

CADDS[®] 5 Revision 8.1.1 Tips and Considerations

CADDS 5 Revision 8.1.1

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Preface

CADD5® 5 Revision 8.1.1 Tips and Considerations contains considerations and known issues in CADD5 5 Revision 8.1.1 and the issues resolved since CADD5 5 Revision 8.1.

Your Comments

We welcome your suggestions and comments about this or any other Computervision documentation. You can send electronic mail to the following address: `doc_input@ptc.com`.

Online User Documentation

We supply online documentation in HTML and provides PostScript files of each book in the online collection. You can print the PostScript files for hard copy books. The documentation media contains the PostScript files.

Related Documents

The following documents may be helpful as you use *CADD5 5 Revision 8.1.1 Tips and Considerations*:

- *CADD5 5 Revision 8.1.1 Release Notes*
- *What's New in CADD5 5 Revision 8.0*
- *What's New in CADD5 5 Revision 8.1*

Online User Documentation

Online documentation is provided in HTML. PostScript files of each book in the online collection are also provided. You can print the PostScript files for hardcopy books. The documentation media contains the PostScript files.

Book Conventions

The following table illustrates and explains conventions used in writing about CADD5 applications.

[Add or delete conventions for your book as appropriate.]

Use of the Convention	Examples	Explanation
Menu selections and options	List Section option, Specify Layer field, File menu	Indicates a selection you must make from a menu or property sheet or a text field that you must fill in.
User-selected graphic location	X, d ₁ or P1	Marks a location or entity selection in graphic examples.
User input in CADD5 text fields and on any command line	<code>cvaec.hd.data.param</code> <code>tar -xvf /dev/rst0</code>	Enter the text in a CADD5 text field or on any command line.
System output	<code>Binary transfer complete.</code>	Indicates system responses in the CADD5 text window or on any command line.
Variable in user input	<code>tar -cvf /dev/rst0 filename</code>	Replace the variable with an appropriate substitute; for example, replace filename with an actual file name.
Variable in text	tagname	Indicates a variable that requires an appropriate substitute when used in a real operation; for example, replace tagname with an actual tag name.
CADD5 commands and modifiers	INSERT LINE TANTO	Shows CADD5 commands and modifiers as they appear in the command line interface.
Text string	"SRFGROUPA" or 'SRFGROUPA'	Shows text strings. You must enclose text string with single or double quotation marks.
Integer	n	Supply an integer for the <i>n</i> .
Real number	x	Supply a real number for the <i>x</i> .
#	# mkdir /cdrom	Indicates the root (superuser) prompt on command lines.
%	% rlogin remote_system_name -l root	Indicates the C shell prompt on command lines.
\$	\$ rlogin remote_system_name -l root	Indicates the Bourne shell prompt on command lines.

What's New in CADD5 Revision 8.1.1

This document provides an overview of what is new in CADD5 Revision 8.1.1. Several aspects of CADD5 have been enhanced. These enhancements and considerations are grouped and described by product. For detailed information, please refer to the product-specific online documentation.

CVNC Enhancements

Milling

PLUNGE and RETRACT Modifier

VECT ANGLE exp exp

Specifies the angles for the vector plunge or retract. They are relative to the tangent and normal to the tool path.

5-Axis Machining

SWARFCUT5

This command machines surfaces with the side of the cutter. Using this technique, you can

- Reduce the number of setups needed to machine a component
- Remove more material on a single pass than with conventional 5-axis bottom cutting

You can now also

- Select the start and end points

Parametric Harness Layout Enhancements

The following enhancements have been made to Harness Layout for CADD5 Revision 8.1.1:

- **Shading a Channel -**

A new command, **GENERATE CHANSHAPE**, has been added. This command allows you to shade all the channels in the model using the cross-section related attributes defined on the channel.

- **Routing a Channel Branch-**

Three new options have been added to the **Route Channel** menu. These options allow you to branch a channel in one of the following ways:

- **Location** - Creates a branch point using a parameterized reference point selected in free space. This is a new functionality.
- **Labeled** - Displays a property sheet for specifying branch point distance from the channel end or selected component. The **Channel Branch** property sheet appears. This is a new functionality.
- **Fixed** - Enables the user to specify a branch point at a fixed location on a channel. This functionality existed in the previous revision, only the menu has been modified.

- **Inserting a Connection Point -**

The **Insert ConnectPoint** icon on the **Rsys Toolbox** displays a menu with the **Center** option. This option is, however, not available for this revision.

Shading a Channel



Choose the Shade Harness option from the Harness task set to shade all the channels in the model using cross-section related attributes defined on the channels.

This option allows you to select a surface or solid mode for representing channels in the model. It sweep the profiles on all the channels.

OR

Use the GENERATE CHANSHAPE command in the CADD5 text window to sweep the profile on all the channels

Using this Option

1. Choose Shade Harness from the task set menu. The Shade Channels menu appears.

Figure 1-1 Shade Channels Menu



Procedure

1. Select one of the following options:

Abort:

Aborts the command. Any existing surface or solids created around the harness channels are deleted and the harness channels appear in their center-line representation.

Solid:

Selects the solid mode for representing a channel. A solid is created around all the channels in the model using the individual channel size attributes defined on the channels. Any existing solid or surface representations of the channels are deleted before the new solids are created.

Surface:

Selects the surface mode for representing a channel. A surface is created around all the channels in the model using the channel size attributes defined on the channels. Any existing surface or solid representations of the channels are deleted before the new surfaces are created.

Done:

Executes the command.

A surface or a solid representation of the channel, using the shape attributes defined on the channels, is created for all harness channels in the model.

Use the existing CADD5 shading commands to shade and view the channels in the shaded mode.

Command Line Syntax

The command line syntax for the GENERATE CHANSHAPE command is as follows:

```
GENERATE CHANSHAPE solid/surface GO
```

For example, the command to create a solid representation of the harness model is:

```
GENERATE CHANSHAPE solid GO
```

Example

The following figures show you an example of a solid representation of Harness Channels before and after shading.

Figure 1-2 Solid Representation of Harness Channels and Components

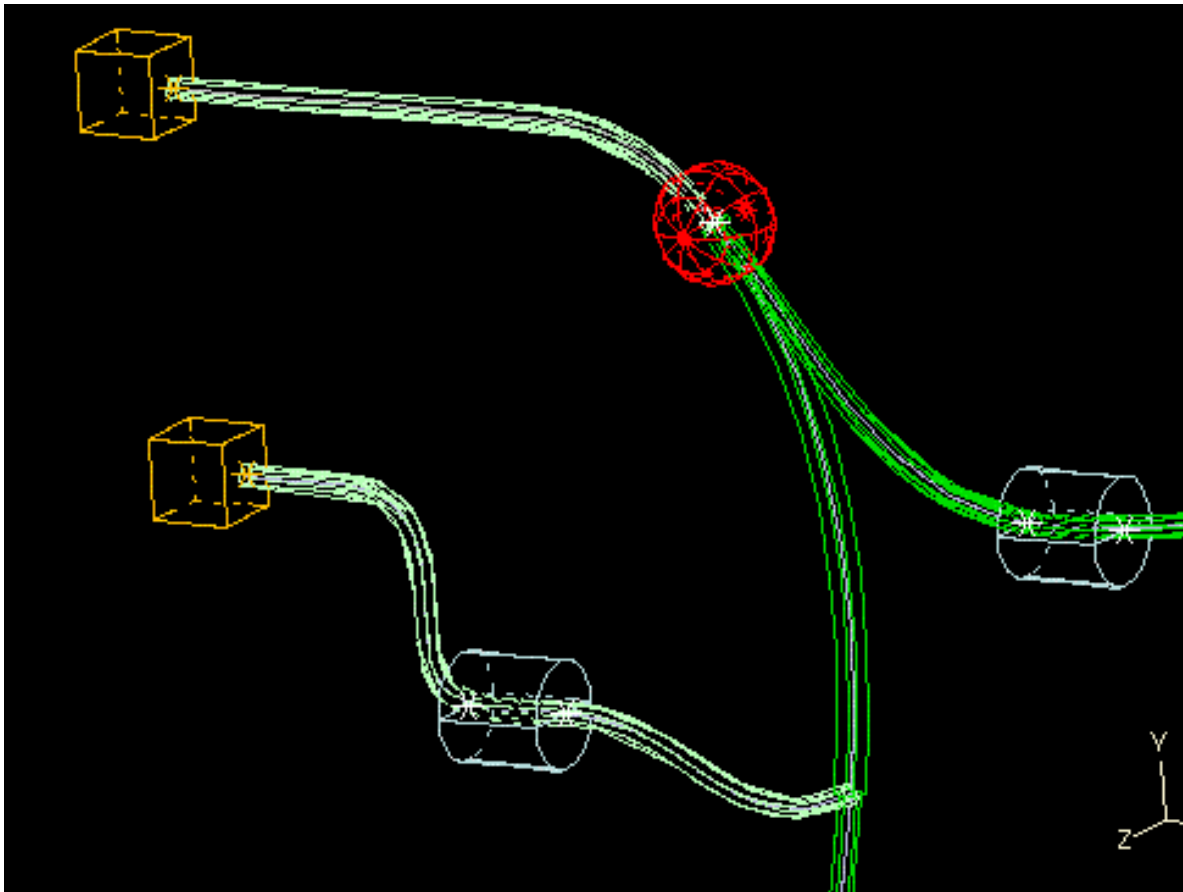
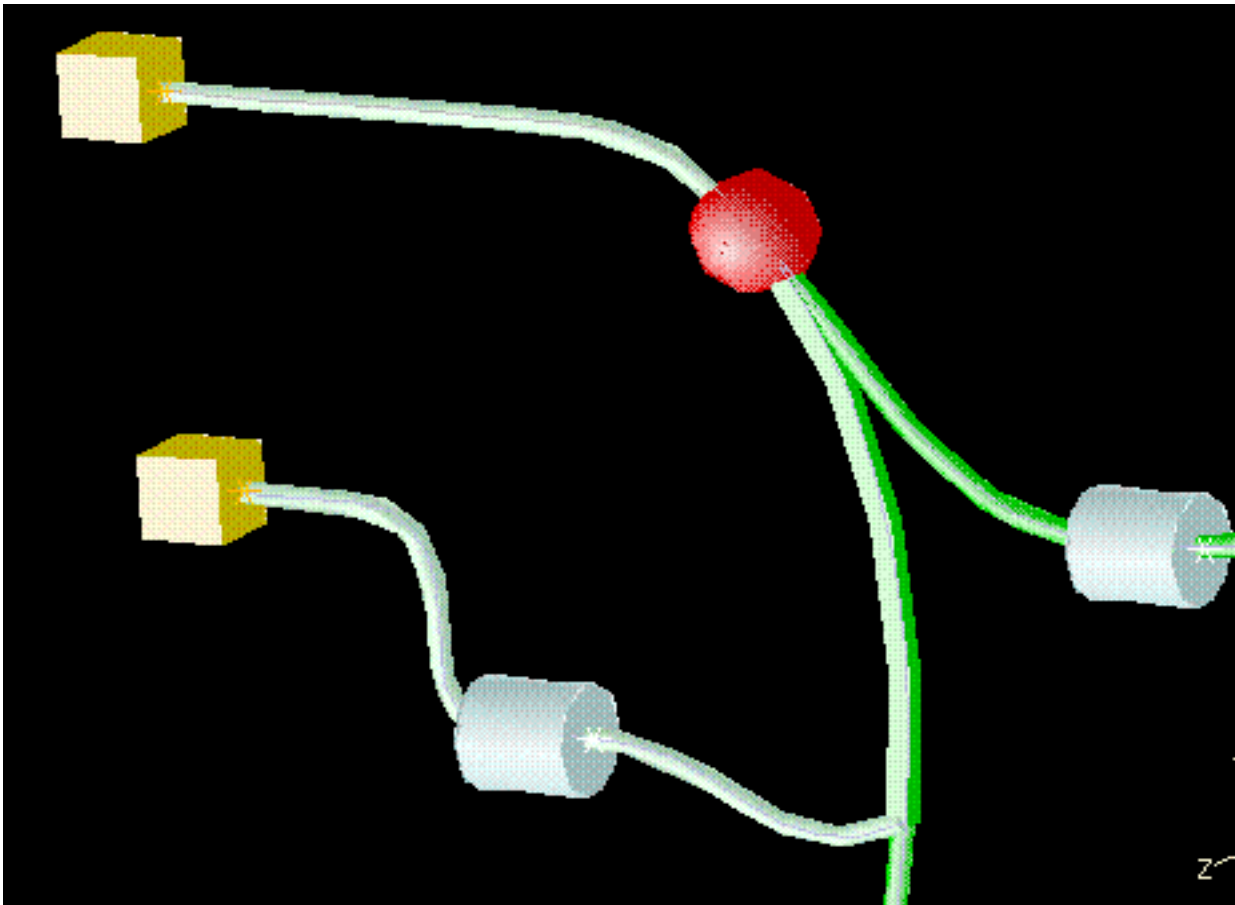


Figure 1-3 A Shaded Solid Representation of the Harness Channels



Limitations

- If the parameters of the channels are changed and re-generated, the previously created solids or surfaces do not follow the re-generated channels.

To view the regenerated channels with the solids or surfaces, choose the Shade Harness option from the Harness task set again.

OR

Remove the previous GENERATE CHANSHAPE command using the REMOVE OPERATION command and then re-issue the GENERATE CHANSHAPE command.

Routing a Channel Branch

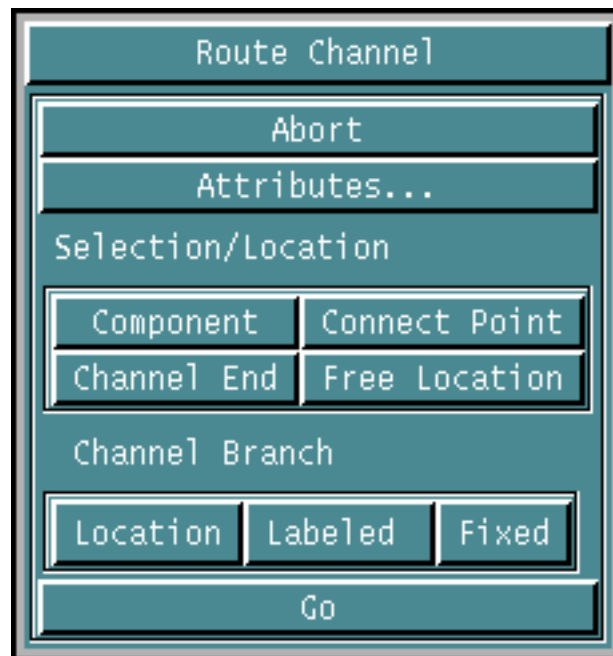


Choose the Route Channel option from the Harness Task set to route channels based on specified locations and/or harness components. Choosing this option displays the modified Route Channel Menu that is used to route a channel branch.

Using this Option

1. Choose Harness from the CADD5 task-set Access menu.
2. Choose the Route Channel option from the Harness Task-set. The Route Channel menu appears as shown below:

Figure 1-4 Route Channel menu



Procedure

The channel branch can be routed using following three methods:

Location Based Branching

Creates a branch point using a parameterized reference point selected in free space.

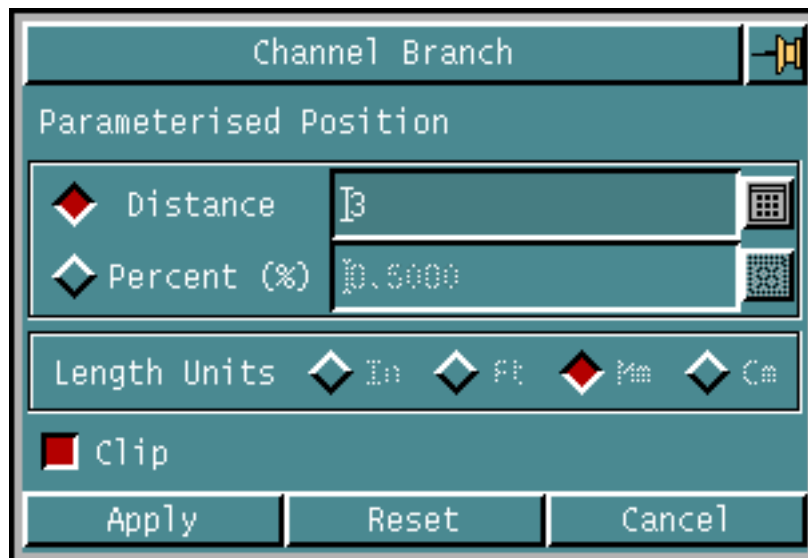
Select a reference point near the desired location of the branch point. You can use existing Parametric CADD5 modifiers like end, mid, and near to specify the reference point location. Then, select an existing channel that needs to be branched.

A branch is created at the intersection point of the selected channel and a plane, which passes through the reference point and perpendicular to the channel. If the intersection point does not lie along the length of the channel, the end point nearest to the reference point is used for creating the branch.

Labeled Distance Branching

Displays a property sheet for specifying branch distance from the channel end or selected component. The Channel Branch property sheet appears.

Figure 1-5 Channel Branch Property Sheet



You can specify the following parameters:

- **Distance:** Parameterizes the branch position in terms of a specified distance from a channel end or harness component. This distance must be positive and less than the length of the selected channel.

If the Distance option is selected, select an existing channel that needs to be branched. The command determines the channel end nearest to the selected point and branches the channel at the specified distance.

If both the Clip and the Distance options are selected, select an existing harness component (e.g. connector, clip, junction) and select the channel on which the selected component is located.

The branch point is created on the selected channel at the specified distance from the selected component. The origin of the component is used as the reference point

The distance value displayed is the straight line distance between the branch point and the reference point. If you use the **CHANGE PARAMETER** command to change the branch distance parameter, the calculator displays the actual branch distance value along the channel.

- **Percent:** Parameterizes the branch point position as a percentage of the total length of the selected channel. This value must be positive and between 0 and 1.

Select an existing channel on which the branch point is to be created. The command determines the channel end nearest to the selected point. The branch is created at a distance from the end of the channel which corresponds to the specified percent of the overall channel length.

- **Length Units:** Displays the length units for the model set by the **SELECT HDATTRIBUTES** command. This setting is for display only.
 - In - Current length units are set to inches
 - Ft - Current length units are set to feet
 - Mm - Current length units are set to millimeters
 - Cm - Current length units are set to centimeters
- **Clip:** Specifies the branch position at a fixed distance from any harness component such as a clip, connector or junction. This option can be used with the Distance option only and the Percent option is deactivated.

Fixed Point Branching

Enables the user to route a branch at a fixed location on a channel.

Command Line Syntax

The command line syntax for routing a branch using the **ROUTE CHANNEL** command is as follows:

```
ROUTE CHANNEL BRANCH [POINTREF <select a reference point> <select a channel>] / [DISTANCE <value> [CLIP <select a harness component>] <select a channel>] / [TVAL <value between 0 and 1> <select a channel>] GO
```

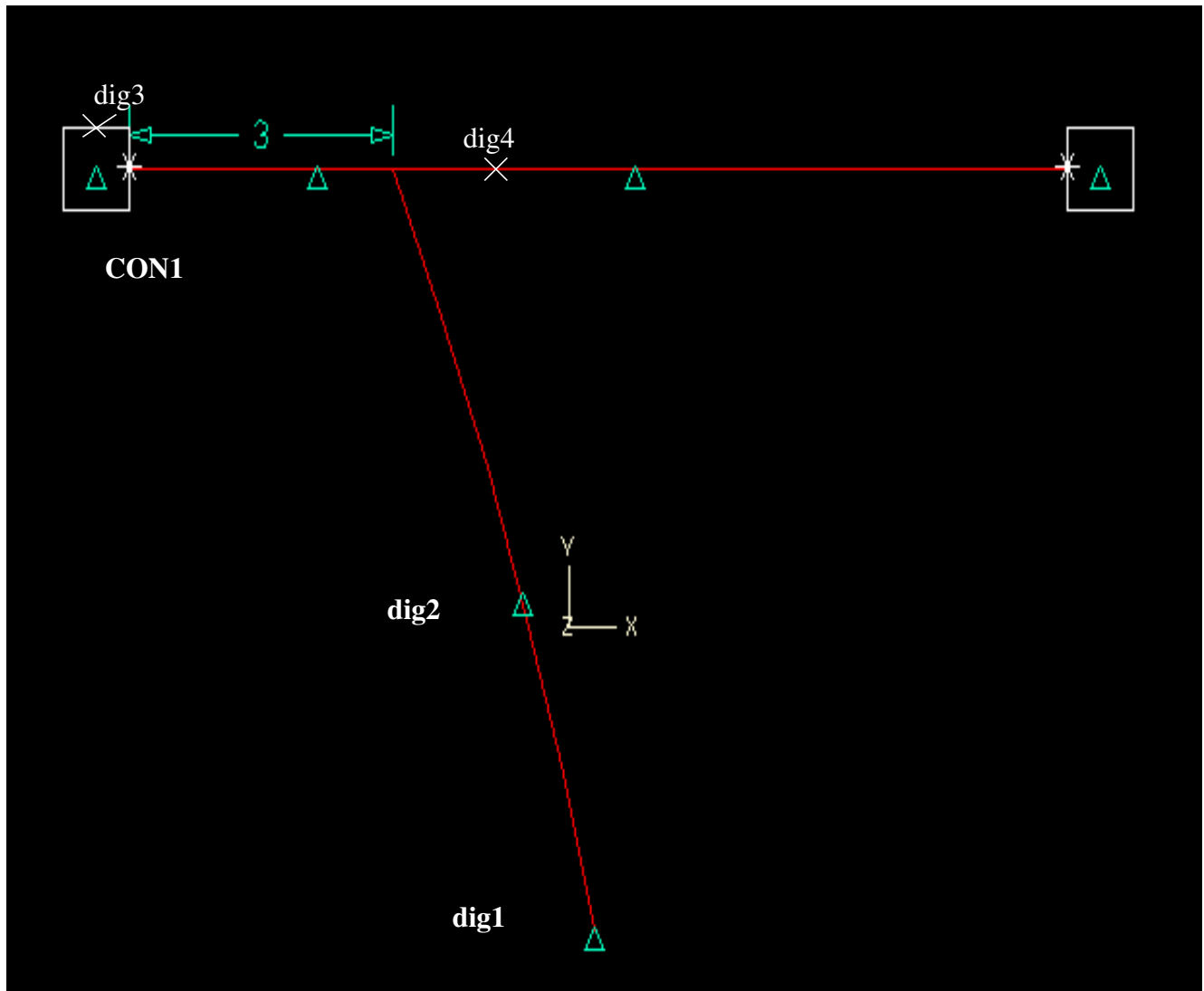

Example

The command to route a channel branch at a distance of 3 units from connector CON1 is as follows:

```
ROUTE CHANNEL FREE <dig1> <dig2> BRANCH DISTANCE 3 CLIP <select CON1  
dig3> <select channel connected to CON1 dig4> GO
```

This example is illustrated in the following figure.

Figure 1-6 Channel Branch At a Fixed Distance From Connector CON1



Resolved Issues

The following issues are resolved in CADD5 5 Revision 8.1.1.

AEC

Advanced Structural Modeling (ASM)

INSERT STENDCUT

You can now use INSERT STENDCUT to create a curve at an intersection using 3 or 4 points.

Electrical/Mechanical

HARNESSE_LAYOUT

Shading a Channel

You can now shade a channel within the HARNESSE_LAYOUT Menu.

CHANGE CHANNEL

CHANGE CHANNEL works correctly.

Parametric

CVACT

You can now run CVACT 8.1.1 on SGI Irix 6.2.

CVD MODEL

The orientation of connection points defined in the CV design model is now correct in Mpsds.

ROUTE CHANNEL

When you insert a channel using “channel branch,” you can now change the insertpoint in the parametric environment.

SMD VERIFY

The joggle created in SMD now reads the joggle table.

INSERT SUBPOCKET

When you use Insert Subpocket, the projection direction is now correct.

SMD FOLD

The SMD fold now works correctly.

VERIFY ENTITY

The VERIFY ENTITY command now identifies the entity color.

APPLY SKETCHER

Lines and hotspots are now highlighted correctly..

EDIT OPERATION

Insert Ppart edit operation works correctly on CADD5 5, Revision 8.1.1.

REPLAY HISTORY

REPLAY HISTORY now works correctly.

SKETCH

You can now modify a dimension attached to a reference point.

REFRESH ASSEMBLY CAMU

You can now refresh a CAMU assembly with constraints.

FILE PART

You can now file a part after you change a parameter.

DROP ENTITY SURFACE

Drop Entity Surface now works correctly.

SMD SELECT

SMD SELECT now works correctly.

CHANGE LAYER CAMU

CHANGE LAYER CAMU works correctly.

APPLY SKETCHER

The APPLY SKETCHER Import option now works correctly.

EXTRACT FACES

EXTRACT FACE now works correctly on CADD5 5, Revision 8.1.1.

SKETCH

Entity section and highlighting now works properly with the Sketcher.

SELECT HDATTRIBUTES

You can now switch display modes with SELECT HDATTRIBUTES.

Explicit

CADDS INTERFACE

cvdm3d has been improved on CADDS 5, Revision 8.1.1.

CAMU FUNCTIONS

Edit Reorder Component now updates the Product Structure Window.

HIDE OBJECT

HIDE OBJECT now gives a correct result.

CHANGE SGRAPHICS

When you use the command CHANGE SGRA SOL MESH 4X4:VW, CADDS can now find a solid for a miptr number.

ADD ASSEMBLY COPY

COPY COMPONENT now works correctly.

LOCK COMPONENT CAMU

LOCK COMPONENT AIName <name> ROOnode Yes no longer causes ODBSERVER processes to crash.

DEFINE SECTION

You can now use Define Section with a whole assembly.

MATCH NSURFACE

The MATCH NSURFACE command (without the Optimize option) no longer decreases the number of segments and increases the maximum deviation.

INTERSECT ENTITY

INTERSECT ENTITY no longer fails between surfaces and nsplines.

DYNAMIC VIEW

Dynamic manipulation on get-data option no longer hangs cadds.

HIDE OBJECT

CAMU graphics no longer disappear when performing a zoom or repaint.

MENU

All commands now have Command Help documentation.

ZOOM DRAWING CAMU

You can now use ZOOM DRAW in CAMU.

MODIFY DIMENSION

With the command MODIFY DIMENSION you can now change the DDIM on NONSOLID dimensions.

HIDE OBJECT

The HIDE OBJECT command now gives a correct result.

CHECK DBASE

Parts filed with DB_CHECKING on (setenv DB_CHECKING "path to ckcad") can now be viewed into other parts.

ADD COMPONENT CAMU

ADD COMPONENT now works correctly.

CHECK DBASE

You can now call ckcad from CHECK DBA in a CAMU model with more than one view.

Numeric Control

PROGRAM NCMILL

PROFILE

The PROFILE command can now follow a part boundary made up of nsplines.

CUT ENTITY

CUT ENTITY no longer removes material from a part boundary.

NCGROUP

You can now use the face option with the NCGROUP command.

CVNC output is now correct.

PROFILE

Highlighted faces will now de-highlight.

NC5AXIS

COLISION

COLISION now results in a correct toolpath.

Relative Plunge and Retract

Relative plunge and retract are now available.

NCBuilder

All 3- and 5-Axis CVNC commands are now available in NCBUILDER.

SURFINT5, SWAFRTCUT, PROFILE5

Slowdown feedrates are now available for SURFINT5, SWAFRTCUT, and PROFILE5.

SWARFCUT

Intermediate positioning is now available for SWARFCUT to support machining of doubly curved surfaces.

CADDS[®] 5 Revision 8.1.1 Considerations and Open Issues

CADDS 5 Revision 8.1.1 considerations and issues are documented in this chapter.

System Considerations

Only one session of CADDS is supported on a workstation at a time.

Default Shell Environment

CADDS 5 runs under and is supported in the C-Shell environment only. If you start CADDS 5 from an environment other than C-Shell, the results are unpredictable.

.caddsrc

You should not change the `UI_LOOK_AND_FEEL` setting in the `.caddsrc` file.

Updated License File

CADDS 5 Revision 8.1.1 requires an updated license file, if you do not already have the CADDS 5 Revision 8.0 updated license file.

Please see *Using the License Manager*.

Stack Size

In CADDS 5 Revision 8.1.1 issue the command `UNLIMIT STACKSIZE`. This revision is sensitive to the stack size.

HP-UX NFS Mounts with Solaris

The HP read and writer buffer size for NFS is limited to 1024 bytes and Solaris uses a size of 8192 bytes. For NFS mounts (or automounted) with Solaris, use the following options:

```
mount -F nfs -o rw,rsize=1024,wsize=1024 solaris:/dir1 /dir1
```

3M Film Output

3M file output is not supported.

MEDUSA CADDS INTERFACE (MCI) 3.0.1

When you use MCI 3.0.1, parts are converted to the CADDS 5 Revisi format.

cvdmed

cvdmed is not supported on CADDS 5 Revision 8.1.1.

EPD.Connect

If you're using EPD.Connect, make sure that the `AW_RESOURCE` and `CMOM_DISPLAY` variables are set correctly in the `.caddsrc` file.

EPD User Creation

If you plan to use the SLIC option Create an EPD User Account, be sure a path to the command `whoami` is defined before starting the SLIC session

CMOM 2.0 and AW 2.7 Libraries

CADDS 5 Revision 8.1.1 uses CMOM 2.0 and AW 2.7 libraries. These are the binaries built and used by Optegra 2.x and EPD.Connect.

With this configuration there is a compatibility issue with the sites running CMOM 1.0. (Navigator 1.1.4 uses CMOM 1.0.) If you are running CMOM 1.0 on the same site as CADDS 5 Revision 8.0 you cannot use history tree functionality.

Workaround: The workaround for CADDS is to kill the `optmsgsrv` process from a UNIX window and then restart CADDS. This, however, will probably affect the other product.

Explicit

ACTIVATE RASTER - HP Only

On HP, raster fails with mts memory errors in the Startup window.

ACTIVATE RASTER - SGI Only

On SGI using OCTANE and IRIX 6.4, ACTIVATE RASTER NAME XXX fails with multiple missing font files. You cannot use Raster after this.

ANNOTATE TNODE TFILE - Windows NT

On Windows NT, ANNOTATE TNODE TFILE after SELECT TEXT USPACE results in the insertion of incorrect text.

ATTACH DYNAMICS - SGI Only

On SGI using OCTANE and IRIX 6.4, the Logitech Magellan spacemouse does not work.

ATTACH DYNAMICS

If you quit and exit a JCF, the mouse dynamics menu does not appear until you exit CADDS and reenter.

CHECK BOUNDARIES

CHECK BOUNDARIES may result in a segmentation violation.

COMPARE ENTITY - HP and SGI

When the tolerance value is set larger than the distance between the two entities COMPARE ENTITY TOLERANCE and COMPARE ENTITY TAG results in an error message

CONVERT RASTER - HP Only

On HP, using CONVERT RASTER crashes CADDS.

COPY ENTITY

You should not copy view-dependent entities.

DEFINE TABLET

In the CADDS Text window scroll bar on the right side, when you use a puck on a C-size tablet and click the Up arrow, the text jumps to the top of the buffer or to the bottom, depending on where you click.

DELETE ENTITY

DELETE ENTITY is not cleaning the 2304 records correctly.

DYNAMIC VIEW

The Explicit mouse-based dynamics menu (displayed by clicking the middle mouse button) remains displayed after you switch to Parametrics.

ECHO APPEARANCE

In XGL mode, ECHO APPEARANCE SYMBOL OFF does not echo off the Nfig origin symbol correctly. If you use SCROLL DRAWING or ZOOM DRAWING, the symbol origin displays as a crosshair.

ERASE ENTITY - Digital Windows NT

On Digital Windows ERASE ENTITY may crash CADDS.

ERASE ENTITY - DIGITAL AND SGI ONLY

ERASE ENTITY EDGE may fail on DIGITAL and SGI.

EVALUATE SURFACE

EVALUATE SURFACE on two surfaces returns a larger value for the smaller surface.

GET SET

GET SET may not process data correctly on IBM.

INSERT FINISH - DIGITAL Windows NT

On Digital Windows NT, INSERT FINISH on a single precision part may crash.

INSERT LINE

Fonts are not being scaled properly when units in Model mode are different from those in Draw mode.

INSERT NFIGURE - Windows NT

On Intel Windows NT only, INSERT NFIG always places the origin at x0y0 if the Nfig is single precision.

INSERT PART - Digital Windows NT

On Digital Windows NT, INSERT PART may fail.

MODIFY DIMENSION

You may encounter problems exiting from CSD.

Workaround: Exit from CSD by doing one of the following:

- Use the Exit option in the popup menu after you click the third mouse button in a blank area.
- Press RETURN.

Plotting - SGI Only

An error occurs in the CADDS Startup window when you try to plot remotely from an Octane Irix 6.4 system.

PUT GERBER

PUT GERBER may create an empty disk file.

PUT SET - Digital Only

On Digital Alpha, PUT SET displays the message `Unknown error.`

PUT GERBER

PUT GERBER INTERPOLATE CIRCLE and GET GERBER INTERPOLATE CIRCLE does not work if the original circle has a width.

REPLACE NFIGURE - Windows NT

On Windows NT REPLACE NFIG may crash CADDS.

RUN CVMAC

The NPROP keyword for a CVMAC OBTAIN statement does not work properly for retrieving property values from an entity that has both integer and real type properties.

SELECT GRID AZ ORIGIN-Explicit Graphics Window

When using accelerated graphics, SELECT GRID AZ (n) ORIGIN followed by ECHO GRID ON SNAP incorrectly displays the grid points.

SHADE CURVATURE - Digital WINDOWS NT

SHADE CURVATURE hangs CADDS.

SMASH ENTITY

SMASH ENTITY MODEL for fonted entities created in mm or meters is not producing the correct results.

TEXT WINDOW - WINDOWS NT

On Windows NT, the Text window disappears when you select Apply on windows within CADDS. To bring the text window back press ALT Tab.



Packaging of CV Kernel Include Files

The CV Kernel library implements UNIX platform independent access to the UNIX Kernel calls. The CV Kernel include files are available under the directory `/usr/apl/cvact/insert/kernel`.

CV-DORS®

IGES

GET IGES

GET IGES does not convert the following line fonts: military, national, sidewalk, pipeline, wireframe, slantic2, Imetpres, nrrwgage, rsyspres, pipediam, railroad, Isyspres, solid, dash-dot, rmetpres.

PUT IGES

PUT IGES does not convert line font names consisting of eight characters.

PUT IGES

After you run ckcad and validate_db, enter Parametrics, regenerate the model and file the part, PUTIGES fails with mts memory error.

AEC

RUN CVMAC - Digital Only

RUN CVMAC CVHULL.GENTEMPLATE displays the following error message in the Startup window, MALLOC error: (gen_mem_extract_node)
Broken chain at last cell in pool.

HVAC

RUN CVMAC

RUN CVMAC .UNFOLD.EXTRACT does not work.

Advanced Structural Modeling

INSERT STELEMENT - IBM Only

On IBM, INSERT STELEMENT may fail with a segmentation violation.

INSERT STELEMENT

When an Stelement is generated in a top Cplane with the options INSERT STELEMENT T100x100 DISPLAY 3 STYLE SOLID JOIN BRAD 1, it results in a looping/self intersection. This works correctly, however, in the front and right Cplanes.

MANIPULATE STOBJECT

If an Stelement sec T100x100 is inserted with the line overlapping the x- or y-axis of the Cplane without mirroring around either axis, the mirror elements at the y-axis is checked in.

UPDATE STPART

UPDATE STPART fails with the error: The system cannot create a face from the offset of this surface.

Equipment and Cabletray Support

TRIM ESUPPORT

TRIM ESUPPORT may fail to cut the Stelement support member with a stiffener correctly.

Electrical/Mechanical

INSERT ESUPPORT

INSERT ESUPPORT fails to process the orientation keywords UDIR, VDIR, and WDIR in the seat procedure/definition file correctly and/or consistently.

INSERT HDCONNECTOR

The Insert HD-Connector menu shows some control characters.

Parametrics

ACTIVATE PART

On Digital, you cannot activate a part that contains a sketch if that part was not created on DEC.

CONSTRAIN COMPONENT

CONSTRAIN COMPONENT CINAME LIST no longer outputs the constraints to the Report window or message buffer.

CONSTRAIN COMPONENT LIST

CONSTRAIN COMPONENT LIST results in the following error message:
CL_MSG_BAD_FUNCTION: Server (SUIM) REports Bad Function

Dynamic Manipulation with the Mouse

After dynamic manipulation with the mouse on all four views in a drawing, an abort from the utility popup menu generates the following messages in the CADDS 5 Startup window and eventually a crash: Free Trace: 0 bytes, pool #-1, FREE ADDRESS: 5672668, FREE TRACE: 0 bytes, pool #-1, FREE ADDRESS: 5762668*

EDIT OPERATION

EDIT OPERATION is not captured correctly in command files due to a design limitation. Do not use command files containing this command.

ENTER PARAMETRICS

If you use SHADE PICTURE and then ENTER PARAMETRICS, some components may be scaled incorrectly.

Workaround: REGENERATE GRAPHICS fixes the graphics.

ENTER PARAMETRICS

Some Parametric graphics may appear incorrectly.

FILE PART

Changing a parameter and filing a part causes the `_fd file` to grow in disk usage. Changing the parameter back to the original value and filing the part causes the `_fd` to grow more.

FILLET ENTITY

This **FILLET ENTITY** command is creating three overlapping faces which the check dbase fails to identify.

INSERT LINEARSWEEP

Using the **GROUP** modifier may corrupt a model.

Workaround: Change the parameter back to the original value and then use the Group selection.

INSERT PPART

When you include a directory to **ACTIVE CV PATH**, **INSERT PPART** does not allow you to view the parts of an included directory. This is a menu problem.

To view the parts of an included directory:

1. Open a part in the parametric environment.
2. Click on the Insert PPart icon to invoke it.
3. The Insert PPart property sheet displays.
4. Click the CVpath button.
5. The cab containing the list of active paths displays.
6. Select any active CVpath.
7. The part names in that selected CVpath appear on the Insert PPart property sheet.

MENU AD CAMU - MENU

The **PRESERVE** modifier is not available in **CHANGE ASSEMBLY** command mode, but is available in the Change Assembly menu.

MENU AD CAMU - MENU

The CHANGE ASSEMBLY command does not have the ASSEMBLY NAME modifier.

RENDER VIEW HLR

RENDER VIEW HLREDGE and RENDER VIEW HLRNOEDGE create wrong graphics.

ROUTE CHANNEL

When you use the ROUTE CHANNEL command with the BRANCH option, error messages appear.

UNION PROFILE

UNION PROFILE may fail to union two planar surfaces.

VIEW DYNAMICS

You cannot mix Dialbox based dynamics and mouse based manipulations when using modeling commands.

Improving Parametric Graphics on HP-UX

Using the OGL driver on Visualize-fx graphics should improve visual quality and the performance of model dynamics when manipulating wireframe, HLR and shaded images as compared to PEX mode.

Tessellation

To improve the quality of tessellation (applicable to all CADDS 5 graphics drivers):

1. Shade the model.
2. Zoom-in on a curve using the top-right icon available from the menu activated by the right mouse button. Two digitized points are required.
3. Apply the REGENERATE GRAPHICS ALL command.

4. This instructs CADDS 5 to apply surface tessellation that more closely matches the actual geometry. Since a greater number of polygons are rendered, you may experience some performance slowdown. This varies on the complexity of the model.

Please note: This applies to both shaded and HLR images while in Parametric mode.

Wireframe

Use the `CV_ANTIALIAS` variable to enable better wireframe visual quality. Antialiasing is supported on the following devices:

- `CRX{24Z,48Z}`
- `HCRX{24Z,48Z}`
- `Visualize{24,48,48XP}`
- `Visualize-fx{2,4,6}`

If you have `Visualize-fx`, you can adjust the gamma component of the CADDS 5 shading and lighting process when you use the `/opt/graphics/common/bin/gamma` tool. This also applies to wireframe images when `CV_ANTIALIAS` is set to `yes`.

Interactive Surface Design (ISD)

With certain derived curve commands, such as TRIM and DIVIDE, the inputs for the commands are replaced by the results of the command. If you need to change the input curve, use EDIT ISD SESSION and pick only the commands needed to edit the input curve.

Adding External Constraints to a Surface

You can now add external constraints to a surface, load the session, make changes to the constraint (which will correctly propagate to the surface), and save the changed surface.

CREATE INTERPOLATE

Even numbered degree curves lose their symmetry when the midpoint of a data set placed symmetrically about the y-z plane is suppressed.

CURVE ANALYZE

Projection curves may result in unexpected changes.

CURVE ANALYZE REPORTS

REPORT creates a file in the directory where CADDS is activated and overwrites the file each time you select REPORT.

CURVE CREATE INTERPOLATE

You cannot create a degree 2 curve through N data points with tangency constraints at each end.

DERIVE MATCH

When you match two curves and modify curve one, you cannot modify curve two.

DRAG PTON

The curve moves in a reasonable way if you: create a curve, add a Pton on the curve, lock the Pton with all conditions, create two more unlocked Ptons on either

side of the locked Pton, and move the Pton on the left side. If you then try to move the Pton on the right side, you receive poor results in the curve.

Exiting ISD

Make sure to close all ISD menus before you exit ISD.

ISD GRAPHICS

When you change the offset value of a curve, the white offset window leaves a white shadow behind.

ISD GRAPHICS

When you use OGL, temporary graphics leave traces behind.

ISD GRAPHICS

On SGI using OGL, temporary graphics are black instead of red.

ISD HISTORY

When you create an interpolant curve using several data points, save and exit ISD, file the part; and then reactivate the part and use EDIT ISD SESSION, some of the data points may not be visible.

ISD

When you create a surface using the Basic option and select a network of curves, the surface created will be bicubic.

Pton Curve

You cannot slide Ptons on curves created within commands such as BLEND, MATCH, OFFSET, etc.

Vector Values

You cannot view and modify values on vectors produced by the MATCH or BLEND commands.

PTON CURVE DISPLAY

You can only modify vectors displayed by Ptons.

PTON DRAG

On a surface, if you lock either one or more than 2 Ptons in position, then drag another Pton, CADDS crashes.

SURFACE MODIFY

CADDS crashes when you create a basic surface, add external constraints on it, Save and Exit ISD, load the session again, modify the vector field either value or direction, and Save and Exit

SURFACE HANDLES MESH

The top bar mesh setup does not work correctly.

CAMU

Parametric Positioning and Configuration Management do not work together.

An exported assembly will not maintain parametric constraints.

LOCK COMPONENT

In a multiuser environment, the CAMU Status window does not show the Lock status of a reference assembly and reference assembly components that were locked by another user.

VIEW COMPONENT

The purpose of the root node model is to facilitate inter-part constraints in the Parametric assembly environment. It is not designed to house anything but imported variables and values.

Mirroring

By design, MIRROR COMPONENT

- Works only in the Parametric environment.
- Cannot be used for a source component that has a child reference instance.

When using the Orient option, all view attributes of the source component are transferred. Therefore, if a component in the source is viewed ON, the corresponding mirrored component is also viewed ON.

Also, if a model part is not associated with the source component, then the command does not work with the Orient option and selecting the menu option ABORT causes a crash.

When using MIRROR COMPONENT to mirror a source component from a reference assembly to the same assembly, or from any assembly to another assembly, Attributes and Groups on the source are not translated.

ACTIVATE ASSEMBLY

When you enter assembly design on HP-UX an error message appears in the CADDS Startup window

CONSTRAIN COMPONENT ORIENT

Orient Constraint in a constraint component considers any angle more than 180 degrees as 360 minus that angle.

ENTER PARAMETRICS

Some components may be scaled incorrectly if you use SHADE PICT and then enter Parametrics.

EXPORT ASSEMBLY

EXPORT ASSEMBLY creates an assembly that does not retain the constraints for the components.

LMGRD

EXIT ASSEMBLY may result in an error message concerning license management.

SOLVE COMPONENT

SOLVE COMPONENT and FIX COMPONENT do not work correctly on reference components.

Using Pre-Revision 8.0 CADD5 Models

To use parametric positioning functionality on pre-revision 8.0 parts, you must do the following:

1. Set the following in your `.caddsrc` or `.caddsrc-local`:

```
setenv CADD5ASSOC_UID 'yes'
```

See `/usr/apl/cadd5/scripts/templates/.caddsrc-all` for description of this environment variable. This is the default setting.

2. Activate the part/model using either `ACTIVATE PART` or `ACTIVATE MODEL` in the Explicit or Explicit Assembly environment.
3. Issue the following command:
`TAG ENTITY PERMANENT ALL`
4. File the part/model.

Please note: You only need to perform steps 2-4 for parts that will participate in Parametric positioning constraints.

Sketcher

APPLY SKETCHER

If you change a sketch by adding a fillet or a new object, the results of subsequent Parametric operations are incorrect. It sweeps the wrong profile.

ENTER SKETCHER

When the center point of an msubject is dragged, there is no propagation of the drag to the other objects connected to the msubject.

History

If you associate variables with a sketch in Parametrics and try to reapply the sketch, the variables are disassociated.

Manufacturing

Sheet Metal Design (SMD)

SMD

When you try to add an SLIB to a model, SMD accepts the locations but may fail to generate the specific SLIB.

SMD

The entry point for curved bend parts is with a neutral surface. Therefore, no correction is done except pull-allowance and joggle correction. To solve this, align the model with the neutral plane or surface and then use it as the ideal model.

SMD BENDALLOW

On IBM, use SMD BENDALLOW in X11 mode only. Accelerated graphics may cause instability.

SMD BENDALLOW

SMD BENDALLOW does not create a correct model/layer.

SMD FOLD

The system hangs when you try to fold a cylinder after holes are placed in the correct flat pattern.

SMD FOLD

Holes tangent to bend extents result in a topology error.

SMD FOLD - Solaris

On Solaris, SMD FOLD fails with the error: MT NON-Boolean error, Unifold ABORT. SMD FOLD may also crash.

SMD FOLD

If you leave Square edge is ON and use features, a 2D scratch mark is created. If you then turn Square Edge OFF and regenerate the part, the features remain as scratch marks.

SMD FOLD

The attached part uses the supplied jogtables. However, it appears that the whole jogtable is not being read and the values for:

1.6000:1.4000:1.6000:5.8000:0.3000

Note, if this is the only line in the table, SMD issues an error message.

SMD FOLD - IBM and Digital

On IBM and Digital, SMD FOLD may crash CADDS.

SMD FOLD

SMD MODIFYBEND currently supports inserting and modifying bends on lines only.

The new SMD commands do not support the ability for a user to input their own bend information into the corrected model. Support of Splines, Arcs and Lines is required.

Using SMD MODIFYBEND command straight bends can be modified in the corrected model. Also require automatic insertion of bend extents for single bend curves.

Using SMD MODIFYBEND command straight bends can be modified in the corrected model. Also new bend lines can be put on corrected model using the Smd CREATEBEND command.

SMD UNFOLD

Unexpected results may occur when you use SMD in a history-based Parametric function, such as removing operations from history.

CVNC

Cut Entity

When you want to machine a boundary (closed or open) comprising arcs used to as starts or check entities, use the PROFILE command instead of THE CUT ENTITY command.

Dynamic Mouse Menu

You cannot open the Dynamic Mouse menu from CVNC.

Postprocessors

AI postprocessors do not run on IBM.

PROGRAM NCTURN

PROGRAM NCTURN is producing incorrect clfile output.

Workaround: Specify the value of the argument UPDEPTH in the command line FTURN.

PROGRAMNCPUNCH

PROGRAM NCPUNCH is producing output significantly different from previous versions of CADDS. If you use the file from CADDS 5 Revision 6.0, the output is correct.

PROGRAM NCPUNCH

PROGRAM NCPUNCH may produce unexpected results.

CVNC

CVNC may generate False warning messages.

SHOW TOOL - NC BUILDER

SHOW TOOL is unstable.

NCMILL

NCGRAM APPEND does not work.

When you use NC5axis, for example, NCMILL type commands result in the warning Turn MULTAX ON if OUTPUT is required.

CVNC 3 Axis

MPOCKET

MPOCKET may cut outside of the boundary.

MPOCKET

If you select the CIRCLE or NOCIRCLE option along with STEPOFF, LACE or BOUNDARY in the Multi-function Pocketer menu, you cannot run MPOCKET.

MPOCKET

MPOCKET ramps from too high above the previous cut.

PROFILE3

When you use UNCUT with PROFILE3, it may not find all the uncut areas.

Workaround: Reverse the sequence of CUTDIR digitizes and use RIGHT instead of LEFT.

SURFCUT3

There are problems cutting fillets with tight areas that the cutter cannot fit into.

SURFCUT3

SURFCUT3 Curve may roll over edges of a part.

SURFCUT3

Containment fails in SURFCUT3 STRAIGHT/CURVE when the containment entities are trimmed surfaces. If the trimmed surfaces are replaced with Explicit NURBS surfaces, the toolpath is generated correctly.

SURFCUT3

A tool may gouge containment surfaces when you use SURFCUT3 STRAIGHT. The containment surfaces in this case are vertical, but if these surfaces are changed in Parametrics to introduce a draft angle, the toolpath is OK.

SURFCUT3 CURVE

SURFCUT3 CURVE with containment does not result in an accurate toolpath.

SURFCUT 3

If you select surface lists, input the values in the menu, and click Apply the Menu does not close and the rest of the selections have to be made with third mouse button. The Menu closes only if you select one of the control surface options.

NC 3Axis SURFINT3

When you use AUTO SURFINT3, you may have to select surfaces instead of the solid to achieve correct toolpaths.

NCFASTEN

In the Operation sheet, Cancel works like Apply. If you delete a task by clicking Delete, and then click Cancel, the NCBuilder Operations menu displays. If you reopen the Operation sheet, deleted tasks are not restored and are permanently deleted even after you cancel the changes.

OCUT CHECK 2 - INTEL WINDOWS NT

On Intel Windows NT, Cam CUT CHECK TO crashes CADDS.

CVNC 5 AxisSURFCUT5

TOOL ON fails when the surface is narrower than the tool diameter.

SURFCUT 5

TOOL ON fails when you use GOUGE ON. Without GOUGE ON the tool path is correct.

SURFINT5

SURFINT5 produces an incorrect toolpath when the drive surface is a fillet with a smaller radius than the tool.

SURFINT5

SURFINT5 may not machine the whole of a predefined NCgroup.

NCTURN

PROGRAM NCTURN may result in incorrect CLFILE output.

CADD5 Composites

CREATE SOLID

CREATE SOLID LAMINATE is not working correctly.

GENERATE SUBLAMINATE

GENERATE SUBLAMINATE with the offset staggering method does not work.

Staggering of Plies

Staggering of plies between different zones may cause unexpected results.

MCAE (SystemsLab)

GET MSP - Digital UNIX Only

If you try to use the MCAE tool in CADD5 or in Digital UNIX for SystemsLab, an error occurs and SystemsLab fails.

GET MSP - HP Only

On HP, a running segmentation violation occurs after an animated display has been generated in SystemsLab. This occurs after one or more commands and sometimes on menu picks.

GET MSP

When you generate animation files using SystemsLab, movement of any windows over the picture window will damage the resulting shaded animation files.

Workaround: To use the SystemsLab animation tool in HP PEX mode, you must have the Powershade option configured.

MCAE TOOL - Digital Only

On Digital UNIX 4.0A, if you use the MCAE tool and try to save a GIF, MCAE file or Sun raster image, a core dump occurs.

View and Markup on Digital UNIX

For View and Markup to execute properly, you must insert the following line into the `.cshrc`:

```
if { ( limit | egrep -s descriptors ) } limit descriptors 128
```

