Course HBR

Hawker-Beechcraft Composite Repair (A FlightSafety International Course)

Course Summary

This course is designed as a manufacturer specific course.It is a FlightSafety approved course designed to provide the repair station with the knowledge and skills needed to repair Hawker –Beechcraft composite structures on aircraft such as the Hawker 850, 1000, 4000, and the Premier 1and 1A. The course is extremely beneficial to individuals, such as technicians, mechanics,inspectors and supervisors that come in contact with these aircraft. This course will cover composite repairs using the manufacturer's Structural Repair Manuals (SRM's), the students will get plenty of time in the shop performing repairs on various parts developing their hands-on skills.

Introduction

The students will learn the fundamental topics in this course including damage assessment, material types, resin mixing, ply orientation and curing processes for repairing these structures.They ill have a thorough understanding of the Repair Manual, learning how to determine what repair instruction will be needed to perform a repair.Students will have an ample amount of time in the shop to develop good habits, build confidence and develop hands-on skills.

Students will be put into 2-man teams and will be given actual aircraft parts, where they will assess the damage, map out the damaged area, properly remove the damage and perform a repair utilizing the repair manual.Over the duration of the course, the students will perform a minimum of 3 repairs/exercises with various materials, utilizing different vacuum bagging techniques and different curing methods.

They will be able to develop their sanding skills due to the amount of sanding that will done in the course. Also, the student will be able to identify what material they have, the number of plies and the orientation of each ply so that the repair can be accomplished properly.As stated earlier, the students will be introduced to different types of curing methods, including “Hot Bonders”, “heat lamps, and Hot air blowers along with understanding the advantages and disadvantages of each.

Topics

Classroom Topics:

- Introduction to Hawker-Beechcraft specific composite documents
- Matrix systems: selection, mix ratios, viscosity, service temperatures, storage & handling, shelf life limits, pot life and disposal
- Understanding the importance of Cure cycles
- Material forms: dry fabric & wet resins vs. Prepregs, weave styles, etc.
- Health and safety issues
- Heating equipment: Hot bonders, heat lamps, hot air blowers, ovens, autoclaves and thermocouples
- Vacuum bagging
- Inspection methods and techniques
- Lightning strike protection
- Finish and paint requirements

Workshop Exercises:

- Ply determination
- Repairs to solid laminates
- Repairs to sandwich structures with core damage
- Demonstrate various vacuum bagging techniques
- Perform post inspection utilizing repair manual
- Perform post-repair fill and finishes to cosmetic surface

Course Benefits

Prerequisites

None

Teaching Method

Classroom lecture and active workshop exercises: 40% Theory and 60% Practical

CEU

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