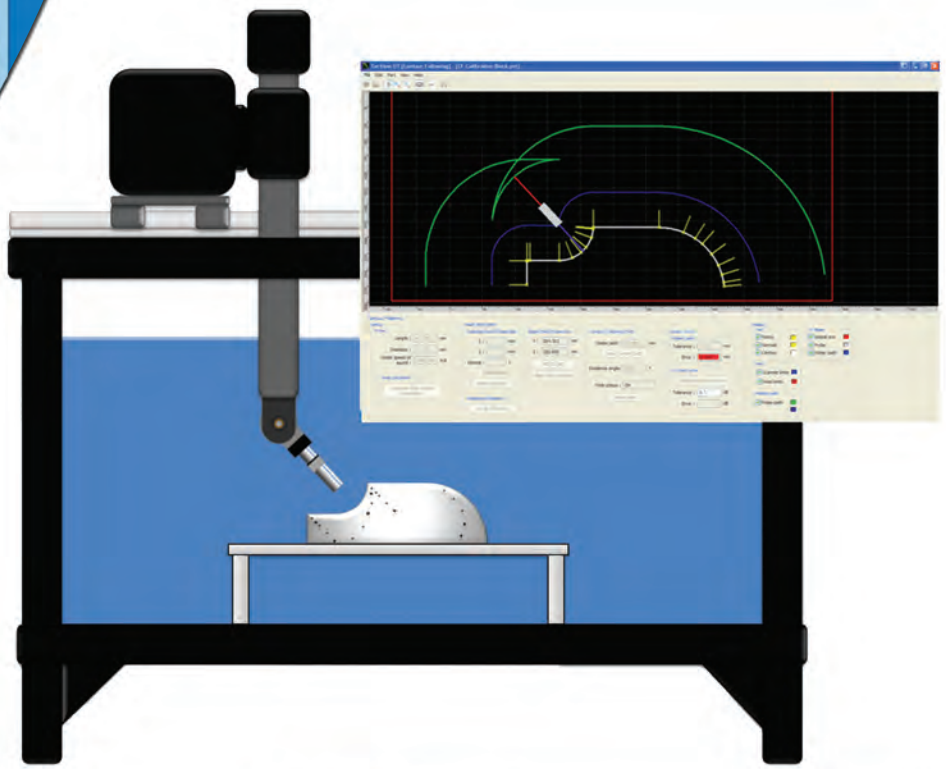
TecView™ 3D

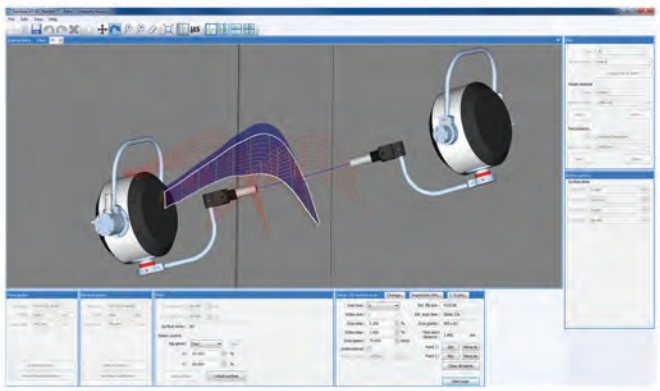
www.tecscan.ca

TecView™ 3D features basic and advanced contour following capabilities. Contour following begins with the activity to interactively "teach" the geometry of the tested specimen to the software. The teaching method is quick and efficient, particularly for parts with smooth curvatures. A mesh of the part is then defined in order to ensure constant scanning resolution during the scan. The system therefore "learns" how to perform the inspection based on the taught geometry. This method assures full inspection of entire parts of complex geometries. Part definitions obtained during the teaching process can be further recalled to inspect identical pieces, or refined for similar parts.



Contour Following:

Basic contour following means that TecView™ can automatically scan extruded parts with simple curvature (bodies of symmetry), and then manipulate the scans using the full range of TecView™ analysis tools. Each scan pass is typically performed in a straight motion and along a single axis, while a multi-axis indexing is done at the end of each scan pass to follow the part curvature.



75 De Mortagne Blvd., Suite 122, Boucherville, Quebec, Canada J4B 6Y4

T•450•641•5876 | F•450•641•5873

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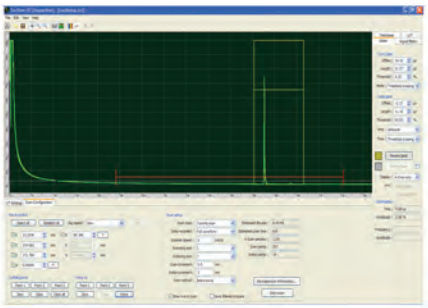
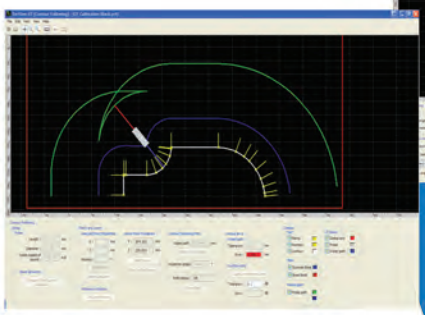
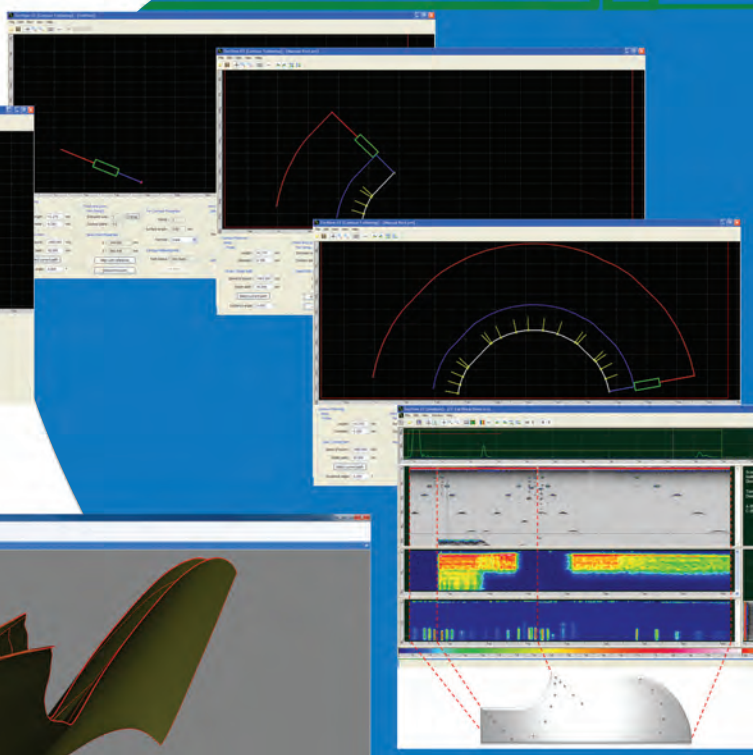
Manual Teach and Learn

Manual teach and learn uses the part geometry data that has been "taught" to TecView ™ by scanning the part point-by-point with the ultrasonic system. This is a fast and efficient method to perform the inspection of extruded parts since only a single slice of the part needs to be defined.







Advanced 3D Scanning

Advanced contour following allows almost arbitrary motion on any curves following the shape of the inspected test specimen. The capabilities of this feature are among the most complex and demanding in terms of mechanics, electronics, and software development efforts. This advanced contour following capability lets TecView™ inspect various shapes, such as turbine blades, fuselages and other complex aerospace structures.

Automated Teach and Learn with Mesh Input

With the automated teach and learn capability TecView™ 3D generates a scan plan using a 3D drawing of the part provided by the client, enabling complex 3D contour following to be performed. Drawings originating from the most important file types (CATIA, SolidWorks, SolidEdge, Unigraphics, Pro Engineering, etc.) can be imported and converted into a scan plan by TecView™ 3D. An optional Sound Path Calculation (SPC) module can be combined the automated teach and learn capability. This module takes into consideration the physical properties of the part for through transmission scanning. It calculates the entry and exit points of the ultrasonic waves in the part SPC ensures an optimal sound transmission and reception to provide reliable, high quality scan data, especially in homogeneous materials.

System Features

- Easy manual Teach & Learn with remote control pendant and remote monitor
- Part geometry extraction from CAD drawings
- Probe movement animation along part and interference check
- Automatic generation of the motor path at a given distance and angle from part
- Advanced and automated calculations for smooth multi-axis motion
- Sound path calculations for through transmission inspections
- Automatic positioning of imported scan plans
- Interactive tools for part entry
- 3D display of results