

Easier inspection, plus Reverse Engineering

The 2012 release of PowerINSPECT includes new options to make inspection easier. In addition, basic reverse engineering functionality has been added to the point-cloud module.

A new mirror command has been added

to save programming time for symmetrical components. This allows the inspection sequence to be mirrored from one half of a component to the other half, or from the left-hand version of the design to the right-hand copy. The new feature can also reduce the possibility of programming errors and improve the consistency of the results between the two halves or parts.

The range of dimensions that can be displayed on the model has been increased to include more types of distance, angles and diameters and radii. The options to display the various dimensions from the increased range have been made more versatile, to ensure the reports remain easy to read with only the required dimensions shown.

There are two important additions to the PowerINSPECT 2012 point-cloud module for laser scanners and other point-cloud devices. STL export provides basic reverse engineering functionality for scanned data. The STL files can be used within PowerSHAPE Pro for more advanced reverse engineering operations. Point-cloud display has been enhanced with an option to show any back-facing points in a second colour. This highlights any discontinuities in the data, including gaps or other problem areas, and so makes it easier to identify areas that may need re-scanning to capture the complete model.

It is now possible to measure edge points directly; it is no longer necessary to measure the surface first. This makes the process both easier and faster. However, it is recommended that both the edge and the surface should be checked if there is any likelihood of the part being distorted, for example, when checking sheet-metal components.

The inspection of castings and forgings, and similar near-net shapes, has been improved with the addition of a new best-fit option. This centres the component within the measurement data so that the largest possible minimum stock

is located on the part. It ensures that positive material exists in all areas of any semi-finished part before it is sent for further machining. The option can be used with the PartAligner software to minimise set-up times.

A number of enhancements have been included to give faster and easier programming, with less

chance of errors. A new "lock workplane" option automatically creates a datum scheme within PowerINSPECT's GD&T True Position, matching the part's coordinate system, while standard tolerances for Limit and Fit to ISO 286 and ISO 2768 have been included so that they can be selected from a pre-defined list.

