

# Automation

Productivity Takes Off  
at Bombardier

Focus  
on Success



BOMBARDIER  
AEROSPACE

**Bombardier wanted an automated solution to rivet wing panels for the Challenger jet on their floor in 6 months. CRIQ delivered.**

Innovation and technology has made Bombardier the world's leading supplier of business class jets. When it came to improving production of the Challenger, Bombardier wanted an automation solution as field-proven as the aircraft itself. One that integrated the most advanced machine vision, robotics, and statistical control available. Now they're flying high, with an automated wing-panel riveting system, designed and delivered by CRIQ.

For 15 years constant improvement has kept the Challenger ahead of the pack. Automated riveting is the most recent advance in production. The requirements: drilling and riveting thousands of times along 50' panels, with a precision of  $\pm 0.005''$ . And not just any panels. Wing panels, destined to fly at altitudes up to 41,000 feet and speeds of Mach 0.83.

Field-proven in dozens of industrial installations, CRIQ delivered:

- Auto-positioning of a servo-driven drilling and riveting head.
- Machine vision scanning to ensure in-specification compliance of holes and rivets.
- Easily adjustable drilling, riveting and sealing parameters.

## Success Snapshot

### Company

Bombardier Inc.

### Sector

Aerospace

### Problem

Automated wing-riveting operations

### Solution

Automated servo-driven drilling, riveting and sealing of wing panels

### Benefits

Lowered labor costs  
Improved aircraft delivery time

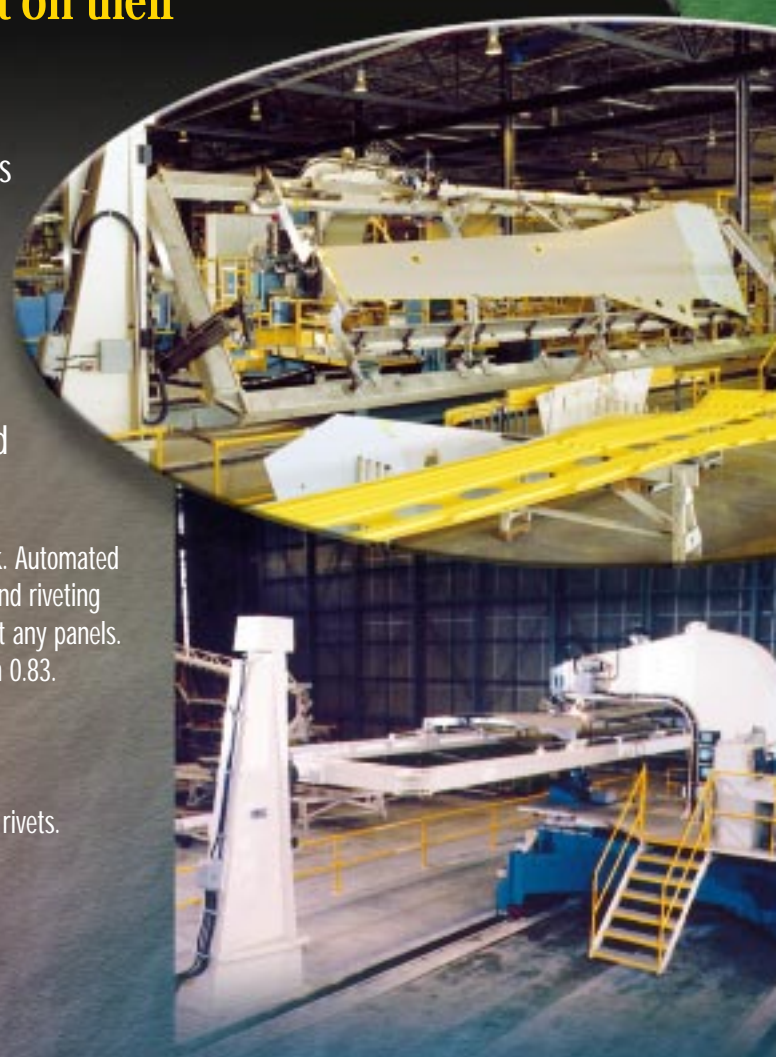
### Payback

< 24 months

## Exceeded Expectations

Bombardier knew it would achieve 100% quality inspection under the new system. But there were some pleasant surprises, too:

- Aircraft delivery time reduced, and ROI of less than 24 months.
- Decrease in labor costs and associated industrial accidents.
- Delivery of the new riveting equipment in 6 months—rather than the industry-standard 12.



# CRIQ

CRIQ is a recognized integrator of



(514) 383-1550 1-800-667-4570  
[www.criq.qc.ca](http://www.criq.qc.ca)