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Digital Automated Panel Process (DAPP)

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ABSTRACT

Digital Automated Panel Process (DAPP)

The Digital Automated Panel Process was developed to resolve ergonomic issues pertaining to the installation of the Under Wing, Fixed Leading Edge Access Panels used on Boeing's 777 commercial aircraft. This installation consists of 27 individual composite panels and approximately 1200 attach points or fastener holes per wing. Each panel originally required the attach points be manually located and drilled and two edges trimmed to fit on assembly. DAPP uses an articulating arm portable coordinate measurement machine to measure the mating hole locations and edge features of the panels. The measurement data is transferred to a web based application which generates the machine code data necessary to trim and drill the panels on a numerically controlled mill. Since the implementation of DAPP projects beginning in the later part of 2003, significant reductions in cycle times and improved ergonomic conditions have been realized. The process has proven to be stable and consistently produces accurate and high quality panels.

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