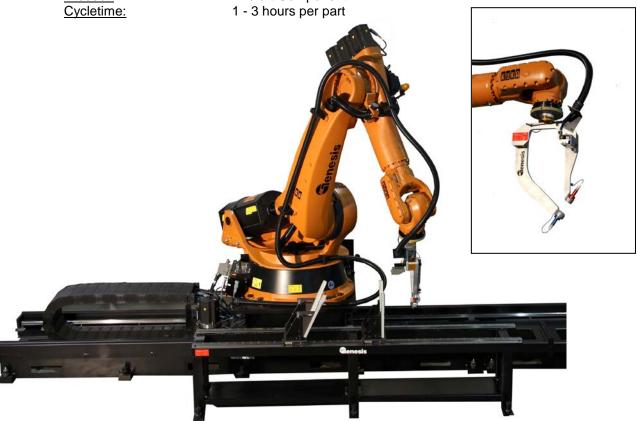|	
Genesis Case Study #:	J7793-001
Application:	Robotic Non-Destructive Inspection (NDI)
Market Segment:	Aerospace
Product:	Aircraft Component
Cycletime:	1 - 3 hours per part

Summary

Aircraft components are manually loaded into the holding fixture in batches of one. The Operator selects the part number on the HMI and initiates the cycle with a push button. The robot approaches the part and waits for a signal from the ultrasonic acquisition software. The Operator sets up the ultrasonic equipment and releases the robot to perform the inspection. The robot approaches the part with a laser sensor and calculates a position offset based upon the part's measured location. The robot begins the raster scan of the part with the positional offsets applied to the program points. Upon completion of the inspection process, the robot returns to a SAFEHOME position, and the Operator unloads the part.

Project Challenges

- OEM Specifications for NDI
- High Accuracy and Repeatability Specifications for Motion System
- Fast System Delivery
- Multiple Part Configurations

Genesis Solution

- NSpect 115 Robotic NDI System (1 station, 1 robot, Servo Track)
- KUKA KR100 HA Robot
- GD&T Tooling with Changeover Details
- Integration of QMI Sonda System with Air-coupled Through Transmission Equipment
- Integration with Customer-supplied Acquisition Software