

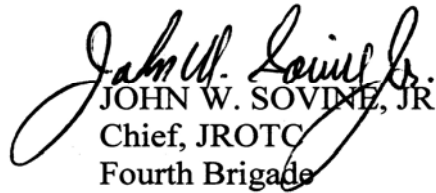
FOURTH BRIGADE RAPPELLING MOI

Department of the Army
Fourth Brigade
United States Army Cadet Command
Fort Bragg, North Carolina 28310-5000

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Junior Reserve Officers' Training Corps

FOURTH BRIGADE JROTC RAPPELLING PROCEDURES


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PROPONENT: The proponent of this publication is the Fourth Brigade, US Army Cadet Command. Comments should be sent directly to Fourth Brigade, US Army Cadet Command, ATTN: ATCC-D-JR, Fort Bragg, North Carolina 28310-5000.

APPENDIX A: Glossary
B: Cadet Command Rappelling Checklist 385A
C: Risk Management Worksheet
D: CCR 145-2

DISTRIBUTION: All JROTC programs in North Carolina, South Carolina, Virginia, West Virginia, Washington DC, Maryland and Delaware.

This document is available on the Fourth Brigade Web site at: <http://www.ajrotc.us>

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1. References.

- a. CCR 145-2, Organization, Administration, Operation, Training and Support
- b. CCR 385-10, Cadet Command Safety Program
- c. TC 21-24, Rappelling

2. Purpose. To provide a safe environment to conduct rappel training.

3. Summary. Rappel training is a school activity, approved by school officials. JROTC units are allowed to conduct rappel training events for JROTC cadets and non-JROTC member participating students only upon the approval of the local school district sponsoring the event. The approval authority for rappelling events is the school district operating through their duly appointed representatives, such as the sponsoring school's principal or the school district's superintendent. However, rappel training is considered high risk training and only can be mitigated down to medium risk requiring units to submit their Composite Risk Management Worksheet (CRMW) to Fourth Brigade for approval, prior to JROTC instructors conducting training. Additionally, school principals will sign as the reviewer on all risk assessments related to rappel training conducted at school Rappel Masters/Trainers from Senior ROTC programs may conduct rappel training for JROTC cadets only during Junior Cadet Leadership Challenges (JCLC) that are sanctioned by Fourth Brigade. Senior ROTC program cadre will not conduct rappel training for JROTC at anytime even if otherwise "approved" by the school principal and the school agrees to cover liability. Only JROTC personnel who have been certified by Fourth Brigade will conduct rappel training at school sponsored events. JROTC cadre will no longer conduct rappelling for visiting educators during their visits to JCLC.

4. Requirements. The following requirements will be adhered to when conducting rappel training with cadets and students.

a. Rappel training will be limited to basic, individual, hip-seat rappels only. Swiss seats are no longer authorized. All cadets must use an approved Rappel Harness. No Australian rappels are allowed.

b. Rappel training can be conducted on buildings, established towers, or field sites which have been approved

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as a result of a safety inspection conducted by the school district's safety office utilizing the Cadet Command Rappelling Checklist 385A (Appendix B). Rappel site inspections are an annual requirement.

c. Units must submit a Composite Risk Management Worksheet (CRMW) to Fourth Brigade for approval prior to conducting rappel training with cadets or students.

d. Rappel training will only be conducted by Brigade certified trainers. Fourth Brigade will certify individuals who meet one of the following criteria:

(1) Certification as a Rappel Master at an Army school or special unit training. Attendance at a school such as Ranger School, Special Forces or Air Assault School alone is not sufficient. If instructors have these qualifications and can demonstrate these skills they can attend a one day Brigade Certification course. These instructors will have to pass all requirements in order to be Brigade certified. These courses are held during the normal rappel certification courses which are conducted yearly.

(2) An instructor who completes one of the Fourth Brigade Rappel Certification courses which certifies them as a Rappel Trainer.

e. For instructors to maintain currency with their rappel certification they must perform duties as a Rappel Master/Trainer every six months. Rappel Trainers must execute four critical tasks every six months which will to be witnessed and certified by another Certified Rappel Trainer.

1. Rigging Tower
2. Knots
3. Rappel Master Personnel Inspection
4. Hooking up a rappeller

Note: A memorandum for record showing these critical tasks will be signed by the witnessing Rappel Trainer and be maintained at the school.

f. Only cadre who are Brigade **certified rappel masters or rappel trainers** may be responsible for setting up the rappelling site, inspecting equipment, "hooking up" rappellers, and supervising their descent.

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5. Procedures. To ensure compliance with the above requirements, those programs conducting rappel training will adhere to the following procedures:

a. Fourth Brigade.

- (1) Approve Composite Risk Management Worksheets for units desiring to conduct rappel training.
- (2) Maintain file copy of rappel tower safety inspection, rappel master or rappel trainer certification, and Composite Risk Management Worksheets.
- (3) Verify Brigade Rappel Trainer training certificate with proof of currency.
- (4) Schedule annual rappel trainer certification training IAW TC-21-24.

b. Senior Army Instructor/Army Instructor.

(1) As a minimum, approved sites will be inspected annually by competent safety or structural engineering professionals to ensure that structures or sites have not degraded making them unsafe for use. A written record of the inspection will remain on file with the unit having operational control of the site, as well as a copy on file at Fourth Brigade. Additionally, a certified rappel master/trainer will inspect the site immediately prior to each use. Cadre must carefully monitor the site, equipment, and training procedures throughout each rappel training exercise. Skid or "helicopter-style" rappels are authorized only from a fixed tower (not from airborne helicopters). Australian or other advanced rappels are not authorized. Submit annually, with the Master Training Schedule, the following documents: Request to conduct rappel training, The annual safety inspection of the site or tower, and Composite Risk Management Worksheet. (See Appendix B for checklist)

(2) Submit a copy of the instructor Rappel Trainer Certification Certificate (Good for 5 years) to Fourth Brigade. Individuals who are not rappel master certified may request training by submitting a memo to Fourth Brigade, Attn: Mr. Anderson or Mr. Perry. Rappel trainer certification training will be conducted annually

(3) Complete a Composite Risk Management Worksheet and forward to Fourth Brigade for approval. See Appendix C)

(4) Maintain a file copy of both the annual safety inspection, the instructors rappel certification certificate, and risk assessment checklist.

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(5) While rappelling, cadre, and cadets will wear Kevlar or other approved protective helmets and use leather gloves. Cadets will not wear load-carrying equipment (LCE) or carry weapons while rappelling.

(6) Prior to making their first rappel from a height of more than ten feet, cadets will be required to rappel from a height of less than ten feet and/or on an incline. The purpose of this preliminary rappel is to introduce new rappellers to proper position and braking techniques and build their confidence accordingly in those techniques before rappelling from a significant height.

(7) Only trained cadre that are trained by a certified Rappel Trainer will act as belay safety while conducting rappel training. No cadets or any other non-cadre personnel will function as a safety belay person.

(8) To successfully operate each rappel lane from an approved tower, it will require two (2) Brigade certified master/rappel trainers. One certified rappel trainer will be responsible for hooking up cadets on the tower; the other Brigade Rappel Trainer will be located at the base of tower supervising the belaying of cadets and overall safety.

GLOSSARY

Rappel Master: Cadre who received rappel certification training at an approved Army school.

Rappel Trainer: Cadre who received rappel certification training from an approved Fourth Brigade Rappel Master. Training conducted IAW the US Army Infantry School training support package for Basic Rappelling, dated 25 May 1993.

DA For 5752-R: Rope Log (Usage and History). Annotated each time ropes are inspected.

Snaplink: Snaplinks are used to join equipment, rope, and people into a functioning system. 3 Types:

a) D-Shaped Snaplinks. These snaplinks are stronger than the oval type because the shape directs the largest part of the load to be applied to the longer, stronger side opposite the gate. Made of steel or aluminum alloy.

b) Oval Snaplinks. Both sides of an oval bear the strain equally under load weight. Made of steel or aluminum alloy.

c) Locking Snaplinks. Locking snaplinks have a locking mechanism with a threaded sleeve on the gate. Made of steel.

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Rope: Most important items of equipment for the rappeller. Minimum tensile strength for an 11-mm rope for military use is 4500 lbs. 2 Types:

a) Static Rope - Consist of and inner core and an outer sheath. Easiest to work with, less friction.

b) Dynamic Rope - Three strands are twisted into a climbing rope of a specific diameter. Easiest to inspect.

Rappel Packet Request: Packet put together by the unit desiring to conduct rappel training. Packet sent to Fourth Brigade for approval. Packet includes the following items:

a) Tower Inspection - Cadet Command Checklist 385-A.

b) Risk Assessment - Cadet Command Form 385-10.

c) Rappel Master/Trainer Certification Certificate - Not over 5 years old.

d) Statement of Currency - Statement for record by the Rappel Master/Trainer that he/she has conducted rappel training in the past 6 months.

Belay Safety: Cadre certified to conduct rappel training responsible for supervising belay personnel.

CADET COMMAND HEADQUARTERS
RAPPEL SITE
INSPECTION CHECKLIST

NAME AND LOCATION OF TOWER _____
DATE OF TOWER CONSTRUCTION _____
BUILT BY _____
OWNED BY _____
LAST DATE OF ANY MAJOR MODIFICATIONS _____
(If applicable, list modification, and by whom performed, in addition to date; otherwise list Not Applicable.)
DATE OF PREVIOUS INSPECTION _____
NAME, TITLE, ORGANIZATION OF PREVIOUS INSPECTION _____
IS COPY OF PREVIOUS INSPECTION AVAILABLE? _____

TOWER INSPECTION CRITERIA

ITEM	YES	NO	N/A
1. Is the tower structurally sound? Do structural support members appear serviceable, free from deterioration, breaks, or damage?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Are there any signs of insect infestation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Are bolts that connect structural members or support cables serviceable and properly connected/tightened?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Are stairs or ladders firmly attached to the tower?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Do stairs/fixed ladders comply with OSHA standards?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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6. Are all areas marked in yellow that pose a potential trip hazard or head hazard?			
7. Are the tower platform and all rappel rope stations accessible without having to climb over any obstacles (guard rails, support cables, etc.)?			
8. Is the tower deck free of slip/trip hazards such as water, protruding nails/bolts/splinters, loose equipment, etc?			
9. Are the tower deck and any open areas (above 4') guarded with guard rails?			
10. Are all guard rails a minimum of 42" high and capable of withstanding a side force of 200 lbs?			
11. Are toe boards or similar barriers installed in all areas where personnel could pass underneath?			
12. Do all tower rope stations have primary and secondary anchor points?			
13. Are all anchor points in serviceable condition and free of corrosion, sharp edges, burrs, or grooves that could cut or damage ropes?			
14. Have all anchor points been load tested to insure that they will accommodate a dead load weight of at least 500 pounds each?			

TOWER INSPECTION CRITERIA

ITEM	YES	NO	N/A
15. Is the rappel wall face area free of protruding nails, bolts, or splinters?			
16. Is the rappel wall face area free of broken, loose, decayed, or missing boards?			

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17. Is padding material in place on all edges that ropes and/or personnel cross?			
18. Is the edge padding in good condition and securely fastened?			
19. Is the edge padding free from protruding nails, bolts, or other fasteners that could fray or cut ropes or injure rappellers?			
20. Are all structural areas of the tower properly padded that a rappeller might contact during rappel operations?			
21. Is the structural padding in serviceable condition, securely fastened, and free from protruding nails, bolts, or fasteners?			
22. Is the landing area free of obstructions and hazards?			
23. Does the landing area extend an uninterrupted distance of 15 feet from the tower base and at least 2 feet beyond the width of the base with cushioning material in the event of a fall?			
24. Is the landing area adequately cushioned in case of a fall (24 inches of non-compressed wood chips, mulch, or sawdust; 12 inches of commercially produced shredded rubber; or safety pads that offer similar fall protection)?			
25. Has the cushioning material in the landing area been loosened up prior to use and, if large numbers of students are rappelling, are procedures in place and equipment available to loosen it up again during training?			

PHYSICAL SECURITY AND FIRE PROTECTION CRITERIA

ITEM	YES	NO	N/A
26. Is there a positive locking device on the ladder/steps or a locked fence around the			

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tower that denies unauthorized access to the tower?			
27. Is there a prominently displayed warning sign that discourages unauthorized use of the tower (eg: WARNING: OFF LIMITS TO UNAUTHORIZED PERSONNEL)?			
28. Are NO SMOKING signs posted at the tower to preclude potential ignition of cushioning materials?			

RISK MANAGEMENT AND TRAINING CONSIDERATIONS

ITEM	YES	NO	N/A
29. Is there a current Risk Management Worksheet on file and available on-site?			
30. Has the Risk Management Worksheet been reviewed, approved, and signed at the appropriate level?			
31. Is the tower within one hour of an Advanced Trauma Life Support (ATLS) facility?			

RISK MANAGEMENT AND TRAINING CONSIDERATIONS

ITEM	YES	NO	N/A
32. Are certified Combat Lifesaver (CLS) or medical personnel and a dedicated medical vehicle on site to render emergency medical aid and evacuation, if required?			
33. Is training conducted in accordance with TC 21-24 and TSP No. 1?			
34. Is there a current Standing Operating Procedure (SOP) available that delineates requirements for instructors, students, support personnel, and other requirements?			
35. Are properly "certified" instructors available to conduct rappel training?			

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<p>(IF NO, DO NOT CONDUCT RAPPEL TRAINING!)</p> <p>Name(s):</p> <p>Location and date of certification:</p>			
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ROPES AND EQUIPMENT

ITEM	YES	NO	N/A
36. Are rappel ropes serviceable and properly inspected and stored?			
37. Are rope inspections and usage properly documented on DA Form 5752-R, Rope Log (Usage and History)?			
38. Are snap links serviceable (No excessive rust, sharp edges, improper gate opening and closing, excessive pin movement, missing pins, etc.)?			
39. Are properly sized, serviceable, heavy leather gloves and protective headgear available for rappellers?			

COMMENTS/OTHER

40.

Name, Title, Organization, and Phone No. of Inspector(s):

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Signature of Inspector:

Date of Inspection:

**Name, Title, Organization, and Phone No. of Local Point of
Contact:**

**CADET CMD CHECKLIST 385-A, 17 Sep 03
PREVIOUS EDITIONS ARE OBSOLETE**

COMPOSITE RISK MANAGEMENT WORKSHEET
(CDTCMD Reg 385-10; proponent agency is Cadet Command Safety)

1. Organization and Unit Location:						2. Page	of	
3. Mission/Task:			4. Begin Date:			5. End Date:		6. Date Prepared:
7. Operational Phase in which the Mission/Task will be conducted:								
8. Tasks	9. Identify Hazards	10. Initial Risk Level	11. Develop Controls	12. Residual Risk Level	13. Implement Controls ("How To")	14. Who/How Supervised	15. Was Control Effective?	
16. Determine Overall Mission/Task Risk Level After Countermeasures Are Implemented:				LOW (L) MODERATE (M) HIGH (H) EXTREMELY HIGH (E)				
(Circle Highest Remaining Risk Level) TM								
17. Medical Support: Advanced Trauma Life Support (ATLS) is required within 1 hour. On-site Medical Support provided (Circle one): Medic Doctor/Nurse Combat Lifesaver None								
18. Prepared by: (Rank, Last Name, Duty Position)				19. Reviewed by Action Officer/Commander: (Rank, Last Name, Duty Position and Signature):				
20. Risk Decision Authority (Signature Block and Signature):				Extremely High Risk: Not Applicable for Cadet Command High Risk: CG or DCG Moderate Risk: Brigade Cdr (0-6). At LDAC, LTC/ JCLC – Region Cdr or CoFS Low Risk: Battalion Cdr. At LDAC, LTC/ Commandant– Committee Chief or Regimental Cdr/TAC Officer				

Sample Composite Risk Management Worksheet

RISK MANAGEMENT WORKSHEET (CDTCMD Reg 385-10; proponent agency is Cadet Command Safety)						
1. Organization and Unit Location: ROTC Battalion			2. Page 1 of 2			
3. Mission/Task: Conduct Rappel Training (include Transportation to and from Tower)		4. Begin Date:	5. End Date:	6. Date Prepared:		
7. Operational Phase in which the Mission/Task will be conducted: Throughout training phase						
8. Tasks	9. Identify Hazards	10. Initial Risk Level	11. Develop Controls	12. Residual Risk Level	13. Implement Controls (How To?)	14. Who/How Supervised
Transportation to tower.	Driver Fatigue Traffic/Congestion Weather Conditions (rain/ice on road)	M M H	Ensure driver gets adequate rest. Drive slower and defensively. Drive slower than posted speed limit.	L L M	AR 385-55, Prevention of Motor Vehicle Accidents AR 600-55, Army Driver and Operator Standardization Program	Driver – Self Driver – Self Driver – Self
Rappelling from a 34-ft Tower	Inexperienced cadets Equipment failure resulting in falls. Heat Injury/Dehydration Wildlife, insects and plants	H H H M	Instruct and demonstrate: (1) Fundamentals of rappelling, (2) How to properly tie knots and (3) Safety requirements. Always require use of helmets and gloves. Conduct a safety inspection of tower and all rappelling equipment prior to training exercise. Conduct annual safety inspection of tower. Monitor Heat Index, advise all to drink sufficient volumes of water at frequent intervals, carry canteen(s) and know location of water points. Brief cadets to avoid wildlife, insects and plants. Use insect repellent. Have bee stings kits available	M M M L	TSP No.1, Basic Rappelling TC 21-24, Rappelling TC 21-24, Rappelling AR 385-10, Safety Program DA Pam 385-1, Unit Safety TB MED 507 Water buffalio/jugs on site. GTA 8-5-50 FM 21-10 GTAs based on area.	Qualified Rappel Master will supervise. Rappel Master will inspect. Army Safety Officer, CDSO, Univ. Safety. Cadre monitor weather. Cadre monitor Heat Index. Use buddy system
15. Determine Overall Mission/Task Risk Level After Countermeasures Are Implemented: (Circle Highest Remaining Risk Level) LOW (L) MODERATE (M) HIGH (H) EXTREMELY HIGH (E)						
16. Medical Support: Advanced Trauma Life Support (ATLS) is required within 1 hour. On-site Medical Support provided (Circle one): Medic Combat Lifesaver ABC/NSC First-Aid Responder None						
17. Prepared by: (Rank, Last Name, Duty Position)			18. Reviewed by Action Officer/Commander: (Rank, Last Name, Duty Position and Signature)			
19. Risk Decision Authority (Signature Block and Signature):				Extremely High Risk: Not Applicable for Cadet Command High Risk: CG or DCG Moderate Risk: Brigade Cdr (B-4), AI Advanced/Basic Camp – Region Cdr or CdrS Low Risk: Battalion Cdr, AI Advanced/Basic Camp – Committee Chief or Regimental Cdr/TAC Officer		

CDTCMD Form 385-1-R-E, Apr 01

Risk Assessment and Risk Management Countermeasure Worksheets in CC Reg 145-3 are OBSOLETE

Work Sheet Instructions

Blocks

- 1 – 8. Self explanatory
9. **Identify Hazards** – Review METT-TC factors for the mission or task. Additional factors include historical lessons learned, experience, judgment, equipment characteristics and warnings, and environmental considerations.
10. **Initial Risk Level** – Assess hazard and determine initial risk for each hazard by applying risk assessment matrix.
11. **Develop Controls** – Develop one or more controls for each hazard that will either eliminate the hazard or reduce the risk (probability and/or severity). Specify who, what, where, why, when, and how for each control.
12. **Residual Risk Level** – Determine the residual risk for each hazard by applying the risk assessment matrix, assuming the controls are implemented.
13. **Implement Controls** – Decide how each control will be put into effect or communicated to the personnel who will make it happen (written or verbal instruction; tactical, safety, garrison SOPs, rehearsals).
14. **Who/How Supervised** – Who and how will each control be monitored (continuous supervision, spot-checks). Evaluate frequently and pass on lessons learned.
15. **Was Control Effective?** --YES or NO (Discuss after action review)
16. **Determine Overall Mission/Task Risk** – Select the highest residual risk level and circle it. This becomes the overall mission or task risk level. The commander decides whether the controls are sufficient to accept the level of residual risk. If the risk is too great to continue the mission or task, the commander directs development of additional controls or modifies, changes, or rejects the COA.
17. **Medical Support** – Select type of on-site medical support provided and circle it.
- 18 & 19. Self explanatory
20. **Risk Decision Authority** – The decision to accept or not accept the risk(s) associated with an action is made by the appropriate commander or leader responsible for performing that action.

Need to Risk Manage a METT-TC Hazard

Hazards not adequately controlled are likely to cause loss of combat power. Answer the following questions about each hazard to determine if it is adequately controlled. If not, hazards needs to be risk managed.

Are the Controls Adequate?

	Yes	No
Support – Is type/amount/capability/condition of support adequate to carry out the mission? <ul style="list-style-type: none"> Personnel Supplies Equipment/Material Services/Facilities 		
Standards – Is guidance / procedure adequately clear / practical /specific to control hazard?		
Training – Is training adequately thorough and recent to control hazard?		
Leader – Is leadership ready, willing, and able to enforce standards required to control hazard?		
Individual/Unit Self-Discipline – Is performance and conduct sufficiently self-disciplined to control hazard?		

If all “yes”, no further action required (subject to commander’s risk guidance). If one or more “no”, risk manage this hazard

Composite Risk Assessment Matrix

SEVERITY	PROBABILITY			
	Frequent	Likely	Occasional	Seldom
Catastrophic	E	E	H	H
Critical	E	H	H	M
Marginal	H	M	M	L

PROBABILITY – The likelihood that an event will occur.

FREQUENT – Occurs often, continuously experienced.

LIKELY – Occurs several times.

OCCASIONAL – Occurs sporadically.

SELDOM – Unlikely, but could occur at some time.

SEVERITY – The expected consequence of an event in terms of degree of injury, property damage, or other mission-impairing factors.

CATASTROPHIC – Death or permanent total disability, system loss, major damage, significant property damage, mission failure.

CRITICAL – Permanent partial disability, temporary total disability in excess of 3 months, major system damage, significant property damage, significant mission degradation.

MARGINAL – Minor injury, lost workday accident, minor system damage, minor property damage, some mission degradation.

* FM 101-5, 31 May 1997

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