

OneSpace Designer Modeling

Inspection

The Inspection module is targeted at companies who today have a 2D or manual based inspection process. It extends OneSpace Designer Modeling to support a 3D based design-to-inspection process, utilizing semi-automatic inspection point and routine definition, automatic measurement plan generation, and close-loop analysis between actual measurements of physical parts and the solid model.

3D Design to Inspection Process

Using a 2D based or manual inspection process, a number of error can be introduced because the inspection points and inspection routines are defined manually.

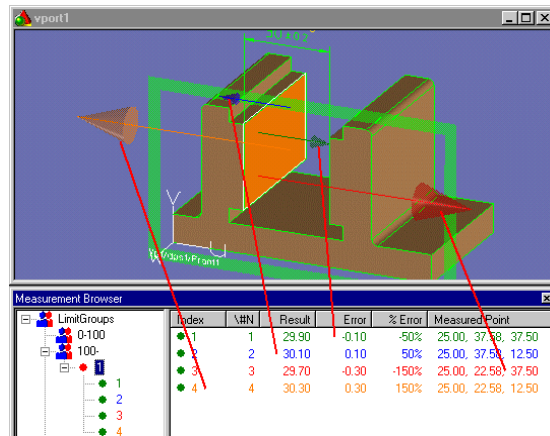
Using the new Inspection module, measurement plans can be prepared directly from the 3D model and exported to an external file in a readable format. This file can be edited and re-imported to communicate improvements to the measurement plan back to Inspection. This process is known as teaching. Real measurement data can be added to the file. By re-importing the updated external file into Inspection measurement data can be evaluated and effectively visualized.

Defining a Measurement Plan

A measurement plan specifies how the conformance of a selected part or assembly with the specification should be verified. Measurement plans may contain a very large number of measurements. They can be grouped to help manage the complexity of the process. The inspection engineer can define the coordinate system for each measurement plan to reflect the position of the part in a CMM machine. The measurement plan also contains the sequence of the measurement steps.

Specification of Measurement Points

Measurement points lie within the boundaries of the faces 'associated' with the measurement annotation. The user is invited to specify a total number of points or the number of points along each of the parametric face axes (to form an array).



Synchronization

Inspection allows creation of the measurement plan and the measurement points on a file-copied model. With this concept the inspection engineer can define the inspection data while the design engineer continues to work on the 3D model. A synchronization process transfers the inspection data back to the master model.

Teaching

The inspector updates the external file with taught measurement point coordinates. This data can be used to improve the measurement plan defined in Inspection.

Evaluation

The inspector can add inspected results or inspected measurement point coordinates to the external file. The graphical measurement browser allows the inspection engineer to visualize and interact with the hierarchical measurement data structure. Automatically created limit groups collect annotations whose measured values fall within specified percentage ranges relative to their tolerance

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Specific Product Features

- Add-on module to OneSpace Designer Modeling
- Fully integrated within the OneSpace Designer Modeling user interface (additional main menu)
- Use of the data created by the 3D documentation capabilities and the Geometric Dimensioning and Tolerancing module of OneSpace Designer Modeling
- Definition of measurement plans
- Specification of measurement points
- Measurement plan navigation
- Validation checks
- Measurement plan export
- Update with measurement results

- Synchronization
- Teaching
- Evaluation

System Requirements

OneSpace 2002+ and later.

Runs on the same platforms as OneSpace Designer Modeling:

- HP-UX® 11.0/11i (ACE 1199)
- Windows NT™ 4.0
- Windows 2000™
- Windows XP™ professional

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Ordering Information	
Inspection	C290
Inspection Support	C290A
Prerequisites	
Modeling	C200
Geometric Dimensioning and Tolerancing	C280
Electronic manuals are available on the OneSpace media.	

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