NeoMetrix Technologies, Inc.

Tech Brief 01-01-012

Reverse Engineering Flight Grip

Figure 1 – Original Flight Grip

Figure 2 – Laser Scanned Data

Figure 3 – Final Solid Model

Problem:

Flight simulators and maintenance trainers require components to have the same look and feel as those in the original aircraft.

Traditional Method:

Purchase components, which can be very expensive, or attempt to reverse engineer using calipers and hand tools. This is extremely time consuming and produces questionable results.

NeoMetrix Solution:

- Original part (Figure 1) is Laser scanned in house using the Konica Minolta Range 7 scanner. (accuracy of .0015")
- Scan Data is registered, merged, and aligned in Rapidform XOR to produce a polygon mesh (Figure 2).
- Mesh is used as a reference to develop solid model.

NeoMetrix Advantage:

- Feasible to obtain quality data previously unavailable by other means
- Accurate model in Parasolid or IGES formats.
- 3D model available to Manufacture, Rapid Prototype, or run analysis (FEA, CFD).

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