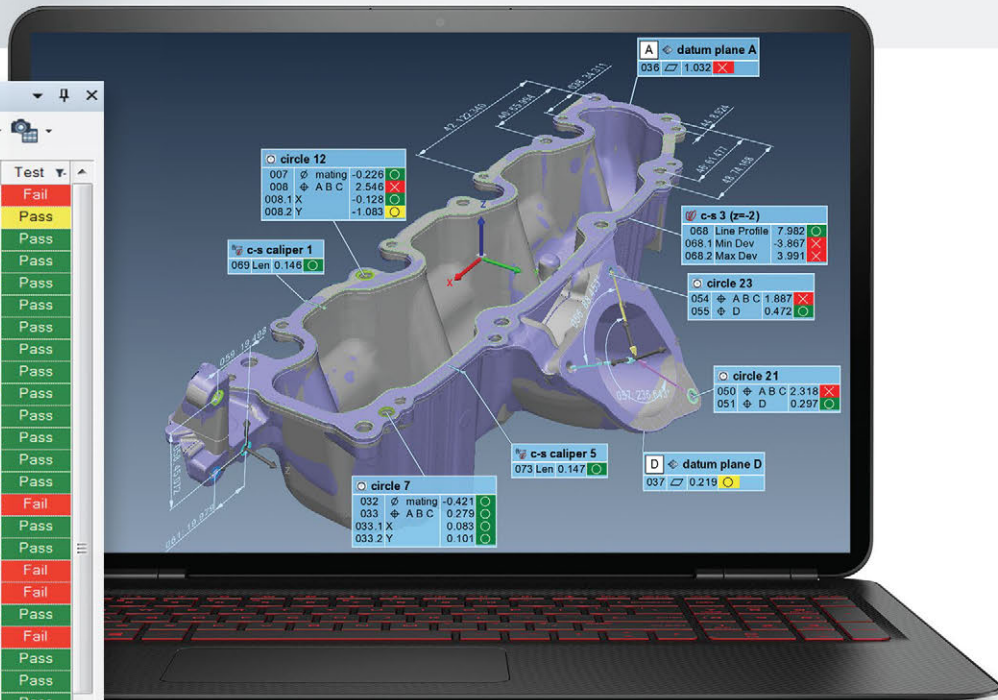




What's new in PolyWorks® 2017

Control Reviewer				
(All Controls)				
Char No.	Object Name	Control	Deviation	Test
1	datum plane A	$\square$ 0.500	1.032	Fail
2	datum plane D	$\square$ 0.300	0.219	Pass
3	circle 7	ϕ 6.500 $\pm$ 1.000 mating	-0.421	Pass
4	circle 7	ϕ 1.500 A B C	0.279	Pass
4.1	circle 7	X	0.083	Pass
4.2	circle 7	Y	0.101	Pass
5	c-s caliper 1	Length	0.146	Pass
6	c-s caliper 5	Length	0.147	Pass
7	distance 11	X Distance	-0.131	Pass
8	distance 12	X Distance	0.110	Pass
9	distance 13	X Distance	-0.116	Pass
10	distance 14	X Distance	0.038	Pass
11	distance 15	X Distance	-0.047	Pass
12	distance 16	X Distance	0.182	Pass
13	circle 21	ϕ 1.500 A B C	2.318	Fail
14	circle 21	ϕ 1.000 D	0.297	Pass
15	c-s 3 (z=2)	Line Profile	7.982	Pass
15.1	c-s 3 (z=2)	Min Deviation	-3.867	Fail
15.2	c-s 3 (z=2)	Max Deviation	3.991	Fail
16	angle 15	3D Angle 1	-0.469	Pass
17	circle 23	ϕ 1.500 A B C	1.887	Fail
17.1	circle 23	ϕ 1.000 D	0.472	Pass
18	angle 16	3D Angle 3	0.317	Pass
19	bracket distance 1	X Distance	-0.019	Pass
20	bracket distance 1	Y Distance	-0.608	Pass
Total: 145 Measured: 145 Fail: 15 Warning: 13				



Communicate and review measurement results efficiently

With the new dimensional-control-centric approach in PolyWorks 2017, the PolyWorks|Inspector™ 3D metrology project *is* the report! By enabling portable metrology and CNC CMM measurement specialists to communicate results directly in 3D, and empowering reviewers to investigate results contextually in 3D with dynamic navigation tools, considerable gains in productivity are guaranteed.

Thanks to the powerful Control Reviewer, complex inspection projects containing hundreds of dimensional and GD&T controls can easily be split into small and logical groups of controls — called control views — with individual dimensional controls tied to specific data alignments and coordinate systems.

The Control Reviewer also allows users to:

- Access a global list of dimensional controls sorted by characteristic index, making it the ideal tool to prepare first-article inspection reports.
- Search, sort, and filter controls to highlight critical results.
- Display control views automatically in 3D with the preferred point of view.
- Generate formatted reports automatically, with individual controls reported within the specified alignment and coordinate system.
- Export controls within the specified alignment and coordinate system.

Portable metrology

PolyWorks 2017 meets the requirements of the most demanding large-volume metrology applications by facilitating the execution of large measurement projects that are typical to the aerospace, shipyard, and power generation industries.

A powerful part-alignment technique for large structures

Best-Fit Measurement Objects - Setup and Results								
Object	Use X	Use Y	Use Z	Weight	Use for Scale	Dev	Min Dev	Max Dev
circle 1	☒	☒	☒	1.000	☒	0.227		
surface 1	☒	☒	☒	1.000	☒	0.000	-0.147	0.137
circle 2	☒	☒	☒	1.000	☒	0.286		
circle 8	☒	☒	☒	1.000	☒	0.605		
surface 2	☒	☒	☒	1.000	☒	-0.089	-0.163	-0.008

- Align points to geometrical characteristics of matched objects, such as center points, axes, or surfaces.
- Easily match either the measured and nominal components of an object or the components supplied by two distinct objects.
- Control the alignment direction, weight, and participation to the scaling factor computation for each pair of matched geometries.

Concurrent connections to multiple laser trackers

- Predefine and configure a list of trackers.
- Connect to multiple trackers simultaneously, and select one active tracker to measure objects.
- With multiple trackers connected, switch the active tracker instantaneously.
- Guide assembly building through real-time measurements with all connected trackers feeding measured reflector positions to Digital Readouts in parallel.



Additional flexibility for Surface features

- Probe a Surface feature before its nominal component is defined or the part is aligned to CAD.
- Probe measurement points directly within Surface features and obtain significant performance gains when acquiring thousands of surface points.



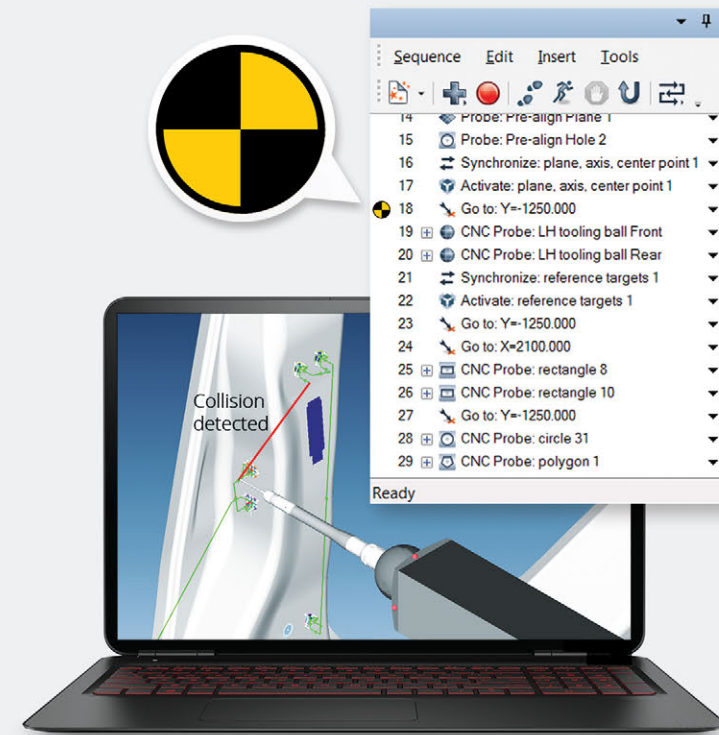
CNC CMM metrology

Collision analysis in real time

Measurement specialists who define probing and laser scanning paths on CNC CMMs now have access to a collision analysis engine that detects potential tool collisions with the part or the fixtures, and provides visual feedback on problematic tool paths in the Sequence Editor and the 3D Scene.

Thanks to two major innovations, the PolyWorks collision analysis approach stands out from competing CMM software products:

- Collision analysis is carried out in real time while the measurement sequence is created or edited. This allows operators to immediately fix problematic tool paths and avoid accumulating issues.
- Collision analysis is performed both offline and online, and warns users about potential collisions even when they launch a measurement operation outside of the Sequence Editor. Traditionally, in other software, this feature is offered solely as an offline functionality.



Multi-CMM management

PolyWorks 2017 efficiently handles multi-CMM setups that are typically found in the automotive industry:

- The mirroring tool allows users to automatically create a right measurement sequence from a left measurement sequence, cutting in half the time needed to prepare an inspection project for a full car body assembly.
- Synchronization operations can be inserted into a sequence to share measured object components among PolyWorks | Inspector™ sessions running on multiple computers, enabling operators to use features on the left and right sides when aligning a part to its CAD model.



PolyWorks® – The universal³ 3D metrology software platform for smart manufacturing and industry 4.0

Universal digitizing hub

Interface with all
3D metrology
measurement devices



Universal 3D metrology workflow

Perform all inspection
tasks using a common
workflow



Universal inspection projects

Re-use the same
inspection project with any
3D measurement device



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