
 COURSE NAME

 COURSE NUMBER

I. COURSE DESCRIPTION:

Students will research basic hand tools used to perform aircraft structural repair and demonstrate the safe method of operations. In-depth presentations will be demonstrated in the techniques used to operate delicate and precision measuring tools. Students will demonstrate proper techniques in using these instruments.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

(Generic Skills Learning Outcomes placement on the course outline will be determined and communicated at a later date.)

Upon successful completion of this course the student will demonstrate the ability to:

- 1) Demonstrate the proper method and safe operation of hand tools.

Potential Elements of the Performance:

- identify the various hand tools that are used in aircraft repairs and hand tools specifically used in structural repairs.
- discuss and demonstrate the proper method of operation of the hand tools.
- demonstrate safe operation of the hand tools
- discuss the importance of proper care and maintenance of hand tools
- identify and choose proper file size and type
- demonstrate proper file operation
- discuss and select proper hacksaw blade for the projects assigned

- 2) Demonstrate the proper method of operating precision measuring instruments.

Potential Elements of the Performance:

- identify various measuring instruments used in structural repairs such as micrometers, vernier calipers and various type of gauges
- demonstrate the proper methods used in the operation of various measuring instruments
- discuss the importance of re-calibration of measuring instruments
- discuss Transport Canada's requirements as they effect the usage of aircraft related measuring instruments
- demonstrate how these measuring instruments are associated with layout procedures

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II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE (Continued)

- 3) Demonstrate using charts, the proper selection of taps, dies and drills to complete these operations in steel metals.

Potential Elements of the Performance:

- identify tap and die sizes
- demonstrate proper tap and dies selection as per project assignment
- discuss proper procedures in operation of taps and dies
- discuss proper maintenance of taps and dies
- demonstrate selection procedures using charts to determine tap sizes, and twist drill sizes
- discuss four types of taps
- discuss procedures used to remove taps

- 4) Complete twist drill operation study and discuss various drill sizes, cutting techniques, lubricants and personal safety requirements.

Potential Elements of the Performance:

- identify various types of twist drills such as standard and metric
- identify various types of drills used to operate twist drills
- discuss various parts of a twist drill and the purpose of each of these parts as they pertain to twist drill operations
- research and identify twist drill speeds and feeds
- discuss “step drilling” procedures
- discuss lubricants used during the drilling operations
- demonstrate personal safety and discuss equipment used to protect eyes

III. TOPICS:

- 1) Hand Tools
- 2) Measuring Instruments
- 3) Taps, Dies and Twist Drill Operations

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

A/C 65-9A
Teacher Handouts

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V. EVALUATION PROCESS/GRADING SYSTEM

Written Test (1) accounts for 100% of Final Grade

GRADING:

A+ (94-100%)	B (78-85%)	R - Repeat
A (86- 93%)	C (70-77%)	

VI. SPECIAL NOTES:

- Special Needs
If you are a student with special needs (e.g. physical limitations, visual impairments, hearing impairments, learning disabilities), you are encouraged to discuss required accommodations with the instructor and/or contact the Special Needs Office, Room E1204, Ext. 493, 717, 491 so that support services can be arranged for you.
- Retention of Course Outlines
It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other post-secondary institutions.
- Disclaimer for Meeting the Needs of the Learners
- Substitute Course Information is available at the Registrar's Office.
- Course Note: ALL assignments must be completed. Any assignments not complete will result in the removal of 10% from the final grade in ASR113.

VII. PRIOR LEARNING ASSESSMENT

Students who wish to apply for advanced credit in the course should consult the instructor.