

Change notes for CADfix 7.0 Service Pack 2.0

Minor enhancements:

- **Delete Feature** and **Delete Fillet** tools have; improved robustness, handle more complex cases and will now remove as much as possible before stopping
- New **Join Bodies** tool (initial release) joins touching bodies into a single body. For instance an exploded assembly can be turned into a single solid
- The **Body splitter** tool has been enhanced with more methods of defining a splitting plane and allowing partial or restricted splits
- **SC03** export data now contains tessellation data and units
- Improvements have been made to the **Centaur/Flite3D** fitted splines
- **IGES** labels can be imported. The "Entity Label" field (max. 8 characters) or from an assigned 406 label attribute
- New tool for finding and merging **duplicate bodies**
- New tool for finding and merging **duplicate components** in an **assembly**
- Improved screen pick for **centre of rotation** allows the centre to be positioned anywhere on an edge
- The **Measure tool** has two new additions: true line length (as opposed to distance between end-points) and the radius of curvature
- The **ACIS** export Body checker has been extended to allow the adjustment of the checking levels
- The Wizard **Transform** tool has been extended to include Fillet removal

Bug fixes:

cf04382	Active selection makes the light source jump around
cf04554	Inconsistent fillet deletion
cf04556	Delete feature fails on this "nibbled" fillet
cf04636	Delete feature succeeds but makes a bad line (poor help point)
cf04637	Bad intersection cut-line not noticed and not giving errors
cf04650	Delete feature fails w/out UNDO and leaves bad geometry
cf04663	Inconsistent Delete feature behaviour
cf04719	Dynamic highlighting of FROGS hops around the wrong shapes.
cf04739	Delete Fillet find gets cylinders and pipes
cf04740	Deleting group fillets we give up on all if only one fails
cf04748	Delete fillet gives up at the first hurdle. Fixed by the addition of "chunking" algorithm
cf04754	Units for SC03 Export

cf04809 Another "ON" case that wasn't caught:

Case of a sloppy line. Distance from closest line to surface > tol, but it is a perpendicular distance, caused by sloppiness. Check distance from projection of boundary position on surface. If this is within tol of surface test point, then consider it "ON".

cf04811 Loading manager GUI error
cf04812 Problems with Loading Manager
cf04814 CAE Data pattern manager not right
cf04817 Problem with planar splitter
cf04828 Blatant non-finite or undersize problem being missed
cf04835 Marquee pick in set manager stopped working. Needed to complete down while in marquee mode
cf04838 Projection (Ray firing) at torus shapes returns wrong values which causes a problem for splitting
cf04842 Models, which have periodic faces or edges, can't be read. Fix to the CADex import to split torus surfaces in more cases, and a fix to the way CADfix converts a torus to a NURBS.

cf04844 Join on faces in Work set does not put result in work set
cf04855 DELQ meshing not working on fillets
cf04858 Delete feature fails on this chamfer
cf04864 Help text viewer options Firefox and Mozilla needed to be added on Windows and UNIX
cf04870 Model Tree needs to show free points.
cf04874 Need to split torus surfaces on import in more cases
cf04877 Error in UNDO when attempting to retrieve MARK descriptions when there are no MARKs in the model
cf04878 Missing alpha text window on start-up in CAE mode
cf04881 GUI Error on opening or closing Export GUI option
cf04882 GUI Error when moving cursor into fix methods window
cf04884 Preference setting 'repaint last picture' not working in CAE mode
cf04888 Couple of simple features that we cannot suppress
cf04895 Export to CAG of assembly hangs CADfix
cf04903 Meshing process results in cracks in model. The tet mesher is failing to respect the face meshes and so as a last ditch attempt it allows itself to have some tet faces that do not correspond to the surface triangles. The nodes are always respected, its just that some tet faces will cross over the face triangles.

cf04919 Splitting a body with a plane goes wrong especially when the splitting face has a shape coincident with the splitting plane

cf04921 About CADfix has the WRONG expiry date 2037
cf04926 GUI error from manual collapse tool
cf04929 Strange Surface Approximations
cf04931 Strange Spline Surface Fitting
cf04933 Could not split a torus because ray firing on torus give hit that is OFF the torus
cf04934 Deleting elements takes hours on a large model. Fixed with a workaround of using ZAP
cf04936 Problem with delete fillets
cf04944 Removed the Pro/E import option for "shells" as it was superseded by the free faces flag that was introduced for all import types at CADfix 7.0

cf04947 Diagnostic results in Wizard regression tests are suspect. So the tolerance used to identify faces with grossly undersize shapes was changed. Tolerance is now max of 2*sloppyTol and 1.0E-04 of modelDia

cf04949 Font filter set to 1 misses all lines in this IGES file
cf04951 Delete feature has problem with single sided winding loop
cf04954 GUI wrongly insists on ACIS licence feature for CATIA V5 export
cf04955 Degenerate NURBS causing shading to fail
cf04957 SC03 Error Message for Empty Array of assignments
cf04959 Repair creates non-finite are faces on this STL file
cf04960 Light healing says it succeeds but actually wrecks line
cf04964 PRO/E import fails if path to file contains .asm
cf04965 Delete Fillet FIND misses out corner fillets
cf04969 Delete feature hangs while processing the model
cf04970 Find fillet in the Set manager fails to find 3 obvious faces
cf04972 Delete fillet fails to remove a simple ring of fillets
cf04973 Assembly structure missing elements because free faces have been switched off by default. The Assembly structure should show missing parts at least

cf04978 AGPS import fails with this circular (type 14) NURBS curve
cf04986 CAE side menu being overwritten
cf04992 Refit surface does not like shapes with degenerate corners
cf04993 Intersecting loop test fails to fix this overlapping loop
cf04994 AGPS export mustn't export non-ASCII chars in object headers
cf04995 ACIS Import is omitting body colour
cf04996 CADfix CAE crashes on REP
cf05000 Polygon pick in the Set Manager does not work and keeps disappearing

cf05001 COPY command has gone wrong
cf05008 Dynamic picking of elements and nodes > 9999 was not working
cf05009 CATIA V5 will not import in Japanese environment. The locale must be set to work correctly when multi-byte filenames are used. A new function to detect and set the locale was created.

cf05014 Invalid solid not detected and incorrect repair
cf05016 Error in Face-Nick meshing
cf05017 Delete feature seems to hang on this fillet. This was caused by an infinite subdivision
cf05018 Serious problem with UNDO of feature deletion commands were UNDO would also bring back previous deletions. If the new mark results in the previous mark being renamed as a branch mark then instead of merging the new mark with the branch mark we must merge the branch mark with its previous mark.

cf05019 Fillet removal going wrong
cf05020 fillet removal regression because of problem with side merging where one side had a valid "container" face (face that represents the area that the side can be extended to), and the other one did not. The merged side only had the one container, which no longer represented the area that the merged side can be extended to cover. The fix was to not give the merged side a container if either of the merging sides lacked one.

cf05021 Boeing report IGES 112 line fails to import properly as it was a discontinuous spline which is now imported with a warning

cf05023 True line length measure and radius of curvature added to the measure tool
cf05025 Heavy healing keeps giving different results
cf05027 Display of an assembly is wrong
cf05028 Display of shaded assembly gets light shading wrong
cf05030 UNDO produces a GUI error
cf05031 Delete feature does not work on this set of fillets
cf05032 memory violations healing code
cf05035 Delete feature cannot delete a small 6 face fillet
cf05034 Delete feature does not work on this feature
cf05037 Delete feature creates a nasty spike from this fillet suppression
cf05040 Delete feature is not tidying up very well after a deletion
cf05043 GUI error when you open and empty model
cf05044 Grossly undersize surface check is wrong
cf05045 Splitting a face goes wrong
cf05049 Join faces when there are lines in SELE set gives GUI error
cf05058 Face split, point on edge pick in quick pick does not work
cf05060 Invalid surfaces created during import of Parasolid file. A torus was being created when it should not have been

cf05061 Segmentation fault on Sun while orienting a face
cf05062 Segmentation fault on Sun from a triangular face with the same neighbour on two sides
cf05064 Segmentation fault on Sun with NURBS badly identified as rational in both directions
cf05065 Segmentation fault while light healing
cf05080 Feature delete corrupts geometry
cf05085 Delete fillet tool removes holes from model
cf05087 Import units on option is ignored
cf05092 ACIS import missing 2nd lump from multi-lump solid