ROYAL CANADIAN AIR CADETS

PROFICIENCY LEVEL THREE

INSTRUCTIONAL GUIDE

SECTION 2

EO M370.02 – IDENTIFY AIRCRAFT MANUFACTURERS

Total Time: 30 min

PREPARATION

PRE-LESSON INSTRUCTIONS

Resources needed for the delivery of this lesson are listed in the lesson specification located in A-CR-CCP-803/PG-001, Chapter 4. Specific uses for said resources are identified throughout the instructional guide within the TP for which they are required.

Review the lesson content and become familiar with the material prior to delivering the lesson.

Update the information located at Annexes C to I using the reference.

Create slides of Annexes C to I.

Prepare the video *Viking Video Profile*. This will be shown in TP 1.

Create slides of aircraft located at Annexes C to H with titles blocked out for use in TP 3.

PRE-LESSON ASSIGNMENT

N/A.

APPROACH

An interactive lecture was chosen for TPs 1 and 2 to orient the cadets to aircraft manufacturing companies, give an overview of them and to generate interest.

An in-class activity was chosen for TP 3 as it is an interactive way to allow cadets to test their ability to identify aircraft manufacturers.

INTRODUCTION

REVIEW

N/A.

OBJECTIVES

By the end of this lesson the cadet shall have identified manufacturers of light and heavy aircraft that are commonly found at Canadian aerodromes.

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

IMPORTANCE

It is important for cadets to identify manufacturers of aircraft as this will enhance their enjoyment of aviation and will help them identify aircraft they observe at Canadian aerodromes.

Teaching point 1 **Discuss Manufacturers of Light Aircraft**

Time: 15 min Method: Interactive Lecture

CESSNA AIRCRAFT COMPANY

The Cessna Aircraft Company traces its history to June 1911, when Clyde Cessna, a farmer in Rago, Kansas, built a wood-and-fabric plane and became the first person to build and fly an aircraft between the Mississippi River and the Rocky Mountains.

Over the years since 1911, Cessna has produced many different types of aircraft and many of the models had variations.



Show the cadets the list of Cessna aircraft located at Annex C.



A rented Cessna 172 Skyhawk is often used for air cadet familiarization flying exercises.



Show the cadets Figures 17C-2 to 17C-5, identifying each type of aircraft. Mention that the Cessna 305 is used as a glider tow plane in the Air Cadet Gliding Program.

DIAMOND AIRCRAFT INDUSTRIES

The Diamond story began in 1981 when Hoffmann Flugzeugbau was founded in Friesach, Austria, to produce the newly certified H36 Dimona motorglider. In 1992, the company, then known as Dimona Aircraft, established a full production facility in London, Ont., with a view to supplying the US market with its new aircraft. Later, after modifying its name to Diamond, the company grew into an international manufacturer with over 46 000 sq m of modern production facilities, over 800 employees, five distinct product lines, and facilities on three continents. The company's operation at the London, Ont. airport has over 23 000 sq m of state-of-the-art production facilities to design, build and test aircraft.

Diamond produces a variety of aircraft types, including:

- DA20, a single-engine propeller-driven aircraft,
- DA42, a twin-engine propeller-driven aircraft, and
- D-JET, a single-engine gas turbine fanjet.

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



Show the cadets the figures located at Annex D, identifying each type of aircraft.

PIPER AIRCRAFT, INC

Originally founded as the Taylor Brothers Aircraft Manufacturing Company in September 1927, the company was renamed Taylor Brothers Aircraft Corporation in April of 1928 and then Piper Aircraft Corporation in November 1937.

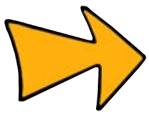
Now located at Vero Beach, Florida, Piper's manufacturing capabilities cover a wide variety of fabrication, assembly, paint and inspection processes. The company also designs and builds its own tooling. Piper's engineering design work is also comprehensive, with separate engineering groups responsible for aircraft certification, production support, customer service engineering, product development, engineering administration and test operations.



Show the cadets the figures located at Annex E, identifying each type of aircraft.

VIKING AIR

Viking Air is a manufacturing, maintenance and leasing company located at the Victoria International Airport in Sidney, B.C.



Viking Air, although a very small company by Canadian aviation standards, purchased the type certificates for seven de Havilland heritage aircraft, giving Viking the exclusive right to re-start production for any of these seven de Havilland Canada aircraft types.

Viking Air holds the Type Certificates for the following de Havilland aircraft:

- DHC-1 Chipmunk,
- DHC-2 Beaver,
- DHC-3 Otter,
- DHC-4 Caribou,
- DHC-5 Buffalo,
- DHC-6 Twin Otter, and
- DHC-7 Dash 7.

The DHC-6 Twin Otter and DHC-2 Beaver remain popular in commercial aviation, while the DHC-5 Buffalo continues to serve the CF in a Search and Rescue capacity.

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



Show the cadets the figures located at Annex F, identifying each type of aircraft.



Show the cadets the six-minute video *Viking Video Profile* (Reference C3-203).

CONFIRMATION OF TEACHING POINT 1

Participation in the aircraft identification activity at the end of this lesson will serve as the confirmation of TP 1.

Teaching point 2 **Discuss Manufacturers of Heavy Aircraft**

Time: 5 min Method: Interactive Lecture

AIRBUS

Airbus is one of the world's two leading aircraft manufacturers. The company employs 57 000 people and produces a comprehensive range of heavy commercial aircraft.

Manufacturing, production and sub-assembly of parts for Airbus aircraft are distributed around 16 sites in Europe, with final assembly in Toulouse, France and Hamburg, Germany. Airbus draws on a global network of more than 1 500 suppliers in over 30 countries.

There are also centres for engineering design, sales and customer support in North America; and sales and customer support centres in Japan and China. Airbus has a joint engineering centre in Russia with Kaskol, a Russian aircraft manufacturer.

Around the world, Airbus has 5 spare parts centres, 160 field sites, 3 training centres in Toulouse, Miami and Beijing and one A320 maintenance training centre in Hamburg. Airbus has an agreement with CAE (formerly Canadian Aviation Electronics Ltd.) to provide Airbus-approved training courses in many other sites around the world.



Show the cadets the figures located at Annex G, identifying each type of aircraft.

THE BOEING COMPANY

Headquartered in Chicago, Illinois, Boeing employs more than 150 000 people across the United States and in 70 other countries, with major operations in the Puget Sound area of Washington State, southern California and St. Louis, Missouri.

For more than a century, Boeing has produced a vast number of aircraft types. Some Boeing aircraft had historical significance that extended well beyond aviation; they actually changed the world. For example, America entered the age of jet transport on July 15, 1954, when the Boeing 707 prototype, the model

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

367-80, made its maiden flight from Renton Field, south of Seattle, Washington. Forerunner of the more than 14 000 Boeing jetliners built afterwards, the prototype, nicknamed the “Dash 80,” served 18 years as a flying test laboratory before it was turned over to the Smithsonian Air and Space Museum in May 1972. The Boeing 707 was a very successful aircraft type.



Show the cadets the Figure 17H-1.

Other popular Boeing aircraft, that are commonly seen, include the:

- Boeing 737,
- Boeing 747,
- Boeing 767, and
- Boeing 777.



Show the cadets the remaining figures located at Annex H, identifying each type of aircraft.

Different aircraft are suitable for different routes, depending on such things as traffic volume. A large carrier such as Air Canada requires a variety of aircraft to suit a variety of applications.



Show the cadets Figure 17I-1.

CONFIRMATION OF TEACHING POINT 2

Participation in the aircraft identification activity at the end of this lesson will serve as the confirmation of TP 2.

Teaching point 3 — **Conduct an Activity to Allow the Cadets to Test Their Ability to Identify Aircraft Manufacturers**

Time: 5 min — Method: In-Class Activity

ACTIVITY

OBJECTIVE

The objective of this activity is to give the cadets an opportunity to test their ability to identify aircraft manufacturers.

RESOURCES

Pictures of aircraft located at Annexes C to H, with titles blocked out (with sticky notes).

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

ACTIVITY LAYOUT

N/A.

ACTIVITY INSTRUCTIONS

1. Divide the cadets into two teams on opposite sides of the room.
2. Display a picture of an aircraft discussed during this lesson.
3. Have one team attempt to identify the aircraft and its manufacturer in 10 seconds.
4. Award one point for the aircraft's name and another for the manufacturer.
5. If the first team is unable to name the aircraft or its manufacturer, the second team may try.
6. Award two points for successful aircraft or manufacturer naming by the second team.
7. Alternate the successive pictures and opportunities between the two teams.
8. The team with the most points after five minutes is the winner.

SAFETY

N/A.

CONFIRMATION OF TEACHING POINT 3

Participation in the activity will serve as the confirmation of TP 3.

END OF LESSON CONFIRMATION

Participation in the aircraft identification activity will serve as the confirmation of this lesson.

CONCLUSION

HOMEWORK/READING/PRACTICE

N/A.

METHOD OF EVALUATION

N/A.

CLOSING STATEMENT

Aircraft manufacturers, like their product lines, are constantly changing. To make aircraft that can compete in sophisticated markets, the organizations themselves must improve to meet the ever-evolving competition.

INSTRUCTOR NOTES/REMARKS

The manufacturers and the aircraft included in this lesson were chosen because cadets frequently encounter these aircraft. Time limitations prevented more manufacturers and aircraft from being included.

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

REFERENCES

C3-232 Cessna Aircraft Company. (2008). *Welcome to Cessna.com*. Retrieved February 8, 2008, from http://cessna.com/.

C3-233 Diamond Aircraft Industries. (2008). *Diamond Aircraft*. Retrieved February 8, 2008, from http://www.diamondair.com/mainpage.php.

C3-234 Piper Aircraft, Inc. (2008) *Piper: Freedom of Flight*. Retrieved February 8, 2008, from http://www.newpiper.com/.

C3-235 Viking Air. (2008). *Viking*. Retrieved February 8, 2008, from http://www.vikingair.com/.

C3-236 Airbus. (2008). *Airbus*. Retrieved February 8, 2008, from http://www.airbus.com/en/.

C3-237 Boeing. (2008). *Boeing*. Retrieved February 8, 2008, from http://www.boeing.com/.

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

THIS PAGE INTENTIONALLY LEFT BLANK

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