































Assembly Design

ToolBar	Feature	Icon	AS1	ASD
PRODUCT STRUCTURE				
	New Component		X	X
	New Product		X	X
	New Part		X	X
	Existing component		X	X
	Insert with positioning		X	X
	Replace component		X	X
	Graph tree reordering		X	X
	Generate numbering		X	X
	Manage representations		X	X
	Define multi instantiation		X	X
	fast multi instantiation		X	X
	Load		X	X
	Unload		X	X
	Product load management			X
CATALOG BROWSER				
	Insert component		X	X
CONSTRAINTS				
	Coincidence		X	X
	Contact		X	X
	Offset		X	X
	Angle		X	X
	Fix component		X	X

Fix together		X	X
Flexible sub-assembly		X	X
Change constraint		X	X
Reuse pattern		X	X
Edit constraint In visu mode		X	X
Quick constraint			X






CONSTRAINTS CREATION MODES

Default mode			X
Chain mode			X
Stack mode			X


ANALYSIS

BOM	Bill of Material...	X	X
Update		X	X
Constraints		X	X
Dependencies		X	X
Mechanical structure		X	X
Degree of freedom			X
Measure		X	X

DMU

Compute clash		X	X
Clash		X	X
Sectionning		X	X
Distance		X	X
Mass properties		X	X
Check entity		X	X

SCENES

Enhanced Scene		X	X
----------------	--	---	---

Scenes Browser



X

X

CONTEXTUAL MENU

Isolate part

X

X

Change context

X

X

Design mode

X

X

Visu mode

X

X

activate node

X

X

Deactivate node

X

X

Activate terminal node

X

X

Deactivate terminal node

X

X

Define Contextual links

X

ANNOTATIONS

Text with leader



X

X

Flag note



X

X

Weld Feature



X

X

MOVE

Translation and rotation



X

X

Manipulation



X

X

Snap



X

X

Smart Move



X

X

Explode



X

X

Stop Manipulation on Clash



X

X

ASSEMBLY FEATURE

Split



X

X

Hole



X

X

Pocket



X

X

Add



X

X

Remove		X	X
Symmetry on component		X	X

PRODUCT MANAGEMENT

Product manager			X
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












PUBLICATION

Publication		X (*)	X (*) Possible in AS1 with PKT installed R15
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Part Design

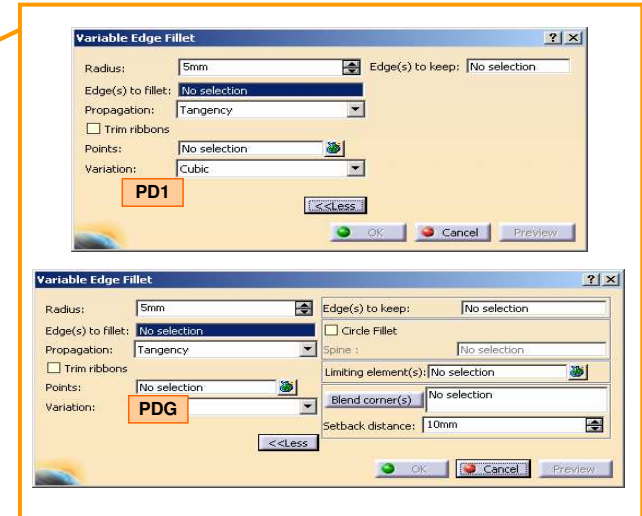
ToolBar	Feature	Icon	PD1	PDG	
SKETCH BASED FEATURES					
	PAD		X	X	
	Drafted and filled pad		X	X	
	Multi-pad		X	X	
	Pocket		X	X	
	Drafted and filled pocket		X	X	
	Multi-pocket		X	X	
	Shaft		X	X	
	Groove		X	X	
	Hole		X	X	
	Rib		X	X	
	Slot		X	X	
	Stiffener		X	X	
	Solid Combine		X	X	
	Loft		X	X	Note : this feature varies if having GSD or not ?
	Remove Loft		X	X	
	Pad not Normal to Sketsh			X	
	Pocket not Normal to Sketch			X	
	Hole not Normal to Sketch			X	

DRESS-UP FEATURES




Edge fillet		X	X
Variable Radius Fillet		X	X
Face-Face fillet		X	X
Trintangent fillet		X	X
Chamfer		X	X
Draft		X	X
Fillet Preview			X
Limiting element			X
Chamfer preview			X
Draft preview			X
Draft reflected lines			X
Variable angle draft			X
Advanced draft			X
Parting element			X
Thickness		X	X
Thread/Tap		X	X
Remove Face		X	X
Replace Face		X	X




Note : this feature varies

Note : this feature varies







TRANSFORMATION FEATURES






Restangular Pattern		X	X
Circular Pattern		X	X
User Pattern		X	X

Scaling		X	X
Multiple crown	 Circle(s) : 1 		X








SURFACE-BASED FEATURES





Split		X	X
thick Surface		X	X
Close surface		X	X
Sew surface			X

TRANSFORMATION FEATURES



Rotation		X	X
Translate		X	X
Symmetry		X	X
Mirror		X	X
Reflect Line			X
Shell		X	X

BODIES



Insert New Body		X	X
Body in a Set			X
Assemble Features			X
Insert Geometrical Set		X	X
Insert Ordered Geometrical Set		X	X
Add		X	X
Assemble		X	X

Remove		X	X
Intersect		X	X
Switch display only current solid		X	X
Union trim			X
Remove lump			X
Changing boolean operator		X	X
CCP with link			X

ANNOTATIONS

Text with leader		X	X
Flag note		X	X




CONSTRAINTS

Define in a dialog box		X	X
Constraints		X	X
Datum			

POWERCOPY

Creation		X	X
Instantiation		X	X

ANALYSIS TOOLS

Draft			X
Curvature			X
Thread/TAP Analysis			X

Parametrization analysis		X
Blend vertex fillet		X

Note : this feature available only with a GSD license ?

REPLACE

Replace sketch		X
Replace body		X
Replace surface		X

PUBLICATION

Publication		X (*)	X
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(*) Note : with C12 on top of P1 this feature is available with a PKT license

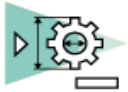
USER DEFINED FEATURE

Creation		X
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Note : this feature is available only with a PKT license


Scetcher

All Sketch Toolbars (except below)		X	X
Edit Multi-Constraint			X
Profile Toolbar			
Cylindrical Elongated Hole Profile			X
Keyhole Profile			X
Hexagon Profile			X
Tools Toolbar			
Output Features			X
Profile Features			X



Generative Drafting





ToolBar	Feature	Icon	GD1	GDR
DRAWING				
	New Sheet		X	X
	New Detail Sheet		X	X
	Instantiate 2D Component		X	X
PROJECTION				
	New view		X	X
	View creation Wizard		X	X
	Front view		X	X
	Advanced front view			X
	Projection view		X	X
	Unfold view		X	X
	View from 3D		X	X
	Auxiliary view		X	X
	Isometric view		X	X
GENERATE				
	Generating dimension step by step			X
	Generating demension		X	X
	Dimension Generation		X	X
	Generate balloon		X	X
	Generate BOM		X	X
ANALYSE				
	Show geometry in all viewpoints		X	X
	Dimension analysis			X
POSITIONING				
	Dimension positioning			X

Element Positioning		X	X
Line Up		X	X
Align into System		X	X

STYLE

GenerativeViewStyle		X	X
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SECTION

Offset section view		X	X
Offset section view (planar surface)		X	X
Offset section cut		X	X
Aligned section view		X	X
Aligned section cut		X	X

DETAILS

Quick details view		X	X
Quick details view profile		X	X
Detail view		X	X
Detail view profile		X	X







CLIPPINGS

Clipping view		X	X
Clipping view profile		X	X

BREAK VIEW









Broken view		X	X
Breakout view		X	X

DIMENSIONING












All Dimensions		X	X
All Technological Feature Dimensions		X	X
Re-route		X	X
Create Interruptions		X	X
Remove Interruptions		X	X
Datum feature		X	X

Geometrical Tolerance		X	X
-----------------------	---	---	---

DRESS UP


Center line		X	X
Center line with reference		X	X
Threads		X	X
Threads with reference		X	X
Axis line		X	X
Axis line and center line		X	X
Aera-fill		X	X
Arrows		X	X

TEXTS




Text		X	X
Text with leader		X	X
Text replicate		X	X
Ballon		X	X
Datum Target		X	X
Text Template Placement		X	X
Roughness Symbol		X	X
Welding Symbol		X	X
Weld		X	X
Table		X	X
Table from CSV		X	X

GEOMETRY CREATION






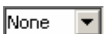
All Point		X	X
All Line		X	X
All Circle		X	X
Ellipse		X	X
All Profile		X	X
Spline		X	X
Connect		X	X
Parabola by focus		X	X

Hyperbola by focus		X	X
Conic		X	X

GEOMETRY Modification













All Relimitations		X	X
All Transformations		X	X
All Constraints		X	X

PROPERTIES

Text Properties		X	X
Graphic Properties		X	X
Dimension Properties		X	X
Copy Graphic Properties		X	X
Pattern		X	X
Layer		X	X

TOOLS

TOOLS

Grid		X	X
Snap to point		X	X
Analysis display mode		X	X
Show constraints		X	X
Detected constraints		X	X
Filter generated elements		X	X
Dimension System Selection Mode		X	X
Projected dimension		X	X
Force dimension on element		X	X
Force to horizontal position		X	X
Force to vertical position		X	X
True length dimension		X	X
Filter generated elements		X	X

CATALOG























Catalog browser		X	X
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3x DEVICE		
	Toggle the translation mode	X X
	Toggle the rotation mode	X X
	Toggle the edominante mode	X X
	Reset the sensibility	X X
	Open the button customize dialog	X X
Import / Export		
	DXF	X X
	Tools/Import External Format	X X



Generative SheetMetal Design

ToolBar	Feature	Icon	SM1	SMD
SHEETMETAL DESIGN				
	Mirror		X	X
	Overlap Detection		X	X
	Mapping			X
	Sheetmetal parameters		X	X
	Wall and Stamp recognition		X	X
	Wall		X	X
	Wall on edge		X	X
	Extrude		X	X
	Bend		X	X
	Conical bend		X	X
	Local fold and unfold		X	X
	Bend-from-flat		X	X
	Flange		X	X
	Hem		X	X
	Tear-drop		X	X
	User-flange (swept flange)		X	X
	Unfold		X	X
	Multiview			X
	Views Management		X	X
	Hole		X	X
	Cutout		X	X

Rolled Walls		X	X
Hoppers		X	X
Stamp		X	X
Flanged Hole		X	X
Bead		X	X
Surface-stamp		X(*)	X
Dowel			X
Circular-stamp		X(*)	X
Bridge		X	X
Flanged Cutout		X	X
Louver		X	X
Stiffening-rib		X	X
User-stamp		X	X
Curve Stamp		X	X
Pattern		X	X
Circular pattern		X	X
User pattern		X	X
Corner relief		X	X
Corner		X	X
Chamfer		X	X
Save as DXF		X	X
Powercopy creation		X	X
Powercopy instantiation		X	X
Apply different K-factor for bends in a same part			X
Create Drafting View from unfolded		X	X

(*) no halfpierce in P1
no multi profile in P1

(*) no halfpierce in P1










Wireframe & Surface

ToolBar	Feature	Icon	WS1	GS1
SURFACES				
	Extrude		X	X
	Revolve		X	X
	Sphere		X	X
	Cylinder		X	X
	Offset		X	X
	Sweep		X	X
	Fill		X	X
	Multi Sections Surface		X	X
	Blended Surface		X	X
	Blend multi-elements			X
OPERATION				
	Shape Fillet			X
	Edge Fillet			X
	Variable radius fillet			X
	Face-Face fillet			X
	Join		X	X
	Healing		X	X

Untrim surf or curve		X	X
Disassemble		X	X
Split		X	X
Trim		X	X
Boundary		X	X
Extract		X	X
Translate		X	X
Rotate		X	X
Symmetry		X	X
Scaling		X	X
Affinity		X	X
Axis to Axis		X	X
Extrapolate		X	X

REPLICATION











Restangular Pattern			X
Circular Pattern			X
Repetitions point		X	X
Repetitions plane		X	X
Repetitions		X	X
Powercopy creation		X	X
Powercopy save in Catalog			X
Powercopy instantiation from Document		X	X
Powercopy instantiation from Selection			X

Catalog Browser		X
-----------------	---	---

GENERAL









Selection body		X
Work on support		X
Axis system		X
Create datum		X
Working support activiy		X
Ordered Geometrical Set		X

WIREFRAM

Combine		X
Parallel curve		X
Reflect Line		X
Spiral		X
Conic		X
Point		X
Line		X
Axis		X
Plane		X
Projection		X
Intersection		X
Circle		X
Associative IsoParametric Curves		X
Spline		X



Helix		X	X
Corner		X	X
Connect curve		X	X
Polyline		X	X

with Radius in R16 recovered from R14 because of Bug

Curve Connect Checker		X	X
Surface Connect Checker		X	X
Keep / No Keep		X	X
Analysis		X	X
Sweep explicit		X	X
Limitation by a point		X	X
Guide tangency		X	X
Join wires		X	X
Join surface		X	X
Check join result		X	X
Inverse		X	X
Near		X	X
Plane between		X	X















Infrastructure




ToolBar	Feature	Icon	CO1	COM
STANDARD				
	New document		X	X
	Open		X	X
	Save		X	X
	Quick Print		X	X
	Print preview		X	X
	Printer Setup		X	X
	Cut		X	X
	Copy		X	X
	Paste		X	X
	Special Paste		X	X
	Undo		X	X
	Redo		X	X
	What's This		X	X
	Properties		X	X
	Recent Files		X	X
	New From		X	X
TOOLS				
	Update		X	X
KNOWLEDGE				

Formula		X	X
Design Table		X	X
Law			X
Check Analysis			X
Knowledge Inspector			X

VIEW

Pan		X	X
Rotate		X	X
Zoom in		X	X
Zoom out		X	X
Zoom to area		X	X
Zoom to selection		X	X
Previous/Next View		X	X
Normal View		X	X
Standard Views		X	X
View mode		X	X
Multi View			X
Hide/Show		X	X
Swap visible mode		X	X
Fit All in		X	X

DMU

Measure item		X	X
Measure between		X	X
Measure inertia		X	X



Interactive Drafting

ToolBar	Feature	Icon	ID1
DRAWING			
	New Sheet		
	New detail Sheet		
	New view		
MULTIVIEW			
	Multiview projection		
	View plane		
DIMENSIONING			
	Dimensions		
	Cumulate dimensions		
	Stacked dimensions		
	Length/Distance dimensions		
	Angle dimensions		
	Radius dimensions		
	Diameters dimensions		
	Chamfer dimensions		
	Thread dimensions		
	Coordinate dimensions		
	Hole dimension table		
	Create interruption		
	Remove interruption		
	Remove all interruptions		
	Datum feature		

Geometric tolerance



DIMENSION PROPERTIES

Line type



1 part dimension



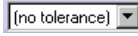
2 part dimension



2 part leader



Tolerance



tolerance description

Numerical display

Precision



POSITIONING

Element positioning

Line up



Align into system

POSITIONING & ORIENTATION

Horizontal

Vertical

Angle

DRESS UP

Center line



Center line with reference



Threads



Threads with reference



Axis line



Axis line and center line









Aera-fill




Arrows



TEXTS

Text	
Text with leader	
Text with replicate	
Balloon	
Datum target	
Add leader	













SYMBOLS



















Roughness	
Welding	
Weld	

TABLE
















Table	
Table from CVS	






GEOMETRY CREATION

Point by clicking	
Point by using coordinates	
Equidistant points	
Intersection point	
Projection point	
Line	
Infinite line	
Bi-tangent line	
Bisecting line	
Circle	
3 points circle	
Circle using coordinates	



Tri-tangente circle	
Arc	
3 points arc	
3 points arc starting with limits	
Ellipse	
Profile	
Rectangle	
Oriented rectangle	
Parallelogram	
Hexagone	
Elongated hole	
Cylindrical elongated hole	
Keyhole profile	
Spline	
Connect	
Parabola by focus	
Hyperbola by focus	
Conic	

GEOMETRY MODIFICATION


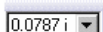













Corner	  
Chamfer	  
Trim	 
Break	
Quick trim	
Close	
Complement	
Symmetry	
Translate	
Rotate	

Scale	
Offset	
Geometrical constraints	
Constraints defined in dialog box	
Contact constraint	

GRAPHIC PROPERTIES

Color	
Line weight	
Line type	
Layer	
Copy/Paste format	
Pattern	

TEXT PROPERTIES

Front name	
front size	
Bold	
Italic	
Underline	
Strike thru	
Overline	
Superscript	
Subscript	
Left justification	
Center justification	
Right justification	
Anchor point	
Frame	
Insert symbol	

STYLE

Style

User Default

TOOLS

- Grid
- Snap to point
- Analysis display mode
- Show constraints
- Detected constraints
- Filter generated elements
- Dimension System Selection Mode
- Projected dimension
- Force dimension on element
- Force to horizontal position
- Force to vertical position
- True length dimension

ANALYSE

Show geometrie in all view point

3x DEVICE

- Toggle the translation mode
- Toggle the rotation mode
- Toggle the edominante mode
- Increase the sensibility
- Reset the sensibility
- Open the button customize dialog



V4 Integration

ToolBar	Feature	Icon	V41	V4I
File				
	Open *.model		X	X
	Open *.session		X	X
	Open *.asm			X
	Save As *.model			X
	Save As *.session			X
Insert				
	Existing Component		X	X
	*.asm		X	X
	*.session		X	X
	*.model		X	X
Edit				
	copy V4 3D Model *MASTER			X
	copy V4 2D Model *DRAFT		X	X
	paste V4 3D Model to CATPart			X
	paste special V4 3D Model to CATPart			X
	paste V4 2D Model *DRAFT		X	X
	paste special V4 2D Model *DRAFT (with Link)		X	X
	Properties (Model Comment)		X	X
Filter				
	V4 Layer / Filter		X	X
Icon Toolbar				
	Check		X	X
	V4 Workspaces		X	X
Batch				
	Read from *dlv3 or *exp format		X	X
	V4ToV5 *DRAFT (2D)		X	X
	V4ToV5 *MASTER (3D)			X
	V5ToV4 to *MASTER (3D)			X



Rendering

ToolBar

Feature

Icon

RT1

APPLY MATERIAL

Apply Material (on component)



Apply Material



MATERIAL LIBRARY

Family management



MATERIAL PROPERTIES

Planar mapping



Spherical mapping



Cylindrical mapping



Cubical mapping



Adaptive mapping



2D texture selection

Repeat U (ON or OFF)

Texture Positionning

Texture Orientation

Texture Scale

Ambient coefficient and color

Diffuse coefficient and color



Specular coefficient and color

Roughness


Reflection

Refraction

Rendering | Inheritance | Feature Properties | Analysis | Drafting


Material size: 60 mm
 

Lighting | Texture

 Ambient


0.80

...

 Diffuse


1.00

...

 Specular


0.00

...

 Roughness

0.00


...

 Transparency

0.00


...

(*)

 Refraction(*)

1.00

...

 Reflectivity

0.00

...

(*) These parameters are used for software rendering only



Generative Shape Design

ToolBar	Feature	Icon	GS1	GSD
Insert				
	Insert New Body		X	X
	Body in a Set			X
	Insert Geometrical Set		X	X
	Insert Ordered Geometrical Set		X	X
SURFACES				
	Extrude		X	X
	Revolve		X	X
	Sphere		X	X
	Cylinder		X	X
	Offset		X(*)	X
			(*) No Smooth parameter	
	Sweep	  	X (*)	X
			(*) No Smooth parameter	
	Adaptive Sweep			X
	Fill		X	X
	Multi Sections Surface		X	X
	Blended Surface		X	X

Blend with Spine



X

OPERATION

Shape Fillet



X(*)

X

(*)No Trim /No Hold Curve

Edge Fillet



X

X

Variable radius fillet



X

X

Face-Face fillet



X

X

Tritangent Fillet



X

Join



X(*)

X

(*)No Federation

Healing



X(*)

X

(*)No Freeze, Sharpness, Visualization,
No Tangency in Parameter

Untrim surf or curve



X

X

Disassemble



X

X

Split



X

X

Trim



X

X

Boundary



X

X

Extract



X(*)

X

(*)No Federation

Multiple Extract



X

Translate



X

X

Rotate



X

X

Symmetry



X

X

Scaling



X

X

Hold Curve:	No selection
Spine:	No selection
Law Relimiter 1:	No selection
Law Relimiter 2:	No selection
Faces to keep:	Default (None)












Parameters	Freeze	Sharpness
Continuity:	Point	
Merging distance:	0.001mm	
Distance objective:	0.001mm	
Tangency angle:	0.5deg	
Tangency objective:	0.5deg	

Affinity		X	X	(*)No Internal Edges
Axis to Axis		X	X	
Extrapolate		X(*)	X	
Near		X	X	
Inverse		X	X	








LAW

Law			X
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REPLICATION

Rectangular Pattern		X	X
Circular Pattern		X	X
Repetitions point		X	X
Duplicate GS			X
Repetitions plane		X	X
Plane System		X	X
Repetitions		X	X
Powercopy creation		X	X
Powercopy save in Catalog		X	X
Powercopy instantiation from Document		X	X
Powercopy instantiation from Selection		X	X
Catalog Browser		X	X

WIREFRAM








Combine		X	X	
Parallel curve		X(*)	X	(*) No Smoothing
3D Curve Offset			X	
Reflect Line		X	X	
Spiral		X	X	
Conic		X	X	
Point		X	X	
Extremum Point			X	
Extremum Polar Point			X	
Line		X	X	
Axis		X	X	
Plane		X	X	
Projection		X(*)	X	(*) No Smoothing
Intersection		X	X	
Circle		X	X	
Associative IsoParametric Curves		X	X	
Spline		X	X	
Helix		X	X	
Corner		X	X	

Smoothing
☒ None ☐ Tangency ☐ Curvature

Connect curve		X	X
Polyline		X	X
Spine			X

with Radius in R16 recovered from R14 because of Bug


Analysis

Curve Connect Checker		X	X
Surface Connect Checker		X	X
Analysis		X	X
Draft Analysis			X
Surfacic Curvature Analysis			X
Apply/Remove DressUp			X
Geometric Information			X




ANNOTATIONS

Text with leader			X
Flag note			X











CONSTRAINTS

Define in a dialog box			X
Constraints			X



Views/Annotations Planes

Front View		X
Section View / Annotaion Plane		X
Section Cut / Annotaion Plane		X






Tools / GENERAL

Selection body	<input type="text" value="Geometrical Set."/> ▼	X	X
Work on support		X	X
Snap to Point		X	X
Axis system		X	X
Create datum		X	X
Working support activiy		X	X
Historical Graph			X
Insert Mode			X
Keep / No Keep		X	X
Delete Useless Elements			X
Parameterization Analysis			X
External View		X	X
Thin Parts Attribute			X
Material on Surface		X	X


Edit

Quick Edit			X
Scanning the part and Defining In Work Objects		X	X

User Selection Filter

Point Filter		X	X
Curve Filter		X	X
Surface Filter		X	X
Volume Filter		X	X
Feature Element Filter		X	X
Geometrical Element Filter		X	X
Work On Support selection state			X

PUBLICATION

Publication		X (*)	X
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(*) Note : with C12 on top of P1 this feature is available with a PKT license or Configuration below GS1 is P2