a good practice to backup your original files before installing/updating with new files. This update is designed to be installed to default installation path structure of Target Drive Letter\Program Files\AMNEST.

**INSTALLATION INSTRUCTIONS (WIN 2000, XP):**

1) Run Amnest\_V300\_PatchA\_F.exe and enter "C:\\" in Unzip to folder. This will copy "Gcode.err" to C:\Program Files\Amnest\Ample\Bin\ folder; "Gcode.err" to C:\Program Files\Amnest\Laser\Bin\ folder; "AIMap.exe", "AIMS2Dmodel.dll", "AIMS2Dutil.dll", "AIMSAtf.exe", "AIMSATFCam.dll", "AIMSATFConfig.exe", "AIMSClean.dll", "AimsLPM.exe", "AIMSOptool.dll", "AIMSTimeStudyDispatcher.exe", "AIMSUtil.dll", "AISortPriority.dll", "AlterShearRectDll.dll", "AmadaSPT.exe", "AmpCamdll.dll", "AmpDXFToSPO.exe", "APRPartModel.dll", "Atosrc.exe", "Atosrc1e.exe", "Aviewer.exe", "boolAlgebra.dll", "CallAutoToolingDXFPart.exe", "ChangeDir.dll", "ChooseDrive.dll", "ChoosePtn.dll", "CLX\_Param.dll", "EdgeDetection.dll", "Fa2src1e.exe", "Fnarmain.exe", "Fnasrgcd.exe", "Fnlsrgcd.exe", "Fnmkcsrc.exe", "Fnmkgmt.exe", "FnMkpli.exe", "Fnpdraw.exe", "Fnpost.exe", "fnprepro.exe", "Fnpsort.exe", "Fnremsrc.exe", "Fnshare.exe", "Fnstnest.exe", "Fntaprep.exe", "FpreproA.exe", "Fsasrgcd.exe", "Fsatime.exe", "Fsatosrc.exe", "Fsg2sing.exe", "Fsg2singAIMS.exe", "Fslsrgcd.exe", "Fsltosrc.exe", "Fsprepre.exe", "Gcdpartlib.dll", "Gcd\_T\_Update.dll", "GcdPartLib.dll", "Gcode2GeoLib.dll", "GcodePreview.dll", "GcodeSim.exe", "Gen224.dll", "InstallerApp.exe", "LastHit.exe", "LayoutEditor.exe", "LayoutEditorDataConv.dll", "LPM.dll", "LPM\_FsJKF.dll", "Lsrbreak.exe", "Ltosrc.exe", "NCConversion.dll", "Nesting.exe", "NestingAIMS.exe", "Ngtoprc.exe", "Nsg2sing.exe", "Nsg2src.exe", "Nsg2srcDLL.dll", "Nsprepro.exe", "NstAtime.exe", "NstBlank.exe", "NstBlis.exe", "NstBLSData.dll", "Nstblsdx.exe",

“NstBpost.exe”, “NstBtime.exe”, “NstConf.dll”, “NstDisplib.dll”, “NstLtime.exe”, “NstMach.exe”, “NstMater.exe”, “NstMatSelDll.dll”, “NstMKLin.exe”, “Nstmkpli.exe”, “NstMksch.exe”, “NstNest.exe”, “NstPath.exe”, “Nstpdraw.exe”, “Nstplot.exe”, “NstRegiLib.dll”, “NstSched.exe”, “Nstsrgecd.exe”, “NstStore.exe”, “Nsttlrte.exe”, “Nstts.exe”, “PasswrkAsk.dll”, “PdeToolchange.dll”, “Plsbreak.exe”, “Pprepro.exe”, “PpreproA.exe”, “PR\_param.dll”, “Prepro.exe”, “PrintText.exe”, “PRULPartsList.dll”, “Ptosrc.exe”, “Punbreak.exe”, “RotSRC.exe”, “SimApelio.dll”, “SimFSApelio.dll”, “SimFsLaser.dll”, “SimLaser.dll”, “SimPlasma.dll”, “SimPunch.dll”, “Spoconv.dll”, “Stdurret.dll”, “Storage\_Update.dll”, “SystemUtil.dll”, “TcfList.dll”, “TextEditDlg.dll”, “TimeFactorAnalyze.dll”, “ToolRegister.dll”, “Turexpand.dll”, “Turret\_setup.exe”, “UL\_Nester.exe”, “UL\_RectRegister.dll”, “UL\_Viewer.exe”, “UpdateTurret.dll”, “Vipros\_list.dat”, and “Xdir.dll” to C:\Program Files\Amnest\Ample\FMS\Bin\ folder; “32Y.tur”, “58a.tur”, and “Mach.dat” to C:\Program Files\Amnest\Ample\Param\ folder; “Mecha.dbs” and “Turret.dbs” to C:\Program Files\Amnest\Ample\Times\ folder; and “WheelToolMcodeNotCancel.dat” to C:\Program Files\Amnest\Ample\FMS\Data\ folder. Please substitute your hard drive letter for "C" as required.

2) When the Winzip Self-Extractor opens, ensure that "Overwrite files without prompting" is checked.

3) Select the Unzip button to unzip the files.

4) Double-click Amnest icon on the desktop to run Amnest.

#### CONTACT INFORMATION:

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For more information about Amada and its line of products, visit the website at [www.amada.com](http://www.amada.com) .

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**AMNEST V3.0 PATCH I CHANGES (ONLY):**

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