ROYAL CANADIAN AIR CADETS

PROFICIENCY LEVEL THREE

INSTRUCTIONAL GUIDE

SECTION 2

EO C331.01 – REVIEW PRINCIPLES OF FLIGHT

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.

Make copies of the handout located at Annex C for each cadet.

Make a slide of Annex C.

Bring a model airplane.

PRE-LESSON ASSIGNMENT

N/A.

APPROACH

An in-class activity was chosen for this lesson as an interactive way for the cadets to review the three axes of an aircraft and control surfaces.

INTRODUCTION

REVIEW

N/A.

OBJECTIVES

By the end of this lesson the cadet shall have reviewed principles of flight.

IMPORTANCE

It is important for cadets to review the principles of flight as a basis for learning new knowledge and skills. Comprehension of the basic principles of flight will enhance any familiarization flying activity.

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Verify against the official publication.

Teaching point 1 **Review the Three Axes of an Aircraft**

Time: 5 min Method: In-Class Activity

ACTIVITY

OBJECTIVE

The objective of this activity is to review the three axes of an aircraft.

RESOURCES

- Handout located at Annex C,
- Slide of Annex C, and
- Overhead projector.

ACTIVITY LAYOUT

Arrange the classroom to allow for small group work.

ACTIVITY INSTRUCTIONS

1. Divide the cadets into groups of no more than four.
2. Distribute handout to each group.
3. Have the cadets label the diagram.
4. Have a cadet from each group move to another group and cross-check their answers. Have the cadets return to their group when done.
5. Project the slide onto a screen or wall.
6. Have a representative from three of the groups label one of the axes on the projected slide.

SAFETY

N/A.

CONFIRMATION OF TEACHING POINT 1

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

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Teaching point 2 **As a Member of a Group, Have the Cadet Describe a Control Surface and its Effects on Attitudes and Movements**

Time: 20 min Method: In-Class Activity

ACTIVITY

OBJECTIVE

The objective of this activity is review control surfaces and their effects on attitudes and movements.

RESOURCES

- Model airplane,
- Flip chart paper, and
- Flip chart markers.

ACTIVITY LAYOUT

Arrange the classroom to allow for small group work.

ACTIVITY INSTRUCTIONS

1. Divide the cadets into equal groups.

2. Assign each group a control surface (rudder, aileron, or elevator).

3. Have the cadets illustrate, in the fullest detail possible, the control surface assigned to their group. Allow the cadets 10 minutes to complete their illustration.

4. Have the cadets post their group's illustration on the wall. Have the cadets conduct a gallery walk for five minutes.

5. With the remaining five minutes, lead the cadets in a discussion on each of the control surfaces. Use the model airplane for demonstration purposes.

SAFETY

N/A.

CONFIRMATION OF TEACHING POINT 2

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

END OF LESSON CONFIRMATION

The cadets' participation in the activity in TP 2 will serve as confirmation of this lesson.

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CONCLUSION

HOMEWORK/READING/PRACTICE

N/A.

METHOD OF EVALUATION

N/A.

CLOSING STATEMENT

A review of principles of flight is important for understanding higher level material. Cadets who wish to pursue training in aviation must have a solid understanding of how aircraft fly.

INSTRUCTOR NOTES/REMARKS

If this complementary EO is chosen, it should be scheduled before any other EOs from this PO.

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.

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