EO C370.04 – CONSTRUCT AN ALUMINUM MODEL BIPLANE

1. **Performance.** Construct an Aluminum Model Biplane.

2. **Conditions**

   a. Given:

      (1) Instructions for constructing an aluminum model biplane,

      (2) Templates for constructing aluminum model biplane parts,

      (3) Mechanic's gloves,

      (4) Materials for constructing an aluminum model biplane, to include:

         (a) aluminum cans (36 per cadet),

         (b) softwood 20 mm thick (fence boards),

         (c) bottle caps (10 per cadet),

         (d) corrugated cardboard,

         (e) tape (masking),

         (f) glue (two-part epoxy),

         (g) poster board (thin cardboard not corrugated),

         (h) Mylar,

         (i) copper-coated welding rod or music wire (1/16 inch and 3/32 inch),

         (j) cap nuts or toothpaste tube caps,

         (k) bolts (3-1/2 inch 10-24 c/w nuts),

         (l) bolts (2-1/2 inch 10-24 c/w nuts), and

         (m) wire clip (speed nut);

      (5) Tools for constructing an aluminum model biplane, to include:

         (a) ball-peen hammer,

         (b) pliers,

         (c) flat screwdriver,

         (d) rasp,

         (e) hand stapler,

         (f) staple gun,

         (g) push-pin,

         (h) hot glue gun,

         (i) awl,

         (j) wire cutters,

Unofficial convenience copy of A-CR-CCP-803/PG-001, cached 2026-11-08 from https://app.cadets.gc.ca/cadet-publications/A-CR-CCP-803-PG-001/A-CR-CCP-803-PG-001.pdf.
Verify against the official publication.

(k) box knife,

(l) scissors,

(m) ruler,

(n) felt-tipped pen,

(o) needle-nose pliers,

(p) adjustable wrench,

(q) electric hand drill, and

(r) hole saw bits (2-3/4 inch and 1-7/8 inch);

(6) Supervision, and

(7) Assistance as required.

b. Denied: N/A.

c. Environmental: Classroom or training area large enough to accommodate the entire group.

3. **Standard.** The cadet shall construct an aluminum model biplane.

4. **Teaching Points**

a. Explain and prepare for mass production of aluminum model biplane parts.

b. Demonstrate, explain and have the cadets manufacture the parts for aluminum model biplanes.

c. Demonstrate, explain and have the cadets construct an aluminum model biplane.

5. **Time**

a.	Introduction/Conclusion:	20 min
b.	Practical Activity:	340 min
c.	Total:	360 min

6. **Substantiation.** A practical activity was chosen for this lesson as it is an interactive way to introduce cadets to aluminum model biplane construction in a safe, controlled environment. This activity contributes to the development of these skills and knowledge in a fun and challenging setting.

7. **References**

a. C3-146 Mathis, D. P. (2005). *Step by Step Construction Plans: Classic Biplane*. Helena, MT: B.C. Air Originals.

b. C3-160 Mathis, D. P. (2007). *Building the B.C. Air Originals Biplane*. Helena, MT: B.C. Air Originals.

8. **Training Aids**

a. Mechanic’s gloves,

b. Plans for constructing an aluminum model biplane,

c. Templates for constructing an aluminum model biplane,

d. Materials for constructing an aluminum model biplane (see paragraph 2.a.), and

Unofficial convenience copy of A-CR-CCP-803/PG-001, cached 2026-11-08 from https://app.cadets.gc.ca/cadet-publications/A-CR-CCP-803-PG-001/A-CR-CCP-803-PG-001.pdf.
Verify against the official publication.

e. Tools for constructing an aluminum model biplane (see paragraph 2.a.).

f. C3-146 Mathis, D. P. *Step by Step Construction Plans: Classic Biplane*, Air Originals

9. **Learning Aids.** See paragraph 8.

10. **Test Details.** N/A.

11. **Remarks**

a. Templates, models and spare parts should be preserved for future training years.

b. Scheduling this lesson as a weekend activity will reduce preparation and cleanup.

c. Before beginning the instruction of this EO the instructor shall be familiar with the aluminum model biplane assembly techniques shown at references C3-146 and C3-160.

d. This lesson may be conducted over a number of separate sessions.

Unofficial convenience copy of A-CR-CCP-803/PG-001, cached 2026-11-08 from https://app.cadets.gc.ca/cadet-publications/A-CR-CCP-803-PG-001/A-CR-CCP-803-PG-001.pdf.
Verify against the official publication.

THIS PAGE INTENTIONALLY LEFT BLANK

Unofficial convenience copy of A-CR-CCP-803/PG-001, cached 2026-11-08 from https://app.cadets.gc.ca/cadet-publications/A-CR-CCP-803-PG-001/A-CR-CCP-803-PG-001.pdf.
Verify against the official publication.