



International TechneGroup

CADfix PPS 4

“What’s new”

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September 2022

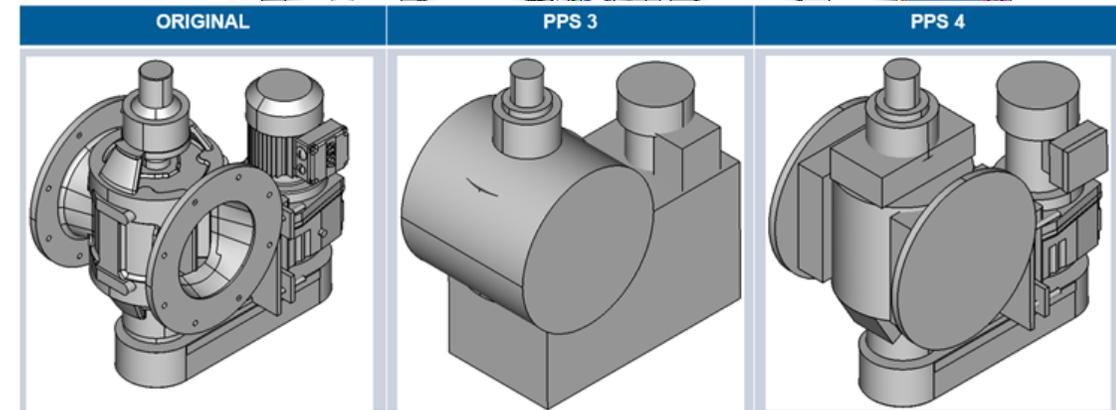
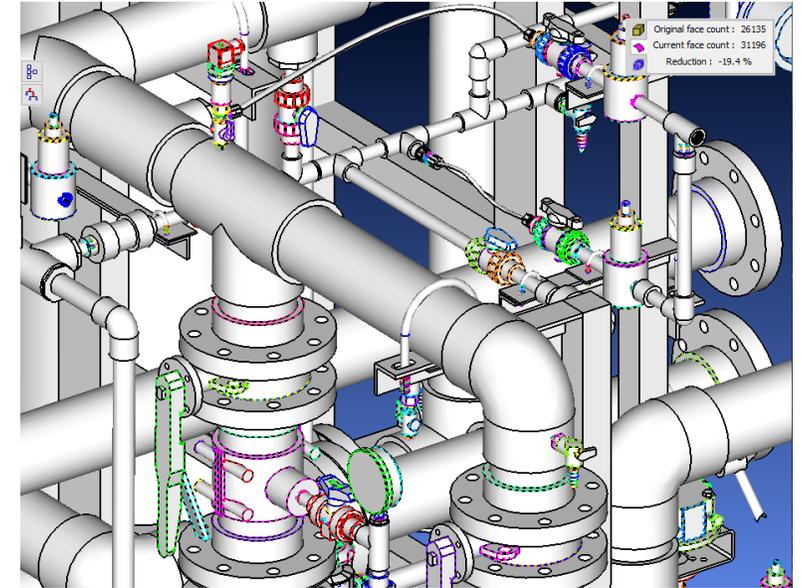


CADfix PPS 4 Summary

- Auto-simplification
 - New *Smart Deconstruction* technology
 - New extruded body simplification
 - New complex hole/protrusion removal
 - New lettering/logo removal
 - New duplicated part detection
 - New automatic model size-based controls
 - Improved box/cylinder/cone simplification
 - Improved revolved body simplification
 - Improved internal detail removal
 - Higher model size reduction %
 - Simplification of selected parts only
 - Faster assembly processing
- Import/Export
 - Latest CAD versions
 - Improved IFC import
- Manual tools
 - New deconstruct tool
 - New primitive simplification tool (best/box/cyl)
 - New extrusion simplification tool
 - New remove lettering/logo tool
 - New remove fillet/chamfer tool
 - Planar split tool supports assemblies and new “Delete bodies below” option
 - Internal detail removal supports “Find” preview
- Model tree
 - New body face count column
 - Creation of assemblies from existing parts
- Batch
 - New cwc options for model size-based settings
- GUI
 - New slide-in model tree
 - New “Pick Similar” capability
 - Easier to use manual tools

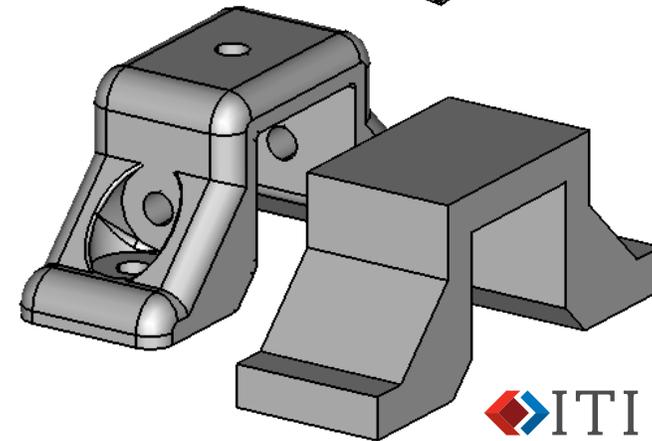
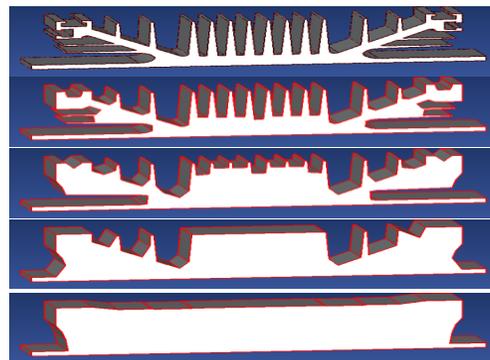
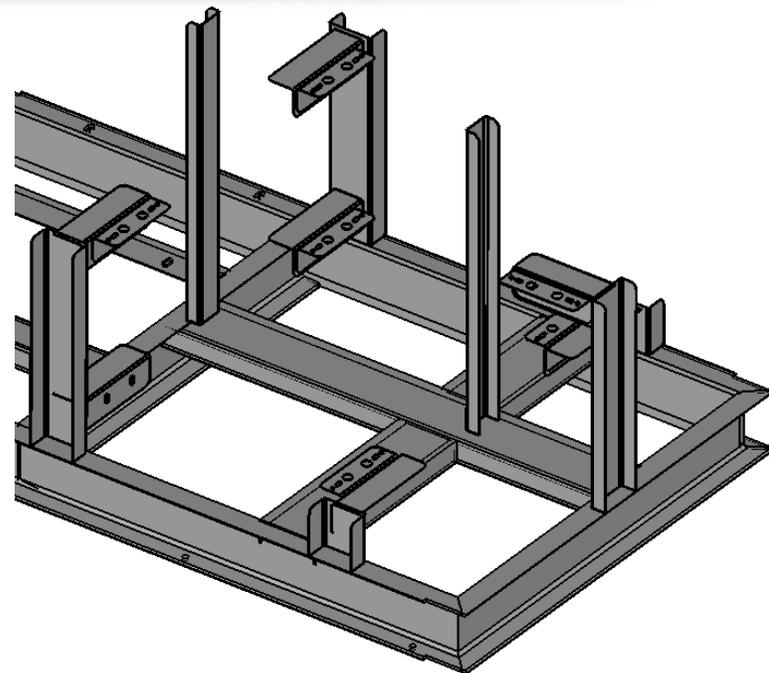
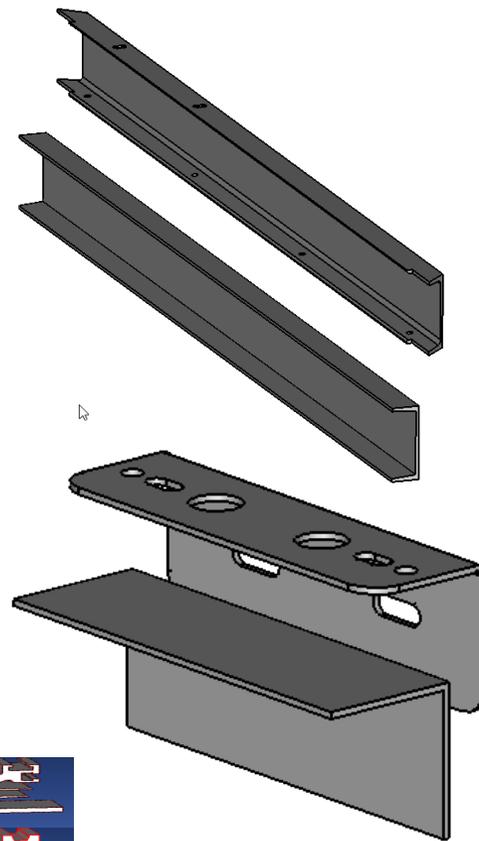
Auto-simplification

- New Smart Deconstruction technology
- Breaks-up complex bodies
- Enables significantly more primitive simplification



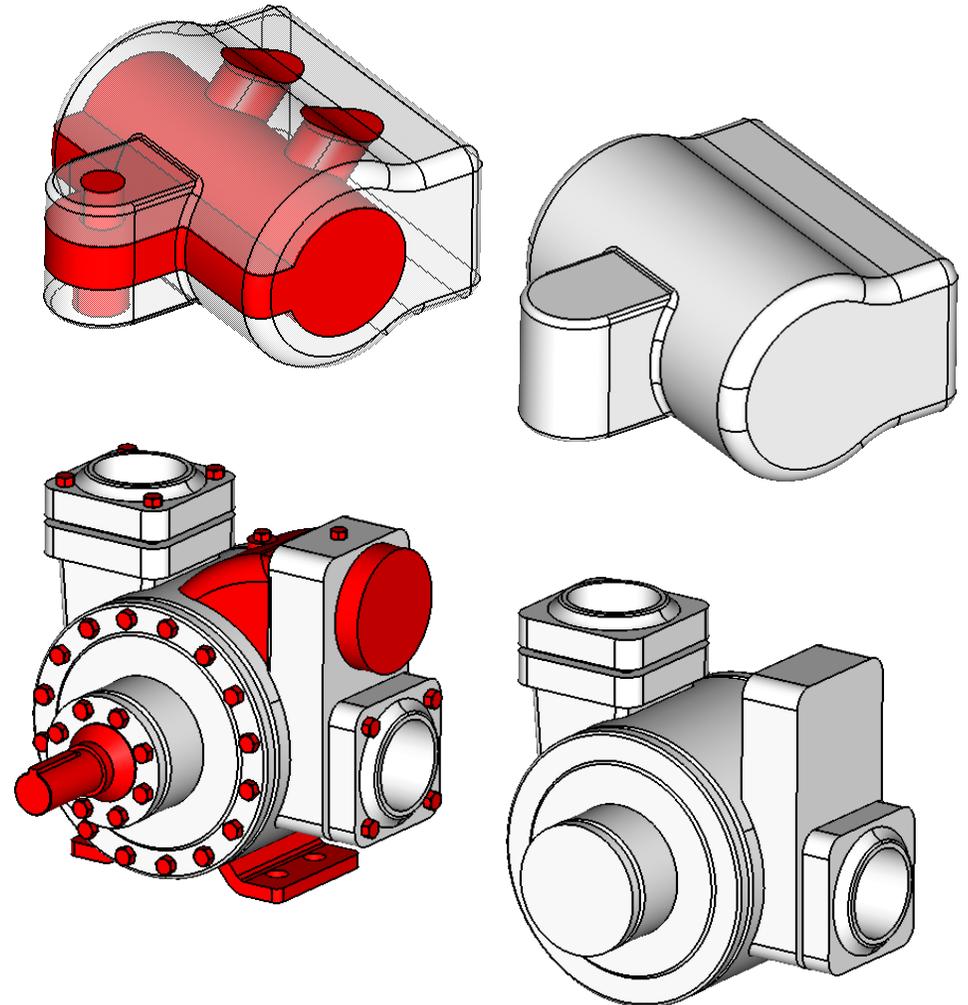
Auto-simplification

- New extruded body simplification
- Profile simplification
 - Notches, holes, mitres
 - Fillet removal
 - Feature suppression



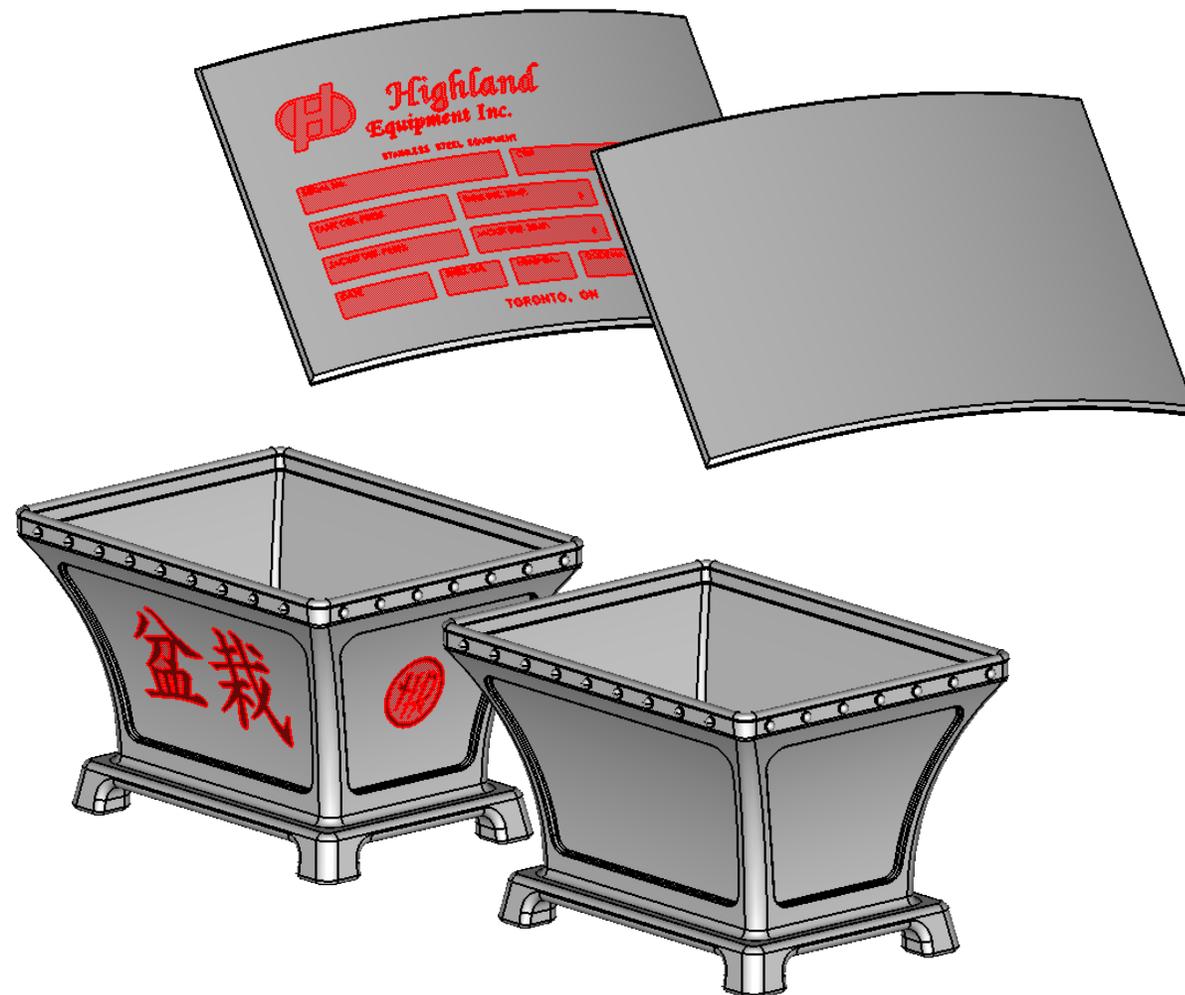
Auto-simplification

- Complex hole removal
 - Exits spanning multiple faces
 - Partial exits
- Complex protrusion removal
 - Spanning multiple faces
 - Overhanging protrusions
 - Holes in protrusions



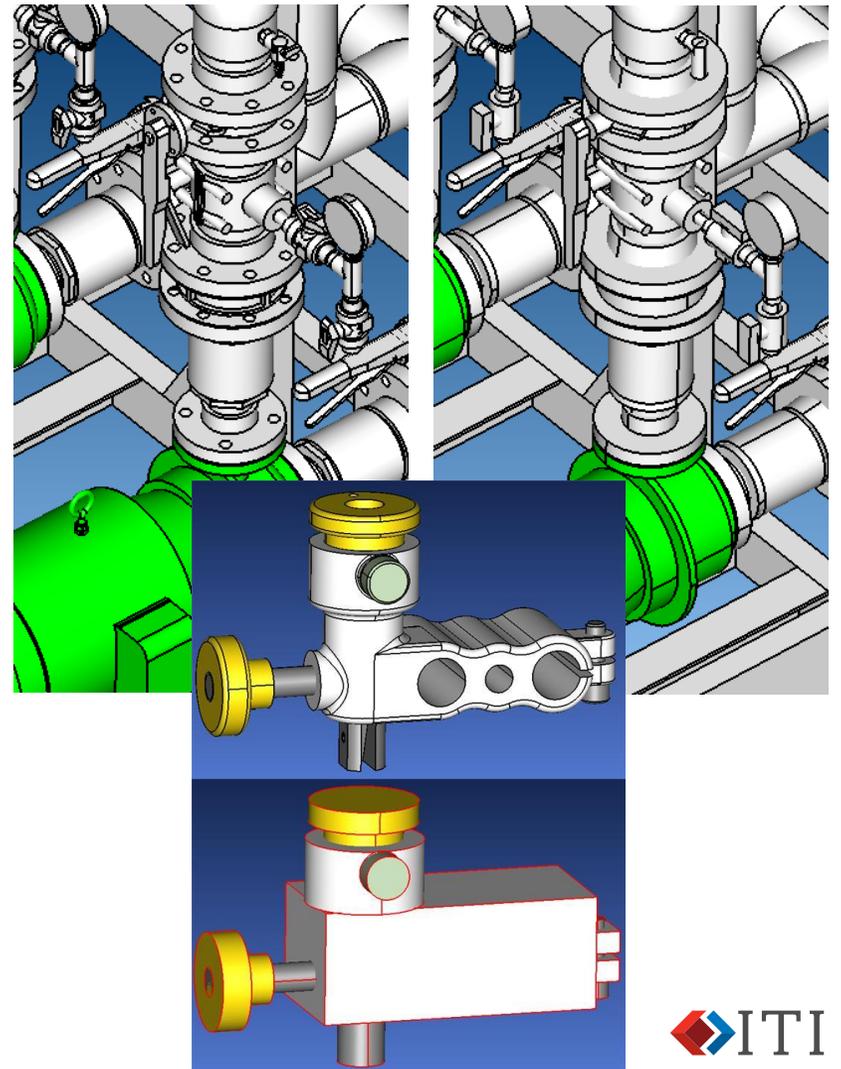
Auto-simplification

- New lettering and logo removal
- Removes raised, sunken and flat letters/logos



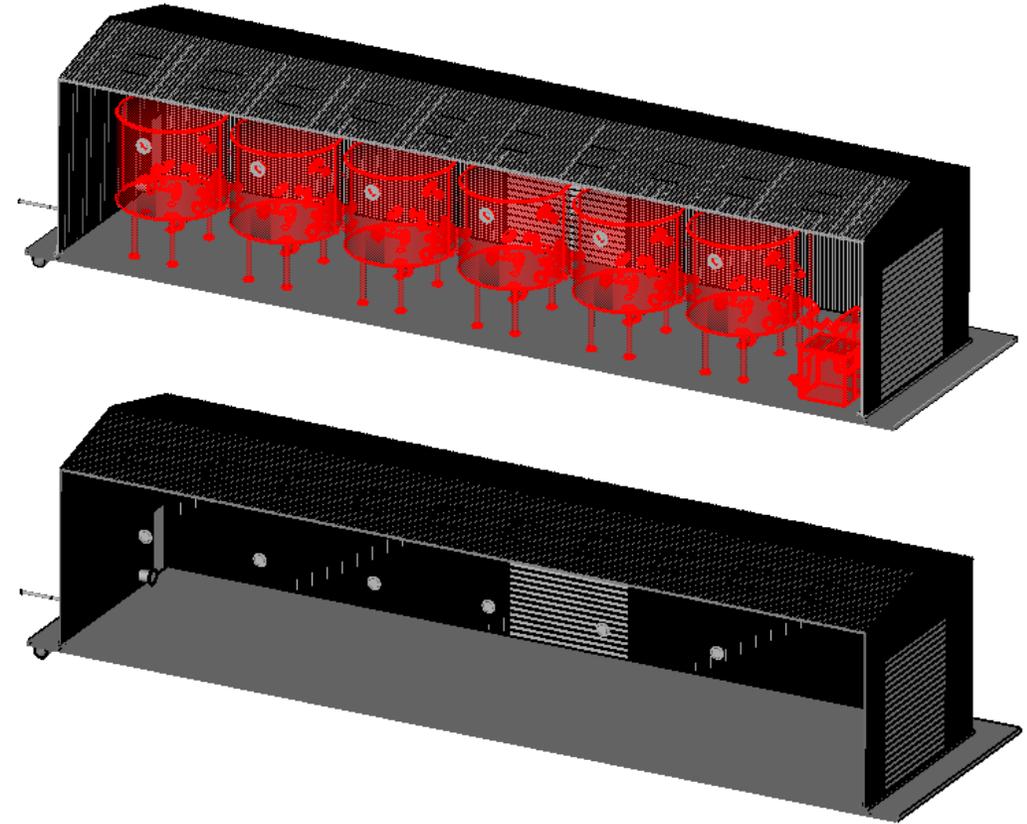
Auto-simplification

- Smart best-fit primitive selection
- Box/cylinder/cone simplification
- Faster simplification
- Simplification level sensitive to body size – large bodies, less aggressive



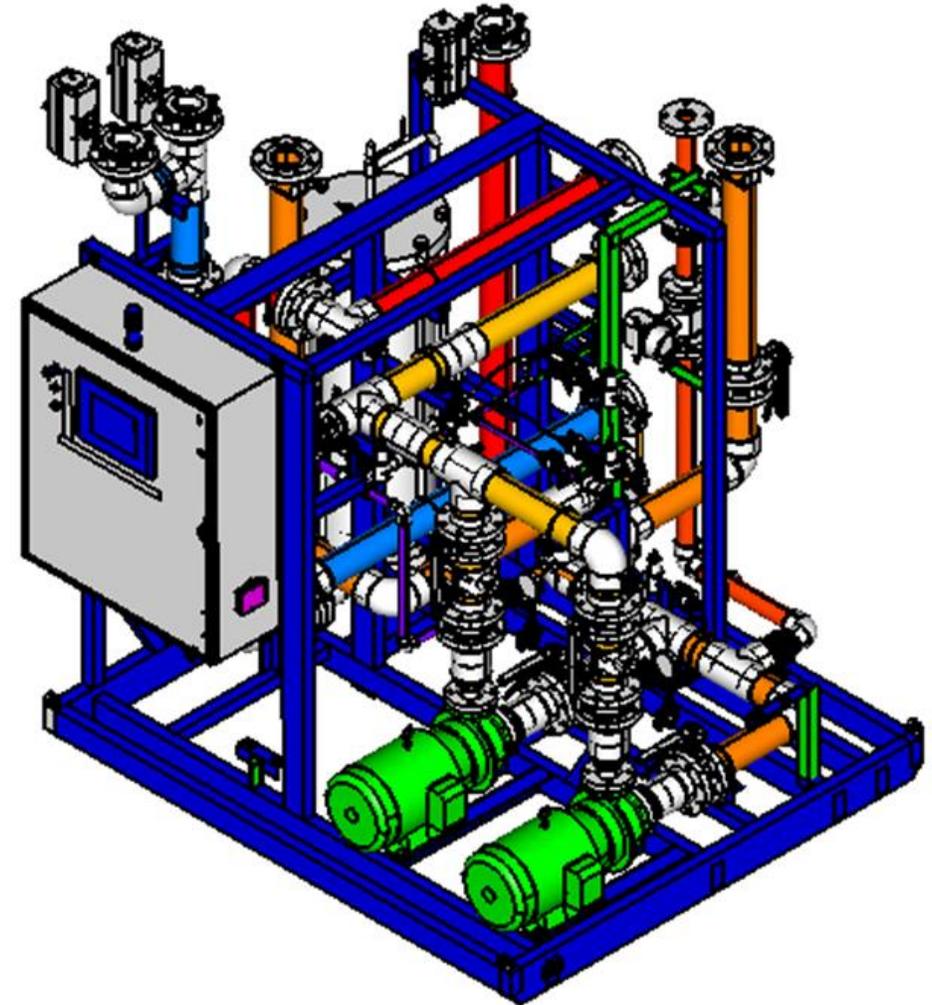
Auto-simplification

- Internal Detail Removal using new smarter algorithm
- Faster and more robust
- User controlled size to ignore any openings in boundary
- Large model size reduction, when applicable
- Faster processing as less bodies to simplify



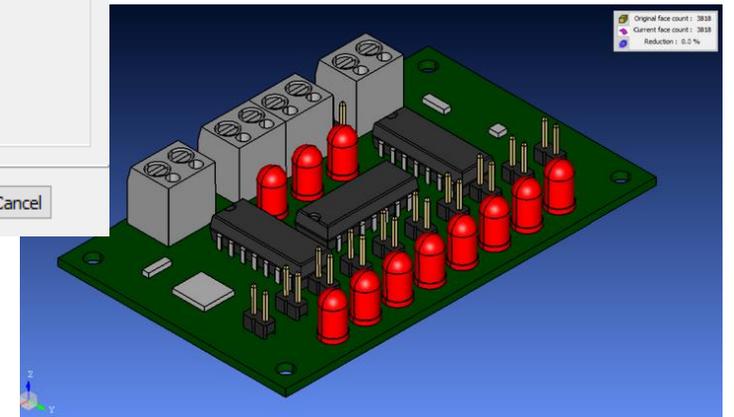
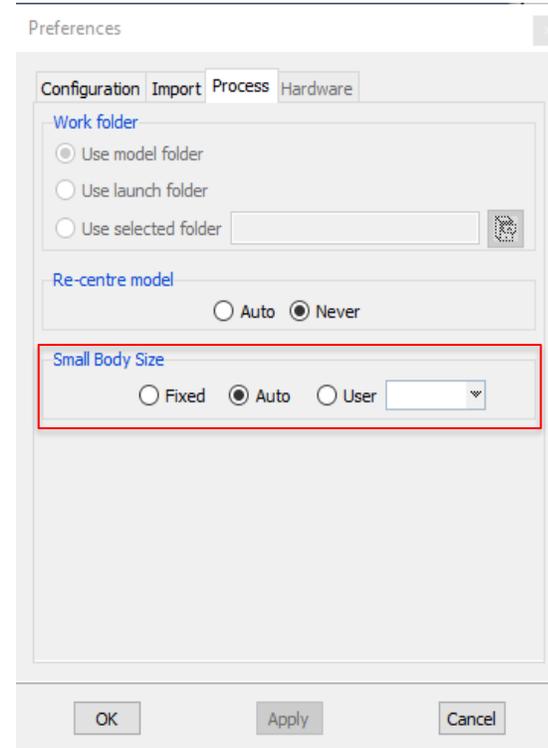
Auto-simplification

- Faster performance on assembly models
- Bottlenecks removed
- More efficient processing workflow



Auto-simplification

- New automatic model size-based settings
- Enables simplification of small components
- Copes better with models having wrong units

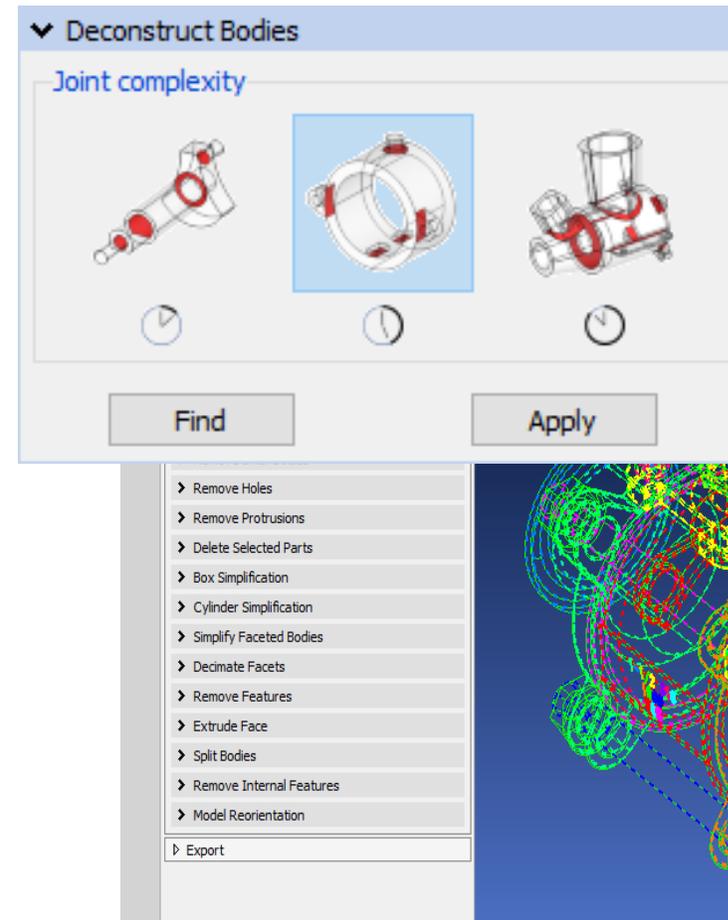


Import/Export

- CAD system specific
 - Catia V5-6 R2022 (was V5-6 R2019)
 - Creo 9 (was 5)
 - Inventor 2023 (was 2019)
 - NX 2007 series (was NX12)
 - SolidEdge 2022 (was V18 ST11)
 - SolidWorks 2022 (was 2019)
- Neutral formats
 - ACIS 2022 (was 2019)
 - DWG/DXF 2023 (was 2018)
 - Parasolid 34 (was 31)
- New formats added
 - Microstation
- Updates
 - Improved IFC import

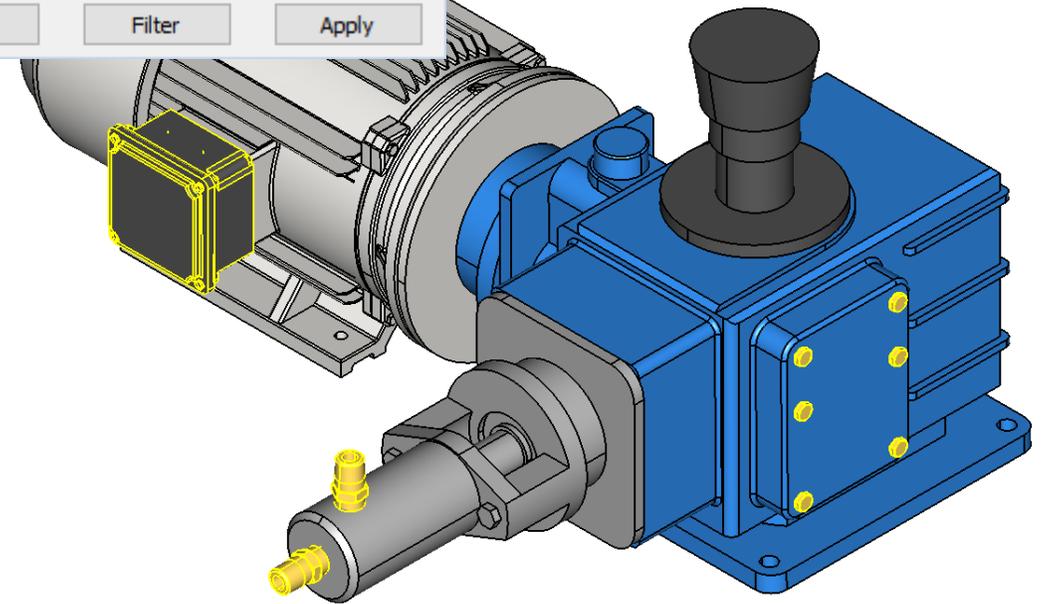
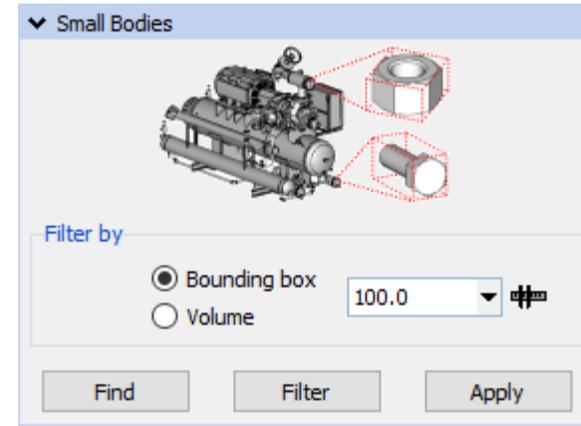
Deconstruct Bodies

- Manually select bodies to deconstruct
- Break complex, or pre-joined, bodies into smaller parts
- Allows further processing using other simplification tools



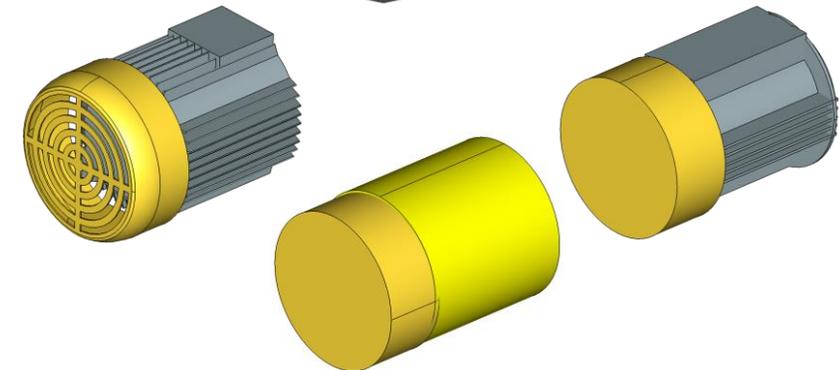
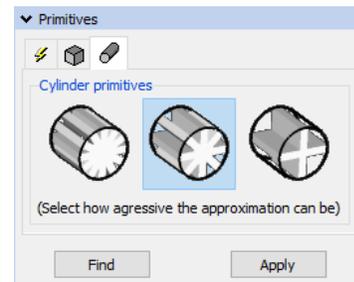
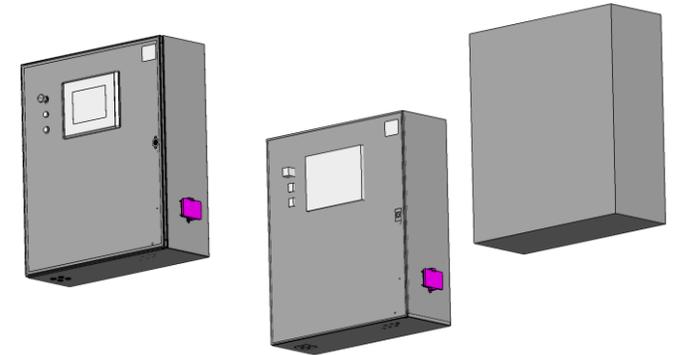
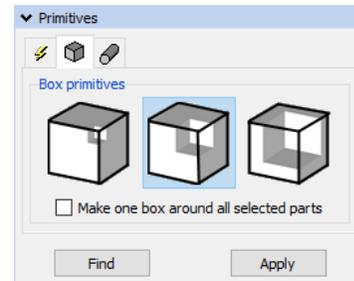
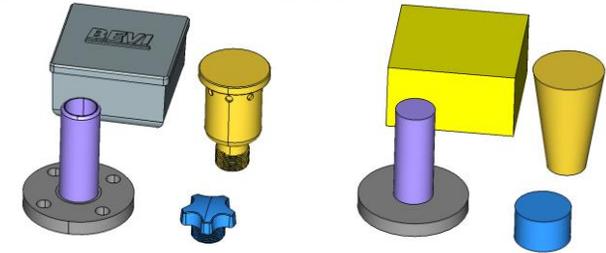
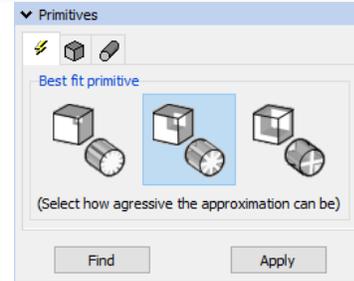
Delete small bodies

- New tool icon
- Allows use of body pre-selection
- More accurate assessment of part size



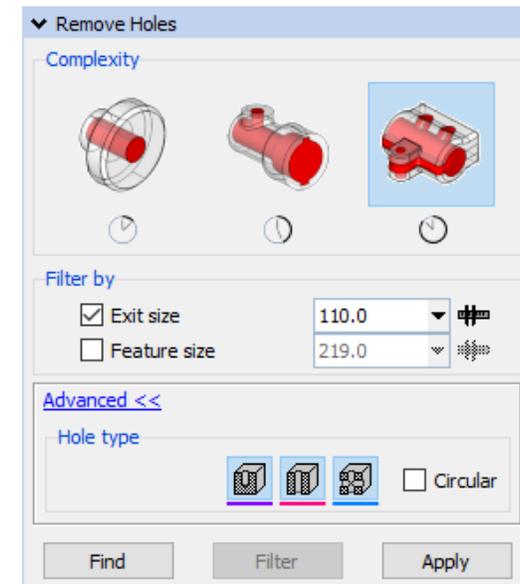
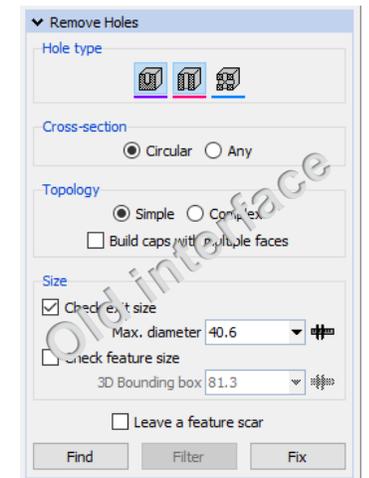
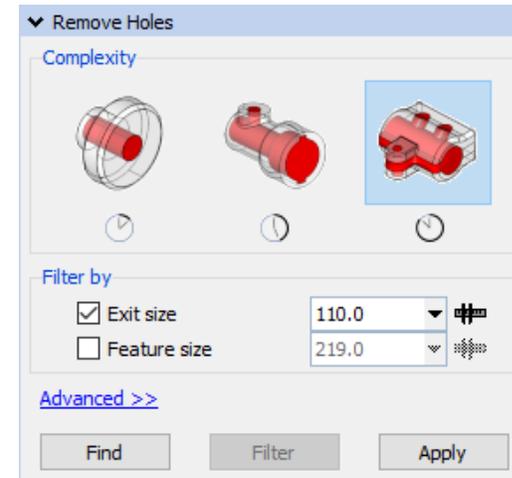
Primitives tool

- **Best fit option**
 - allow automatic selection of suitable primitive
- **Box option**
 - simplify to a bounding-box of each part, or as a group
- **Cylinder option**
 - to simplify to a single cylinder, or cylinder with boxed outliers



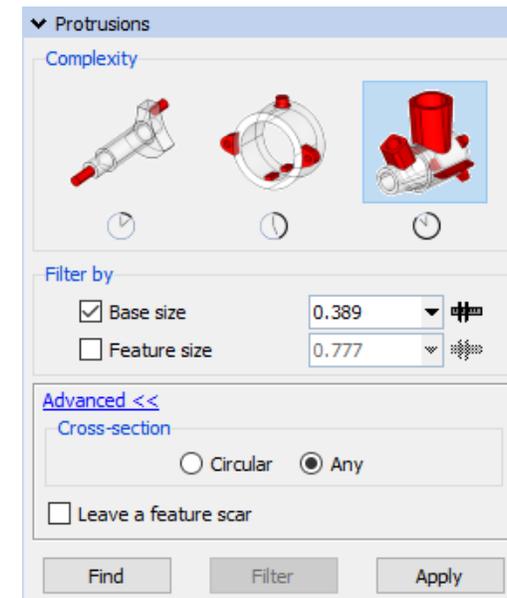
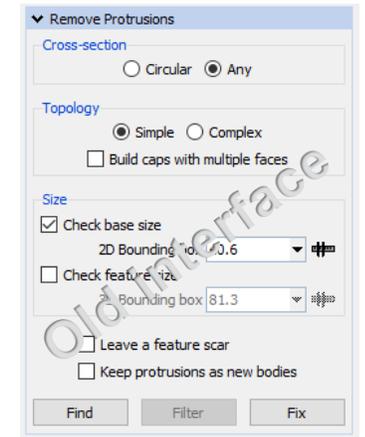
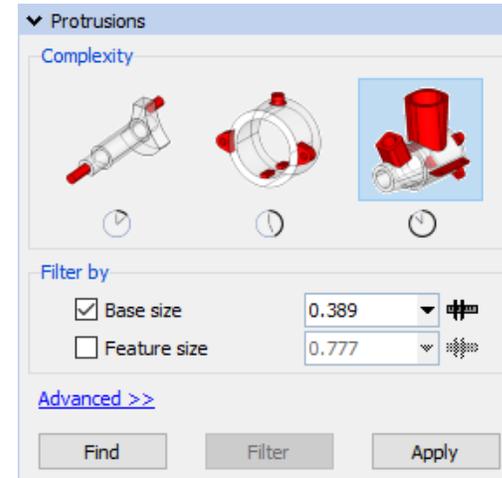
Holes tool

- Simplified interface
- Allows use of body pre-selection
- Complexity variation control
 - Simple holes
 - Complex hole entries
 - Complex holes, pockets, slots
- More accurate detection
- Advanced options available in hidden pane



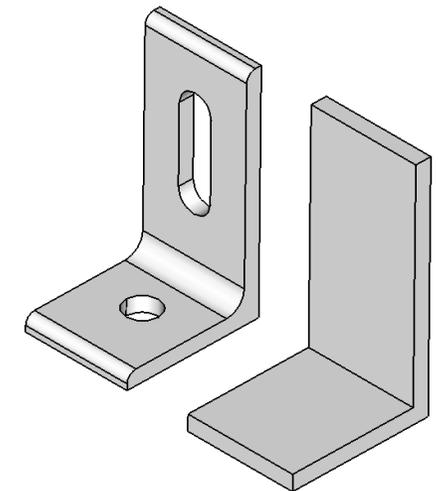
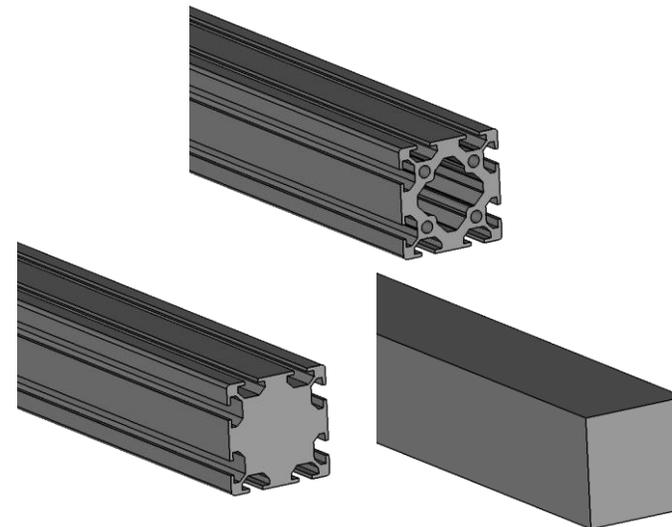
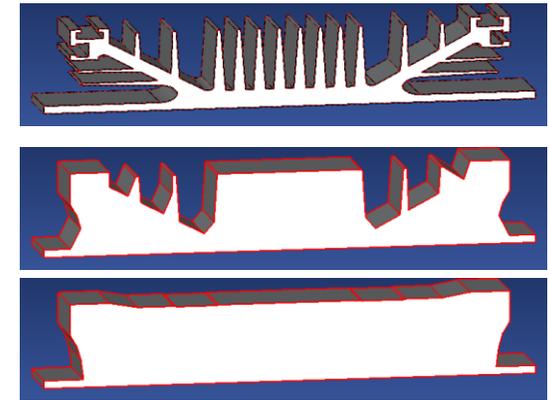
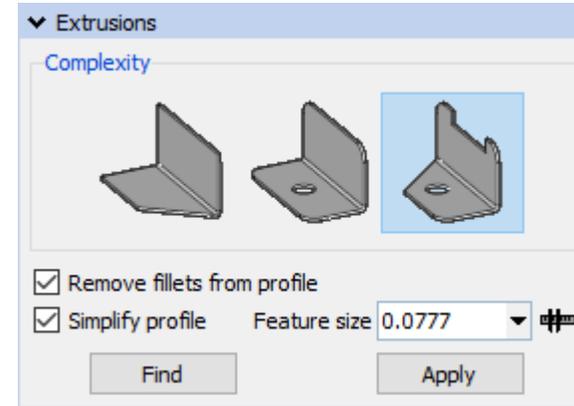
Protrusions tool

- Simplified interface
- Allows use of body pre-selection
- Complexity variation control
 - Simple protrusions
 - Complex protrusion base
 - Multi-point and split protrusion base
- More accurate detection
- Advanced options available in hidden pane



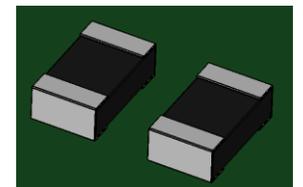
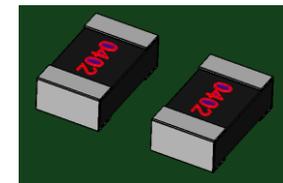
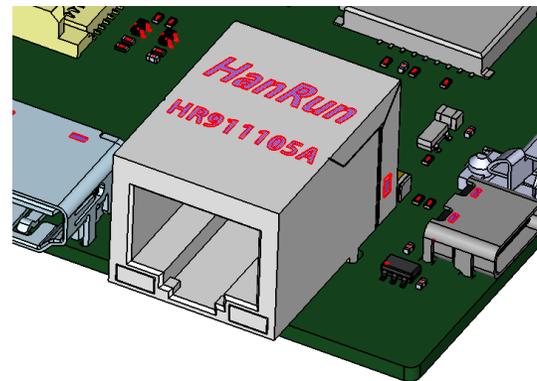
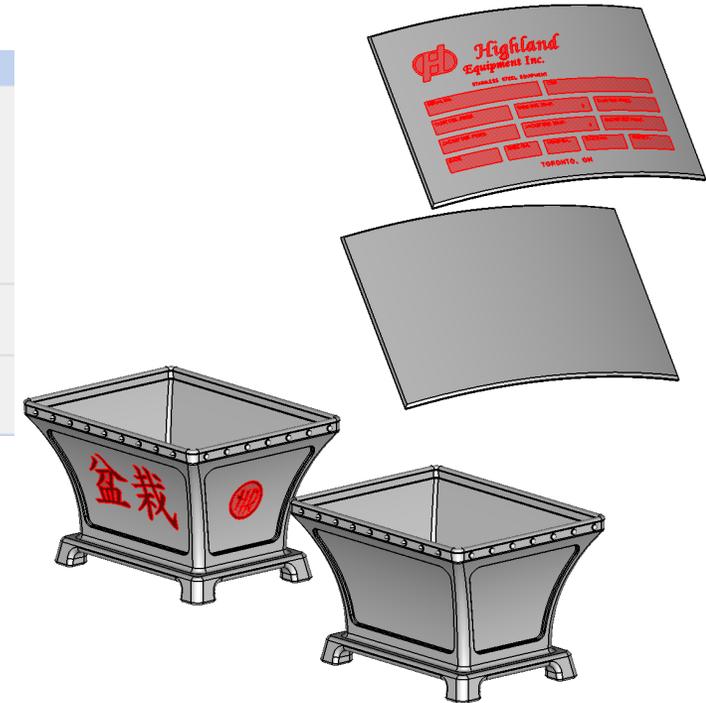
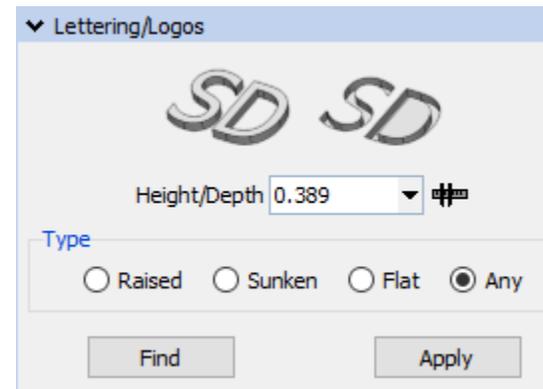
Extrusions tool

- New extrusion simplification tool
- Finds extrudable bodies
- User controlled complexity setting
 - De-filleting of profile
 - De-feature of profile
 - Removal of internal bores



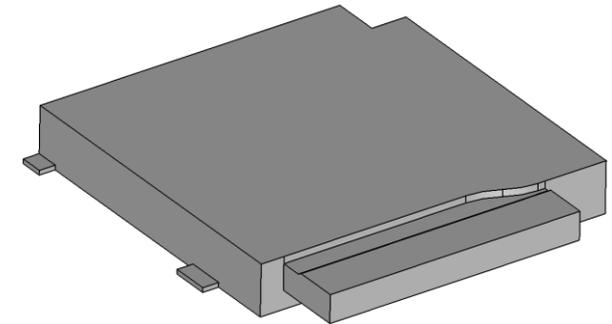
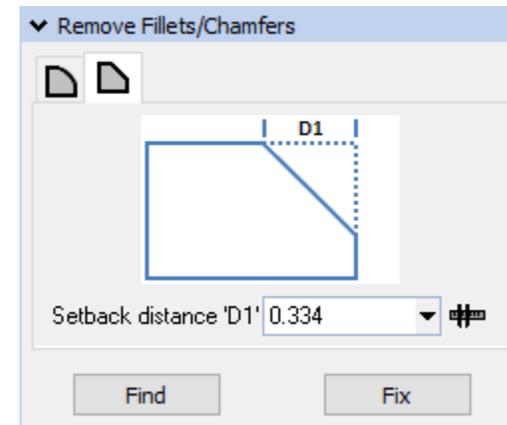
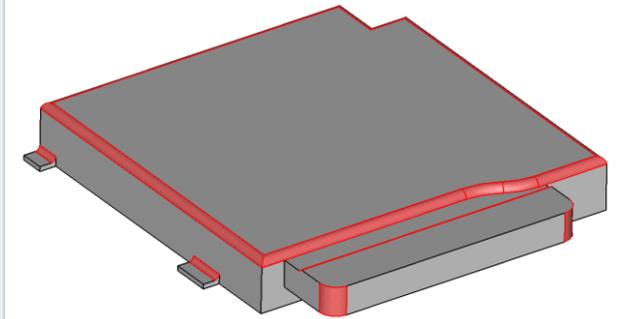
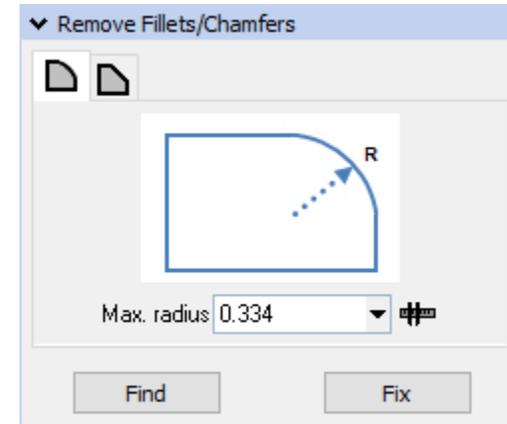
Lettering/Logos tool

- New lettering and logo removal tool
- Removes raised, sunken and flat letters/logos
- User controllable height/depth value



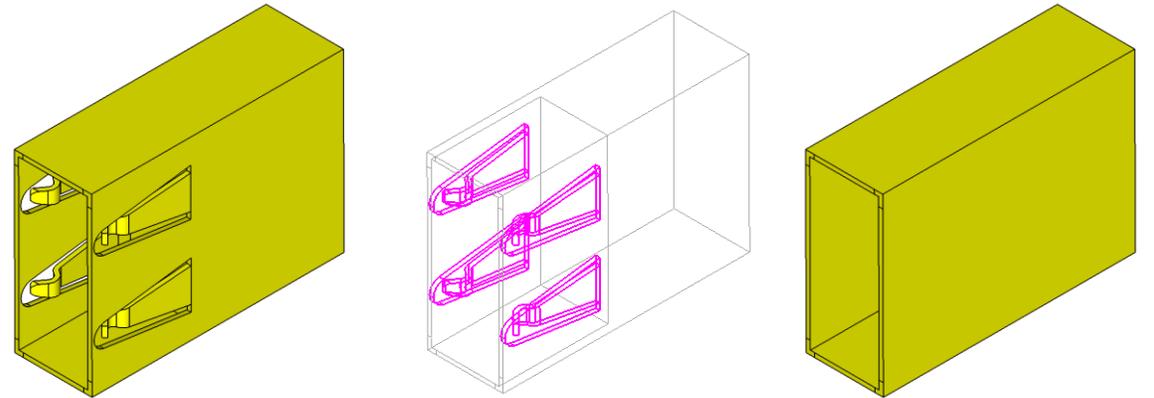
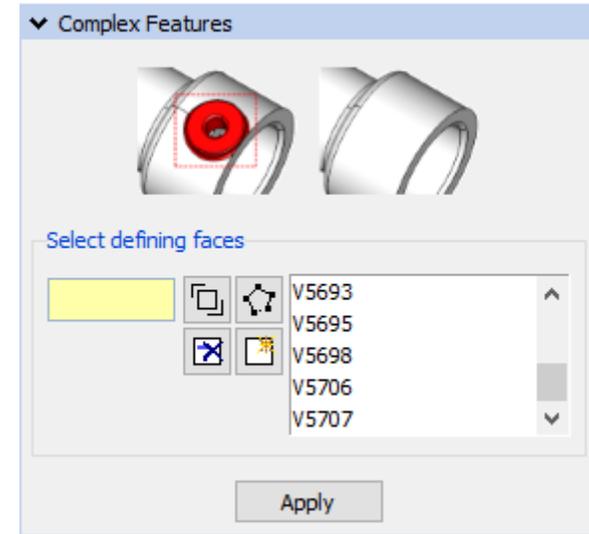
Fillet/Chamfer tool

- New Fillet/Chamfer removal tool
- Simplified version of the DX tool
- PPS specific tool
 - Max. fillet radius
 - Chamfer setback dist.



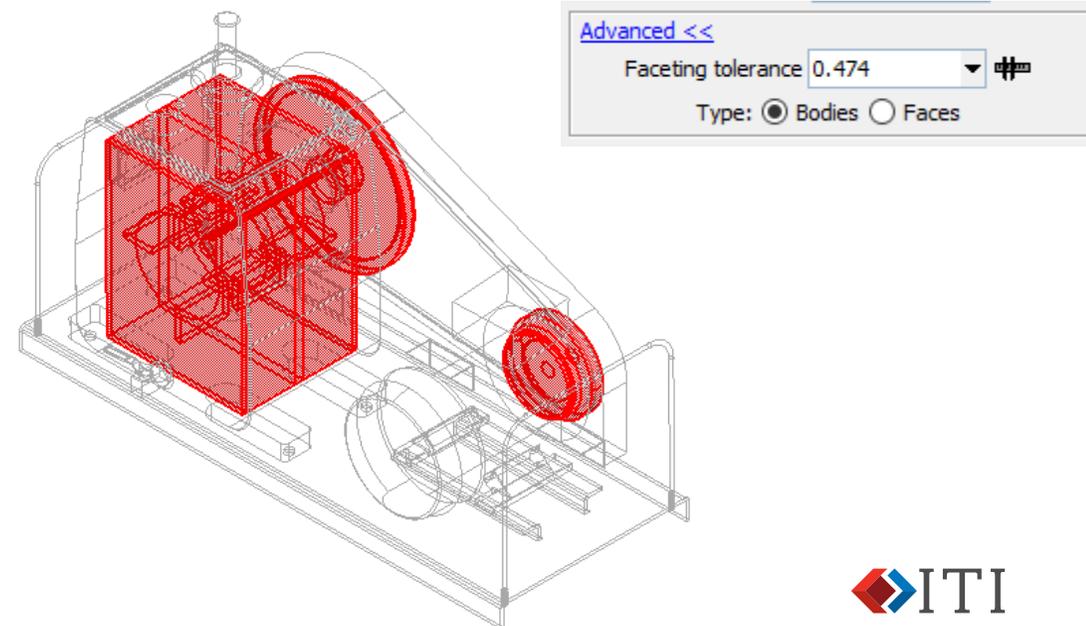
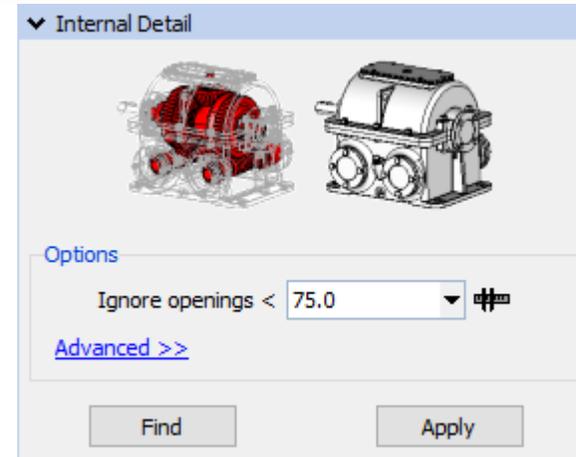
Complex features tool

- New Complex Feature removal tool
- Manually select faces to remove
- Provides full control of detailed feature removal



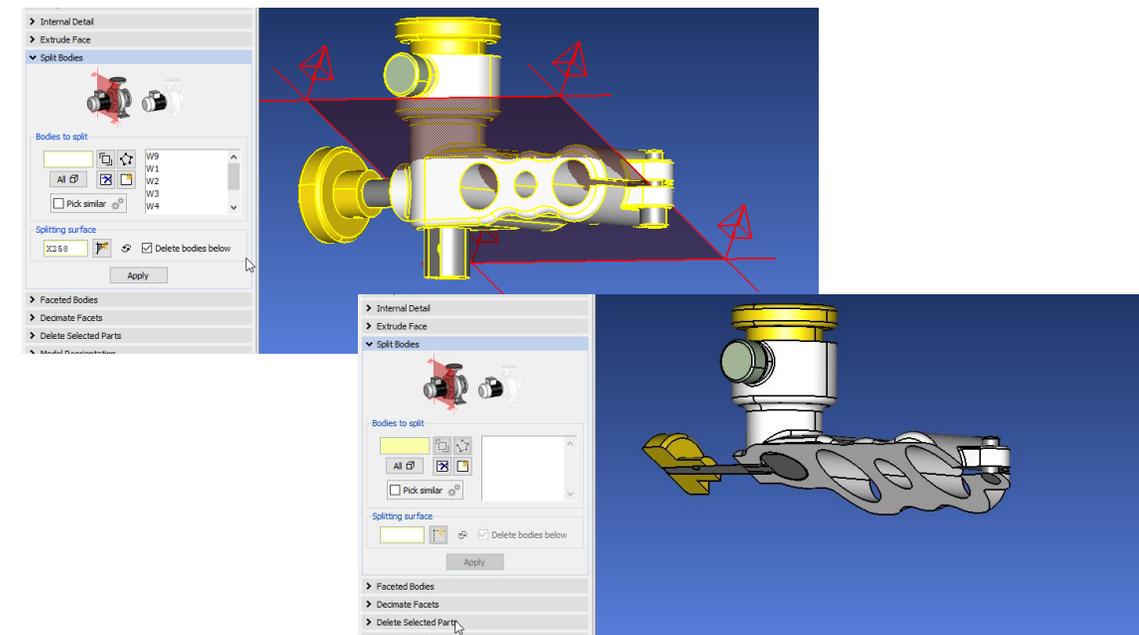
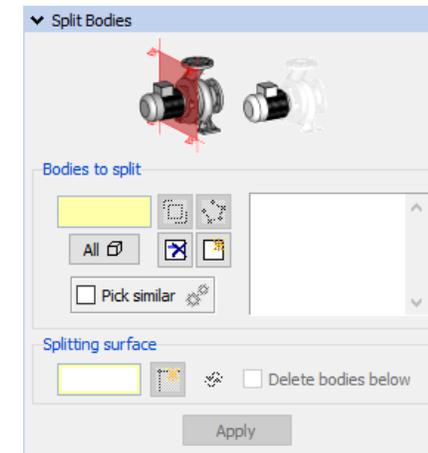
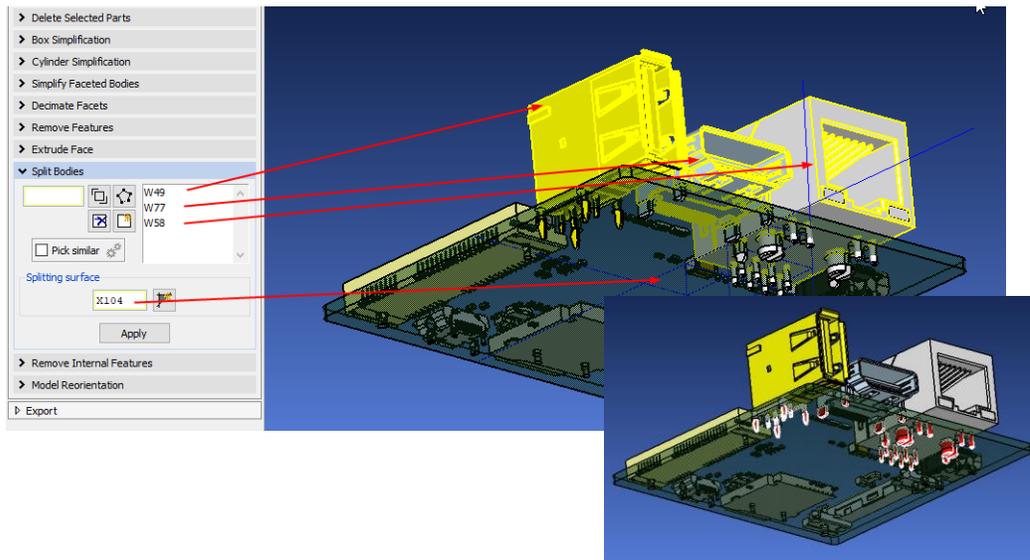
Internal Detail tool

- New core detection algorithm
- Simplified user controls
- Faster detection of internals
- More accurate identification of openings
- Updated results display
- Advanced options available in hidden pane



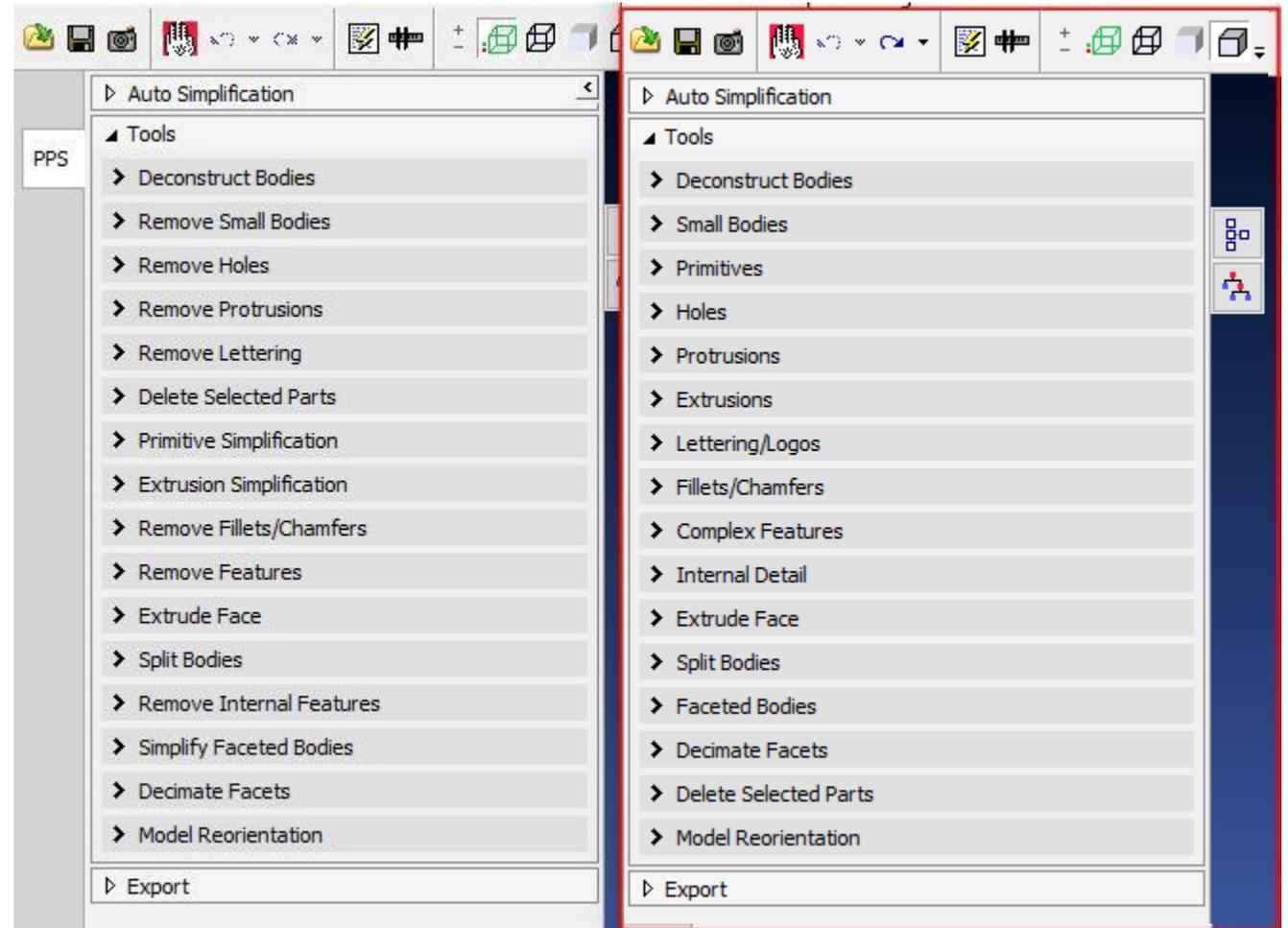
Split Bodies

- Splitting algorithm improved
- Supports use with assemblies
- Splits across multiple components
- Allows “Delete bodies below”



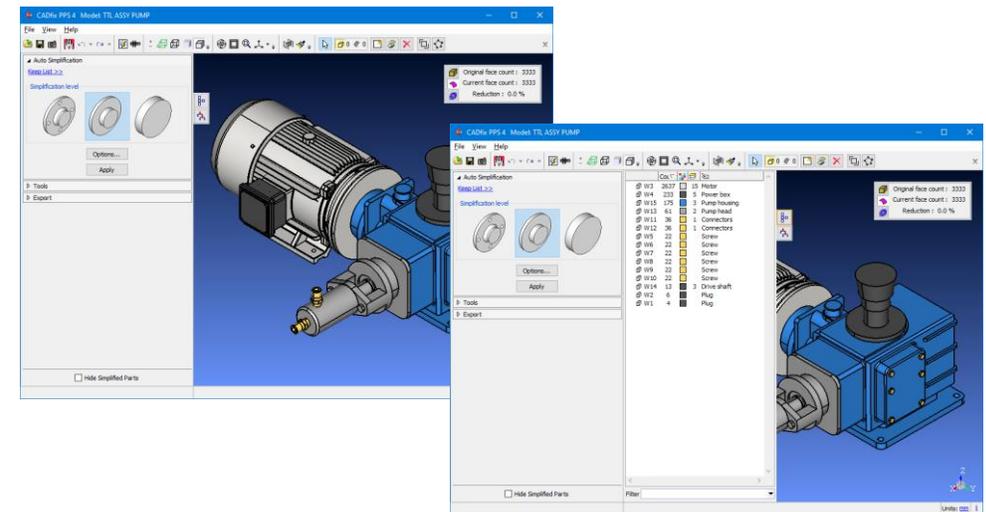
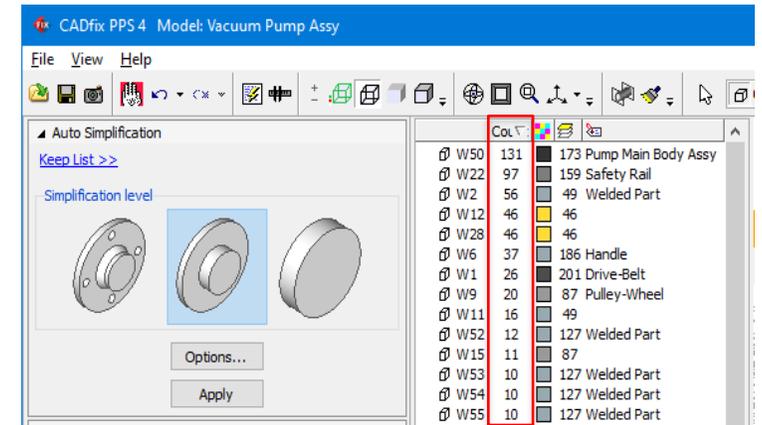
Tools menu

- Manual tool order to reflect updated tools
- Shorter names
- Tools auto-close when new tool opened



Model tree

- Model Tree ordered by body face count column
 - Identify bodies where simplification is needed
- New *Create Assembly* from parts
 - Reduce duplication
 - Reduce body count
 - Reduce face count
 - Reduce duplicated processing
- New slide-in, slide-out model tree



Batch

- Configuration files updated to support new Auto-simplification controls

Note:

Existing cwc files should be reviewed and updated before use in PPS4

```
cwc,version : 400.27401

preferredUnits [MM, CM, M, INCH, FOOT] : MM

finish,save [0, 1] : 1
finish,saveSuffix [NULL, value] :
finish,purge [0, 1] : 1

import [1] : 1

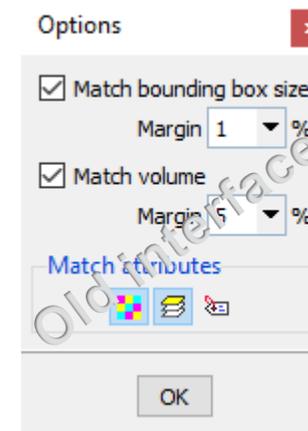
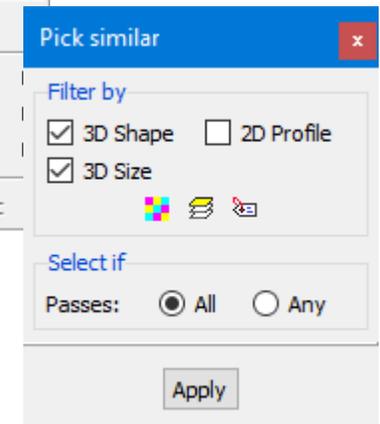
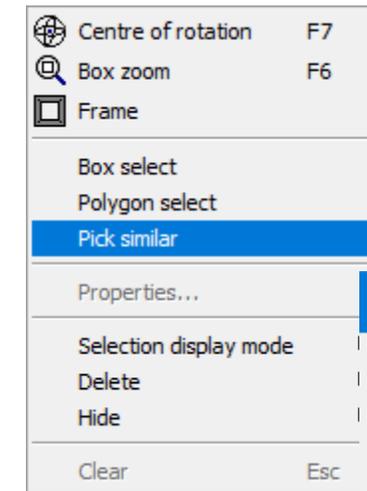
import,colours [0, 1] : 1
import,layers [0, 1] : 1
import,labels [0, 1] : 1
import,transparency [0, 1] : 1
import,blanked [0, 1] : 0

transform [0, 1] : 1

pps,simpLevel [1, 2, 3] : 2
pps,smallBodySize [DEFAULT, FIXED, AUTO, value] : 100.0:mm
pps,keepList [NULL, value] : NULL
pps,deconstructBodies [0, 1] : 1
pps,cylSimplification [0, 1] : 1
pps,boxSimplification [0, 1] : 1
pps,extSimplification [0, 1] : 1
pps,extSimplifyProfile [0, 1] : 1
pps,removeSmallBodies [0, 1] : 1
pps,removeHoles [0, 1] : 1
pps,holeSize [DEFAULT, value] : 50.0:mm
pps,removeProtrusions [0, 1] : 0
pps,protrusionSize [DEFAULT, value] : 50.0:mm
pps,removeInternals [0, 1] : 1
pps,internalsStage [PRE, POST, BOTH] : POST
pps,internalsMaxGap [DEFAULT, value] : 200.0:mm
pps,internalsLevel [value] : 5
pps,decimateFacets [0, 1] : 0
pps,decimationTol [DEFAULT, value] : 2.0:mm
pps,retainAttributes : COLOUR
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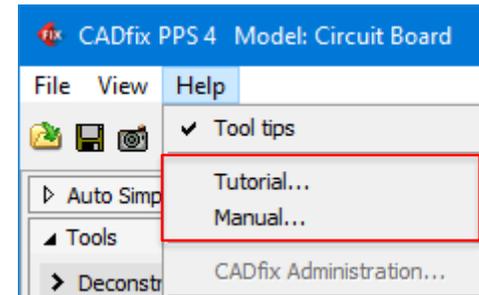
Selection tool

- Selection tool fully implemented on main toolbar
- 'Find' → 'Apply' tools use selection as working set
- Pick similar tool available with complex search functions
 - 3D shape
 - 3D Size
 - 2D Profile
 - Pass 'All' tests of 'ANY' test



Documentation

- Help on PPS4 tools:
 - Help → Manual
- PPS4 specific self-training:
 - Help → Manual
- Installation and release information:
 - ITI-Global.com/cadfix-support
- Other training, advice, and queries
 - Americas: works_supp@iti-global.com
 - Europe, Asia-Pacific, Middle East, Africa: eusupport@iti-global.com





Thank you!

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