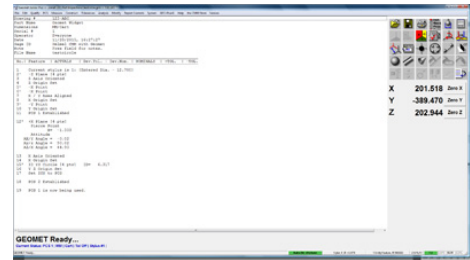# Geomet Version Comparison Chart for V7.01.398

Geomet is offered in four levels to suit budgets and measurement needs as described below:
- Geomet Junior Plus
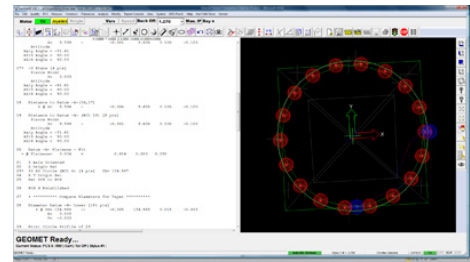- Geomet 101 Plus
- Geomet 301
- Geomet 501

Geomet Junior Plus

Geomet Junior Plus is included as standard with every manual Helmel CMM system and is a fully competent entry-level manual-only 3D inspection software loaded with most of the functions needed for basic inspection. It presents a simple screen with most functions in a highly visible one-touch button cluster and a step-by-step text Report of any measurement session. It is an intuitive interface that does not require extensive training. Most users learn Junior Plus on their own. Geomet Junior Plus includes a powerful set of Part Coordinate System (PCS) tools that Geomet is famous for and a range of feature measuring and construction tools to accomplish nearly any solution. Nominal and Tolerance data can be entered for impressive Reports and any session can be saved and rerun as a program.
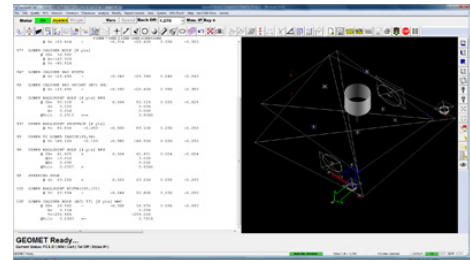

Geomet 101 Plus

Geomet 101 Plus is for both manual and DCC systems. It is an upgrade for manual CMMs and Standard with every Helmel DCC System except those with UCC controllers. It is our most popular package with real strength for both lab applications and the production floor. A graphical area generates a pictorial representation of measured results as a visual guide for part programs and an interactive selector for the Report area. DCC Programming is easy and efficient by "self-teach" method, or learn-by-measuring, with very powerful editing tools and feature generators. Vector Points, tailored Reports, data exporting, and analytical tools for circle profiles. Geomet 101 Plus is loaded with tools and options for DCC operation in the production environment and integration with automation. Measurements can be exported for Reverse Engineering.

Geomet 301

Geomet 301 is for both manual and DCC systems and is an upgrade from 101 Plus. It offers unbridled measuring power with typical Geomet friendliness. It all the power of Geomet 101 Plus and a host of other analytical tools to manipulate and review your part inspections. As with all Geomet versions, the time proven and inherent quality of Geomet's algorithms guarantee meaningful results when creating new and challenging relationships from measured features and Part Coordinate Systems. Solution tools can find answers to nearly any measuring task.

Geomet 501

Geomet 501 has all the content of 301 for DCC only and drives the Renishaw UCC Assist software when the UCC series of controller are implemented, typically for continuous scanning or 5-axis Touch Probe applications.

Geomet Options

Geomet versions can be expanded to include advanced feature and hardware support. The following chart shows options in various versions.

Geomet Option Chart

	Junior Plus	101 Plus	301	501
Direct Computer Control (DCC)		X	X	X
Motorized Probe Support		X	X	X
Stylus Change Racks		X	X	X
Scanning Probes (UCC Control)				X
5-Axis Probes (UCC Control)				X
I/O Interface for Automation		X	X	X
Q-DAS SPC Data Export Facility		X	X	X

Geomet Version Comparison Chart

Measured Features

	Junior Plus	101 Plus	301	501
Points 1D, 2D, 3D	Standard	Standard	Standard	Standard
DCC Auto Point		DCC	DCC	Standard
2D/3D Inside /Outside Radial Points	Standard	Standard	Standard	Standard
Surface Vector Point – YZ/ijk Known	Standard	Standard	Standard	Standard
Surface Vector Point – XYZ Known	Standard	Standard	Standard	Standard
Surface Vector Point – ijk Known	Standard	Standard	Standard	Standard
Surface Vector Point – All Unknown	Standard	Standard	Standard	Standard
Surface Vector Point – Import table	Standard	Standard	Standard	Standard
2D Lines	Standard	Standard	Standard	Standard
3D Constructed Lines	Standard	Standard	Standard	Standard
DCC Auto Line		DCC	DCC	Standard
2D Circles	Standard	Standard	Standard	Standard
DCC Auto Circle		DCC	DCC	Standard
Ellipse	Standard	Standard	Standard	Standard
Plane	Standard	Standard	Standard	Standard
DCC Auto Plane		DCC	DCC	Standard
Sphere	Standard	Standard	Standard	Standard
Cylinder	Standard	Standard	Standard	Standard
DCC Auto Cylinder		DCC	DCC	Standard
Cone	Standard	Standard	Standard	Standard
Slot/Web/Step		Standard	Standard	Standard
4 Point Intersect		Standard	Standard	Standard
Oval Slot		Standard	Standard	Standard
DCC = Requires Direct Computer Control				

Offline and Interactive Feature Generators

	Junior Plus	101 Plus	301	501
Point Generator		Standard	Standard	Standard
Inverse Vector Point		Standard	Standard	Standard
Line Generator		Standard	Standard	Standard
Circle Generator		Standard	Standard	Standard
Cylinder Generator		Standard	Standard	Standard
Plane Generator		Standard	Standard	Standard
Cone Generator		Standard	Standard	Standard
Bolt Hole Pattern Generator		Standard	Standard	Standard

Reverse Engineering Tools

	Junior Plus	101 Plus	301	501
GeoTracer Hard Probe Drag Scanning	Standard	Standard	Standard	Standard
Touch Probe Point Clouds	Standard	Standard	Standard	Standard
Line Scan		DCC	DCC	Standard
Radial Path Auto Scan		DCC	DCC	Standard
4 Point Boundary Surface Scan		DCC	DCC	Standard
Radial Boundary Surface Scan		DCC	DCC	Standard
Cardinal Spline Generation	Standard	Standard	Standard	Standard
3D Radial Boundary Pie/Parallel/Mutli Line Scanning				Standard
DCC = Requires Direct Computer Control				

Coordinate System

	Junior Plus	101 Plus	301	501
Orient (Primary Datum)	Standard	Standard	Standard	Standard
Align (Secondary Datum)	Standard	Standard	Standard	Standard
Origin (Tertiary Datum)	Standard	Standard	Standard	Standard
Fixture Coordinate System		Standard	Standard	Standard
Rotary Axis		Standard	Standard	Standard
U/V Rotary Table				Standard
Translate PCS by Nominal value	Standard	Standard	Standard	Standard
Translate PCS by Measured Value	Standard	Standard	Standard	Standard
Rotate PCS	Standard	Standard	Standard	Standard
Pivot Align	Standard	Standard	Standard	Standard
Offset Align	Standard	Standard	Standard	Standard
Clearance Coordinate System			DCC	Standard
Recall PCS/MCS	Standard	Standard	Standard	Standard
Edit PCS Rotations		Standard	Standard	Standard
Edit PCS Translations		Standard	Standard	Standard
Edit PCS Offeset Align		Standard	Standard	Standard
Edit FCS Features		Standard	Standard	Standard
DCC = Requires Direct Computer Control PCS = Part Coordinate System				

Feature Analysis

	Junior Plus	101 Plus	301	501
Circular Profile	Standard	Standard	Standard	Standard
Circular Paper Gauge	Standard	Standard	Standard	Standard
Planar Profile	Standard	Standard	Standard	Standard
Planar Data Point Report	Standard	Standard	Standard	Standard
Targeted Vector Point		Standard	Standard	Standard
Diameter Averaging		Standard	Standard	Standard
Min/Max Spread Calculations		Standard	Standard	Standard
Max Inscribed/Min Circumscribed Circle		Standard	Standard	Standard
Feature Averaging Tool		Standard	Standard	Standard
Re-measure Out-of Tolerance Feature		Standard	Standard	Standard

Constructions

	Junior Plus	101 Plus	301	501
Distance (1D, 2D, 3D)	Standard	Standard	Standard	Standard
Extended Distances			Standard	Standard
Bisector (2D/2D)	Standard	Standard	Standard	Standard
Bisector (3D/3D)	Standard	Standard	Standard	Standard
Intersection – All Features	Standard	Standard	Standard	Standard

	Junior Plus	101 Plus	301	501
Angle – All Features	Standard	Standard	Standard	Standard
Construct Offset Point		Standard	Standard	Standard
Construct Offset Line		Standard	Standard	Standard
Construct Line	Standard	Standard	Standard	Standard
Construct Circle	Standard	Standard	Standard	Standard
Construct Plane	Standard	Standard	Standard	Standard
Construct Offset Plane		Standard	Standard	Standard
Construct Sphere	Standard	Standard	Standard	Standard
Construct Cylinder	Standard	Standard	Standard	Standard
Construct Cone	Standard	Standard	Standard	Standard
Recall features	Standard	Standard	Standard	Standard
Attribute Changes on Features	Standard	Standard	Standard	Standard
Cone Offset Diameter	Standard	Standard	Standard	Standard
Cone Diameter at Offset	Standard	Standard	Standard	Standard
Cone Drop Ball Fitting	Standard	Standard	Standard	Standard
Sphere Diameter at Offset	Standard	Standard	Standard	Standard
Sphere Offset Diameter	Standard	Standard	Standard	Standard
Recall Component of PCS		Standard	Standard	Standard
Cardinal Spline Generation	Standard	Standard	Standard	Standard
Random Feature Selection Tool	Standard	Standard	Standard	Standard
PCS = Part Coordinate System				

Tolerance

	Junior Plus	101 Plus	301	501
Bilateral	Standard	Standard	Standard	Standard
Positional RFS	Standard	Standard	Standard	Standard
Positional MMC	Standard	Standard	Standard	Standard
Positional LMC	Standard	Standard	Standard	Standard
Datum Bonus Tolerance	Standard	Standard	Standard	Standard
Circularity	Standard	Standard	Standard	Standard
Straightness	Standard	Standard	Standard	Standard
Perpendicularity to PCS	Standard	Standard	Standard	Standard
Perpendicularity to Feature	Standard	Standard	Standard	Standard
Parallelism to PCS	Standard	Standard	Standard	Standard
Parallelism to Feature	Standard	Standard	Standard	Standard
Concentricity to PCS	Standard	Standard	Standard	Standard
Concentricity to Feature	Standard	Standard	Standard	Standard
Flatness	Standard	Standard	Standard	Standard
Preset Tolerance pages	Standard	Standard	Standard	Standard
Process Control Tolerance – Control Zones			Standard	Standard
Out-of-Tolerance Flash Message		Standard	Standard	Standard
Out-of-Tolerance Watermark		Standard	Standard	Standard
Out-of Tolerance Interrupt	Standard	Standard	Standard	Standard
Cylinder-Plane Runout	Standard	Standard	Standard	Standard
PCS = Part Coordinate System				

Probes and Sensors

	Junior Plus	101 Plus	301	501
Hard Ball Probes	Standard	Standard	Standard	
Electronic Touch Trigger Probes	Standard	Standard	Standard	Standard
Hard and Electronic Disc Probes	Standard	Standard	Standard	
Hard Taper Probes	Standard	Standard	Standard	
Hard and Electronic Cylinder Probes	Standard	Standard	Standard	
Video Cross hair	Standard	Manual	Manual	
Manually Entered values	Standard	Standard	Standard	
SCR200 Stylus Rack		DCC	DCC	Standard
MCR20 Stylus Rack		DCC	DCC	Standard

Multiple Stylus Rack Support		Standard	Standard	Standard
Renishaw RTP20		DCC	DCC	Standard
Renishaw Scanning Probes				Standard
Manual Ball Re-Qualification	Standard	Standard	Standard	Standard
Auto Ball Re-Qualification		Standard	Standard	Standard
Reference Sphere Move	Standard	Standard	Standard	Standard
Unlimited Sensors	Standard	Standard	Standard	Standard
Multiple Stylus Database Support		Standard	Standard	
Qualification with Ring Gauge		Standard	Standard	
Stylus Database Edit Tool		Standard	Standard	

DCC = Direct Computer Control
Manual = Manual CMM only

Reporting Formats and Controls

	Junior Plus	101 Plus	301	501
Advanced feature Editor	Standard	Standard	Standard	Standard
Feature Property Tool	Standard	Standard	Standard	Standard
Selective Printing by Feature	Standard	Standard	Standard	Standard
Concise reporting			Standard	Standard
Inch/Metric	Standard	Standard	Standard	Standard
Radius/Diameter	Standard	Standard	Standard	Standard
Cartesian/Polar	Standard	Standard	Standard	Standard
Decimal Degrees/Degrees-Minutes-Seconds	Standard	Standard	Standard	Standard
Printing by Attributes	Standard	Standard	Standard	Standard
SPC Export tagging	Standard	Standard	Standard	Standard
Report Offset Values	Standard	Standard	Standard	Standard
Feature Filtering/Sorting	Standard	Standard	Standard	Standard
Out-of-Tolerance Flash Message		Standard	Standard	Standard
Custom Ordered Reports			Standard	Standard
Out-of-Tolerance Watermark		Standard	Standard	Standard

Special Functions

	Junior Plus	101 Plus	301	501
Library for Sub-Routines	Standard	Standard	Standard	Standard
SPC Export in ACII Format	Standard	Standard	Standard	Standard
File Locking	Standard	Standard	Standard	Standard
Auto Load Robot Interface		I/O	I/O	
Digital I/O interface		I/O	I/O	
Multi Stylus Feature Measurement	Standard	Standard	Standard	
Feature Export via IGES	Standard	Standard	Standard	Standard
Data Point Export via DXF	Standard	Standard	Standard	Standard
Geomet Gage R&R	Enhancement	Enhancement	Enhancement	Enhancement
GeoTracker	Enhancement	Enhancement	Enhancement	Enhancement
Internet HELP Access	Standard	Standard	Standard	Standard
Triangle Calculator	Standard	Standard	Standard	Standard
EZ Launch Menu System		Standard	Standard	Standard
Automation Poling Service		Standard	Standard	Standard
Q-DAS Export Facility			Standard	Standard
GM SP-Q_GCR_G3.0		Standard	Standard	Standard
Customized Fast Start Menu		Standard	Standard	Standard
Integration with ProLink QC-Calc		Enhancement	Enhancement	Enhancement
Part Program Tracking			Standard	Standard
In-Line Math calculator	Standard	Standard	Standard	Standard

I/O = Input/Output Production Control
Enhancement = Optional Enhancement Program

Program Editing

	Junior Plus	101 Plus	301	501
Insert Steps	Standard	Standard	Standard	Standard
Move Steps	Standard	Standard	Standard	Standard
Delete/Undelete	Standard	Standard	Standard	Standard
Delete Permanently	Standard	Standard	Standard	Standard
Library Auto-Link Update	Standard	Standard	Standard	Standard
Jump-to Navigation	Standard	Standard	Standard	Standard
Assign Feature Labels	Standard	Standard	Standard	Standard
Search on Feature Labels	Standard	Standard	Standard	Standard
Recalling Features	Standard	Standard	Standard	Standard
Recalling Features into New PCS	Standard	Standard	Standard	Standard
Copy and Array Program Steps		Standard	Standard	Standard
Copy and Append Features			Standard	Standard
Undo Features	Standard	Standard	Standard	Standard
Edit History Tool		Standard	Standard	Standard

Program Editing – Direct Computer Control Tools

	Junior Plus	101 Plus	301	501
Optimize DCC Circles		Standard	Standard	Standard
Offline DCC Circle		Standard	Standard	Standard
Offline DCC Cylinder		Standard	Standard	Standard
DCC Clearance Planes		Standard	Standard	Standard
High Accuracy Motion Targeting – Test & Re-Run		Standard	Standard	Standard
High Accuracy Features Averaging		Standard	Standard	Standard
Re-Teach Motion Path on Feature		Standard	Standard	Standard
Single Step Motion Edit		Standard	Standard	Standard
Motion Parameter Adjustment		Standard	Standard	Standard
Insert/Teach Motion Path Points		Standard	Standard	Standard
Offset and Copy Motion Path		Standard	Standard	Standard
Joystick in Part Coordinates		Standard	Standard	Standard
Measurement Point Capture on Specified Targets			Standard	Standard
Motion path Tests		Standard	Standard	Standard
Feature Specific Motion Disable		Standard	Standard	Standard
One-Step Motion Edit		Standard	Standard	Standard
Re-Run program Steps		Standard	Standard	Standard

Text and Image Features

	Junior Plus	101 Plus	301	501
Text Statements	Standard	Standard	Standard	Standard
User Prompts	Standard	Standard	Standard	Standard
Inline Program Text Entry	Standard	Standard	Standard	Standard
Display Image Prompts	Standard	Standard	Standard	Standard
Manual Entry Steps		Standard	Standard	Standard
Graphic Screen Shot		Standard	Standard	Standard