National Defence Défense nationale

A-CR-CCP-803/PG-001

ROYAL CANADIAN AIR CADETS

LEVEL THREE
QUALIFICATION STANDARD AND PLAN

(ENGLISH)

(Supersedes A-CR-CCP-803/PG-001 dated 2015-09-01)

Cette publication est disponible en français sous le numéro A-CR-CCP-803/PG-002.

Issued on Authority of the Chief of the Defence Staff

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FOREWORD AND PREFACE

1. **Issuing Authority.** This Qualification Standard and Plan (QSP) A-CR-CCP-803/PG-001 was developed under the authority of the Director Cadets and Junior Canadian Rangers (D Cdts & JCR) in accordance with Cadet Administrative and Training Order (CATO) 11-03, *Cadet Program Mandate*, CATO 11-04, *Cadet Program Outline* and CATO 51-01, *Air Cadet Program Outline*, and issued on the authority of the Chief of Defence Staff.

2. **Development.** Development of this QSP was in accordance with the performance-oriented concept of training outlined in the A-P9-050 Series, *Canadian Forces Individual Training and Education System*, with modifications to meet the needs of the Canadian Cadet Organization (CCO).

3. **Purpose of the QSP.** The QSP is to be used by Royal Canadian Air Cadet Squadrons to conduct Proficiency Level Three, as outlined in CATO 11-04, *Cadet Program Outline* and CATO 51-01, *Air Cadet Program Outline*.

4. **Suggested Changes.** Suggested changes to this document may be sent directly to cadettraining@canada.ca.

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CHAPTER 1

GENERAL

AIM

1. The aim of Proficiency Level Three is to provide an Air Cadet with the theoretical knowledge and practical experience required to participate in squadron activities and appointments as a team leader.

PROGRAM DESIGN

2. The Proficiency Level Three Program has been designed:

   a. assuming that the majority of third year cadets are between 14 and 15 years of age;

   b. assuming that the majority of cadets have successfully completed Proficiency Level Two;

   c. using age-appropriate learning strategies;

   d. using 30 minutes as a standard period of instruction;

   e. by providing a programming mix consisting of mandatory and complementary training;

   f. to include training which is experiential and skill-based, with a lesser focus on theoretical knowledge; and

   g. assuming that learning will take place through a combination of programmed periods of instruction, unstructured discussions, teachable moments, and coaching/mentoring opportunities.

3. Each Proficiency Level is composed of performance objectives (POs) subdivided into enabling objectives (EOs).

PERFORMANCE OBJECTIVES

4. PO numbers are usually made up of three digits:

   a. The first digit indicates the proficiency level (eg, “X” represents Proficiency Levels One to Five, “1” represents Proficiency Level One, “2” represents Proficiency Level Two, etc.).

   b. The second and third digits indicate the topic area (eg, “00” represents Positive Social Relations for Youth, “01” represents Citizenship, “02” represents Community Service, etc.).

5. EO numbers are usually made up of six digits (eg, EO M103.01):

   a. The first digit is either an ‘M’, which indicates mandatory training, or a ‘C’, which indicates complementary training.

   b. The second, third and fourth digits indicate the PO as per para 4.

   c. The fifth and sixth digits indicate the specific EO number (eg, EO M103.01 is the first mandatory EO in Proficiency Level One leadership).

   d. Some EOs have a seventh digit, which indicates there is a selection of EOs to choose from (eg, EOs MX01.01A, MX01.01B, MX01.01C, etc. indicates squadrons can choose any one of these EOs to satisfy the requirements of mandatory Citizenship training).

6. Each PO has been developed to contribute directly to the program aim and participant outcomes detailed in CATO 11-03, *Cadet Program Mandate*. The following are summaries of the POs common to all elements of the CP (allocated POs numbered X01 to 320) and the POs specific to Proficiency Level Three (allocated POs numbered 331 to 390):

a. **Citizenship.** PO X01 – Participate in Citizenship Activities (Chapter 4, Section 2). The aim of this PO is to introduce cadets to various aspects of being a good Canadian citizen through a range of fun, interesting and challenging activities.

b. **Community Service.** PO X02 – Perform Community Service (Chapter 4, Section 3). The aim of this PO is to encourage cadets to be active citizens through participation as a team leader in a local community service activity.

c. **Leadership.** PO 303 – Act as a Team Leader (Chapter 4, Section 4). The aim of this PO is to provide cadets with knowledge and skills to practice team leadership during naturally occurring leadership opportunities.

d. **Personal Fitness and Healthy Living.** PO X04 – Track Participation in Physical Activities (Chapter 4, Section 5). The aim of this PO is to encourage cadets to live a healthy, active lifestyle by meeting the *Canadian Physical Activity Guidelines* and *Canadian Sedentary Behaviour Guidelines* for youth.

e. **Physical Activities.** PO X05 – Participate in Physical Activities (Chapter 4, Section 6). The aim of this PO is for cadets to have fun participating in physical activities.

f. **Air Rifle Marksmanship.** PO 306 – Fire the Cadet Air Rifle During Recreational Marksmanship (Chapter 4, Section 7). The aim of this PO is to develop cadets' marksmanship abilities through participation in recreational marksmanship.

g. **General Cadet Knowledge.** PO 307 – Serve in an Air Cadet Squadron (Chapter 4, Section 8). The aim of this PO is to provide cadets with information on the opportunities inherent in the Air CP.

h. **Drill.** PO 308 – Direct a Squad Prior to Parade (Chapter 4, Section 9). The aim of this PO is to provide cadets with the knowledge and skills to act as a team leader while preparing a squad for a parade.

i. **Instructional Techniques.** PO 309 – Instruct a Lesson (Chapter 4, Section 10). The aim of this PO is to provide cadets with the knowledge and skills to instruct a 15-minute period of peer instruction.

j. **Biathlon.** PO 311 – Participate in a Recreational Summer Biathlon Activity (Chapter 4, Section 11). The aim of this PO is to provide cadets with an opportunity to enhance individual marksmanship skills and personal fitness through participation in the sport of biathlon.

k. **CAF Familiarization.** PO X20 – Participate in Canadian Armed Forces (CAF) Familiarization Activities (Chapter 4, Section 12). The aim of this PO is to stimulate the interest of cadets in the sea, land and air activities of the CAF.

l. **Principles of Flight.** PO 331 – Describe Principles of Flight (Chapter 4, Section 13). The aim of this PO is to introduce cadets to the notion of aircraft stability.

m. **Meteorology.** PO 336 – Identify Meteorological Conditions (Chapter 4, Section 14). The aim of this PO is to introduce cadets to meteorology as it is an influence in aviation.

n. **Air Navigation.** PO 337 – Demonstrate Air Navigation Skills (Chapter 4, Section 15). The aim of this PO is to introduce cadets to the concepts of air navigation and how to apply them to aviation.

o. **Aerospace.** PO 340 – Identify Aspects of Space Exploration (Chapter 4, Section 16). The aim of this PO is to provide cadets with information about Canadian astronauts and manned space exploration.

p. **Aerodrome Operations.** PO 360 – Recognize Aspects of Aerodrome Operations (Chapter 4, Section 17). The aim of this PO is to augment the cadets' knowledge of the operations necessary at most aerodromes and to further stimulate an interest in ground-based aviation opportunities.

q. **Aircraft Manufacturing and Maintenance.** PO 370 – Recognize Aspects of Aircraft Manufacturing and Maintenance (Chapter 4, Section 18). The aim of this PO is to augment the cadet's knowledge of specialized aspects of the aviation industry.

r. **Aircrew Survival.** PO 390 – Navigate a Route Using a Map and Compass (Chapter 4, Section 19). The aim of this PO is to introduce cadets to land navigation using a map and compass. This is a component of survival skills.

TRAINING PREREQUISITES

7. To participate in Proficiency Level Three, youths must be members of an Air Cadet Squadron, as specified in A-CR-CCP-950/PT-001, *Queen's Regulations and Orders for the Canadian Cadet Organization*, Article 4.01.

USE OF THE QSP

8. This QSP shall be used as the primary authority governing the development, implementation, conduct and evaluation of the training and standards to qualify a cadet as Proficiency Level Three. This QSP shall also be used by the Directorate Cadets and Junior Canadian Rangers as the primary reference for validation of Proficiency Level Three qualification training.

9. Proficiency Level Three shall be conducted using this QSP as the training control document in conjunction with A-CR-CCP-803/PF-001, *Royal Canadian Air Cadets Proficiency Level Three Instructional Guides*.

10. Any deviation from the requirements detailed in this publication due to training limitations must be approved by D Cdts 3, Senior Staff Officer Youth Programs Development, NDHQ.

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CHAPTER 2

TRAINING MANAGEMENT DETAILS

RESPONSIBLE AGENCY AND TRAINING ESTABLISHMENTS

1. The Managing Authority for the Air Cadet Proficiency Level Program is D Cdts & JCR. The conduct of said program is the responsibility of the Regional Cadet Support Units (RCSUs) through authorized Training Establishments (TEs). These TEs include:

a. Royal Canadian Air Cadet Squadrons (RCACS); and

b. Technical TEs, such as:

(1) Regional Cadet Air Operations (RCAOPS); and

(2) Other zone, detachment or regional TEs as authorized by the RCSU Commanding Officer (CO).

TRAINING DETAILS

2. In accordance with CATOs 11-04, *Cadet Program Outline* and 51-01, *Air Cadet Program Outline*, the Proficiency Level Program is conducted between 1 September and 30 June of each training year through a combination of 30 training sessions and 10 supported training days as detailed in Annex A.

3. The Proficiency Level Program is divided into two compulsory components that must be completed by all cadets. These components are:

a. **Mandatory Training**. Mandatory training is a scheme of activities that is requisite for squadrons, and in some instances, specialized TEs, to conduct and for cadets to accomplish in order to complete the Proficiency Level Program; and

b. **Complementary Training**. Complementary training is a scheme of activities that is requisite for squadrons, and in some instances specialized TEs, to conduct and for cadets to accomplish in order to complete the Proficiency Level Program. These activities complement mandatory activities and form an integral part of the Proficiency Level Program. COs have the discretion to choose activities from a range of possibilities, thus allowing them flexibility to tailor the Proficiency Level Program to match the squadron's interests and resources.

4. **Period Allocation**. Periods are 30 minutes in duration with some periods allocated to be instructed in a field environment during supported weekends. A detailed period allocation, including details on training days/weekend, is provided at Annex A, and scheduling guidelines are located at Annex B.

5. **Training Days/Weekends**.

a. The planning and conduct of training days is the responsibility of the squadron. Day training shall be conducted at the squadron parade location or, where suitable facilities do not exist at the squadron parade location, within the local community.

b. The conduct of the familiarization flight and elemental day are normally the responsibility of Technical TEs (RCAOPS). The planning of these activities is to be done in conjunction with the Area Cadet Detachment/RCSU and RCAOPS.

c. In accordance with CATO 11-04, *Cadet Program Outline*, weekend training shall normally be conducted within 300 kilometres of the squadron parade location.

d. Where support of mandatory or complementary days/weekends is required, requests shall be forwarded to the appropriate RCSU. Refer to CATO 51-01, *Air Cadet Program Outline*, and regional orders for amplified information on support available from RCSUs.

e. Training days and weekends shall be structured, unless otherwise specified in the individual Proficiency Level QSP, to include cadets from all levels of the Proficiency Level Program.

6. **Training Capacity**. The training capacity is limited to the ability of the squadron to meet supervision requirements in accordance with CATO 13-12, *Supervision of Cadets*, and other applicable policies (eg, A-CR-CCP-951/PT-002).

7. **Training Staff Requirements.**

a. Squadron Training Officer (Trg O):

Rank	MOSID	Number	Qualification
Capt	00232-03	1	Minimum: Captain Qualification or CIC Intermediate Officer Qualification. Preferred: CIC Training Officer (Corps/Squadron) Qualification; and CIC Occupational Specialty Senior Instructor Qualification.

b. Proficiency Level Three Course Officer (PL4 Crse O):

Rank	MOSID	Number	Qualification
Lt /2Lt	00232-03	1	Minimum: Basic Officer Qualification; or CIC Basic Military Officer Qualification and Basic Military Occupational Qualification. Preferred: Military Occupation Course (Air); or CIC Basic Military Officer Qualification (Air).

c. Instructors:

Rank	MOSID	Number	Qualification
Cadet FSgt and above	N/A	1 per 10 cadets	Minimum: Completion of Proficiency Level Four. Preferred: CSTC specialties appropriate for activity requirements (eg, Fitness and Sports Instructor to instruct Physical Activities PO X05, Chapter 4, Section 6).

8. **Technical Specialists**. The number of technical specialists required is influenced by policy documentation specific to the activity (eg, CATOs, Water Safety Orders, Adventure Training Safety Standards, etc.) and by local circumstances. The technical specialists that support Proficiency Level Three are:

a. Required Specialist Instructors:

(1) Unit Cadet Conflict Management Advisor (UCCMA) to coordinate training delivery and learning reinforcement for PO 400;

(2) Range Safety Officer (RSO) in support of PO 406 and PO 311 (Chapter 4, Section 11);

b. Possible Cadet Specialist Instructors:

(1) Fitness and Sports Instructor(s) as available in support of PO X04 (Chapter 4, Section 5) and PO X05 (Chapter 4, Section 6);

(2) Air Rifle Marksmanship Instructor(s) as available in support of PO 406 and PO 311 (Chapter 4, Section 11);

(3) Drill and Ceremonial Instructor(s) as available in support of PO 408;

(4) Advanced Aviation Instructor(s) as available in support of POs 331 (Chapter 4, Section 13), 336 (Chapter 4, Section 14), and 337 (Chapter 4, Section 15);

(5) Advanced Aerospace Instructor(s) as available in support of PO 340 (Chapter 4, Section 16); and

(6) Survival Instructor(s) as available in support of PO 390 (Chapter 4, Section 19); and

c. guest speaker(s) as required.

9. **Resource Requirements**. RCSU COs are responsible for ensuring that required equipment and supplies are available. A list of material required to conduct the training is located at Annex C.

TRAINING ADMINISTRATION

10. **Cadet Evaluation**. Details on cadet evaluation are found in Chapter 3.

11. **Reports**. A training file should be maintained on each cadet to record their progress during the training year. The training file should consist, as a minimum, of a Proficiency Level Three Qualification Record (Chapter 3, Annex C). Training files are temporary documents which may be disposed of upon migration of the Proficiency Level Three Qualification Record to DND 2399, *Cadet Personnel Record*.

QUALIFICATION

12. The Proficiency Level Three qualification is awarded to cadets upon completion of the requirements specified in Chapter 3.

RELATED DOCUMENTS

13. This QSP is to be used in conjunction with:

a. CATOs; and

b. A-CR-CCP-803/PF-001, *Proficiency Level Three Instructional Guides*.

REFERENCES

14. A list of references used in this QSP is located at Annex D.

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PROFICIENCY LEVEL THREE TRAINING SUMMARY AND TIME ALLOCATION

PERIOD ALLOCATION

PO No.	Performance Objective	EO No.	Enabling Objective	No. of Pd
X01	Participate in Citizenship Activities	MX01.01A	Participate in a Citizenship Tour	-
		MX01.01B	Attend a Presentation by a Community Organization	-
		MX01.01C	Attend a Presentation by a Citizen-of-Interest	-
		MX01.01D	Participate in the Canadian Citizenship Challenge	-
		MX01.01E	Host a Citizenship Ceremony	-
		MX01.01F	Participate in an Election	-
		MX01.01G	Participate in Heritage Minutes Video Activities	-
		MX01.01H	Participate in Citizenship Learning Stations	-
		CX01.01	Participate in Citizenship Activities	18
			PO X01 - Total Mandatory	**3**
			PO X01 - Total Complementary	**18**
X02	Perform Community Service	MX02.01	Perform Community Service	9
		CX02.01	Perform Community Service	18
			PO X02 - Total Mandatory	**9**
			PO X02 - Total Complementary	**18**
303	Perform the Role of a Team Leader	M303.01	Define the Role of a Team Leader	2
		M303.02	Participate in a Mentoring Relationship	1
		M303.03	Practice Self-Assessment	1
		M303.04	Communicate as a Team Leader	2
		M303.05	Supervise Cadets	2
		M303.06	Solve Problems	2
		M303.07	Lead Cadets Through a Leadership Assignment	2
		303 PC		0
		C303.01	Lead Team-Building Activities	3
		C303.02	Deliver a Presentation About a Leader	2
		C203.01	Record Entries in a Reflective Journal	3
		C203.02	Employ Problem Solving	2
		C203.04	Participate in a Presentation Given by a Leader	2
		C203.05	Participate in Trust-Building Activities	1
		C203.06	Participate in Problem-Solving Activities	2
		C103.03	Participate in Teambuilding Activities	1
			PO 303 - Total Mandatory	**12**
			PO 303 - Total Complementary	**16**
X04	Track Participation in Physical Activities	MX04.01	Participate in 60 Minutes of Moderate- to Vigorous-Intensity Physical Activity (MVPA) and Track Participation in Physical Activities	3

PO No.	Performance Objective	EO No.	Enabling Objective	No. of Pd
		MX04.02	Identify Strategies to Improve Participation in Physical Activities and Participate in the Cadet Fitness Assessment (CFA)	3
		MX04.03	Participate in the CFA and Identify Strategies for Improving Personal Physical Fitness	3
		CX04.01	Participate in the CFA and Identify Strategies for Improving Personal Physical Fitness	3
		CX04.02	Participate in Activities that Reinforce the Three Components of Physical Fitness	3
		CX04.03	Participate in a Cooking Class	3
		CX04.04	Attend a Personal Fitness and Healthy Living Presentation	3
		CX04.05	Attend a Local Amateur Sporting Event	3
			PO X04 - Total Mandatory	**9**
			PO X04 - Total Complementary	**15**
X05	Participate in Physical Activities	MX05.01	Participate in Physical Activities	9
		CX05.01	Participate in Physical Activities	9
		CX05.02	Participate in a Tournament	9
			PO X05 - Total Mandatory	**9**
			PO X05 - Total Complementary	**18**
306	Fire the Cadet Air Rifle During Recreational Marksmanship	M306.01	Participate in a Recreational Marksmanship Activity	3
		C306.01	Identify Civilian Marksmanship Organizations	1
		C306.02	Correct Marksmanship Error	2
		C306.03	Fire the Cadet Air Rifle from the Standing Position	2
		C206.01	Practice Holding Techniques	1
		C206.02	Practice Aiming Techniques	2
		C206.03	Practice Firing Techniques	1
		C106.01	Participate in a Recreational Marksmanship Activity	6
			PO 306 - Total Mandatory	**3**
			PO 306 - Total Complementary	**15**
307	Serve in an Air Cadet Squadron	M307.01	Identify Proficiency Level Three Training Opportunities	1
		M307.02	Identify Year Three CSTC Training Opportunities	1
		M307.03	Recognize the Partnership Between the Air Cadet League of Canada and the Department of National Defence	1
		C307.01	Participate in a Presentation Given by a Guest Speaker From the Regional Cadet Support Unit	2
		C307.02	Participate in a Presentation Given by the Cadet Liaison Officer	2

PO No.	Performance Objective	EO No.	Enabling Objective	No. of Pd
		C307.03	Participate in a Presentation Given by a Guest Speaker from the Air Cadet League of Canada	2
			PO 307 - Total Mandatory	**3**
			PO 307 - Total Complementary	**6**
308	Direct a Squad Prior to a Parade	M308.01	Prepare a Squad for Parade	3
		M308.02	Deliver Words of Command	1
		308 PC		0
		C308.01	Execute Flag Party Drill	4
		C308.02	Deliver Words of Command	2
		C208.01	Practice Ceremonial Drill as a Review	2
		C208.02	Execute Drill with Arms	8
			PO 308 - Total Mandatory	**4**
			PO 308 - Total Complementary	**16**
309	Instruct a Lesson	M309.01	Explain Principles of Instruction	2
		M309.02	Identify Methods of Instruction	2
		M309.03	Describe Effective Speaking Techniques	1
		M309.04	Describe Questioning Techniques	1
		M309.05	Select Appropriate Instructional Aids	2
		M309.06	Plan a Lesson	2
		M309.07	Instruct a 15-Minute Lesson	3
		309 PC		0
		C309.01	Deliver a One-Minute Verbal Presentation	2
		C309.02	Plan a Lesson	2
		C309.03	Instruct a 15-Minute Lesson	3
		C309.04	Identify Formations for Drill Instruction	1
		C309.05	Plan a Drill Lesson	2
		C309.06	Instruct a 15-Minute Drill Lesson	3
			PO 309 – Total Mandatory	**13**
			PO 309 – Total Complementary	**13**
311	Participate in a Recreational Summer Biathlon Activity	C311.01	Practice Aiming and Firing the Cadet Air Rifle Following Physical Activity	3
		C311.02	Participate in a Recreational Summer Biathlon Activity	6
		C211.01	Identify Civilian Biathlon Opportunities	1
		C211.02	Run on Alternate Terrain	1
		C211.03	Fire the Cadet Air Rifle Using a Sling Following Physical Activity	1
		C211.04	Participate in a Competitive Summer Biathlon Activity	6
		C111.01	Participate in a Biathlon Briefing	1
		C111.02	Run Wind Sprints	1
		C111.03	Fire the Cadet Air Rifle Following Physical Activity	1
		C111.04	Participate in a Recreational Summer Biathlon Activity	6
			PO 311 – Total Mandatory	**0**

PO No.	Performance Objective	EO No.	Enabling Objective	No. of Pd
			PO 311 – Total Complementary	**27**
X20	Participate in Canadian Armed Forces (CAF) Familiarization Activities	MX20.01A	Participate in a CAF Activity	-
		MX20.01B	Participate in a CAF Familiarization Tour	-
		MX20.01C	Fire the C7 Rifle	-
		MX20.01D	Participate in a Mess Dinner	-
		MX20.01E	Attend a CAF Presentation	-
		MX20.01F	Attend a CAF Commemorative Ceremony	-
		MX20.01G	Participate in CAF Video Activities	-
		MX20.01H	Participate in CAF Learning Stations	-
		CX20.01	Participate in CAF Familiarization Activities	18
			PO X20 - Total Mandatory	**6**
			PO X20 - Total Complementary	**18**
331	Describe Principles of Flight	M331.01	Describe Aircraft Stability	2
		C331.01	Review Principles of Flight	1
		C331.02	Read Pitot Static Instruments	2
		C331.03	Identify Aspects of Helicopter Aerodynamics	1
		C331.04	Demonstrate Attitudes and Movements in a Flight Simulator	3
		C331.05	Participate in a Presentation Given by a Guest Speaker From the Local Aviation Community	2
			PO 331 - Total Mandatory	**2**
			PO 331 - Total Complementary	**9**
336	Identify Meteorological Conditions	M336.01	Describe Properties of the Atmosphere	1
		M336.02	Explain the Formation of Clouds	1
		M336.03	Explain the Effects of Air Pressure on Weather	1
		M336.04	Explain the Effects of Humidity and Temperature on Weather	2
		331/336/337 PC	Aviation Subjects–Combined Assessment	1
		C336.01	Read an Aviation Routine Weather Report (METAR)	2
		C336.02	Tour a Meteorological Facility	3
		C336.03	Participate in a Presentation Given by an Flight Services Specialist	2
			PO 336 - Total Mandatory	**6**
			PO 336 - Total Complementary	**7**
337	Demonstrate Air Navigation Skills	M337.01	Measure Distance Along a Route	1
		M337.02	Determine a Position on a Visual Flight Rules (VFR) Navigation Chart (VNC)	1
		C337.01	Operate a Radio for Aviation Transmission	1
		C337.03	Practice Air Navigation Skills	1
			PO 337 - Total Mandatory	**2**
			PO 337 - Total Complementary	**2**
340	Identify Aspects of Space Exploration	M340.01	Identify Canadian Astronauts	1

PO No.	Performance Objective	EO No.	Enabling Objective	No. of Pd
		M340.02	Discuss the History of Manned Space Exploration	1
		C340.01	Identify Canadian Astronauts	2
		C340.02	Discuss the Canadian Space Program	1
		C340.03	Discuss Unmanned Space Exploration	2
		C340.04	Describe Elements of the Night Sky	1
		C340.05	Simulate Life in Space	3
		C340.06	Launch a Water Rocket	3
		C340.07	Identify Global Position System (GPS) Components	2
		C340.08	Describe Aspects of the International Space Station (ISS)	1
		C340.09	Participate in a Presentation Given by a Guest Speaker from the Astronomy Community or Aerospace Industry	2
		C340.10	Identify Online Stargazing Programs	1
			PO 340 - Total Mandatory	**2**
			PO 340 - Total Complementary	**18**
360	Recognize Aspects of Aerodrome Operations	C360.01	Identify Types of Aerodromes	1
		C360.02	Explain Aspects of Aerodrome Lighting	1
		C360.03	Construct a Model of the Airspace at an Aerodrome	3
		C360.04	Identify How Equipment is Used at an Aerodrome	1
		C360.05	Identify Aspects of Emergency Response and Aerodrome Security	1
		C360.06	Explain Aspects of Air Traffic Services (ATS)	1
			PO 360 - Total Mandatory	**0**
			PO 360 – Total Complementary	**8**
370	Recognize Aspects of Aircraft Manufacturing and Maintenance	M370.01	Identify Components of the Pitot Static System	1
		M370.02	Identify Aircraft Manufacturers	1
		M370.03	Describe Routine Aircraft Inspection Procedures	1
		C370.01	Identify Tasks Required to Maintain Aircraft	1
		C370.02	Describe Materials Used in Aircraft Construction	1
		C370.03	Identify Basic Power Tools Used in Aircraft Manufacturing and Maintenance	1
		C370.04	Construct an Aluminium Model Biplane	12
		C370.05	Tour an Aircraft Restoration Project	3
		C270.01	Participate in a Presentation Given by an Employee From the Aircraft Manufacturing and Maintenance Industry	2
		C270.03	Tour an Aircraft Manufacturing or Maintenance Facility	3
			PO 370 – Total Mandatory	**3**

PO No.	Performance Objective	EO No.	Enabling Objective	No. of Pd
			PO 370 – Total Complementary (Max 12)	**23**
390	Navigate a Route Using a Map and Compass	M390.01	Identify Parts of the Compass	1
		M390.02	Identify Marginal Information and Conventional Signs	2
		M390.03	Determine Grid References (GRs)	2
		M390.04	Determine Distance on a Map and on the Ground	3
		M390.05	Determine Bearings on a Map and on the Ground	2
		390 PC		4
		C390.01	Identify Types of Maps	1
		C390.02	Interpret Contour Lines	1
		C390.03	Orient a Map by Inspection	1
		C390.04	Orient a Map Using a Compass	1
		C390.05	Calculate Magnetic Declination	2
		C390.06	Determine Direction Using the Sun	1
		C390.07	Determine Direction at Night	1
		C390.08	Use Blazing Techniques	1
		C390.09	Identify Elements of the Night Sky	4
		C390.10	Identify Methods of Preparing and Cooking a Small Animal or Fish	2
		C390.11	Construct Camp Crafts	4
		C390.12	Perform Minor First Aid in a Field Setting	4
		C390.13	Act as a Member of a Ground Search and Rescue (SAR) Party	4
		C390.14	Participate in a Presentation Given by a Guest Speaker from the Search and Rescue (SAR) Community	2
		C290.04	Collect Drinking Water Using a Solar Still	2
			PO 390 – Total Mandatory Field	**14**
			PO 390 – Total Complementary (Max 18)	**31**
N/A	Participate in the Annual Ceremonial Review (ACR)			**3**

TRAINING DAY/WEEKEND ALLOCATION

MANDATORY

Activity	Description	Time
Mandatory Training Periods	18 periods of instruction (9 per day) chosen from the mandatory EOs to be delivered during a full day of training. POs X02 (Chapter 4, Section 3), X05 (Chapter 4, Section 6) and/or 306 (Chapter 4, Section 7) are best suited for delivery during training days; however, the flexibility does exist for squadrons to deliver the POs that best suit their circumstances (i.e. infrastructure, resource availability, etc).	2 Days

Activity	Description	Time
Familiarization Flight and Aviation Day	Every Proficiency Level Three cadet will be given an opportunity to experience a familiarization flight in an aircraft determined by RC Air Ops O. In addition to each familiarization flight, squadrons should maximize the training value of this allocated day by providing additional “air” experiences which could include participating in a number of complementary training activities.	1 Day
Air Cadet Skills Day	One day where cadets will train in and practice various skills drawn from training, such as EOs MX05.01 (Participate in Physical Activities), M306.01 (Participate in a Recreational Marksmanship Activity), C331.04 (Demonstrate Attitudes and Movements in a Flight Simulator), and C340.06 (Launch a Water Rocket). Squadrons may conduct this day with other squadrons and/or in a competition format.	1 Day
Aircrew Survival Exercise	One weekend of mandatory support will be provided for cadet squadrons to participate in an overnight exercise to include the delivery of PO 390 (Chapter 4, Section 19).	1 Weekend
	Total Mandatory	**6 Days**

COMPLEMENTARY

Activity	Description	Time
Complementary Training Periods	18 periods of instruction (9 per day) chosen from the complementary EOs to be delivered during a full day of training. POs X02 (Chapter 4, Section 3), X05 (Chapter 4, Section 6) and/or 306 (Chapter 4, Section 7) are best suited for delivery during training days; however, the flexibility does exist for squadrons to deliver the POs that best suit their circumstances (i.e. infrastructure, resource availability, etc).	2 Days
PLUS COMBINATION OF TWO DAYS FROM THE FOLLOWING		
Aviation Day	One day to provide additional aviation training, such as lessons from POs 331 (Chapter 4, Section 13) to 370 (Chapter 4, Section 18).	1 Day
Air Cadet Skills Day	One day where cadets will train in and practice various skills drawn from training, such as CX05.01 (Participate in Physical Activities), CX05.02 (Participate in a Tournament), C106.01 (Participate in a Recreational Marksmanship Activity), C208.02 (Execute Drill With Arms), and C370.04 (Construct an Aluminum Model Biplane). Squadrons may conduct this day with other squadrons and/or in a competition format.	1 Day
Aircrew Survival Exercise	One or two days or one weekend provided for squadrons to conduct additional training and practical experience in support of PO 390 (Chapter 4, Section 19).	1 or 2 Days or 1 Weekend
	Total Complementary	**4 Days**

SCHEDULING GUIDELINES

1. Schedule those activities that are set dates (eg, Remembrance Day activities, Regionally Directed Activities, TE activities [eg, gliding], School Breaks).

2. Schedule major and recurring activities (eg, PO X05 [Physical Activities, Chapter 4, Section 6], CO's Parades, Aircrew Survival Exercises, Annual Ceremonial Review).

3. Schedule the following training activities early in the training year:

   a. PO 100 (Positive Social Relations for Youth),

   b. POs 107, 207, 307 (Chapter 4, Section 8), 407 and 507 (General Cadet Knowledge),

   c. POs 303 (Chapter 4, Section 4), 403 and 503 (Leadership), and

   d. POs 309 (Chapter 4, Section 10) and 409 (Instructional Techniques).

4. Schedule any special considerations, such as:

   a. Schedule EO MX04.02 (Identify Strategies to Improve Participation in Physical Activities and Participate in the Cadet Fitness Assessment) four weeks after EO MX04.01 (Participate in 60 Minutes of Moderate- to Vigorous-Intensity Physical Activity and Track Participation in Physical Activities);

   b. Many EOs can be scheduled during training days/weekends (eg, most of PO X90 should be scheduled during the Aircrew Survival Exercise, many EOs from POs X30, X40, X60 and X70 can be scheduled during the Familiarization Flying and Aviation Day, and Air Cadet Skills Day);

   c. For the completion of POs 303 (Chapter 4, Section 4), 403, and 503 (Leadership), consider leadership assignment opportunities for Proficiency Levels Three, Four and Five cadets; leadership appointment opportunities for Proficiency Levels Four and Five cadets; leadership project opportunities for Proficiency Level Five cadets; and

   d. Schedule each Proficiency Level Four cadet into the Proficiency Level One and Two training schedules in order to complete EO M409.05 (Instruct a 30-Minute Lesson).

5. Schedule the remaining mandatory training (details located in the lesson specifications in Chapter 4).

6. Schedule selected complementary training.

7. Other considerations when developing the annual training schedule include:

   a. the training environment required for each activity:

      (1) some activities will require an outdoor environment which requires consideration for seasonal climate; and

      (2) some activities will require the use of a special facility, such as a gymnasium or sports field; and

   b. the availability of a technical specialist, if required to conduct the activity;

8. Considerations when implementing the training program:

   a. Some theory is required for safety purposes and for introducing new material. However, most material can be taught using practical methods.

   b. Training sessions need to be planned in advance to allow instructors adequate time to prepare for the delivery and conduct of training. This includes reviewing lesson specifications and instructional guides, and creating instructional materials as required.

c. Take adequate time to allow cadets to reflect upon and be debriefed on experiential training activities, to include future applications of the experience.

RESOURCE REQUIREMENTS

Quantities are based on a group of 30 cadets.

The resources required for complementary training and POs X01 (Chapter 4, Section 2), X02 (Chapter 4, Section 3), X04 (Chapter 4, Section 5), X05 (Chapter 4, Section 6) and X20 (Chapter 4, Section 12) depend on the activities selected by the squadrons. Refer to A-CR-CCP-803/PF-001, *Royal Canadian Air Cadets Proficiency Level Three Instructional Guides* for detailed lists of resources for each selected activity.

The following is a list of key items all squadrons require access to for the conduct of training.

Item	Quantity	PO/EO
DVD Player	1	X01/X05
Television	1	X01/X05
CD Player	1	X04
Leger's 20-m Shuttle Run Test CD	1	X04
Measuring tape	1	X04
Masking tape	1	X04
12-cm measuring strip	15	X04
Pylons	30	X04
Gym mats	15	X04
Cardboard/wooden box approximately 30 cm high	15	X04
Metre stick	15	X04
First Aid Kit	1	X05
Sunscreen - SPF 30 (minimum)	1	X05
Insect Repellent	1	X05
Cadet Air Rifle - Five-shot clip	45	306
Cadet Air Rifle - Rifle	15	306
Cadet Air Rifle - Safety Rod	15	306
Cadet Air Rifle - Single Pellet Adaptor	15	306
Marksmanship mats	15	306
Pellets - .177 calibre Air Rifle (250 Pack)	6	306
Pellets - .177 calibre Cleaning Pellets (80 Pack)	1	306
Pellet container	15	306
Safety goggles/glasses	15	306
Target - Grouping Target CCT2000GRTD	150	306
Target Frame	15	306

Item	Quantity	PO/EO
Stopwatch	1	309
Whistle	1	309
Ball - Tennis	2	331
Bowl - Metal 6 inch	2	331
Marbles - Various Sizes	3	331
Tape - Transparent	3	331
Bowl - Plastic Clear Set 4 Piece	1	336
Cup - Paper 10 oz	3	336
Cup - Paper 20 oz	3	336
Chart - VFR Navigation (Local Operating Area)	15	337
Ruler - IACO Chart	30	337
Battery - AA 4 Pack	5	390
Calculator	5	390
Compass - Magnetic	30	390
Map - Topographical (Local Operating Area)	30	390
Map - Topographical (Local Operating Area)	5	390
Protractor - Douglas	1	390
Radio - VHF Handheld	5	390
Water Bottle	30	390
Whistle	1	390

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CHAPTER 3

CADET EVALUATION

PURPOSE

1. This chapter outlines the evaluation requirements for achievement of Proficiency Level Three qualification.

LEARNER EVALUATION

2. During Proficiency Level Three, a combination of formative and summative evaluation will be used to track cadets' progress.

3. Formative evaluation, or assessment **for** learning, takes place during a phase of instruction and helps cadets and instructors recognize cadets' progress or difficulties in learning. Through formative evaluation, the instructor can: identify when corrective or remedial action is required, plan the next steps in instruction, provide cadets with feedback so they can improve, and reinforce learning to aid the cadet in retaining information. Formative evaluation may also include opportunities for cadets to practice using Performance Checks (PCs) employed in summative evaluation.

4. Summative evaluation, or assessment **of** learning, takes place to determine whether learners have achieved POs or critical EOs (those deemed prerequisites to further individual training and education) and is used at the end of a phase of instruction. Details for assessment of learning are located within this chapter.

CADET EVALUATION DESIGN AND DEVELOPMENT

5. Cadet evaluation is designed and developed incorporating contemporary professional practices from the fields of education and youth development as well as considering best practices in use within the Canadian Cadet Organizations (CCO).

6. Cadet evaluation is designed and developed so that all cadets are capable of achieving all POs and associated EOs. To motivate cadets to learn, cadet evaluation builds on success and confidence rather than demotivating cadets with failure and defeat.

7. The following fundamental assessment principles shall guide the conduct of Proficiency Level Three assessment activities:

a. in advance of training, the instructor shall inform the cadet of POs and EOs associated with the qualification;

b. in advance of training, the instructor shall inform the cadet of the assessment plan for the qualification and provide the cadet with an opportunity to review the applicable forms used in assessment;

c. assessment information shall be shared between the instructor and the cadet and used to revise and guide instruction and learning;

d. the instructor shall provide feedback that is descriptive, constructive, frequent, and timely; helping the cadet to identify strengths and address areas requiring improvement;

e. the cadet shall be actively, consistently and effectively involved in assessment; including learning to manage their own learning through the skills of self-assessment; and

f. the cadet shall be encouraged to actively, consistently and effectively communicate with others about their learning progress.

CP DEVELOPMENTAL PERIODS (DPS)

8. The CP is designed across adolescent DPs adapted to suit the CP target population. Outlined in each DP are specific philosophies and approaches to learning and assessment that influence design, development and conduct of cadet training and assessment.

9. A DP is a time frame, during a cadet's progression through the CP, in which the cadet participates in training and is provided opportunities to develop desired knowledge, skills and attitudes that support the aims of the CP and contribute to the achievement of the CP outcomes.

10. Progressive training levels, and associated learning objectives, distinguish each DP; ensuring training is relevant, achievable and age-appropriate for the cadet population. DPs and associated training levels are designed to be completed in a sequential manner and are also fluid, which allows a cadet to progress to the next training level or DP while still working on completion of learning objectives from the previous level or DP.

11. The design and development of cadet training and evaluation is based on the basic overview of the DP characteristics located at Annex A.

CADET ASSESSMENT OF LEARNING PLAN

12. The Assessment of Learning Plan located at Annex B, provides an overall strategy for using assessment activities to determine if the cadet meets the requirements for Proficiency Level Three qualification. The assessment of learning plan will:

a. provide an outline of each assessment of learning activity including its purpose, when it will occur, and details the assessment instrument(s) used to support cadet evaluation;

b. identify the learning target(s) associated with the PO and/or EO being assessed, to include:

(1) **Knowledge Mastery.** The facts, concepts and theory a cadet needs to know;

(2) **Reasoning Proficiency.** A cadet uses what they know to solve a problem, make a decision, make a plan, think critically, set goals, or self-assess;

(3) **Skills.** Performance demonstration; where the cadet demonstrates their ability to perform a skill. To be assessed, these performances must be demonstrated by the cadet and observed by an assessor;

(4) **Ability to Create Products.** A cadet uses their knowledge, reasoning and skills to create a concrete product; and/or

(5) **Attitudinal/Dispositional Changes.** A cadet's attitude about learning, safety, conducts, etc. Targets in this realm reflect attitude and feeling. They represent important affective goals we hold for a cadet as a by-product of their CP experience, and as such are not generally assessed for the purpose of attaining a qualification.

c. identify the assessment method(s) that best matches PO and/or EO learning targets, to include:

(1) **Selected Response.** A cadet selects the correct or best response from a list provided. Formats include multiple choice, true/false, matching, short answer, and fill-in questions. Although short answer and fill-in-the-blank questions do require cadets to generate an answer, they call for a very brief answer that is counted as right or wrong, so these have been included in the selected response category;

(2) **Extended Written Response.** A cadet is required to construct a written answer in response to a question or task rather than select one from a list. An extended written response is one that is at least several sentences in length;

(3) **Performance Assessment.** This assessment method is based on observation and judgment; the performance or product is observed and determination is made as to its quality; and/or

(4) **Personal Communication.** Gathering information about a cadet through personal communication, learning is assessed through interpersonal interaction with the cadet.

ASSESSMENT INSTRUMENTS

13. Specific assessment instruments have been designed to support each assessment activity within the assessment of learning plan. These are meant to standardize assessment activities and cadet evaluation for all cadets attempting the qualification. Assessment instruments are located at Annex B, Appendix 1 to Annex B, Appendix 6.

MONITORING CADET PROGRESS

14. Cadets must meet the standard of behaviour and conduct expected from all cadets. During cadet interviews and personal counselling, the Proficiency Level Three Course Officer should adopt a proactive approach towards difficulties.

15. The Proficiency Level Three Course Officer should meet formally and informally with cadets throughout the training year to discuss the cadet's progress towards Proficiency Level Three qualification (assessment for learning) and to provide feedback on overall performance. The Proficiency Level Three Course Officer shall meet with each cadet at the end of the training year to review the completed *Proficiency Level Three Qualification Record*. Guidelines for conducting cadet interviews are located at Annex D.

16. Frequent absences from mandatory and complementary training that could result in the cadet not meeting the minimum standard for Proficiency Level Three qualification must be addressed in accordance with CATO 15-22, *Conduct and Discipline – Cadets*.

TRAINING COUNSELLING SESSION

17. A training counselling session is used when a cadet is having difficulties progressing and an intervention is required to set goals for corrective action and/or remedial instruction. The Trg O is responsible for conducting training counselling sessions, except in the case of cadet rank promotions for which the CO is responsible. Guidelines for conducting training counselling sessions are located at Annex E and the Training Counselling Session Form is located at Annex E, Appendix 1.

ADDITIONAL ASSESSMENT OF LEARNING ACTIVITIES

18. No additional cadet evaluations, eg, theory tests or performance checks, are to be used to determine Proficiency Level Three qualification eligibility. Therefore, these national standards are not to be supplemented with additional regional and/or local standards.

PROFICIENCY LEVEL THREE QUALIFICATION STANDARD

19. The minimum standard for Proficiency Level Three qualification is:

a. 60 percent overall attendance in all scheduled mandatory and complementary training as calculated by the squadron; and

b. successful completion of each PO as outlined in the Proficiency Level Three Qualification Record located at Annex C.

CADETS NOT MEETING THE QUALIFICATION STANDARD

20. A cadet who does not meet the qualification standard for any PO shall be given a reasonable opportunity to achieve the standard. Unless otherwise specified in the assessment of learning plan and associated assessment instruments, there is no limit to the number of additional opportunities that may be afforded to

the cadet, provided it is within the resources of the squadron. If, by the end of the training year, a cadet who is Proficiency Level Three qualified has not successfully attained any PO, the squadron CO may waive the minimum qualification standard. When waiving any PO requirement, the squadron CO shall consider:

a. the legitimacy of the cadet's reason for failing to attain the PO;

b. the cadet's mandatory and complementary training attendance; and

c. the cadet's overall behaviour and performance.

21. Any cadet for whom a waiver has been issued will not be granted the Proficiency Level Three qualification. However, that cadet will progress to Proficiency Level Four in the fourth year of their squadron membership. If a CO does not grant a cadet a waiver, that cadet may be held back to repeat Proficiency Level Three.

22. Cadets who have been granted a waiver of the qualification standard of Proficiency Level Three and have progressed to Proficiency Level Four in the fourth year of their squadron membership are expected to achieve the missing Proficiency Level Three PO requirements. To facilitate this, cadets may concurrently receive credit for activities completed in Proficiency Level Four as part of also achieving Proficiency Level Three.

23. Only cadets who have achieved Proficiency Level Two qualification may be granted a waiver.

RECORDING AND REPORTING CADET ACHIEVEMENT

24. The progress of each cadet shall be recorded on the Proficiency Level Three Qualification Record, located at Annex C, which is also used to determine successful completion of Proficiency Level Three qualification. COs are responsible for ensuring the results are recorded on each cadet's DND 2399, *Cadet Personnel Record*.

PROFICIENCY LEVEL THREE CERTIFICATE OF QUALIFICATION

25. The CF 558, *Cadet Certificate of Qualification* (NSN 7530-21-870-7685), shall be awarded to each cadet upon successful completion of the Proficiency Level Three qualification.

CHARACTERISTICS OF CP DPS

Developmental Period (DP)	Developmental Period 1 (DP1)		Developmental Period 2 (DP2)		Developmental Period 3 (DP3)
Ages	**12 - 14**		**15 - 16**		**17 - 18**
Years	**Y1**	**Y2**	**Y3**	**Y4**	**Y5+**
DP Overview	*Learning in the Cadet Program is designed around three progressive, developmental periods (DPs). The mental, physical, emotional, and social development of a cadet are considered in these age-appropriate DPs. The cadet develops and ultimately refines higher-level thinking skills (reasoning, reflective thinking, problem solving) as they progress through each DP.*				
Age-Appropriate Learning	**Experience-Based**		**Developmental**		**Competency**
DP Description	*The cadet has well-developed automatic responses however, the area of the brain that processes higher-level thinking is not yet mature. Effective learning is active and interactive with lots of practical experiences.*		*The cadet starts developing higher-level thinking skills such as problem-solving skills. Effective learning is interactive and practical, allowing cadets to start making decisions within their learning process.*		*The cadet is refining higher level thinking skills. Effective learning is interactive and allows for increased individual responsibility and independent learning.*
Assessment Expectation	**Participatory**		**Baseline Proficiency**		**Enhanced Proficiency**
Assessment Purpose	• Stimulation and maintenance of an enhanced interest in the CP **Note:** Exposing the cadet to a variety of training activities and learning opportunities with the assessment expectation focused on participation will help accomplish this. • Exposure to a broad knowledge base and skill set **Note:** CSTC Summer 2 courses will begin to expose the cadet to some specific specialty areas, which will allow the cadet to discover possible areas of particular interest.		• Development of a broad knowledge base and skill set as well as introducing reasoning proficiency • Ongoing determination and development of specific specialty areas of interest and capability • Recognition of enhanced proficiency achievement • Ongoing stimulation and maintenance of an enhanced interest in the CP		• Development of an enhanced knowledge, reasoning or skill proficiency in a targeted specialty area – related to interest, capability and cadet program requirements • Ongoing development of the broad knowledge base and skill set as well as reasoning proficiency • Ongoing recognition of enhanced proficiency achievement • Ongoing stimulation and maintenance of an enhanced interest in the CP

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ASSESSMENT OF LEARNING PLAN – PROFICIENCY LEVEL THREE

EC/PC	Scope	Purpose	Target	Method	How	When	Resources	Limitations
PO X01 – Participate in Citizenship Activities								
X01 PC	PO X01	To have the cadet participate in a citizenship activity.	Nil.	Nil.	The cadet is observed participating in a minimum of one citizenship activity.	Anytime.	Nil.	Nil.
PO X02 – Perform Community Service								
X02 PC	PO X02	To have the cadet participate in community service.	Nil.	Nil.	The cadet is observed participating in a minimum of one community service activity.	Anytime.	Nil.	Nil.
PO 303 – Perform the Role of a Team Leader								
303 PC	PO 303	To assess the cadet's ability to perform the role of Team Leader.	Reasoning Proficiency and Skills	Performance Assessment and Personal Communication	The cadet is observed performing the role of a Team Leader. The performance is then discussed with the cadet.	Ongoing throughout the training year.	Appendix 1	Nil.
PO X04 – Track Participation in Physical Activities								
X04 PC	PO X04	To assess the cadet's participation in regular physical activity.	Reasoning Proficiency and Skills	Performance Assessment	The cadet's physical activity tracker is reviewed.	During EO MX04.02.	Appendix 2 and Physical Activity Tracker.	Nil.
PO X05 – Participate in Physical Activities								
X05 PC	PO X05	To have the cadet participate in physical activity.	Nil.	Nil.	The cadet is observed participating in a minimum of one physical activity.	Anytime.	Nil.	Nil.

EC/PC	Scope	Purpose	Target	Method	How	When	Resources	Limitations
PO 306 – Fire the Cadet Air Rifle During Recreational Marksmanship								
306 PC	PO 306	To have the cadet participate in recreational marksmanship.	Nil.	Nil.	The cadet is observed participating in a minimum of one recreational marksmanship activity.	Anytime.	Nil.	Nil.
PO 307 – Serve in an Air Cadet Squadron								
307 PC	PO 307	To have the cadet participate in Proficiency Level Three training.	Nil.	Nil.	The cadet is observed participating in a minimum of 60% of mandatory / complementary training activities.	Anytime.	Nil.	Nil.
PO 308 – Direct a Squad Prior to a Parade								
308 PC	PO 308	To assess the cadet's ability to prepare a squad for parade.	Skills	Performance Assessment	The cadet is observed as they prepare a squad for parade by: forming up, sizing, dressing, inspecting and calling the roll.	During preparation for squadron opening and closing parades.	Appendix 3.	Nil.
PO 309 – Instruct a Lesson								
309 PC	PO 309	To assess the cadet's ability to instruct a lesson using a written lesson plan, an appropriate method(s) of instruction and an appropriate instructional aid(s).	Product and Reasoning proficiency	Performance Assessment	The cadet's lesson plan is reviewed and they are observed while instructing a 15-minute lesson.	Ongoing during the conduct of lessons related to EO M309.07	Appendix 4.	Assistance is denied.
PO 311 – Participate in a Recreational Summer Biathlon Activity								
Nil.								

EC/PC	Scope	Purpose	Target	Method	How	When	Resources	Limitations
PO X20 – Participate in CAF Familiarization Activities								
X20 PC	PO X20	To have the cadet participate in CAF familiarization.	Nil.	Nil.	The cadet is observed participating in a minimum of one CAF familiarization activity.	Anytime.	Nil.	Nil.
POs 331/336/337 (Aviation Subjects) – Combined Assessment								
331 336 337 PC	PO 331 PO 336 PO 337	To assess the cadet's ability to master knowledge of aviation subjects.	Knowledge Mastery	Selected Response	The cadet will write a performance check.	Upon completion of the mandatory lessons associated with POs 331, 336, and 337.	Appendix 5 Written Test.	Assistance is denied.
PO 340 – Identify Aspects of Space Exploration								
340 PC	PO 340	To have the cadet participate in an aerospace activity.	Nil.	Nil.	The cadet is observed participating in an aerospace activity or lesson.	Anytime.	Nil.	Nil.
PO 360 – Recognize Aspects of Aerodrome Operations								
Nil.								
PO 370 – Recognize Aspects of Aircraft Manufacturing and Maintenance								
370 PC	PO 370	To have the cadet participate in an aircraft manufacturing and maintenance activity.	Nil.	Nil.	The cadet is observed participating in an aircraft manufacturing and maintenance activity or lesson.	Anytime.	Nil.	Nil.
PO 390 – Navigate a Route Using a Map and Compass								
390 PC	PO 390	To assess the cadet's ability to navigate a route using a map and compass.	Skills	Performance Assessment	The cadet is observed as they perform the various skills to navigate a route using a map and a compass	After completion of instruction and during a filed exercise.	Appendix 6 checklist and associated rubric.	No assistance will be given.

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303 PC – ASSESSMENT INSTRUCTIONS

PREPARATION

PRE-ASSESSMENT INSTRUCTIONS

Review the assessment plan, assessment instructions and 303 PC Assessment Rubric and become familiar with the material prior to conducting the assessment.

There is no time allotted for 303 PC. It is to be administered whenever and wherever Proficiency Level Three cadets lead cadets through a leadership assignment.

The cadet shall be given a minimum of one practice leadership assignment which will be assessed using the 303 PC Assessment Rubric. The cadet will reflect and self-assess after the practice leadership assignment using the same rubric. The practice leadership assignment will not be recorded on the cadet's qualification record.

The formal leadership assignment will be given and assessed using the 303 PC Assessment Rubric. The cadet will reflect and self-assess after the leadership assignment using the same rubric. The leadership assignment shall be recorded on the cadet's qualification record.

If the cadet does not achieve the performance standard, the cadet will be given additional leadership assignments until the performance standard is met.

Photocopy the 303 PC Assessment Rubric twice for each leadership assignment given.

PRE-ASSESSMENT ASSIGNMENT

The cadet shall review the 303 PC Assessment Rubric and become familiar with the assessment criteria prior to the leadership assignment.

ASSESSMENT METHOD

Performance assessment and personal communication were chosen as it allows the assessor to observe the cadet's ability to perform the required skill(s) and make a judgement on the quality of performance.

CONDUCT OF ASSESSMENT

PURPOSE

The purpose of this PC is to assess the cadet's ability to lead cadets through a leadership assignment.

RESOURCES

- Two 303 PC Assessment Rubrics, and
- As per the leadership assignment.

ASSESSMENT ACTIVITY LAYOUT

As per the leadership assignment.

ASSESSMENT ACTIVITY INSTRUCTIONS

While observing the cadet leading cadets through a leadership assignment, assess the quality of each criterion by indicating (eg, highlighting, circling, note taking) on the Assessment Rubric, the descriptive statement that best represents this judgement. Criteria for the leading through a leadership assignment are assessed as:

- **Incomplete;**
- **Completed With Difficulty;**
- **Completed Without Difficulty; or**
- **Exceeded Standard.**

Make notes of observations to provide descriptive post-assessment feedback.

1. Communicate to the cadet their leadership assignment either verbally or in writing.
2. Ensure the cadet understands the leadership assignment.
3. Distribute the Assessment Rubric to the cadet for self-assessment purposes.
4. Ensure the cadet understands their self-assessment will not be recorded on their qualification record.
5. Have the cadet conduct the leadership assignment.
6. Evaluate the cadet's leadership ability by observation. Record the result (eg, highlighting, circling, note taking) on the Assessment Rubric for each criterion.

The assessment of leadership abilities is subjective; however, the assessor's responsibility is to be as positive as possible.

7. Have the cadet assess their performance on their Assessment Rubric.

POST ASSESSMENT INSTRUCTIONS

RECORDING ASSESSMENT RESULTS

1. Indicate the overall performance assessment on the Assessment Checklist as:
   (a) **Incomplete.** Overall, the cadet has not achieved the performance standard.
   (b) **Completed With Difficulty.** Overall, the cadet has achieved the performance standard with difficulty.
   (c) **Completed Without Difficulty.** Overall, the cadet has achieved the performance standard without difficulty.
   (d) **Exceeded Standard.** Overall, the cadet has exceeded the performance standard.
2. Record notes and observations in the assessor's feedback section of the Assessment Checklist.
3. Sign and date the Assessment Checklist.

4. Ensure a copy of the Assessment Checklist is attached to the cadet's training file.

5. The overall result will be recorded on the Proficiency Level Three Qualification Record located at Annex C.

PROVIDING ASSESSMENT FEEDBACK

Discuss the cadet's self-assessment on their performance.

Ask the cadet what they felt went right during the leadership assessment, what did not go well and ask the cadet how they would improve their performance if the leadership assignment was given to them again.

Discuss the performance results of each section of the Assessment Rubric with the cadet.

Discuss the overall performance results with the cadet and provide the cadet with a copy of the completed rubric.

303 PC – ASSESSMENT RUBRIC

Cadet's Name: _____ Squadron: _____

Date: _____ Flight: _____

	Incomplete	Completed With Difficulty	Completed Without Difficulty	Exceeded the Standard
Communicate as a team leader	Did not communicate with team members.	Communicated with team members occasionally. Team members needed clarification on many occasions.	Communicated with team members on many occasions. Team members needed few clarifications.	Communicated to the team throughout the leadership task. Team members did not need clarification.
Supervise cadets	Did not supervise cadets.	Only supervised cadets at the beginning and/or end of the leadership assignment.	Supervised throughout the leadership assignment making some corrections when necessary.	Supervised throughout the leadership assignment making corrections as necessary.
Solve problems	Did not solve the problem(s).		Solved the problem(s).	
Complete the leadership assignment	Did not complete the leadership assignment.		Completed the leadership assignment.	
Perform self-assessment	Did not complete the self-assessment.		Completed the self-assessment.	

This form shall be reproduced locally.

Assessor's Feedback:

Effectiveness of problem solving (describe how the leader made use of the team, the resources and the time allotted, etc).

Effectiveness of the leadership assignment (describe how the leader made use of the team, the resources and the time allotted, etc).

Check One	**PO 303 – Overall Assessment**							
	Incomplete		**Completed With Difficulty**		**Completed Without Difficulty**		**Exceeded Standard**	
Overall Performance	The cadet has not achieved the performance standard.		The cadet has achieved the performance standard with difficulty.		The cadet has achieved the performance standard without difficulty.		The cadet has exceeded the performance standard.	

Assessor's Name:	Position:
Assessor's Signature:	Date:

This form shall be reproduced locally.

POSSIBLE YEAR THREE COMMON LEADERSHIP ASSIGNMENTS

RECREATIONAL MARKSMANSHIP ASSIGNMENTS

- Set up a range for recreational marksmanship.
- Organize relays for recreational marksmanship.
- Control pellets and issue targets for recreational marksmanship.
- Conduct concurrent activities during recreational marksmanship.
- Tear down a range after recreational marksmanship.

SUMMER BIATHLON ASSIGNMENTS

- Set up range for summer biathlon.
- Conduct a warm-up activity prior to participating in summer biathlon.
- Control pellets for summer biathlon.
- Conduct a cool-down activity after participating in summer biathlon.
- Tear down the range after summer biathlon.

RECREATIONAL SPORTS ASSIGNMENTS

- Set up a recreational sports activity.
- Tear down a recreational sports activity.
- Organize a group for recreational sports.
- Conduct a warm-up prior to recreational sports.
- Conduct a concurrent activity during recreational sports.
- Conduct a cool-down after recreational sports.

WEEKLY PARADE CADET NIGHT ASSIGNMENTS

- Set up chairs for a parade.
- Set up the dais area for a parade.
- Set up flags and parade markers for a parade.
- Tear down chairs after a parade.
- Tear down dais area after a parade.
- Tear down flags and parade markers after a parade.

WEEKLY CADET NIGHT ASSIGNMENTS

- Set up classroom space.
- Rearrange classroom space.
- Tear down classroom space.
- Set up a canteen.
- Staff a canteen.

- Tear down canteen.
- Set up a presentation area for a guest speaker.
- Tear down a presentation area for a guest speaker.
- Set up for an extracurricular activity.
- Conduct a concurrent activity.

COMMUNITY SERVICE LEADERSHIP ASSIGNMENTS

- Organize a group during a community service activity.
- Conduct concurrent activities during community service activity.
- Complete a final garbage sweep.

OTHER LEADERSHIP ASSIGNMENT POSSIBILITIES

- Embark and disembark personnel on vehicles during transportation.
- Conduct uniform inspection of year one cadets.
- Collect and dispose of garbage after weekly parade.
- Collect, sort and dispose of recycling after weekly parade.
- Turn off lights and close windows after weekly parade.

AIR CADET SURVIVAL TRAINING LEADERSHIP ASSIGNMENTS

PRIOR TO THE SURVIVAL TRAINING

- Distribute personal equipment.
- Label personal equipment.
- Load group equipment and supplies.

SETTING UP THE BIVOUAC SITE

- Unload equipment and supplies.
- Construct a food hang.
- Set up the POL, first aid and fire points.
- Set up the female sleeping area.
- Set up the male sleeping area.
- Mark the components of the bivouac site.

ROUTINE TASKS THAT WILL OCCUR THROUGHOUT THE SURVIVAL TRAINING

- Prepare a meal for a section.
- Clean up the site after a meal.
- Prepare the bivouac site for night.
- Organize lights out for the female cadets.
- Organize lights out for the male cadets.

TEARING DOWN THE BIVOUAC SITE

- Tear down the female sleeping area.
- Tear down the male sleeping area.
- Dismantle the POL, first aid and fire points.
- Load group equipment and supplies after the survival training.
- Erase signs of occupancy and complete a final garbage sweep.

AFTER THE SURVIVAL TRAINING

- Unload equipment and supplies.
- Collect personal equipment.

AIR CADET GLIDING DAY LEADERSHIP ASSIGNMENTS

ROUTINE TASKS THAT MAY OCCUR DURING THE GLIDING DAY

- Organize the distribution of a meal.
- Clean up the site after a meal.
- Conduct concurrent activities.
- Complete a final garbage sweep.

AIR CADET SKILLS DAY LEADERSHIP ASSIGNMENTS

ROUTINE TASKS THAT MAY OCCUR DURING THE SKILLS DAY

- Organize the distribution of a meal.
- Clean up the site after a meal.
- Set up a skills activity.
- Organize a group for a skills activity.
- Conduct a warm-up prior to the skills activity.
- Conduct a concurrent activity during the skills activity.
- Conduct a cool-down after skills activity.
- Tear down a recreational skills activity.
- Complete a final garbage sweep.

304 PC – PERSONAL FITNESS AND HEALTHY LIVING – ASSESSMENT INSTRUCTIONS

GENERAL

No time is allotted for this PC, as it is to be administered whenever the cadet hands in their completed Physical Activity Tracker.

The Physical Activity Tracker and the requirements of this PC are covered during EO MX04.01 (Participate in 60 Minutes of Moderate- to Vigorous-Intensity Physical Activity [MVPA] and Track Participation in Physical Activities).

PRE-ASSESSMENT INSTRUCTIONS

1. Gather the 304 PC Personal Fitness and Healthy Living Assessment Form.
2. Meet with the cadet to ensure they have received the Physical Activity Tracker, and that they are familiar with the assessment requirements.

MVPA (moderate- to vigorous-intensity physical activity) is a combination of moderate and vigorous intensity activity:

- Moderate-intensity physical activities will cause teens to sweat a little and to breathe harder (eg, skating or bike riding).
- Vigorous-intensity physical activities will cause teens to sweat and be ‘out of breath’ (eg, running or rollerblading).

CONDUCT OF ASSESSMENT

1. Have the cadet complete their Physical Activity Tracker and meet with them as required to deal with any difficulties that may arise. Make notes of observations.
2. Once the cadet has completed the Physical Activity Tracker, evaluate their performance using the assessment form.
3. Conduct a debriefing. Ask the cadet what they felt went well and what they would improve upon if the assessment was given to them again.
4. Discuss the overall performance results with the cadet and provide the cadet with a copy of the completed 304 PC Personal Fitness and Healthy Living Assessment Form.

POST ASSESSMENT INSTRUCTIONS

1. Place a copy of the 304 PC Personal Fitness and Healthy Living Assessment Form in the cadet’s training file.
2. Record the overall result on the Proficiency Level Three Qualification Record.

304 PC – PERSONAL FITNESS AND HEALTHY LIVING
ASSESSMENT FORM

Cadet's Name: _____ Date: _____

Assessor's Feedback

PO 304 – ASSESSMENT RESULTS								
Check One	**Incomplete**		**Completed With Difficulty**		**Completed Without Difficulty**		**Exceeded Standard**	
Overall Performance	The cadet did not complete a minimum of 60 minutes of MVPA daily for at least 16 days over four consecutive weeks.				The cadet has achieved the performance standard by completing a minimum of 60 minutes of MVPA daily for 16 days over four consecutive weeks.		The cadet has exceeded the performance standard by completing a minimum of 60 minutes of MVPA daily for 20 days or more over four consecutive weeks.	

Assessor's Name:	Position:
Assessor's Signature:	Date:

This form shall be reproduced locally.

308 PC – ASSESSMENT INSTRUCTIONS

PREPARATION

PRE-ASSESSMENT INSTRUCTIONS

Review the assessment plan, assessment instructions and 308 PC Assessment Checklist and become familiar with the material prior to conducting the assessment.

Photocopy the Assessment Checklist for each cadet.

Ensure each cadet has received an aide-mémoire card, listing the requisite drill sequence.

PRE-ASSESSMENT ASSIGNMENT

Have the cadet review the Assessment Checklist and become familiar with the material prior to the assessment.

ASSESSMENT METHOD

Performance assessment was chosen to observe and evaluate the cadet directing a squad prior to a parade.

CONDUCT OF ASSESSMENT

PURPOSE

The purpose of this PC is to assess the cadet's ability to direct a squad prior to a parade.

RESOURCES

PO 308 PC Assessment Checklist.

ASSESSMENT ACTIVITY LAYOUT

This assessment shall be conducted in a drill hall or outdoor parade square in favourable weather.

Assessments will be conducted throughout the year during opening and/or closing parades.

ASSESSMENT ACTIVITY INSTRUCTIONS

After observing each skill being performed, make a judgement and indicate on the Assessment Checklist whether the skill was:

- **Incomplete.** The skill was not attempted or not completed even with assistance.
- **Completed With Difficulty.** The skill was completed with some difficulty, assistance or use of the aide-mémoire card. The cadet directed the squad, but failed to correctly deliver the words of command or the cadet had a poor bearing while delivering the words of command.
- **Completed Without Difficulty.** The skill was completed without difficulty, assistance or use of the aide-mémoire card. The cadet maintained a professional bearing and correctly and clearly delivered the words of command.

Make notes or observations for the purposes of providing post-assessment descriptive feedback.

1. Assess the cadet's performance for each skill and record the results on the Assessment Checklist.
2. Cadets may be given unlimited re-tests within the resources of the cadet squadron to meet the standard for each skill. Where time permits, cadets may re-test to improve their results to **Completed Without Difficulty**.

POST ASSESSMENT INSTRUCTIONS

RECORDING ASSESSMENT RESULTS

1. Indicate the overall performance assessment on the Assessment Checklist as:
   (a) **Incomplete.** The cadet has not achieved the performance standard by not completing at least one of the required areas.
   (b) **Completed With Difficulty.** The cadet has achieved the performance standard by completing one or more of the required objectives with difficulty.
   (c) **Completed Without Difficulty.** The cadet has achieved the performance standard by completing all objectives without difficulty.
2. Record notes and observations in the assessor's feedback section of the Assessment Checklist.
3. Sign and date the Assessment Checklist.
4. Ensure a copy of the Assessment Checklist is attached to the cadet's training file.
5. The overall result will be recorded on the Proficiency Level Three Qualification Record located at Annex C.

PROVIDING ASSESSMENT FEEDBACK

Discuss the overall performance results and give a copy of the Performance Assessment Checklist to the cadet.

Cadet's Name: _____ Date: _____

Analytical Performance Assessment:

Direct a squad prior to a parade	Incomplete	Completed With Difficulty	Completed Without Difficulty
Fall in a squad			
Call the roll			
Size in a single rank and reform in threes (twos)			
Dress a squad			
Inspect a squad			
Hand over a squad			

Assessor's Feedback

Check One	PO 308 – Overall Assessment					
	Incomplete		**Completed With Difficulty**		**Completed Without Difficulty**	
Overall Performance	The cadet has not achieved the performance standard by not completing at least one of the required skills.		The cadet has achieved the performance standard by completing one or more of the required objectives with difficulty.		The cadet has achieved the performance standard by completing all objectives without difficulty.	

Assessor's Name:	Position:
Assessor's Signature:	Date:

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309 PC – ASSESSMENT INSTRUCTIONS

PREPARATION

PRE-ASSESSMENT INSTRUCTIONS

Review the assessment plan, assessment instructions and 309 PC Checklist and become familiar with the material prior to conducting the assessment.

Photocopy the 309 PC Checklist.

PRE-ASSESSMENT ASSIGNMENT

Each cadet is to plan a 15-minute lesson for instruction IAW EO M309.06 (Plan a Lesson, Chapter 4, Section 10). Each cadet is to prepare a written lesson plan and an appropriate instructional aid(s) to be used for the instruction of that lesson.

ASSESSMENT METHOD

Performance assessment was chosen as it allows the assessor to observe the cadet's performance in instructing and the product of their lesson plan and make a judgment on its quality.

CONDUCT OF ASSESSMENT

PURPOSE

The purpose of this assessment is to assess the cadet's ability to instruct a lesson using a written lesson plan, an appropriate method(s) of instruction and an appropriate instructional aid(s).

RESOURCES

IAW the EO M309.06 (Plan a Lesson, Chapter 4, Section 10) and EO M309.07 (Instruct a 15-Minute Lesson,Chapter 4, Section 10).

ASSESSMENT ACTIVITY LAYOUT

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

ASSESSMENT ACTIVITY INSTRUCTIONS

This PC is assessed during EO M309.07 (Instruct a 15-Minute Lesson, Chapter 4, Section 10).

The PC Assessment Checklist is to be used in conjunction with the Instructional Techniques Assessment Form used in the conduct of EO M309.07 (Instruct a 15-Minute Lesson, Chapter 4, Section 10) located at A-CR-CCP-803/PF-001, Chapter 9, Section 7.

Criteria for assessing the cadets' ability to instruct a lesson using a written lesson plan, an appropriate method(s) of instruction and an appropriate instructional aid(s) is assessed as:

- **Incomplete**. If the instruction of the lesson was not attempted, was not completed, if no lesson plan was submitted, or if no instructional aid was used.
- **Completed With Difficulty**. If the instruction of the lesson was completed but the cadet had difficulty writing/using the lesson plan, instructing the lesson using an appropriate method(s) of instruction or developing/using an appropriate instructional aid(s).
- **Completed Without Difficulty**. If the instruction of the lesson was completed and the cadet had no difficulty writing/using the lesson plan, instructing the lesson using an appropriate method(s) of instruction and developing/using an appropriate instructional aid(s).

Make notes of observations to provide descriptive post-assessment feedback.

Each cadet prior to the start of EO M309.07 (Instruct a 15-Minute Lesson, Chapter 4, Section 10), will be required to:

- plan a 15-minute lesson IAW EO M309.06 (Plan a Lesson, Chapter 4, Section 10);
- develop a written lesson plan; and
- develop an appropriate instructional aid(s).

Each cadet shall arrive prepared to instruct a lesson during EO M309.07 (Instruct a 15-Minute Lesson, Chapter 4, Section 10). During the time allotted for this lesson each cadet will:

- provide a copy of their written lesson plan to the assessor;
- prepare the classroom/training area for their lesson;
- instruct a 15-minute lesson using the following:
  - an appropriate method(s) of instruction; and
  - an appropriate instructional aid(s); and
- participate in a brief feedback session with the assessor upon completion of the lesson.

Each cadet will be required to complete this without assistance.

POST ASSESSMENT INSTRUCTIONS

RECORDING ASSESSMENT RESULTS

1. As each cadet instructs a 15-minute lesson, indicate his or her performance assessment on the assessment checklist as:

   (a) **Incomplete.** If the instruction of the lesson was not attempted, was not completed, if no lesson plan was submitted, or if no instructional aid was used.

   (b) **Completed With Difficulty.** If the instruction of the lesson was completed but the cadet had difficulty writing/using the lesson plan, instructing the lesson using an appropriate method(s) of instruction or developing/using an appropriate instructional aid(s).

(c) **Completed Without Difficulty.** If the instruction of the lesson was completed and the cadet had no difficulty writing/using the lesson plan, instructing the lesson using an appropriate method(s) of instruction and developing/using an appropriate instructional aid(s).

(d) **Exceeded Standard.** If the instruction of the lesson was completed beyond the level expected of a Proficiency Level Three cadet. In addition to meeting the requirements of Completed Without Difficulty, the cadet consistently demonstrated other instructional techniques IAW the Instructional Techniques Assessment Form.

2. Record notes made in the assessor's feedback section of the assessment checklist.

3. Sign and date the assessment checklist.

4. Ensure a copy of the Assessment Form is attached to the cadet's training file.

5. The overall result will be recorded on the Proficiency Level Three Qualification Record located at Annex C.

PROVIDING ASSESSMENT FEEDBACK

This assessment is accomplished through direct/immediate feedback with the cadet upon completion of the period of instruction. The assessor should offer feedback and suggestions for improvement to the cadet based on the Instructional Techniques Assessment Form and 309 PC Assessment Checklist.

The grey areas of the Instructional Techniques Assessment Form are those applicable to the 309 PC (eg, the standard required for the achievement of PO 309). The remainder of the form is intended solely for the purposes of assessment for learning and providing the cadets with the feedback they need to improve their skills.

Discuss the overall performance results with the cadet and provide them with a copy of the completed checklist.

309 PC – ASSESSMENT RUBRIC

Cadet's Name: _____ Squadron: _____

Date: _____ Flight: _____

	Incomplete	**Completed With Difficulty**	**Completed Without Difficulty**
	The item was not attempted or completed.	The item was completed with some difficulty or assistance.	The item was completed without difficulty or the need for assistance.
Lesson Plan			
Introduction			
Body			
End of Lesson Confirmation			
Conclusion			
Assessment of Lesson Plan (Check One)			

Method(s) of Instruction			
Method chosen was appropriate to the lesson content.			
Method was used correctly in the conduct of the lesson.			
Method(s) of Instruction (Check One)			

Instructional Aid(s)			
Relevance			
Ease of use			
Instructional Aid(s) (Check One)			

Assessor's Feedback:

Check One	PO 309 – Overall Assessment							
	Incomplete		**Completed With Difficulty**		**Completed Without Difficulty**		**Exceeded Standard**	
Overall Performance	The cadet has not achieved the performance standard by not completing at least one of the required skills.		The cadet has achieved the performance standard by completing one or more of the required objectives with difficulty.		The cadet has achieved the performance standard by completing all objectives without difficulty.		The cadet has achieved the performance standard by, in addition to meeting the requirements of Completed Without Difficulty, the cadet consistently demonstrated other instructional techniques IAW the Instructional Techniques Assessment Form.	

Assessor's Name:	Position:
Assessor's Signature:	Date:

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AVIATION SUBJECTS – COMBINED ASSESSMENT PC – ASSESSMENT INSTRUCTIONS

PREPARATION

PRE-ASSESSMENT INSTRUCTIONS

Review the assessment plan, assessment instructions and Aviation Subjects – Combined Assessment PC and become familiar with the material prior to conducting the assessment.

Photocopy the assessment tool for each cadet.

PRE-ASSESSMENT ASSIGNMENT

N/A.

ASSESSMENT METHOD

A selected response assessment was chosen to assess the cadet's knowledge of the principles of flight, meteorology and navigation.

CONDUCT OF ASSESSMENT

PURPOSE

The purpose of this PC is to assess the cadet's knowledge of aviation subjects in principles of flight, meteorology and navigation.

RESOURCES

- Aviation Subjects – Combined Assessment PC, and
- Pen/pencil.

ASSESSMENT ACTIVITY LAYOUT

This assessment shall be conducted in a classroom. Desks shall be separated as much as possible.

ASSESSMENT ACTIVITY INSTRUCTIONS

1. Ensure that the cadets have a pen or pencil with eraser.
2. Distribute the assessment to each cadet face up and instruct them to begin only when told to do so.
3. Explain the structure of the assessment.
4. Explain the point value of each section, and that the short answer questions require one main point for each point value.
5. Ensure the cadets have written their names on the top of the assessment.
6. Have the cadets write the assessment.
7. Give the cadets a 10-minute warning.
8. Give the cadets a 5-minute warning.
9. Collect the assessments.

POST ASSESSMENT INSTRUCTIONS

RECORDING ASSESSMENT RESULTS

The overall rating for Aviation Subjects – Combined Assessment PC will be recorded on the Proficiency Level Three Qualification Record located at Annex C.

PROVIDING ASSESSMENT FEEDBACK

A debrief should be given on an individual basis for those cadets who scored less than 60 percent on the assessment. Any cadets who require a re-test must be debriefed prior to the re-test. The content of the debriefing will vary depending on the individual cadet. The aim of the debriefing is to review the mistakes made in the original assessment and to prepare the cadet for the re-test.

AVIATION SUBJECTS – COMBINED ASSESSMENT PC

Cadet's Name: _____ Squadron: _____

Flight: _____

PART A – MULTIPLE CHOICE (10 points)

1. Aircraft stability is defined as:

   a. the stability of the chemical bonds of the material used in the aircraft's construction;
   b. the overall tendency of an aircraft to return to its original attitude;
   c. the overall tendency of an aircraft to remain in a new attitude; or
   d. the tendency of an aircraft in flight to remain in straight, level, upright flight and to return to this attitude, if displaced, without corrective action by the pilot.

2. Which of the following is a factor influencing longitudinal stability?

   a. centre of gravity,
   b. centre of pressure,
   c. dihedral, or
   d. keel effect.

3. Directional stability is defined as:

   a. stability around the lateral axis;
   b. stability around the vertical axis;
   c. stability around the longitudinal axis; or
   d. stability of the pilot.

4. Which is the lowest layer of the atmosphere?

   a. the troposphere,
   b. the stratosphere,
   c. the mesosphere, or
   d. the thermosphere.

5. Seventy-eight percent of the atmosphere is composed of this gas?

   a. oxygen,
   b. water vapour,
   c. argon, or
   d. nitrogen.

6. Which layer of the atmosphere includes the ozone layer?

   a. the troposphere,
   b. the stratosphere,
   c. the mesosphere, or
   d. the thermosphere.

7. The two main types of cloud classification are:

   a. Romulus and Stradivarius,
   b. Cumulus and Stratus,
   c. Venus and Pluto, or
   d. Cirrus and Alto.

8. Areas of equal atmospheric pressure are joined together by:

   a. isotherms,
   b. isosceles,
   c. contour lines, or
   d. isobars.

9. Wind is defined as:

   a. the horizontal movement of air within the atmosphere;
   b. the vertical currents created by uneven heating of the earth;
   c. the circulation of air; or
   d. the reaction that occurs when nitrogen and oxygen are mixed together.

10. Relative humidity is defined as:

   a. the amount of water consumed by a cousin;
   b. the amount of water in relation to the density of the air;
   c. the humidity of the earth's atmosphere relative to the moon; or
   d. the ratio of the actual amount of water present in the air compared to the amount that the same volume of air could hold.

PART B – SHORT ANSWER (15 points)

1. Describe static and dynamic stability. (2 points)

2. Describe convection as a lifting agent. (2 points)

3. Describe unstable air and the flight conditions associated with unstable air. (3 points)

4. Explain mobility as a property of the atmosphere. (1 point)

5. Explain capacity for expansion as a property of the atmosphere. (1 point)

_____

_____

_____

_____

6. Describe the assumptions for standard atmosphere in North America. (2 points)

_____

_____

_____

_____

7. Describe a low pressure area. (2 points)

_____

_____

_____

_____

_____

8. Define dewpoint. (1 point)

_____

_____

_____

_____

This form shall be reproduced locally.

ANSWER KEY

PART A – MULTIPLE CHOICE (10 points)

1. Aircraft stability is defined as:

   a. the stability of the chemical bonds of the material used in the aircraft's construction;
   b. the overall tendency of an aircraft to return to its original attitude;
   c. the overall tendency of an aircraft to remain in a new attitude; or
   d. the tendency of an aircraft in flight to remain in straight, level, upright flight and to return to this attitude, if displaced, without corrective action by the pilot.

2. Which of the following is a factor influencing longitudinal stability?

   a. centre of gravity,
   b. centre of pressure,
   c. dihedral, or
   d. keel effect.

3. Directional stability is defined as:

   a. stability around the lateral axis;
   b. stability around the vertical axis;
   c. stability around the longitudinal axis; or
   d. stability of the pilot.

4. Which is the lowest layer of the atmosphere?

   a. the troposphere,
   b. the stratosphere,
   c. the mesosphere, or
   d. the thermosphere.

5. Seventy-eight percent of the atmosphere is composed of this gas?

   a. oxygen,
   b. water vapour,
   c. argon, or
   d. nitrogen.

6. Which layer of the atmosphere includes the ozone layer?

   a. the troposphere,
   b. the stratosphere,
   c. the mesosphere, or
   d. the thermosphere.

7. The two main types of cloud classification are:

   a. Romulus and Stradivarius,
   b. Cumulus and Stratus,
   c. Venus and Pluto, or
   d. Cirrus and Alto.

8. Areas of equal atmospheric pressure are joined together by:

   a. isotherms,
   b. isosceles,
   c. contour lines, or
   d. isobars.

9. Wind is defined as:

   a. the horizontal movement of air within the atmosphere;
   b. the vertical currents created by uneven heating of the earth;
   c. the circulation of air; or
   d. the reaction that occurs when nitrogen and oxygen are mixed together.

10. Relative humidity is defined as:

   a. the amount of water consumed by a cousin;
   b. the amount of water in relation to the density of the air;
   c. the humidity of the earth's atmosphere relative to the moon; or
   d. the ratio of the actual amount of water present in the air compared to the amount that the same volume of air could hold.

PART B – SHORT ANSWER (15 points)

1. Describe static and dynamic stability. (2 points)

Static stability is the initial tendency of an aircraft to return to its original attitude, if displaced.

Dynamic stability is the overall tendency of an aircraft to return to its original attitude.

2. Describe convection as a lifting agent. (2 points)

The air is heated through contact with the earth's surface. As the sun heats the surface of the earth, the air in contact with the surface warms up, rises, and expands.

Convection can also occur when air moves over a warmer surface and is heated by advection.

3. Describe unstable air and the flight conditions associated with unstable air. (3 points)

If a mass of rising air is still warmer than the new air around it, then the air mass will continue to rise. Unstable air may have the following effects on flight:

- **good visibility (except in precipitation),**
- **cumulus type cloud,**
- **showery precipitation,**
- **gusty winds, and**
- **moderate to severe turbulence.**

4. Explain mobility as a property of the atmosphere. (1 point)

This property is the ability of the air to move from one place to another. This is especially important as it explains why an air mass that forms over the arctic may affect places in the south.

5. Explain capacity for expansion as a property of the atmosphere. (1 point)

Air is forced to rise for various reasons. As the air pressure decreases, the air will expand and cool. This cooling may be enough for condensation to occur and clouds to form, creating precipitation.

6. Describe the assumptions for standard atmosphere in North America. (2 points)

The assumptions for standard atmosphere in North America include:

- **the air is a perfectly dry gas,**
- **a mean sea level pressure of 29.92 "Hg,**
- **a mean sea level temperature of 15° Celsius, and**
- **the rate at which temperature decreases with altitude is 1.98° Celsius per 1000 feet.**

7. Describe a low pressure area. (2 points)

Low pressure areas are areas of relatively low pressure, with the lowest pressure in the centre. Lows will normally move in an easterly direction at an average rate of 800 km per day during the summer and 1100 km per day in the winter. Lows are associated with thunderstorms and tornadoes, and do not stay in one place for very long. In the northern hemisphere, air moves around a low in a counter-clockwise direction.

8. Define dewpoint. (1 point)

Dewpoint is the temperature to which unsaturated air must be cooled, at a constant pressure, in order for it to become saturated.

AVIATION SUBJECTS - COMBINED ASSESSMENT PC REWRITE

Cadet's Name: _____ Squadron: _____

Flight: _____

PART A – MULTIPLE CHOICE (10 points)

1. Seventy-eight percent of the atmosphere is composed of this gas?

   a. oxygen,
   b. water vapour,
   c. argon, or
   d. nitrogen.

2. The two main types of cloud classification are:

   a. Romulus and Stradivarius,
   b. Cumulus and Stratus,
   c. Venus and Pluto, or
   d. Cirrus and Alto.

3. Which layer of the atmosphere includes the ozone layer?

   a. the troposphere,
   b. the stratosphere,
   c. the mesosphere, or
   d. the thermosphere.

4. Which of the following is a factor influencing longitudinal stability?

   a. centre of gravity,
   b. centre of pressure,
   c. dihedral, or
   d. keel effect.

5. Relative humidity is defined as:

   a. the amount of water consumed by a cousin;
   b. the amount of water in relation to the density of the air;
   c. the humidity of the earth's atmosphere relative to the moon; or
   d. the ratio of the actual amount of water present in the air compared to the amount that the same volume of air could hold.

6. Directional stability is defined as:

   a. stability around the lateral axis;
   b. stability around the vertical axis;
   c. stability around the longitudinal axis; or
   d. stability of the pilot.

7. Areas of equal atmospheric pressure are joined together by:

   a. isotherms,
   b. isosceles,
   c. contour lines, or
   d. isobars.

8. Wind is defined as:

   a. the horizontal movement of air within the atmosphere;
   b. the vertical currents created by uneven heating of the earth;
   c. the circulation of air; or
   d. the reaction which occurs when nitrogen and oxygen are mixed together.

9. Which is the lowest layer of the atmosphere?

   a. the troposphere,
   b. the stratosphere,
   c. the mesosphere, or
   d. the thermosphere.

10. Aircraft stability is defined as:

   a. the stability of the chemical bonds of the material used in the aircraft's construction;
   b. the overall tendency of an aircraft to return to its original attitude;
   c. the overall tendency of an aircraft to remain in a new attitude; or
   d. the tendency of an aircraft in flight to remain in straight, level, upright flight and to return to this attitude, if displaced, without corrective action by the pilot.

PART B – SHORT ANSWER (15 points)

1. Explain mobility as a property of the atmosphere. (1 point)

2. Explain capacity for expansion as a property of the atmosphere. (1 point)

3. Describe convection as a lifting agent. (2 points)

4. Describe static and dynamic stability. (2 points)

5. Describe unstable air and the flight conditions associated with unstable air. (3 points)

6. Describe a low pressure area. (2 points)

7. Describe the assumptions for standard atmosphere in North America. (2 points)

8. Define dewpoint. (1 point)

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REWRITE ANSWER KEY

PART A – MULTIPLE CHOICE (10 points)

1. Seventy-eight percent of the atmosphere is composed of this gas?

   a. oxygen,
   b. water vapour,
   c. argon, or
   d. nitrogen.

2. The two main types of cloud classification are:

   a. Romulus and Stradivarius,
   b. Cumulus and Stratus,
   c. Venus and Pluto, or
   d. Cirrus and Alto.

3. Which layer of the atmosphere includes the ozone layer?

   a. the troposphere,
   b. the stratosphere,
   c. the mesosphere, or
   d. the thermosphere.

4. Which of the following is a factor influencing longitudinal stability?

   a. centre of gravity,
   b. centre of pressure,
   c. dihedral, or
   d. keel effect.

5. Relative humidity is defined as:

   a. the amount of water consumed by a cousin;
   b. the amount of water in relation to the density of the air;
   c. the humidity of the earth's atmosphere relative to the moon; or
   d. the ratio of the actual amount of water present in the air compared to the amount that the same volume of air could hold.

6. Directional stability is defined as:

   a. stability around the lateral axis;
   b. stability around the vertical axis;
   c. stability around the longitudinal axis; or
   d. stability of the pilot.

7. Areas of equal atmospheric pressure are joined together by:

   a. isotherms,
   b. isosceles,
   c. contour lines, or
   d. isobars.

8. Wind is defined as:

   a. the horizontal movement of air within the atmosphere;
   b. the vertical currents created by uneven heating of the earth;
   c. the circulation of air; or
   d. the reaction which occurs when nitrogen and oxygen are mixed together.

9. Which is the lowest layer of the atmosphere?

   a. the troposphere,
   b. the stratosphere,
   c. the mesosphere, or
   d. the thermosphere.

10. Aircraft stability is defined as:

   a. the stability of the chemical bonds of the material used in the aircraft's construction;
   b. the overall tendency of an aircraft to return to its original attitude;
   c. the overall tendency of an aircraft to remain in a new attitude; or
   d. the tendency of an aircraft in flight to remain in straight, level, upright flight and to return to this attitude, if displaced, without corrective action by the pilot.

PART B – SHORT ANSWER (15 points)

1. Explain mobility as a property of the atmosphere. (1 point)

This property is the ability of the air to move from one place to another. This is especially important as it explains why an air mass that forms over the arctic may affect places in the south.

2. Explain capacity for expansion as a property of the atmosphere. (1 point)

Air is forced to rise for various reasons. As the air pressure decreases, the air will expand and cool. This cooling may be enough for condensation to occur and clouds to form, creating precipitation.

3. Describe convection as a lifting agent. (2 points)

The air is heated through contact with the earth's surface. As the sun heats the surface of the earth, the air in contact with the surface warms up, rises, and expands.

Convection can also occur when air moves over a warmer surface and is heated by advection.

4. Describe static and dynamic stability. (2 points)

Static stability is the initial tendency of an aircraft to return to its original attitude, if displaced.

Dynamic stability is the overall tendency of an aircraft to return to its original attitude.

5. Describe unstable air and the flight conditions associated with unstable air. (3 points)

If a mass of rising air is still warmer than the new air around it, then the air mass will continue to rise. Unstable air may have the following effects on flight:

- **good visibility (except in precipitation),**
- **cumulus type cloud,**
- **showery precipitation,**
- **gusty winds, and**
- **moderate to severe turbulence.**

6. Describe a low pressure area. (2 points)

Low pressure areas are areas of relatively low pressure, with the lowest pressure in the centre. Lows will normally move in an easterly direction at an average rate of 800 km per day during the summer and 1100 km per day in the winter. Lows are associated with thunderstorms and tornadoes, and do not stay in one place for very long. In the northern hemisphere, air moves around a low in a counter-clockwise direction.

7. Describe the assumptions for standard atmosphere in North America. (2 points)

The assumptions for standard atmosphere in North America include:

- **the air is a perfectly dry gas,**
- **a mean sea level pressure of 29.92 "Hg,**
- **a mean sea level temperature of 15° Celsius, and**
- **the rate at which temperature decreases with altitude is 1.98° Celsius per 1000 feet.**

8. Define dewpoint. (1 point)

Dewpoint is the temperature to which unsaturated air must be cooled, at a constant pressure, in order for it to become saturated.

Assessor's Feedback:

Assessor's Name:	Position:
Assessor's Signature:	Date:

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390 PC – ASSESSMENT INSTRUCTIONS

PREPARATION

PRE-ASSESSMENT INSTRUCTIONS

Review the assessment plan, assessment instructions and 390 PC Checklist and become familiar with the material prior to conducting the assessment.

Ensure the area is set up IAW the assessment activity layout.

Obtain all resources required for the assessment.

Set the magnetic declination on the compasses for the topographical map of the exercise area.

Determine a safety bearing in the event a cadet becomes disoriented or lost and can not make contact with one of the assessors.

Determine a radio frequency for the activity that is separate from other frequencies in use. Check the hand-held radios to ensure they operate. If rechargeable batteries are used, they should be tested prior to the lesson and recharged if necessary. If regular batteries are being used, provide spares to replace batteries as required.

Photocopy the Assessment Checklist for each cadet.

PRE-ASSESSMENT ASSIGNMENT

Have the cadets review the Assessment Checklist and the course material prior to participating in the assessment.

ASSESSMENT METHOD

Performance assessment was chosen as it allows the assessor to observe the cadet's ability to perform the required skill(s) and make a judgement on the quality of performance.

CONDUCT OF ASSESSMENT

PURPOSE

The purpose of this PC is to assess the cadet's ability to perform ground navigation to include plotting and navigating a course, and determining a six-figure grid reference (GR).

RESOURCES

- All equipment IAW squadron exercise requirements,
- 390 PC Assessment Checklist,
- Compass (one per cadet),
- Calculator (one per pair),
- Pencil (one per cadet),
- Water bottle or canteen (one per cadet),
- Whistle (one per cadet),
- Hand-held radio (one per assessor),
- Spare batteries (as required),

- Topographical map of the exercise area (one per cadet),
- Start point marked on the map,
- Three numbered points, for determining six-figure GRs, marked on the map,
- Worksheet, to include:
  - list of three 6-figure GRs (numbered points for other three legs);
  - section to record GRs for the three numbered points marked on the map;
  - section to record distances for each leg of the course;
  - section to record pace count for each leg of the course;
  - section to record bearing for each leg of the course; and
  - descriptive word/phrase for each point; and
- Six-leg course.

ASSESSMENT ACTIVITY LAYOUT

Area with tables or a flat surface for the cadets to work on the maps.

A course of six legs shall be created in an area of varied terrain. Total course length should be between 2000–3000 m (6000–9000 feet).

Each leg should be between 200–800 m (600–2400 feet) long.

A wood stake driven into the ground, marked with highly visibility flagging tape or fluorescent paint, will designate the end of each leg (which is the start of the next leg).

ASSESSMENT ACTIVITY INSTRUCTIONS

The cadets will be divided into pairs. Each group will have one assessor. Each cadet will be assessed for three legs. These legs do not have to be done one after the other. The other member of the group will follow the cadet being assessed.

Groups will start at five-minute intervals. If one group catches up to another, the assessor of the second group will have that group wait to allow the first group to move ahead as to not interfere with the assessment (eg, a cadet following the group ahead instead of performing the skills).

The cadets may be provided assistance (eg, reminders, guided questions), by the assessor, while performing skills.

After observing each task being performed, make a judgement and indicate on the assessment checklist whether the task was:

- **Incomplete.** The task was not attempted or not completed even with assistance.
- **Completed.** The task was completed with difficulty and/or assistance or without difficulty.

Make notes of observations for the purposes of providing post-assessment descriptive feedback.

1. Divide the cadets into pairs.
2. Issue two compasses, one topographical map, one calculator and one hand-held radio to each group.
3. Hand out the assessment sheets to the cadets and have them write their name and the other group member's name on it.
4. Have each assessor collect the assessment sheets from their cadets.
5. Hand out the cadet worksheets and have each cadet complete the required sections to plot the route of each leg.
6. Move the first group to the starting point of the first leg. Have assessors of other groups begin at five-minute intervals.
7. Have the first cadet guide the group through the leg while being assessed.
8. Have the second cadet guide the group through the next leg while being assessed.
9. Continue assessing cadets through the course until both cadets have been assessed for three legs each.
10. After the course is completed, collect the issued equipment.
11. Distribute to the cadet the Assessment Checklist for self-assessment purposes. Have the cadets reflect and self-assess their performance using the 390 PC Assessment Checklist.

POST ASSESSMENT INSTRUCTIONS

RECORDING ASSESSMENT RESULTS

1. Indicate the overall performance assessment on the assessment checklist as:
   (a) **Incomplete.** If over 40 percent (over 21) of the tasks are assessed as incomplete.
   (b) **Completed.** If 60 percent and over (31 and over) of the tasks are assessed as completed.
2. Record notes made in the assessor's feedback section of the Assessment Checklist.
3. Sign and date the Assessment Checklist.
4. Ensure a copy of the Assessment Checklist is attached to the cadet's training file.
5. The overall result will be recorded on the Proficiency Level Three Qualification Record located at Annex C.

PROVIDING ASSESSMENT FEEDBACK

Discuss the cadet's reflection and self-assessment on their performance.

Ask the cadet what they felt went well during the 390 PC, what did not go well and ask the cadet how they would improve their performance if the 390 PC was given to them again.

Discuss the performance results of each section of the Assessment Checklist with the cadet.

Discuss the overall performance results with the cadet and provide the cadet with a copy of the completed Assessment Checklist by the next parade night.

390 PC – ASSESSMENT CHECKLIST

Cadet's Name: _____

Other Group Member: _____

Assessor: _____

Performance Assessment:

Skill Group	Task		Assessment	
			Incomplete	Completed
Grid References (GRs)	Determine six-figure GR for each of the three points marked on the map.	#1		
		#2		
		#3		
	Plot each of the three 6-figure GR, from the worksheet on the map.	#1		
		#2		
		#3		
Determining Distance and Pacing	Determine distance for each of the six legs (within 50 m).	#1		
		#2		
		#3		
		#4		
		#5		
		#6		
	Calculate distance into paces for each of the six legs.	#1		
		#2		
		#3		
		#4		
		#5		
		#6		
	Use a method to keep track of pace count for each of the three legs.	#1		
		#2		
		#3		
	Bypass obstacles using pacing techniques (observed for each of the three legs).	#1		
		#2		
		#3		
	Find marker within 10 percent of calculated pace count for each of the three legs.	#1		
		#2		
		#3		

Skill Group	Task		Assessment	
			Incomplete	Completed
Bearings	Check magnetic declination setting on the compass.			
	Determine bearing for each of the six legs from a map (within two degrees).	#1		
		#2		
		#3		
		#4		
		#5		
		#6		
	Set compass (within two degrees) of bearing for each of the three legs.	#1		
		#2		
		#3		
	Determine direction of travel (within five degrees) for each of the three legs using a compass.	#1		
		#2		
		#3		
	Determine a steering point for each of the three legs.	#1		
		#2		
		#3		
	Re-check, for each of the three legs (minimum once each leg), direction of travel using a compass.	#1		
		#2		
		#3		
	Re-check, for each of the three legs (minimum once each leg), direction of travel using the determined steering point.	#1		
		#2		
		#3		
	Find marker within a 20 m radius for each of the three legs.	#1		
		#2		
		#3		

Incomplete	The task was not attempted or not completed despite being provided assistance.
Completed	The task was completed without difficulty or with difficulty/assistance.

PO 390 PC	PO Assessment	
	Incomplete	**Completed**
Participate in Ground Navigation.		

Incomplete	If over 40 percent (over 21) of the tasks are assessed as incomplete.
Completed	If 60 percent and over (31 and over) of the tasks are assessed as completed.

Assessor's Feedback:

Assessor's Signature: _____ Date: _____

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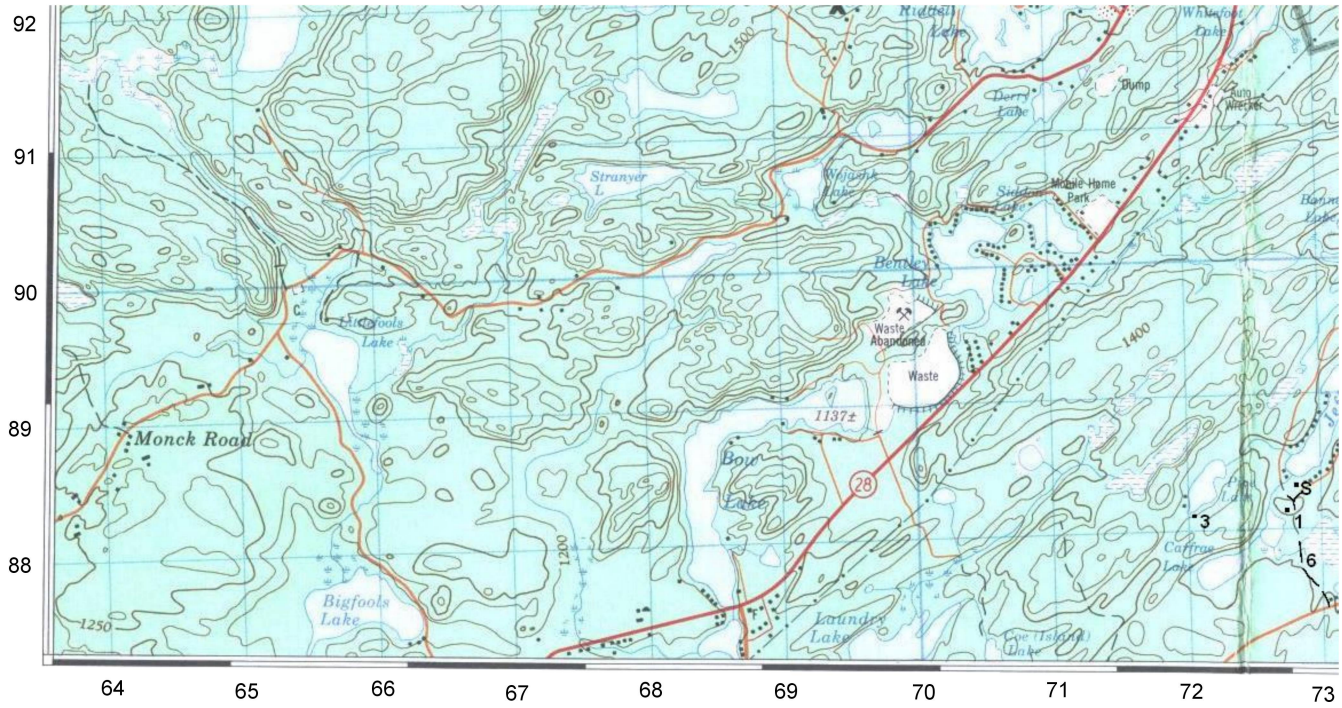
SAMPLE ASSESSMENT ACTIVITY

Sample Map



Natural Resources Canada, Bancroft 31 F/4, Canada Centre for Mapping, Her Majesty the Queen in Right of Canada

Figure 3B6-1 Assessment Activity Map

All points are located in the lower right-hand corner. To clearly identify the designated points and terrain features, Figure 3B6-1 is best viewed in colour.

The cadets will be given a compass, map, worksheet and access to a calculator. The map has been marked with the start point, “S” and the three other points, “1”, “3”, and “6”, for which to determine six-figure GRs. The other three points, for legs two, four and five, will be marked on the map by the cadet from the six-figure GRs on the worksheet. All seven points have a descriptive word or phrase to help identify it. The cadets will complete the worksheet then move on to the course to complete three legs each. When the course has been completed, the cadets will do a self-assessment with their assessor and receive a copy of their Assessment Checklist by the next parade night.

A sample and completed worksheet are shown as examples for this sample assessment activity. The blank worksheet may be used as a template.

CADET WORKSHEET (sample)

Name: _____ Personal Pace: _____

#	GR	Distance		Bearing	Description
S	728883	m	paces	X	most southerly cabin on Jeffrey Lake
1					cabin by vehicle track fork
2	722882				shore of Pipe Lake near the “L” of lake
3					most southerly cabin on Pipe Lake
4	720878				shore of Carfrae Lake near the “e” of lake
5	723873				hill south of Carfrae Lake
6					vehicle track crossing creek south of cabin

Magnetic Declination: 11° west declination

Safety Bearing: 120°
Will lead to either a gravel road or a vehicle trail; wait at the side of the road/trail for the safety vehicle.

Calculations:

CADET WORKSHEET (completed sample):

Name: F/Cpl Bloggins Personal Pace: 140

#	GR	Distance		Bearing	Description
S	728883	m	paces	X	most southerly cabin on Jeffrey Lake
1	727881	200	280	199°	cabin by vehicle track fork
2	722882	500	700	282°	shore of Pipe Lake near the “L” of lake
3	720881	200	280	230°	most southerly cabin on Pipe Lake
4	720878	450	630	180°	shore of Carfrae Lake near the “e” of lake
5	723873	450	630	154°	hill south of Carfrae Lake
6	728878	800	1120	44°	vehicle track crossing creek

Magnetic Declination: 11° west declination

Safety Bearing: 120°
Will lead to either a gravel road or a vehicle trail; wait at the side of the road/trail for the safety vehicle.

Calculations:

CADET WORKSHEET

Name: _____ Personal Pace: _____

#	GR	Distance		Bearing	Description
S		m	paces	X	
1					
2					
3					
4					
5					
6					

Magnetic Declination:

Safety Bearing:

Calculations:

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PROFICIENCY LEVEL THREE QUALIFICATION RECORD

Cadet's Name: _____ Squadron: _____

PO No.	Performance Statement	PO Assessment			
		Incomplete	Completed With Difficulty	Completed Without Difficulty	Exceeded Standard
X01	Participate in Community Service Activities				
X02	Perform Community Service				
303	Perform the Role of a Team Leader				
X04	Track Participation in Physical Activities				
X05	Participate in Physical Activities				
306	Fire the Cadet Air Rifle During Rec. Marksmanship				
307	Serve in an Air Cadet Squadron				
308	Direct a Squad Prior to a Parade				
309	Instruct a Lesson				
X20	Participate in CAF Familiarization Activities				
340	Identify Aspects of Space Exploration				
331, 336 and 337	Describe Principles of Flight / Identify Meteorological Conditions / Demonstrate Air Navigation Skills				
370	Recognize Aspects of Aircraft Manufacturing and Maintenance				
390	Navigate a Route Using a Map and Compass				

Qualification Achieved	Yes	No	Training Officer Signature: _____	Date: _____

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CADET INTERVIEW GUIDELINES

GENERAL

The purpose of conducting an interview is to discuss the cadet's expectations, personal goals and learning progress (assessment for learning), and to provide feedback on overall performance.

Meet with the cadet throughout their training to discuss their progress towards achieving the qualification and to revise their action plan.

PRE-INTERVIEW INSTRUCTIONS

Gather the required resources, such as the Cadet Interview Form (Annex D, Appendix 1), training schedules, the Assessment of Learning Plan (Annex B), PC assessment instruments, pen, paper, etc.

Have the cadets review any support materials so they are able to attend the interview prepared to discuss the specific topic areas, as well as their expectations and personal goals.

Schedule interviews to allow approximately 10–15 minutes per cadet.

CONDUCT OF AN INTERVIEW

Tips for a successful interview:

- Ask questions that will provoke thought; avoid "yes or no" questions.
- Manage time by ensuring the cadet stays on topic.
- Listen and respond in a way that indicates you have heard and understood the cadet. This can be done by paraphrasing their ideas.
- Give the cadet time to respond to your questions.

1. Welcome the cadet.
2. Complete the Cadet Interview Form.
3. Have the cadet sign the Cadet Interview Form.
4. Sign the Cadet Interview Form.

POST-INTERVIEW INSTRUCTIONS

Place a copy of the Cadet Interview Form in the cadet's training file.

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CADET INTERVIEW FORM

Name:	Rank:
Proficiency Level:	Flight:

SECTION 1 – INITIAL INTERVIEW

1. What are your expectations for the proficiency level?
2. Do you have any questions about the training, schedule and/or assessment?
3. What activities are you most excited about?
4. What are your strengths?
5. What are some areas you would like to improve?
6. What personal goals would you like to attain? What steps will you take to achieve those goals?
7. Is there anything we should know to help make your training experience enjoyable (learning needs, allergies, etc.)?

NOTES

Cadet's Signature:

Officer's Signature:	Date:

SECTION 2 – PERFORMANCE INTERVIEW	
1. So far, is the proficiency level meeting your expectations? If not, what can we do to meet those expectations? 2. Are there any areas of excitement or concern you would like to highlight? 3. How do you feel about your progress? * 4. What are some areas you would like to improve? 5. What personal goals would you like to establish? * Give the cadet feedback on their progress and their overall performance highlighting any gaps that may exist between their self-assessment and your observations. Points to discuss may include completed and upcoming assessments, attendance, participation, etc.	
ACTION PLAN Work with the cadet to make an action plan that takes into consideration their goals and the training requirements. The action plan is a mutually agreed upon set of steps that the cadet commits to taking to reach their goals. It should be realistic and achievable and written using positive language.	
NOTES	
Cadet's Signature:	
Officer's Signature:	Date:

SECTION 3 – FINAL INTERVIEW	
1. How did you enjoy the Proficiency Level? 2. What were some of your likes and dislikes about the training? How could it be improved? 3. How can you apply what you have learned inside and outside of cadets? 4. What are some new personal goals you want to establish? 5. What upcoming training opportunities interest you? * Provide the cadet with a copy of their completed Qualification Record and discuss their learning progress towards course objectives. Where a waiver has been granted, explain to the cadet what this means and what they will be required to do in the following year to meet the current qualification requirements.	
NOTES	
Cadet's Signature:	
Officer's Signature:	Date:

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TRAINING COUNSELLING SESSION GUIDELINES

GENERAL

The purpose of the Training Counselling Session (TCS) is to formally meet with a cadet who is having difficulty achieving and/or maintaining qualification standards and to create an action plan to assist this cadet.

PRE-COUNSELLING SESSION INSTRUCTIONS

Gather the required resources, such as TCS Form, cadet's training file, pen, paper, etc.

Review the cadet's training file and discuss their performance with other staff members as required.

Complete Section 1 of the TCS Form.

CONDUCT OF COUNSELLING SESSION

Tips for a successful interview:

- Ask questions that will provoke thought; avoid "yes or no" questions.
- Manage time by ensuring the cadet stays on topic.
- Listen and respond in a way that indicates you have heard and understood the cadet. This can be done by paraphrasing their ideas.
- Give the cadet time to respond to your questions.

1. Welcome the cadet.
2. Complete Sections 2 and 3 of the TCS Form.
3. Have the cadet sign the TCS Form.
4. Sign the TCS Form.

POST-COUNSELLING SESSION INSTRUCTIONS

The goal of conducting training counselling is to guide a cadet towards success in the Cadet Program. Following the training counselling session the Training Officer shall meet with the CO to discuss the outcome of the session and any further steps required.

The Commanding Officer shall contact the guardian to open the lines of dialogue and include them in the action plan.

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TRAINING COUNSELLING SESSION FORM

SECTION 1 – BACKGROUND INFORMATION	
Name:	Rank:
Proficiency Level:	Flight:
Circumstances requiring TCS:	
Overall training progress (eg, seriousness of failure, performance in related POs, any previous difficulty and action taken, performance/behaviour, etc.):	
SECTION 2 – SESSION FINDINGS	
1. Inform the cadet they are not achieving and/or maintaining qualification standards and that you are meeting to help them correct the situation. 2. Discuss the following: • Circumstances affecting training progress • Any previous difficulty and action taken (eg, whether or not help/additional training was provided) • Overall performance/behaviour of cadet (eg, attendance, effort, motivation, attitude)	

SECTION 3 – SESSION RECOMMENDATIONS (ACTION PLAN)	
With the cadet, create an action plan that highlights the actions required for success. Brief the cadet on the consequences should no improvement be noticed.	
Cadet's Signature:	
Training Officer's Signature:	Date:
SECTION 4 – COMMANDING OFFICER REVIEW	
Record any discussion with parents regarding the progress of the cadet.	
Commanding Officer's Signature:	Date:

CHAPTER 4

PERFORMANCE OBJECTIVES AND LESSON SPECIFICATIONS

SECTION 1

PERFORMANCE OBJECTIVES AND TRAINING PLAN

PURPOSE

1. The purpose of this chapter is to outline the specific POs associated with the Proficiency Level Three qualification.

PERFORMANCE OBJECTIVES

2. POs are a description of the cadet's ability after training is complete. They include a description, in performance terms, of what the individual must do, the conditions under which the performance must be completed, and the standard to which the performance must conform. These three elements are respectively defined as:

   a. a performance statement,

   b. a conditions statement, and

   c. a standard.

3. This chapter also details the training plan that is designed to assist cadets to achieve the required POs using EOs and Lesson Specifications (LS) that are the key reference used for development of A-CR-CCP-803/PF-001.

ENABLING OBJECTIVES

4. EOs are a description of the cadet's ability after each unit of learning is complete and constitute a major step towards achieving the PO. EOs may correspond to the major components identified in the first round of deconstructing POs or they may result from grouping several related components. They are composed of three essential parts:

   a. a performance statement,

   b. a conditions statement, and

   c. a standard.

LESSON SPECIFICATIONS

5. LSs describe the instructional strategy to be applied to each EO, and include:

   a. supporting teaching points,

   b. references,

   c. learning activities (methods, media and environment),

   d. estimated timings,

   e. assessment directions, and

   f. any remarks that further clarify the design intent.

ASSESSMENT FOR LEARNING

6. Formative evaluation, or assessment for learning, takes place during a phase of instruction and helps cadets and instructors recognize progress or lapses in learning. These assessments can also provide cadets with opportunities to practice PCs. This helps to diagnose cadet needs, eg, corrective action or remedial instruction, plan the next steps in instruction and provide cadets with feedback they can use to improve. It also reinforces learning so that it can be retained longer. Details for Proficiency Level Three assessment for learning are outlined within the applicable lesson specifications located in this chapter.

SECTION 2

PO X01 – PARTICIPATE IN CITIZENSHIP ACTIVITIES

1. **PO X01 – Participate in Citizenship Activities**

This PO and its associated EOs are located in A-CR-CCP-801/PG-001, *Royal Canadian Air Cadets Proficiency LevelOne Qualification Standard and Plan*.

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SECTION 3

PO X02 – PERFORM COMMUNITY SERVICE

1. **PO X02 – Perform Community Service**

This PO and its associated EOs are located in A-CR-CCP-801/PG-001, *Royal Canadian AirCadets Proficiency Level One Qualification Standard and Plan*.

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SECTION 4

PO 303 – PERFORM THE ROLE OF A TEAM LEADER

1. **Performance.** Perform the Role of a Team Leader.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Any.

3. **Standard.** The cadet will perform the role of a team leader, to include:

   a. defining the role of a team leader, to include:

      (1) recognizing their position within the leadership team;

      (2) describing the core leadership qualities of a cadet;

      (3) describing the core leadership competencies; and

      (4) identifying the responsibilities of a team leader;

   b. setting leadership goals for the training year;

   c. leading an assigned team, to include:

      (1) setting a positive example;

      (2) fostering teamwork by contributing to positive team dynamics;

      (3) communicating clearly the task(s) to be accomplished;

      (4) supervising cadets;

      (5) solving problems, as required;

      (6) debriefing the team; and

      (7) reporting to superiors; and

   d. participating in a mentoring relationship.

4. **Remarks.** N/A.

5. **Complementary Material**

   a. Complementary material associated with PO 303 is designed to enhance the cadet's ability to perform as a team leader, to include:

      (1) EO C303.01 (Lead a Team-Building Activity), and

      (2) EO C303.02 (Deliver a Presentation About a Leader).

   b. Some complementary training offered in previous levels may be selected as complementary training in the Proficiency Level Three Program, specifically:

(1) EO C103.03 (Participate in Team-Building Activities, A-CR-CCP-801/PG-001, Chapter 4, Section 3),

(2) EO C203.01 (Record Entries in a Reflective Journal, A-CR-CCP-802/PG-001, *Royal Canadian Air Cadets, Proficiency Level Two – Qualification Standard and Plan*, Chapter 4, Section 3),

(3) EO C203.02 (Employ Problem Solving, A-CR-CCP-802/PG-001, Chapter 4, Section 3),

(4) EO C203.04 (Participate in a Presentation Given by a Leader, A-CR-CCP-802/PG-001, Chapter 4, Section 3),

(5) EO C203.05 (Participate in Trust-Building Activities, A-CR-CCP-802/PG-001, Chapter 4, Section 3), and

(6) EO C203.06 (Participate in Problem-Solving Activities, A-CR-CCP-802/PG-001, Chapter 4, Section 3).

c. When selecting complementary material from previous levels, training staff shall review the applicable performance objective, lesson specification, and instructional guide.

d. Complementary training associated with PO 303 is limited to a total of nine periods, which may be conducted during sessions or on a supported day. Squadrons are not required to use all nine periods.

EO M303.01 – DEFINE THE ROLE OF A TEAM LEADER

1. **Performance.** Define the Role of a Team Leader.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 define the role of a team leader, to include:

   a. recognizing their position within the leadership team model;

   b. describing the core leadership qualities of a cadet; and

   c. recognizing the core leadership competencies, to include:

      (1) intrapersonal management,

      (2) interpersonal management,

      (3) teamwork,

      (4) effective communication,

      (5) applied leadership, and

      (6) mentorship.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain the leadership team model and the position the year three cadet holds within the leadership team.	Interactive Lecture	10 min	
TP2	Describe core leadership competencies, to include: a. intrapersonal management, b. interpersonal management, c. teamwork, d. effective communication, e. applied leadership, and f. mentorship.	Interactive Lecture	5 min	

TP	Description	Method	Time	Ref
TP3	Explain the components of intrapersonal management, to include: a. identifying and satisfying personal needs; b. exercising self-control; c. exercising self-management; d. pursuing self-improvement; and e. establishing a positive identity.	Interactive Lecture	5 min	C0-270
TP4	Explain the components of interpersonal management, to include: a. interacting positively within the cadet community; b. interacting positively with others; and c. dealing with interpersonal conflict in a respectful way.	Interactive Lecture	5 min	C0-271
TP5	Explain the components of teamwork, to include: a. participating in the stages of team development; b. displaying positive team dynamics; and c. participating in team-building activities.	Interactive Lecture	5 min	C0-114 (p. 12) C0-268 (pp.3-4)
TP6	Explain the components of effective communication, to include: a. receiving information; b. interpreting information; and c. responding to information.	Interactive Lecture	5 min	C0-115 (pp. 42–44)
TP7	Explain the components of applied leadership, to include: a. setting an example for others to follow; b. participating in leadership assignments; c. conducting the leadership assignment while supervising the team; d. leading team-building activities; e. debriefing the team; and f. presenting an after-assignment report to their leader.	Interactive Lecture	5 min	C0-240 (p. 19) C0-245 (p. 70–71) C0-256 (p. 54–55)
TP8	Explain the components of mentorship, to include: a. the role of a cadet being mentored; and b. the role of a mentor.	Interactive Lecture	5 min	C0-258 (p. 2)

TP	Description	Method	Time	Ref
TP9	Identify the Proficiency Level Three team leader opportunities, to include: a. performing the role of a mentor; and b. completing a leadership assignment.	Interactive Lecture	5 min	

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Interactive Lecture:	50 min
c.	Total:	60 min

6. **Substantiation.** An interactive lecture was chosen for this lesson to orient the cadets to the leadership team model, core leadership competencies and leadership opportunities for a Proficiency Level Three cadet.

7. **References**

a. C0-114 (ISBN 0-02-863656-2) Pell, A. R. (1999). *The Complete Idiot's Guide to Team Building*. Indianapolis, IN: Alpha Books.

b. C0-115 (ISBN 0-7879-4059-3) van Linden, J. A., & Fertman, C. I. (1998). *Youth Leadership*. San Francisco, CA: Jossey-Bass Inc., Publishers.

c. C0-240 (ISBN 0-934387-05-2) Collard, M. (2005). *No Props: Great Games With No Equipment*. Beverly, MA: Project Adventure, Inc.

d. C0-245 (ISBN 1-58062-513-4) Adams, B. (2001). *The Everything Leadership Book*. Avon, MA: Adams Media.

e. C0-256 (ISBN 0-7894-4863-7) Heller, R. (1999). *Achieving Excellence*. New York, NY: DK Publishing, Inc.

f. C0-258 (ISBN 978-1-59869-450-5) Nigro, N. (2008). *The Everything Coaching and Mentoring Book*. (2nd ed.). Avon, MA: F+W Publications Company.

g. C0-268 (ISBN 978-1-57542-265-7) MacGregor, M. S. (2008). *Teambuilding With Teens: Activities for Leadership, Decision Making and Group Success*. Minneapolis, MN: Free Spirit Publishing.

h. C0-270 Maslow, A. H. (1943). *A Theory of Human Motivation*. Psychological Review, Vol. 50, No. 4, pp. 370–396.

i. C0-271 Farthing, D. (2001). *Peacebuilders 1: Conflict Resolution Youth Reference Guide*. Ottawa, ON: YouCAN.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids**

a. Handout of the Leadership Team Model, and

b. Handout of the Expectations of a Proficiency Level Three cadet.

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

11. **Remarks.** N/A.

EO M303.02 – PARTICIPATE IN A MENTORING RELATIONSHIP

1. **Performance.** Participate in a Mentoring Relationship.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 participate in a mentoring relationship.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain the mentoring relationship, to include: a. recognizing the purpose of a mentoring relationship; b. identifying the benefits of participating in a mentoring relationship; c. contributing to a mentoring match; d. being open to new things; e. being responsive to suggestions and constructive criticism; f. providing feedback to the mentor; g. learning from the mentor's example; h. participating in mentoring activities; and i. appreciating the mentoring relationship.	Interactive Lecture	15 min	C0-258 (pp.15–21, pp. 37–48, pp. 70–73)
TP2	Conduct a group discussion about mentoring, to include: a. self-reflection; b. self-assessment or recording in a journal as required; and c. mentoring sessions.	Group Discussion	10 min	C0-258 (pp. 37–48) C2-109 (p. 36)

5. **Time**

   a. Introduction/Conclusion: 5 min

   b. Interactive Lecture: 15 min

   c. Group Discussion: 10 min

   d. Total: 30 min

6. **Substantiation**

   a. An interactive lecture was chosen for TP 1 to orient the cadets to the mentoring relationship, to generate interest and present basic material.

   b. A group discussion was chosen for TP 2 as it allows the cadets to interact with their peers and share their knowledge, experiences, opinions and feelings about the mentoring relationship.

7. **References**

   a. C0-258 (ISBN 978-1-59869-450-5) Nigro, N. (2008). *The Everything Coaching and Mentoring Book*. (2nd ed.). Avon, MA: F+W Publications Company.

   b. C2-109 (ISBN 0-7872-6561-6) Sugarman, D., Doherty, K., Garvey, D., & Gass, M. (2000). *Reflective Learning: Theory and Practice*. Dubuque, IO: Kendall/Hunt Publishing Company.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids.** N/A.

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

11. **Remarks.** After this lesson each Proficiency Level Three cadet will choose at least one Proficiency Level One cadet to mentor. Each Proficiency Level Three cadet will also be asked which Proficiency Level Five cadet, they would like to mentor them.

EO M303.03 – PRACTICE SELF-ASSESSMENT

1. **Performance.** Practice Self-Assessment.

2. **Conditions**

   a. Given:

      (1) Self-assessment rubrics,

      (2) Supervision, and

      (3) 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 practice self-assessment by:

   a. reflecting on abilities;

   b. setting goals;

   c. seeking feedback as required; and

   d. seeking assistance as required.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Define reflection and self-assessment.	Interactive Lecture	5 min	C0-237 C0-242 (pp. 9–11)
TP2	Have the cadet conduct self-assessment activities about: a. their core leadership qualities; and b. how they contribute to positive team dynamics.	In-Class Activity	10 min	
TP3	Conduct a group discussion on how and when to seek feedback and assistance.	Group Discussion	10 min	C0-258 (p.97–98)

5. **Time**

   a. Introduction/Conclusion: 5 min

   b. Interactive Lecture: 5 min

   c. In-Class Activity: 10 min

   d. Group Discussion: 10 min

   e. Total: 30 min

6. **Substantiation**

   a. An interactive lecture was chosen for TP 1 to define reflection and self-assessment.

   b. An in-class activity was chosen for TP 2 as an interactive way to provoke thought, to stimulate an interest among cadets and to conduct self-assessments.

   c. A group discussion was chosen for TP 3 as it allows the cadets to interact with their peers and share their knowledge, experiences, opinions and feelings about the benefits of seeking feedback and assistance.

7. **References**

   a. C0-237 (ISBN 0-19-541816-6) Barber, K. (Ed.). (2004). *Canadian Oxford Dictionary* (2nd ed.). Don Mills, ON: Oxford University Press Canada.

   b. C0-242 (ISBN 978-0-9682160-2-1) Gregory, K., Cameron, C., & Davies, A. (2000). *Knowing What Counts: Self-Assessment and Goal Setting*. Courtenay, BC: Building Connections Publishing Inc.

   c. C0-258 (ISBN 978-1-59869-450-5) Nigro, N. (2008). *The Everything Coaching and Mentoring Book*. (2nd ed.). Avon, MA: F+W Publications Company.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids**

   a. Self-assessment rubric for core leadership qualities, and

   b. Self-assessment rubric for positive team dynamics.

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

11. **Remarks.** N/A.

EO M303.04 – COMMUNICATE AS A TEAM LEADER

1. **Performance.** Communicate as a Team Leader.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 communicate as a team leader by:

   a. recognizing verbal and non-verbal communication;

   b. applying the process of communication, to include:

      (1) receiving;

      (2) interpreting; and

      (3) responding; and

   c. identifying the barriers to effective communication.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain verbal and non-verbal communication.	Interactive Lecture	5 min	C0-022 (pp. 97–101, pp. 103–118) C0-254 (p. 9)
TP2	Explain hearing and listening and their impact on communicating, to include: a. the definition of hearing, b. the definition of listening, c. active listening, d. poor listening habits, and e. the impact that listening and hearing have on communication.	Interactive Lecture	15 min	C0-022 (pp.129–135) C0-144 (pp. 12–14, p. 17) C0-237 (p. 698, p. 896) C0-262 (p. 237, p. 239)
TP3	Describe the process of communication, to include: a. receiving information; b. interpreting information; and c. responding to information.	Interactive Lecture	5 min	C0-115 (pp. 42–45)

TP	Description	Method	Time	Ref
TP4	Identify the barriers to effective communication, to include: a. intrapersonal factors, to include: (1) stress, (2) emotion, (3) misinterpretation, (4) poor listening habits, (5) closed-mindedness, and (6) prejudice; b. distractions factors, to include: (1) visual, and (2) auditory; and c. delivery, to include: (1) language, (2) mixed messages, and (3) information overload.	Interactive Lecture	10 min	C0-022 (pp. 77–80, p. 129, p. 130)
TP5	Conduct an activity that demonstrates the process of communication and barriers to effective communication.	In-Class Activity	15 min	C0-022 (pp. 77–80, p. 129, p. 130) C0-115 (pp. 42–45)

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Interactive Lecture:	35 min
c.	In-Class Activity:	15 min
d.	Total:	60 min

6. **Substantiation**

a. An interactive lecture was chosen for TPs 1–4 to orient the cadets to communicating as a team leader.

b. An in-class activity was chosen for TP 5 as an interactive way to provoke thought and stimulate interest among cadets about the process of communication and the barriers to communication.

7. **References**

a. C0-022 (ISBN 0-02864-207-4) Cole, K. (2002). *The Complete Idiot's Guide to Clear Communication*. Indianapolis, IN: Alpha Books.

b. C0-115 (ISBN 0-7879-4059-3) van Linden, J. A., & Fertman, C. I. (1998). *Youth Leadership*. San Francisco, CA: Jossey-Bass Inc., Publishers.

c. C0-144 Colver, E., & Reid, M. (2001). *Peacebuilders 2: Peer Helping*. Ottawa, ON: YouCAN.

d. C0-237 (ISBN 0-19-541816-6) Barber, K. (Ed.). (2004). *Canadian Oxford Dictionary* (2nd ed.). Don Mills, ON: Oxford University Press Canada.

e. C0-262 MacDonald, K. (2002). *Interpersonal Conflict Resolution Skills for Youth. Module 1: Fundamentals of Conflict Resolution*. New Westminster, BC: Centre for Conflict Resolution.

f. C0-268 (ISBN 1-57542-265-4) MacGregor, M. (2008). *Teambuilding With Teens: Activities for Leadership, Decision Making and Group Success*. Minneapolis, MN: Free Spirit Publishing, Inc.

8. **Training Aids**

a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area, and

b. Stopwatch.

9. **Learning Aids**

a. Communication Puzzles,

b. Scissors,

c. Resealable plastic bags, and

d. Envelopes.

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

11. **Remarks.** N/A.

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EO M303.05 – SUPERVISE CADETS

1. **Performance.** Supervise Cadets.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 supervise cadets while leading an assigned team.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain the purposes of supervision, to include: a. to provide protection; b. to provide support; and c. to provide quality assurance.	Interactive Lecture	10 min	C0-272 (p. 4)
TP2	Explain how to supervise, to include: a. ensuring safety; b. ensuring the well-being of cadets; c. encouraging cadets; d. adjusting responsibilities as required; e. maintaining control of cadets; f. correcting errors as required; g. reporting misconduct as required; and h. ensuring completion of responsibilities assigned to cadets as required.	Interactive Lecture	10 min	A0-107 C0-249 (p. 36–37) C0-273 (p. 44, p. 88–90) C0-274 (p. 19, p. 32)
TP3	Conduct a group discussion on supervision.	Group Discussion	15 min	
TP4	Discuss the supervision requirements at the squadron.	Group Discussion	15 min	

5. **Time**

   a. Introduction/Conclusion: 10 min

   b. Interactive Lecture: 20 min

   c. Group Discussion: 30 min

   d. Total: 60 min

6. **Substantiation**

   a. An interactive lecture was chosen for TPs 1 and 2 to introduce the cadets to supervision.

   b. A group discussion was chosen for TPs 3 and 4 as it allows the cadets to interact with their peers and share their knowledge, experiences, opinions and feelings about supervision.

7. **References**

   a. A0-107 Director Cadets. (2007). CATO 14-31, *Director Cadets and Junior Canadian Rangers General Safety Program*. Ottawa, ON: Department of National Defence.

   b. C0-249 (ISBN 0-7894-2890-3) Heller, R. (1998). *How to Delegate*. New York, NY: DK Publishing, Inc.

   c. C0-272 Coleridge Education, College of St. Mark and St. John. (2002). *A Consultation of Supervision Provision and Training Requirements Across Connexions Partnerships in England*. Retrieved March 17, 2008 from http://www.connexions.gov.uk/partnerships/publications/uploads/cp/Supervisory%20Skills%20Exec%20Sum.pdf.

   d. C0-273 (ISBN 978-1-56414-363-1) Ladew, D. P. (1998). *How to Supervise People: Techniques for Getting Results Through Others*. Franklin Lakes, NJ: Career Press.

   e. C0-274 (ISBN 1-4134-1294-7) Sargent, G. (2003). *The Little Black Book of Supervision*. USA: Xlibris Corporation.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids.** N/A.

10. **Test Details.** This EO is assessed IAW Chapter 3, Annex B, Appendix 1, (303 PC).

11. **Remarks.** N/A.

EO M303.06 – SOLVE PROBLEMS

1. **Performance.** Solve Problems.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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:

   a. describe problem-solving methods;

   b. select a problem-solving method; and

   c. solve a problem using the selected method.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	IAW M203.06 (Employ Problem Solving, A-CR-CCP-802/PG-001, Chapter 4, Section 3), review the steps for logical analysis, to include: a. confirming the task; b. identifying the problem; c. determining the critical factor; d. developing alternative solutions; e. comparing alternative solutions; f. determining the best solution; g. implementing the solution; and h. evaluating the plan and the implementation.	Interactive Lecture	5 min	C0-135 (pp. 221–223)
TP2	Explain the steps in the IRISE method of problem solving, to include: a. identifying the problem; b. researching all of the options; c. identifying the consequences of the options; d. selecting the most appropriate option; and e. evaluating the decision.	Interactive Lecture	10 min	C0-115 (p. 96)

TP	Description	Method	Time	Ref
TP3	Explain the steps in the TEACH method of problem solving, to include: a. time, b. exposure, c. assistance, d. creativity, and e. hit it.	Interactive Lecture	10 min	C0-134 (p. 101)
TP4	Conduct an activity where the cadets will select a problem-solving method and apply it to a scenario.	In-Class Activity	25 min	C0-115 (p. 45, p. 46)

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Interactive Lecture:	25 min
c.	In-Class Activity:	25 min
d.	Total:	60 min

6. **Substantiation**

a. An interactive lecture was chosen for TPs 1–3 to review logical analysis and orient the cadets to additional problem-solving methods.

b. An in-class activity was chosen for TP 4 as an interactive way to provoke thought and stimulate interest among cadets about problem solving.

7. **References**

a. C0-115 (ISBN 0-7879-4059-3) van Linden, J. A., & Fertman, C. I. (1998). *Youth Leadership*. San Francisco, CA: Jossey-Bass Inc., Publishers.

b. C0-134 (ISBN 0-7852-7440-5) Maxwell, J. (1999). *The 21 Indispensable Qualities of a Leader: Becoming the Person Others Will Want to Follow*. Nashville, TN: Thomas Nelson Publishers.

c. C0-135 (ISBN 0-7645-5176-0) Loeb, M., & Kindel, S. (1999). *Leadership for Dummies*. New York, NY: Hungry Minds, Inc.

8. **Training Aids**

a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area, and

b. Problem-solving scenarios.

9. **Learning Aids**

a. Problem-solving scenarios, and

b. Pen/pencil.

10. **Test Details.** This EO is assessed IAW Chapter 3, Annex B, Appendix 1, (303 PC).

11. **Remarks.** N/A.

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EO M303.07 – LEAD CADETS THROUGH A LEADERSHIP ASSIGNMENT

1. **Performance.** Lead Cadets Through a Leadership Assignment.

2. **Conditions**

   a. Given:

      (1) Sample leadership assignment,

      (2) Supervision, and

      (3) 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:

   a. plan for a leadership assignment; and

   b. lead a team of cadets through a leadership assignment by:

      (1) preparing for the assignment;

      (2) introducing the assignment;

      (3) conducting the assignment while supervising the team;

      (4) debriefing the team; and

      (5) presenting an after-assignment report to the team leader.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Discuss and demonstrate the process of preparing for a leadership assignment, to include: a. ensuring the goal is understood; b. ensuring the required resources are available; c. completing a time appreciation; and d. making a plan.	Demonstration	10 min	C0-114 (p. 16) C0-243 C0-248 (p. 20, p. 21) C0-253 (p. 24) C0-255 (p. 86–89)

TP	Description	Method	Time	Ref
TP2	Discuss and demonstrate the process of introducing a leadership assignment, to include: a. stating the assignment to be completed; b. stating the goal of the assignment; c. identifying the resources required for the assignment; d. communicating the overall plan; e. assigning tasks to team members as applicable; and f. ensuring the team members understand the assignment.	Demonstration	10 min	C0-114 (p. 36, p. 99) C0-245 (p. 70, p. 71) C0-247 (p. 133–136) C0-254 (p. 34, p. 35)
TP3	Discuss and demonstrate the process for conducting a leadership assignment, to include: a. supervising peers; b. maintaining team control; c. ensuring the assignment is progressing according to the time allotted; and d. modifying the plan as required.	Demonstration	10 min	C0-256 (p. 54, p. 55)
TP4	Discuss and demonstrate the process for debriefing a team following leadership assignment, to include: a. reviewing the goal; b. providing feedback; and c. re-motivating the team.	Demonstration	10 min	C0-240 (p. 19)
TP5	Explain the after-assignment report.	Interactive Lecture	5 min	C0-243
TP6	Discuss how to plan for a leadership assignment.	In-Class Activity	5 min	C0-255 (p. 267, p. 269)

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Demonstration:	35 min
c.	Interactive Lecture:	10 min
d.	In-Class Activity:	5 min
e.	Total:	60 min

6. **Substantiation**

a. A demonstration was chosen for TPs 1–4 as it allows the instructor to explain and demonstrate the format of a leadership assignment in a safe, controlled environment.

b. An interactive lecture was chosen for TP 5 to give direction on the procedure for completing an after-assignment report.

c. An in-class activity was chosen for TP 6 as it is an interactive way to provoke thought and stimulate interest among cadets.

7. **References**

a. C0-114 (ISBN 0-02-863656-2) Pell, A. R. (1999). *The Complete Idiot's Guide to Team Building*. Indianapolis, IN: Alpha Books.

b. C0-240 (ISBN 0-934387-05-2) Collard, M. (2005). *No Props: Great Games With No Equipment*. Beverly, MA: Project Adventure, Inc.

c. C0-243 Clark, D. (2007). *After Action Reviews*. Retrieved February 21, 2008, from http://www.nwlink.com/~donclark/leader/leadaar.html.

d. C0-243 Clark, D. (2007). *Leadership & Direction*. Retrieved February 21, 2008, from http://www.nwlink.com/~donclark/leader/leaddir.html.

e. C0-245 (ISBN 1-58062-513-4) Adams, B. (2001). *The Everything Leadership Book*. Avon, MA: Adams Media.

f. C0-247 (ISBN 0-14-024272-4) Rosen, R. H., & Brown, P. B. (1997). *Leading People*. New York, NY: Penguin Books.

g. C0-248 (ISBN 0-7894-4862-9) Heller, R. (1999). *Learning to Lead*. New York, NY: DK Publishing, Inc.

h. C0-253 (ISBN 0-7894-8006-9) Bruce, A., & Langdon, K. (2001). *Do It Now!* New York, NY: DK Publishing, Inc.

i. C0-254 (ISBN 0-7894-3244-7) Heller, R. (1998). *Communicate Clearly*. New York, NY: DK Publishing, Inc.

j. C0-255 (ISBN 0-7645-5408-5) Brounstein, M. (2002). *Managing Teams for Dummies*. Indianapolis, IN: Wiley Publishing, Inc.

k. C0-256 (ISBN 0-7894-4863-7) Heller, R. (1999). *Achieving Excellence*. New York, NY: DK Publishing, Inc.

8. **Training Aids**

a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area,

b. Handout of the leadership assignment format,

c. Handout of leadership assignment assessment form,

d. Handout of the after-assignment report,

e. Sample leadership assignment, and

f. Resources for the sample leadership assignment as required.

9. **Learning Aids**

a. Handout of the leadership assignment format,

b. Handout of the leadership assignment assessment form,

c. Handout of the after-assignment report,

d. Leadership assignment, and

e. Pen/pencil.

10. **Test Details.** This EO is assessed IAW Chapter 3, Annex B, Appendix 1, (303 PC).

11. **Remarks.** A minimum of two leadership assignments shall be selected from those listed in 303 PC.

EO C303.01 – LEAD A TEAM-BUILDING ACTIVITY

1. **Performance.** Lead a Team-Building Activity.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 lead the following components of a team-building activity:

   a. the introduction,

   b. the activity, and

   c. the debriefing.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Demonstrate and have the cadets participate in an introduction to a team-building activity.	In-Class Activity	5 min	
TP2	Have the cadets analyze the elements of an introduction: a. getting the team's attention; b. explaining the goal of the activity; c. explaining the activity; d. assigning tasks as necessary; e. setting time limits; f. relaying safety concerns as necessary; and g. motivating the team.	Group Discussion	10 min	C0-028 (pp. xxiii–xxvii) C0-238 (pp. 22–23) C0-268 (p. 3)
TP3	Demonstrate and have the cadets participate in the selected team-building activity.	In-Class Activity	10 min	
TP4	Discuss the following responsibilities of the leader while conducting a team-building activity: a. starting the activity; b. supervising the team; c. ensuring the goal is achieved; d. stopping the activity if required; and e. ending the activity within the time limit.	Group Discussion	10 min	C0-238 (p. 26) C0-240 (p. 17)

TP	Description	Method	Time	Ref
TP5	Demonstrate and have the cadets participate in the debriefing component of the selected team-building activity.	In-Class Activity	5 min	
TP6	Discuss the following elements of a debriefing: a. reviewing the goal; b. providing feedback; and c. re-motivating the team.	Group Discussion	10 min	C0-238 (pp. 27–30) C0-240 (p. 19)
TP7	Have small groups of cadets share responsibilities of leading a team-building activity.	Practical Activity	30 min	

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	In-Class Activity:	20 min
c.	Group Discussion:	30 min
d.	Practical Activity:	30 min
e.	Total:	90 min

6. **Substantiation**

a. An in-class activity was chosen for TPs 1, 3 and 5 as it is an interactive way to provoke thought and stimulate interest among cadets.

b. A group discussion was chosen for TPs 2, 4 and 6 as it allows the cadets to interact with their peers and share their knowledge, experiences, opinions and feelings about the components of team-building activities.

c. A practical activity was chosen for TP 7 as it is an interactive way to allow the cadets to experience team-building activities in a safe and controlled environment.

7. **References**

a. C0-028 (ISBN 0-07-046513-4) Newstrom, J., & Scannell, E. (1998). *The Big Book of Team Building Games*. New York, NY: McGraw-Hill.

b. C0-238 (ISBN 0-7879-4835-7) Sugar, S., & Takacs, G. (2000). *Games That Teach Teams: 21 Activities to Super-Charge Your Group!* San Francisco, CA: Jossey-Bass/Pfeiffer.

c. C0-240 (ISBN 0-934387-05-2) Collard, M. (2005). *No Props: Great Games With No Equipment*. Beverly, MA: Project Adventure, Inc.

d. C0-268 (ISBN 1-57542-265-4) MacGregor, M. G. (2008). *Teambuilding With Teens*. Minneapolis, MN: Free Spirit Publishing Inc.

8. **Training Aids**

   a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area,

   b. Marker,

   c. Sticky notes, and

   d. Activity equipment as required.

9. **Learning Aids**

   a. Activity equipment as required,

   b. Handout of team-building activities, and

   c. Handout of team-building planning guide.

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

11. **Remarks.** N/A.

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EO C303.02 – DELIVER A PRESENTATION ABOUT A LEADER

1. **Performance.** Deliver a Presentation About a Leader.

2. **Conditions**

   a. Given:

      (1) Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector),

      (2) Supervision, and

      (3) 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 deliver a presentation about a leader, to include:

   a. an introduction of the leader,

   b. the body of the presentation, to include:

      (1) interesting points in the leader's career, and

      (2) the core leadership qualities displayed by the leader; and

   c. a conclusion.

4. **Teaching Points.** Supervise cadets delivering a presentation about a leader.

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Practical Activity:	50 min
c.	Total:	60 min

6. **Substantiation.** A practical activity was chosen for this lesson as it is an interactive way to allow cadets to experience giving a presentation in a safe and controlled environment. This activity contributes to the development of leadership skills and knowledge in fun and challenging setting.

7. **References.** N/A.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids.** Handout of Outline for Delivering a Presentation About a Leader.

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

11. **Remarks**

    a. It is recommended that this lesson be scheduled after all other lessons in PO 309 (Section 10).

    b. For squadrons with a large number of Proficiency Level Three cadets, they may consider sub-dividing the group, should they have sufficient resources.

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SECTION 5

PO X04 – TRACK PARTICIPATION IN PHYSICAL ACTIVITIES

1. **PO X04 – Track Participation in Physical Activities**

This PO and its associated EOs are located in A-CR-CCP-801/PG-001, *Royal Canadian Air Cadets Proficiency Level One Qualification Standard and Plan*.

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SECTION 6

PO X05 – PARTICIPATE IN PHYSICAL ACTIVITIES

1. **PO X05 – Participate in Physical Activities**

This PO and its associated EOs are located in A-CR-CCP-801/PG-001, *Royal Canadian Air Cadets Proficiency Level One Qualification Standard and Plan*.

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SECTION 7

PO 306 – FIRE THE CADET AIR RIFLE DURING RECREATIONAL MARKSMANSHIP

1. **Performance.** Fire the Cadet Air Rifle During Recreational Marksmanship.

2. **Conditions**

   a. Given:

      (1) Cadet air rifle,

      (2) Cadet air rifle sling,

      (3) Air rifle pellets,

      (4) Target frame,

      (5) Suitable target,

      (6) Shooting mat,

      (7) Safety glasses/goggles,

      (8) Supervision, and

      (9) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Air rifle range constructed IAW A-CR-CCP-177/PT-001, *Canadian Cadet Movement: Cadet Marksmanship Program Reference Manual*, Chapter 1, Section 8.

3. **Standard.** IAW A-CR-CCP-177/PT-001, the cadet will fire the cadet air rifle during recreational marksmanship by:

   a. carrying out safety precautions;

   b. applying basic marksmanship techniques; and

   c. following the rules of commands given on a range.

4. **Remarks.** All range practices must be conducted by a Range Safety Officer (Air Rifle) (RSO-AR).

5. **Complementary Material**

   a. Complementary material associated with PO 306 is designed to enhance the cadet's air rifle marksmanship experience, to include:

      (1) EO C306.01 (Identify Civilian Marksmanship Organizations),

      (2) EO C306.02 (Correct Marksmanship Error); and

      (3) EO C306.03 (Adopt the Standing Position with the Cadet Air Rifle).

   b. Some complementary training offered in previous levels may be selected as complementary training in the Proficiency Level Three Program, specifically:

      (1) EO C106.01 (Participate in a Recreational Shoot Using the Cadet Air Rifle, A-CR-CCP-801/PG-001, Chapter 4, Section 6),

      (2) EO C206.01 (Practice Holding Techniques, A-CR-CCP-802/PG-001, Chapter 4, Section 6),

(3) EO C206.02 (Practice Aiming Techniques, A-CR-CCP-802/PG-001, Chapter 4, Section 6); and

(4) EO C206.03 (Practice Firing Techniques, A-CR-CCP-802/PG-001, Chapter 4, Section 6).

c. When selecting complementary material from previous levels, training staff shall review the applicable performance objective, lesson specification, and instructional guide.

d. Complementary training associated with PO 306 is limited to a total of ten periods conducted during sessions or on a supported day. Squadrons are not required to use all ten periods.

e. It is not necessary to conduct these EOs in sequential order; however, squadrons choosing to capitalize on marksmanship training should complete EOs C206.01 (A-CR-CCP-802/PG-001, Chapter 4, Section 6) to C206.03 (A-CR-CCP-802/PG-001, Chapter 4, Section 6), marksmanship techniques, prior to conducting EO C106.01 (Participate in a Recreational Shoot Using the Cadet Air Rifle, A-CR-CCP-801/PG-001, Chapter 4, Section 6).

f. Cadet squadrons choosing to enhance the recreational marksmanship program through EO C306.03 (Adopt the Standing Position With the Cadet Air Rifle) are encouraged to follow this training with EO C106.01 (Participate in a Recreational Shoot Using the Cadet Air Rifle, A-CR-CCP-801/PG-001, Chapter 4, Section 6).

EO M306.01 – PARTICIPATE IN A RECREATIONAL MARKSMANSHIP ACTIVITY

1. **Performance.** Participate in a Recreational Marksmanship Activity.

2. **Conditions**

   a. Given:

      (1) Cadet air rifle,

      (2) Cadet air rifle sling,

      (3) Air rifle pellets,

      (4) Target frame,

      (5) Suitable target,

      (6) Shooting mat,

      (7) Safety glasses/goggles,

      (8) Supervision, and

      (9) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Air rifle range constructed IAW A-CR-CCP-177/PT-001, Part 1, Section 8.

3. **Standard.** The cadet shall participate in a recreational marksmanship activity.

4. **Teaching Points**

   a. Conduct a range briefing, to include:

      (1) explaining pertinent sections of range standing orders;

      (2) reviewing general rules observed on all ranges;

      (3) reviewing commands used on an air rifle range;

      (4) describing the layout of the range; and

      (5) reviewing hand-washing procedures on completion of firing.

   b. Supervise the participation of the cadet in a recreational marksmanship activity, choosing from the following categories:

      (1) classification,

      (2) fun activities,

      (3) timed activities, and

      (4) competitive team/individual activities.

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Practical Activity:	80 min
c.	Total:	90 min

6. **Substantiation.** A practical activity was chosen for this lesson as it is an interactive way to allow the cadet to experience recreational marksmanship in a safe and controlled environment. This activity contributes to the development of marksmanship skills and knowledge in a fun and challenging setting.

7. **References**

   a. A0-027 A-CR-CCP-177/PT-001 Director Cadets 3. (2005). *Canadian Cadet Movement: Cadet Marksmanship Program reference Manual*. Ottawa, ON: Department of National Defence.

   b. A0-041 Director Cadets 4. (2007). CATO 14-41, *Marksmanship, Rifles and Ammunition*. Ottawa ON: Department of National Defence.

8. **Training Aids**

   a. Cadet air rifle,

   b. Cadet air rifle sling,

   c. Air rifle pellets,

   d. Target frame,

   e. Suitable target,

   f. Shooting mat; and

   g. Safety glasses/goggles.

9. **Learning Aids**

   a. Cadet air rifle,

   b. Cadet air rifle sling,

   c. Air rifle pellets,

   d. Target frame,

   e. Suitable target,

   f. Shooting mat; and

   g. Safety glasses/goggles.

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

11. **Remarks**

   a. Hand-washing stations must be available for cleanup after the activity is completed.

   b. Cadets may fire in the standing position if they have previously received the training during C306.03 (Adopt the Standing Position With the Cadet Air Rifle).

EO C306.01 – IDENTIFY CIVILIAN MARKSMANSHIP ORGANIZATIONS

1. **Performance.** Identify Civilian Marksmanship Organizations.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 identify civilian marksmanship organizations, to include:

   a. local,

   b. provincial,

   c. national, and

   d. biathlon.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Discuss local civilian marksmanship organizations.	Interactive Lecture	5 min	
TP2	Discuss the applicable provincial rifle organization from: a. Alberta Provincial Rifle Association, b. British Columbia Rifle Association, c. Manitoba Provincial Rifle Association, d. Newfoundland Provincial Rifle Association, e. Nova Scotia Rifle Association, f. Ontario Provincial Rifle Association, g. Prince Edward Island Rifle Association, h. Province of Quebec Rifle Association, i. Royal New Brunswick Rifle Association, and j. Saskatchewan Provincial Rifle Association.	Interactive Lecture	10 min	C2-086
TP3	Discuss national marksmanship organizations, to include: a. The Dominion of Canada Rifle Association, and b. The Shooting Federation of Canada.	Interactive Lecture	5 min	A0-119 (p. 3) C2-086

TP	Description	Method	Time	Ref
TP4	Identify the applicable national/provincial biathlon organizations, from: a. Biathlon Canada, b. Biathlon Alberta, c. Biathlon British Columbia, d. Biathlon Manitoba, e. Biathlon New Brunswick, f. Biathlon Nova Scotia, g. Biathlon Newfoundland and Labrador, h. Biathlon Ontario, i. Biathlon Quebec, j. Biathlon Saskatchewan, k. Biathlon Yukon, or l. Northwest Territories Biathlon.	Interactive Lecture	5 min	C0-149

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	25 min
c.	Total:	30 min

6. **Substantiation.** An interactive lecture was chosen for this lesson to orient the cadet to opportunities to enhance their marksmanship training with civilian organizations.

7. **References**

a. A0-119 Shooting Federation of Canada. (2007). *Shooting Federation of Canada*. Retrieved November 2, 2007, from http://www.sfc-ftc.ca/document.cfm?sectionID=39.

b. C0-149 Biathlon Canada. (2005). *Biathlon Bears: Community Coaching*. Ottawa, ON: Biathlon Canada.

c. C2-086 Dominion of Canada Rifle Association. (2007). Retrieved October 4, 2007, from http://www.dcra.ca/welcome.htm.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP) appropriate for the classroom/training area.

9. **Learning Aids.** N/A.

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

11. **Remarks.** Have the cadets identify only the applicable national, provincial and local marksmanship organizations.

EO C306.02 – CORRECT MARKSMANSHIP ERROR

1. **Performance.** Correct Marksmanship Error.

2. **Conditions**

   a. Given:

      (1) Cadet air rifle,

      (2) Supervision, and

      (3) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Air rifle range constructed IAW A-CR-CCP-177/PT-001, Part 1, Section 8.

3. **Standard.** The cadet shall correct marksmanship error by adjusting:

   a. elevation, and

   b. windage.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain centring the group, to include: a. the theory of a group, and b. mean point of impact (MPI).	Interactive Lecture	10 min	C2-097 (p. 29)
TP2	Explain sight adjustment, to include: a. the purpose of sight adjustment, b. elevation, c. windage, and d. a zeroed cadet air rifle.	Interactive Lecture	10 min	C2-098 (p. 303, p. 304)
TP3	Explain the increments of sight adjustment, to include: a. sight adjustment of the cadet air rifle; b. lowering and raising the elevation; and c. moving the windage left and right.	Interactive Lecture	5 min	A0-027 (p. 2-11)

TP	Description	Method	Time	Ref
TP4	Conduct a sight adjustment exercise as follows: a. Give the cadet a sight adjustment handout. Each target has a distinctive set of pellet impacts off-centre from the bull's eye. b. Have the cadet determine where the MPI of each target is located. c. Have the cadet determine the increments of sight adjustment required to move the MPI to the bull's eye. d. Have the cadet adjust the sights on the cadet air rifle.	Practical Activity	30 min	

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	25 min
c.	Practical Activity:	30 min
d.	Total:	60 min

6. **Substantiation**

a. An interactive lecture was chosen for TPs 1–3 to give an overview of the theories and the practice of adjusting sights.

b. A practical activity was chosen for TP 4 as it is an interactive way to introduce and allow cadets to experience adjusting sights on the cadet air rifle in a controlled environment. This activity contributes to the development of sight adjustment skills and knowledge in a fun and challenging setting.

7. **References**

a. A0-027 A-CR-CCP-177/PT-001 Director Cadets 3. (2001). *Canadian Cadet Movement: Cadet Marksmanship Program Reference Manual*. Ottawa, ON: Department of National Defence.

b. C2-097 Ontario Rifle Association. (2003). *Ontario Rifle Association Handbook for New Member*. Haliburton County, ON: MilCun Marksmanship Complex.

c. C2-098 Constantine, R. (1998). *Modern Highpower Competition: From Beginner to Master*. Manchester, CT: Precision Shooting Inc.

8. **Training Aids**

a. Presentation aids (eg, whiteboard/flip chart/OHP) appropriate for the classroom/training area,

b. Cadet air rifle, and

c. Sight adjustment handout.

9. **Learning Aids**

a. Cadet air rifle,

b. Sight adjustment handout, and

c. Pen/pencil.

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

11. **Remarks.** N/A.

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EO C306.03 – ADOPT THE STANDING POSITION WITH THE CADET AIR RIFLE

1. **Performance.** Adopt The Standing Position With The Cadet Air Rifle.

2. **Conditions**

   a. Given:

      (1) Cadet air rifle,

      (2) Rifle rest,

      (3) Target frame,

      (4) Suitable target,

      (5) Raised target platform,

      (6) Safety glasses/goggles,

      (7) Supervision, and

      (8) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Air rifle range constructed IAW A-CR-CCP-177/PT-001, Part 1, Section 8.

3. **Standard.** IAW A-CR-CCP-177/PT-001, the cadet shall:

   a. adopt the standing position with the cadet air rifle by:

      (1) standing 90 degrees to the target with feet shoulder width apart;

      (2) holding the cadet air rifle pointed down range with:

         (a) the butt plate high in the shoulder pocket,

         (b) the left hand under the rifle stock, and

         (c) the right hand on the small of the butt; and

   b. adjust position as required.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain the objectives of the standing position, to include: a. obtaining a good position; b. using a rifle rest; and c. maintaining a centre of gravity.	Interactive Lecture	5 min	A0-027 (p. 1-6-1, p. 1-6-2)

TP	Description	Method	Time	Ref
TP2	Explain and demonstrate adopting the standing position by positioning the following: a. body, b. feet, c. legs, d. hips, e. back, f. arms, g. head, and h. cadet air rifle.	Demonstration	5 min	C2-146 (p. 171, pp. 192–197)
TP3	Explain and demonstrate adjusting the aim, to include: a. higher, b. lower, and c. left and right.	Demonstration	5 min	A0-027 (p. 1-6-7) C2-146 (p. 196)
TP4	Explain and demonstrate natural alignment by: a. adopting the standing position; b. acquiring a sight picture; c. closing both eyes; d. taking 3 to 4 normal breaths to relax the muscles; e. after 10 seconds, opening the eyes to inspect the sight picture; and f. adjusting body position to acquire a sight picture.	Demonstration	5 min	A0-027 (p. 1-6-7)
TP5	Have the cadet adopt the standing position by positioning the following: a. body, b. feet, c. legs, d. hips, e. back, f. arms, g. head, and h. cadet air rifle.	Practical Activity	30 min	C2-146 (pp. 192–197)

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Interactive Lecture:	5 min
c.	Demonstration:	15 min
d.	Practical Activity:	30 min
e.	Total:	60 min

6. **Substantiation**

a. An interactive lecture was chosen for TP 1 to give an overview of the objectives of the standing position.

b. Demonstration was chosen for TPs 2–4 as it allows the instructor to explain and demonstrate aspects of the standing position.

c. A practical activity was chosen for TP 5 as it is an interactive way to allow the cadet to experience the standing position in a safe and controlled environment. This activity contributes to the development of marksmanship skills and knowledge in a fun and challenging setting.

7. **References**

a. A0-027 A-CR-CCP-177/PT-001 Director Cadets 3. (2001). *Canadian Cadet Movement: Cadet Marksmanship Program Reference Manual*. Ottawa, ON: Department of National Defence.

b. C2-146 (ISBN 0-9655780-0-3) Pullum, B. & Hanenkrat, F. (1997). *The New Position Rifle Shooting: A Comprehensive Guide to Better Target Shooting*. Oak Harbor, OH: Target Sports Education Center.

8. **Training Aids**

a. Presentation aids (eg, whiteboard/flip chart/OHP) appropriate for the classroom/training area,

b. Cadet air rifle,

c. Rifle rest,

d. Target frame,

e. Suitable target,

f. Raised target platform,

g. Safety glasses/goggles, and

h. Six-foot table.

9. **Learning Aids**

a. Cadet air rifle,

b. Rifle rest,

c. Target frame,

d. Raised target platform, and

e. Safety glasses/goggles.

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

11. **Remarks.** Cadets who have completed this lesson may participate in EO M306.01 (Participate in a Recreational Marksmanship Activity) and/or EO C106.01 (Participate in a Recreational Shoot Using the Cadet Air Rifle, A-CR-CCP-801/PG-001, Chapter 4, Section 6) from the standing position.

SECTION 8

PO 307 – SERVE IN AN AIR CADET SQUADRON

1. **Performance.** Serve in an Air Cadet Squadron.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) Assistance as required.

   b. Denied: N/A.

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

3. **Standard.** The cadet will serve in an Air Cadet Squadron, to include:

   a. participating in year three training;

   b. exploring year three CSTC training opportunities; and

   c. recognizing the partnership between the Air Cadet League and the Department of National Defence (DND).

4. **Remarks**

   a. EO M307.01 (Identify Proficiency Level Three Training Opportunities) shall be conducted at the beginning of the training year.

   b. EO M307.02 (Identify Year Three CSTC Training Opportunities) shall be conducted prior to the CSTC application deadline.

5. **Complementary Material.** Complementary material associated with PO 307 is designed to enhance the cadet's knowledge of serving in an Air Cadet Squadron through a number of activities:

   a. EO C307.01 (Participate in a Presentation Given by a Guest Speaker From the Regional Cadet Support Unit [RCSU]),

   b. EO C307.02 (Participate in a Presentation Given by the Cadet Liaison Officer [CLO]),

   c. EO C307.03 (Participate in a Presentation Given by a Guest Speaker from the Air Cadet League of Canada [ACLC]),

   d. EO C307.04 (Identify the Application Procedure for the Glider and Power Pilot Scholarships), and

   e. EO C307.05 (Participate in a Presentation on the Duke of Edinburgh Award Program).

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EO M307.01 – IDENTIFY PROFICIENCY LEVEL THREE TRAINING OPPORTUNITIES

1. **Performance.** Identify Proficiency Level Three Training Opportunities.

2. **Conditions**

   a. Given:

      (1) Handout of Performance Objectives (POs) and Enabling Objectives (EOs) of Proficiency Level Three training opportunities,

      (2) Supervision, and

      (3) 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 identify Proficiency Level Three training opportunities, to include:

   a. mandatory, and

   b. complementary.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Identify Proficiency Level Three mandatory training opportunities, to include: a. training common to the sea, army, and air elements of the CCO, to include: (1) citizenship, (2) community service, (3) leadership, (4) personal fitness and healthy living, (5) recreational sports, (6) air rifle marksmanship, (7) general cadet knowledge, (8) drill, and (9) instructional techniques; and b. air elemental training, to include: (1) CF familiarization, (2) aviation subjects, (3) aerospace, (4) aviation technology subjects, and (5) aircrew survival.	In-Class Activity	15 min	A0-010 A3-064
TP2	Identify Proficiency Level Three complementary training opportunities.	Interactive Lecture	5 min	Refer to Remarks paragraph 11

TP	Description	Method	Time	Ref
TP3	Conduct an activity on Proficiency Level Three training opportunities.	In-Class Activity	5 min	

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	In-Class Activity:	20 min
c.	Interactive Lecture:	5 min
d.	Total:	30 min

6. **Substantiation**

a. An in-class activity was chosen for TPs 1 and 3 as it is an interactive way to provoke thought and stimulate interest among the cadets.

b. An interactive lecture was chosen for TP 2 to orient the cadets to and generate interest in Proficiency Level Three complementary training opportunities.

7. **References**

a. A0-010 Director Cadets 2. (2007). CATO 11-04, *Cadet Program Outline*. Ottawa, ON: Department of National Defence.

b. A3-064 Director Cadets 3. (2008). CATO 51-01, *Air Cadet Program Outline*. Ottawa, ON: Department of National Defence.

8. **Training Aids**

a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area,

b. Handouts of the POs and EOs for Proficiency Level Three training, and

c. Tape.

9. **Learning Aids.** Handouts of the POs and EOs for Proficiency Level Three training.

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

11. **Remarks**

a. For Proficiency Level Three complementary training opportunities in TP 2, refer to the squadron's annual training plan.

b. This EO should be scheduled as early as possible in the training year. See the sample schedule located at Chapter 2, Annex B.

EO M307.02 – IDENTIFY YEAR THREE CSTC TRAINING OPPORTUNITIES

1. **Performance.** Identify Year Three CSTC Training Opportunities.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 identify year three CSTC training opportunities, to include:

   a. areas of interest,

   b. courses within each area of interest, and

   c. prerequisites for the courses within each area of interest.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Discuss the areas of interest of CSTC training opportunities, to include: a. fitness and sports, b. music, c. marksmanship, d. leadership, e. aviation, f. aviation technology, g. aerospace, and h. aircrew survival.	Group Discussion	10 min	A0-010 A0-033 A3-029
TP2	Explain selection of year three summer courses, to include: a. all six-week courses offered within each area of common interest, b. all six-week courses offered within each elementally-specific area, c. the three-week Advanced Aviation Course, and d. prerequisites for each three- and six-week course.	Interactive Lecture	15 min	A0-010 A0-033 A3-003 A3-029

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Group Discussion:	10 min
c.	Interactive Lecture:	15 min
d.	Total:	30 min

6. **Substantiation**

a. A group discussion was chosen for TP 1 as it allows the cadets to interact with their peers and share their experiences, opinions, and feelings about year three CSTC training opportunities.

b. An interactive lecture was chosen for TP 2 to orient the cadets to year three CSTC training opportunities and to generate interest.

7. **References**

a. A0-010 Director Cadets 2. (2007). CATO 11-04, *Cadet Program Outline*. Ottawa, ON: Department of National Defence.

b. A0-033 Director Cadets 3. (2004). CATO 14-21, *Music Training and Education With the Canadian Cadet Organizations*. Ottawa, ON: Department of National Defence.

c. A3-003 Director Cadets 3. (2000). CATO 54-20, *Summer Training Directive – Royal Canadian Air Cadets*. Ottawa, ON: Department of National Defence.

d. A3-029 Director Cadets 3. (2006). CATO 51-01, *Air Cadet Program Outline*. Ottawa, ON: Department of National Defence.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids.** N/A.

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

11. **Remarks**

a. This EO should be conducted before the summer training application deadline.

b. It is recommended that the summer training application forms be completed during a training session after this EO has been conducted.

EO M307.03 – RECOGNIZE THE PARTNERSHIP BETWEEN THE AIR CADET LEAGUE OF CANADA (ACLC) AND DND

1. **Performance.** Recognize the Partnership Between the Air Cadet League of Canada (ACLC) and DND.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 recognize the partnership between the ACLC and DND, to include:

   a. the three levels of the ACLC,

   b. the roles of the ACLC and DND,

   c. the responsibilities of the ACLC, and

   d. the responsibilities of DND.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Describe the three levels of the ACLC, to include: a. national, b. provincial, and c. local.	Interactive Lecture	5 min	

TP	Description	Method	Time	Ref
TP2	Discuss the role of the ACLC, to include: a. selecting scholarship recipients, to include: (1) Robert and Mary Dale Scholarship, (2) Leonard and Kathleen Birchall Scholarship, (3) Pilot Training Achievement Awards, (4) Canadian Business Aviation Association Power Scholarship, (5) CAE Power Scholarship, (6) Air Line Pilots Association Power Scholarship, (7) Irvin Erb/Virginia Mitchell Award for the Top Power Pilots in Canada, and (8) Annual Music Awards for Excellence; and b. participating in aspects of the selection process of cadets for certain national summer training courses which may include: (1) International Air Cadet Exchange (IACE), (2) Power Pilot Scholarship (PPS), (3) Glider Pilot Scholarship (GPS), (4) Leadership and Ceremonial Instructor (LCI), (5) Fitness and Sports Instructor course, (6) Survival Instructor course (SIC), (7) Advanced Aerospace course (AASC), (8) Advanced Aviation Technology - Aircraft Maintenance and Manufacturing course (AATC-AM), (9) Advanced Aviation Technology course - Airport Operations (AATC-AO), and (10) Oshkosh Trip (OT).	Interactive Lecture	10 min	C3-248

TP	Description	Method	Time	Ref
TP3	Identify the responsibilities of the ACLC, to include: a. making recommendations for the formation or disbandment of squadrons; b. providing financial support to squadrons as required; c. supervising squadron sponsoring committees; d. overseeing, in cooperation with DND, the effective operation of air cadet squadrons and their sponsoring committees; e. administering trust accounts set up for awards to outstanding cadets; f. identifying and providing other appropriate awards to recognize commendable cadets' and volunteers' performances; and g. participating in the cadet selection process for national courses and exchange programs.	Interactive Lecture	5 min	C3-247 (p.1-12)
TP4	Identify the responsibility of DND to provide the following: a. supervision and administration of cadet squadrons; b. material to squadrons IAW the scale of issue; c. training, pay and allowances for Cadet Instructor Cadre (CIC) officers; d. funds for payment of annual grants (eg, band grants) and training bonuses; e. transportation for directed training; f. facilities and staff for cadet summer training centres (CSTCs); g. syllabi and training aids; h. medical care as authorized by regulations; i. liaison with cadet squadrons; j. officers or appropriate civilians for annual ceremonial reviews; and k. policy regarding CIC officers, civilian instructors, and cadets.	Interactive Lecture	5 min	C3-247 (p.1-12)

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	25 min
c.	Total:	30 min

6. **Substantiation.** An interactive lecture was chosen for this lesson to orient the cadet to the partnership between the ACLC and DND.

7. **References**

   a. C3-247 Air Cadet League of Canada. (2008). *Policy and Procedures Manual*. Retrieved February 13, 2008, from www.aircadetleague.com/main.asp?language =english&flash=enabled&page=news_e.html.

   b. C3-248 Air Cadet League of Canada. (2008). *Post-Secondary Scholarships*. Retrieved February 13, 2008, from www.aircadetleague.com/main.asp? language=english&flash=enabled&page=news_e.html.

8. **Training Aids**

   a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area,

   b. Tape, and

   c. Cue cards.

9. **Learning Aids**

   a. Handout of the squadron's sponsor information,

   b. Handout of national Air Cadet summer training courses,

   c. Handout of the partnership between the ACLC, and

   d. Handout of the partnership between the DND.

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

11. **Remarks.** It is recommended that this EO be scheduled early in the training year and prior to the national course and scholarship selection boards.

EO C307.01 – PARTICIPATE IN A PRESENTATION GIVEN BY A GUEST SPEAKER FROM THE REGIONAL CADET SUPPORT UNIT (RCSU)

1. **Performance.** Participate in a Presentation Given by a Guest Speaker From the Regional Cadet Support Unit (RCSU).

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 participate in a presentation given by a guest speaker from the RCSU.

4. **Teaching Points.** The guest speaker is asked to:

   a. discuss their role at the RCSU;

   b. describe how the RCSU assists the squadron, to include:

      (1) field training exercises,

      (2) citizenship activities,

      (3) common training,

      (4) inter-squadron activities, and

      (5) any other items of interest.

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	55 min
c.	Total:	60 min

6. **Substantiation.** An interactive lecture was chosen for this lesson to orient the cadets to the role of the RCSU.

7. **References.** N/A.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/presentation area.

9. **Learning Aids.** N/A.

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

11. **Remarks**

a. Training aids should be determined by contacting the guest speaker prior to the presentation.

b. This EO may be scheduled with a staff assistance visit (SAV).

c. There is no instructional guide for this EO.

EO C307.02 – PARTICIPATE IN A PRESENTATION GIVEN BY THE CADET LIAISON OFFICER (CLO)

1. **Performance.** Participate in a Presentation Given by the Cadet Liaison Officer (CLO).

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 participate in a presentation given by the CLO to identify the relationship between the Canadian Cadet Organization (CCO) and the Canadian Forces (CF).

4. **Teaching Points.** The guest speaker is asked to:

   a. discuss any previous cadet experience;

   b. describe their role as a liaison between the squadron and the CF;

   c. describe their position within the CF; and

   d. discuss any other items of interest.

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	55 min
c.	Total:	60 min

6. **Substantiation.** An interactive lecture was chosen for this lesson to orient the cadets to the relationship between the CCO and the CF and to introduce the CLO.

7. **References.** N/A.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP) appropriate for the classroom/presentation area.

9. **Learning Aids.** N/A.

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

11. **Remarks**

    a. Training aids should be determined by contacting the CLO prior to the presentation.

    b. There is no instructional guide for this EO.

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EO C307.03 – PARTICIPATE IN A PRESENTATION GIVEN BY A GUEST SPEAKER FROM THE AIR CADET LEAGUE OF CANADA (ACLC)

1. **Performance.** Participate in a Presentation Given by a Guest Speaker from the Air Cadet League of Canada (ACLC).

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 participate in a presentation given by a guest speaker from the Air Cadet League to identify the partnership between the Air Cadet League, the Department of National Defence (DND), and the squadron.

4. **Teaching Points.** The guest speaker is asked to:

   a. discuss the role of the ACLC;

   b. discuss the opportunities offered to cadets by the ACLC;

   c. describe their role within the ACLC; and

   d. describe any previous cadet or military experience.

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	55 min
c.	Total:	60 min

6. **Substantiation.** An interactive lecture was chosen for this lesson to orient the cadets to the ACLC.

7. **References.** N/A.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP) appropriate for the classroom/presentation area.

9. **Learning Aids.** N/A.

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

11. **Remarks**

    a. Training aids should be determined by contacting the guest speaker prior to the presentation.

    b. There is no instructional guide for this EO.

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EO C307.04 – IDENTIFY THE APPLICATION PROCEDURE FOR THE GLIDER AND POWER PILOT SCHOLARSHIPS

1. **Performance.** Identify the Application Procedure for the Glider and Power Pilot Scholarships.

2. **Conditions**

   a. Given:

      (1) Handouts,

      (2) Supervision, and

      (3) Assistance.

   b. Denied: N/A.

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

3. **Standard.** The cadet shall identify the application procedure for the glider and power pilot scholarships, to include:

   a. the learning resources available,

   b. the application procedure, and

   c. the qualification exam.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Describe the learning resources available, to include: a. instructor-led resources, and b. self-study resources.	Interactive Lecture	10 min	

TP	Description	Method	Time	Ref
TP2	Describe the application procedure, to include: a. prerequisites, to include: (1) age, (2) cadet proficiency level, and (3) secondary education level; b. physical restrictions for the Glider Pilot Scholarship, to include: (1) height, and (2) weight; c. a one-page narrative, d. application forms, to include: (1) CF-51, and (2) DND 2226; e. qualifying exam, f. medical certificate, to include: (1) category required, (2) date required by, and (3) local Transport Canada (TC) approved medical examiner; and g. the assessment and selection committee.	Interactive Lecture	25 min	A3-060 A3-061 A3-062
TP3	Describe the qualifying exam, to include: a. format, b. pass mark, and c. preparation.	Interactive Lecture	20 min	A3-060 A3-061 A3-062

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	55 min
c.	Total:	60 min

6. **Substantiation.** An interactive lecture was chosen for this lesson to orient the cadets to the application procedures for the flying scholarship courses.

7. **References**

a. A3-060 Director Cadets 4. (2007). CATO 54-26, *Glider Pilot Scholarship Program*. Ottawa, ON: Department of National Defence.

b. A3-061 Director Cadets 4. (2007). CATO 54-27, *Power Pilot Scholarship Program*. Ottawa, ON: Department of National Defence.

c. A3-062 Director Cadets 4. (2007). CATO 54-20, *Summer Training Directive – Royal Canadian Air Cadets*. Ottawa, ON: Department of National Defence.

8. **Training Aids**

   a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area, and

   b. Learning resources available at the squadron.

9. **Learning Aids**

   a. Handout of available learning resources,

   b. Handout of local TC approved medical examiners,

   c. Handout detailing prerequisites and restrictions,

   d. CATO 54-26, *Glider Pilot Scolarship Program*, Annex A, for applicants to the glider pilot scholarship, and

   e. CATO 54-27, *Power Pilot Scolarship Program*, Annex A for applicants to the power pilot scholarship.

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

11. **Remarks**

   a. This EO should be scheduled in conjunction with EO M307.02 (Identify Year Three CSTC Training Opportunities).

   b. The learning resources and medical examiners handouts for this lesson will have to be adapted to reflect local availability.

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EO C307.05 – PARTICIPATE IN A PRESENTATION ON THE DUKE OF EDINBURGH AWARD PROGRAM

1. **Performance.** Participate in a Presentation on the Duke of Edinburgh Award Program.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 participate in a presentation given on the Duke of Edinburgh Award program to gain awareness of the objectives of the program.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Describe the different levels of the program, to include: a. bronze, b. silver, and c. gold.	Interactive Lecture	5 min	C0-196 C0-197
TP2	Explain the five sections of the program, to include: a. service, b. adventurous activity, c. skills, d. physical recreation, and e. residential project.	Interactive Lecture	10 min	C0-196 C0-197
TP3	Describe the relationship between the squadron, CSTC programs and the Duke of Edinburgh Award program.	Interactive Lecture	5 min	C0-196 C0-197
TP4	Facilitate a question and answer period.	Interactive Lecture	5 min	

5. **Time**

   a. Introduction/Conclusion: 5 min

   b. Interactive Lecture: 25 min

   c. Total: 30 min

6. **Substantiation.** An interactive lecture was chosen for this lesson to introduce, clarify, emphasize and summarize the objectives of the Duke of Edinburgh Award program.

7. **References**

   a. C0-196 Duke of Edinburgh Award. (2008). *The Award*. Retrieved February 12, 2008, from http://www.dukeofed.org/Award.htm.

   b. C0-197 Duke of Edinburgh Award. (2007). *Participant's Record Book*. Marham, ON: Langstaff Reed Printing Ltd.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP) appropriate for the classroom/training area.

9. **Learning Aids.** N/A.

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

11. **Remarks**

    a. Training aids should be determined by contacting the speaker prior to the presentation.

    b. Cadets may participate in the Duke of Edinburgh Award program as an optional activity.

    c. A member of the squadron staff may present this lesson if a Duke of Edinburgh Award program representative is unavailable.

SECTION 9

PO 308 – DIRECT A SQUAD PRIOR TO A PARADE

1. **Performance.** Direct a Squad Prior to a Parade.

2. **Conditions**

   a. Given:

      (1) Words of command,

      (2) Nominal roll,

      (3) Supervision, and

      (4) Assistance as required.

   b. Denied: N/A.

   c. Environmental: A drill hall or outdoor parade square in favourable weather.

3. **Standard.** IAW A-PD-201-000/PT-000, *The Canadian Forces Manual of Drill and Ceremonial*, the cadet will direct a squad prior to a parade, to include:

   a. forming up;

   b. calling the roll;

   c. sizing;

   d. dressing;

   e. performing an inspection; and

   f. handing over the squad.

4. **Remarks.** N/A.

5. **Complementary Material**

   a. Complementary material associated with PO 308 is designed to allow additional opportunities for cadet squadrons with an interest in drill to develop the cadet's skill in this area, specifically:

      (1) EO C308.01 (Execute Flag Drill),

      (2) EO C308.02 (Deliver Words of Command).

   b. Some complementary training offered in previous levels may be selected as complementary training in the Proficiency Level Three Program, specifically:

      (1) EO C208.01 (Practice Ceremonial Drill as a Review, A-CR-CCP-802/PG-001, Chapter 4, Section 8), and

      (2) EO C208.02 (Execute Drill with Arms, A-CR-CCP-802/PG-001, Chapter 4, Section 8).

   c. Complementary training associated with PO 308 is limited to a total of nine periods, of which a maximum of two periods may be used in support of EO C208.01 (Practice Ceremonial Drill as a Review, A-CR-CCP-802/PG-001, Chapter 4, Section 8), to be conducted during sessions or on a supported day. Squadrons are not required to use all nine periods.

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EO M308.01 – PREPARE A SQUAD FOR PARADE

1. **Performance.** Prepare a Squad for Parade.

2. **Conditions**

   a. Given:

      (1) Drill sequence handout,

      (2) Aide-mémoire card,

      (3) Supervision, and

      (4) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Drill hall or outdoor parade square in favourable weather.

3. **Standard.** IAW A-PD-201-000/PT-001, the cadet shall prepare a squad for parade, to include:

   a. discussing drill theory;

   b. falling in;

   c. calling the roll;

   d. sizing in a single rank and reforming in threes (twos);

   e. dressing;

   f. inspecting; and

   g. handing over.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain drill theory, to include: a. squad formations, to include: (1) single rank, (2) two ranks, and (3) three ranks; b. flight formations, to include: (1) line, (2) column of threes, and (3) column of route; c. location of parade appointments, to include: (1) parade commander, (2) parade deputy commander, (3) parade warrant officer, (4) flight commander, (5) flight warrant officer, and (6) flight marker.	Interactive Lecture	20 min	A0-002 (pp. 1-1-1 to 1-1-5, pp. 7-3-2 to 7-3-5)
TP2	Explain, demonstrate and have the cadet assume the role of a team leader in preparing a squad for parade, to include: a. falling in; b. calling the roll; c. sizing in a single rank and reforming threes (twos); d. dressing; e. inspecting; and f. handing over. **Note:** If the time allotted is not sufficient for all cadets to assume the role of a team leader in preparing a squad for parade, additional time during nightly opening and closing parades shall be used to provide all cadets the opportunity for performance.	Demonstration and Performance	60 min	A0-002 (pp. 1-1-11 to 1-1-12, p. 7-25) p. 1A-6, p. 2-1, pp. 2-15 to 2-16, p. 2-18, pp 2-28 to 2-29,

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Interactive Lecture:	20 min
c.	Demonstration and Performance:	60 min
d.	Total:	90 min

6. **Substantiation**

   a. An interactive lecture was chosen for TP 1 to introduce drill theory to the cadet.

   b. Demonstration and performance was chosen for TP 2 as it allows the instructor to explain and demonstrate preparing a squad for a parade while providing an opportunity for the cadets to practice the skill under supervision.

7. **References.** A0-002 A-PD-201-000/PT-000 Director History and Heritage 3-2. (2005). *The Canadian Forces Manual of Drill and Ceremonial*. Ottawa, ON: The Department of National Defence.

8. **Training Aids**

   a. Drill sequence handout.

   b. Aide-mémoire card.

9. **Learning Aids**

   a. Drill sequence handout.

   b. Aide-mémoire card.

10. **Test Details.** This EO is assessed IAW Chapter 3, Annex B, Appendix 3, (308 PC).

11. **Remarks**

   a. Cadets shall perform these skills and be given feedback during weekly opening and closing parades, and ceremonial parades.

   b. Assistant instructors may be required for this lesson.

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EO M308.02 – DELIVER WORDS OF COMMAND

1. **Performance.** Deliver Words of Command.

2. **Conditions**

   a. Given:

      (1) Aide-mémoire card,

      (2) Supervision, and

      (3) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Drill hall or outdoor parade square in favourable weather.

3. **Standard.** The cadet shall deliver words of command by:

   a. using the following parts of a command:

      (1) cautionary, and

      (2) executive; and

   b. applying vocal techniques.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain the following parts of a command: a. cautionary, and b. executive.	Interactive Lecture	10 min	A0-002 (pp. 1-1-8 to 1-1-10)
TP2	Demonstrate and explain the following requirements for a well-delivered command: a. voice, to include: (1) volume, (2) projection, (3) distinctness, (4) inflection, and (5) snap; b. accuracy, c. confidence, d. correct posture, and e. breathing control.	Demonstration	15 min	A0-002 (p. 1-1-8) C0-022 (pp. 98–101) C0-241 C0-269 (pp. 13–15)

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	10 min
c.	Demonstration:	15 min
d.	Total:	30 min

6. **Substantiation**

a. An interactive lecture was chosen for TP 1 to orient the cadets to the parts of a command and to generate interest.

b. Demonstration was chosen for TP 2 as it allows the instructor to demonstrate the voice techniques the cadets are expected to acquire.

7. **References**

a. A0-002 A-PD-201-000/PT-000 Director History and Heritage 3-2. (2005). *The Canadian Forces Manual of Drill and Ceremonial*. Ottawa, ON: Department of National Defence.

b. C0-022 (ISBN 0-02-864207-4) Cole, K. (2002). *The Complete Idiot's Guide to Clear Communication*. Indianapolis, IN: Alpha Books.

c. C0-241 Optimal Breathing. (2007). *Posture and Breathing*. Retrieved February 12, 2008, from http://breathing.com/articles/posture.htm.

d. C0-269 AFMAN 36-2203 Department of the Air Force. (1996). *Drill and Ceremonies*. Lackland, AFB, TX: Secretary of the Air Force.

8. **Training Aids.** N/A.

9. **Learning Aids.** Aide-mémoire card.

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

11. **Remarks**

a. Cadets shall be provided the opportunity to deliver words of command and be given feedback during weekly opening and closing parades, and ceremonial parades.

b. Additional time for this EO is available in EO C308.02 (Deliver Words of Command).

EO C308.01 – EXECUTE FLAG DRILL

1. **Performance.** Execute Flag Drill.

2. **Conditions**

   a. Given:

      (1) Flag with pike,

      (2) Colour carrying belt,

      (3) Words of command,

      (4) Supervision, and

      (5) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Drill hall or outdoor parade square in favourable weather.

3. **Standard.** IAW specified references, the cadet, as a member of a flag party, shall execute flag drill.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain details of the following: a. flags, b. the pike, c. the colour carrying belt, and d. the composition of a flag party.	Interactive Lecture	10 min	A0-002 (p. 8-1-1) (pp. 8-2-1 to 8-2-40 A0-099 (p. 4-1-7, p. 4-1-8)
TP2	Demonstrate, explain and have the cadets practice adopting the following positions with a flag: a. the order, b. stand at ease from the order, c. stand easy from stand at ease, d. stand at ease from stand easy, and e. order from stand at ease.	Demonstration and Performance	15 min	A0-002 (pp. 8-3-1 to 8-3-3)
TP3	Demonstrate, explain and have the cadets practice adopting the following positions with a flag: a. carry from the order, b. order from the carry, c. let fly from the carry, and d. catch the flag from the let fly.	Demonstration and Performance	25 min	A0-002 (pp. 8-3-3 to 8-3-7)

TP	Description	Method	Time	Ref
TP4	Demonstrate, explain and have the cadets practice the following movements: a. marching and halting in quick time with flags, and b. spiral countermarching with flags.	Demonstration and Performance	35 min	A0-002 (pp. 3-6 to 3-8) A0-031 (p. 3-3-1, p. 3-3-2)
TP5	Demonstrate, explain and have the cadets practice forming to the right and left with flags, to include: a. changing direction by forming at the halt, and b. changing direction by forming on the march.	Demonstration and Performance	40 min	A0-002 (pp. 8-3-3 to 8-3-7) (pp. 8-3-14 to 8-3-18)
TP6	Demonstrate, explain and have the cadets practice marching on and marching off the flags.	Demonstration and Performance	45 min	A0-002 (pp. 8-6-1 to 8-6-3)

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Interactive Lecture:	10 min
c.	Demonstration and Performance:	160 min
d.	Total:	180 min

6. **Substantiation**

a. An interactive lecture was chosen for TP 1 to present basic background material on flags and flag parties.

b. Demonstration and performance was chosen for TPs 2–6 as it allows the instructor to demonstrate and explain the skills the cadets are expected to acquire while providing an opportunity for the cadets to practice flag drill under supervision.

7. **References**

a. A0-002 A-PD-201-000/PT-000 Director History and Heritage 3-2. (2005). *The Canadian Forces Manual of Drill and Ceremonial*. Ottawa, ON: Department of National Defence.

b. A0-031 A-PD-202-001/FP-000 Director Ceremonial 2. (1993). *Canadian Forces Military Bands and Marches: Band Instructions*. Ottawa, ON: Department of National Defence.

c. A0-099 A-AD-200-000/AG-000 Director History and Heritage. (1999). *The Honours, Flags and Heritage Structure of the Canadian Forces*. Ottawa, ON: Department of National Defence.

8. **Training Aids**

a. Flag with pike, and

b. Colour carrying belt.

9. **Learning Aids**

a. Flag with pike, and

b. Colour carrying belt.

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

11. **Remarks**

a. It is recommended that this lesson be conducted in two separate sessions. Conduct TPs 1 to 4 in the first session and TPs 5 and 6 in the second session.

b. Squadrons wishing to deviate from the lesson structure for local/Air Force traditions may do so, but are limited to the six periods allocated.

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EO C308.02 – DELIVER WORDS OF COMMAND

1. **Performance.** Deliver Words of Command.

2. **Conditions**

   a. Given:

      (1) Aide-mémoire card,

      (2) Supervision, and

      (3) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Drill hall or outdoor parade square in favourable weather.

3. **Standard.** The cadet shall deliver words of command by:

   a. using the following parts of a command:

      (1) cautionary, and

      (2) executive; and

   b. applying vocal techniques.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Demonstrate and have the cadets practice delivering words of command IAW EO M308.02 (Deliver Words of Command).	Practical Activity	50 min	

5. **Time**

   a. Introduction/Conclusion: 10 min

   b. Practical Activity: 50 min

   c. Total: 60 min

6. **Substantiation.** A practical activity was chosen for this lesson as it is an interactive way to allow the cadets to experience delivering words of command in a safe, controlled environment.

7. **References.** N/A.

8. **Training Aids.** Aide-mémoire card.

9. **Learning Aids.** Aide-mémoire card.

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

11. **Remarks**

    a. Cadets shall be provided the opportunity to deliver words of command and be given feedback during weekly opening and closing parades, and ceremonial parades.

    b. This EO will be used as additional practice time for EO M308.02 (Deliver Words of Command).

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SECTION 10

PO 309 – INSTRUCT A LESSON

1. **Performance.** Instruct a Lesson.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) Assistance as required.

   b. Denied: N/A.

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

3. **Standard.** The cadet will instruct a 15-minute lesson to a group of peers using:

   a. a written lesson plan,

   b. an appropriate method(s) of instruction, and

   c. an appropriate instructional aid(s).

4. **Remarks.** N/A.

5. **Complementary Material.** Complementary material associated with PO 309 is designed to enhance the cadet's ability to instruct a lesson through a number of activities:

   a. EO C309.01 (Deliver a One-Minute Verbal Presentation),

   b. EO C309.02 (Plan a Lesson),

   c. EO C309.03 (Instruct a 15-Minute Lesson),

   d. EO C309.04 (Identify Formations for Drill Instruction),

   e. EO C309.05 (Plan a Drill Lesson), and

   f. EO C309.06 (Instruct a 15-Minute Drill Lesson).

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EO M309.01 – EXPLAIN THE PRINCIPLES OF INSTRUCTION

1. **Performance.** Explain the Principles of Instruction.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 explain the principles of instruction by:

   a. listing the principles of instruction; and

   b. identifying how they are applied within a lesson.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Describe the principles of instruction, to include: a. interest, b. comprehension, c. emphasis, d. participation, e. accomplishment, and f. confirmation.	Interactive Lecture	10 min	A1-041 (p. 13, p. 14)
TP2	Conduct an activity where the cadets will apply the principles of instruction. **Note:** A minimum of three learning stations shall be set up to include information about the application of the principles of instruction.	In-Class Activity	40 min	A1-041 (p. 13, p. 14)

5. **Time**

   a. Introduction/Conclusion: 10 min

   b. Interactive Lecture: 10 min

   c. In-Class Activity: 40 min

   d. Total: 60 min

6. **Substantiation**

   a. An interactive lecture was chosen for TP 1 to present the principles of instruction and to generate interest.

b. An in-class activity was chosen for TP 2 as it is an interactive for the cadets to apply the principles of instruction.

7. **References.** A1-041 A-P9-050-000/PT-006 Canadian Forces Individual Training and Education System. (1997). *Conduct of Instructional Programmes* (Vol. 6). Ottawa, ON: Department of National Defence.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for classroom/training area.

9. **Learning Aids**

   a. ICEPAC Information Sheet,

   b. ICEPAC Worksheet

   c. Paper, and

   d. Pen/pencil.

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

11. **Remarks**

   a. The learning stations must be set up prior to beginning this lesson.

   b. The cadets will be divided into six groups and will rotate through the stations during the in-class activity in TP 2.

EO M309.02 – IDENTIFY METHODS OF INSTRUCTION

1. **Performance.** Identify Methods of Instruction.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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:

   a. define the following types of lessons:

      (1) knowledge, and

      (2) skill;

   b. list the following methods of instruction:

      (1) interactive lecture,

      (2) demonstration and performance,

      (3) in-class activity,

      (4) practical activity,

      (5) game, and

      (6) field trip; and

   c. select an appropriate method of instruction appropriate for a given topic.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Describe types of lessons, to include: a. knowledge, and b. skill.	Interactive Lecture	5 min	A1-041 (pp. 17–22) A1-042 (Annex E)
TP2	Conduct an activity where the cadets will describe methods of instruction, to include: a. interactive lecture, b. demonstration and performance, c. in-class activity, d. practical activity, e. game, and f. field trip.	In-Class Activity	25 min	A1-041 (pp. 17–22)

TP	Description	Method	Time	Ref
TP3	Conduct an activity where the cadets will select an appropriate method of instruction for a given topic.	In-Class Activity	20 min	

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Interactive Lecture:	5 min
c.	In-Class Activity:	45 min
d.	Total:	60 min

6. **Substantiation**

a. An interactive lecture was chosen for TP 1 to describe types of lessons as it allows the instructor to deliver new information while encouraging the cadets to actively participate by asking and responding to questions.

b. An in-class activity was chosen for TPs 2 and 3 as it is an interactive way to reinforce the topic and confirm the cadets' comprehension of types of lessons and methods of instruction.

7. **References**

a. A1-041 A-P9-050-000/PT-006 Director Training and Education Policy. (2002). *Canadian Forces Individual Training & Education System* (Vol. 6). Ottawa, ON: Department of National Defence.

b. A1-042 A-P9-050-000/PT-005 Director Training and Education Policy. (2001). *Canadian Forces Individual Training & Education System* (Vol. 5). Ottawa, ON: Department of National Defence.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids**

a. List of lesson topics, and

b. Methods of Instruction Handout.

10. **Test Details.** This EO is assessed IAW Chapter 3, Annex B, Appendix 4, (309 PC).

11. **Remarks.** N/A.

EO M309.03 – DESCRIBE EFFECTIVE-SPEAKING TECHNIQUES

1. **Performance.** Describe Effective-Speaking Techniques.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 describe the following effective-speaking techniques:

   a. voice control,

   b. physical presence, and

   c. preparation.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain elements of voice control, to include: a. pitch, b. tone, c. volume, d. speed, e. pause, and f. articulation.	Interactive Lecture	10 min	C1-133 (p. 16, pp. 85–87, p. 188, p. 189)
TP2	Discuss elements of physical presence, to include: a. body language, and b. dress and deportment.	Group Discussion	10 min	C1-133 (p. 16, pp. 103–122, p. 194)
TP3	Explain effective-speaking preparation, to include: a. practicing; b. controlling nervousness; and c. identifying a friendly face.	Interactive Lecture	5 min	C1-133 (p. 85, p. 116, pp. 171–179, p. 188)

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	15 min
c.	Group Discussion:	10 min
d.	Total:	30 min

6. **Substantiation**

   a. An interactive lecture was chosen for TPs 1 and 3 to present basic material and to orient the cadets to aspects of voice control and how to prepare for effective-speaking.

   b. A group discussion was chosen for TP 2 as it allows the cadets to interact with their peers and share their knowledge, experiences, opinions and feelings about physical presence while speaking in front of a group.

7. **References.** C1-133 (ISBN 0-9695066-2-7) Bender, P. (2000). *Secrets of Power Presentations*. Toronto, ON: The Achievement Group.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for classroom/training area.

9. **Learning Aids**

   a. Paper, and

   b. Pen/pencil.

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

11. **Remarks.** N/A.

EO M309.04 – DESCRIBE QUESTIONING TECHNIQUES

1. **Performance.** Describe Questioning Techniques.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 describe questioning techniques by:

   a. listing the purposes of questioning;

   b. listing the qualities of a good question;

   c. defining types of questions, to include:

      (1) lead-off,

      (2) follow-up,

      (3) overhead,

      (4) direct, and

      (5) reverse or relay; and

   d. listing the steps to posing questions while instructing.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Describe the purposes of questioning.	Interactive Lecture	5 min	A1-041 (p. 37) A1-048 (pp. 1-47 to 1-48)
TP2	Describe the qualities of a good question.	Interactive Lecture	5 min	A1-042 (Annex G) A1-048 (1-49 to 1-52)
TP3	Describe types of questions, to include: a. lead-off, b. follow-up, c. overhead, d. direct, and e. reverse or relay.	Interactive Lecture	5 min	A1-042 (Annex G) A1-048 (pp. 1-48 to 1-49)

TP	Description	Method	Time	Ref
TP4	Conduct an activity where the cadets will practice posing questions using the pose, pause, pounce, ponder and praise sequence.	In-Class Activity	10 min	

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	15 min
c.	In-Class Activity:	10 min
d.	Total:	30 min

6. **Substantiation**

a. An interactive lecture was chosen for TPs 1–3 as it allows the instructor to describe the purposes, qualities and types of questions while encouraging the cadets to actively participate by asking and responding to questions.

b. An in-class activity was chosen for TP 4 as it is an interactive way to reinforce the topic and confirm the cadets' comprehension of questioning techniques.

7. **References**

a. A1-041 A-P9-050-000/PT-006 Director Training and Education Policy. (2002). *Canadian Forces Individual Training and Education System* (Vol. 6). Ottawa, ON: Department of National Defence.

b. A1-042 A-P9-050-000/PT-005 Director Training and Education Policy. (2001). *Canadian Forces Individual Training and Education System* (Vol. 5). Ottawa, ON: Department of National Defence.

c. A1-048 A-CR-CCP-913/PT-001 Cadet Instructors List Training School. (1978). *Technique of Instruction*. Ottawa, ON: Department of National Defence.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids.** Posing Questions Sequence Handout.

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

11. **Remarks.** N/A.

EO M309.05 – SELECT APPROPRIATE INSTRUCTIONAL AIDS

1. **Performance.** Select Appropriate Instructional Aids.

2. **Conditions**

   a. Given:

      (1) Instructional aids information sheets,

      (2) Worksheets,

      (3) Supervision, and

      (4) 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:

   a. describe the use of instructional aids, to include:

      (1) training, and

      (2) learning;

   b. list types of instructional aids, to include:

      (1) verbal support,

      (2) audiovisual,

      (3) simulators, and

      (4) training equipment; and

   c. select an instructional aid appropriate for a given topic.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Describe instructional aids, to include: a. training, and b. learning.	Interactive Lecture	5 min	A1-042 (p. 12, p. 25) A1-043 (p. 15)
TP2	Conduct an activity where the cadets will identify types of instructional aids and select an instructional aid appropriate for a given topic.	In-Class Activity	45 min	A1-042 (Annex F) A1-043 (Annex E) A1-048 (pp. 29–40) C1-141 (pp. 1–6)

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Interactive Lecture:	5 min
c.	In-Class Activity:	45 min
d.	Total:	60 min

6. **Substantiation**

a. An interactive lecture was chosen for TP 1 to introduce instructional aids, as it allows the instructor to deliver new information while encouraging the cadets to actively participate by asking and responding to questions.

b. An in-class activity was chosen for TP 2 as it is an interactive way to introduce the cadets to the different types of instructional aids and to confirm the cadets' comprehension of the material presented.

7. **References**

a. A1-042 A-P9-050-000/PT-005 Director Training and Education Policy. (2001). *Canadian Forces Individual Training and Education* (Vol. 5). Ottawa, ON: Department of National Defence.

b. A1-043 A-P9-050-000/PT-004 Director Training and Education Policy. (1999). *Canadian Forces Individual Training and Education* (Vol. 4). Ottawa, ON: Department of National Defence.

c. A1-048 A-CR-CCP-913/PT-001 Cadet Instructors List Training School. (1978). *Technique of Instruction*. Ottawa, ON: Department of National Defence.

d. C1-141 Dynamic Flight, Inc. *Instructional Aids and Training Technologies*. (2003). Retrieved March 20, 2008, from http://www.dynamicflight.com/avcfibook/inst_aids/.

8. **Training Aids**

a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the training/ classroom area,

b. Stopwatch, and

c. Signalling device.

9. **Learning Aids**

a. Instructional aids information sheets,

b. Worksheets,

c. Flip chart paper,

d. Coloured markers, and

e. Pens/pencils.

10. **Test Details.** This EO is assessed IAW Chapter 3, Annex B, Appendix 4, (309 PC).

11. **Remarks.** Samples of training aids available at the squadron should be used during this lesson.

EO M309.06 – PLAN A LESSON

1. **Performance.** Plan a Lesson.

2. **Conditions**

   a. Given:

      (1) A lesson specification,

      (2) An instructional guide,

      (3) Supervision, and

      (4) 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:

   a. research lesson content; and

   b. develop a lesson plan.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain how to research lesson content by identifying the following: a. an enabling objective (EO) and lesson specification, b. an instructional guide, and c. references.	Interactive Lecture	10 min	A1-042 (p. 22, p. 23)
TP2	Explain how to prepare for a lesson, by: a. selecting a lesson location; and b. setting up the location.	Interactive Lecture	5 min	C1-133 (pp. 171–179) C1-140 (p. 108, p. 109)
TP3	Describe the lesson plan format, to include: a. the introduction, b. the body, and c. the conclusion.	Interactive Lecture	10 min	
TP4	Supervise and provide assistance while the cadets plan a lesson. **Note:** Cadets shall choose from the list of approved 15-minute topics.	Practical Activity	25 min	A1-042 (p. 22, p. 23, Annex E)

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Interactive Lecture:	25 min
c.	Practical Activity:	25 min
d.	Total:	60 min

6. **Substantiation**

a. An interactive lecture was chosen for TPs 1–3 to present basic material on how to research lesson content and how to prepare for a lesson.

b. A practical activity was chosen for TP 4 to allow the cadets to plan a lesson in a structured and controlled environment. This activity contributes to the development of lesson-planning skills and will serve as preparation for EO M309.07 (Instruct a 15-Minute Lesson).

7. **References**

a. A1-042 A-P9-050-000/PT-005 Director Training and Education Policy. (2001). *Canadian Forces Individual Training & Education System* (Vol. 5). Ottawa, ON: Department of National Defence.

b. C1-133 (ISBN 0-9695066-2-7) Bender, P. (2000). *Secrets of Power Presentations*. Toronto, ON: The Achievement Group.

c. C1-140 (ISBN 1-890460-02-8) Jenson, E. (1999). *Super Teaching: Mastering Strategies for Building Trainee Success*. San Diego, CA: The Brain Store Inc.

8. **Training Aids**

a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area, and

b. List of approved 15-minute topics.

9. **Learning Aids**

a. A lesson specification,

b. An instructional guide,

c. Plan a Lesson Checklist,

d. Paper, and

e. Pen/pencil.

10. **Test Details.** This EO is assessed IAW Chapter 3, Annex B, Appendix 4, (309 PC).

11. **Remarks**

a. EO M309.06 (Plan a Lesson) should be scheduled at least one week prior to EO M309.07 (Instruct a 15-Minute Lesson).

b. EO C309.02 (Plan a Lesson) may be scheduled as additional time for this EO.

EO M309.07 – INSTRUCT A 15-MINUTE LESSON

1. **Performance.** Instruct a 15-Minute Lesson.

2. **Conditions**

   a. Given: Supervision.

   b. Denied: Assistance.

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

3. **Standard.** The cadet shall instruct a 15-minute lesson to a group of peers using:

   a. a written lesson plan,

   b. an appropriate method(s) of instruction, and

   c. an appropriate instructional aid(s).

4. **Teaching Points.** Have the cadets instruct a 15-minute lesson.

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Practical Activity:	85 min
c.	Total:	90 min

6. **Substantiation.** A practical activity was chosen for this lesson as it is an interactive way for cadets to develop instructional skills in a safe and controlled environment.

7. **References.** A1-041 A-P9-050-000/PT-006 Director Training and Education Policy. (2002). *Canadian Forces Manual of Individual Training and Education* (Vol. 6). Ottawa, ON: Department of National Defence.

8. **Training Aids.** Instructional Techniques Assessment Form.

9. **Learning Aids**

   a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area, and

   b. Instructional Techniques Assessment Form.

10. **Test Details.** This EO is assessed IAW Chapter 3, Annex B, Appendix 4, (309 PC).

11. **Remarks.** Additional time for this EO is available in EO C309.03 (Instruct a 15-Minute Lesson).

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EO C309.01 – DELIVER A ONE-MINUTE VERBAL PRESENTATION

1. **Performance.** Deliver a One-Minute Verbal Presentation.

2. **Conditions**

   a. Given:

      (1) List of approved topics, and

      (2) Supervision.

   b. Denied: Assistance.

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

3. **Standard.** The cadet shall deliver a one-minute verbal presentation.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Review effective-speaking techniques, to include: a. elements of voice control, b. elements of physical presence, and c. preparation.	Group Discussion	15 min	C1-133 (pp. 85–98, pp. 99–124, pp. 183–210)
TP2	Explain the expectations of the one-minute verbal presentation.	Interactive Lecture	10 min	
TP3	Conduct an activity where the cadets will deliver a one-minute verbal presentation.	Practical Activity	25 min	

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Group Discussion:	15 min
c.	Interactive Lecture:	10 min
d.	Practical Activity:	25 min
e.	Total:	60 min

6. **Substantiation**

   a. A group discussion was chosen for TP 1 as it allows the cadets to interact with their peers and share their knowledge, experiences, opinions and feelings about public speaking.

   b. An interactive lecture was chosen for TP 2 as it allows the instructor to explain the expectations of the cadets for the one-minute verbal presentation.

   c. A practical activity was chosen for TP 3 as it is an interactive way to help the cadets develop effective-speaking skills in a safe and controlled environment.

7. **References.** C1-132 (ISBN 1-890460-03-6) Jensen, E. (1998). *Trainer's Bonanza: Over 1000 Fabulous Tips & Tools*. San Diego, CA: The Brain Store.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids**

   a. List of approved topics, and

   b. Verbal Presentation Feedback Form.

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

11. **Remarks**

   a. TP 3 should be scheduled on a separate training night after TPs 1 and 2 have been conducted.

   b. This EO should be scheduled after EO M309.03 (Describe Effective Speaking Techniques) and before EO M309.06 (Plan a Lesson).

EO C309.02 – PLAN A LESSON

1. **Performance.** Plan a Lesson.

2. **Conditions**

   a. Given:

      (1) A lesson specification,

      (2) An instructional guide,

      (3) Supervision, and

      (4) 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:

   a. research lesson content;

   b. choose a lesson plan format; and

   c. develop a written lesson plan.

4. **Teaching Points.** Supervise and provide assistance while the cadets plan a lesson.

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Practical Activity:	50 min
c.	Total:	60 min

6. **Substantiation.** A practical activity was chosen to allow the cadets to plan a lesson in a structured and controlled environment. This activity contributes to the development of lesson-planning skills and will serve as preparation for EO M309.07 (Instruct a 15-Minute Lesson).

7. **References.** A1-042 A-P9-050-000/PT-005 Director Training and Education Policy. (2001). *Canadian Forces Individual Training & Education System* (Vol. 5). Ottawa, ON: Department of National Defence.

8. **Training Aids.** N/A.

9. **Learning Aids**

   a. A lesson specification, and

   b. An instructional guide.

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

11. **Remarks**

    a. This EO may be used as additional time for EO M309.06 (Plan a Lesson).

    b. There is no instructional guide for this EO.

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EO C309.03 – INSTRUCT A 15-MINUTE LESSON

1. **Performance.** Instruct a 15-Minute Lesson.

2. **Conditions**

   a. Given: Supervision.

   b. Denied: Assistance.

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

3. **Standard.** The cadet shall instruct a 15-minute lesson to a group of peers using:

   a. a written lesson plan,

   b. an appropriate method(s) of instruction, and

   c. an appropriate instructional aid(s).

4. **Teaching Points.** Have the cadets instruct a 15-minute lesson.

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Practical Activity:	85 min
c.	Total:	90 min

6. **Substantiation.** A practical activity was chosen for this lesson as it is an interactive way for cadets to develop instructional skills in a safe and controlled environment.

7. **References.** A1-041 A-P9-050-000/PT-006 Director Training and Education Policy. (2002). *Canadian Forces Manual of Individual Training and Education* (Vol. 6). Ottawa, ON: Department of National Defence.

8. **Training Aids.** Instruction assessment form.

9. **Learning Aids**

   a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area, and

   b. Instruction assessment form.

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

11. **Remarks**

    a. This EO may be used as additional time for EO M309.07 (Instruct a 15-Minute Lesson).

    b. There is no instructional guide for this EO.

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EO C309.04 – IDENTIFY FORMATIONS FOR DRILL INSTRUCTION

1. **Performance.** Identify Formations for Drill Instruction.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) Assistance as required.

   b. Denied: N/A.

   c. Environmental: A drill hall or outdoor parade square in favourable weather.

3. **Standard.** The cadet shall identify the following formations for drill instruction:

   a. single rank,

   b. semicircle, and

   c. hollow square.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Describe the following formations for drill instruction: a. single rank, b. semicircle, and c. hollow square.	Interactive Lecture	5 min	A0-002 (p. 1-1-7)
TP2	Demonstrate the procedure for forming a hollow square and reforming a squad.	Demonstration	20 min	A0-002 (p. 3-22)

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	5 min
c.	Demonstration:	20 min
d.	Total:	30 min

6. **Substantiation**

   a. An interactive lecture was chosen for TP 1 to introduce the formations used for drill instruction.

   b. A demonstration was chosen for TP 2 as it allows the instructor to demonstrate the procedures for forming a hollow square and reforming the squad.

7. **References.** A0-002 A-PD-201-000/PT-000 Director History and Heritage 3-2. (2005). *The Canadian Forces Manual of Drill and Ceremonial*. Ottawa, ON: Department of National Defence.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids.** N/A.

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

11. **Remarks.** N/A.

EO C309.05 – PLAN A DRILL LESSON

1. **Performance.** Plan a Drill Lesson.

2. **Conditions**

   a. Given:

      (1) A lesson specification,

      (2) An instructional guide,

      (3) Supervision, and

      (4) 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:

   a. identify the drill instruction sequence; and

   b. develop a written drill lesson plan.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Describe the drill instruction sequence, to include: a. introduction, b. body, c. end of lesson confirmation, and d. conclusion.	Interactive Lecture	10 min	A0-002 (pp. 1-1-4 to 1-1-8)
TP2	Review the lesson-planning process.	Interactive Lecture	10 min	
TP3	Supervise and provide assistance while the cadets plan a drill lesson.	Practical Activity	30 min	

5. **Time**

   a. Introduction/Conclusion: 10 min

   b. Interactive Lecture: 20 min

   c. Practical Activity: 30 min

   d. Total: 60 min

6. **Substantiation**

   a. An interactive lecture was chosen for TPs 1 and 2 to present the drill instruction sequence and to stimulate an interest in planning a drill lesson.

b. A practical activity was chosen for TP 3 to guide the cadets through the process of planning a drill lesson.

7. **References.** A0-002 A-PD-201-000/PT-000 Director History and Heritage 3-2. (2005). *The Canadian Forces Manual of Drill and Ceremonial*. Ottawa, ON: Department of National Defence.

8. **Training Aids**

a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area, and

b. List of approved 15-minute drill topics.

9. **Learning Aids**

a. Lesson Plan Handout,

b. Blank Drill Lesson Plan,

c. Plan a Drill Lesson Checklist,

d. A lesson specification, and

e. An instructional guide.

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

11. **Remarks.** EO C309.05 (Plan a Drill Lesson) should be scheduled at least one week prior to EO C309.06 (Instruct a 15-Minute Drill Lesson).

EO C309.06 – INSTRUCT A 15-MINUTE DRILL LESSON

1. **Performance.** Instruct a 15-Minute Drill Lesson.

2. **Conditions**

   a. Given: Supervision.

   b. Denied: Assistance.

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

3. **Standard.** IAW A-PD-201-000/PT-001, the cadet shall instruct a 15-minute drill lesson to a group of peers using:

   a. a written lesson plan, and

   b. the drill instruction sequence.

4. **Teaching Points.** Supervise while the cadets instruct a 15-minute drill lesson.

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Practical Activity:	85 min
c.	Total:	90 min

6. **Substantiation.** A practical activity was chosen for this lesson as it is an interactive way for cadets to develop drill instructional skills in a safe and controlled environment.

7. **References.** A0-002 A-PD-201-000/PT-000 Director History and Heritage 3-2. (2005). *The Canadian Forces Manual of Drill and Ceremonial*. Ottawa, ON: Department of National Defence.

8. **Training Aids.** Drill Instructional Techniques Assessment Form.

9. **Learning Aids.** Drill Instructional Techniques Assessment Form.

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

11. **Remarks**

    a. This EO shall be conducted after EO C309.04 (Identify Formations for Drill Instruction) and EO C309.05 (Plan a Drill Lesson).

    b. Additional time may be required for class sizes greater than five cadets.

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SECTION 11

PO 311 – PARTICIPATE IN A RECREATIONAL SUMMER BIATHLON ACTIVITY

1. **Performance.** Participate in a Recreational Summer Biathlon Activity.

2. **Conditions**

   a. Given:

      (1) Cadet air rifle,

      (2) Safety glasses/goggles,

      (3) Shooting mat,

      (4) Air rifle pellets,

      (5) Container to hold pellets,

      (6) Biathlon air rifle target (BART),

      (7) Supervision, and

      (8) Assistance as required.

   b. Denied: N/A.

   c. Environmental:

      (1) Air rifle range constructed IAW A-CR-CCP-177/PT-001, Part 1, Section 8, and

      (2) Running route of approximately 1000 m.

3. **Standard.** The cadet will participate in a recreational summer biathlon activity by:

   a. running a route of approximately 1000 m;

   b. firing five to eight rounds in an effort to knock down all five targets of the BART;

   c. running a second route of approximately 1000 m;

   d. firing five to eight rounds in an effort to knock down all five targets of the BART;

   e. running a third route of approximately 1000 m; and

   f. finishing the race.

4. **Remarks**

   a. The cadet must have completed PO 111 (Participate in a Summer Biathlon Activity) and PO 211A (Participate in Competitive Summer Biathlon Activities, A-CR-CCP-802/PG-001, Chapter 4, Section 9) prior to participating in this PO.

   b. Assistance may be given to cadets who have difficulty pumping the cadet air rifle.

5. **Complementary Material**

a. Complementary training offered in previous levels may be selected as complementary training in Proficiency Level Three, specifically:

(1) PO 211 (Participate in Competitive Summer Biathlon Activities, A-CR-CCP-802/PG-001, Chapter 4, Section 9), and

(2) PO 111 (Participate in Recreational Summer Biathlon Activities).

b. PO 311 (Participate in a Recreational Summer Biathlon Activity) is a complementary package designed to provide an opportunity for the cadet to participate in recreational summer biathlon activities.

c. POs 311, 211 and 111 are limited to a total of nine periods per training year.

EO C311.01 – PRACTICE AIMING AND FIRING THE CADET AIR RIFLE FOLLOWING PHYSICAL ACTIVITY

1. **Performance.** Practice Aiming and Firing the Cadet Air Rifle Following Physical Activity.

2. **Conditions**

   a. Given:

      (1) Cadet air rifle,

      (2) Safety glasses/goggles,

      (3) Shooting mat,

      (4) Biathlon air rifle target (BART),

      (5) Supervision, and

      (6) Assistance as required.

   b. Denied: N/A.

   c. Environmental:

      (1) Air rifle range constructed IAW A-CR-CCP-177/PT-001, Part 1, Section 8, and

      (2) Sports field, gymnasium, or training area large enough to accommodate the entire group.

3. **Standard.** The cadet shall aim and fire the cadet air rifle following physical activity practicing:

   a. breathing techniques, and

   b. natural alignment.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	IAW EO C206.02 (Practice Aiming Techniques, A-CR-CCP-802/PG-001, Chapter 4, Section 6), review: a. the importance of controlled breathing in marksmanship; and b. how to achieve a controlled breathing sequence.	Interactive Lecture	5 min	A0-027 (p. 2-12)

TP	Description	Method	Time	Ref
TP2	IAW EO C206.03 (Practice Firing Techniques, A-CR-CCP-802/PG-001, Chapter 4, Section 6), review natural sight alignment by: a. adopting a comfortable prone position; b. acquiring a sight picture; c. closing both eyes; d. taking several normal breaths to relax the muscles; e. looking through sights when comfortable; f. adjusting body position until a proper sight picture is achieved; and g. proceeding to fire.	Interactive Lecture	5 min	A0-027 (p. 1-5-7)
TP3	Conduct a warm-up session, composed of light cardiovascular exercises, meant to: a. stretch the muscles; b. gradually increase respiratory action and heart rate; c. expand the muscles' capillaries to accommodate the increase in blood circulation; and d. raise muscle temperature to facilitate reactions in muscle tissue.	Practical Activity	5 min	C0-002 (pp. 109–113) C0-089
TP4	Conduct an activity where cadets will aim and fire the cadet air rifle following physical activity practicing: a. breathing techniques, and b. natural alignment.	Practical Activity	60 min	C0-149
TP5	Conduct a cool-down session, composed of light cardiovascular exercises, meant to: a. allow the body to slowly recover from physical activity and help to prevent injury; b. prepare the respiratory and cardiovascular systems to return to their normal state; and c. stretch the muscles.	Practical Activity	5 min	C0-002 (pp. 109–113) C0-089

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Interactive Lecture:	10 min
c.	Practical Activity:	70 min
d.	Total:	90 min

6. **Substantiation**

   a. An interactive lecture was chosen for TPs 1 and 2 to review aiming and firing techniques.

   b. A practical activity was chosen for TPs 3–5 as it is an interactive way to allow the cadets to experience aiming and firing the cadet air rifle following physical activity.

7. **References**

   a. A0-027 A-CR-CCP-177/PT-001 Director Cadets 3. (2001). *Canadian Cadet Movement: Cadet Marksmanship Program Reference Manual*. Ottawa, ON: Department of National Defence.

   b. C0-002 (ISBN 0-88962-630-8) LeBlanc, J., & Dickson, L. (1997). *Straight Talk About Children and Sport: Advice for Parents, Coaches, and Teachers*. Oakville, ON: Mosaic Press.

   c. C0-089 (ISBN 0-936070-22-6) Anderson, B. (2000). *Stretching: 20th Anniversary* (Rev. Ed.). Bolinas, CA: Shelter Publications, Inc.

   d. C0-149 Biathlon Canada. (2005). *Biathlon Bears: Community Coaching*. Ottawa, ON: Biathlon Canada.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids**

   a. Cadet air rifle,

   b. Safety glasses/goggles,

   c. Shooting mat,

   d. Target frame,

   e. BART, and

   f. Coin.

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

11. **Remarks.** This lesson shall be taught prior to conducting EO C311.02 (Participate in a Recreational Summer Biathlon Activity).

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EO C311.02 – PARTICIPATE IN A RECREATIONAL SUMMER BIATHLON ACTIVITY

1. **Performance.** Participate in a Recreational Summer Biathlon Activity.

2. **Conditions**

   a. Given:

      (1) Cadet air rifle,

      (2) Safety glasses/goggles,

      (3) Shooting mat,

      (4) Air rifle pellets,

      (5) Container to hold pellets,

      (6) Biathlon air rifle target (BART),

      (7) Supervision, and

      (8) Assistance as required.

   b. Denied: N/A.

   c. Environmental:

      (1) Air rifle range constructed IAW A-CR-CCP-177/PT-001, Part 1, Section 8, and

      (2) Running route of approximately 1000 m.

3. **Standard.** The cadet shall participate in a recreational summer biathlon activity, to include:

   a. running a route of approximately 1000 m;

   b. firing five to eight rounds in an effort to knock down all five targets of the BART;

   c. running a second route of approximately 1000 m;

   d. firing five to eight rounds in an effort to knock down all five targets of the BART;

   e. running a third route of approximately 1000 m; and

   f. finishing the race.

4. **Teaching Points**

   a. Explain the components of a recreational summer biathlon activity, to include:

      (1) composition,

      (2) course layout,

      (3) rules and regulations,

      (4) scoring,

      (5) penalties, and

      (6) out of bounds areas.

   b. Conduct a warm-up session composed of light cardiovascular exercises.

c. Conduct a recreational summer biathlon activity IAW paragraph 3.

d. Conduct a cool-down session composed of light cardiovascular exercises.

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Practical Activity:	170 min
c.	Total:	180 min

6. **Substantiation.** A practical activity was chosen for this lesson as it is an interactive way for the cadets to participate in recreational summer biathlon. This activity contributes to the development of biathlon skills and knowledge, and promotes physical fitness in a fun and challenging setting.

7. **References**

a. A0-027 A-CR-CCP-177/PT-001 Director Cadets 3. (2001). *Cadet Marksmanship Program: Reference Manual*. Ottawa, ON: Department of National Defence.

b. A0-036 Cadets Canada. (n.d.). *Canadian Cadet Movement: Biathlon Championship Series*. Ottawa, ON: Department of National Defence.

c. A0-098 Director Cadets 4. (2007). CATO 14-42, *Biathlon Common Program*. Ottawa, ON: Department of National Defence.

d. C0-002 (ISBN 0-88962-630-8) LeBlanc, J., & Dickson, L. (1997). *Straight Talk About Children and Sport: Advice for Parents, Coaches, and Teachers*. Oakville, ON: Mosaic Press.

e. C0-089 (ISBN 0-936070-22-6) Anderson, B. (2000). *Stretching: 20th Anniversary* (Rev. Ed.). Bolinas, CA: Shelter Publications, Inc.

8. **Training Aids**

a. Cadet air rifle,

b. Safety glasses/goggles,

c. Shooting mat,

d. Biathlon scoresheets,

e. Course control sheets,

f. Range recording sheets,

g. Air rifle pellets,

h. Container to hold pellets,

i. BART,

j. Notice board, and

k. Stopwatches.

9. **Learning Aids**

a. Cadet air rifle,

b. Cadet air rifle slings,

c. Safety glasses/goggles,

d. Shooting mat,

e. Air rifle pellets,

f. Container to hold pellets, and

g. BART.

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

11. **Remarks.** EO C311.01 (Practice Aiming and Firing the Cadet Air Rifle Following Physical Activity) shall be taught prior to conducting this activity.

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SECTION 12

PO X20 – PARTICIPATE IN CAF FAMILIARIZATION ACTIVITIES

1. **PO X20 – Participate in CAF Familiarization Activities**

This PO and its associated EOs are located in A-CR-CCP-801/PG-001, *Royal Canadian Air Cadets Proficiency Level One Qualification Standard and Plan*.

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SECTION 13

PO 331 – DESCRIBE PRINCIPLES OF FLIGHT

1. **Performance.** Describe Principles of Flight.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) Assistance as required.

   b. Denied: N/A.

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

3. **Standard.** The cadet will describe principles of flight to include aircraft stability.

4. **Remarks.** N/A

5. **Complementary Material**

   a. Complementary material associated with PO 331 is designed to enhance the cadet's knowledge of the principles of flight, specifically:

      (1) EO C331.01 (Review Principles of Flight),

      (2) EO C331.02 (Read Pitot Static Instruments),

      (3) EO C331.03 (Identify Aspects of Helicopter Aerodynamics),

      (4) EO C331.04 (Demonstrate Attitudes and Movements in a Flight Simulator), and

      (5) EO C331.05 (Participate in a Presentation Given by a Guest Speaker From the Local Aviation Community).

   b. If EO C331.01 (Review Principles of Flight) is chosen as a complementary lesson, it should be scheduled before EO M331.01 (Describe Aircraft Stability).

   c. EO C331.05 (Participate in a Presentation Given by a Guest Speaker from the Local Aviation Community) may be used to cover topics in both PO 331 (Describe Principles of Flight) and PO 337 (Develop Air Navigation Skills, Section 15).

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EO M331.01 – DESCRIBE AIRCRAFT STABILITY

1. **Performance.** Describe Aircraft Stability.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 describe:

   a. characteristics of stability;

   b. stability around the axes of rotation; and

   c. features of the aircraft that provide stability.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Demonstrate the characteristics of stability, to include: a. the contrasts between static and dynamic stability, b. positive stability, c. neutral stability, and d. negative stability.	In-Class Activity	15 min	C3-116 (p. 31, p. 32) C3-229 (pp. 57–99)
TP2	Review the axes of an aircraft, to include: a. the longitudinal axis and roll, b. the lateral axis and pitch, and c. the normal (vertical) axis and yaw.	Interactive Lecture	10 min	C3-116 (p. 30)
TP3	Explain longitudinal stability, to include: a. the effects of the horizontal stabilizer, and b. the effects of the centre of gravity.	Interactive Lecture	10 min	C3-116 (p. 31, p. 32) C3-229 (pp. 57–99)
TP4	Explain lateral stability, to include: a. the effects of dihedral and anhedral, b. the effects of sweepback, and c. keel effect.	Interactive Lecture	10 min	C3-116 (pp. 31–32) C3-229 (pp. 57–100)

TP	Description	Method	Time	Ref
TP5	Explain directional stability and the effects of the fin.	Interactive Lecture	5 min	C3-116 (pp. 31–32) C3-229 (pp. 57-99)

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	In-Class Activity:	15 min
c.	Interactive Lecture:	35 min
d.	Total:	60 min

6. **Substantiation**

a. An in-class activity was chosen for TP 1 as it is an interactive way to introduce aircraft stability.

b. An interactive lecture was chosen for TPs 2–5 to review axes of rotation and introduce stability about the axes.

7. **References**

a. 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.

b. C3-229 (ISBN 0-521-02128-6) Abzug, M. J., & Larrabee, E. E. (2002). *Airplane Stability and Control* (Second Edition). Cambridge, UK: Cambridge University Press.

8. **Training Aids**

a. Presentation aids (eg, whiteboard/flip chart/OHP) appropriate for the classroom/training area,

b. Model airplane illustrating the three axes,

c. Tennis ball,

d. Three marbles,

e. Table,

f. Tape, and

g. Two bowls.

9. **Learning Aids**

a. Tennis ball,

b. Three marbles,

c. Two bowls,

d. Table, and

e. Tape.

10. **Test Details.** This EO is assessed IAW Chapter 3, Annex B, Appendix 5, (Aviation Subjects – Combined Assessment PC).

11. **Remarks**

    a. If EO C331.01 (Review Principles of Flight) is chosen as a complementary period, it should be scheduled prior to EO M331.01 (Describe Aircraft Stability).

    b. When developing activities for the mandatory familiarization flying/elemental training day, it is recommended that the cadet be given the opportunity to identify and describe the stability of the aircraft.

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EO C331.01 – REVIEW PRINCIPLES OF FLIGHT

1. **Performance.** Review Principles of Flight.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 review principles of flight, to include:

   a. the axes of an aircraft, and

   b. the effects of control surfaces on attitudes and movements.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Review the three axes of an aircraft, to include: a. longitudinal axis, b. lateral axis, and c. vertical (normal) axis.	In-Class Activity	5 min	C3-116 (p. 30)
TP2	As a member of a group, have the cadet describe a control surface and its effects on attitudes and movements.	In-Class Activity	20 min	C3-116 (p. 30)

5. **Time**

   a. Introduction/Conclusion: 5 min

   b. In-Class Activity: 25 min

   c. Total: 30 min

6. **Substantiation.** 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.

7. **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.

8. **Training Aids**

   a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area, and

   b. Model airplane with the three axes labelled.

9. **Learning Aids**

   a. Handout,

b. Flip chart, and

c. Flip chart markers.

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

11. **Remarks.** If this complementary EO is chosen, it should be scheduled before any other EOs from PO 331 (Describe Principles of Flight).

EO C331.02 – READ PITOT STATIC INSTRUMENTS

1. **Performance.** Read Pitot Static Instruments.

2. **Conditions**

   a. Given:

      (1) Working model of an airspeed indicator (ASI),

      (2) Working model of an altimeter,

      (3) Working model of a vertical speed indicator (VSI),

      (4) Supervision, and

      (5) 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 read pitot static instruments, to include:

   a. an ASI,

   b. an altimeter, and

   c. a VSI.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain that the basic instruments of an aircraft rely on the pitot source and the static port as sources of information, to include: a. pitot and static sources provide information for the ASI, b. static port provides information for the altimeter, and c. static port provides information for the VSI.	Interactive Lecture	10 min	C3-116 (p. 39) C3-139
TP2	Explain how to read an ASI, to include: a. normal operating range, b. cautionary range, c. never exceed speed, and d. units of measurement.	Interactive Lecture	10 min	C3-116 (p. 43) C3-139
TP3	Explain how to read an altimeter, to include: a. units of measurement, b. pressure sub-scale, c. field elevation versus pressure altitude, and d. height above sea level (ASL)/above ground level (AGL).	Interactive Lecture	10 min	C3-116 (p. 40) C3-139

TP	Description	Method	Time	Ref
TP4	Explain how to read a VSI, to include: a. units of measurement, and b. positive/negative rates of climb.	Interactive Lecture	10 min	C3-116 (p. 44) C3-139
TP5	Have the cadet read pitot static instruments, to include: a. ASI, b. altimeter, and c. VSI.	In-Class Activity	10 min	

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Interactive Lecture:	40 min
c.	In-Class Activity:	10 min
d.	Total:	60 min

6. **Substantiation**

a. An interactive lecture was chosen for TPs 1–4 to introduce pitot static instruments.

b. An in-class activity was chosen for TP 5 as an interactive way to confirm the cadets' comprehension of pitot static instruments.

7. **References**

a. 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.

b. C3-139 (ISBN 0-7715511-5-0) Transport Canada. (1999). *Flight Training Manual 4th Edition Revised*. Ottawa, ON: Transport Canada.

8. **Training Aids**

a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area,

b. Working model of an ASI,

c. Working model of an altimeter, and

d. Working model of a VSI.

9. **Learning Aids**

   a. Diagram of an ASI,

   b. Diagram of an altimeter, and

   c. Diagram of a VSI.

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

11. **Remarks.** N/A.

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EO C331.03 – IDENTIFY ASPECTS OF HELICOPTER AERODYNAMICS

1. **Performance.** Identify Aspects of Helicopter Aerodynamics.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 identify aspects of helicopter aerodynamics, to include:

   a. the main rotor,

   b. the anti-torque rotor, and

   c. the control inputs.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Describe the main rotor of a helicopter, to include: a. rotor systems, b. rotor drag, and c. factors influencing rotor thrust.	Interactive Lecture	15 min	C3-249 (p. 45)
TP2	Describe the anti-torque rotor of a helicopter, to include: a. location on the airframe, b. function, and c. power source.	Interactive Lecture	5 min	C3-249 (p. 67)
TP3	Explain the control inputs of a helicopter, to include: a. collective, b. cyclic, and c. pedals.	Interactive Lecture	5 min	C3-249 (p. 77)

5. **Time**

   a. Introduction/Conclusion: 5 min

   b. Interactive Lecture: 25 min

   c. Total: 30 min

6. **Substantiation.** An interactive lecture was chosen for this lesson to introduce the cadet to aspects of helicopter aerodynamics.

7. **References.** C3-249 (ISBN 978-1-56027-649-4) Wagtendok, W. J. (2006). *Principles of Helicopter Flight: Second US Edition*. Newcastle, WA: Aviation Supplies & Academics, Inc.

8. **Training Aids**

   a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area, and

   b. Model of a helicopter.

9. **Learning Aids.** N/A.

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

11. **Remarks.** If the squadron has the opportunity to participate in familiarization flights in a helicopter, this EO could be conducted at that time.

EO C331.04 – DEMONSTRATE ATTITUDES AND MOVEMENTS IN A FLIGHT SIMULATOR

1. **Performance.** Demonstrate Attitudes and Movements in a Flight Simulator.

2. **Conditions**

   a. Given:

      (1) Flight simulator,

      (2) Supervision, and

      (3) Assistance as required.

   b. Denied: N/A.

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

3. **Standard.** In a flight simulator, the cadet shall:

   a. demonstrate pitch, yaw, and roll; and

   b. read pitot static instruments.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain safety considerations related to the location or design of the flight simulator.	Interactive Lecture	5 min	C3-156
TP2	Explain how to manipulate the necessary control inputs and the location of necessary instruments, to include: a. control column or yoke, b. rudder pedals, c. ASI, d. VSI, and e. altimeter.	Interactive Lecture	15 min	C3-139 C3-156
TP3	Supervise the cadets as they practice attitudes and movements using the flight simulator.	Simulation	60 min	

5. **Time**

   a. Introduction/Conclusion: 10 min

   b. Interactive Lecture: 20 min

   c. Simulation: 60 min

   d. Total: 90 min

6. **Substantiation**

   a. An interactive lecture was chosen for TPs 1 and 2 to give direction on procedures and present basic or background information about flight simulation.

b. A simulation was chosen for TP 3 as it is an interactive way to allow the cadet to experience attitudes and movements in a safe, controlled environment. This activity contributes to the development of principles of flight skills and knowledge in a fun and challenging setting.

7. **References**

a. C3-139 (ISBN 0-7715511-5-0) Transport Canada. (1999). *Flight Training Manual: 4th Edition Revised*. Ottawa, ON: Transport Canada.

b. C3-156 *Computerized Aircraft Simulation Centre*. (2007). Retrieved October 2, 2007, from http://www.regions.cadets.forces.gc.ca/pac/aircad/flight/casc_lessons_e.asp.

8. **Training Aids.** Computer flight simulator.

9. **Learning Aids.** Computer flight simulator.

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

11. **Remarks**

a. Concurrent activities will be required based on the number of simulators available.

b. All staff should be familiar with the operation of the flight simulator prior to the EO. This will better prepare them to troubleshoot and instruct.

EO C331.05 – PARTICIPATE IN A PRESENTATION GIVEN BY A GUEST SPEAKER FROM THE LOCAL AVIATION COMMUNITY

1. **Performance.** Participate in a Presentation Given by a Guest Speaker From the Local Aviation Community.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 participate in a presentation given by a guest speaker from the local aviation community, such as:

   a. a pilot from an aviation company,

   b. a flight instructor from a flight training school,

   c. an aircraft maintenance engineer, or

   d. a private owner.

4. **Teaching Points.** The guest speaker is asked to:

   a. discuss their role in the aviation community;

   b. describe highlights of their career;

   c. describe the aircraft they have flown;

   d. discuss how to get involved in the local aviation community; and

   e. bring items to display, to include:

      (1) uniforms,

      (2) photographs,

      (3) models,

      (4) logbooks, and

      (5) any other items of interest.

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	55 min
c.	Total:	60 min

6. **Substantiation.** An interactive lecture was chosen for this lesson to orient the cadets to the topic and generate an interest in the local aviation community.

7. **References.** N/A.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/presentation area.

9. **Learning Aids.** N/A.

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

11. **Remarks**

    a. Training aids should be determined by contacting the speaker prior to the presentation.

    b. There is no instructional guide for this EO.

SECTION 14

PO 336 – IDENTIFY METEOROLOGICAL CONDITIONS

1. **Performance.** Identify Meteorological Conditions.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) Assistance as required.

   b. Denied: N/A.

   c. Environmental: An outdoor area during the day with an unobstructed view of the sky.

3. **Standard.** The cadet will identify meteorological conditions by:

   a. discussing humidity, temperature and pressure; and

   b. identifying types of clouds.

4. **Remarks.** The assessment of PO 336 (Identify Meteorological Conditions) should be conducted during a familiarization flying day.

5. **Complementary Material.** Complementary material associated with PO 336 is designed to enhance the cadet's knowledge of meteorology through a number of activities, specifically:

   a. EO C336.01 (Read an Aviation Routine Weather Report [METAR]),

   b. EO C336.02 (Tour a Meteorological Facility), and

   c. EO C336.03 (Participate in a Presentation Given by a Flight Services Specialist).

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EO M336.01 – DESCRIBE PROPERTIES OF THE ATMOSPHERE

1. **Performance.** Describe Properties of the Atmosphere.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 describe:

   a. the composition of the atmosphere,

   b. the divisions of the atmosphere, and

   c. the International Civil Aviation Organization (ICAO) standard atmosphere.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Describe the composition of the atmosphere, to include: a. the breakdown of the major gases, and b. the importance of water vapour.	Interactive Lecture	5 min	C3-116 (p. 123)
TP2	Illustrate the divisions of the atmosphere, to include: a. the troposphere, b. the stratosphere, c. the mesosphere, and d. the thermosphere.	Interactive Lecture	10 min	C3-116 (p. 123, p. 124)
TP3	Explain ICAO standard atmosphere, to include: a. the basis of ICAO standards for North America, and b. the assumptions for standard atmosphere in North America.	Interactive Lecture	5 min	C3-116 (p. 124)
TP4	Explain the properties of the atmosphere, to include: a. mobility, capacity for expansion, and capacity for compression, and b. factors affecting the properties of the atmosphere.	Interactive Lecture	5 min	C3-116 (p. 123)

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	25 min
c.	Total:	30 min

6. **Substantiation.** An interactive lecture was chosen for this lesson to introduce the cadet to the properties of the atmosphere.

7. **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.

8. **Training Aids**

   a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area,

   b. Tennis ball or globe of similar size, and

   c. Four clear plastic bowls of increasing size (the smallest being large enough to fit over the globe with clearance).

9. **Learning Aids.** N/A.

10. **Test Details.** This EO is assessed IAW Chapter 3, Annex B, Appendix 5 (Aviation Subjects – Combined Assessment PC)

11. **Remarks.** N/A.

EO M336.02 – EXPLAIN THE FORMATION OF CLOUDS

1. **Performance.** Explain the Formation of Clouds.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 explain the formation of clouds, to include:

   a. the classification of clouds,

   b. air stability, and

   c. lifting agents (process).

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain that clouds can be classified based on: a. types of formation, and b. cloud height, to include: (1) low clouds, (2) middle clouds, (3) high clouds, and (4) clouds of vertical development.	Interactive Lecture	5 min	A3-044 (p. 8-19, p. 8-20) C3-116 (p. 124, p. 125)
TP2	Explain air stability, to include: a. stable air, and b. unstable air.	Interactive Lecture	5 min	A3-044 (p. 4-2) C3-116 (p. 138, p. 139)
TP3	Explain lifting agents, to include: a. convection, b. orographic lift, c. frontal lift, d. mechanical turbulence, and e. convergence.	Interactive Lecture	10 min	A3-044 (p. 2-10) C3-116 (p. 126, p. 127, p. 139)
TP4	Describe cloud formation by: a. relating lifting agents to air stability; and b. relating air stability to types of formation.	Interactive Lecture	5 min	

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	25 min
c.	Total:	30 min

6. **Substantiation.** An interactive lecture was chosen for this lesson to introduce the concepts of cloud formation.

7. **References**

   a. A3-044 CFACM 2-700 Air Command. (2001). *Air Command Weather Manual*. Ottawa, ON: Department of National Defence.

   b. 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.

8. **Training Aids**

   a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area, and

   b. Environment Canada Cloud Chart.

9. **Learning Aids.** N/A.

10. **Test Details.** This EO is assessed IAW Chapter 3, Annex B, Appendix 5 (Aviation Subjects – Combined Assessment PC).

11. **Remarks.** N/A.

EO M336.03 – EXPLAIN THE EFFECTS OF AIR PRESSURE ON WEATHER

1. **Performance.** Explain the Effects of Air Pressure on Weather.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 explain the effects of air pressure on weather, to include:

   a. the formation of air masses, and

   b. the creation of wind.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain the Polar Front theory, to include: a. the definition of atmospheric pressure, b. pressure systems, to include: (1) isobars (2) low pressure areas, and (3) high pressure areas; c. an air mass over the polar regions, d. an air mass over the equatorial regions, and e. movement at the polar front.	Interactive Lecture	10 min	C3-116 (p. 127, p. 141)
TP2	Explain that the properties (eg, pressure) of an air mass are taken from the area over which it forms, to include: a. continental air mass, b. maritime air mass, c. arctic air mass, d. polar air mass, and e. tropical air mass.	Interactive Lecture	5 min	C3-116 (p. 139)

TP	Description	Method	Time	Ref
TP3	Explain the creation of wind, to include: a. the definition of wind, b. pressure gradient, c. land and sea breezes, d. diurnal variation, e. Coriolis force, and f. veering and backing.	Interactive Lecture	5 min	C3-116 (pp. 127–129)
TP4	Explain the relationship between pressure systems, and wind strength and direction, to include: a. low pressure areas, and b. high pressure areas.	Interactive Lecture	5 min	C3-116 (p. 128)

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	25 min
c.	Total:	30 min

6. **Substantiation.** An interactive lecture was chosen for this lesson to introduce the cadets to the effects of air pressure.

7. **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.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids.** Handouts of the Polar Front theory.

10. **Test Details.** This EO is assessed IAW Chapter 3, Annex B, Appendix 5 (Aviation Subjects – Combined Assessment PC).

11. **Remarks.** N/A.

EO M336.04 – EXPLAIN THE EFFECTS OF HUMIDITY AND TEMPERATURE ON WEATHER

1. **Performance.** Explain the Effects of Humidity and Temperature on Weather.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 explain the effects of humidity and temperature on weather, to include:

   a. the relationship between humidity and temperature, and

   b. types of precipitation.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain humidity, to include: a. condensation, b. sublimation, c. dewpoint, and d. relative humidity.	Interactive Lecture	10 min	C3-116 (p. 135, p. 136)
TP2	Explain temperature, to include: a. the source, b. diurnal variation, c. seasonal variation, d. the heating process, and e. the cooling process.	Interactive Lecture	15 min	C3-116 (p. 136, p. 137)
TP3	Conduct an in-class activity to illustrate the effects of temperature on relative humidity, to include: a. the effects of raising the temperature, and b. the effects of lowering the temperature.	In-Class Activity	10 min	C3-116 (p. 136)
TP4	Explain the effects of temperature and humidity on weather, to include: a. dewpoint, b. relative humidity, and c. precipitation.	Interactive Lecture	5 min	C3-116 (p. 136, p. 137)

TP	Description	Method	Time	Ref
TP5	Explain types of precipitation, to include: a. drizzle, b. rain, c. hail, d. snow pellets, e. snow, f. ice prisms, and g. ice pellets.	Interactive Lecture	10 min	C3-116 (p. 146, p. 147)

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Interactive Lecture:	40 min
c.	In-Class Activity:	10 min
d.	Total:	60 min

6. **Substantiation**

   a. An interactive lecture was chosen for TPs 1, 2, 4, and 5 to introduce temperature, humidity, and precipitation to the cadets.

   b. An in-class activity was chosen for TP 3 as an interactive way to provoke thought about temperature and humidity.

7. **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.

8. **Training Aids**

   a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area,

   b. Water,

   c. Small cup, and

   d. Large cup.

9. **Learning Aids**

   a. Water,

   b. Small cup (one per cadet), and

   c. Large cup (one per cadet, twice the size of the small cup).

10. **Test Details.** This EO is assessed IAW Chapter 3, Annex B, Appendix 5 (Aviation Subjects – Combined Assessment PC).

11. **Remarks.** Video resources are available for purchase through flight training centres or aviation supply websites. These videos may be used to augment instruction.

EO C336.01 – READ AN AVIATION ROUTINE WEATHER REPORT (METAR)

1. **Performance.** Read an Aviation Routine Weather Report (METAR).

2. **Conditions**

   a. Given:

      (1) METAR,

      (2) Translation key,

      (3) Supervision, and

      (4) 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 read a METAR.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Describe a METAR, to include: a. definition, b. frequency of reports, c. special weather reports (SPECI), and d. where METARs are available.	Interactive Lecture	10 min	C2-044 (p. 143) C3-116 (p. 160)
TP2	Review terminology used in METARs, to include: a. report type, b. station indicator, c. date and time of observation, d. report modifier, e. wind, f. prevailing visibility, g. runway visual range, h. present weather, i. sky conditions, j. temperature and dewpoint, k. altimeter setting, and l. remarks.	Interactive Lecture	25 min	C2-044 (pp. 143–147) C3-116 (pp. 160–163)
TP3	Demonstrate and have the cadets read a METAR.	In-Class Activity	15 min	

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Interactive Lecture:	35 min
c.	In-Class Activity:	15 min
d.	Total:	60 min

6. **Substantiation**

   a. An interactive lecture was chosen for TPs 1 and 2 to introduce the cadets to a METAR.

   b. An in-class activity was chosen for TP 3 as an interactive way for the cadets to practice reading a METAR.

7. **References**

   a. C2-044 Transport Canada. (2007). *Aeronautical Information Manual*. Retrieved October 2, 2007, from http://tc.gc.ca/publications/EN/TP14371/PDF/HR/TP14371E.PDF.

   b. 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.

8. **Training Aids**

   a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/presentation area,

   b. MacDonald, A.F., & Peppler, I.L. *From the Ground Up: Millennium Edition*, Aviation Publishers Co. Limited workbook, and

   c. Recent METARs from the local airport.

9. **Learning Aids**

   a. Handout of sample METAR and SPECI, and

   b. Handout of the World Meteorological Organization (WMO) code chart.

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

11. **Remarks.** Recent METARs can be found at http://www.flightplanning.navcanada.ca/cgi-bin/CreePage.pl?Langue=anglais&NoSession=NS_Inconnu&Page=forecast-observation&TypeDoc=html. Click on the METAR/TAF icon and then enter the airport name or identifier.

EO C336.02 – TOUR A METEOROLOGICAL FACILITY

1. **Performance.** Tour a Meteorological Facility.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) Assistance as required.

   b. Denied: N/A.

   c. Environmental: The squadron Commanding Officer shall determine the conditions suitable for this training.

3. **Standard.** The cadet shall tour a meteorological facility.

4. **Teaching Points.** The tour guide is asked to explain:

   a. the purpose and role of the facility,

   b. meteorological equipment located at the facility, and

   c. different types of aviation weather reports, to include:

      (1) aviation routine weather report (METAR),

      (2) aerodrome forecast (TAF),

      (3) graphical area forecast (GFA),

      (4) satellite imagery; and

      (5) weather radar.

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Field Trip:	80 min
c.	Total:	90 min

6. **Substantiation.** A field trip was chosen for this lesson to reinforce the cadet's knowledge of meteorology through participation in a tour of a meteorological facility setting.

7. **References.** N/A.

8. **Training Aids.** N/A.

9. **Learning Aids.** N/A.

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

11. **Remarks**

a. If applicable, it is recommended that EO C336.03 (Participate in a Presentation Given by a Flight Services Specialist) be scheduled at the same time as this tour.

b. This field trip can be conducted on a supported day or during a complementary session.

c. There is no instructional guide for this EO.

EO C336.03 – PARTICIPATE IN A PRESENTATION GIVEN BY A FLIGHT SERVICES SPECIALIST

1. **Performance.** Participate in a Presentation Given by a Flight Services Specialist.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 participate in a presentation given by a flight services specialist.

4. **Teaching Points.** The guest speaker is asked to:

   a. bring items of interest to display;

   b. describe the role they fulfill within the aviation industry;

   c. discuss their career progression, to include:

      (1) prerequisites,

      (2) training, and

      (3) postings; and

   d. describe highlights of their career.

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	55 min
c.	Total:	60 min

6. **Substantiation.** The interactive lecture was chosen for this lesson to orient the cadets to the topic and generate an interest in meteorology.

7. **References.** N/A.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/presentation area.

9. **Learning Aids.** N/A.

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

11. **Remarks**

    a. A flight services specialist may be found at most airports that have a manned air traffic services facility.

    b. Training aids should be determined by contacting the guest speaker prior to the presentation.

c. This presentation may be combined as part of EO C336.02 (Tour a Meteorological Facility).

d. There is no instructional guide for this EO.

SECTION 15

PO 337 – DEMONSTRATE AIR NAVIGATION SKILLS

1. **Performance.** Demonstrate Air Navigation Skills.

2. **Conditions**

   a. Given:

      (1) Visual Flight Rules (VFR) Navigation Chart (VNC),

      (2) Supervision, and

      (3) Assistance as required.

   b. Denied: N/A.

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

3. **Standard.** The cadet will demonstrate air navigation skills by:

   a. defining air navigation terms;

   b. identifying types of air navigation;

   c. measuring distances along a route; and

   d. determining position on a VNC.

4. **Remarks.** N/A.

5. **Complementary Material**

   a. Complementary material associated with PO 337 is designed to enhance the cadet's knowledge of the air navigation through a number of activities:

      (1) EO C337.01 (Operate a Radio for Aviation Transmission), and

      (2) EO C337.02 (Practice Air Navigation Skills).

   b. EO C331.05 (Participate in a Presentation Given by a Guest Speaker From the Local Aviation Community, Section 13) may be used to cover topics in both PO 331 (Describe Principles of Flight, Section 13) and PO 337 (Demonstrate Air Navigation Skills).

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EO M337.01 – MEASURE DISTANCE ALONG A ROUTE

1. **Performance.** Measure Distance Along a Route.

2. **Conditions**

   a. Given:

      (1) Visual Flight Rules (VFR) Navigation Chart (VNC),

      (2) International Civil Aviation Organization (ICAO) ruler,

      (3) Supervision, and

      (4) 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 measure distance along a route, to include:

   a. defining air navigation terms;

   b. identifying types of air navigation; and

   c. determining the distance between two points.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Define air navigation terms, to include: a. graticule, b. latitude, c. longitude, d. nautical miles, e. statute miles, f. scale, and g. VNC.	Interactive Lecture	5 min	C3-116 (p. 175, p.186, p. 188)
TP2	Identify and describe types of navigation, to include: a. pilotage, b. dead reckoning, c. inertial navigation, and d. satellite navigation.	Interactive Lecture	5 min	C3-116 (p. 175)
TP3	Demonstrate and have the cadet determine the distance between two predetermined points along a route.	Demonstration and Performance	15 min	C3-139

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	10 min
c.	Demonstration and Performance:	15 min
d.	Total:	30 min

6. **Substantiation**

a. An interactive lecture was chosen for TPs 1 and 2 to introduce basic air navigation terms and types of air navigation.

b. Demonstration and performance was chosen for TP 3 as it allows the instructor to explain and demonstrate measuring distances while providing an opportunity for the cadet to practice this skill under supervision.

7. **References**

a. 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.

b. C3-139 (ISBN 0-7715511-5-0) Transport Canada. (1999). *Flight Training Manual: 4th Edition Revised*. Ottawa, ON: Transport Canada.

8. **Training Aids**

a. VNC, and

b. ICAO ruler.

9. **Learning Aids**

a. VNC, and

b. ICAO ruler.

10. **Test Details.** This EO is assessed IAW Chapter 3, Annex B, Appendix 5 (Aviation Subjects – Combined Assessment PC).

11. **Remarks**

a. VNCs and ICAO rulers can be ordered through the Area Cadet Officer (ACO), purchased at a local flight training centre, or ordered online at NavCanada (www.navcanada.ca).

b. EO C337.02 (Practice Air Navigation Skills) may be conducted to provide extra practice of the skills learned in this EO.

EO M337.02 – DETERMINE A POSITION ON A VISUAL FLIGHT RULES (VFR) NAVIGATIONAL CHART (VNC)

1. **Performance.** Determine a Position on a Visual Flight Rules (VFR) Navigational Chart (VNC).

2. **Conditions**

   a. Given:

      (1) VNC,

      (2) Supervision, and

      (3) 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 determine a position on a VNC by:

   a. identifying the earth's graticule;

   b. recognizing the difference between latitude and longitude; and

   c. determining latitude and longitude.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain that the earth is divided into sections by an imaginary grid system called a graticule, composed of: a. parallels of latitude, b. meridians of longitude, c. the equator, and d. the prime meridian.	Interactive Lecture	5 min	C3-116 (p. 175)
TP2	Explain geographical coordinates, to include: a. units of measurement, and b. sequencing.	Interactive Lecture	5 min	C3-116 (p. 175)
TP3	Given a set of coordinates, demonstrate and have the cadet determine the location of an airport by: a. finding the latitude, and b. finding the longitude.	Demonstration and Performance	10 min	C3-139
TP4	Demonstrate and have the cadet determine the coordinates of a given location on a map by: a. calculating latitude; and b. calculating longitude.	Demonstration and Performance	5 min	C3-139

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	10 min
c.	Demonstration and Performance:	15 min
d.	Total:	30 min

6. **Substantiation**

   a. An interactive lecture was chosen for TPs 1 and 2 to introduce basic air navigation terms.

   b. Demonstration and performance was chosen for TPs 3 and 4 as it allows the instructor to explain and demonstrate determining positions and coordinates while providing an opportunity for the cadet to practice under supervision.

7. **References**

   a. 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.

   b. C3-139 (ISBN 0-7715511-5-0) Transport Canada. (1999). *Flight Training Manual 4th Edition Revised*. Ottawa, ON: Transport Canada.

8. **Training Aids.** VNC.

9. **Learning Aids.** VNC.

10. **Test Details.** This EO is assessed IAW Chapter 3, Annex B, Appendix 5 (Aviation Subjects – Combined Assessment PC).

11. **Remarks**

   a. VNCs can be ordered through your Area Cadet Officer (ACO), purchased at a local flight training centre, or ordered online at NavCanada.

   b. EO C337.02 (Practice Air Navigation Skills) may be conducted to provide extra practice of the skills learned in this EO.

EO C337.01 – OPERATE A RADIO FOR AVIATION TRANSMISSION

1. **Performance.** Operate a Radio for Aviation Transmission.

2. **Conditions**

   a. Given:

      (1) Hand-held radio,

      (2) Supervision, and

      (3) Assistance as required.

   b. Denied: N/A.

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

3. **Standard.** The cadet, simulating a pilot, shall operate a radio for aviation transmission, to include:

   a. using the phonetic alphabet and numbers;

   b. communicating the arrival (landing) of an aircraft; and

   c. communicating the departure (takeoff) of an aircraft.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Review the phonetic alphabet and numbers.	In-Class Activity	5 min	C3-116 (p. 218) C3-182
TP2	Explain, demonstrate and have the cadet practice operating a radio to communicate the arrival of an aircraft.	Demonstration and Performance	10 min	C3-116 (pp. 221–226) C3-182
TP3	Explain, demonstrate and have the cadet practice operating a radio to communicate the departure of an aircraft.	Demonstration and Performance	10 min	C3-116 (pp. 221–226) C3-182

5. **Time**

   a. Introduction/Conclusion: 5 min

   b. In-Class Activity: 5 min

   c. Demonstration and Performance: 20 min

   d. Total: 30 min

6. **Substantiation**

   a. An in-class activity was chosen for TP 1 as an interactive way to review the phonetic alphabet.

   b. Demonstration and performance was chosen for TPs 2 and 3 as it allows the instructor to explain and demonstrate operating a radio while providing an opportunity for the cadet to practice radio transmissions under supervision.

7. **References**

a. 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.

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

8. **Training Aids**

a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area,

b. Hand-held radio, and

c. Script of phrases.

9. **Learning Aids**

a. Hand-held radio, and

b. Script of phrases.

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

11. **Remarks.** Depending on available resources, this EO may be conducted on the familiarization flying day in cooperation with the Technical Training Establishment (TTE).

EO C337.02 – PRACTICE AIR NAVIGATION SKILLS

1. **Performance.** Practice Air Navigation Skills.

2. **Conditions**

   a. Given:

      (1) VFR Navigational Chart (VNC),

      (2) International Civil Aviation Organization (ICAO) ruler,

      (3) Supervision, and

      (4) 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 practice air navigation skills.

4. **Teaching Points.** The cadet shall:

   a. practice measuring distance along a route; and

   b. practice determining position on a VNC.

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Practical Activity:	25 min
c.	Total:	30 min

6. **Substantiation.** A practical activity was chosen for this lesson so that the cadets may further develop skills learned in EO M337.01 (Measure a Distance Along a Route) and EO M337.02 (Determine a Position on a Visual Flight Rules [VFR] Navigational Chart [VNC]).

7. **References.** N/A.

8. **Training Aids.** N/A.

9. **Learning Aids**

   a. Pencil,

   b. Paper,

   c. Tape,

   d. VNC, and

   e. ICAO ruler.

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

11. **Remarks.** This EO is designed to complement EO M337.01 (Measure a Distance Along a Route) and EO M337.02 (Determine a Position on a Visual Flight Rules [VFR] Navigational Chart [VNC]) as extra time to practice the skills.

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SECTION 16

PO 340 – IDENTIFY ASPECTS OF SPACE EXPLORATION

1. **Performance.** Identify Aspects of Space Exploration.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) Assistance as required.

   b. Denied: N/A.

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

3. **Standard.** The cadet will identify aspects of space exploration, to include:

   a. identifying Canadian astronauts, and

   b. discussing the history of manned space exploration.

4. **Remarks.** N/A.

5. **Complementary Material.** Complementary material associated with PO 340 is designed to enhance the cadet's knowledge of space exploration, to include :

   a. EO C340.01 (Identify Canadian Astronauts),

   b. EO C340.02 (Discuss the Canadian Space Program),

   c. EO C340.03 (Discuss Unmanned Space Exploration),

   d. EO C340.04 (Describe Elements of the Night Sky),

   e. EO C340.05 (Simulate Life in Space),

   f. EO C340.06 (Launch a Water Rocket),

   g. EO C340.07 (Identify Global Position System [GPS] Components),

   h. EO C340.08 (Describe Aspects of the International Space Station [ISS]),

   i. EO C340.09 (Participate in a Presentation Given by a Guest Speaker From the Astronomy Community or Aerospace Industry), and

   j. EO C340.10 (Identify Online Stargazing Programs).

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EO M340.01 – IDENTIFY CANADIAN ASTRONAUTS

1. **Performance.** Identify Canadian Astronauts.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 identify Canadian astronauts, to include:

   a. Marc Garneau,

   b. Roberta Bondar,

   c. Steve MacLean,

   d. Chris Hadfield,

   e. Robert Thirsk,

   f. Bjarni Trygvassen,

   g. David Williams, and

   h. Julie Payette.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Identify Canadian astronauts, to include: a. Marc Garneau, b. Roberta Bondar, c. Steve MacLean, d. Chris Hadfield, e. Robert Thirsk, f. Bjarni Trygvassen, g. David Williams, h. Julie Payette, and i. any additional Canadian astronauts.	Interactive Lecture	10 min	C3-238

TP	Description	Method	Time	Ref
TP2	Discuss the professional and personal profiles of two Canadian astronauts, to include: a. missions, b. place and date of birth, c. education, d. professional experience, e. special honours, and f. affiliations.	Interactive Lecture	15 min	C3-238

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	25 min
c.	Total:	30 min

6. **Substantiation.** An interactive lecture was chosen for this lesson to orient the cadets to Canadian astronauts, to generate interest in Canada's space program, and to emphasize the teaching points.

7. **Reference.** C3-238 Canadian Space Agency. (2008). *Canadian Space Agency*. Retrieved February 9, 2008, from http://www.space.gc.ca/asc/eng/default.asp.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids.** N/A.

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

11. **Remarks**

    a. The instructor shall obtain the latest biographical information for this EO. This material must be updated each year to reflect the Canadian Space Agency's recent activities.

    b. A list shall be kept of astronauts that cadets have focused on to prevent repetition, since other lessons, such as EO C340.01 (Identify Canadian Astronauts), may introduce other astronauts in the future.

EO M340.02 – DISCUSS THE HISTORY OF MANNED SPACE EXPLORATION

1. **Performance.** Discuss the History of Manned Space Exploration.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 discuss the history of manned space exploration, to include:

   a. the Mercury program,

   b. the Gemini program,

   c. the Apollo program, and

   d. the Russian manned space program.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Discuss the Mercury program, to include: a. objectives of the program, and b. history of the program.	Interactive Lecture	5 min	C3-183 (pp. 22–25)
TP2	Discuss the Gemini program, to include: a. objectives of the program, and b. history of the program.	Interactive Lecture	5 min	C3-183 (p. 26, p. 27)
TP3	Discuss the Apollo program, to include: a. objectives of the program, and b. history of the program.	Interactive Lecture	5 min	C3-183 (pp. 28–31)
TP4	Discuss the Russian manned space program, to include: a. the Vostok missions, b. the Soyuz missions, and c. the Salyut and Mir space stations.	Interactive Lecture	10 min	C3-183 (p. 22, p. 23, p. 32, p. 33, p. 40, p. 41)

5. **Time**

   a. Introduction/Conclusion: 5 min

   b. Interactive Lecture: 25 min

   c. Total: 30 min

6. **Substantiation.** An interactive lecture was chosen for this lesson to orient the cadets, generate interest, present background material, and clarify the history of manned space exploration.

7. **References.** (ISBN 978-0-75662-227-5) Graham, I. (2006). *Space Travel*. New York, NY: DK Publishing, Inc.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids.** Space race timeline handout.

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

11. **Remarks.** N/A.

EO C340.01 – IDENTIFY CANADIAN ASTRONAUTS

1. **Performance.** Identify Canadian Astronauts.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 identify Canadian astronauts, to include:

   a. Marc Garneau,

   b. Roberta Bondar,

   c. Steve MacLean,

   d. Chris Hadfield,

   e. Robert Thirsk,

   f. Bjarni Trygvassen,

   g. David Williams, and

   h. Julie Payette.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Discuss the professional and personal profiles of Canadian astronauts, to include: a. missions, b. place and date of birth, c. education, d. professional experience, e. special honours, and f. affiliations.	Interactive Lecture	50 min	C3-238

5. **Time**

   a. Introduction/Conclusion: 10 min

   b. Interactive Lecture: 50 min

   c. Total: 60 min

6. **Substantiation.** An interactive lecture was chosen for this lesson to orient the cadets to Canadian astronauts, to generate interest in Canada's space program, and to emphasize the teaching points.

7. **Reference.** C3-238 Canadian Space Agency. (2008). *Canadian Space Agency*. Retrieved February 9, 2008, from http://www.space.gc.ca/asc/eng/default.asp.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids.** N/A.

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

11. **Remarks**

    a. The instructor shall obtain the latest biographical information for this EO. This material must be updated each year to reflect the Canadian Space Agency's recent activities.

    b. The two astronauts discussed in EO M340.01 (Identify Canadian Astronauts) will not be repeated in this lesson.

EO C340.02 – DISCUSS THE CANADIAN SPACE PROGRAM

1. **Performance.** Discuss the Canadian Space Program.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 discuss the Canadian space program, to include:

   a. technologies, and

   b. missions.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Describe Canada's involvement in space technologies, to include: a. the David Florida Laboratory (DFL), b. the Canadian Analogue Research Network (CARN), and c. partnerships with the Canadian Space Agency (CSA).	Interactive Lecture	10 min	C3-238
TP2	Describe CSA missions, to include: a. telecommunications, b. earth observation, c. space exploration, and d. space medicine.	Interactive Lecture	15 min	C3-238

5. **Time**

   a. Introduction/Conclusion: 5 min

   b. Interactive Lecture: 25 min

   c. Total: 30 min

6. **Substantiation.** An interactive lecture was chosen for this lesson to orient the cadets to the Canadian space program and to generate interest.

7. **References.** C3-238 Canadian Space Agency. (2008). *Canadian Space Agency*. Retrieved February 9, 2008, from http://www.space.gc.ca/asc/eng/default.asp.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids.** N/A.

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

11. **Remarks.** This material must be updated each year to reflect CSA progress.

EO C340.03 – DISCUSS UNMANNED SPACE EXPLORATION

1. **Performance.** Discuss Unmanned Space Exploration.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 discuss unmanned space exploration, to include:

   a. Sputnik,

   b. Explorer,

   c. missions to planets within the solar system, and

   d. Voyager.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Describe the history of earth satellites, to include: a. the development of launch capability, b. the Soviet Sputnik mission, and c. the United States' Explorer mission.	Interactive Lecture	15 min	C3-240
TP2	Describe the twin Voyager spacecraft, to include: a. the planetary voyage, b. the interstellar mission, and c. the golden record.	Interactive Lecture	20 min	C3-239

TP	Description	Method	Time	Ref
TP3	Describe unmanned space exploration, to include: a. missions to planets within the solar system, to include: (1) the Phoenix Mars mission, to include: (a) mission characteristics, and (b) Canada's lidar weather station; and (2) the Cassini-Huygens mission, to include: (a) mission summary, (b) Huygens' descent to Titan, and (c) Cassini orbiter flybys.	Interactive Lecture	20 min	C3-238 C3-241 C3-242

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	55 min
c.	Total:	60 min

6. **Substantiation.** An interactive lecture was chosen for this lesson to orient the cadets to unmanned space exploration, generate interest, and emphasize the teaching points.

7. **References**

a. C3-238 Canadian Space Agency. (2008). *Canadian Space Agency*. Retrieved February 9, 2008, from http://www.space.gc.ca/asc/eng/default.asp.

b. C3-239 NASA. (2008). Voyager: *The Interstellar Mission*. Retrieved February 9, 2008, from http://voyager.jpl.nasa.gov/index.html.

c. C3-240 NASA. (2007). *Sputnik: The Fiftieth Anniversary*. Retrieved February 9, 2008 from http://history.nasa.gov/sputnik/.

d. C3-241 European Space Agency. (2008). *Cassini-Huygens Homepage*. Retrieved February 9, 2008, from http://huygens.esa.int/science-e/www/area/index.cfm?fareaid=12.

e. C3-242 NASA. (2008). *NASA Cassini-Huygens Homepage*. Retrieved February 9, 2008, from http://saturn.jpl.nasa.gov/home/index.cfm.

f. C3-251 European Space Agency. (2008). *ESA: Multimedia Gallery Videos. Moons*. Retrieved April 5, 2008, from http://www.esa.int/esa-mmg/mmg.pl?mission=Cassini-Huygens&type=V.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids.** N/A.

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

11. **Remarks**

    a. TP 2 must be updated each year to reflect current events.

    b. Model kits of spacecraft may be purchased online as training aids.

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EO C340.04 – DESCRIBE ELEMENTS OF THE NIGHT SKY

1. **Performance.** Describe Elements of the Night Sky.

2. **Conditions**

   a. Given:

      (1) Celestial reference sheets,

      (2) Supervision, and

      (3) 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 describe elements of the night sky, to include:

   a. constellations,

   b. planets, and

   c. other celestial bodies.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Describe fixed elements of the night sky, to include: a. visible stars, and b. constellations.	Interactive Lecture	15 min	C3-179 (pp. 120–135)
TP2	Describe moving objects of the night sky, to include: a. satellites, and b. planets.	Interactive Lecture	10 min	C3-180 C3-221

5. **Time**

   a. Introduction/Conclusion: 5 min

   b. Interactive Lecture: 25 min

   c. Total: 30 min

6. **Substantiation.** An interactive lecture was chosen for this lesson to orient the cadets to elements of the night sky, to generate interest and emphasize the teaching points.

7. **References**

   a. C3-179 (ISBN 1-55209-302-6) Dickenson, T. (2001). *Night Watch: A Practical Guide to Viewing the Universe*. Willowdale, ON: Firefly Books.

   b. C3-180 (ISBN 1-55297-853-2) Scagell, R. (2004). *Firefly Planisphere: Latitude 42 Degrees North*. Willowdale, ON: Firefly Books.

c. C3-221 National Research Council of Canada. (2007). *Explore the Night Sky*. Retrieved December 3, 2007, from http://www.nrc-cnrc.gc.ca/eng/education/astronomy/constellations/html.html.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids.** Handout of celestial reference sheets showing constellations.

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

11. **Remarks.** This EO may be conducted with EO C390.09 (Identify Elements of the Night Sky, Section 19).

EO C340.05 – SIMULATE LIFE IN SPACE

1. **Performance.** Simulate Life in Space.

2. **Conditions**

   a. Given:

      (1) Space food,

      (2) Rinseless soap,

      (3) Work gloves,

      (4) 1/2-inch National Coarse nuts and bolts,

      (5) Supervision, and

      (6) 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 simulate life in space, to include:

   a. exercising;

   b. working;

   c. washing hands; and

   d. sampling space food.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain the medical effects of weightlessness and have the cadets simulate exercises that astronauts must perform to maintain bone density and muscle mass, to include: a. stretching and warm up exercises; b. strengthening exercises; and c. cool down exercises.	Practical Activity	35 min	C3-183 (p. 44, p. 45)
TP2	Explain the challenges of living in space and have the cadets simulate aspects of life in space by: a. washing their hands with rinseless soap; and b. sampling space food.	In-Class Activity	30 min	C3-183 (p. 48, p. 49)
TP3	Have the cadets simulate working in space by installing a nut on a bolt wearing two pairs of thick work gloves.	In-Class Activity	20 min	C3-183 (p. 50, p. 51)

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Practical Activity:	35 min
c.	In-Class Activity:	50 min
d.	Total:	90 min

6. **Substantiation**

   a. A practical activity was chosen for TP 1 as it is an interactive way to allow cadets to experience some aspects of life in space. This activity contributes to the development of knowledge of life in space in a fun and challenging setting.

   b. An in-class activity was chosen for TPs 2 and 3 as it is an interactive way to provoke thought and simulate some of the challenges of living in space.

7. **References.** C3-183 (ISBN 978-0-75662-227-5) Graham, I. (2006). *Space Travel*. New York, NY: DK Publishing, Inc.

8. **Training Aids**

   a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area,

   b. Space food (eg, freeze-dried ice cream, freeze-dried strawberries),

   c. Rinseless soap,

   d. Work gloves, and

   e. 1/2-inch National Coarse nuts and bolts.

9. **Learning Aids**

   a. Space food (eg, freeze-dried ice cream, freeze-dried strawberries),

   b. Rinseless soap,

   c. Work gloves, and

   d. 1/2-inch National Coarse nuts and bolts.

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

11. **Remarks.** N/A.

EO C340.06 – LAUNCH A WATER ROCKET

1. **Performance.** Launch a Water Rocket.

2. **Conditions**

   a. Given:

      (1) One-litre plastic bottle,

      (2) Construction paper,

      (3) Scissors,

      (4) Glue,

      (5) Putty or modeling clay,

      (6) Air pump with pressure gauge,

      (7) Launch pad,

      (8) Drinking straws,

      (9) Packing tape,

      (10) 3-mm string,

      (11) Safety glasses,

      (12) Supervision, and

      (13) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Outdoor area 10 m by 20 m with controlled access.

3. **Standard.** The cadet, as a member of a group of no more than four, shall:

   a. construct a water rocket; and

   b. launch the water rocket.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Supervise as the cadets construct a water rocket, that includes: a. fuselage, b. stabilizing fins, c. nose cone, d. centre of gravity trimming, and e. decorations.	Practical Activity	20 min	C3-016 (pp. 81–83)
TP2	Supervise the cadets launching the water rockets.	Practical Activity	50 min	C3-016 (pp. 77–79)

TP	Description	Method	Time	Ref
TP3	Conduct an activity debriefing, to include: a. characteristics of the successful launches; and b. rocket behaviour under Newton's Laws.	Group Discussion	10 min	C3-016 (pp. 21–23)

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Practical Activity:	70 min
c.	Group Discussion:	10 min
d.	Total:	90 min

6. **Substantiation**

   a. A practical activity was chosen for TPs 1 and 2 as it is an interactive way to introduce cadets to water rockets. This activity contributes to the understanding of rocketry in a fun and challenging setting.

   b. A group discussion was chosen for TP 3 as it allows the cadets to interact with their peers and share their knowledge, experiences, opinions, and feelings about water rockets.

7. **Reference.** C3-016 (ISBN EG-2003-01-108-HQ) NASA. (2003). *Rockets: A Teacher's Guide With Activities in Science, Mathematics, and Technology*. Washington, DC: NASA.

8. **Training Aids.** Safety glasses.

9. **Learning Aids**

   a. Instructions for constructing a water rocket,

   b. One-litre plastic bottle,

   c. Construction paper,

   d. Scissors,

   e. Glue,

   f. Putty or modeling clay,

   g. Air pump with pressure gauge,

   h. Launch pad,

   i. Drinking straws,

   j. Packing tape,

   k. 3-mm string, and

   l. Safety glasses.

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

11. **Remarks**

   a. Prior to this lesson, instructors shall prepare a launching platform and guidance system.

b. The launching pad should be saved for future training.

c. Each group shall be allowed a number of attempts to achieve a successful launch.

d. If a suitable location for this launching water rockets is not available at the squadron's training facility, that part of the lesson can be carried out as part of a field exercise.

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EO C340.07 – IDENTIFY GLOBAL POSITION SYSTEM (GPS) COMPONENTS

1. **Performance.** Identify Global Position System (GPS) Components.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 identify GPS components, to include:

   a. satellites,

   b. control stations, and

   c. receivers.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain how the GPS operates, to include: a. the three components of GPS, to include: (1) satellites, (2) control stations, and (3) receivers; b. trilateration from three satellites, and c. timing radio signals.	Interactive Lecture	25 min	A2-041 C3-243 C3-244
TP2	Describe the constellation of 24 GPS satellites, to include: a. orbit characteristics, b. station-keeping manoeuvres, and c. on-board GPS equipment.	Interactive Lecture	5 min	C3-243 C3-244
TP3	Describe the network of earth-based control stations, to include: a. five monitor stations, b. three ground antennas, and c. the master control station (MCS).	Interactive Lecture	5 min	C3-243 C3-244

TP	Description	Method	Time	Ref
TP4	Describe the user receivers, to include: a. time correction for the user receiver, and b. user receiver applications, to include: (1) locating, (2) navigating, (3) tracking, (4) mapping, and (5) timing.	Interactive Lecture	15 min	C3-243 C3-244

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Interactive Lecture:	50 min
c.	Total:	60 min

6. **Substantiation.** An interactive lecture was chosen for this lesson to orient the cadets to GPS components, to generate interest, and emphasize the teaching points.

7. **References**

a. A2-041 B-GL-382-005/PT-001 Canadian Forces. (2006). *Maps, Field Sketching, Compasses and the Global Positioning System*. Ottawa, ON: Department of National Defence.

b. C3-243 US Naval Observatory. (2008). *USNO GPS Timing Operations*. Retrieved February 10, 2008, from http://tycho.usno.navy.mil/gps.html.

c. C3-244 Trimble Navigation Limited. (2006). *GPS Tutorial*. Retrieved February 10, 2008, from http://www.trimble.com/gps/index.shtml.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids.** N/A.

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

11. **Remarks.** N/A.

EO C340.08 – DESCRIBE ASPECTS OF THE INTERNATIONAL SPACE STATION (ISS)

1. **Performance.** Describe Aspects of the International Space Station (ISS).

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 describe aspects of the ISS, to include:

   a. major components, and

   b. missions.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Describe the major components of the ISS, to include: a. Zarya, b. Unity, c. Zvezda, d. Harmony e. Destiny, f. Multi-Purpose Logistics Modules (MPLMs), g. Kibo, h. Columbus, i. Automated Transfer Vehicles (ATVs), and j. the Mobile Servicing System (MSS).	Interactive Lecture	15 min	C3-245
TP2	Discuss ISS missions, to include: a. Materials International Space Station Experiment (MISSE), b. Minus Eighty Degrees Celsius Laboratory Freezer for ISS (MELFI), c. Synchronized Position Hold, Engage, Reorient, Experimental Satellites (SPHERES), and d. online viewing of ISS missions on NASA TV.	Interactive Lecture	10 min	C3-245 C3-246

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	25 min
c.	Total:	30 min

6. **Substantiation.** An interactive lecture was chosen for this lesson to orient the cadets to aspects of the ISS, to generate interest, and emphasize the teaching points.

7. **References**

   a. C3-245 NASA. (2008). *International Space Station*. Retrieved February 10, 2008, from http://www.nasa.gov/mission_pages/station/main/index.html.

   b. C3-246 NASA. (2008). *NASA TV*. Retrieved February 12, 2008, from http://www.nasa.gov/multimedia/nasatv/index.html.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids.** N/A.

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

11. **Remarks**

   a. A model of the ISS would make an ideal visual aid for this lesson. Scale models may be purchased through online resources or ordered at the local hobby store.

   b. In lieu of a model, a large poster would make an great visual aid. Images and multimedia are available through online resources, including NASA.

EO C340.09 – PARTICIPATE IN A PRESENTATION GIVEN BY A GUEST SPEAKER FROM THE ASTRONOMY COMMUNITY OR AEROSPACE INDUSTRY

1. **Performance.** Participate in a Presentation Given by a Guest Speaker From the Astronomy Community or Aerospace Industry.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 participate in a presentation given by a guest speaker from the astronomy community or aerospace industry.

4. **Teaching Points.** The guest speaker is asked to:

   a. describe their role;

   b. familiarize the cadets with:

      (1) occupations,

      (2) educational institutions, and

      (3) advantages of being engaged in the astronomy community or aerospace industry; and

   c. facilitate a question and answer period.

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Interactive Lecture:	50 min
c.	Total:	60 min

6. **Substantiation.** An interactive lecture was chosen for this lesson to review, emphasize and summarize the teaching points.

7. **References.** N/A.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids.** N/A.

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

11. **Remarks**

    a. Training aids should be determined by contacting the guest speaker prior to the presentation.

    b. If the guest speaker cannot discuss all the occupations in their respective community/industry, they can focus on their own occupation.

    c. There is no instructional guide for this EO.

EO C340.10 – IDENTIFY ONLINE STARGAZING PROGRAMS

1. **Performance.** Identify Online Stargazing Programs.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 identify online stargazing programs, to include:

   a. NASA's SkyView, and

   b. SKY-MAP.ORG.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Discuss NASA's SkyView, to include: a. how to access, and b. SkyView's Non-Astronomers page.	Interactive Lecture	5 min	C3-231
TP2	Discuss SKY-MAP.ORG, to include: a. purpose, and b. how to access.	Interactive Lecture	5 min	C3-230
TP3	Explain the SKY-MAP.ORG user interface, to include: a. program control features, and b. catalogues and databases available for access.	Interactive Lecture	15 min	C3-230

5. **Time**

   a. Introduction/Conclusion: 5 min

   b. Interactive Lecture: 25 min

   c. Total: 30 min

6. **Substantiation.** An interactive lecture was chosen for this lesson to orient the cadets, generate interest, present background material, and clarify online stargazing.

7. **References**

   a. C3-230 ET.SKY-MAP. (2008). *SKY-MAP.ORG*. Retrieved February 8, 2008, from http://sky-map.org/.

b. C3-231 NASA HEASARC. (2008). *SkyView*. Retrieved February 8, 2008, from http://skyview.gsfc.nasa.gov/.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids.** N/A.

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

11. **Remarks.** N/A.

SECTION 17

PO 360 – RECOGNIZE ASPECTS OF AERODROME OPERATIONS

1. **Performance.** Recognize Aspects of Aerodrome Operations.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) Assistance as required.

   b. Denied: N/A.

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

3. **Standard.** The cadet will recognize aspects of aerodrome operations.

4. **Remarks.** N/A.

5. **Complementary Material.** Complementary material associated with PO C360 is designed to enhance the cadet's knowledge of aerodrome operations, to include:

   a. EO C360.01 (Identify Types of Aerodromes),

   b. EO C360.02 (Explain Aspects of Aerodrome Lighting),

   c. EO C360.03 (Construct a Model of the Airspace at an Aerodrome),

   d. EO C360.04 (Identify How Equipment is Used at an Aerodrome),

   e. EO C360.05 (Identify Aspects of Emergency Response and Aerodrome Security), and

   f. EO C360.06 (Explain Aspects of Air Traffic Services [ATS]).

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EO C360.01 – IDENTIFY TYPES OF AERODROMES

1. **Performance.** Identify Types of Aerodromes.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 identify types of aerodromes, to include:

   a. public,

   b. private,

   c. Canadian military, and

   d. civilian, to include:

      (1) private,

      (2) municipal,

      (3) regional, and

      (4) international.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Review definitions, to include: a. aerodrome, and b. airport.	Interactive Lecture	5 min	C2-044 (p. 50, p. 51)
TP2	Explain types of aerodromes, to include: a. public, and b. private, to include: (1) prior notice required (PNR), and (2) prior permission required (PPR).	Interactive Lecture	5 min	C2-044 (p. 51)
TP3	Explain Canadian military aerodromes.	Interactive Lecture	5 min	C2-044 (p. 51) C3-148 (p. 14)

TP	Description	Method	Time	Ref
TP4	Explain types of civilian aerodromes, to include: a. private, b. municipal, c. regional, and d. international.	Interactive Lecture	10 min	C3-147 C3-148 (pp. 29–49)

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	25 min
c.	Total:	30 min

6. **Substantiation.** An interactive lecture was chosen for this lesson to review, clarify, emphasize and summarize the types of aerodromes.

7. **References**

a. C2-044 Transport Canada. (2007). *Aeronautical Information Manual*. Retrieved October 2, 2007, from http://www.tc.gc.ca/publications/EN/TP14371/PDF/HR/TP14371E.PDF.

b. C3-147 NAV CANADA. (2007). *Canadian Airport Charts*. Retrieved October 9, 2007, from http://www.navcanada.ca/ContentDefinitionFiles/Publications/AeronauticalInfoProducts/CanadianAirportCharts/CanadianAirportCharts_current.pdf.

c. C3-148 (ISBN 0-9739866-0-3) Syme, E. R., & Wells, A. T. (2005). *Airport Development, Management and Operations in Canada: Second Edition*. Barrie, ON: Aviation Education Services.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids.** N/A.

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

11. **Remarks.** N/A.

EO C360.02 – EXPLAIN ASPECTS OF AERODROME LIGHTING

1. **Performance.** Explain Aspects of Aerodrome Lighting.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 explain aspects of aerodrome lighting, to include:

   a. manoeuvring lighting, to include:

      (1) runway lighting,

      (2) taxiway lighting,

      (3) apron lighting,

      (4) unserviceable area markings, and

      (5) approach light systems (ALS); and

   b. navigational lighting, to include:

      (1) aerodrome beacon, and

      (2) obstruction lighting.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain manoeuvring lighting, to include: a. runway lighting, b. taxiway lighting, c. apron lighting, d. unserviceable area markings, and e. approach lighting systems (ALS).	Interactive Lecture	20 min	C2-044 (p. 65) C3-116 (p. 93–94)
TP2	Explain navigational lighting, to include: a. aerodrome beacon, and b. obstruction lighting.	Interactive Lecture	5 min	C3-116 (p. 93–94)

5. **Time**

   a. Introduction/Conclusion: 5 min

   b. Interactive Lecture: 25 min

   c. Total: 30 min

6. **Substantiation.** An interactive lecture was chosen for this lesson to clarify, emphasize and summarize aspects of aerodrome lighting.

7. **References**

   a. C2-044 Transport Canada. (2007). *Aeronautical Information Manual*. Retrieved October 2, 2007, from http://www.tc.gc.ca/publications/EN/TP14371/PDF/HR/TP14371E.PDF.

   b. 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.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids.** N/A.

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

11. **Remarks.** N/A.

EO C360.03 – CONSTRUCT A MODEL OF THE AIRSPACE AT AN AERODROME

1. **Performance.** Construct a Model of the Airspace at an Aerodrome.

2. **Conditions**

   a. Given:

      (1) Coloured construction paper,

      (2) Transparent tape,

      (3) Scissors,

      (4) Coloured markers,

      (5) Glue,

      (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, as a member of a group, shall construct a model of the airspace at an aerodrome, to include:

   a. a control zone (CZ),

   b. terminal control area (TCA), and

   c. transition area.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain parts of the Canadian Domestic Airspace (CDA) system, to include: a. Northern Domestic Airspace (NDA), b. Southern Domestic Airspace (SDA), c. high level airspace, and d. low level airspace.	Interactive Lecture	10 min	C2-044 (p. 181, p. 182)
TP2	Explain types of airspace, to include: a. CZs, b. TCAs, and c. transition areas.	Interactive Lecture	10 min	C2-044 (pp. 184–186)

TP	Description	Method	Time	Ref
TP3	Explain classes of airspace, to include: a. Class A, b. Class B, c. Class C, d. Class D, e. Class E, f. Class F, and g. Class G.	Interactive Lecture	10 min	C2-044 (pp. 187–190)
TP4	Have the cadet, as a member of a group of no more than four, construct a model of the airspace at an aerodrome, to include: a. CZ, b. TCA, and c. transition zone.	In-Class Activity	55 min	C2-044 (pp. 187–190)

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	30 min
c.	In-Class Activity:	55 min
d.	Total:	90 min

6. **Substantiation**

   a. An interactive lecture was chosen for TPs 1–3 to introduce the parts of the Canadian Domestic Airspace (CDA).

   b. An in-class activity was chosen for TP 4 as an interactive way to reinforce concepts of the CDA.

7. **References.** C2-044 Transport Canada. (2007). *Aeronautical Information Manual*. Retrieved October 2, 2007, from http://www.tc.gc.ca/publications/EN/TP14371/PDF/HR/TP14371E.PDF.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids**

   a. Handouts of classes of airspace,

   b. Coloured construction paper,

   c. Transparent tape,

   d. Scissors,

   e. Coloured markers, and

   f. Glue.

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

11. **Remarks.** N/A.

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EO C360.04 – IDENTIFY HOW EQUIPMENT IS USED AT AN AERODROME

1. **Performance.** Identify How Equipment is Used at an Aerodrome.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 identify how equipment is used at an aerodrome, to include:

   a. vehicles,

   b. runway maintenance equipment, to include:

      (1) sweepers,

      (2) snowplows, and

      (3) snow blowers; and

   c. refuelling equipment, to include:

      (1) stationary refuelling equipment, and

      (2) mobile refuelling equipment.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain how trucks are used at an aerodrome, to include: a. inspections, b. maintenance, c. construction, d. snow removal, and e. platforms for specialty equipment.	Interactive Lecture	15 min	C3-148 (pp. 183–185, p. 188, p. 195)
TP2	Describe runway maintenance equipment and how it is used at an aerodrome, to include: a. sweepers, b. snowplows, and c. snow blowers.	Interactive Lecture	5 min	C3-148 (pp. 181–186)
TP3	Describe refuelling equipment at an aerodrome, to include: a. stationary refuelling equipment, and b. mobile refuelling equipment.	Interactive Lecture	5 min	C3-148 (pp. 215–217)

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	25 min
c.	Total:	30 min

6. **Substantiation.** An interactive lecture was chosen for this lesson to clarify, emphasize and summarize the equipment used at an aerodrome.

7. **References.** C3-148 (ISBN 0-9739866-0-3) Syme, E. R., & Wells, A. T. (2005). *Airport Development, Management and Operations in Canada: Second Edition*. Barrie, ON: Aviation Education Services.

8. **Training Aids**

   a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area, and

   b. Pictures of aerodrome vehicles.

9. **Learning Aids.** Aerodrome vehicles handout.

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

11. **Remarks.** N/A.

EO C360.05 – IDENTIFY ASPECTS OF EMERGENCY RESPONSE AND AERODROME SECURITY

1. **Performance.** Identify Aspects of Emergency Response and Aerodrome Security.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 identify aspects of:

   a. emergency response, to include:

      (1) aircraft emergencies, and

      (2) aerodrome emergencies; and

   b. aerodrome security, to include:

      (1) site security, and

      (2) the role of the Canadian Air Transport Security Authority (CATSA).

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Discuss aircraft emergencies, to include: a. Aircraft Rescue and Fire Fighting (ARFF), b. standby requests, c. on-site crashes, d. off-site crashes, and e. joint responses.	Interactive Lecture	5 min	C2-044 (p. 67, p. 68)
TP2	Discuss aerodrome emergencies, to include: a. building fires, b. bomb threats, and c. medical crises.	Interactive Lecture	5 min	C3-148 (pp. 225–227)
TP3	Explain components of aerodrome site security, to include: a. aerodrome security definitions, b. restricted areas, c. fences, and d. gates.	Interactive Lecture	5 min	C3-148 (pp. 220–222)
TP4	Explain security requirements at different types of aerodromes.	Interactive Lecture	5 min	C3-148 (pp. 220–225)

TP	Description	Method	Time	Ref
TP5	Explain the role of the Canadian Air Transport Security Authority (CATSA) to include: a. Pre-board Screening (PBS), b. Hold Baggage Screening (HBS), and c. Non-passenger Screening (NPS).	Interactive Lecture	5 min	C3-098

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	25 min
c.	Total:	30 min

6. **Substantiation.** An interactive lecture was chosen for this lesson to clarify, emphasize and summarize aircraft and aerodrome emergencies, security, the role of CATSA, and types of screening at an aerodrome.

7. **References**

a. C2-044 Transport Canada. (2007). *Aeronautical Information Manual*. Retrieved October 2, 2007, from http://www.tc.gc.ca/publications/EN/TP14371/PDF/HR/TP14371E.PDF.

b. C3-098 Canadian Air Transport Security Authority. (2007). *Mandate*. Retrieved October 10, 2007, from http://www.catsa-acsta.gc.ca/English/about_propos/mandat.shtml.

c. C3-148 (ISBN 0-9739866-0-3) Syme, E. R., & Wells, A. T. (2005). *Airport Development, Management and Operations in Canada: Second Edition*. Barrie, ON: Aviation Education Services.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids.** N/A.

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

11. **Remarks.** N/A.

EO C360.06 – EXPLAIN ASPECTS OF AIR TRAFFIC SERVICES (ATS)

1. **Performance.** Explain Aspects of Air Traffic Services (ATS).

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 explain aspects of ATS, to include:

   a. the types of ATS,

   b. the difference between an air traffic control (ATC) clearance and an ATC instruction, and

   c. the functions of ATC.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain the types of ATS, to include: a. ATC, b. information services, c. advisory services, d. alerting services, e. briefing services, and f. Notice to Airmen (NOTAM) services.	Interactive Lecture	10 min	C2-044 (pp. 159–170, p. 335)
TP2	Explain the difference between an ATC clearance and an ATC instruction.	In-Class Activity	10 min	C2-044 (p. 169–170)
TP3	Explain the functions of ATC, to include: a. Area Control Centres (ACCs), b. Terminal Control Units (TCUs), c. control towers, and d. Flight Service Stations (FSSs).	Interactive Lecture	5 min	C2-044 (pp. 159–170)

5. **Time**

   a. Introduction/Conclusion: 5 min

   b. Interactive Lecture: 15 min

   c. In-Class Activity: 10 min

   d. Total: 30 min

6. **Substantiation**

   a. An interactive lecture was chosen for TPs 1 and 3 to clarify, emphasize and summarize aspects of ATS.

   b. An in-class activity was chosen for TP 2 as this is an interactive way to reinforce the difference between ATC clearances and ATC instructions.

7. **References.** C2-044 Transport Canada. (2007). *Aeronautical Information Manual*. Retrieved October 2, 2007, from http://www.tc.gc.ca/publications/EN/TP14371/PDF/HR/TP14371E.PDF.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids**

   a. One sheet of paper, and

   b. Pens/pencils.

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

11. **Remarks.** N/A.

SECTION 18

PO 370 – RECOGNIZE ASPECTS OF AIRCRAFT MANUFACTURING AND MAINTENANCE

1. **Performance.** Recognize Aspects of Aircraft Manufacturing and Maintenance.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) Assistance as required.

   b. Denied: N/A.

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

3. **Standard.** The cadet will discuss aspects of aircraft manufacturing and maintenance, by:

   a. identifying components of the pitot static system;

   b. identifying aircraft manufacturers; and

   c. describing routine aircraft inspection procedures.

4. **Remarks.** N/A.

5. **Complementary Material**

   a. Complementary material associated with PO 370 is designed to enhance the cadet's knowledge of aircraft manufacturing and maintenance, to include:

      (1) EO C370.01 (Identify Tasks required to Maintain Aircraft),

      (2) EO C370.02 (Describe Materials Used in Aircraft Construction),

      (3) EO C370.03 (Identify Basic Power Tools Used in Aircraft Manufacturing and Maintenance),

      (4) EO C370.04 (Construct an Aluminium Model Biplane), and

      (5) EO C370.05 (Tour an Aircraft Restoration Project).

   b. Some complementary material offered in previous levels may be selected as complementary training in Proficiency Level Three, specifically:

      (1) EO C270.01 (Participate in a Presentation Given by an Employee From the Aircraft Manufacturing or Maintenance Industry, A-CR-CCP-802/PG-001, Chapter 4, Section 15), and

      (2) EO C270.03 (Tour an Aircraft Manufacturing or Maintenance Facility, A-CR-CCP-802/PG-001, Chapter 4, Section 15).

   c. Complementary training associated with PO 370 is limited to a total of 12 periods conducted during sessions or on a supported day. Squadrons are not required to use all 12 periods.

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EO M370.01 – IDENTIFY COMPONENTS OF THE PITOT STATIC SYSTEM

1. **Performance.** Identify Components of the Pitot Static System.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 identify components of the pitot static system, to include:

   a. parts, to include:

      (1) static vents,

      (2) static line,

      (3) pitot pressure chamber, and

      (4) pitot line; and

   b. instruments, to include:

      (1) air speed indicator,

      (2) vertical speed indicator, and

      (3) altimeter.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain the pitot static system, to include: a. static vent, b. static line, c. pitot pressure chamber, d. pitot line, and e. operation of the pitot static system.	Interactive Lecture	10 min	C3-116 (pp. 39–40)
TP2	Explain instruments of the pitot static system, to include: a. airspeed indicator, b. vertical speed indicator, and c. altimeter.	Interactive Lecture	15 min	C3-116 (pp. 40–45)

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	25 min
c.	Total:	30 min

6. **Substantiation.** An interactive lecture was chosen for this lesson to review, clarify, emphasize, and summarize the pitot static system.

7. **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.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids.** N/A.

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

11. **Remarks.** N/A.

EO M370.02 – IDENTIFY AIRCRAFT MANUFACTURERS

1. **Performance.** Identify Aircraft Manufacturers.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 identify aircraft manufacturers, to include:

   a. Cessna Aircraft Company,

   b. Diamond Aircraft Industries,

   c. Piper Aircraft, Inc.,

   d. Viking Air,

   e. Airbus, and

   f. The Boeing Company.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Discuss manufacturers of light aircraft, to include: a. Cessna Aircraft Company, b. Diamond Aircraft Industries, c. Piper Aircraft, Inc., and d. Viking Air.	Interactive Lecture	15 min	C3-232 C3-233 C3-234 C3-235
TP2	Discuss manufacturers of heavy aircraft, to include: a. Airbus, and b. The Boeing Company.	Interactive Lecture	5 min	C3-236 C3-237
TP3	Conduct an activity to allow the cadets to test their ability to identify aircraft manufacturers.	In-Class Activity	5 min	

5. **Time**

   a. Introduction/Conclusion: 5 min

   b. Interactive Lecture: 20 min

   c. In-Class Activity: 5 min

   d. Total: 30 min

6. **Substantiation**

   a. 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.

   b. 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.

7. **References**

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

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

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

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

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

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

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids.** N/A.

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

11. **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.

EO M370.03 – DESCRIBE ROUTINE AIRCRAFT INSPECTION PROCEDURES

1. **Performance.** Describe Routine Aircraft Inspection Procedures.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 describe routine aircraft inspection procedures, to include:

   a. the pilot's inspection prior to flight;

   b. the cockpit check prior to flight; and

   c. required inspection schedules.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Describe the pilot's inspection prior to flight, to include: a. overall appearance of the aircraft, b. fuselage/empennage, c. wings, d. fuel, e. engine/propeller, f. instruments check, g. Emergency Locator Transmitter (ELT), h. seat belts, and i. doors and windows.	Interactive Lecture	10 min	C3-116 (pp. 281–283)
TP2	Describe the pilot's cockpit check prior to flight, to include: a. a written checklist for the specific aircraft type, b. run-up of the engine(s), c. switches, d. flaps set for takeoff, and e. control surface operation.	Interactive Lecture	10 min	C3-116 (p. 283)

TP	Description	Method	Time	Ref
TP3	Discuss an aircraft's required inspections, to include: a. Certificate of Airworthiness (C of A), b. Annual Airworthiness Information Report (AAIR), and c. approved maintenance schedules.	Interactive Lecture	5 min	C3-116 (p. 107)

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	25 min
c.	Total:	30 min

6. **Substantiation.** An interactive lecture was chosen for this lesson to orient the cadets to routine aircraft inspections, give an overview of them, and to generate interest.

7. **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.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids.** Handout of checklist main points.

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

11. **Remarks.** N/A.

EO C370.01 – IDENTIFY TASKS REQUIRED TO MAINTAIN AIRCRAFT

1. **Performance.** Identify Tasks Required to Maintain Aircraft.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 identify tasks required to maintain aircraft, to include:

   a. maintenance, and

   b. elementary work.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Discuss aircraft maintenance work, to include: a. maintenance certification, and b. examples of maintenance requiring certification.	Interactive Lecture	10 min	C3-096 (pp. 345–347)
TP2	Discuss elementary work, to include: a. specific tasks designated as elementary work, and b. recording elementary work.	Interactive Lecture	15 min	C3-096 (pp. 345–347) C3-210 C3-211

5. **Time**

   a. Introduction/Conclusion: 5 min

   b. Interactive Lecture: 25 min

   c. Total: 30 min

6. **Substantiation.** An interactive lecture was chosen for this lesson to review, clarify, emphasize and summarize the tasks required to maintain aircraft.

7. **References**

   a. C3-096 (ISBN 1715-7382) Transport Canada. (2006). *Aeronautical Information Manual*. Ottawa, ON: Her Majesty the Queen in Right of Canada.

   b. C3-210 (ISBN 0-660-62327-7) Transport Canada. (2003). *Aircraft Journey Log*. Ottawa, ON: Her Majesty the Queen in Right of Canada.

   c. C3-211 (ISBN 0-660-19017-6) Transport Canada. (2005). *Airframe Log*. Ottawa, ON.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids.** Handouts of Record of Maintenance and Elementary Work.

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

11. **Remarks.** N/A.

EO C370.02 – DESCRIBE MATERIALS USED IN AIRCRAFT CONSTRUCTION

1. **Performance.** Describe Materials Used in Aircraft Construction.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 describe materials used in aircraft construction, to include:

   a. wood,

   b. fabric,

   c. composites, and

   d. metals.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Describe wood and fabric used in aircraft construction, to include: a. species of wood, b. assessment of wood, c. organic fabric, and d. inorganic fabric.	Interactive Lecture	5 min	C3-136 (pp. 3-1 to 3-16)
TP2	Describe composites used in aircraft construction, to include: a. fibreglass, b. aramid, c. carbon/graphite, and d. ceramic.	Interactive Lecture	15 min	C3-136 (pp. 3-22 to 3-27)
TP3	Describe metals used in aircraft construction, to include: a. aluminum, b. Alclad®, c. magnesium, d. titanium, and e. stainless steel.	Interactive Lecture	5 min	C3-136 (pp. 2-1 to 2-15)

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	25 min
c.	Total:	30 min

6. **Substantiation.** An interactive lecture was chosen for this lesson to review, clarify, emphasize and summarize materials used in aircraft construction.

7. **References.** C3-136 (ISBN 0-88487-207-6) Sanderson Training Systems. (2001). *A&P Technician Airframe Textbook*. Englewood, CO: Jeppesen Sanderson Inc.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids.** N/A.

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

11. **Remarks.** N/A.

EO C370.03 – IDENTIFY BASIC POWER TOOLS USED IN AIRCRAFT MANUFACTURING AND MAINTENANCE

1. **Performance.** Identify Basic Power Tools Used in Aircraft Manufacturing and Maintenance.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 identify basic power tools used in aircraft manufacturing and maintenance, to include:

   a. power hand tools,

   b. shop equipment, and

   c. fastening tools.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Describe the characteristics and methods of application for power hand tools used with aircraft, to include: a. drill, b. reciprocating saw, and c. sander.	Interactive Lecture	5 min	C3-136 (pp. 2-19 to 2-24)

TP	Description	Method	Time	Ref
TP2	Describe the characteristics and methods of application for shop equipment used with aircraft, to include: a. forming tools, to include: (1) bar folding machine, (2) cornice brake, and (3) slip roll former; b. compound curve tools, to include: (1) mechanical compound curve tools, and (2) manual compound curve tools; and c. cutting tools, to include: (1) squaring shear, (2) scroll shear, (3) band saw, (4) drill press, (5) lathe, and (6) rotary punch press.	Interactive Lecture	5 min	C3-136 (pp. 2-22 to 2-61)
TP3	Describe the characteristics and methods of application for fastening tools and associated fasteners used with aircraft, to include: a. rivet gun, b. rivet cutter, c. bucking bar, d. squeezer, and e. rivet.	Interactive Lecture	5 min	C3-137 (pp. 8-1 to 8-38)
TP4	Conduct a tool identification activity.	In-Class Activity	10 min	

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	15 min
c.	In-Class Activity:	10 min
d.	Total:	30 min

6. **Substantiation**

a. An interactive lecture was chosen for TPs 1–3 to identify basic power tools used in aircraft manufacturing and maintenance and to give an overview of them.

b. An in-class activity was chosen for TP 4 as it is an interactive way to confirm the cadets' comprehension of the material.

7. **References**

a. C3-136 (ISBN 0-88487-205-6) Sanderson Training Systems. (2001). *A&P Technician Airframe Textbook*. Englewood, CO: Jeppesen Sanderson Inc.

b. C3-137 (ISBN 0-88487-203-3) Sanderson Training Systems. (2000). *A&P Technician General Textbook*. Englewood, CO: Jeppesen Sanderson Inc.

8. **Training Aids**

a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area

b. Handout of pictures of shop tools with and without titles.

9. **Learning Aids.** N/A.
10. **Test Details.** N/A.
11. **Remarks.** N/A.

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,

(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

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.

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EO C370.05 – TOUR AN AIRCRAFT RESTORATION PROJECT

1. **Performance.** Tour an Aircraft Restoration Project.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) Assistance as required.

   b. Denied: N/A.

   c. Environmental: The squadron Commanding Officer will determine the conditions suitable for this training.

3. **Standard.** The cadet shall tour an aircraft restoration project to identify aspects of:

   a. the aircraft type being restored,

   b. the history of the particular aircraft being restored, and

   c. the work that is necessary for restoration.

4. **Teaching Points.** The tour guide is asked to:

   a. identify aspects of the aircraft type that is being restored, to include:

      (1) the manufacturer,

      (2) purpose,

      (3) history, and

      (4) performance capabilities;

   b. identify details of the particular aircraft being restored, to include:

      (1) history, and

      (2) restoration work that is being undertaken; and

   c. facilitate a question and answer period.

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Field Trip:	80 min
c.	Total:	90 min

6. **Substantiation.** A field trip was chosen for this lesson as it will reinforce the knowledge of material taught in EO M230.02 (Describe the Main Components of an Airplane) through observation of a restoration project in a real-life setting.

7. **References.** N/A.

8. **Training Aids.** N/A.
9. **Learning Aids.** N/A.
10. **Test Details.** N/A.
11. **Remarks.** There is no instructional guide for this EO.

SECTION 19

PO 390 – NAVIGATE A ROUTE USING A MAP AND COMPASS

1. **Performance.** Navigate a Route Using a Map and Compass.

2. **Conditions**

   a. Given:

      (1) Map,

      (2) Compass,

      (3) Supervision, and

      (4) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Field setting during the day.

3. **Standard.** The cadet will navigate a six-leg predetermined route no longer than two kilometres, using a map and compass by:

   a. reading six-figure grid references;

   b. determining bearing and distance;

   c. following the bearing; and

   d. pacing the route.

4. **Remarks.** N/A.

5. **Complementary Material**

   a. Complementary material associated with PO 390 is designed to enhance the cadet's knowledge of map and compass and survival skills, to include:

      (1) EO C390.01 (Identify Types of Maps),

      (2) EO C390.02 (Interpret Contour Lines),

      (3) EO C390.03 (Orient a Map by Inspection),

      (4) EO C390.04 (Orient a Map Using a Compass),

      (5) EO C390.05 (Calculate Magnetic Declination),

      (6) EO C390.06 (Determine Direction Using the Sun),

      (7) EO C390.07 (Determine Direction at Night),

      (8) EO C390.08 (Use Blazing Techniques),

      (9) EO C390.09 (Identify Elements of the Night Sky),

      (10) EO C390.10 (Identify Methods of Preparing and Cooking a Small Animal or Fish),

      (11) EO C390.11 (Construct Camp Crafts),

      (12) EO C390.12 (Perform Minor First Aid in a Field Setting),

(13) EO C390.13 (Act as a Member of a Ground Search and Rescue [SAR] Party), and

(14) EO C390.14 (Participate in a Presentation Given by a Guest Speaker from the Search and Rescue [SAR] Community).

b. Some complementary material offered in previous levels may be selected as complementary training in Proficiency Level Three, specifically:

(1) EO C290.04 (Collect Drinking Water Using a Solar Still, A-CR-CCP-802/PG-001, Chapter 4, Section 16).

EO M390.01 – IDENTIFY PARTS OF THE COMPASS

1. **Performance.** Identify Parts of the Compass.

2. **Conditions**

   a. Given:

      (1) Compass,

      (2) Supervision, and

      (3) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Field setting during the day.

3. **Standard.** IAW B-GL-382-005/PT-001 *Maps, Field Sketching, Compasses and the Global Positioning System*, the cadet shall:

   a. identify the parts of the compass; and

   b. set a predetermined declination.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain the principles behind the workings of a compass.	Interactive Lecture	5 min	A2-036 (pp. 5-29 to 5-31)

TP	Description	Method	Time	Ref
TP2	Identify and describe the parts of the compass, to include: a. sight, b. compass cover, c. sighting mirror, d. sighting line, e. luminous index point, f. compass dial, g. dial graduations, h. orienting arrow, i. romer 1 : 25 000, j. compass base plate, k. declination scale, l. compass meridian lines, m. magnetic needle, n. luminous orienting points, o. luminous index point, p. romer 1 : 50 000, q. safety cord or lanyard, r. adjustable wrist lock, s. screwdriver, and t. declination adjustment screw.	Interactive Lecture	10 min	A2-041 (pp. 66–67)
TP3	Explain, demonstrate and have cadets set a predetermined declination, to include: a. defining declination; and b. adjusting the declination on a compass.	Demonstration and Performance	10 min	A2-041 (pp. 67–68)

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	15 min
c.	Demonstration and Performance:	10 min
d.	Total:	30 min

6. **Substantiation**

a. An interactive lecture was chosen for TPs 1 and 2 to present background material and introduce the parts of a compass to the cadets.

b. Demonstration and performance was chosen for TP 3 as it allows the instructor to explain and demonstrate the skill the cadet is expected to acquire while providing an opportunity for the cadets to practice setting a predetermined declination under supervision.

7. **References**

   a. A2-036 A-CR-CCP-121/PT-001 Director Cadets 3. (2003). *Royal Canadian Army Cadet Reference Book*. Ottawa, ON: Department of National Defence.

   b. A2-041 B-GL-382-005/PT-001 Canadian Forces. (2006). *Maps, Field Sketching, Compasses and the Global Positioning System*. Ottawa, ON: Department of National Defence.

8. **Training Aids**

   a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area, and

   b. Compass.

9. **Learning Aids**

   a. Compass, and

   b. Predetermined declination.

10. **Test Details.** This EO is assessed IAW Chapter 3, Annex B, Appendix 6 (390 PC).

11. **Remarks.** TP 2 may need to be modified to reflect the type of compass used for the lesson.

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EO M390.02 – IDENTIFY MARGINAL INFORMATION AND CONVENTIONAL SIGNS

1. **Performance.** Identify Marginal Information and Conventional Signs.

2. **Conditions**

   a. Given:

      (1) Topographical map,

      (2) Supervision, and

      (3) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Field setting during the day.

3. **Standard.** The cadet shall identify:

   a. marginal information, to include:

      (1) name of the map sheet,

      (2) number of the map sheet and index of adjoining maps,

      (3) date of map data,

      (4) map scale,

      (5) scale bars,

      (6) contour interval,

      (7) legend of conventional signs,

      (8) military index number,

      (9) declination diagram, and

      (10) Universal Transverse Mercator (UTM) grid system; and

   b. conventional signs represented by a specific colour.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Identify and describe marginal information on a topographical map, to include: a. name of the map sheet, b. number of the map sheet and index of adjoining maps, c. date of map data, d. map scale, e. scale bars, f. contour interval, g. legend of conventional signs, h. military index number, i. declination diagram, and j. UTM grid system.	Interactive Lecture	20 min	A2-041 (pp. 7–13)

TP	Description	Method	Time	Ref
TP2	Conduct an activity where the cadets identify conventional signs by colour, to include: a. red, to include: (1) paved roads and highway numbers, and (2) areas of urban development; b. orange, which represents unpaved roads; c. black, to include: (1) cultural features, (2) toponyms (place names), (3) precise elevations, and (4) some symbols; d. brown, to include: (1) contour lines, (2) contour elevations, (3) spot elevations, (4) sand, (5) cliffs, and (6) other geographical features; e. blue, to include: (1) water, (2) permanent ice features, (3) names of water features, and (4) grid lines; f. green, which represents vegetation features (woods, orchards, and vineyards); g. white, which represents open fields; h. grey, which represents the legend of conventional signs; and i. purple, which represents updates over the original map.	In-Class Activity	30 min	A2-041 (pp. 19–26)

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Interactive Lecture:	20 min
c.	In-Class Activity:	30 min
d.	Total:	60 min

6. **Substantiation**

   a. An interactive lecture was chosen for TP 1 to introduce the details of marginal information to the cadet.

   b. An in-class activity was chosen for TP 2 as it is an interactive way to introduce conventional signs to the cadet.

7. **References.** A2-041 B-GL-382-005/PT-001 Canadian Forces. (2006). *Maps, Field Sketching, Compasses and the Global Positioning System*. Ottawa, ON: Department of National Defence.

8. **Training Aids**

   a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area, and

   b. Topographical maps.

9. **Learning Aids.** Topographical map.

10. **Test Details.** This EO is assessed IAW Chapter 3, Annex B, Appendix 6 (390 PC).

11. **Remarks.** N/A.

EO M390.03 – DETERMINE GRID REFERENCES (GRS)

1. **Performance.** Determine Grid References (GRs).

2. **Conditions**

   a. Given:

      (1) Topographical map,

      (2) Paper,

      (3) Pen/pencil,

      (4) Supervision, and

      (5) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Field setting during the day.

3. **Standard.** The cadet shall determine GRs, to include:

   a. a four-figure GR identifying the correct grid, and

   b. a six-figure GR to 100 m accuracy.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain: a. the use of grid lines and the difference between eastings and northings, in that: (1) eastings (X-axis) are a series of parallel lines plotted as an overlay to the map sheet, which are drawn from top to bottom and numbered, with two digits, sequentially from west to east; and (2) northings (Y-axis) are a series of parallel lines plotted as an overlay to the map sheet, which are drawn from left to right and numbered, with two digits, sequentially from south to north; and b. GR accuracy, in that: (1) a four-figure GR is accurate within a 1000 m square; and (2) a six-figure GR is accurate within a 100 m square.	Interactive Lecture	5 min	A2-041 (p. 37)

TP	Description	Method	Time	Ref
TP2	Explain, demonstrate, and have the cadet practice determining a four-figure GR, in that: a. four-figure GRs will have four numerical digits derived from the numbers assigned to the eastings and northings on the map sheet; b. the numbers are listed by recording the two-digit easting followed by the two-digit northing; and c. the grid lines that intersect in the bottom left corner of the grid square are used to identify that grid square.	Demonstration and Performance	10 min	A2-041 (p. 37)
TP3	Explain, demonstrate, and have the cadet practice estimating a six-figure GR by: a. creating an imaginary grid system (an overlay to divide a grid square into 100 equally sized smaller grid squares with 10 along the bottom edge and 10 along the left-side edge); b. noting that six-figure GRs will have six numerical digits derived from the numbers assigned to the eastings and northings on the map sheet and their estimated tenths; c. recognizing that the numbers are listed by recording the three-digit easting followed by the three-digit northing; and d. remembering that the grid lines that intersect in the bottom left corner of the grid square are used to identify that imaginary grid square.	Demonstration and Performance	10 min	A2-041 (p. 38, p. 39)
TP4	Define a romer as a device used for measuring a point within a grid square and identify the types of romers available for use and where to find them, to include: a. compass, b. protractor, and c. constructed.	Interactive Lecture	5 min	A2-041 (p. 40, p. 41)

TP	Description	Method	Time	Ref
TP5	Explain, demonstrate, and have the cadet construct a romer for use in determining six-figure GRs by: a. obtaining a blank piece of paper with a square edge; b. placing one side of the square edge along the 100 m scale bars; c. marking off 100 m segments beginning at the corner of the paper and working outward; d. numbering these markings from zero (at the corner of the paper) to ten; and e. repeating steps b. to d. for the adjacent edge.	Demonstration and Performance	10 min	A2-041 (p. 40, p. 41)
TP6	Explain, demonstrate, and have cadet practice determining a six-figure GR using a constructed romer, by: a. placing the corner of the constructed romer on the bottom left corner of the grid square, noting the four-figure GR; b. moving the constructed romer to the right the number of tenths required to align the romer directly to or before (never past) the conventional sign or location for which the GR is being determined; c. reading the value along the X-axis of the romer where it crosses the easting on the map sheet (the value at this intersection becomes the value for the third digit of the six-figure GR); d. moving the constructed romer up the number of tenths required for the corner of the romer to be positioned on or before (never past) the conventional sign or location for which the GR is being determined; e. reading the value along the Y-axis of the romer where it crosses the northing on the map sheet (the value at this intersection becomes the value for the sixth digit of the six-figure GR); and f. combining the two sets of digits to create the six-figure GR.	Demonstration and Performance	10 min	A2-041 (p. 38, p. 40)

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Interactive Lecture:	10 min
c.	Demonstration and Performance:	40 min
d.	Total:	60 min

6. **Substantiation**

   a. An interactive lecture was chosen for TPs 1 and 4 to introduce the grid system used to identify locations on a map.

   b. Demonstration and performance was chosen for TPs 2, 3, 5 and 6 as it allows the instructor to explain and demonstrate determining four- and six-figure GRs and the construction and use of romers while providing an opportunity for the cadet to practice these skills under supervision.

7. **References.** A2-041 B-GL-382-005/PT-001 Canadian Forces. (2006). *Maps, Field Sketching, Compasses and the Global Positioning System*. Ottawa, ON: Department of National Defence.

8. **Training Aids**

   a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area,

   b. Protractor,

   c. Constructed romer,

   d. Topographical maps,

   e. Paper, and

   f. Pen/pencil.

9. **Learning Aids**

   a. Topographical map,

   b. Paper, and

   c. Pen/pencil.

10. **Test Details.** This EO is assessed IAW Chapter 3, Annex B, Appendix 6, (390 PC).

11. **Remarks.** N/A.

EO M390.04 – DETERMINE DISTANCE ON A MAP AND ON THE GROUND

1. **Performance.** Determine Distance on a Map and on the Ground.

2. **Conditions**

   a. Given:

      (1) Topographical map,

      (2) Compass,

      (3) Calculator,

      (4) Paper,

      (5) Pen/pencil,

      (6) Supervision, and

      (7) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Field setting during the day.

3. **Standard.** The cadet shall determine distance:

   a. on a map by measuring; and

   b. on the ground by pacing.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain, demonstrate and have the cadet determine distance on a map, to include: a. measuring point-to-point; and b. measuring along a route between two points.	Demonstration and Performance	30 min	A2-041 (pp. 16–18) C2-041 (p. 50)
TP2	Explain, demonstrate and have the cadet pace by: a. determining a personal pace for 100 m; b. counting paces; and c. calculating distance.	Demonstration and Performance	15 min	C0-111 (p. 530, p. 531) C2-041 (p. 106)
TP3	Describe factors that affect pacing, to include: a. terrain, b. slopes, c. fatigue, d. equipment, e. weather, and f. obstacles.	Interactive Lecture	5 min	C0-111 (p. 530, p. 531)

TP	Description	Method	Time	Ref
TP4	Demonstrate and have the cadet practice determining distance using the pace-counting method over varied terrain.	Practical Activity	30 min	

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Demonstration and Performance:	45 min
c.	Interactive Lecture:	5 min
d.	Practical Activity:	30 min
e.	Total:	90 min

6. **Substantiation**

a. Demonstration and performance was chosen for TPs 1 and 2 as it allows the instructor to explain and demonstrate measuring distances on a map and determining personal pace, while providing an opportunity for the cadet to practice these skills under supervision.

b. An interactive lecture was chosen for TP 3 to introduce the factors that can affect the cadets' personal pace.

c. A practical activity was chosen for TP 4 as it is an interactive way for the cadet to experience pacing and the factors that affect it in a safe, controlled environment. This activity contributes to the development of pacing skills and knowledge in a fun and challenging setting.

7. **References**

a. A2-041 B-GL-382-005/PT-001 Canadian Forces. (2006). *Maps, Field Sketching, Compasses and the Global Positioning System*. Ottawa, ON: Department of National Defence.

b. C0-111 (ISBN 978-0-9740820-2-8) Tawrell, P. (2006). *Camping and Wilderness Survival: The Ultimate Outdoors Book* (2nd ed.). Lebanon, NH: Leonard Paul Tawrell.

c. C2-041 (ISBN 0-07-136110-3) Seidman, D., & Cleveland, P. (1995). *The Essential Wilderness Navigator*. Camden, ME: Ragged Mountain Press.

8. **Training Aids**

a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area,

b. Topographical maps (one per pair of cadets),

c. Calculator,

d. Paper, and

e. Pen/pencil.

9. **Learning Aids**

   a. Topographical map (one per pair of cadets),

   b. Calculator,

   c. Paper, and

   d. Pen/pencil.

10. **Test Details.** This EO is assessed IAW Chapter 3, Annex B, Appendix 6 (390 PC).

11. **Remarks.** N/A.

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EO M390.05 – DETERMINE BEARINGS ON A MAP AND ON THE GROUND

1. **Performance.** Determine Bearings on a Map and on the Ground.

2. **Conditions**

   a. Given:

      (1) Topographical map,

      (2) Compass,

      (3) Predetermined declinations,

      (4) Supervision, and

      (5) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Field setting during the day.

3. **Standard.** The cadet shall determine bearings on a map and on the ground.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Identify and explain the 16 points of a compass, to include: a. the four cardinal points, b. the four inter-cardinal points, and c. the eight intermediate points.	Interactive Lecture	10 min	A2-041 (p. 47)
TP2	Explain the degree system on a compass.	Interactive Lecture	5 min	A2-041 (p. 47)
TP3	Identify and explain the three norths, to include: a. true north, b. grid north, and c. magnetic north.	Interactive Lecture	5 min	A2-041 (p. 50, p. 51)
TP4	Explain bearings, to include: a. the definition of a bearing, and b. the types of bearings.	Interactive Lecture	5 min	A2-041 (pp. 48–50)

TP	Description	Method	Time	Ref
TP5	Explain, demonstrate and have the cadets practice determining a bearing on a map by: a. setting the predetermined declination on the compass; b. identifying and marking the start (point A) and finish (point B) points on a map; c. drawing a plotting ray from point A to point B; d. laying the fully opened compass with the edge of the compass base plate along the plotting ray, and the sighting arrow pointed in the direction of travel (point A to point B); e. holding the compass in place and rotating the compass dial so that the compass meridian lines align with the easting lines on the map, ensuring north on the dial points north on the map; and f. reading the bearing at the luminous index pointer.	Demonstration and Performance	15 min	A2-041 (p. 70)
TP6	Explain, demonstrate, and have cadets determine the bearing of a prominent object, using the following steps: a. Set the predetermined declination on the compass. b. Hold the compass at eye level and at arm's length, and turn to face the prominent object. c. Aim at the object using the compass sight, ensuring the sighting line is in line with the index pointer. d. Adjust the compass cover so the compass dial is seen in the sighting mirror. e. Look in the mirror and turn the compass dial until the magnetic needle is over the orienting arrow (put the red in the bed). f. Read the number on the compass dial at the luminous index pointer.	Demonstration and Performance	10 min	A2-041 (pp. 68–70)

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Interactive Lecture:	25 min
c.	Demonstration and Performance:	25 min
d.	Total:	60 min

6. **Substantiation**

   a. An interactive lecture was chosen for TPs 1–4 to introduce the cadets to the compass, the degree system, the three norths, and bearings.

   b. Demonstration and performance was chosen for TPs 5 and 6 as it allows the instructor to explain and demonstrate determining bearings on a map and on the ground while providing an opportunity for the cadets to practice these skills under supervision.

7. **References.** A2-041 B-GL-382-005/PT-001 Canadian Forces. (2006). *Maps, Field Sketching, Compasses and the Global Positioning System*. Ottawa, ON: Department of National Defence.

8. **Training Aids**

   a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area,

   b. Topographical map, and

   c. Compass.

9. **Learning Aids**

   a. Topographical map,

   b. Compass, and

   c. Predetermined declinations.

10. **Test Details.** This EO is assessed IAW Chapter 3, Annex B, Appendix 6 (390 PC).

11. **Remarks.** To preserve and reuse the maps, the maps should be covered or coated to allow the use of wet-erase markers instead of pencils or pens.

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EO C390.01 – IDENTIFY TYPES OF MAPS

1. **Performance.** Identify Types of Maps.

2. **Conditions**

   a. Given:

      (1) Examples of different types of maps, to include:

         (a) topographical,

         (b) orienteering,

         (c) street, and

         (d) road;

      (2) Topographical map worksheet,

      (3) Supervision, and

      (4) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Field setting during the day.

3. **Standard.** The cadet shall:

   a. identify types of maps, to include:

      (1) topographical,

      (2) orienteering,

      (3) street, and

      (4) road; and

   b. fold a map.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain the purpose of a map, in that: a. a map is a scale representation of the ground; b. a map uses symbols to represent both physical and man-made features found on the ground; c. maps identify locations such as towns, lakes, and rivers, by name; and d. map designs reflect the needs of the user (eg, urban planners, travellers, educators, cadets).	Interactive Lecture	5 min	C0-007 (pp. 9–11, p. 17, p. 18)

TP	Description	Method	Time	Ref
TP2	Describe the various types of maps, to include: a. topographical, b. orienteering, c. political, d. street, e. road, f. statistical, g. relief, h. outline, and i. air photo.	Interactive Lecture	5 min	A2-036 (p. 5–2) A2-041 (p. 5) C0-007 (pp. 11–14) C2-041 (pp. 27–30)
TP3	Describe how to care for a topographical map, to include: a. waterproofing the map; b. drying technique; c. only partially opening in a strong wind; d. using pencil and erasing when work is complete; and e. storing in a dry place, rolled, folded or laid flat.	Interactive Lecture	5 min	C2-041 (p. 58)
TP4	Explain, demonstrate, and have cadets practice folding a map.	Demonstration and Performance	10 min	A2-036 (p. 5–5) C2-041 (p. 58, p. 59)

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	15 min
c.	Demonstration and Performance:	10 min
d.	Total:	30 min

6. **Substantiation**

a. An interactive lecture was chosen for TPs 1–3 to orient the cadets to maps and present basic or background material on the purposes, types, and care of maps.

b. Demonstration and performance was chosen for TP 4 as it allows the instructor to explain and demonstrate folding a map while providing an opportunity for the cadets to practice folding a map under supervision.

7. **References**

a. A2-036 A-CR-CCP-121/PT-001 Director Cadets 3. (2003). *Royal Canadian Army Cadet Reference Book*. Ottawa, ON: Department of National Defence.

b. A2-041 B-GL-382-005/PT-001 Canadian Forces. (2006). *Maps, Field Sketching, Compasses and the Global Positioning System*. Ottawa, ON: Department of National Defence.

c. C0-007 (ISBN 0-02-029265-1) Kjellstrom, B. (1994). *Be Expert With Map and Compass: The Complete Orienteering Handbook*. New York, NY: Hungry Minds, Inc.

d. C2-041 (ISBN 0-07-136110-3) Seidman, D., & Cleveland, P. (1995). *The Essential Wilderness Navigator*. Camden, ME: Ragged Mountain Press.

8. **Training Aids**

a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area,

b. Maps, to include:

(1) topographical,

(2) orienteering,

(3) street, and

(4) road; and

c. Topographical map worksheet.

9. **Learning Aids**

a. Maps, to include:

(1) topographical,

(2) orienteering,

(3) street, and

(4) road; and

b. Topographical map worksheet.

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

11. **Remarks.** The maps listed in paragraph 8.b. are the minimum required to instruct this lesson.

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EO C390.02 – INTERPRET CONTOUR LINES

1. **Performance.** Interpret Contour Lines.

2. **Conditions**

   a. Given:

      (1) Contour line worksheets,

      (2) Supervision, and

      (3) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Field setting during the day.

3. **Standard.** IAW B-GL-382-005/PT-001, the cadet shall interpret contour lines in order to relate the actual shape of the ground to what is portrayed on a map.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain how contour lines are interpreted to indicate the shape of the ground, to include: a. relief, b. contour lines and intervals, c. the shape of the ground, and d. types of slopes, to include: (1) steep (lines spaced closely together), (2) gentle (lines spaced further apart), (3) uniform (lines spaced equally), (4) convex (gentle at the top, steep at the bottom), (5) concave (steep at the top, gentle at the bottom), (6) spurs (extends from a slope), and (7) re-entrants (cuts back into a slope).	Interactive Lecture	15 min	A2-041 (pp. 27–31)
TP2	Have the cadets interpret contour lines.	Practical Activity	10 min	

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	15 min
c.	Practical Activity:	10 min
d.	Total:	30 min

6. **Substantiation**

   a. An interactive lecture was chosen for TP 1 to illustrate to the cadets how to interpret contour lines.

   b. A practical activity was chosen for TP 2 as it is an interactive way to introduce cadets to interpreting contour lines in a safe, controlled environment. This activity contributes to the development of ground navigation skills and knowledge in a fun and challenging setting.

7. **References.** A2-041 B-GL-382-005/PT-001 Canadian Forces. (2006). *Maps, Field Sketching, Compasses and the Global Positioning System*. Ottawa, ON: Department of National Defence.

8. **Training Aids**

   a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area, and

   b. Contour line worksheets.

9. **Learning Aids.** Contour line worksheets.

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

11. **Remarks.** N/A.

EO C390.03 – ORIENT A MAP BY INSPECTION

1. **Performance.** Orient a Map by Inspection.

2. **Conditions**

   a. Given:

      (1) Topographical map of the exercise area,

      (2) The cadet's location on the map,

      (3) Supervision, and

      (4) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Field setting during the day with a minimum of three prominent objects that are located on the given map.

3. **Standard.** IAW B-GL-382-005/PT-001, the cadet shall orient a map by inspection by:

   a. selecting three prominent objects visually and finding them on the map;

   b. rotating the map until the three prominent objects line up with those same objects on the ground; and

   c. ensuring that all features on the map match the topography.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain the purpose of orienting a map.	Interactive Lecture	5 min	A2-041 (p. 75)
TP2	Explain and demonstrate how to orient a map, to include: a. identifying their approximate location on the map; b. selecting three prominent objects around the cadet's current location and finding them on the map; c. rotating the map until all identified objects on the map line up with the direction in which the objects are located on the ground; and d. ensuring that all features line up with their positions on the map.	Demonstration and Performance	20 min	A2-041 (p. 75)

5. **Time**

   a. Introduction/Conclusion: 5 min

   b. Interactive Lecture: 5 min

   c. Demonstration and Performance: 20 min

   d. Total: 30 min

6. **Substantiation**

   a. An interactive lecture was chosen for TP 1 to give the cadets an overview of the purpose of orienting a map.

   b. Demonstration and performance was chosen for TP 2 as it allows the instructor to explain and demonstrate orienting a map by inspection while providing an opportunity for the cadets to practice the skill under supervision.

7. **References.** A2-041 B-GL-382-005/PT-001 Canadian Forces. (2006). *Maps, Field Sketching, Compasses and the Global Positioning System*. Ottawa, ON: Department of National Defence.

8. **Training Aids**

   a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area,

   b. Demonstration map,

   c. Topographical map of the exercise area, and

   d. The cadets' location on the map.

9. **Learning Aids**

   a. Topographical map of the exercise area, and

   b. The cadets' location on the map.

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

11. **Remarks.** N/A.

EO C390.04 – ORIENT A MAP USING A COMPASS

1. **Performance.** Orient a Map Using a Compass.

2. **Conditions**

   a. Given:

      (1) Topographical map of the exercise area,

      (2) Compass,

      (3) Predetermined magnetic declination,

      (4) The cadet's location on the map.

      (5) Supervision, and

      (6) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Field setting during the day.

3. **Standard.** IAW B-GL-382-005/PT-001, the cadet shall orient a map using a compass.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain the purpose of orienting a map.	Interactive Lecture	5 min	A2-041 (p. 75)
TP2	Explain, demonstrate and have the cadets practice orienting a map using a compass by: a. identifying the approximate location on the map; b. setting the magnetic declination; c. setting the compass dial to north; d. laying the compass flat on the map with the cover open; e. pointing the mirror to north (top of the map); f. aligning the compass meridian lines with the map easting lines; g. turning the map until the magnetic needle lines up with the orienting arrow; and h. ensuring that all features line up with their positions on the map.	Demonstration and Performance	20 min	A2-041 (p. 76)

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	5 min
c.	Demonstration and Performance:	20 min
d.	Total:	30 min

6. **Substantiation**

   a. An interactive lecture was chosen for TP 1 to give the cadets an overview of the purpose of orienting a map.

   b. Demonstration and performance was chosen for TP 2 as it allows the instructor to explain and demonstrate orienting a map using a compass while providing an opportunity for the cadets to practice the skill under supervision.

7. **References.** A2-041 B-GL-382-005/PT-001 Canadian Forces. (2006). *Maps, Field Sketching, Compasses and the Global Positioning System*. Ottawa, ON: Department of National Defence.

8. **Training Aids**

   a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area,

   b. Demonstration map,

   c. Topographical map of the exercise area,

   d. Compass,

   e. Predetermined magnetic declination, and

   f. The cadet's location on the map.

9. **Learning Aids**

   a. Topographical map of the exercise area,

   b. Compass,

   c. Predetermined magnetic declination, and

   d. The cadet's location on the map.

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

11. **Remarks.** N/A.

EO C390.05 – CALCULATE MAGNETIC DECLINATION

1. **Performance.** Calculate Magnetic Declination.

2. **Conditions**

   a. Given:

      (1) Magnetic declination worksheet,

      (2) Pen/pencil,

      (3) Supervision, and

      (4) 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 calculate magnetic declination.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Discuss the three norths and magnetic declination, to include: a. true north, b. grid north, c. magnetic north.	Interactive Lecture	5 min	A2-041 (pp. 50–54)
TP2	Explain, demonstrate and have cadets calculate magnetic declination, to include: a. locating declination diagram; b. identifying the formula used to calculate magnetic declination; c. calculating magnetic declination by: (1) identifying grid magnetic angle; (2) identifying current year; (3) identifying year of declination information; (4) identifying annual change; (5) determining whether the annual change is positive or negative; (6) inputting the information into the formula; (7) solving for current declination; and (8) determining whether the magnetic declination is east or west.	Demonstration and Performance	15 min	A2-041 (pp. 53–58)

TP	Description	Method	Time	Ref
TP3	Have cadets calculate magnetic declination.	In-Class Activity	30 min	

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Interactive Lecture:	5 min
c.	Demonstration and Performance:	15 min
d.	In-Class Activity:	30 min
e.	Total:	60 min

6. **Substantiation**

   a. An interactive lecture was chosen for TP 1 to orient the cadet to calculating magnetic declination and present basic material.

   b. Demonstration and performance was chosen for TP 2 as it allows the instructor to explain and demonstrate calculating magnetic declination while providing an opportunity for the cadets to practice calculating magnetic declination under supervision.

   c. An in-class activity was chosen for TP 3 as it is an interactive way to reinforce calculating magnetic declination.

7. **References.** A2-041 B-GL-382-005-PT-001 Canadian Forces. (2006). *Maps, Field Sketching, Compasses and the Global Positioning System*. Ottawa, ON: Department of National Defence.

8. **Training Aids**

   a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area,

   b. Magnetic declination worksheet,

   c. Pen/pencil, and

   d. Magnetic declination worksheet answer key.

9. **Learning Aids**

   a. Magnetic declination worksheet, and

   b. Pen/pencil.

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

11. **Remarks.** Cadets may use a calculator if they wish.

EO C390.06 – DETERMINE DIRECTION USING THE SUN

1. **Performance.** Determine Direction Using the Sun.

2. **Conditions**

   a. Given:

      (1) Analog watch,

      (2) Supervision, and

      (3) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Field setting during the day with a clear view of the sun.

3. **Standard.** The cadet shall determine direction using the sun with:

   a. a shadow stick, and

   b. an analog watch.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain, demonstrate and have cadets determine direction using a shadow stick.	Demonstration and Performance	15 min	C3-002 (p. 351, p. 352)
TP2	Explain, demonstrate and have cadets determine direction using an analog watch.	Demonstration and Performance	10 min	C3-002 (p. 352, p. 353)

5. **Time**

   a. Introduction/Conclusion: 5 min

   b. Demonstration and Performance: 25 min

   c. Total: 30 min

6. **Substantiation.** Demonstration and performance was chosen for this lesson as it allows the instructor to explain and demonstrate determining direction using the sun while providing an opportunity for the cadets to practice the skill under supervision.

7. **References.** C3-002 (ISBN 0-00-653140-7) Wiseman, J. (1999). *The SAS Survival Handbook*. Hammersmith, London: HarperCollins Publishers.

8. **Training Aids**

   a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area, and

   b. Analog wall clock.

9. **Learning Aids**

   a. Analog watch, and

   b. Stick.

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

11. **Remarks.** Sticks to be collected by the cadets in the field.

EO C390.07 – DETERMINE DIRECTION AT NIGHT

1. **Performance.** Determine Direction at Night.

2. **Conditions**

   a. Given:

      (1) Sky map,

      (2) Red-filtered flashlight,

      (3) Supervision, and

      (4) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Field setting during the night with a clear view of the sky.

3. **Standard.** The cadet shall determine direction at night, to include:

   a. using the moon to determine south; and

   b. identifying the major constellations used to find Polaris (North Star).

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain, demonstrate and have cadets determine direction using the moon, to include: a. identifying the phases of the moon; and b. determining south.	Demonstration and Performance	10 min	C0-111 (p. 520, p. 567) C3-002 (p. 356)
TP2	Explain, demonstrate and have cadets identify the major constellations required to find Polaris, to include: a. Ursa Major (Big Dipper), b. Cassiopeia, c. Orion, and d. Ursa Minor (Little Dipper).	Demonstration and Performance	10 min	C0-111 (pp. 568–571) C3-002 (pp. 356–358)
TP3	Explain, demonstrate and have cadets locate Polaris using the major constellations identified in TP2.	Demonstration and Performance	5 min	C0-111 (p. 520, pp. 568–571)

5. **Time**

   a. Introduction/Conclusion: 5 min

   b. Demonstration and Performance: 25 min

   c. Total: 30 min

6. **Substantiation.** Demonstration and performance was chosen for this lesson as it allows the instructor to demonstrate determining direction at night while providing an opportunity for the cadet to practice the skill under supervision.

7. **References**

   a. C0-111 (ISBN 978-0-9740820-2-8) Tawrell, P. (2006). *Camping and Wilderness Survival: The Ultimate Outdoors Book* (2nd ed.). Lebanon, NH: Leonard Paul Tawrell.

   b. C3-002 (ISBN 0-00-653140-7) Wiseman, J. (1999). *The SAS Survival Handbook*. Hammersmith, London: HarperCollins Publishers.

8. **Training Aids**

   a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area,

   b. Sky map,

   c. Red-filtered flashlight, and

   d. Compass.

9. **Learning Aids**

   a. Sky map, and

   b. Red-filtered flashlight.

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

11. **Remarks.** N/A.

EO C390.08 – USE BLAZING TECHNIQUES

1. **Performance.** Use Blazing Techniques.

2. **Conditions**

   a. Given:

      (1) Handout of blazing techniques,

      (2) Supervision, and

      (3) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Field setting during the day.

3. **Standard.** The cadet shall:

   a. identify reasons for blazing;

   b. identify blazing techniques; and

   c. blaze a trail.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain the reasons for blazing, to include: a. leaving and returning to the site; and b. acting as a guide to a ground search and rescue (SAR) party.	Interactive Lecture	5 min	A3-016 (p. 169)
TP2	Explain and demonstrate blazing techniques, to include: a. blazing techniques, b. examples of blazing, to include (1) grass, (2) rocks, (3) trees, and (4) branches; and c. steps to blaze a trail.	Demonstration	10 min	A3-016 (pp. 169–172) C0-111 (p. 41 p. 547)
TP3	Have cadets blaze a trail.	Performance	10 min	

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	5 min
c.	Demonstration:	10 min
d.	Performance:	10 min
e.	Total:	30 min

6. **Substantiation**

   a. An interactive lecture was chosen for TP 1 to present basic material on blazing.

   b. Demonstration was chosen for TP 2 as it allows the instructor to explain and demonstrate blazing techniques.

   c. Performance was chosen for TP 3 as it provides an opportunity for the cadet to practice blazing techniques under supervision.

7. **References**

   a. A3-016 B-GG-217-001/PT-001 Director Air Operations and Training. (1983). *Down But Not Out*. Ottawa, ON: Department of National Defence.

   b. C0-111 (ISBN 978-0-9740820-2-8) Tawrell, P. (2006). *Camping and Wilderness Survival: The Ultimate Outdoors Book* (2nd ed.). Lebanon, NH: Leonard Paul Tawrell.

8. **Training Aids**

   a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area, and

   b. Handout of blazing techniques.

9. **Learning Aids.** Handout of blazing techniques.

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

11. **Remarks.** N/A.

EO C390.09 – IDENTIFY ELEMENTS OF THE NIGHT SKY

1. **Performance.** Identify Elements of the Night Sky.

2. **Conditions**

   a. Given:

      (1) Planisphere star chart,

      (2) Red-filtered flashlight,

      (3) Supervision, and

      (4) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Field setting during the night with a clear view of the sky.

3. **Standard.** The cadet shall identify elements of the night sky, to include:

   a. the moon,

   b. Venus,

   c. Polaris, and

   d. constellations, such as:

      (1) Ursa Major,

      (2) Ursa Minor,

      (3) Cassiopeia,

      (4) Orion, and

      (5) the signs of the zodiac.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Describe conditions required to view the elements of the night sky, to include: a. clouds, b. moon, and c. light pollution.	Interactive Lecture	5 min	C3-179 (p. 6, p. 48)
TP2	Explain, demonstrate and have the cadets use a planisphere star chart.	Demonstration and Performance	10 min	C3-180

TP	Description	Method	Time	Ref
TP3	Describe and have the cadets identify elements of the night sky, to include: a. the moon, b. Venus, c. Polaris, and d. constellations, such as: (1) Ursa Major, (2) Ursa Minor, (3) Cassiopeia, (4) Orion, and (5) the signs of the zodiac.	Practical Activity	95 min	C3-179 (pp. 120–135) C3-221

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Interactive Lecture:	5 min
c.	Demonstration and Performance:	10 min
d.	Practical Activity:	95 min
e.	Total:	120 min

6. **Substantiation**

a. An interactive lecture was chosen for TP 1 in order to orient the cadets to the conditions required to observe the elements of the night sky.

b. Demonstration and performance was chosen for TP 2 as it allows the instructor to explain and demonstrate how to use a planisphere star chart while providing an opportunity for the cadets to practice the skill under supervision.

c. A practical activity was chosen for TP 3 as it is an interactive way to introduce the cadets to elements of the night sky. This activity contributes to the development of astronomy skills and knowledge in a fun and challenging setting.

7. **References**

a. C3-179 (ISBN 1-55209-302-6) Dickenson, T. (2006). *Night Watch: A Practical Guide to Viewing the Universe*. Richmond Hill, ON: Firefly Books Ltd.

b. C3-180 (ISBN 1-55297-853-2) Scagell, R. (2004). *Firefly Planisphere: Latitude 42 Degrees North*. Toronto, ON: Firefly Books Ltd.

c. C3-221 National Research Council of Canada. (2007). *Explore the Night Sky*. Retrieved December 3, 2007, from http://www.nrc-cnrc.gc.ca/eng/education/astronomy/constellations/html.html.

8. **Training Aids**

a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area,

b. Planisphere star chart, and

c. Red-filtered flashlight.

9. **Learning Aids**

a. Planisphere star chart, and

b. Red-filtered flashlight.

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

11. **Remarks**

a. It is recommended this lesson be conducted after EO C340.04 (Describe Elements of the Night Sky, Section 6).

b. Planispheres may be created from EO C340.04 (Describe Elements of the Night Sky) A-CR-CCP-803/PF-001, Chapter 15, Section 6, Figure 15U-4 and Figure 15U-5.

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EO C390.10 – IDENTIFY METHODS OF PREPARING AND COOKING A SMALL ANIMAL OR FISH

1. **Performance.** Identify Methods of Preparing and Cooking a Small Animal or Fish.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Field setting during the day.

3. **Standard.** The cadet shall identify methods of preparing and cooking a small animal or fish, to include:

   a. skinning or preparing methods, and

   b. cooking methods.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain and demonstrate skinning a small animal, to include: a. removing urine; b. cutting a hole in the belly area; c. pulling the skin apart and removing the guts; d. cutting the skin around the front and hind paws; e. hanging the small animal; f. removing the skin; and g. cutting the head off the small animal.	Demonstration	15 min	C3-003 (p. 146)
TP2	Explain and demonstrate preparing a fish, to include: a. bleeding; b. gutting; c. scaling; and d. filleting.	Demonstration	15 min	C3-002 (p. 239)
TP3	Explain methods of cooking a small animal or fish and demonstrate one of the methods listed, to include: a. grilling; b. roasting; or c. frying.	Demonstration	20 min	C0-111 (p. 456) C3-002 (pp. 283–286)

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Demonstration:	50 min
c.	Total:	60 min

6. **Substantiation.** Demonstration was chosen for this lesson as it allows the instructor to explain and demonstrate skinning a small animal, preparing a fish and cooking a small animal or fish.

7. **References**

   a. C0-111 (ISBN 978-0-9740820-2-8) Tawrell, P. (2006). *Camping and Wilderness Survival: The Ultimate Outdoors Book* (2nd ed.). Lebanon, NH: Leonard Paul Tawrell.

   b. C3-002 (ISBN 0-00-653140-7) Wiseman, J. (1999). *The SAS Survival Handbook*. Hammersmith, London: HarperCollins Publishers.

   c. C3-003 (ISBN 1-896713-00-9) Tawrell, P. (1996). *Camping and Wilderness Survival: The Ultimate Outdoors Book*. Green Valley, ON: Paul Tawrell.

8. **Training Aids**

   a. Small animal (eg, rabbit or squirrel),

   b. Fish,

   c. Cord,

   d. Green sticks,

   e. Sheet of metal, and

   f. Knife.

9. **Learning Aids.** N/A.

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

11. **Remarks**

   a. Cadets who feel uncomfortable with skinning a small animal do not have to participate in that portion of the class but should be present for the TP on preparing a small animal or fish.

   b. If a rabbit or squirrel cannot be caught in a snare, it may be bought at a farmers' market or a similar venue.

   c. If a fish cannot be caught, it may be bought at a farmers' market or a similar venue.

EO C390.11 – CONSTRUCT CAMP CRAFTS

1. **Performance.** Construct Camp Crafts.

2. **Conditions**

   a. Given:

      (1) Knife,

      (2) Cord,

      (3) Axe,

      (4) Bow saw,

      (5) Diagrams detailing camp craft construction,

      (6) Supervision, and

      (7) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Field setting during the day.

3. **Standard.** The cadet, in pairs, shall construct two of the following camp crafts using natural materials:

   a. a ladder bed,

   b. a pack frame,

   c. a shower,

   d. a washstand,

   e. a drying rack,

   f. a tool rack,

   g. a camp craft for cooking, including:

      (1) a pot rod,

      (2) a swinging pot holder, or

      (3) a Chippewa kitchen;

   h. a wheelbarrow,

   i. a coat hanger,

   j. a simple bench,

   k. a bench with back rest,

   l. a camp table, or

   m. a friction-lock table.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Have the cadets, in pairs, construct two camp crafts from the following: a. a ladder bed, b. a pack frame, c. a shower, d. a washstand, e. a drying rack, f. a tool rack, g. a camp craft for cooking, such as: (1) a pot rod, (2) a swinging pot holder, or (3) a Chippewa kitchen; h. a wheelbarrow, i. a coat hanger, j. a simple bench, k. a bench with back rest, l. a camp table, or m. a friction-lock table.	Practical Activity	110 min	A0-039 C2-046 C3-002 (p. 309, p. 311, p. 372)

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Practical Activity:	110 min
c.	Total:	120 min

6. **Substantiation.** A practical activity was chosen for this lesson as it is an interactive way to allow the cadets to practice constructing camp crafts in a safe, controlled environment.

7. **References**

a. A0-039 CATO 11-08 Director Cadets 3. (1997). *Environmental Protection and Stewardship*. Ottawa, ON: Department of National Defence.

b. C2-046 PioneeringProjects.org. (2004). *PioneeringProjects.org*. Retrieved February 20, 2007, from http://www.pioneeringprojects.org/projects/index.htm.

c. C3-002 (ISBN 0-00-653140-7) Wiseman, J. (1999). *The SAS Survival Handbook*. Hammersmith, London: HarperCollins Publishers.

8. **Training Aids**

a. Knife,

b. Cord,

c. Axe,

d. Bow saw, and

e. Diagrams detailing camp craft construction.

9. **Learning Aids**

a. Knife,

b. Cord,

c. Axe

d. Bow saw, and

e. Diagrams detailing camp craft construction.

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

11. **Remarks**

a. Natural resources found in the field, such as fallen or dead wood, are to be used for construction.

b. The directives found in CATO 11-08, *Environmental Protection and Stewardship* are to be followed during this lesson.

c. The more difficult camp crafts should be constructed in advance for demonstration purposes.

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EO C390.12 – PERFORM MINOR FIRST AID IN A FIELD SETTING

1. **Performance.** Perform Minor First Aid in a Field Setting.

2. **Conditions**

   a. Given:

      (1) Cord,

      (2) First aid kit,

      (3) Supervision, and

      (4) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Field setting during the day.

3. **Standard.** The cadet shall perform minor first aid in a field setting, to include:

   a. taking action at the scene;

   b. moving a casualty to shelter, if necessary; and

   c. treating minor wounds and first-degree burns.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Demonstrate and have the cadets perform minor first aid for the following: a. breathing problems, to include the recovery position, b. exposure, c. shock, to include: (1) describing the circulatory system; (2) identifying the causes; (3) recognizing signs and symptoms; (4) preventing; and (5) treating; and d. dehydration, to include: (1) recognizing signs and symptoms; and (2) identifying prevention methods.	Demonstration and Performance	25 min	C2-030 (pp. 2–12, p. 52)

TP	Description	Method	Time	Ref
TP2	Demonstrate and have the cadets practice actions to be taken at an emergency scene, to include: a. ensuring personal safety; and b. following the steps in the Priority Action Approach, to include: (1) Airway and cervical spine (A), (2) Breathing (B), (3) Circulation (C), (4) Deadly bleeds (D), and (5) Shock (S).	Demonstration and Performance	30 min	C2-030 (pp. 13–17)
TP3	Demonstrate and have the cadets move a casualty to shelter, to include: a. moving and carrying over short distances, to include: (1) drags, (2) tarp drag method, (3) single-rescue carries, to include: (a) packstrap carry, (b) pickaback carry, and (c) carrying seat; and b. carrying over long distances using two-person carries, to include: (1) the fore-and-aft lift and carry, and (2) two-hand seat.	Demonstration and Performance	30 min	C0-111 (p. 1020) C2-030 (pp. 18–33)
TP4	Have the cadets identify: a. minor wounds, to include: (1) abrasions and scrapes, and (2) nicks and cuts; and b. types of burns, to include: (1) first-degree burns, (2) second-degree burns, and (3) third-degree burns.	Interactive Lecture	10 min	C2-030 (pp. 117–133, pp. 214–226)

TP	Description	Method	Time	Ref
TP5	Demonstrate and have the cadets treat: a. minor wounds, to include: (1) abrasions and scrapes, and (2) nicks and cuts; and b. first-degree burns, to include: (1) heat burns, and (2) radiation burns (sunburns).	Demonstration and Performance	15 min	C2-030 (pp. 117–133, pp. 214–226)

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Demonstration and Performance:	100 min
c.	Interactive Lecture:	10 min
d.	Total:	120 min

6. **Substantiation**

a. Demonstration and performance was chosen for TPs 1–3 and 5 as it allows the instructor to explain and demonstrate minor first aid while providing an opportunity for the cadet to practice and develop these skills under supervision.

b. An interactive lecture was chosen for TP 4 to introduce the cadets to the treatment of minor wounds and burns.

7. **References**

a. C0-111 (ISBN 978-0-9740820-2-8) Tawrell, P. (2006). *Camping and Wilderness Survival: The Ultimate Outdoors Book* (2nd ed.). Lebanon, NH: Leonard Paul Tawrell.

b. C2-030 (ISBN 0-7710-8250-9) Merry, W. (1994). *St. John Ambulance: The Official Wilderness First Aid Guide*. Toronto, ON: McClelland & Stewart Inc.

8. **Training Aids**

a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area,

b. Cord, and

c. First aid kit.

9. **Learning Aids**

a. Cord, and

b. First aid kit.

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

11. **Remarks.** There is no requirement for a qualified first aid instructor to teach the material contained in this lesson, as the cadets are not required to qualify in first aid; however, the instructor should be a qualified first-aider.

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EO C390.13 – ACT AS A MEMBER OF A GROUND SEARCH AND RESCUE (SAR) PARTY

1. **Performance.** Act as a Member of a Ground Search and Rescue (SAR) Party.

2. **Conditions**

   a. Given:

      (1) Prepared briefing,

      (2) Compass,

      (3) First aid kit,

      (4) Hand-held radio (one per two cadets),

      (5) Spare batteries,

      (6) Whistle,

      (7) Supervision, and

      (8) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Field setting during the day.

3. **Standard.** The cadet, in pairs, shall act as a member of a ground SAR party, to include:

   a. identifying lost person behaviour;

   b. limiting the search area;

   c. identifying clue orientation; and

   d. participating in a ground SAR exercise.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain: a. lost person behaviour, to include: (1) children (1–3 years), (2) children (3–6 years), (3) children (6–12 years), (4) older persons, (5) people with intellectual disabilities (all ages), and (6) hikers; and b. general information, to include: (1) category and circumstances, (2) terrain, (3) weather, (4) personality, (5) physical conditions, and (6) medical problems.	Interactive Lecture	10 min	A3-052 (pp. 71–75)
TP2	Explain and demonstrate limiting the search area, to include: a. why the search area is limited; b. confinement; and c. confinement methods.	Demonstration	20 min	A3-052 (pp. 84–87)
TP3	Explain and demonstrate clue orientation, to include: a. general principles, and b. searching for clues.	Demonstration	10 min	A3-052 (pp. 92–94)
TP4	Cadets, in pairs, will participate in a ground SAR exercise.	Practical Activity	70 min	

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Interactive Lecture:	10 min
c.	Demonstration:	30 min
d.	Practical Activity:	70 min
e.	Total:	120 min

6. **Substantiation**

   a. An interactive lecture was chosen for TP 1 to present the categories of lost persons and other general information to the cadets.

   b. Demonstration was chosen for TPs 2 and 3 as it allows the instructor to explain and demonstrate limiting the search area and clue orientation which the cadet is expected to learn.

   c. A practical activity was chosen for TP 4 as it is an interactive way to experience being a member of a search and rescue party. This activity contributes to the development of search and rescue skills and knowledge in a fun and challenging setting.

7. **References**

   a. A3-052 (ISBN 0-913724-30-0) LaValla, P. (1999). *Search Is an Emergency*. Olympia, WA: ERI International Inc.

   b. C3-208 (ISBN 0-7637-4807-2) National Association for Search and Rescue. (2005). *Fundamentals of Search and Rescue*. Mississauga, ON: Jones and Bartlett Publishers Canada.

8. **Training Aids**

   a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area,

   b. Prepared briefing,

   c. Compass (one per two cadets),

   d. First aid kit,

   e. Hand-held radio,

   f. Spare batteries, and

   g. Whistle.

9. **Learning Aids**

   a. Prepared briefing,

   b. Compass,

   c. First aid kit,

   d. Hand-held radio (one per two cadets),

   e. Spare batteries, and

   f. Whistle.

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

11. **Remarks**

   a. A briefing will be conducted before the practical activity, to include:

      (1) the scenario (eg, downed pilot, lost hiker),

      (2) the confinement area,

      (3) search bearing, and

(4) call signs.

b. The scenario's survival site should be set up prior to the activity.

EO C390.14 – PARTICIPATE IN A PRESENTATION GIVEN BY A GUEST SPEAKER FROM THE SEARCH AND RESCUE (SAR) COMMUNITY

1. **Performance.** Participate in a Presentation Given by a Guest Speaker From the Search and Rescue (SAR) Community.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) 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 participate in a presentation given by a guest speaker from the SAR community to gain awareness of their function.

4. **Teaching Points.** The SAR guest speaker is asked to:

   a. familiarize the cadets with:

      (1) the major purposes and activities,

      (2) occupations in the unit,

      (3) titles of positions,

      (4) duties of personnel,

      (5) training required to qualify for different duties,

      (6) variety of tasks,

      (7) equipment that is used,

      (8) working conditions; and

   b. describe their duties; and

   c. facilitate a question and answer period.

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Interactive Lecture:	50 min
c.	Total:	60 min

6. **Substantiation.** An interactive lecture was chosen for this lesson to review, clarify, emphasize and summarize the roles and activities of the SAR community.

7. **References.** N/A.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids.** N/A.

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

11. **Remarks**

    a. Members of the SAR community may include:

        (1) Local police,

        (2) Provincial police,

        (3) Royal Canadian Mounted Police (RCMP),

        (4) Canadian Forces (CF),

        (5) Canadian Coast Guard (CCG),

        (6) Civil Air Search and Rescue Association (CASARA), and

        (7) Search and Rescue Volunteer Association of Canada (SARVAC).

    b. There is no instructional guide for this EO.

INSTRUCTIONAL METHODOLOGIES AND THEIR APPLICATIONS

The various methods of instruction commonly accepted as appropriate for cadet training is outlined below.

Method	Developmental Period One Ages 12 – 14 Experience-Based	Developmental Period Two Ages 15 – 16 Developmental	Developmental Period Three Ages 17 – 18 Competency
Case Study	Not applicable	Applicable	Applicable
Demonstration and Performance	Applicable	Applicable	Applicable
Experiential Learning	Applicable	Applicable	Applicable
Field Trip	Applicable	Applicable	Applicable
Game	Applicable	Applicable	Applicable
Group Discussion	Applicable	Applicable	Applicable
Guided Discussion	Not applicable	Not applicable	Applicable
In-Class Activity	Applicable	Applicable	Applicable
Interactive Lecture	Applicable	Applicable	Applicable
Lecture	Applicable	Applicable	Applicable
On-the-job Training (OJT)	Not applicable	Not applicable	Applicable
Peer Learning	Not applicable	Not applicable	Applicable
Practical Activity	Applicable	Applicable	Applicable
Role Play	Not applicable	Applicable	Applicable
Self-Study	Not applicable	Not applicable	Applicable
Simulation	Not applicable	Not applicable	Applicable
Tutorial	Not applicable	Not applicable	Applicable

General information follows on each method for its age-appropriateness, definition, application, advantages and disadvantages.

Method(s)	Applications	Advantages	Disadvantages
DEMONSTRATION AND PERFORMANCE Cadets observe the instructor performing the task in a demonstration, and rehearse it under the supervision of the instructor.			
Demonstration Method A method of instruction where the instructor, by actually performing an operation or doing a job, shows the cadet what to do, how to do it and through explanations brings out why, where and when it is done.	**Demonstration Method** 1. To teach hands-on operations or procedures. 2. To teach troubleshooting. 3. To illustrate principles. 4. To teach operation or functioning of equipment. 5. To set standards of workmanship. 6. To teach safety procedures.	**Demonstration Method** 1. Minimizes damage and waste. 2. Saves time. 3. Can be presented to large groups.	**Demonstration Method** 1. Requires careful preparation and rehearsal. 2. Requires special classroom arrangements. 3. Requires equipment and aids.
Performance Method A method in which the cadet is required to perform, under controlled conditions, the operations, skill or movement being taught.	**Performance Method** 1. To teach hands-on operations or procedures. 2. To teach operations or functioning of equipment. 3. To teach team skills. 4. To teach safety procedures.	**Performance Method** 1. Builds confidence. 2. Enables learning evaluation. 3. Reduces damage and waste. 4. Promotes safety.	**Performance Method** 1. Requires tools and equipment. 2. Requires large blocks of time. 3. Requires more instructors.

Method(s)	Applications	Advantages	Disadvantages
EXPERIENTIAL LEARNING Learning in the cadet program is centred on experiential learning. This involves learning knowledge and skills from direct experience. People learn best from their own experiences and can then apply the knowledge and skills in new situations. The four stages of the cycle may be considered and applied to all activities within the Cadet Program, regardless of methodology chosen. **Stage 1: Concrete Experience.** Cadets have an experience and take time to identify and define what the experience is. Sample activities: direct observations, simulations, field trips, and reading. **Stage 2: Reflective Observation.** Cadets need to reflect on and examine what they saw, felt and thought while they were having the experience. Sample activities: discussion, journals/logs, and graphs. **Stage 3: Abstract Conceptualization.** Cadets work to understand and make connections from the experience to new or different situations. Sample activities: interview, discussion, model building, analogies and planning. **Stage 4: Active Experimentation.** Cadets look ahead to and plan the application of skills and knowledge acquired to future experience. Sample activities include: simulation, fieldwork. **Note:** The cycle is ongoing as each learning experience builds on another.	1. To teach practical skills. 2. To learn how to learn. 3. To teach transferable skills. 4. To teach a process or principle. 5. To teach problem solving.	1. Knowledge is shared and created by collectively by all participants. 2. Everyone is actively involved in the teaching – learning process. 3. Appeals to many learning styles. 4. Student centred.	1. Resource intensive. 2. Requires significant planning, preparation and organization prior to activity. 3. The instructor must master the subject developed. 4. Instructor needs very good pedagogical skills. 5. May not be a good process for learning details. 6. The instructor must be a good facilitator to carry out an effective reflective session in stage 2 & 3 of this method.
FIELD TRIP Theoretical knowledge is reinforced through participation in an activity in a real-life setting. Prior planning helps to ensure all pre-training and safety standards are met. Field trip activities are planned and carried out to achieve clear instructional objectives that are understood by the cadets. Examples can include trips to areas of local interest, flying/gliding, hiking or sailing.	1. To introduce/illustrate and confirm topics. 2. To allow for familiarization activities.	1. Immerses cadets in a specific environment.	1. May require additional staff to ensure adequate supervision. 2. Requires significant planning, preparation and organization prior to activity. 3. May have cost implications.

Method(s)	Applications	Advantages	Disadvantages
GAME Games are used with one or more participants to practice skills, apply strategies and enhance teams. It is critical that the game supports learning through the provision of a challenging activity that allows for the skill practice or knowledge confirmation.	1. To introduce a topic. 2. To discover concepts and principles. 3. To review and confirm.	1. Fun and interesting. 2. Creates ownership. 3. Highly participative.	1. May stratify the group by creating a winner and a loser. 2. May be difficult in providing instructor feedback.
GROUP DISCUSSION Cadets discuss issues, share knowledge, opinions and feelings about a topic in small groups to meet a specified goal. The instructor's questioning is flexible and minimal, and aims at encouraging cadets to explore their own experiences and opinions through peer interaction.	1. To develop imaginative solutions to problems. 2. To stimulate thinking and interest and to secure cadet participation. 3. To emphasize main teaching points. 4. To supplement lectures and seminars. 5. To determine how well cadets understand the concepts and principles. 6. To prepare cadets for application of theory or procedure. 7. To summarize, clarify points or review. 8. To prepare cadets for instruction that will follow. 9. To determine cadet progress and effectiveness of prior instruction.	1. Increases cadet interest. 2. Increases cadet acceptance and commitment. 3. Utilizes cadet knowledge and experience. 4. Results in more permanent learning because of the high degree of cadet participation/cognitive involvement.	1. Requires highly skilled instructors. 2. Time consuming. 3. Restricts size of group. 4. Requires selective group composition.

Method(s)	Applications	Advantages	Disadvantages
IN-CLASS ACTIVITY In-class activities encompass a wide variety of activity-based learning opportunities that can be used to reinforce instructional topics or to introduce cadets to new experiences. In-class activities should provoke thought and stimulate interest among cadets, while maintaining relevance to the performance objectives.	1. To reinforce instructional topics. 2. To orient cadets to the subject. 3. To give direction on procedures. 4. To illustrate the application of rules, principles or concepts. 5. To review, clarify, and/or summarize.	1. Provokes thought and stimulates interest among cadets. 2. Appeals to kinaesthetic learners.	1. Difficult to gauge cadet reaction. 2. Takes time to prepare.
INTERACTIVE LECTURE The instructor-driven methodology combines both lecture and interaction to meet lesson objectives. Lecture portions of the lesson are offset with relevant activities such as videos with discussion, games to confirm and completion of handouts.	1. To orient cadets to the subject. 2. To give instruction on procedures. 3. To illustrate the application of rules, principles or concepts. 4. To review, clarify, and/or summarize.	1. Saves time. 2. Permits flexibility of class size. 3. Requires less rigid space requirements. 4. Permits better control over content and sequence.	1. Difficult to gauge cadet reaction.
LECTURE This is a formal or semi-formal discourse in which the instructor presents a series of events, facts, principles, explores a problem or explains relationships.	1. To orient cadets to the subject. 2. To give instruction on procedures. 3. To illustrate the application of rules, principles or concepts. 4. To review, clarify, and/or summarize.	1. Proficient oral skills are required. 2. Useful for big groups. 3. Saves time because of fewer interruptions.	1. Requires preparation and a dynamic lecturer. 2. Cadets may be passive and uninvolved.

Method(s)	Applications	Advantages	Disadvantages
PRACTICAL ACTIVITY Practical activities encompass a wide variety of activity-based learning opportunities that can be used to reinforce and practice instructional topics or to introduce cadets to new experiences. Practical activities should stimulate interest among cadets and encourage their participation, while maintaining relevance to the performance objectives.	1. To introduce a subject. 2. To practice skills. 3. To review and/or reinforce.	1. Encourages participation. 2. Stimulates an interest in the subject. 3. Fun and interesting. 4. Creates ownership.	1. Requires significant planning, preparation and organization. 2. May require additional staff to ensure adequate supervision.