**ROYAL CANADIAN AIR CADETS**

**PROFICIENCY LEVEL FOUR**

**INSTRUCTIONAL GUIDE**

**SECTION 2**

# EO C429.02 – COMMUNICATE USING RADIO PROCEDURES FOR AVIATION TRANSMISSION

| 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-804/PG-001, *Proficiency Level Four Qualification Standard and Plan*, 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.

Prepare the handouts located at Attachments A and B for each cadet.

### PRE-LESSON ASSIGNMENT

Read and practice the phonetic alphabet on page 6 in *Study Guide for the Radiotelephone Operator's Restricted Certificate (Aeronautical) (ROC-A)*.

### APPROACH

An interactive lecture was chosen for TP 1–4 to clarify, emphasize and summarize radio procedures for aviation transmission.

An in-class activity was chosen for TP 5 as an interactive way to confirm the cadets' comprehension of radio procedures for aviation transmission.

## INTRODUCTION

### REVIEW

Nil.

### OBJECTIVES

By the end of this lesson the cadet shall have communicated using common phrases, identified priority communications and emergency transmissions and conducted a radio check.

### IMPORTANCE

It is important to know the correct radio phrases while communicating over a radio (for aviation transmissions). The cadet will use accurate terminology to communicate messages clearly and concisely.



Unofficial convenience copy of A-CR-CCP-804/PF-001, cached 2026-11-08 from https://app.cadets.gc.ca/cadet-publications/A-CR-CCP-804-PF-001/A-CR-CCP-804-PF-001.pdf.
Verify against the official publication.

**Teaching point 1** **Explain the standard phrases used in a radio message.**

Time: 5 min Method: Interactive Lecture




Distribute the handout showing procedural words and phrases located at Attachment A to each cadet.

The way that one talks on the air is guided by national and international standards. In aviation, common phrases and words are used to communicate radio messages. Citizen Band (CB) phrases, such as Ten-Four, Over and Out and Breaker Breaker will not be used.

| Word or Phrase | Meaning |
|---|---|
| Acknowledge | Let me know that you have received and understood this message. |
| Affirmative | Yes, or permission granted. |
| Break | Indicates the separation between portions of the message. (To be used where there is no clear distinction between the text and other portions of the message.) |
| Confirm | My version is … Is that correct? |
| Correction | An error has been made in this transmission (message indicated). The correct version is …. |
| Do you read | I have called you more than once. If you are receiving me, reply. |
| Go ahead | Self-explanatory. |
| How do you read? | Self-explanatory. |
| I say again | Self-explanatory (use instead of "I REPEAT"). |
| Negative | No, or that is not correct, or I do not agree. |
| Out | Conversation is ended and no response is expected. |
| Over | My transmission is ended and I expect a response from you. |
| Read back | Repeat all of this message back to me exactly as received after I have given "OVER" (do not use the word "REPEAT"). |
| Roger | I have received all of your last transmission. |
| Say again | Self-explanatory. (Do not use the word "REPEAT".) |
| Speak slower | Self-explanatory. |
| Stand by | I must pause for a few seconds or minutes, please wait. |
| That is correct | Self-explanatory. |
| Verify | Check coding, check text with originator and send correct version. |
| Wilco | Your instructions received, understood and will be complied with. |

**CONFIRMATION OF TEACHING POINT 1**

**QUESTIONS**:

Q1. What terminology will not be used when communicating an aviation radio message?

Q2. How do you say "Yes", or permission granted?

Q3. How do you say that the transmission has ended and a response is expected?



Unofficial convenience copy of A-CR-CCP-804/PF-001, cached 2026-11-08 from https://app.cadets.gc.ca/cadet-publications/A-CR-CCP-804-PF-001/A-CR-CCP-804-PF-001.pdf.
Verify against the official publication.

**ANTICIPATED ANSWERS**:

A1. CB phrases.

A2. Affirmative.

A3. Over.

---

**Teaching point 2** **Explain priority of communication.**

Time: 5 min Method: Interactive Lecture

---

**PRIORITY OF COMMUNICATION**

Radio transmissions are communicated in the following priority:

1. emergency communications, to include:
    a. distress,
    b. urgency,
    c. safety; and
2. flight safety communications, to include
    a. Air Traffic Control (ATC) clearance (authorization from ATC for an aircraft to land, take-off, etc),
    b. airport advisories (landing and takeoff information about wind direction and velocity, favoured runway, airport conditions such as snow, known hazards, etc),
    c. position reports (identification of surrounding aircraft, present position, altitude, type of flight plan and destination), and
    d. air filed flight plans, etc;
3. scheduled broadcasts (Automated Terminal Information Service (ATIS), recorded information for arriving and departing aircraft such as airport name, weather information, departure runways, etc);
4. unscheduled broadcasts, to include:
    a. Notices to Airmen (NOTAMS) (dangerous or restricted areas, airport construction, changes in navigation and control procedures),
    b. Significant Meteorological Information (SIGMET) (messages to aircraft in flight of severe and hazardous weather conditions which include severe turbulences, thunderstorms, etc), or
    c. Pilot Weather Report (PIREP) (unpredicted thunderstorms, turbulences, visibility, etc); and
5. other air-ground or air-to-air communications (conversations about personal information such as estimated time of arrival (ETA) for personal reasons, meals, etc).



Unofficial convenience copy of A-CR-CCP-804/PF-001, cached 2026-11-08 from https://app.cadets.gc.ca/cadet-publications/A-CR-CCP-804-PF-001/A-CR-CCP-804-PF-001.pdf.
Verify against the official publication.

**CONFIRMATION OF TEACHING POINT 2**

**QUESTIONS**:

Q1. What type of communication has highest priority?

Q2. ATC clearance is where on the communication priority position?

Q3. Unscheduled broadcasts include what types of communication?

**ANTICIPATED ANSWERS**:

A1. Emergency communications (distress, urgency and safety calls).

A2. Second.

A3. Notices to Airmen (NOTAMS), Significant Meteorological Information (SIGMET) or a Pilot Weather Report (PIREP).

**Teaching point 3** **Explain emergency transmissions.**

Time: 5 min Method: Interactive Lecture

**EMERGENCY TRANSMISSIONS**

Emergency transmissions have first priority in communications and are transmitted using specific terms which are repeated three times.

**DISTRESS**

Distress calls have absolute priority over all other transmissions. Anyone hearing it will cease any transmission capable of interfering. Distress calls indicate that the aircraft is threatened by grave and / or imminent danger, such as an engine loss and require immediate assistance.

The transmission for distress is "MAYDAY" "MAYDAY" "MAYDAY".

**URGENCY**

Urgency calls are addressed to all stations or a specific station. Urgency calls concern the safety of the aircraft, someone on board or within sight, such as a lost position but does not require immediate assistance.

The transmission for urgency is "PAN PAN" "PAN PAN" "PAN PAN".

**SAFETY**

Safety messages address the safety of navigation or important meteorological warning to aircraft in flight such as severe turbulences.

The transmission for safety is "SECURITY" "SECURITY" "SECURITY".



Unofficial convenience copy of A-CR-CCP-804/PF-001, cached 2026-11-08 from https://app.cadets.gc.ca/cadet-publications/A-CR-CCP-804-PF-001/A-CR-CCP-804-PF-001.pdf.
Verify against the official publication.

**CONFIRMATION OF TEACHING POINT 3**

**QUESTIONS**:

Q1. What word do you use to start your radio transmission when your engine stops?

Q2. What word do you use to start your radio transmission when you have lost your position?

Q3. What word do you use to start your radio transmission when you want to report an important meteorological warning to other aircraft in flight?

**ANTICIPATED ANSWERS**:

A1. "MAYDAY".

A2. "PAN PAN".

A3. "SECURITY".

**Teaching point 4** **Explain a radio check.**

Time: 5 min Method: Interactive Lecture

**RADIO CHECK**

Radio checks are used to assess the serviceability of the communication equipment. Radio checks use a 1–5 scale to assess the readability and strength of the transmission.

**READABILITY**

Readability assesses the ability to understand the communication. Readability is confirmed using the scale of 1–5 to relate to levels of understanding to include:

- 1–unreadable,
- 2–readable now and then,
- 3–readable with difficulty,
- 4–readable, and
- 5–perfectly readable.

**STRENGTH**

Strength assesses how strong the radio signal is being received. Strength is confirmed using the 1–5 scale which relates to levels of radio strength to include:

- 1–bad,
- 2–poor,
- 3–fair,
- 4–good, and
- 5–excellent.



Unofficial convenience copy of A-CR-CCP-804/PF-001, cached 2026-11-08 from https://app.cadets.gc.ca/cadet-publications/A-CR-CCP-804-PF-001/A-CR-CCP-804-PF-001.pdf.
Verify against the official publication.

When a radio check is requested, the response uses the numerical scale for readability then strength, such as 4 / 3 (readable / fair strength) or 3 / 5 (readable with difficulty / excellent strength). If both readability and strength are at the maximum scale, the response is five.

Radio checks may be conducted as part of the pre-flight check, ground maintenance check and while airborne to check the serviceability of communication equipment. Radio checks should not be conducted on an active ATC frequency.

---

**CONFIRMATION OF TEACHING POINT 4**

---

**QUESTIONS**:

Q1. Why is a radio check conducted?

Q2. A radio transmission is readable with difficulty and has good strength. What is the response?

Q3. Radio checks are done in three categories. Name each.

**ANTICIPATED ANSWERS**:

A1. To assess the serviceability of the communication equipment.

A2. Three by four.

A3. Signal check (when airborne), pre-flight check (prior to departure) and maintenance check (made by ground maintenance).

---

**Teaching point 5** **Have the cadets, in pairs, conduct station-to-station calls using the ITU phonetic alphabet and numbers, and conduct a signal check.**

Time: 5 min Method: In-Class Activity

---

**ACTIVITY**

---




Radios should be set to different frequencies. The cadets have previously learned this procedure during EO M290.06 (Operate a Hand-Held Radio).

The number of radios available per squadron varies. If necessary, one pair of cadets will complete the activity and a second pair of cadets will critique their technique. Groups will switch roles and repeat the activity.

**OBJECTIVE**

The objective of this activity is for the cadets to send and receive messages using the ITU phonetic alphabet and numbers.

**RESOURCES**

- Hand-held radio (one per group), and
- Radio Activity located at Attachment B.



Unofficial convenience copy of A-CR-CCP-804/PF-001, cached 2026-11-08 from https://app.cadets.gc.ca/cadet-publications/A-CR-CCP-804-PF-001/A-CR-CCP-804-PF-001.pdf.
Verify against the official publication.

**ACTIVITY LAYOUT**

Nil.

**ACTIVITY INSTRUCTIONS**

1. Divide the cadets into pairs.
2. Provide each pair of cadets with a hand-held radio and a copy of the radio activity.
3. Have the cadets complete the radio worksheet.
4. Have one cadet transmit the message to their partner by:
    a. turning the radio on;
    b. using message parts, to include:
        (1) initiating a call with "____" this is "____", over;
        (2) answering a call with "____" this is "____", go ahead, over";
        (3) requesting a signal check on a different frequency;
        (4) responding to the request; and
        (5) acknowledging the call and ending the call with "out";
    c. using radio techniques; and
    d. turning the radio off.
5. Have the cadets switch roles and repeat Step 4.

**SAFETY**

Nil.

---

**CONFIRMATION OF TEACHING POINT 5**

---

The cadets' participation in the activity will serve as the confirmation of this TP.

---

**END OF LESSON CONFIRMATION**

---

**QUESTIONS:**

Q1. How do you say that the transmission has ended and you expect a response?

Q2. Air-ground and air-to-air communication of a personal nature is where on the communication priority?

Q3. What three words are used and in what order, to announce emergency transmissions?

Q4. During a radio check, both readability and strength are at the maximum, what is the response?

**ANTICIPATED ANSWERS:**

A1. Over.

A2. Last.



Unofficial convenience copy of A-CR-CCP-804/PF-001, cached 2026-11-08 from https://app.cadets.gc.ca/cadet-publications/A-CR-CCP-804-PF-001/A-CR-CCP-804-PF-001.pdf.
Verify against the official publication.

A3. MAYDAY, PAN PAN, AND SECURITY.

A4. Five.

## CONCLUSION

### HOMEWORK / READING / PRACTICE

Nil.

### METHOD OF EVALUATION

This EO is assessed IAW A-CR-CCP-804/PG-001*Proficiency Level Four Qualification Standard and Plan*, Chapter 3, Annex B, 429 PC.

### CLOSING STATEMENT

The cadets are better prepared to communicate using the standard radio phrases, priority of communications, emergency phrases and are able to conduct a radio check. The knowledge learned will ensure the cadets utilize the correct terminology and radio messages will be clear and concise.

### INSTRUCTOR NOTES / REMARKS

If the squadron chooses to have cadets obtain the ROC-A, all complementary EOs for this PO must be instructed, and a qualified examiner must conduct 429 PC.

Cadets who are qualified Advanced Aviation may assist with this instruction.

## REFERENCES

C3-116 ISBN 0-9680390-5-7 MacDonald, A.F., & Peppler, I.L. (2000). *From the ground up: Millennium edition*. Ottawa, ON: Aviation Publishers Co. Limited.

C3-182 *Study Guide for the Radiotelephone Operator's Restricted Certificate (Aeronautical)*. (1990). Retrieved October 23, 2007, from www.ic.gc.ca/epic/site/smt-gst.nsf/en/sf01397e.htm



Unofficial convenience copy of A-CR-CCP-804/PF-001, cached 2026-11-08 from https://app.cadets.gc.ca/cadet-publications/A-CR-CCP-804-PF-001/A-CR-CCP-804-PF-001.pdf.
Verify against the official publication.

## PROCEDURAL WORDS AND PHRASES

| Word or Phrase | Meaning |
|---|---|
| Acknowledge | Let me know that you have received and understood this message. |
| Affirmative | Yes, or permission granted. |
| Break | Indicates the separation between portions of the message. (To be used where there is no clear distinction between the text and other portions of the message.) |
| Confirm | My version is … Is that correct? |
| Correction | An error has been made in this transmission (message indicated). The correct version is …. |
| Do you read? | I have called you more than once. If you are receiving me, reply. |
| Go ahead | Self-explanatory. |
| How do you read? | Self-explanatory. |
| I say again | Self-explanatory (use instead of "I REPEAT"). |
| Negative | No, or that is not correct, or I do not agree. |
| Out | Conversation is ended and no response is expected. |
| Over | My transmission is ended and I expect a response from you. |
| Read back | Repeat all of this message back to me exactly as received after I have given "OVER" (do not use the word "REPEAT"). |
| Roger | I have received all of your last transmission. |
| Say again | Self-explanatory. (Do not use the word "REPEAT".) |
| Speak slower | Self-explanatory. |
| Stand by | I must pause for a few seconds or minutes, please wait. |
| That is correct | Self-explanatory. |
| Verify | Check coding, check text with originator and send correct version. |
| Wilco | Your instructions received, understood and will be complied with. |



Unofficial convenience copy of A-CR-CCP-804/PF-001, cached 2026-11-08 from https://app.cadets.gc.ca/cadet-publications/A-CR-CCP-804-PF-001/A-CR-CCP-804-PF-001.pdf.
Verify against the official publication.

THIS PAGE INTENTIONALLY LEFT BLANK



Unofficial convenience copy of A-CR-CCP-804/PF-001, cached 2026-11-08 from https://app.cadets.gc.ca/cadet-publications/A-CR-CCP-804-PF-001/A-CR-CCP-804-PF-001.pdf.
Verify against the official publication.

## Radio Activity

Send and receive the following message using the ITU phonetic alphabet and numbers.

Make a call sign for this exercise representing an aircraft, including:

- first name and age,
- C–G, and
- three letters.

Example call sign: DOUG 16 C–GABR (DOUG WUN SIX CHARLIE–GOLF ALPHA BRAVO ROMEO).

Make a call sign for this exercise representing the ground station, including:

- home community, and
- radio.

Example call sign: BROCKVILLE RADIO.

## Radio Worksheet

Fill in the following sheet to assist with transmitting the message.

Cadet A (initial and age): _____ Aircraft: C–G _____

Cadet B (initial and age): _____ Aircraft: C–G _____

Call Sign (local community): _____ RADIO

After the initial call-up, stations do not have to repeat the words THIS IS and OVER.



Unofficial convenience copy of A-CR-CCP-804/PF-001, cached 2026-11-08 from https://app.cadets.gc.ca/cadet-publications/A-CR-CCP-804-PF-001/A-CR-CCP-804-PF-001.pdf.
Verify against the official publication.

## Sending a Message

Call-up by aircraft:

_____ THIS IS _____ OVER.
Cadet B call sign — Cadet A call sign

Reply by ground station:

_____ THIS IS _____ GO AHEAD, OVER.
Cadet A call sign — Cadet B station

Message - aircraft:

_____ , _____ SIGNAL CHECK ON 5680.
Cadet B station — Cadet A call sign

Message - ground station:

_____ , _____ READING YOU _____
Cadet A call sign — Cadet B station — (fill in response)

Acknowledgement - aircraft:

_____ , _____ ROGER, OUT.
Cadet B station — Cadet A call sign



Unofficial convenience copy of A-CR-CCP-804/PF-001, cached 2026-11-08 from https://app.cadets.gc.ca/cadet-publications/A-CR-CCP-804-PF-001/A-CR-CCP-804-PF-001.pdf.
Verify against the official publication.