

Projecting Accurate "Templates of Light" since 1988

"The laser ply projection system reduced the lay-up production time by 80 percent over conventional methods"

Steve Sucuc, S92 Composite Rotor Blade Engineer, Using LASERGUIDE at United Technologies



## LASERGUIDE Control System

- **Simultaneous Active Datafiles:** 6

*Build more parts with fewer control systems*

- **Projector:** PCS or MicroLASERGUIDE, 8 supported

*Add projectors to enable desired configurations*

- **LED Billboard:** Scrolling characters seen from 50', 4 supported

*Operators receive independent messages while working at the tool*

- **Remote Control:** RF, non-directional, 50' range, 4 supported

*All lay-up operations controlled independently from tool*

- **Barcode Reader:** All standard formats, 2 supported

*Integrate LASERGUIDE with current manufacturing Barcode System*

- **Data Compatibility:** Any laser system data, Vistagy FiberSim and EnCapta,

*CATIA Cover, metrology data, other CAD system and NC data*

- **Operating System:** Any current Windows operating system

*Conforms to customer OS standards*

- **LG CAD Viewer:** Displays projectors, targets, patterns, data division

*between projectors, surface normals, projection fields*

- **Electronic Work Instructions:** Associates .txt, .jpg, .tif, .rtf, .avi files

*with any ply*

*Text, graphic and video instructions provided on a ply-by-ply basis*

- **Foreign Language Interface:** English, French, Italian, German, Japanese,

*other languages upon request*

*Interface, instructions and OS in operator's native language*

## LASERGUIDE Projectors: PCS or MicroLASERGUIDE

- **Pointing Accuracy:** .015" in standard field: 10'sq., 10' from projector (0,38mm in standard field: 3m<sup>2</sup>, 3m from projector)
  - **Retroreflective Targets:** 6 per projector. Targets mount in tooling pin holes or bushings and may be shared among projectors
  - **Pattern Color:** Green or Red
  - **Portability:** Single operator setup
  - **Projector Range:** 3' to 40' (1m - 12m), auto-focus option available
- Sharp lines with varying projection distances*
- **Simultaneous Projections on Independent Tools:** 4
- More operators work more parts with fewer projectors*

## Optional Automatic Ply Verification (APV):

Verify/document ply presence, fiber orientation, edge location for unidirectional and woven composites

*Prove that every ply of every part is built correctly. Errors detected and resolved at the lowest cost. Minimum change to manufacturing process*

**LASERGUIDE Integrations:** Tape layers, fabric cutters, 5 axis ultrasonic core cutters, vision systems, compaction systems, metrology systems: laser radar, theodolites, laser trackers, CMMs

**LASERGUIDE Support Structures:** Custom steel structures, portable metrology instrument supports, attach to existing structures, automatic tilt

