

Photogrammetry Scanning & Inspection of a Nozzle Guide Vane

3D Scanners were required to carry out inspection analysis on a damaged Pratt & Whitney nozzle guide vane from a Boeing 737-200 jet plane.

Photogrammetry

A Gom Triple Scan photogrammetry blue light system was used to capture the part. The Photogrammetry system first requires targets to be placed in specific places which are specified on the original cad drawings. Once the targets had been placed, photographs are taken from many different angles. In this case the engineer took 38 photographs, but it is the angle of the photographs which is important rather than the amount taken. The distribution of the targets is crucial because each photo needs at least 5 common targets to be aligned in the co ordinate system.

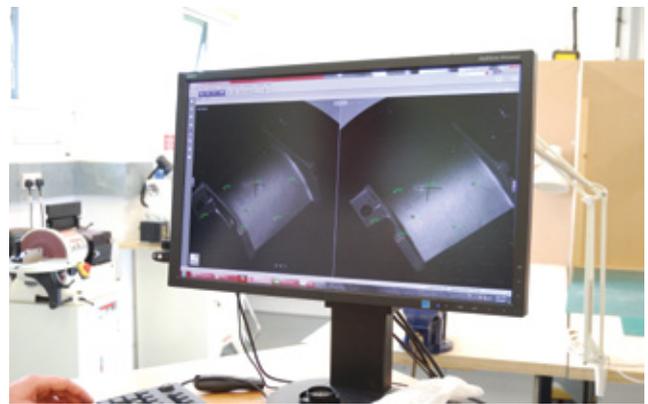
The photographs are automatically imported into the software and aligned for photogrammetry. A scan of the front & back of the NGV is taken using the Gom system. This is aligned together to provide one single 3d point cloud which is then aligned together within the software.



The engineer attaching reference targets to the NGV.



Photographs showing the Gom scanning the NGV.



Photograph above shows the NGV scan on the monitor in the lab.

A polygon mesh is produced which can then be used for deviation analysis.....

