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**401 - 1230 Government Street**  
**Victoria, B.C.**  
**V8W 3X4**  
**Bid Fax: (250) 363-3344**

## **SOLICITATION AMENDMENT**

## **MODIFICATION DE L'INVITATION**

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

**Comments - Commentaires**

**Vendor/Firm Name and Address**  
**Raison sociale et adresse du**  
**fournisseur/de l'entrepreneur**

**Issuing Office - Bureau de distribution**  
Public Works and Government Services Canada -  
Pacific Region  
401 - 1230 Government Street  
Victoria, B. C.  
V8W 3X4

<b>Title - Sujet</b> MOUNTAIN BIKING - WHITEHORSE	
<b>Solicitation No. - N° de l'invitation</b> W4295-16C003/A	<b>Amendment No. - N° modif.</b> 001
<b>Client Reference No. - N° de référence du client</b> W4295-16C003	<b>Date</b> 2016-03-21
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$VIC-249-6936	
<b>File No. - N° de dossier</b> VIC-5-38236 (249)	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2016-04-08</b>	<b>Time Zone</b> <b>Fuseau horaire</b> Pacific Daylight Saving Time PDT
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input checked="" type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Cress, Christine	<b>Buyer Id - Id de l'acheteur</b> vic249
<b>Telephone No. - N° de téléphone</b> (250) 363-8442 ( )	<b>FAX No. - N° de FAX</b> ( ) -
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b>	

**Instructions: See Herein**

**Instructions: Voir aux présentes**

<b>Delivery Required - Livraison exigée</b>	<b>Delivery Offered - Livraison proposée</b>
<b>Vendor/Firm Name and Address</b> <b>Raison sociale et adresse du fournisseur/de l'entrepreneur</b>	
<b>Telephone No. - N° de téléphone</b> <b>Facsimile No. - N° de télécopieur</b>	
<b>Name and title of person authorized to sign on behalf of Vendor/Firm</b> <b>(type or print)</b> <b>Nom et titre de la personne autorisée à signer au nom du fournisseur/</b> <b>de l'entrepreneur (taper ou écrire en caractères d'imprimerie)</b>	
<b>Signature</b>	<b>Date</b>

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**Amendment 001 issued to amend the above noted solicitation document as follows:**

**1) Post answers to all enquiries received to date from potential bidders (Q&A's):**

**Question No. 1: Activity C and E appear to be on the same date (20 Jul) and same location (Mary Lake). Are a total of 6 guides needed at Mary Lake for 20 Jul?**

**Answer No. 1:** The schedule of work in paragraph 8 of the Statement of Work at Annex A has been updated to clarify things. Activity C and Activity E are on different dates.

**Question No. 2: Activity I has a start date of 30 Aug and end date of 7 Aug. Section 3. Objectives references 2 and 5 day trips. Please confirm which 5 days are required for the trip.**

**Answer No. 2:** Per updated schedule in section 8, activity I starts on 3 August until 7 August (5 day trip). 28 July – 1 August (Activity H) and 9 August – 13 August (Activity J) are the other two 5 day trips.

**Question No. 3: Remarks mentions route map in Section 11 but we do not see a section 11 in the SOW. Please confirm Section 9.1 is for the two day trips and 9.2 is for the 5 day trips.**

**Answer No. 3:** Routes maps are in paragraph 9 in the SOW (attached Map) in the document. 9.1 is 2 day activity G, and 9.2 is for the 5 day activity H-J.

**Question No. 4: Re Annex C – Insurance Requirements. Please confirm only \$2 Million of Liability insurance is required. The normal cadet standard is usually \$10 Million.**

**Answer No. 4:** \$2 Million insurance is all that is required for this Contract.

**2) Amend the solicitation document as follows:**

**UNDER PART 4, Section 4.1.1.1 Mandatory Technical Criteria - PRIOR TO AWARD**

Delete as shown.

Insert:

**4.1.1.1 Mandatory Technical Criteria - PRIOR TO AWARD**

These condition requirements must be met prior to award. If your documentation is not enclosed with your tender at solicitation closing, the documents that support your bid must be received within three (3) business days following a request from the Contracting Authority. Bids which do not meet or exceed all of the Mandatory Technical Criteria listed in Appendix 1 to Annex "A" will be deemed non-responsive and given no further consideration.

**UNDER ANNEX A – STATEMENT OF WORK**

Delete in its entirety.

Insert: (starts on next page)

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## **ANNEX A - STATEMENT OF WORK**

### **MOUNTAIN BIKE ACTIVITIES WHITEHORSE CADET TRAINING CENTRE**

#### **1. Title and Date**

- 1.1 Mountain Bike Activities -Whitehorse Cadet Training Centre (WCTC)
- 1.2 Period of the Contract: From date of contract to 31 August 2016, with an option to extend for one (1) additional one-year period from 01 September 2016 to 31 August 2017.

#### **2. Background**

- 2.1 The purpose of WCTC operations is to further the objectives of the Canadian Cadet Movement, for youth aged 12 to 18, by providing leadership and skills training for cadets to use at their home units. Training at WCTC ranges from basic indoctrination for new cadets to leadership, team building and instructional techniques training for second and third year cadets, and on the job training for fourth and fifth year cadets. Training is carried out during July and August of each year.
- 2.2 Located at Boyle Barracks, 20km south of Whitehorse, YT, WCTC is the only Cadet Training Centre "North of 60°". 40% of the course cadets come from the Territories. Our area of operations covers an area of the Yukon Territory consisting of the Robert Campbell Highway to the north, the South Canol Road to the east, Tagish to the south and Kusawa Lake to the west.
- 2.3 All training offered at WCTC is in order to meet the requirements of each performance and enabling objective (relevant versions enclosed) which is the reference document for all activities. Training is also focused on expedition activities which aim to develop leadership skills while enhancing individual self-concepts such as self-confidence, self-reliance, self-esteem and self-discipline.
- 2.4 Safety Standards for all bike activities are as per A-CR-CCP-951/PT-002 Adventure Training Safety Standards (relevant version attached).
- 2.5 Each group undergoing training will be directly supervised by a Canadian Armed Forces (CAF) Member or Regional Cadet Support Unit (NW) Employee. This person will participate in all activities but does not count towards the instructor to student ratio.
- 2.6 The courses offered at WCTC that are relevant have the following aims:
  - 2.6.1. The Expedition Instructor (EI) Course is a 40 day long course to develop a specialist with the skills and subject matter knowledge required to be an instructor of expedition subjects and a team leader during an expedition. These cadets will generally be 14 to 15 years of age.
  - 2.6.2. The Basic Expedition (BE) course is a 19 day long course to initiate cadets to the outdoors while integrating field training into an expedition setting. These cadets will generally be 13 to 14 years of age.

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2.7 The objectives of bike activities are:

2.7.1. To encourage outdoor physical activity; and

2.7.2. To enable personnel to safely bike the roads and trails of this country.

2.8 Bike activities can be broken down in two main categories: training and tripping.

2.8.1. Training refers to an activity limited to a single location usually a day or less in length. Most training activities will have performance and enabling objectives and performance checks (PC) for the instructor to teach and evaluate.

2.8.2. Tripping is an activity that moves from one point to another usually overnight for the day.

**3. Objectives**

3.1. This requirement is for the provision of instructors to conduct and supervise mountain bike training, one two-day trip, and three five-day overnight trips in the Yukon Territory. All activities will occur between 12 July 2016 and 13 August 2016.

**4. Scope of Work**

4.1 The Contractor will be required to provide instruction, supervision, technical expertise, navigation in mountain biking and camping during training sessions, a two-day long trip, and three five-day long trips in an isolated environment in order to meet the Performance and Enabling Objectives (as detailed below in Sections 8 and 10, and in attachments) and in accordance with the Adventure Training Safety Standards, and under the direction of a CAF Member or Regional Cadet Support Unit (NW) Employee. This plan is subject to change with respect to the order and layout of training, but not subject matter, without prior consultation between the Training Authority and the Contractor. The schedule of work with remarks is included in Section 8.

**5. Responsibilities**

5.1 The Contractor is responsible for:

5.1.1. Providing qualified personnel in accordance with the instructor requirements detailed in Appendix 1 to Annex "A".

5.1.2. Providing all clothing, camping equipment, transportation and rations for Contractor personnel.

5.1.3. The conduct and supervision of all technical and safety aspects of the activity in accordance with Adventure Training Safety Standards;

5.1.4. Providing navigation during tripping;

5.1.5. Being thoroughly familiar with routes, possible campsites, and water points;

5.1.6. Familiarising instructors and selecting routes and areas for training at Mary Lake with the objective of accomplishing the enabling objectives with minimal risk;

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- 5.1.7. Providing interpretive information along tripping routes of historical or natural significance and assist with camping routine;
  - 5.1.8. Being alert for and reacting to teachable moments to reinforce basic tripping and camping skills;
  - 5.1.9. Ensuring the minimal number of instructors are ready to instruct the activities assigned prior to the start times listed herein;
  - 5.1.10. Performing, or supervising, the field maintenance or repair of bikes with DND supplied parts and equipment during activities;
  - 5.1.11. Providing personal clothing, navigation equipment and maps, communications equipment, camping equipment, transportation, bikes, helmets, and rations for all instructors attending all activities;
  - 5.1.12. Assisting in planning of emergency procedures for the Trips;
  - 5.1.13. Participating in briefings and debriefings with the Officer in Charge and Students;
  - 5.1.14. Providing first aid to all on all activities;
  - 5.1.15. Providing first aid kits suitable, and sufficiently stocked including backboard, for the Activity and the instructor's qualification in accordance with Adventure Training Safety Standards;
  - 5.1.16. Appointing a liaison person to be on call (24–7) during activities and during regular office hours while an activity is not being conducted;
  - 5.1.17. Conducting themselves in accordance with the following rules and policies:
    - 5.1.17.1. Smoking during instruction or transportation is prohibited;
    - 5.1.17.2. The selling or giving of tobacco products to cadets is prohibited;
    - 5.1.17.3. Refraining from smoking in the presence of cadets;
    - 5.1.17.4. Smoking will only occur in designated areas separate and away from cadets;
    - 5.1.17.5. No drug use unless the individual is authorised to use the drug by a qualified medical or dental practitioner for the purposes of medical treatment or dental care or the drug is contained in a non-prescription medication used by the individual in accordance with the instructions accompanying the medication;
    - 5.1.17.6. To not introduce, possess, consume, or be under the influence of alcohol within eight hours of expected contact with cadets, while working with cadets, or in transport with cadets; and
    - 5.1.17.7. Relationships with cadets of an emotional, romantic, or sexual nature are not permitted. Reporting disciplinary problems to the Officer in Charge; and
  - 5.1.18. Provision of reports as per Section 7.

5.2 DND is responsible for:

- 5.2.1. Appointing an Expedition Coordinator and Safety Officer who will coordinate details with the contractor;
- 5.2.2. Arranging and paying for all permits or rights of access to training areas, camping spots, or other locations including those covered under the Comprehensive Land Claim Agreements;
- 5.2.3. Appointing an Officer in Charge for each activity who will oversee each activity;
- 5.2.4. Providing direction to contractor during activities within the scope of this contract;
- 5.2.5. Ensuring discipline amongst the group;
- 5.2.6. Providing personal clothing, camping equipment, transportation of cadets and equipment, bikes, helmets, and rations for all cadet and CAF personnel attending all activities;
- 5.2.7. Providing parts, materials, and tools needed for the field repair of mountain bikes
- 5.2.8. Paying any third party costs associated with emergency procedures or communications device use;
- 5.2.9. Providing communications devices for emergency and administrative use;
- 5.2.10. Providing emergency plans and support for activities.

**6. Language of Work**

- 6.1 The language of work, reports, and deliverables will be English.

**7. Reports and Deliverables**

- 7.1 Written interim and final reports must be provided to the Project Authority before the completion of project work i.e. monthly reports indicating any issues and resolutions, and a final report to summarize achievement of objectives including any observed strengths and weaknesses in aspects of the training and make recommendations for improvement, including any equipment or support deficiencies.

## 8. Schedule of Work

Activity	Start Date (2016)	Time Start Time (Hrs)	End Date (2016)	End Time (Hrs)	Group	Activity	Location	# of Personnel Participating	# of Students under Instructor to Student Ratio	Instr Req'd (addn'l instr permitted)	EOs	Remarks
A	12 Jul	1020	12Jul	1630	EI	Training	WCTC	35	31	3	S351.01 to S351.03	Subdivided into three groups. Slight overnumber of students is authorised.
B	15 Jul	0800	15 Jul	1700	EI	Training	WCTC	35	31	3	S351.01 to S351.04	Subdivided into three groups. Slight overnumber of students is authorised.
C	15 Jul	0830	15Jul	1630	BE	Training	Mary Lake	36	34	3	S251.03	Subdivided into three groups. Slight overnumber of students is authorised.
D	19 Jul	0800	19 Jul	1000	EI	Training	WCTC	35	31	3	S351.04	Subdivided into three groups. Slight overnumber of students is authorised.
E	20 Jul	0800	20-Jul	1700	EI	Training	Mary Lake	35	31	3	S352.01 & S352.02	Subdivided into three groups. Slight overnumber of students is authorised.
F	21 Jul	0800	21 Jul	1700	EI	Training	Mary Lake	35	31	3	S352.01 & S352.02	Subdivided into three groups. Slight overnumber of students is authorised.

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Amd 001  
File No. - N° du dossier  
VIC-5-38236

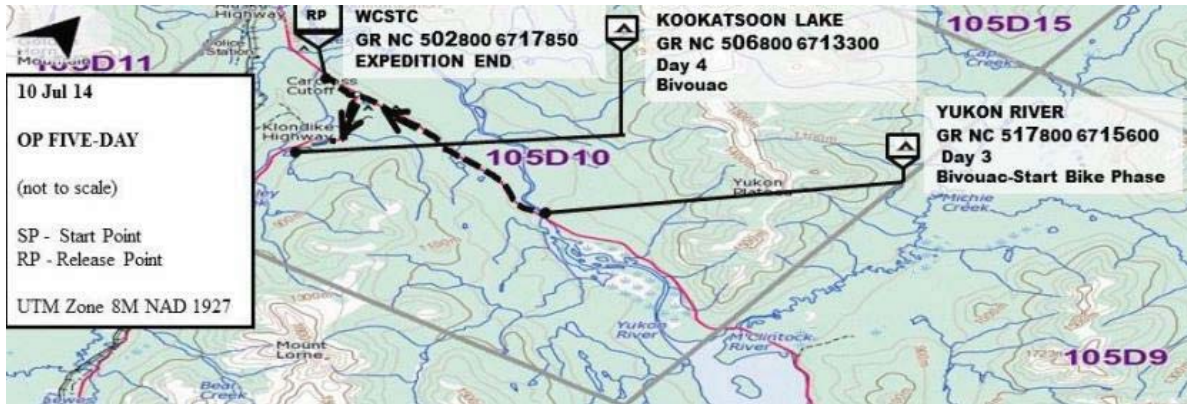
Buyer ID - Id de l'acheteur  
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Activity	Start Date (2016)	Time Start Time (Hrs)	End Date (2016)	End Time (Hrs)	Group	Activity	Location	# of Personnel Participating	# of Students under Instructor to Student Ratio	Instr Req'd (addn'l instr permitted)	EOs	Remarks
G	24 Jul	0800	25 Jul	1700	BE	Tripping	Marsh Lake to Kookatsoon Lake to WCTC	36	34	4	S226.04& S251PC	Subdivided into three groups. Route map at Section 9. Slight overnumber of students is authorised.
H	28 Jul	0800	1 Aug	1700	EI	Tripping	Lapie Canyon Campground to Teslin River along South Canol Trail	22	20	2	S355.04D	Subdivided into two teams. Route map at Section 9.
I	3 Aug	0800	7 Aug	1700	EI	Tripping	Lapie Canyon Campground to Teslin River along South Canol Trail	22	20	2	S355.04D	Subdivided into two teams. Route map at Section 9.
J	9 Aug	0800	13 Aug	1700	EI	Tripping	Lapie Canyon Campground to Teslin River along South Canol Trail	22	20	2	S355.04D	Subdivided into two teams. Route map at Section 9.

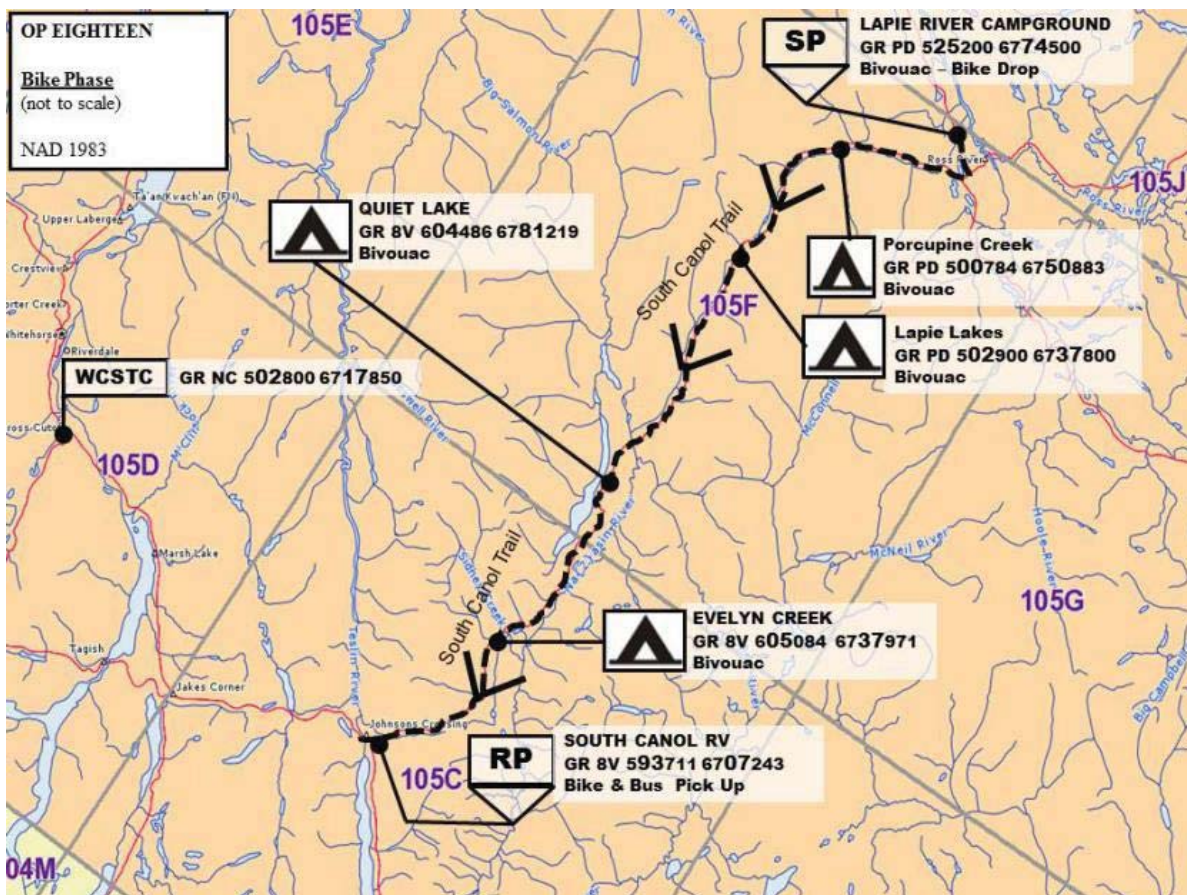


## 9. Routes

### 9.1 Activity G



### 9.2 Activity H-J



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## **10. Supporting documentation**

The following documents are included and form part of this solicitation and resulting contract:

- a) Cadet Administration and Training Orders (CATO) 13-22 – Smoking Policy
- b) Cadet Administration and Training Order (CATO) 13-23 – Drug and Alcohol Policy
- c) Cadet Administration and Training Order (CATO) 25-05 – Personal Relationships
- d) A-CR-CCP-951/PT-002 - Adventure Training Safety Standards
- e) A-CR-CCP-715/PG001 - Performance and Enabling Objectives – Bike Activities
- f) A-CR-CCP-704/PF001 – Gold Star Instructional Guide – Ride a Mountain Bike
- g) Appendix 1 to Annex “A” – MANDATORY TECHNICAL CRITERIA

**APPENDIX 1 TO ANNEX "A"**  
**MANDATORY TECHNICAL CRITERIA**

Item	Mandatory Technical Criterion	MET	NOT MET	FOR EACH CRITERIA, Provide Reference no. or Page no. where supporting documentation or substantial information in your bid can be found.
1	<p><b>Company Experience:</b></p> <p>Bidder must have experience performing services similar to what is contained in the Statement of Work in Annex A.</p> <p>Experience must be demonstrated by providing details of at least two (2) projects within the last five (5) years of similar size, scope and complexity to the requirement described in the Statement of Work.</p> <p>For <u>each</u> project, the Bidder must provide the following information, at a minimum:</p> <ul style="list-style-type: none"> <li>- Brief description of work;</li> <li>- Contact information for Client (name, address, telephone number, email address);</li> <li>- Volume of work that includes: number of trips, number of instructors, number of participants i.e. 20 trips with 15-20 participants and 2 instructors each trip;</li> <li>- Age range of participants;</li> <li>- Project dates and duration of trips;</li> <li>- Locations of trips; and</li> <li>- Total dollar value.</li> </ul> <p><u>Note:</u> This is the firm experience, not the individual instructor's experience.</p>			
2	<p><b>Instructor Requirements:</b></p> <p>2.1. All instructors must have valid Vulnerable Sector Screening (working with youth aged 12-18 yrs) and Police Records Check and be familiar with the enclosed performance and enabling objectives, and A-CR-CCP-951/PT-002 Adventure Training Safety Standards.</p>			

Item	Mandatory Technical Criterion	MET	NOT MET	FOR EACH CRITERIA, Provide Reference no. or Page no. where supporting documentation or substantial information in your bid can be found.
	<p>2.2. All instructors must meet the minimum acceptable level of qualifications from a recognized organization in mountain biking or outdoor guiding, or a standard "intermediate level" certification common to all of below, or an acceptable combination of education, training and/or experience. Recognized organizations include: CANBIKE, Association of Canadian Mountain Guides, International Mountain Bike Guides Association of Canada, Professional Mountain Bike Instructor Association.</p> <p>2.3. For all instructors for activities (Section 8) A-G, provide confirmation that instructors:</p> <ul style="list-style-type: none"> <li>a. Currently hold a valid certification in Standard First Aid or equivalent in Yukon;</li> <li>b. Have experience in instructing groups, preferably youth groups;</li> <li>c. Have experience in the field of repair and maintenance of bikes; and</li> <li>d. Possess demonstrated skill in biking to an intermediate level.</li> </ul> <p>2.4 For Instructors for the five-day trips (Section 8, Activities H-J) , provide confirmation that instructors:</p> <ul style="list-style-type: none"> <li>a. Currently hold a valid certification as a Wilderness First Responder;</li> <li>b. Are thoroughly familiar with the route;</li> <li>c. Have experience acting as a leader or assistant leader on similar routes that meet the minimum instructor-to-cadet ratio;</li> <li>d. Have experience in the field of repair and maintenance of bikes; and</li> </ul>			

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Item	Mandatory Technical Criterion	MET	NOT MET	FOR EACH CRITERIA, Provide Reference no. or Page no. where supporting documentation or substantial information in your bid can be found.
	e. Possess demonstrated skill in biking to an intermediate level.			

**All other terms and conditions of the bid solicitation remain the same.**

## SMOKING POLICY

### PURPOSE

1. This order describes the policy regarding smoking within the Canadian Cadet Organizations (CCO), the Cadet Instructors Cadre (CIC) and those employed or contracted in support of the CCO.

### GENERAL

2. The guidelines found in the present CATO are consistent with Part II of the *Canada Labour Code*, with Treasury Board (TB) directives and with the Canadian Cadet Movement's (CCM) promotion of a healthful lifestyle.

3. Existing federal law prohibits the sale of tobacco products to minors. In keeping with the intent of this law, smoking by cadets at LHQs during cadet activities and at CSTCs is to be discouraged.

4. This policy should be widely disseminated and included in all Joining Instructions in order to prevent any misunderstanding by cadets.

5. It is important to remember that cadet activities not taking place in a DND building are regulated by provincial smoking legislation and by the By-Laws of the municipality in which the activity takes place. These provincial and municipal requirements must be followed.

### CADET CORPS

6. To promote a safe and healthy environment free of tobacco smoke, cadet corps commanding officers must ensure that the following guidelines are followed:

## POLITIQUE – USAGE DU TABAC

### OBJET

1. La présente ordonnance énonce la politique relative à l'usage du tabac pour les Organisations de cadets du Canada (OCC), le Cadre des instructeurs de cadets (CIC) et les employés ou les contractuels embauchés comme personnel de soutien des OCC.

### GÉNÉRALITÉS

2. Les lignes directrices fournies dans la présente OAIC sont conformes aux dispositions de la Partie II du *Code canadien du travail*, aux directives du Conseil du Trésor (CT) ainsi qu'à la promotion d'un style de vie sain par le Mouvement des cadets du Canada (MCC).

3. Les lois fédérales en vigueur interdisent la vente de produits du tabac à des mineurs. Conformément à l'esprit de cette loi, il faut décourager l'usage du tabac par les cadets dans les QGL durant les activités de cadets et dans les CIEC.

4. Afin d'éviter tout malentendu chez les cadets, il faudrait diffuser cette politique à grande échelle et la publier dans toutes les instructions de ralliement.

5. Il ne faut surtout pas oublier que les activités des cadets qui ne se déroulent pas dans des édifices du MDN sont réglementées par la législation provinciale sur l'usage du tabac ainsi que par les règlements de la municipalité où les activités ont lieu. Ces exigences provinciales et municipales doivent être respectées.

### CORPS DE CADETS

6. Afin de fournir un environnement sain, sécuritaire et libre de toute fumée de tabac, les commandants (cmdt) des corps de cadets doivent s'assurer que les directives suivantes sont observées :



- |  |   |
|--|---|
| <p>a. continuing education program at cadet corps level to quit smoking is to be encouraged;</p> <p>b. smoking during instruction is prohibited;</p> <p>c. breaks, for the purpose of smoking during cadet activities are to be discouraged;</p> <p>d. the selling of tobacco products at cadet canteens and messes is prohibited;</p> <p>e. smoking during parade nights and other training activities:</p> <p style="padding-left: 40px;">(1) inside federal government buildings is prohibited, and</p> <p style="padding-left: 40px;">(2) inside non-federal government buildings is to be discouraged and is subject to provincial smoking legislation as well as local By-laws;</p> <p style="padding-left: 40px;">(3) outside or at the entrance(s) of a federal government building is prohibited if the federal government owns the land at the building entrance(s) or if smoking at the entrance(s) adversely impacts the internal air quality of the building;</p> <p style="padding-left: 40px;">(4) outside of or at the entrance(s) of a non-federal government building is subject to provincial smoking legislation as well as local By-laws;</p> <p>f. all personnel are to be encouraged to refrain from smoking in the presence of cadets; and</p> | <p>a. encourager un programme éducatif pour cesser de fumer au niveau des corps de cadets;</p> <p>b. il est interdit de fumer pendant l'instruction ;</p> <p>c. les pauses cigarette pendant les activités de cadets doivent être découragées ;</p> <p>d. la vente de tabac dans les cantines et instituts de cadets est interdite ;</p> <p>e. l'usage du tabac pendant les soirées de rassemblement et lors d'autres activités :</p> <p style="padding-left: 40px;">(1) à l'intérieur des édifices du gouvernement fédéral est défendu; et</p> <p style="padding-left: 40px;">(2) à l'intérieur des édifices n'appartenant pas au gouvernement fédéral doit être découragé et est assujetti à la législation provinciale ainsi qu'aux règlements municipaux;</p> <p style="padding-left: 40px;">(3) à l'extérieur ou à l'entrée d'un édifice du gouvernement fédéral est défendu si la qualité de l'air à l'intérieur est compromise et si le terrain à l'entrée de l'édifice appartient au gouvernement fédéral;</p> <p style="padding-left: 40px;">(4) à l'extérieur ou à l'entrée d'un édifice n'appartenant pas au gouvernement fédéral est assujetti à la législation provinciale ainsi qu'aux règlements municipaux;</p> <p>f. il faut inciter le personnel à s'abstenir de fumer en présence des cadets; et</p> |
|--|---|

- g. smoking is prohibited during transport to and from a cadet activity when transportation is provided by DND.

### **CADET SUMMER TRAINING CENTRE (CSTC)**

7. The above guidelines for cadet corps must be applied in all CSTCs. Because of the intense nature of the training offered during the summer at CSTCs, the Commanding Officers (COs) are encouraged to implement policies to reduce smoking by cadets and to provide a smoke-free environment.

8. When not prohibited by federal legislation, provincial legislation or municipal by-law, particular areas may be designated and identified as smoking areas. In addition, separate areas shall be designated for cadets, staff cadets and non-cadet personnel.

OPI: D Cdts 2

Date: Apr 05

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- g. il est interdit de fumer durant le transport à destination et en provenance d'une activité des cadets, à bord de véhicules fournis par le MDN.

### **CENTRE D'INSTRUCTION D'ÉTÉ DES CADETS (CIEC)**

7. Les lignes directrices qui s'appliquent aux corps de cadets doivent également s'appliquer aux CIEC. En raison des exigences de l'entraînement aux CIEC, les commandants (cmdt) sont encouragés à mettre en place des politiques qui réduisent l'usage du tabac chez les cadets et qui leur permettent d'offrir un environnement sans fumée.

8. Si la législation fédérale, provinciale municipale n'interdit pas l'usage du tabac, les endroits particuliers peuvent être désignés et identifiés comme aires pour fumeurs. De plus, ces aires doivent être distinctes pour les cadets, les cadets-cadres et les membres du personnel qui ne sont pas des cadets.

BPR : D Cad 2

Date : avril 05

Modificatif : Mod 2/05



**DRUG AND ALCOHOL POLICY****POLITIQUE RELATIVE AUX  
DROGUES ET À L'ALCOOL****PURPOSE**

1. This order establishes the CF policy regarding drugs and alcohol applicable to cadets and staff members involved with cadet activities.

2. The basis of this policy is to ensure cadets and staff members are not under the influence of prohibited drugs and alcohol and therefore are able to maintain the health and safety of all individuals participating in cadet activities.

3. This CATO should be read in conjunction with the following references:

- a. QR&O Chapter 20 Canadian Forces Drug Control Program;
- b. QR&O Chapter 103 Article 103.30 Drunkenness;
- c. DAOD 5019-4 Remedial Measures;
- d. DAOD 5019-3 Canadian Forces Drug Control Program;
- e. DAOD 5019-7 Alcohol Misconduct;
- f. DAOD 2008-3 Issue and Crisis Management;
- g. CATO 12-26 Significant Incident Report;
- h. CATO 15-22 Conduct and Discipline – Cadets; and
- i. A-AD-005-DCP/AG-000 Canadian Forces Drug Control Program Manual.

**BUT**

1. La présente OAIC a pour but de mettre en place la politique des FC relative aux drogues et à l'alcool visant les cadets et les membres du personnel prenant part à des activités avec des cadets.

2. La présente politique a pour but de s'assurer que les cadets et les membres du personnel ne sont pas sous l'influence de drogues interdites ou de l'alcool, et qu'ils soient en mesure de veiller à la santé et à la sécurité de toutes les personnes qui participent aux activités des cadets.

3. La présente OAIC doit se lire de concert avec les références suivantes :

- a. ORFC, chapitre 20, Programme des Forces canadiennes sur le contrôle des drogues;
- b. ORFC, chapitre 103, paragraphe 103.30, Ivresse;
- c. DOAD 5019-4, Mesures correctives;
- d. DOAD 5019-3, Programme des Forces canadiennes sur le contrôle des drogues;
- e. DOAD 5019-7, Inconduite liée à l'alcool;
- f. DOAD 2008-3, Gestion des problèmes et des crises;
- g. OAIC 12-26, Rapport d'incident d'importance;
- h. OAIC 15-22, Conduite et discipline – Cadets; et
- i. A-AD-005-DCP/AG-000, Le manuel du programme des Forces canadiennes sur

le contrôle des drogues.

## DEFINITIONS

4. The following terms shall be used in this CATO:

### “cadet”

a person of not less than twelve years of age but less than nineteen years of age who belongs to a cadet organization (Sea Cadets, Army Cadets, Air Cadets, or Junior Canadian Rangers) authorized by the Minister pursuant to the provisions of the *National Defence Act* (NDA).

*(cadet)*

### “Civilian Instructor (CI)”

a person who is employed as an instructor at a training establishment, and who is not a member of the CF.

*(Instructeur civil)*

### “civilian volunteer”

a person who provides services directly to or on behalf of DND and the CF, without compensation or any other thing of value in lieu of compensation in support of authorized cadet activities; who has completed a reliability screening and has been approved by the applicable League.

*(bénévole civil)*

### “prohibited drugs”

any drug being used for purposes other than those listed in paragraph 7.

*(drogues illégales)*

### “staff member”

all CF members, Civilian Instructors and

## DÉFINITIONS

4. Il convient d'utiliser les termes suivants dans la présente OAIC :

### « bénévole civil »

une personne qui donne des services (à l'appui d'activités de cadets autorisées) directement au MDN et aux FC ou en leur nom sans recevoir d'indemnité ni aucune autre rétribution en lieu et place d'une indemnité, laquelle personne a fait l'objet d'une vérification de fiabilité et a été approuvée par la ligue concernée.

*(civilian volunteer)*

### « cadet »

une personne âgée d'au moins douze ans et de moins de dix-neuf ans qui est membre d'une organisation de cadets (cadets de la Marine, cadets de l'Armée, cadets de l'Air ou Rangers juniors canadiens) reconnue par le Ministre en vertu des dispositions de la *Loi sur la défense nationale* (LDN).

*(cadet)*

### « drogues illégales »

toute drogue utilisée à des fins autres que celles énumérées au paragraphe 7.

*(Prohibited drugs)*

### « établissement d'instruction »

un corps de cadets de la Marine, un corps de cadets de l'Armée, un escadron de cadets de l'Air, un centre d'instruction régional ou un Centre d'instruction d'été des cadets (CIEC).

*(training establishment)*

### « Instructeur civil (IC) »

une personne employée comme instructeur

any other civilians employed in support of cadets but does not include a Staff Cadet.  
(*membre du personnel*)

**“training establishment”**

a Sea Cadet Corps, an Army Cadet Corps, an Air Cadet Squadron, a regional training centre, or a Cadet Summer Training Centre (CSTC).  
(*établissement d’instruction*)

dans un établissement d’instruction et qui n’est pas membre des FC.  
(*Civilian Instructor*)

**« membre du personnel »**

tous les membres des FC, instructeurs civils et tout autre civil embauchés à l’appui de cadets, à l’exclusion des cadets-cadres.  
(*staff member*)

**POLICY AWARENESS**

5. All staff members and cadets shall be made aware of this policy on an annual basis.

6. CSTC standing orders on drug and alcohol policy shall be brought to the attention of all staff and cadets in the joining instructions. Staff members and cadets shall be formally briefed at the start of each CSTC course.

**DRUG POLICY**

7. As per reference at para 3.a., no staff member or cadet shall use any drug unless:

- a. the individual is authorized to use the drug by a qualified medical or dental practitioner for the purposes of medical treatment or dental care; or
- b. the drug is contained in a non-prescription medication used by the individual in accordance with the instructions accompanying the medication.

**APPLICATION – STAFF MEMBERS**

8. Any suspected or alleged use of prohibited drugs by staff members shall be dealt with in the

**SENSIBILISATION À LA POLITIQUE**

5. Tous les membres du personnel et les cadets doivent être informés annuellement de la présente politique.

6. Les ordres permanents des CIEC ayant trait à la politique relative aux drogues et à l’alcool doivent être présentés à tous les membres du personnel et aux cadets dans le cadre des instructions de ralliement. Les membres du personnel et les cadets doivent officiellement être informés lors d’une séance au début de chaque cours au CIEC.

**POLITIQUE RELATIVE AUX DROGUES**

7. Conformément à la référence citée au paragraphe 3.a., aucun membre du personnel ni cadet ne doit consommer de drogue sauf dans les cas suivants :

- a. lorsqu’un médecin ou un dentiste qualifié a autorisé la personne à faire usage d’une drogue à des fins de traitements médicaux ou dentaires; ou
- b. la drogue fait partie intégrante d’un médicament disponible sans ordonnance dont la personne fait usage en conformité avec les instructions du médicament.

**MISE EN APPLICATION – MEMBRES DU PERSONNEL**

8. Toute consommation présumée de drogue illégale par un membre du personnel doit être

following manner:

- a. action shall be taken to remove the member from further immediate interaction with cadets;
- b. the suspected or alleged contravention shall be immediately reported to the training establishment CO;
- c. as soon as possible, the incident shall be reported to the RCSU CO, through the chain of command;
- d. administrative and/or disciplinary action shall be taken in accordance with refs at paras 3.c. and 3.d.;
- e. if a criminal or service offence is suspected or alleged to have been committed, the training establishment CO shall inform the Military Police or local civilian police as appropriate;
- f. action may be taken as follows:
  - (1) if the staff member is a **CF member**, administrative or disciplinary action shall be initiated by the member's chain of command, as per ref at para 3.d.,
  - (2) if the staff member is a **CI or civilian employee**, one of the following shall occur:
    - (a) an appropriate action determined by a collective agreement, or

traitée de la façon suivante :

- a. des mesures sont prises pour éviter les interactions directes avec d'autres cadets;
- b. l'infraction soupçonnée ou présumée doit être immédiatement signalée au cmdt de l'établissement d'instruction;
- c. dès que possible, l'incident doit être signalé au cmdt de l'URSC par l'entremise de la voie hiérarchique;
- d. des mesures administratives et/ou disciplinaires doivent être prises en conformité avec les références aux paragraphes 3.c. et 3.d.;
- e. s'il y a des soupçons ou des allégations selon lesquels une personne aurait commis une infraction criminelle ou une infraction d'ordre militaire, le cmdt de l'établissement d'instruction doit informer la police militaire ou le service de police civil de la région, le cas échéant;
- f. les mesures suivantes peuvent être prises :
  - (1) si le membre du personnel est un **membre des FC**, des mesures administratives ou disciplinaires doivent être amorcées par la voie hiérarchique, conformément à la référence citée au paragraphe 3.d.,
  - (2) si le membre du personnel est un **IC ou un employé civil**, l'une des démarches suivantes est entreprise :
    - (a) une mesure appropriée établie par une convention collective, ou

- (b) the current employment shall be terminated in accordance with the contract, and
  - (3) if the staff member is a **civilian volunteer** the training establishment CO is authorized to suspend all participation in cadet activities and terminate the volunteer agreement;
  - g. the training establishment CO shall inform the RCSU CO, through the chain of command of actions taken;
  - h. the RCSU CO will advise the applicable League of the circumstances; and
  - i. the RCSU CO shall immediately inform the applicable Region Commander and D Cdts & JCR by completing a Significant Incident Report in accordance with ref at para 3.g..
- (b) l'emploi actuel prendra fin conformément au contrat, et
  - (3) si le membre du personnel est un **bénévole civil**, le cmdt de l'établissement d'instruction est autorisé à suspendre toute participation du bénévole aux activités des cadets et à mettre fin à l'entente de service bénévole;
  - g. le cmdt de l'établissement d'instruction doit signaler les mesures prises au cmdt de l'URSC par l'entremise de la voie hiérarchique;
  - h. le Cmdt de l'URSC avisera la Ligue concernée des circonstances; et
  - i. le cmdt de l'URSC doit immédiatement informer le commandant de Région concerné ainsi que D Cad & RJC en rédigeant un Rapport d'incident d'importance, conformément à la référence citée au paragraphe 3.g..

#### APPLICATION – CADETS

9. Any suspected or alleged use of prohibited drugs by a cadet at a training establishment or any cadet activity, shall be dealt with in the following manner:

- a. the suspected or alleged contravention shall immediately be reported to the training establishment CO;
- b. if there is evidence that a criminal offence has been committed, the training establishment CO shall inform the Military Police or local civilian police as appropriate;
- c. as soon as possible, the incident shall be reported to the RCSU CO, through

#### MISE EN APPLICATION – CADETS

9. Toute consommation soupçonnée ou présumée de drogue illégale par un cadet doit être traitée de la façon suivante :

- a. l'infraction soupçonnée ou présumée doit être immédiatement signalée au cmdt de l'établissement d'instruction;
- b. si des preuves attestent qu'une infraction criminelle a été commise, le cmdt de l'établissement d'instruction doit informer la police militaire ou le service de police civil de la région, le cas échéant;
- c. dès que possible, l'incident doit être signalé au cmdt de l'URSC par

the chain of command;

- d. administrative and/or disciplinary action in accordance with ref at para 3.h.; and
- e. the RCSU CO shall immediately inform the Region Commander and D Cdts & JCR by completing a Significant Incident Report in accordance with ref at para 3.g..

10. In all cases of cadet involvement with drugs, consideration must be given to the impact his/her participation in the Canadian Cadet Organizations (CCO) may have on other cadets. Cadets must be counselled on the inappropriateness of drug use.

#### **ALCOHOL POLICY**

11. Staff members shall not introduce, possess or consume alcohol on a base, unit or element or in a building or area occupied by the Canadian Forces or utilized for a cadet activity, except:

- a. in a non-public property in which a general authority has been granted to possess or consume alcohol during specified hours (such as a mess); or
- b. in such other place and at such times approved by the RCSU CO.

12. Staff members shall not consume or be under the influence of alcohol while working with cadets.

13. Cadets shall not introduce, possess, serve, sell, consume or be under the influence of

l'entremise de la voie hiérarchique;

- d. des mesures administratives ou disciplinaires doivent être prises en conformité de la référence citée au paragraphe 3.h.; et
- e. le cmdt de l'URSC doit immédiatement informer le commandant de Région, ainsi que D Cad & RJC en rédigeant un Rapport d'incident d'importance, conformément à la référence citée au paragraphe 3.g..

10. Dans tous les cas de cadet ayant utilisé des drogues, il faut tenir compte de l'impact que leur participation au sein des Organisations de cadets du Canada (OCC) peut avoir sur les autres cadets. Les cadets doivent être conseillés relativement à l'usage inapproprié de drogues.

#### **POLITIQUE RELATIVE À L'ALCOOL**

11. Les membres du personnel ne doivent pas apporter d'alcool dans une base, une unité, un élément, un édifice ou un lieu occupé par les Forces canadiennes ou utilisés pour une activité à l'intention des cadets, ni être en possession d'alcool ou en consommer dans de tels lieux et de telles situations, sauf dans l'un ou l'autre des cas suivants :

- a. dans une propriété non publique pour laquelle un pouvoir général a été délégué de manière à autoriser la possession ou la consommation d'alcool durant des heures établies (notamment le mess); ou
- b. en tout autre lieu et moment approuvés par le cmdt de l'URSC.

12. Les membres du personnel ne doivent pas consommer, ni être sous l'effet de l'alcool lorsqu'ils travaillent avec les cadets.

13. Les cadets ne doivent pas apporter d'alcool à une activité de cadets, ni être en possession d'alcool, en servir, en vendre, en consommer ou

alcohol at any cadet activity.

#### APPLICATION – STAFF MEMBERS

14. Staff members suspected or alleged to have introduced, possessed or consumed alcohol contrary to this order shall be dealt with in the following manner:

- a. action shall be taken to remove the staff member from further immediate interaction with cadets;
- b. the suspected or alleged contravention shall be immediately reported to the training establishment CO;
- c. as soon as possible, the incident shall be reported to the RCSU CO, through the chain of command;
- d. administrative and/or disciplinary action in accordance with refs at paras 3.c. and 3.e.; and
- e. further action may be taken as follows:
  - (1) if the staff member is a **CF member**, administrative or disciplinary action shall be initiated by the member's chain of command, as per ref at paras 3.b. and 3.e.,
  - (2) if the staff member is a **CI or civilian employee** one of the following shall occur:
    - (a) an appropriate action determined by a collective agreement, or

en être sous son influence.

#### MISE EN APPLICATION – MEMBRES DU PERSONNEL

14. Tous soupçons ou toutes allégations d'infraction portés à l'endroit d'un membre du personnel selon lesquels il aurait apporté de l'alcool, en aurait eu en sa possession ou en aurait consommé de manière à enfreindre les dispositions de la présente ordonnance doivent donner lieu aux procédures suivantes :

- a. des mesures doivent être prises pour éviter que le membre du personnel interagisse directement avec les cadets;
- b. l'infraction soupçonnée ou présumée doit être immédiatement signalée au cmdt de l'établissement d'instruction;
- c. dès que possible, l'incident doit être signalé au cmdt de l'URSC par l'entremise de la voie hiérarchique;
- d. des mesures administratives ou disciplinaires doivent être prises en conformité avec les références citées aux paragraphes 3.c. et 3.e.; et
- e. d'autres mesures peuvent être prises :
  - (1) si le membre du personnel est un **membre des FC**, des mesures administratives ou disciplinaires doivent être amorcées par la chaîne de commandement du militaire, conformément aux ordonnances citées aux paragraphes 3.b. et 3.e.,
  - (2) si le membre du personnel est un **IC ou un employé civil**, l'une des démarches suivantes est entreprise :
    - (a) une mesure appropriée établie par une convention collective, ou

- (b) the current employment shall be terminated in accordance with the contract, or
- (3) if the staff member is a **civilian volunteer** the training establishment CO is authorized to suspend all participation in cadet activities and terminate the volunteer agreement,
- f. the training establishment CO shall inform the RCSU CO of actions taken;
- g. the RCSU CO will advise the applicable League of the circumstances; and
- h. the RCSU CO shall immediately inform the applicable Region Commander and D Cds & JCR by completing a Significant Incident Report in accordance with ref at para 3.g..

#### APPLICATION – CADETS

15. Cadets suspected or alleged to have introduced, possessed or consumed alcohol contrary to this order shall be dealt with in the following manner:

- a. action shall be taken to remove the cadet from further immediate interaction with cadets;
- b. the suspected or alleged contravention shall immediately be reported to the training establishment CO;
- c. as soon as possible, the incident shall be reported to the RCSU CO, through the chain of command;
- d. administrative and / or disciplinary action in accordance with ref at para

- (b) l'emploi actuel prend fin conformément au contrat, ou

- (3) si le membre du personnel est un **bénévole civil**, le cmdt de l'établissement d'instruction est autorisé à suspendre toute participation aux activités des cadets et à mettre fin à l'entente de service bénévole,

- f. le cmdt de l'établissement d'instruction doit informer le cmdt de l'URSC des mesures prises;
- g. le Cmdt de l'URSC avisera la Ligue concernée des circonstances; et
- h. le cmdt de l'URSC doit immédiatement informer le commandant de Région concerné ainsi que le D Cad & RJC en rédigeant un Rapport d'incident d'importance, conformément à la référence citée au paragraphe 3.g..

#### MISE EN APPLICATION – CADETS

15. Les cadets soupçonnés d'avoir introduits, détenus ou consommés de l'alcool de manière à enfreindre les dispositions de la présente ordonnance doivent être traités de la façon suivante :

- a. des mesures doivent être prises pour éviter les interactions directes avec les cadets;
- b. l'infraction soupçonnée ou présumée doit être immédiatement signalée au cmdt de l'établissement d'instruction;
- c. dès que possible, l'incident doit être signalé au cmdt de l'URSC par l'entremise de la voie hiérarchique;
- d. des mesures administratives ou disciplinaires doivent être prises en



3.h.; and

- e. the RCSU CO shall immediately inform the Region Commander and D Cdts & JCR by completing a Significant Incident Report in accordance with ref at para 3.g..

16. In all cases of cadet involvement with alcohol, consideration must be given to the impact his/her participation in the CCO may have on other cadets. Cadets must be counselled on the inappropriateness of alcohol use.

## **SOCIAL EVENTS**

17. When cadets are invited to attend or asked to support social events where alcoholic beverages will be served, staff members must ensure that non-alcoholic drinks are available for cadets. The hosts and/or servers must be made aware that cadets are not permitted to consume alcohol. No staff member in attendance is permitted to consume alcohol while directly supervising cadets that are present at the activity. This does not include adults who are present but not directly responsible for the supervision of cadets.

18. In public places staff are to conduct themselves in a manner so as not to bring discredit upon the CF or the CCO including the appropriate and moderate consumption of alcohol.

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Date: Nov 11  
Amendment: Ch 12/11

conformité avec la référence citée au paragraphe 3.h.; et

- e. le cmdt de l'URSC doit immédiatement informer le commandant de Région, ainsi que D Cad & RJC en rédigeant un Rapport d'incident d'importance, conformément à la référence citée au paragraphe 3.g..

16. Dans toutes les situations où l'on constate qu'un cadet est impliqué dans une affaire d'alcool, il faut mesurer le degré d'influence que celui-ci a sur les autres cadets par l'entremise de sa participation dans les OCC. Les cadets doivent être conseillés sur le caractère inapproprié de la consommation d'alcool.

## **ACTIVITÉS SOCIALES**

17. Lorsque les cadets sont invités à assister ou soutenir des activités sociales où des boissons alcoolisées sont servies, les membres du personnel doivent s'assurer que des boissons non alcoolisées sont disponibles pour les cadets. Les hôtes et/ou les serveurs doivent être informés que les cadets ne sont pas autorisés à consommer de l'alcool. Il est interdit aux membres du personnel de consommer de l'alcool lorsque les cadets sont présents lors de l'activité. Cela ne comprend pas les adultes qui sont présents mais pas directement responsable de la supervision des cadets.

18. Dans les lieux publics le personnel doit se comporter d'une manière afin de ne pas jeter de discredit sur les FC ou les OCC, y compris la consommation appropriée et modérée d'alcool.

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Date : nov 11  
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## PERSONAL RELATIONSHIPS

### PURPOSE

1. This order describes the policy regarding personal relationships within the Canadian Cadet Organizations (CCO) and should be read in conjunction with Defence Administrative Orders and Directives (DAOD) 5019-1 on Personal Relationships and Fraternization.

### DEFINITION – STAFF

2. Staff means Canadian Forces (CF) members, DND civilian employees, contractors, volunteers and Civilian Instructors employed in support of cadets.

### SCOPE

3. DND is committed to:
- a. respecting the inherent right of staff members and cadets to form a personal relationship of their choosing;
  - b. respecting the privacy of the personal relationships of staff members and cadets; and
  - c. providing fair and unbiased treatment to persons in the care or under the protection of staff members and preventing the exploitation of vulnerable persons.

### PROHIBITED RELATIONSHIPS

4. In order to avoid potential, real or perceived conflicts of interest, relationships of an emotional, romantic or sexual nature between a staff member and a cadet, are not permitted.

### ACCEPTABLE RELATIONSHIPS

5. In order to ensure the proper application of the DAOD referenced above, the following shall apply:

## RELATIONS PERSONNELLES

### OBJET

1. La présente ordonnance décrit la politique en matière de relations personnelles au sein des Organisations de cadets du Canada (OCC) et complète la Directive et ordonnance administrative de la Défense (DOAD) 5019-1 sur les Relations personnelles et la fraternisation.

### DÉFINITION - PERSONNEL

2. Personnel désigne les membres des Forces canadiennes (FC), les employés civils du MDN, les entrepreneurs, les bénévoles et les instructeurs civils employés pour soutenir les cadets.

### PORTÉE

3. Le MDN s'engage à :
- a. respecter le droit inhérent des membres du personnel et des cadets d'établir les relations personnelles qu'ils souhaitent;
  - b. respecter le caractère privé des relations personnelles des membres du personnel et des cadets; et
  - c. traiter de façon équitable et impartiale les personnes qui sont sous la garde ou la protection de membres du personnel et prévenir l'exploitation des personnes vulnérables.

### RELATIONS INTERDITES

4. Afin d'éviter tous conflits d'intérêts éventuels, réels ou perçus, les relations affectives, amoureuses ou sexuelles entre un membre du personnel et un cadet sont interdites.

### RELATIONS ACCEPTABLES

5. Afin d'assurer une application efficace de la DOAD susmentionnée, il faut mettre en pratique ce qui suit :

a. an acceptable personal relationship includes:

- (1) a family relationship between a staff member and a cadet or between cadets provided the chain of command is duly notified,
- (2) an emotional, romantic, sexual or family relationship, including marriage, a common-law partnership or civil union, between two staff members, or
- (3) a consensual relationship between two cadets.

a. une relation personnelle acceptable inclut:

- (1) une relation familiale entre un membre du personnel et un cadet ou entre cadets, pourvu que les parties en informant la chaîne de commandement,
- (2) une relation affective, amoureuse, sexuelle ou familiale, y compris le mariage, l'union de fait et l'union civile, entre deux membres du personnel, ou
- (3) une relation consensuelle entre deux cadets.

## **ROLE OF THE CHAIN OF COMMAND**

6. In keeping with professional military values, leaders and the chain of command have a responsibility to uphold standards of conduct in relation to personal relationships through personal example.

## **PERSONAL CONDUCT**

7. Staff members or cadets in an acceptable personal relationship shall refrain from conduct that may be considered inappropriate in a military context at corps/squadrons or CSTCs or during any training, cadet activity or cadet related event in which they are involved. For example, a staff member or cadet while in uniform, in public with another person shall not:

- a. hold hands;
- b. kiss, except in greeting and farewell; and
- c. caress or embrace in a romantic manner.

## **RÔLE DE LA CHAÎNE DE COMMANDEMENT**

6. Dans l'esprit des valeurs qui doivent être celles des militaires de carrière, les chefs et les militaires qui font partie de la chaîne de commandement sont tenus d'observer certaines normes de conduite à l'égard des relations personnelles en prêchant par l'exemple.

## **CONDUITE PERSONNELLE**

7. Les membres du personnel ou les cadets qui entretiennent une relation personnelle acceptable doivent éviter de se conduire d'une façon qui pourrait être jugée inappropriée dans un contexte militaire au corps ou à l'escadron ou au CIEC ou encore, au cours de l'instruction, d'une activité de cadets ou d'un événement en lien avec les cadets auxquels ils participent. Ainsi, un membre du personnel ou un cadet en uniforme qui est avec une autre personne en public ne doit pas :

- a. lui tenir la main;
- b. l'embrasser, sauf pour la saluer et lui dire au revoir; et
- c. la caresser ou la tenir tendrement dans ses bras.

8. Military staff member in a personal relationship with another staff member (military or civilian) shall follow the provisions of DAOD 5019-1 on Personal Relationships and Fraternization.

9. Staff members and cadets shall notify their chain of command of any personal relationship that could compromise the objectives of this order.

OPI: D Cdts 6  
Date: Apr 12  
Amendment: Ch 4/12

8. Un membre du personnel militaire qui a une relation personnelle avec un autre membre du personnel (militaire ou civil) doit respecter les dispositions de la DOAD 5019-1 concernant les relations personnelles et la fraternisation.

9. Les membres du personnel et les cadets doivent aviser leur chaîne de commandement de toute relation personnelle qui pourrait nuire aux objectifs de la présente ordonnance.

BPR: D Cad 6  
Date: avril 12  
Modificatif: mod 4/12



## ROYAL CANADIAN ARMY CADETS

### GOLD STAR

### INSTRUCTIONAL GUIDE



### SECTION 3

### EO M426.02b – RIDE A MOUNTAIN BIKE

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Total Time:	270 min
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### PREPARATION

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#### PRE-LESSON INSTRUCTIONS

Resources needed for the delivery of this lesson are listed in the lesson specification located in A-CR-CCP-704/PG-001, *Gold Star Qualification Standard and Plan*, Chapter 4. Specific uses for said resources are identified throughout the instructional guide within the TP for which they are required.

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

Every cadet must have a water carrier prior to the start of this lesson.

All mountain bikes and helmets being used should be organized by size prior to the start of this lesson.

Have mountain bike pumps and mountain bike repair kits available to complete the pre-ride check.

Have cleaning materials available to complete the post-ride check.

Review the terrain and trail features of the mountain bike route. Be aware of challenging areas where cadets may require additional supervision.

#### PRE-LESSON ASSIGNMENT

Nil.

#### APPROACH

The experiential approach was chosen for this activity as it allows the cadet to acquire new knowledge and skills through a direct experience. The cadet experiences mountain biking on familiarization / intermediate trails during an expedition and defines the experience on a personal level. The cadet will be given the opportunity to reflect on and examine what they saw, felt and thought while mountain biking and consider how it relates to what they already learned and experienced as well as how it will relate to future experiences.

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### INTRODUCTION

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#### REVIEW

Nil.

#### OBJECTIVES

By the end of this lesson the cadet shall have ridden a mountain bike on familiarization / intermediate trails during an expedition.

## **IMPORTANCE**

It is important for cadets to be able to ride a mountain bike on familiarization / intermediate trails during an expedition. Cadets will be required to work as a member of an expedition team to travel a significant distance during the expedition. Being able to perform basic mountain bike skills will assist them in keeping up with their team. Mountain biking over more difficult terrain features will provide cadets the opportunity to put into practice new mountain bike skills while further developing their basic mountain bike skills in an environment that challenges them both physically and mentally.

**Teaching Point 1****Ride a mountain bike on familiarization / intermediate trails during an expedition.**

Time: 270 min

Method: Experiential Learning

**BACKGROUND KNOWLEDGE**

The TP for this lesson will occur during the mountain bike portion of the expedition. In most situations cadets will have already received instruction and been provided the opportunity to practice basic mountain bike skills during the Silver Star Expedition / at the CSTC. The requirement to review skills will be based on the experience level of the cadets and the expedition training centre. Should a review be required, it is suggested that it is completed along the route as the need arises.

**SELECTING AND ADJUSTING A MOUNTAIN BIKE**

Since the first introduction of the mountain bike in the mid- to late-1970s, the design of bikes has evolved. The quest for improved products has led to continued improvements and advancements in materials being used to construct the bikes, as well as the overall design of the bikes themselves. With the introduction of new bikes each year by key manufacturers the use of stronger and lighter materials, and cutting edge designs compete to maximize speed, power and strength.

While it is important to have a well-designed mountain bike, if the bike chosen does not fit the mountain biker the excellence in design will be lost. Having a properly-fitted mountain bike is important for riding efficiency and power, as well as safety. When a mountain bike does not fit the mountain biker properly, injuries are more likely.

**Selecting a Helmet**

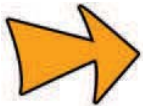
A properly-fitted helmet should:

- fit level and square on the head;
- cover the front of the forehead;
- sit snug on the head, without fastening the chin strap;
- not slip when the head moves; and
- have straps adjusted to meet just below the ear and fastened tightly.



Figure 1 Proper Fit of a Helmet

*Note.* From *Cycling Skills: Cycling Safety for Teen and Adult Cyclists* by Ministry of Transportation Ontario, 2005, Copyright 2005 by Government of Ontario. Retrieved October 5, 2007, from <http://www.mto.gov.on.ca/English/pubs/cycling/cyclingskills.htm>



Helmet sizes vary from extra small to extra large. It is important to try on a variety of sizes to make sure the fit is correct.

### Adjusting the Helmet

A helmet will not necessarily fit without making some minor adjustments. The following are some basic adjustments that can be made to ensure the helmet will protect the mountain biker in an accident:

1. Adjust removable pads, if required, to make the fit firm and comfortable.
2. Centre the chin clip so it is just under the chin and so the strap is even on both sides. This is done by pulling the strap from one side to another through the underside of the helmet.
3. Adjust the side straps by pulling or pushing them through the sliders. The slider should sit just below the ears, forming a 'V'.
4. Use the rear adjuster (if there is one) by sliding the mechanism to make it bigger or smaller.
5. Buckle the chin clip and ensure no more than two fingers can fit under it.



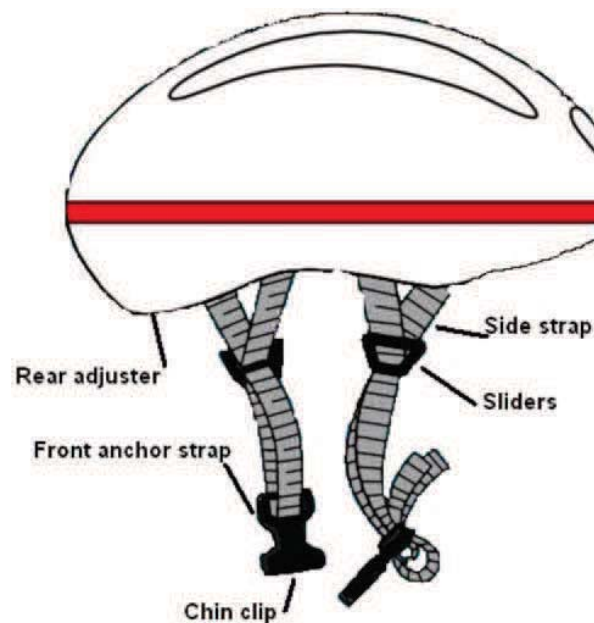


Figure 2 Parts of a Helmet

*Note.* From *CPSC Issues New Safety Standard for Bike Helmets* by U.S. Consumer Product Safety Commission. Retrieved October 30, 2007, from <http://www.cpsc.gov/cpscpub/prerel/prhtml98/98062.html>

### Selecting a Mountain Bike

While some manufacturers size their mountain bikes by labelling them as small, medium, large and extra large, in most cases mountain bike size is given in inches and is based on leg length. The frame size is determined by measuring the distance from where the crank attaches to the mountain bike to the intersection of the seat tube and the top tube.



Figure 3 Sizing Measurements

*Note.* From *Bike Sizing Guide* by Dynamic Bicycles, 2005 , Copyright 2005 from Dynamic Bicycles, Inc. Retrieved October 31, 2007, from <http://www.dynamicbicycles.com/bikes/sizing.php>

The following steps should be followed when sizing a mountain bike:

1. **Size by eye.** The initial step in sizing a mountain bike is to select a mountain bike with a frame size that coincides with the height of the mountain biker.
2. **Stand-over test.** The next step is to straddle the mountain bike. There should be minimum 5-cm (2-inch) clearance between the top tube and the crotch when the mountain biker is straddling the mountain bike.
3. **Saddle adjustment.** Standing next to the mountain bike, the mountain biker will adjust the saddle height to just above their hip by opening the seat post release, raising or lowering the saddle, and closing the release. The mountain biker will then sit on the saddle, and place their left foot on the pedal with the ball of the foot over the centre of the pedal. The left leg should be almost perpendicular, without the knee locking.

### COMPLETE A PRE-RIDE BIKE CHECK

Mountain biking is incredibly hard on the mountain bikes and equipment. Before the start of a ride it is important to run through a pre-ride check to ensure the mountain bike is in the best possible condition for riding. It may seem redundant to do this before every ride, especially when a post-ride check was completed; however, it only takes one broken cable or one flat tire to ruin a ride.

The ABC Quick Check is an easy way to remember what parts of the mountain bike should be checked during a pre-ride check. The check is a series of questions that the mountain biker must ask themselves, in relation to five areas of the mountain bike. The ABC Quick Check should be practiced so that it can be done quickly and efficiently. The mountain biker will correct any minor issues at the time of the pre-ride check; any major issues, or those that require a mountain bike tool, will have to be brought to the attention of the ride leader.

#### Air

The first step in the ABC Quick Check begins by focusing the mountain biker's attention on the wheels and tires of the mountain bike.

Do the tires have enough air?

This can be checked using a bicycle pump that has a built-in tire pressure gauge. The tire pressure for mountain bike tires should be between 35 pounds per square inch (psi) (240 kpa) and 65 psi (448 kpa).



When pumping the tires, aim to ensure the tire pressure is between 45–50 psi (310–345 kpa). This will allow for a variety of trail conditions.



Different trail conditions require different tire pressures. Harder surfaces are easier to ride with harder tires; (50–65 psi [345–448 kpa]), and conversely, softer surfaces are easier with softer tires; (35–40 psi [240–275 kpa]).

Is there any excessive wear on the tread or any cuts on the side walls of the tires?

Any loose or engrained mud or debris that is lodged in the tread should be removed. This will help eliminate the possibility of sharp objects working their way through the tire casing into the inner tube, causing a flat.

### Brakes

Next the mountain biker will inspect the front and rear brakes of the mountain bike. It is important to spend time inspecting the brake levers, as well as the actual braking mechanism.

Do the brake levers work effectively?

There should be at least two finger's distance between each brake lever and the handlebar when pulled. It should require little effort to engage the brake lever. If it is hard to pull then the brake cables require adjustment.

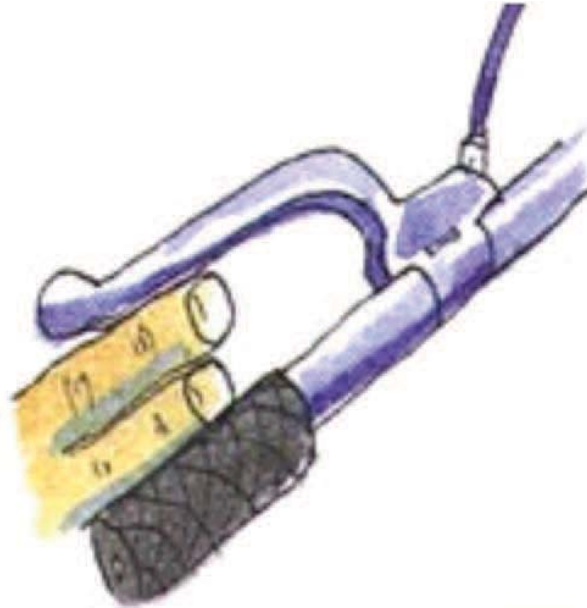


Figure 4 Brake Lever Positioning

*Note.* From *Young Cyclists Guide* by Ministry of Transportation Ontario, 2005, Copyright 2005 by Government of Ontario. Retrieved November 5, 2007, from <http://www.mto.gov.on.ca/English/pubs/cycling/youngcyclists.htm>

Do the brakes function as they are supposed to?

The front and rear brakes should be checked independently. The mountain biker should stand beside the mountain bike and push it forward by the handlebars. When the front brake lever is pulled, on its own, the rear wheel should lift up as the front wheel locks. When the rear brake lever is pulled, on its own, the rear wheel should lock and slide across the ground.

### **Chain and Crank**

The chain and crank are what make the mountain bike move forward. If they are not in good working order the mountain bike will be difficult to manoeuvre and will most likely not get very far.

Is the chain on and lubricated?

The chain should be able to move freely around the front and rear sprockets when the pedals are moved with no visible signs of bends or kinks. There should be no evidence of rust on the chain. If there is, an application of lubricant should work out the rust.



Figure 5 Lubricating the Chain

*Note.* From *Young Cyclists Guide* by Ministry of Transportation Ontario, 2005, Copyright 2005 by Government of Ontario. Retrieved November 5, 2007, from <http://www.mto.gov.on.ca/English/pubs/cycling/youngcyclists.htm>

Do the pedals spin freely?

The mountain biker should lift up the rear wheel and move the pedals with one hand to check the functionality.

### **Quick Release**

Quick release levers are located on the front and rear wheels, as well as the seat post.

Are the wheel quick releases working?

Open and close both the front and rear tire quick release levers. They should be easy to open and close. If not, lubricant should be applied. Ensure they are fully tightened following the check and that the lever is flush with the fork of the mountain bike.



Figure 6 Quick Release Incorrect Position—Example 1

*Note.* From *Young Cyclists Guide* by Ministry of Transportation Ontario, 2005, Copyright 2005 by Government of Ontario. Retrieved November 5, 2007, from <http://www.mto.gov.on.ca/English/pubs/cycling/youngcyclists.htm>



Figure 7 Quick Release Incorrect Position—Example 2

*Note.* From *Young Cyclists Guide* by Ministry of Transportation Ontario, 2005, Copyright 2005 by Government of Ontario. Retrieved November 5, 2007, from <http://www.mto.gov.on.ca/English/pubs/cycling/youngcyclists.htm>

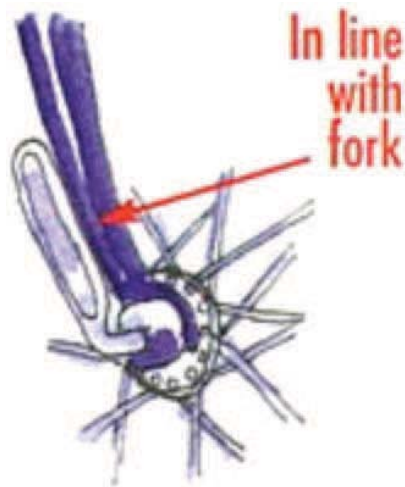


Figure 8 Quick Release Correct Position

*Note.* From *Young Cyclists Guide* by Ministry of Transportation Ontario, 2005, Copyright 2005 by Government of Ontario. Retrieved November 5, 2007, from <http://www.mto.gov.on.ca/English/pubs/cycling/youngcyclists.htm>

Is the saddle quick release working?

Open and close the lever to ensure that it is in good working order. It should be easy to open and close. If not, lubricant should be applied. When closed the lever should be flush with the seat post, pointing towards the back of the mountain bike.

### Final Check

Finally, the mountain biker should complete a final check of their mountain bike. The mountain bike should be lifted five to seven centimetres (two to three inches) off the ground and then dropped in a controlled manner. When it drops the mountain biker should be listening for sounds associated with loose parts (clings / clangs / pings).

### IDENTIFY SAFETY PERCAUTIONS WHICH MUST BE ADHERED TO WHEN MOUNTAIN BIKING

Keeping safe on mountain bikes is part common sense and part informed risk-taking, together with a healthy dose of good judgment. Preventing injuries is far easier than seeking medical attention after the fact. Following basic trail and road safety rules will ensure that the ride is safe, not only for the mountain biker but for all trail users.



Investigate the specific rules and regulations associated with mountain bike safety for your province or territory to pass along to cadets in conjunction with the material presented in this TP.

Each province and territory has specific rules and regulations in relation to mountain bike safety. Bikes are the smallest vehicles on the road which makes it very important for mountain bikers to be as visible as possible to other road users at all times.

### Rules of the Road

Each province has specific rules of the road which form laws within the province. In Ontario, these rules are stated in the *Highway Traffic Act* (HTA).



Some important rules that cyclists should know are:

- A mountain bike is a vehicle and as a cyclist, the same rights and responsibilities apply as to other road users.
- Stop at red lights and stop signs, and travel in the designated direction on one-way streets.
- A mountain bike is a slow vehicle and must travel as far to the right as possible, except when preparing for a left turn or passing. Ride out from the curb far enough to maintain a straight-line path.
- Never compromise safety for the convenience of a motorist; use any part of a lane if the safety of the mountain biker requires it.
- Stop for pedestrians at crosswalks, and walk the mountain bike across crosswalks.
- Stop for school buses when the upper red lights are flashing and the stop arm is out.
- Stop 2 m (6.5 feet) behind streetcar doors and wait until the passengers have boarded or reached the curb.
- Do not attach a mountain bike to a vehicle to hitch a ride.
- Do not ride on expressways, freeways or on roads where "No Bicycle" signs are posted.
- Mountain bikers must correctly identify themselves when stopped by the police for breaking traffic laws.

### Signalling

When riding a mountain bike on the road it is important to ensure that drivers of motor vehicles are aware of the biker's direction of travel at all times. Making a surprise turn in front of a car is dangerous to both the mountain biker and the driver. Demonstrating proper hand signals will help to eliminate some of the risk associated with riding a mountain bike on roadways.

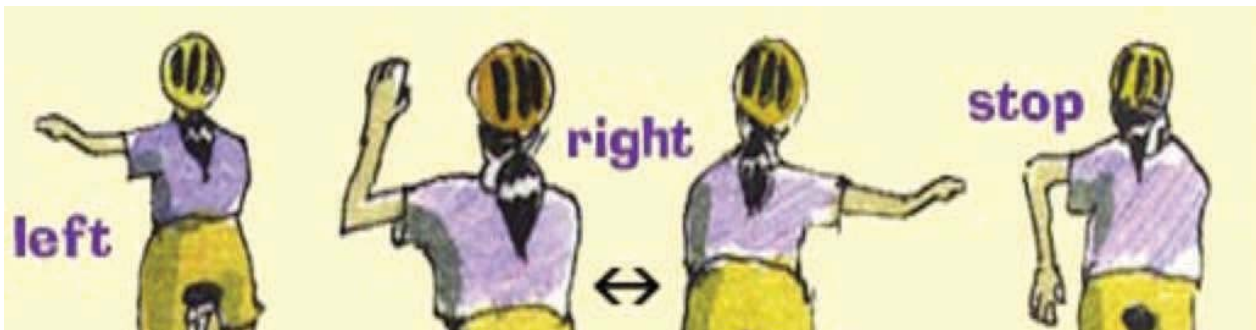


Figure 9 Hand Signals

*Note.* From *Young Cyclists Guide* by Ministry of Transportation Ontario, 2005, Copyright 2005 by Government of Ontario. Retrieved October 5, 2007, from <http://www.mto.gov.on.ca/English/pubs/cycling/youngcyclists.htm>

### Riding Discipline

Whether riding a mountain bike on the side streets of town or on a double track in a conservation area, demonstrating awareness for the other mountain bikers will ensure that everyone has a safe ride. Ride discipline is a multi-faceted term that coincides with a variety of aspects of mountain biking, from personal and group organization, to stopping and starting procedures.

Riding in a group is one of the safest ways to ride. It is important to remember that each mountain biker is responsible for the person following them. Always have visual contact with the mountain biker behind. If, when looking back, the other mountain biker is not visible, stop and wait for a moment. If the mountain biker does not appear in a reasonable amount of time, call a halt to the mountain bikers ahead, and go back and look for the other mountain biker.

There are a few safety tips to keep in mind when travelling in groups:

- Ride in single file on roads and trails as much as possible.
- The lead mountain biker must communicate turns, obstacles and changes in momentum to the remainder of the group through hand signals and voice commands.
- Keep at least 1 m (3.2 feet) between mountain bikers in the group on flat ground.
- When descending hills, keep at least 3 m (9.8 feet) between mountain bikers.
- When ascending hills, stay in single file and keep to the right.
- When stopping, ensure the entire group is completely off the trail or road.
- When stopped, all group members should get off their mountain bikes, turn mountain bikes so they are facing the road, close in ranks and stand to the left of their mountain bikes.
- If travelling on roads in a large group, break into smaller groups of about 10 with at least 1 km (0.62 miles) between each group to allow traffic to pass.
- Road crossings should be completed with the group lining up parallel to the other side of the road and then, in line, walking their mountain bikes across.

## **PERFORM MOUNTAIN BIKE SKILLS**

### **Braking**

Braking is used not only for stopping, but for slowing down and controlling the mountain bike on roads and trails. It is important for a mountain biker to be able to judge the amount of pressure to use and when to brake for various situations while on the roads and trails. This knowledge will ensure personal safety as well as the safety of other mountain bikers and trail users.

The left-hand brake lever controls the front brake while the right-hand lever controls the rear. Most braking is completed by the right hand, rear brakes, with the left adding assistance as required.



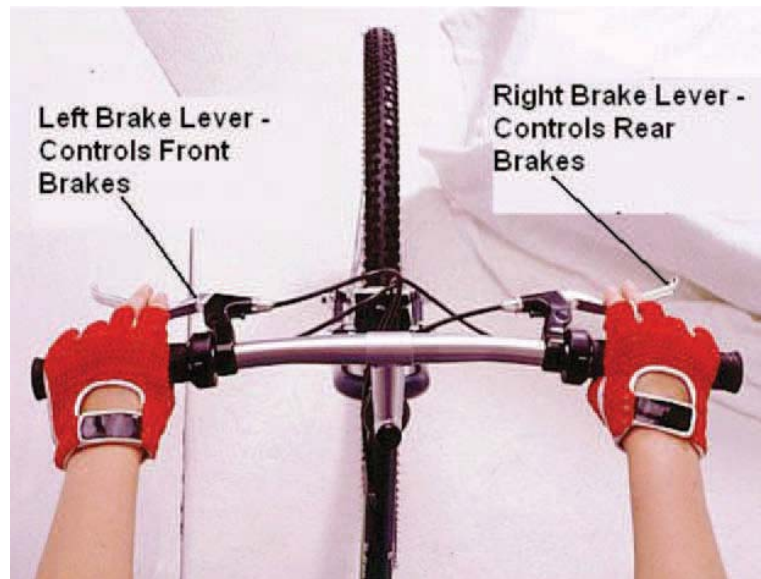


Figure 10 Braking Hand Position

*Note.* From *Sports, Games, Recreation, Mountain Biking* by DK Images, 2007, Copyright 2007 by DK Limited. Retrieved November 5, 2007, from <http://www.dkimages.com/discover/Home/Sports-Games-Recreation/Outdoor-Adventure/Mountain-Biking/index.html>



Riders should be cautioned against using the left brake lever by itself. While this will stop the mountain bike, the forward momentum may cause the mountain biker to continue over the front of the handlebars and mountain bike, resulting in a possible injury.

### Shifting Gears

Terrain can change quickly when mountain biking. The ability to time a perfect gear shift is a crucial mountain bike technique to master. Smooth shifting makes the difference between a smooth, easy ride and a rough, hard ride. Gear components are equipped with pre-set gears and ramps built into the chainrings and cogs to help the chain move smoothly from one to another. The mountain biker has to shift to the correct gear at the appropriate time.

Gearing adjusts the pedalling load so the mountain biker can adapt to changes in terrain. A gear is described by the number of teeth on the sprocket that is being used.

### Gear Ratio

The gear ratio is the relationship between the front chainring and the rear cassette being used. If the chainring and the cog have the same number of teeth the rear wheel would turn once for every pedal stroke and the ratio would be 1 : 1. If the chainring has more teeth than the cog, for example, 34 versus 17, then the ratio would be 2 : 1 and the rear wheel would revolve twice for every pedal stroke. There can also be negative gear ratios where the rear cog has more teeth than the smallest chainring, which makes the rear wheel turn slower than the pedal stroke.



Front Chainset



Rear Cassette

Figure 11 Front Chainset and Rear Cassette

*Note.* From *Sports, Games, Recreation, Mountain Biking* by DK Images, 2007, Copyright 2007 by DK Limited. Retrieved November 5, 2007, from <http://www.dkimages.com/discover/Home/Sports-Games-Recreation/Outdoor-Adventure/Mountain-Biking/index.html>

Typically, mountain bikes have two or three chainrings in the front and seven to nine cogs in the back. Each of these sprockets is attached to a numerical value, which corresponds to the numbers on the gear-shifting mechanism attached to the handlebars.

### Chainset

The chainset is numbered one through three. The biggest chainring in the chainset—three—is located on the outside of the set while the smallest chainring in the chainset—one—is located on the inside of the set.

The biggest chainring in the chainset is used for flat terrain, high speeds, downhill and road pedalling. The middle chainring in the chainset is for most off-road situations including single track, small hills and bumpy downhills. The smallest chainring in the chainset is used for steep uphill and very difficult technical terrain.

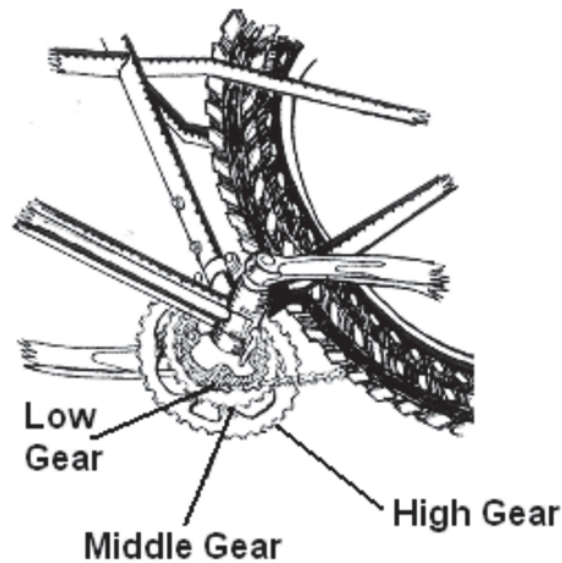


Figure 12 Front Chainset

*Note.* From *Your First Mountain Bike Moves: Shifting Gears* by Gorp, 2007, Copyright 2007 by Orbitz Away LLC. Retrieved November 7, 2007, from [http://www.gorp.away.com/gorp/publishers/menasha/how\\_ride5.htm](http://www.gorp.away.com/gorp/publishers/menasha/how_ride5.htm)

### Cassette

The cassette is numbered one through nine from the inside, closest to the frame, to the outside. The inside cogs, the larger sprockets, equal the low and easiest gears which are primarily used to climb hills and when traversing uneven terrain. The outside, smaller sprockets, equal the highest and hardest gears which are used to gain speed on flat terrain.

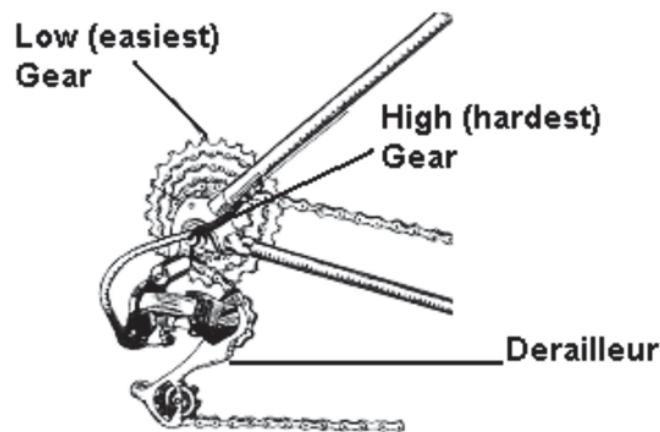


Figure 13 Rear Cassette

*Note.* From *Your First Mountain Bike Moves: Shifting Gears* by Gorp, 2007, Copyright 2007 by Orbitz Away LLC. Retrieved November 7, 2007, from [http://www.gorp.away.com/gorp/publishers/menasha/how\\_ride5.htm](http://www.gorp.away.com/gorp/publishers/menasha/how_ride5.htm)



The mountain bike chain should never be in the big rings on the front and rear at the same time. It places an enormous amount of tension on the chain as it moves the chain from a straight to a diagonal line.

## Shifting Gears

As with braking, the left gear shifter controls the chainrings on the front chainset, while the right gear shifter controls the cogs on the rear cassette. When the gear shifter is pushed, the derailleur, front or rear, will move the chain from one sprocket to another.



Figure 14 Right Gear Shifter

*Note.* From *Suspension Mountain Bikes* by 2 Wheel Bikes. Retrieved November 7, 2007, from <http://www.2wheelbikes.com/suspension-mountainbikes/sm3000-mountain-bike.html>

All mountain bike gears are indexed, which means they are pre-set and will click into place when the gear lever is activated. Most mountain bikes have a visual indicator on both sides, which shows what gear the mountain bike is in.

Pushing the gear shifter moves the chain onto a bigger chainring or cog, because the movement is against the spring tension in the derailleur. The mountain biker will have to push the lever further than the resting point so that the chain can make it onto the bigger chainring or cog. This is done with the mountain biker's thumb, because it is stronger than the index finger.

Changing to the smaller chainrings or cogs is an easier motion because the lever is releasing the spring tension, letting the derailleur fall naturally into position. These gear changes are completed using the mountain biker's index finger to pull the lever forward.

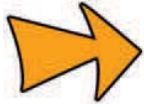
It is possible to change more than one gear at a time. This is done through either a series of several clicks or one movement depending on the type of gear shifting mechanism the mountain bike uses.

There are several important points to remember when gearing:

- Gears cannot be changed if the pedals are not moving.
- Cogs are used for small changes in speed, like when the mountain biker is climbing a long steady hill.
- Chainrings are for bigger changes in speed, such as descending the summit of a hill.
- The ideal gear to begin biking is somewhere in the middle of the cassette, four or five, and the middle chainring.

## Ascending Hills

Climbing hills is a challenge when mountain biking and the mountain bike has been specifically designed to meet this challenge. Its broad, knobby tires, the position of the mountain biker over the back wheel and the increased number of gears give the mountain bike the technical ability to ascend hills.



A mountain bike can handle inclines close to 45 degrees on badly broken ground.

Being able to ascend a hill is influenced by two factors—balance and power. Balance is gained through awareness and practice, while power is gained through repetition of the skill and muscular and cardiovascular strength.

The following are factors that affect the mountain biker's technique while attempting to ascend a hill.

**Position.** The centre of gravity of a mountain bike and the mountain biker is located at the mountain biker's abdomen. When climbing a hill, the centre of gravity must move forward on the mountain bike to enable the mountain biker to keep their balance. The mountain biker should pull their body weight forward on the mountain bike as the climb gets steeper, otherwise the front tire will not have enough weight on it and will lift up, resulting in a fall.



Centre of gravity is the point where all the weight of an object is concentrated.

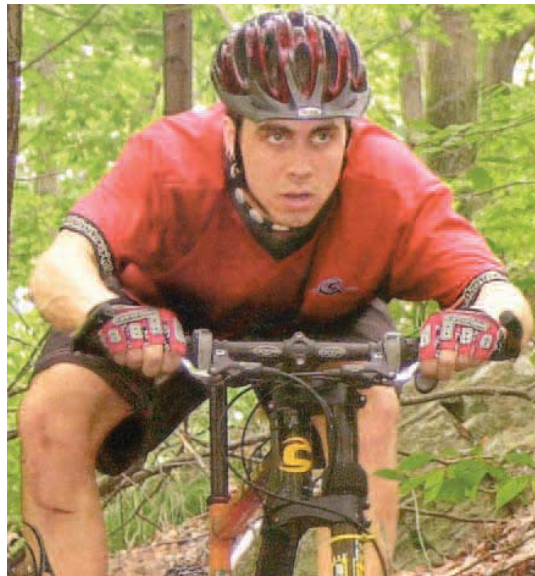


Figure 15 Proper Ascent Position

*Note.* From *The Complete Mountain Bike Book* (p. 51), by T. Brink, 2007, Camden, ME: Ragged Mountain Press. Copyright 2007 by New Holland Publishers Ltd.





While it may seem easier to stand up from the saddle when climbing hills, it in fact requires more power and expends more of the mountain biker's energy. Keeping the body low and forward on the saddle is a much more effective climbing position.

**Gearing and Shifting.** Depending on the steepness of the hill, it is acceptable to have the front chainset on the middle chainring, index two. The rear cassette is more dependent on the grade of the hill. It is advisable, when approaching a hill to begin shifting down into a medium-intensity gear, perhaps four or five. Once the mountain biker has begun the ascent they will have to continue to lower the cogs in relation to their ability to maintain pedal power. Remember that in order to change gears, the pedals have to be moving and the more steep the incline, the harder it will be to pedal.

### Descending Hills

Descending is about letting gravity do the work, while the mountain biker concentrates on braking and distributing weight. It becomes a combination of balance and applying the brakes at the correct time. Riders must always think ahead and be aware of rough terrain, corners, obstacles and other mountain bikers that may be on the trail. It is critical to apply the brakes enough to move around or by disturbances but not too much to avoid completely losing the momentum from the hill.

**Position.** When descending a hill it is critical that the centre of gravity of the mountain biker does not fall more than halfway down the top tube of the mountain bike. If it does, the mountain biker may go over the handlebars. The mountain biker should move their body weight toward the back of the mountain bike, be as low as possible and extend their arms so they are almost straight in front of them. Depending on the steepness of the hill, the mountain biker may want to slide their bottom off and behind the saddle for further stability.



Figure 16 Proper Descent Position

*Note.* From *Suspension Mountain Bikes* by 2 Wheel Bikes. Retrieved November 7, 2007, from <http://www.2wheelbikes.com/suspension-mountainbikes/sm3000-mountain-bike.html>

**Gearing and Shifting.** Gearing and shifting are not as critical when descending hills as they are in ascending hills. The key thing to remember is that descending hills provides momentum, and speed must be maintained once the hill has ended. To do this, think ahead and shift into gears that will provide the most momentum. The

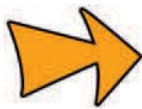
front chainset should be in the biggest chainring and the rear cassette should be in the highest gear, eight. It may be necessary to shift to lower gears once the momentum from the hill begins to slow and pedalling gets harder.



Speed must be controlled when descending hills, with the mountain biker applying equal brake pressure, as required, on both the front and rear brakes. The mountain biker's hands must remain on the brake levers for the duration of the descent and should be ready to brake at all times.

## DISCUSS MOUNTAIN BIKING ON INTERMEDIATE TRAILS

Mountain bike trails are classified by mountain biking organizations. The mountain biking community has been very persistent in establishing consistent criteria for the rating of all types of mountain bike trails—multi-use, single-use, double track and single track.



The International Mountain Bicycling Association (IMBA) developed a basic method to categorize the technical difficulty of recreation trails. The system was adapted from the International Trail Marking System used at ski areas throughout the world.

The IMBA Trail Difficulty Rating System has been created to:

- help trail users make informed decisions;
- encourage visitors to use trails that match their skill level;
- manage risk and minimize injuries;
- improve the outdoor experience for a wide variety of visitors; and
- aid in the planning of trails and trail systems.

Mountain bike trails, in accordance with the IMBA Trail Difficulty Rating System have been divided into three categories based on trail width, trail surface, trail grade, obstacles and technical features.

The CCM has developed its own rating system that combines similar categories of the IMBA—familiarization trails, intermediate trails and advanced trails.

**Intermediate trails.** Intermediate trails are defined as having some loose surface with minor obstacles such as roots and rocks with a variety of moderate hills that require skills to ascend and descend. Intermediate trails conform to the IMBA category of "More Difficult".

Part of the attraction of mountain biking on intermediate mountain bike trails is the unpredictability of terrain and the obstacles that may be encountered. The following riding considerations should be considered and implemented by the mountain biker when riding on intermediate trails:

- body position,
- speed, and
- control.

### Adopt the Appropriate Body Position

A mountain biker's body position is a key factor to successfully mountain bike on intermediate trails. In most cases, body position is dependent on the successful manipulation of the mountain biker's centre of gravity in relation to the type of terrain being ridden on and the obstacles that are being crossed.



**Centre of gravity.** The point where all the weight of an object is concentrated. The centre of gravity of a bike and the rider is located at the rider's abdomen.



Have the cadets stand with their feet shoulder width apart, locate their navel (belly button) and lean over like they are riding a mountain bike. Have them move from side to side and front to back in the riding position to see how their balance changes as their centre of gravity shifts locations. They may need a partner for this activity.

Adopting the correct position when mountain biking can mean the difference between getting over an obstacle and falling off the mountain bike. Mountain bikers use a standard 'attack' or 'ready' position when mountain biking and adjust it as required depending on the terrain / obstacle being crossed. The attack or ready position is:

- elbows bent and out,
- head up,
- chin low,
- centre of gravity low, and
- seat hovering over the saddle.

### Regulate Speed

To successfully traverse the obstacles and varied terrain found on intermediate trails a mountain biker must be able to understand and effectively regulate their speed. Momentum is an ally—without it, riding over rocks / logs / roots / mud would be virtually impossible. Many new mountain bikers, who have low levels of confidence and skill, will slow down as they approach an obstacle—this is due to fear—however, if they keep their speed constant or even a bit faster, they would be able to tackle the obstacle successfully. Speed is controlled by efficient braking and gearing. These two skills are developed through practice and experience.

**Braking.** Understanding the finer nuances of how the brakes—front and rear—work when engaged together is an important facet of riding on intermediate mountain bike trails.

**Gearing.** Gearing is a skill that is driven by each individual mountain biker, depending on skill, physical ability and strength. Knowing personal gear efficiencies is critical when traversing over obstacles and varied terrain.

### Maintain Control

To ensure safety when mountain biking on intermediate trails, a mountain biker must always be in complete control. Control is maintained by:

- being aware of centre of gravity and adjusting body position accordingly;
- keeping a loose but firm grip of the handle bars; and
- keeping the head up—looking ahead to where the mountain biker wants to go.



Looking up and ahead is one of the hardest skills for mountain bikers to master. At first it feels unnatural, however, looking ahead and not at the ground or object that is being ridden over will ensure success.



## TERRAIN AND OBSTACLES THAT MAY BE ENCOUNTERED ON INTERMEDIATE TRAILS

Mountain bikers must be aware of the different types of terrain and obstacles they may encounter when riding on intermediate trails because this will ensure they are well prepared to execute the appropriate mountain bike skill in order to ride over / cross that section of terrain or obstacle.

### Terrain

The *Canadian Oxford Dictionary* defines terrain as ground or a track of land, focusing on its physical characteristics and / or its capacity for use.

The following is a list of the different types of terrain a mountain biker may encounter and be required to travel over when mountain biking on intermediate trails:

- grass,
- mud,
- sand,



As soon as sand becomes more than a couple of centimetres (inches) deep, mountain biking feels like riding in molasses.

- water, and
- gravel.

One of the hardest surfaces to ride a mountain bike across is a grassy meadow without a marked trail. River and stream crossings can be dangerous depending on their depth and should only be crossed at the shallowest point. When crossing, push the mountain bike rather than ride it.

### Obstacles

The *Canadian Oxford Dictionary* defines an obstacle as a person or thing that obstructs progress.

The following is a list of the different obstacles a mountain biker may encounter and be required to travel over when mountain biking on intermediate trails:

- rocks,
- roots,
- logs,
- ruts,
- crevices, and
- potholes.

Dry rocks present few difficulties for mountain bikers—they require skill in order to tackle them effectively without losing momentum—but moss and rain make riding a very unpredictable experience. Wet or mossy rocks remove traction and can turn a wheel in the opposite direction from where the mountain biker intended. Roots are slippery when dry and dangerous when wet.

## MOUNTAIN BIKE ON DIFFERENT TYPES OF TERRAIN

Part of the attraction of mountain biking on off-road trails is the unpredictability that these types of trails offer. A good mountain bike trail will combine a variety of different types of terrain—grass, mud, sand, water and gravel—that will challenge the mountain biker from start to finish. Many mountain bikers hate to be unseated from their mountain bike and hate to walk their mountain bikes. Knowing the intricacies for mountain biking over different types of terrain will limit the occurrences of such events.

### Grass

Grass is a constantly changing surface that a mountain bike will react differently to depending on if it is new, worn, dry or wet. A mountain biker will have to adapt their riding technique to suit the conditions. On short, dry grass a mountain bike's tires can grip well and the mountain biker will have little difficulty controlling their mountain bike. However, tire grip will be affected as grass becomes worn and / or wet.

Mountain biking on worn or wet grass is difficult, as the tires' ability to grip the ground is diminished. The following considerations should be taken into account:

- stay in the saddle when ascending hills;
- select a medium to low gear to prevent wheel spin;
- brake lightly; and
- be aware of ruts as they will be slippery and may contain water and holes that cannot be seen.

### Mud

Mud is a type of terrain that mountain bikers look forward to and dread at the same time. Compared to dry trails, mud is harder to mountain bike on / through and requires strong mountain bike skills in order to make the ride more manageable, quicker and enjoyable. Mountain bike tires have significantly less grip / traction when going through mud than when on dry trails. Mud slows down the mountain bikers' speed and momentum and clogs up the gears and brakes.

The following considerations should be kept in mind when mountain biking in mud:

- If possible release some air from the tire; this will provide a larger surface area to grip with.
- Keep all actions as smooth as possible.
- Stay seated in the saddle.
- Move the centre of gravity towards the middle of the mountain bike (over the bottom bracket).
- Shift into a low gear (eg, 1 : 4, 1 : 6, 2 : 3, 2 : 4).



**Bottom bracket.** The bottom bracket is the axle bearing around which the pedals and cranks turn to move the chain.

### Sand

Sand is an extremely difficult surface to mountain bike on. Sand is common in coastal areas, but can also be found on inland trails. In dry weather, sand can be found on eroded and well-used trails. Sand is a very loose substance and as such provides nothing for the tires to dig into and severely limits traction, affecting momentum. Mountain bikers must ensure they do not sink in the sand or lose speed in order to make it through the section.

The following considerations should be kept in mind when mountain biking on sand:

- When approaching a section of the trail with sand, look for and follow an already established path.
- Approach the sand with a significant amount of speed.
- Keep the weight off the front wheel by moving the centre of gravity towards the middle of the mountain bike (over the bottom bracket).
- Shift into a medium gear (eg, 1 : 6, 2 : 4, 2 : 5).
- Pedal as smoothly as possible to stop the wheels from spinning.
- Keep the handlebars as straight as possible, using the shoulders and upper body to guide the mountain bike rather than steering it.

### **Water**

There is always a chance that a mountain biker will have to cross some type of water on the trail. Water can be anything from a large puddle to a small creek or stream to a large river. When mountain biking over large rocks covered in water, it is best to aim directly for the stream of water as this will be the cleanest, least slippery section.

The following considerations should be kept in mind when mountain biking through water:

- Approach the water at a medium to high speed to ensure momentum is maintained throughout the crossing.
- Be aware that under the water could be loose and slippery.
- Keep a loose but firm grip on the handlebars—executing smooth controlled movements.
- Move the centre of gravity toward the middle of the mountain bike (over the bottom bracket).
- If the depth of the water is unclear get off the mountain bike and push / carry the mountain bike.



Figure 17 Mountain Biking Through Water

*Note.* From *Sports, Games, Recreation, Mountain Biking* by DK Images, 2008, Copyright 2008 by DK Limited. Retrieved November 20, 2008, from <http://www.dkimages.com/discover/Home/Sports-Games-Recreation/Outdoor-Adventure/Mountain-Biking/index.html>



In some cases, tackling difficult terrain is easier on foot than on the mountain bike. A mountain biker needs to be aware that this is a possibility and make the decision based on their own skill level and the type of terrain that they are crossing.

The following process should be used to shoulder carry a mountain bike:

1. Stand beside the mountain bike.
2. Keep the mountain bike steady by putting the left (right) hand on the handlebars.
3. Bend at the knees and crouch to put the right (left) arm through the frame.
4. Stand up, with the top tube resting on the right (left) shoulder.
5. Keep the mountain bike steady by holding either the stem or the handlebars.
6. Use the opposite arm as a counterweight to balance while walking or running.

### Gravel

Gravel is generally an unpredictable surface to mountain bike on. It usually forms in patches and it is very hard to see and / or determine its depth. The best way to tackle gravel is to avoid it—available alternatives should be taken.



On well-used trails, gravel usually gets pushed to the outside portion of the trail. This allows the mountain biker to avoid the gravel as long as they stay to the middle of the trails.

If a mountain biker must ride through gravel, it is important that they keep movements and actions smooth and controlled—sudden changes in direction and hard braking can cause the wheels to slip and the mountain biker to crash.

## PERFORM ADVANCED MOUNTAIN BIKE SKILLS

### Falling Off a Mountain Bike

There is a right and wrong way to fall off a mountain bike. When a person falls their natural instinct is to stick out their arm and try to break the fall. This method does not work and usually causes injury to one or more of the following: thumb, finger, hand, arm, and / or collar bone.

To fall correctly, execute a shoulder roll by:

1. pushing the mountain bike away from the body;
2. tucking the arms and head in towards the chest;
3. hitting the ground with the shoulder first; and
4. rolling over.

### Log Hops

The most useful skill a mountain biker can have is getting air—being able to lift the wheels off the ground either one or both at a time. Momentum is one of the main reasons a mountain biker would want to lift their front wheel off the ground. Any time the front wheel of the mountain bike hits an obstacle while on the trail, momentum will be lost which will slow down speed.



Many beginner mountain bikers will attempt to lift the front wheel by simply yanking up with their arms. While this method does work, it is not highly effective as the front wheel will only lift marginally off the ground as there is only a small range of motion before the mountain bikers hands hit their chest.

The process to complete a log hop is as follows:

1. Adopt the attack position.
2. Shift the mountain bike into a medium gear (eg, 2 : 5 or 2 : 6).
3. Pedal toward the obstacle at a medium speed and at a right angle.



It is sometimes difficult for a mountain biker to judge when they should begin to execute a skill such as a log hop. A good rule of thumb is to begin the skill at a distance equal to the obstacles height. For example, if the obstacle is 15 cm (6 inches) high then, the mountain biker should begin to execute the skill approximately 15 cm (6 inches) from the obstacle.

4. Adjust body position, approximately one metre (one yard) away from the obstacle by:
  - a. stopping pedalling;
  - b. moving the pedals so they are horizontal;



Pedals are horizontal when they are in the 3 o'clock and 9 o'clock position.

- c. sitting down on the saddle; and
  - d. shifting the body weight toward the rear of the mountain bike.
5. Lift the front wheel just before reaching the obstacle by:
- a. pedalling one half turn;
  - b. compressing the body toward the ground by pushing down on the front fork and front tire;
  - c. pushing the hips backwards to shift the centre of gravity;
  - d. straightening up and pulling up on the handle bars in one fluid motion, while squeezing the saddle with the inner thighs; and
  - e. moving the weight toward the rear wheel to lift up the front wheel.



Step 5 should happen almost simultaneously. Correct timing is critical when attempting to execute a log hop.

- 6. Place the front wheel on the obstacle.
- 7. Stand up on the pedals and move the body weight over the handlebars to transfer the centre of gravity from the rear of the mountain bike to the front.
- 8. Push forward on the handlebars and allow momentum and pedalling action to roll the mountain bike over the obstacle.
- 9. Move the body weight toward the rear of the mountain bike as soon as the front wheel hits the ground.
- 10. Allow the back wheel to roll off the obstacle.
- 11. Continue mountain biking forward.



Figure 18 Log Hop

*Note.* From *Sports, Games, Recreation, Mountain Biking* by DK Images, 2008, Copyright 2008 by DK Limited. Retrieved November 20, 2007, from <http://www.dkimages.com/discover/Home/Sports-Games-Recreation/Outdoor-Adventure/Mountain-Biking/index.html>

### Cornering

Cornering is a skill that all mountain bikers will be required to execute on a trail. Mountain bikers will turn corners when riding over grass, on loose gravel, in ruts, on steep downhills or during sharp ascents. Wherever the corner is, it is important to steer the bike around the corner safely and without losing their momentum.

There are three essential elements associated with cornering:

- plotting a line;
- controlling the speed; and
- looking ahead.



A corner can be divided into three main parts:

- entry,
- apex, and
- exit.

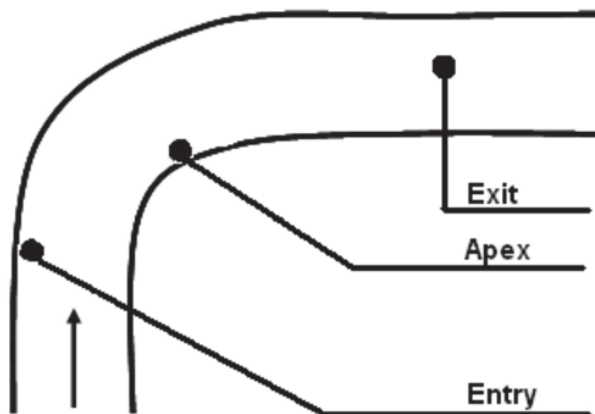
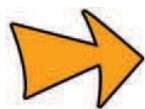


Figure 19 Parts of a Corner

*Note.* Created by Director Cadets 3, 2008, Ottawa, ON: Department of National Defence.



Types of corners:

**Bermed corner.** A bermed corner is also known as a banked corner. The outer perimeter of the corner may be raised too steeply.

**Off-camber corner.** An off-camber corner is the opposite of a bermed corner. The top of the slope is on the inside and slopes down to the outside of the curve.

**Flat turn.** A flat turn is the most common type of corner. There are no raised embankments on either side of the corner.

**Decreasing radius corner.** A decreasing radius corner gets narrower and tighter as it turns. Usually this type of corner is also off-camber.

**Increasing radius corner.** An increasing radius corner gets wider as it turns.

### Plotting a Line

The standard approach to plotting a line is:

1. Approach the corner on the outside.
2. Shift to the inside at the apex of the corner.
3. Move to the outside to exit the corner.



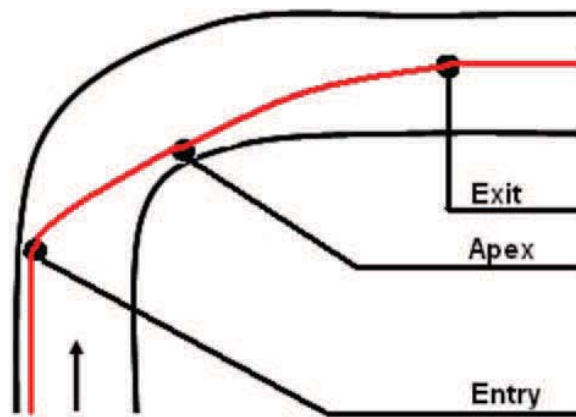


Figure 20 Plotting a Line

*Note.* Created by Director Cadets 3, 2008, Ottawa, ON: Department of National Defence.

### Controlling Speed

When cornering, all the braking should be completed before starting to turn. This is done because it allows the mountain biker to concentrate on exiting the corner. Braking in a straight line is far safer than braking on a corner—a locked rear brake in a corner will slide unpredictably possibly causing a crash.



It is recommended to use the front brakes as much as possible when cornering. It offers more power and control as the mountain biker's weight shifts forward during the turn.

### Looking Ahead

It is in people's nature to want to look at the obstacle that they are attempting to steer around and try to avoid it. However, when cornering, the mountain biker should look ahead to where the mountain bike is going and ignore the obstacle. This will allow the mountain biker to look further into the corner and allow their mountain bike to follow the line that has already been established.

Use the following process when cornering:

1. Prepare for the corner by:
  - a. plotting the line;
  - b. engaging the front brakes to slow the mountain bike down; and
  - c. shifting into the appropriate gear for the exit, in order to ensure speed is maintained.
2. Execute the corner by:
  - a. keeping the fingers over the brake levers, applying them as necessary;
  - b. balancing the body between the handlebars and the saddle;
  - c. moving the inside pedal to the 12 o'clock position;
  - d. pushing the weight of the body onto the outside leg;
  - e. bending the inside elbow to pull the body weight forward and inward;

- f. bending the inside knee; and
  - g. pressing down on the straight outside leg.
3. Pedal once the corner has been turned.

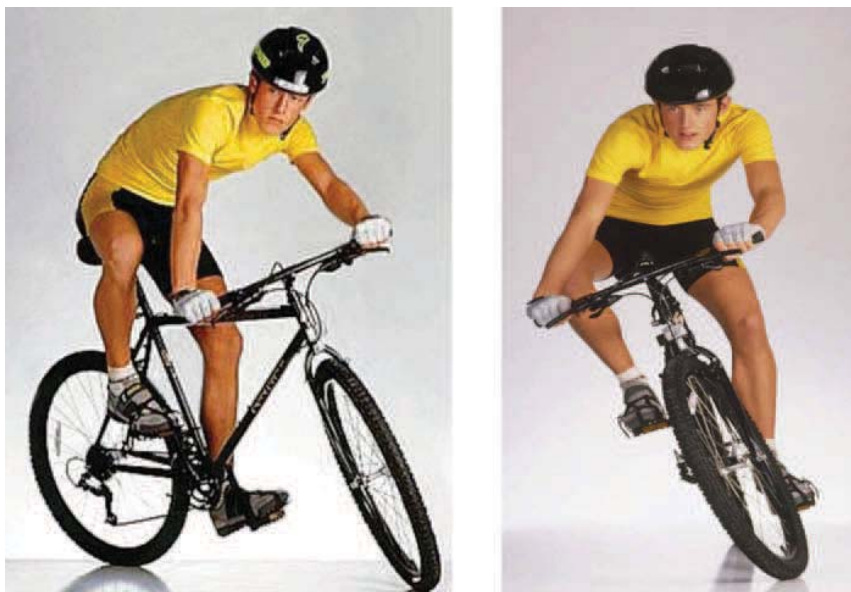


Figure 21 Body Position When Cornering

*Note.* From *Sports, Games, Recreation, Mountain Biking* by DK Images, 2008, Copyright 2008 by DK Limited. Retrieved November 20, 2008, from <http://www.dkimages.com/discover/Home/Sports-Games-Recreation/Outdoor-Adventure/Mountain-Biking/index.html>

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## ACTIVITY

Time: 270 min

### OBJECTIVE

The objective of this activity is to have the cadets, in teams of no more than six, mountain bike on familiarization / intermediate trails, for 40–50 km, during an expedition.

### RESOURCES

- Fully equipped mountain bike (one per cadet),
- Personal mountain bike equipment (one per cadet), and
- Group mountain bike equipment (one per team).

### ACTIVITY LAYOUT

Designate a familiarization / intermediate mountain bike trail(s), IAW A-CR-CCP-951/PT-002, *Royal Canadian Army Cadets Adventure Training Safety Standards*.

**ACTIVITY INSTRUCTIONS**

1. Conduct a briefing to include an explanation of:
  - a. the objectives and importance of the activity,
  - b. the resources that may be required to perform the activity, and
  - c. any safety guidelines that must be followed while performing the activity.
2. Have the cadets retrieve their mountain bikes and helmets.
3. Have the cadets conduct a pre-ride bike check.
4. Explain and demonstrate the following advanced mountain bike skills, to include:
  - a. log hops, and
  - b. cornering.
5. Have the cadets, in teams of no more than six, ride a mountain bike on familiarization / intermediate trails, following the designated route for a distance of 40–50 km during an expedition, to practice:
  - a. following road / trail safety regulations;
  - b. braking;
  - c. shifting gears;
  - d. ascending hills;
  - e. descending hills;
  - f. log hops; and
  - g. cornering.
6. Upon arrival at the end point, have the cadets complete a post-ride check and then store / return all equipment.
7. Conduct a debriefing by asking the cadets:
  - a. how they felt about the activity;
  - b. how they felt their team worked together;
  - c. what portion of the activity challenged them the most;
  - d. how their teammates assisted them when they were challenged;
  - e. if there are any specific examples of when their team bonded;
  - f. how the team made decisions;
  - g. whether or not all team members ideas / suggestions were considered; and
  - h. what they would do as a leader of this type of activity to ensure their subordinates enjoyed the experience.

## **SAFETY**

- Each team will be led by the assigned team leader.
- Team Instructor(s) [TIs] must be in sight / sound of the team at all times.
- In areas of complex / technical terrain TI(s) will demonstrate requisite skills as required.
- Teams will travel separately on the same trail.
- There will be a minimum of 500 m between teams at all times.
- Each team will have a cadet positioned at the rear wearing a reflective vest.
- Cadets must travel in single file at all times.
- Cadets must ensure there are at least two mountain bike lengths between them and the person to their front and rear.
- Cadets must carry at least 1 L of water.
- Water re-supply points will be located along the route.
- Meals will be provided at a pre-determined location(s) and detailed in the route instructions.

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## **CONFIRMATION OF TEACHING POINT 1**

The cadets' participation in riding a mountain bike will serve as the confirmation of this TP.

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## **END OF LESSON CONFIRMATION**

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

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## **CONCLUSION**

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## **HOMEWORK / READING / PRACTICE**

Nil.

## **METHOD OF EVALUATION**

This lesson is assessed IAW A-CR-CCP-704/PG-001, *Gold Star Qualification Standard and Plan*, Chapter 3, Annex B, 426 PC.

## **CLOSING STATEMENT**

Mountain biking is a fun and challenging mode of transport that can be used during expeditions. It is critical to understand the importance of maintaining a mountain bike and riding it safely. Being able to perform mountain bike skills will allow for an enjoyable and safe experience when mountain biking.

## **INSTRUCTOR NOTES / REMARKS**

Expedition centres are required to select two dynamic modes of travel from EO M426.02a (Paddle a Canoe), EO M426.02b (Ride a Mountain Bike), EO M426.02c (Hike Along a Route), EO M426.02d (Snowshoe Along a Route) and EO M426.02e (Ski Along a Route) to incorporate into the expedition training.

This EO has been allocated nine periods in the overall course period allocation. Each expedition centre may adjust this allocation to reflect the choice of activities, facilities and available resources at the expedition centre.

Upon arrival at the expedition centre, cadets will be divided into teams. Cadets will be given an opportunity to navigate and lead peers. These teams will remain the same for the duration of the weekend.

IAW A-CR-CCP-951/PT-002, *Royal Canadian Army Cadets Adventure Training Safety Standards*:

1. a fully equipped mountain bike is described as having the following:
  - a. bell or horn,
  - b. lights, and
  - c. reflectors;
2. the following personal mountain bike equipment is required when riding a mountain bike:
  - a. helmet,
  - b. water carrier,
  - c. day pack, and
  - d. whistle; and
3. the following group mountain bike equipment is required when riding a mountain bike:
  - a. reflective vest (worn by person in rear of group),
  - b. topographical / trail map of area as required,
  - c. compass,
  - d. first aid kit,
  - e. communication device (eg, cellular phone or hand-held radio),
  - f. GPS receiver, and
  - g. mountain bike repair kit, to include:
    - (1) spare tube,
    - (2) tube patch kit,
    - (3) tire levers,
    - (4) bike multi-tool, to include:
      - (a) 2-, 2.5-, 3-, 4-, 5-, 6- and 8-mm hex keys,
      - (b) chain tool,
      - (c) flat screwdriver,
      - (d) Phillips screwdriver,

- (e) T-25 Torx spoke key,
- (f) spoke wrenches, and
- (g) 8- and 10-mm open wrenches; and
- h. mini pump with gauge.

Ensure each cadet has a day pack and an ample supply of water when mountain biking.

A mountain bike cleaning kit is comprised of the following items:

1. bucket,
2. hand brush,
3. cleaning cloth,
4. sponge,
5. small brush,
6. stiff brush,
7. dish soap, and
8. lubricant.

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