

Issued with M.O. 188/1917.

AUSTRALIAN MILITARY SENIOR CADETS.

TRAINING, MUSKETRY,
AND
RIFLE EXERCISES.

1917.

10/11

PRICE SIXPENCE.

Issued with M.O. 188/1917.

0.120001853

As ordered in the
AUSTRALIAN MILITARY SENIOR CADETS.

TRAINING, MUSKETRY,

AND

RIFLE EXERCISES.

1917.

By Authority:

ALBERT J. MULLETT, GOVERNMENT PRINTER, MELBOURNE.

C.1600.

CONTENTS.

	PAGE
INSTRUCTIONS	5
CHAPTER I.—	
Part I.—Syllabus of Training	9
Part II.—Senior Cadet Musketry Course	12
Part III.—Syllabus of Examinations	16
CHAPTER II.—	
Rifle Exercises	24
CHAPTER III.—	
Care of Arms	34
CHAPTER IV.—	
Musketry Exercises—	
Aiming Instruction	42
Firing Instruction	48
Tests of Elementary Training	55
CHAPTER V.—	
Preliminary Training and Range Practices	58

INSTRUCTIONS.

The scheme of Universal Training provides for the training of the Senior Cadets to take the place in part of the recruit training of the soldier, consequently this training should be so conducted that the cadet on his transfer to the Citizen Forces will be fitted to take up his new duties and have reached a standard from which the training of the Citizen Forces can be continued.

A thorough grounding in the elementary work, together with the development of a soldierly spirit, is essential as a foundation for the higher training of the soldier, and officers charged with the training of the Senior Cadets should realize their great responsibility in the power that they have over the ultimate success of the training of the Military Forces. The Senior Cadet is handled at the most impressionable age, and a badly trained cadet will not become an efficient soldier.

The training of officers and non-commissioned officers is one of the most important duties of area officers, who should afford every opportunity to the young trainees to learn to assume the responsibilities of leadership and for the development of their initiative. In both brigade and training areas classes of instruction for officers and non-commissioned officers should be held frequently.

The syllabus of training authorized for the Senior Cadets covers the time available at compulsory parades, and the work of alternative parades will be arranged by area officers

on similar lines, and in accordance with the local requirements. The syllabus lays down the subjects for instruction, the extent of the work to be covered, and the proportion of the time to be allotted in each year of training.

Detailed programmes of the work to be carried out during each quarter will be drawn up, showing separately for each quota, with direct reference to the text books, the particular instruction to be given on each parade, and the time to be devoted to it. These will be prepared by area officers, and will provide for progressive instruction throughout the year. Previous to each quarter they will be submitted to the Brigade Major, together with the programme of parades, and when approved will be posted up in the area office. Officers and non-commissioned officers are to be encouraged to refer to them, and prepare the work beforehand for each parade.

In order that instruction may be progressive, it is necessary that each quota of the Senior Cadets should be trained separately. The quotas will therefore be allotted to separate companies, platoons, or sections.

Thorough instruction in the elementary stages cannot be given to large numbers at a time, and parades will be regulated according to the available number of efficient instructors. Small squads are essential for individual instruction, which is the basis of successful recruit training. In the case of city and town areas, Brigade Majors are to arrange for N.C.O.'s of the Instructional Staff to assist in the training of areas other than those to which they are attached, and for this purpose parades of neighbouring areas may be held on different days of the week.

The work on parade should be arranged with as much variety as possible, and every endeavour made to avoid monotony with its attendant loss of interest. Lecturettes should be frequent, but should not be of more than ten minutes' duration, and the reasons for the various exercises and movements should be clearly explained to the cadets.

Drill in close order is of first importance in producing discipline, cohesion, and the habits of absolute and instant obedience to the orders of a superior, but its results will be negated if the work is allowed to be slackly carried out. Periods of close order drill should be short, but during these periods strict discipline must be enforced.

Special care is to be taken that the preliminary instruction in musketry is thorough. Until the tests of elementary training (Musketry Regulations, Part I., Sec. 64),* applicable to the '310 rifle have been passed, Senior Cadets are not to be allowed to fire full charge ammunition on the range. During preliminary instruction frequent use should be made of the miniature range; and the lessons of aiming, pressing the trigger, declaring the point of aim on discharge, &c., should be there practically illustrated. Miniature range practice is provided in the Musketry Course for all quotas.

Physical Training is of great importance and actual practical work will be done; lengthy explanations of the objects and effects of exercises are unnecessary. Marching and running training will be carried out in conjunction with the formal graded lessons of the exercises.

* Those tests applicable are reprinted in Chapter IV.

Organized games are valuable for producing physical efficiency, and may with advantage be introduced into the physical training periods of instruction.

In the conduct of an area it is not to be forgotten that the administration is a means only to one end—efficiency of training—and that the work of an area is judged not on its administration or paper results, but on the efficiency attained by the cadets.

CHAPTER I.

PART I.

SYLLABUS OF TRAINING.

SHOWING NUMBER OF HOURS TO BE ALLOTTED FOR EACH YEAR OF TRAINING AT COMPULSORY PARADES.

Nature of Training.	Number of Hours Allotted.				
	1st Year.	2nd Year.	3rd Year.	4th Year.	
Physical Training ..	12*	12*	12*	12*	Manual of Physical Training, 1908 (Reprint, 1914). See also "Progressive Course of Physical Exercises"—twenty minutes physical training to be given at each parade, exclusive of parades devoted to Range Practices.
Squad Drill without arms	18	8	6	5	I. T. 1914, Secs. 10-46.
Squad Drill with arms and Rifle Exercises	10	10	6	6	Training, Musketry, and Rifle Exercises, Senior Cadets, Chapter II.
Section and Platoon Drill	10	10	9	6	I. T. 1914, Secs. 75-80.
Extended Order Drill	—	8	6	6	I. T. 1914, Secs. 90-98
Company Drill ..	—	—	10	13	I. T. 1914, Secs. 81-89

Number of Hours Allotted for Compulsory Parades—*contd.*

Nature of Training.	Number of Hours Allotted.				
	1st Year.	2nd Year.	3rd Year.	4th Year.	
Musketry ..	16	16	16	16	Musketry Regulations, Part I. 1909 (Reprint, 1914); Theoretical and Practical Instruction, Secs. 36-54; Care of Arms, Secs. 9, 10, and 11; Tests of Elementary Training, Secs. 63 and 64. Miniature Range Practice, Musketry Course, Senior Cadets, and Musketry Regulations, Part I., Secs. 72-79. NOTE.—These portions of the Musketry Regulations, Part I., 1909 (Reprint, 1914) quoted above, which are applicable to Senior Cadet Training have been printed in this book with modifications for the .310" rifle.
Total ..	64	64	64	64	

* Number of hours is dependent upon the number of compulsory parades held. The time allotted for other subjects will be increased proportionately should portion of the twelve hours allotted to Physical Training be not required owing to the substitution of whole-day or half-day parades for night parades. Organized games should be introduced as portion of the Physical Training Instruction, but they must not entirely take the place of the formal graded table of exercises.

Instruction in Extended Order Drill will not be given during the first year of training.

Instruction in Company Drill will not be given during the first and second years of training.

The full range practices of the Musketry Course will be fired in the third and fourth years of training only.

It is not intended that the allotment of hours given in this Syllabus is to be rigidly adhered to if local circumstances render an alteration necessary, but it will not be departed from unless good and sufficient reason can be shown for any alteration that may be made.

PART II.

SENIOR CADET MUSKETRY COURSE.

MUSKETRY TRAINING FOR SENIOR CADETS.

First and Second Years of Service.

1. Theoretical Instruction, in accordance with Musketry Regulations, Part I., 1909 (Reprint 1914), Chapter IV., Sections 36-54. The tests of elementary training laid down in Musketry Regulations, 1909, Part I., Section 64, as far as these are applicable to the .310" rifle, shall be passed by Senior Cadets before they are allowed to fire full charge ammunition on the range. Those tests applicable are reprinted in Chapter IV.

2. Miniature Practice—Thirty rounds on 25 yards range where facilities exist.

Third and Fourth Years of Service.

As above, and—

INSTRUCTIONAL PRACTICES.

Number of Practices.	Description.	Class of Target.	Yards.	No. of Rounds.	Position.
1	Grouping ..	2nd Class Elementary Bull's-eye	100	5	Lying, with rifle rested.
2	" ..	" " "	100	5	Lying
3	Application	" " "	200	5	"
4	" ..	2nd Class Figure Target	200	5	"
5	" ..	1st Class Figure Target	300	5	"

Classification.

In the 25 rounds fired, those who obtain—

80 points and upwards	..	Marksmen
45 " "	..	Qualified

Notes.

1. Not more than 15 rounds are to be fired on any one day.
 2. Every cadet must "group" before proceeding to Practices 3, 4, and 5.

3. To further encourage shooting, 50 rounds of ammunition per cadet, in addition to the above 25 rounds, will be allowed for additional practices and matches, to be issued at the discretion of the Area Officer.

4. (i) After each grouping practice, details will proceed to the targets to see their groups measured. Each group will be analyzed, and the cadet given instructions regarding his group. If it is impracticable to proceed to the targets, the group may be marked by means of small spotting discs.

(ii) The groups will be measured with wire rings 4, 8, and 12 inches in diameter, counting 25, 20, and 15 points respectively; 10 points will be allowed for a 12-in. group with one wide shot.

(iii) The ring which will contain all the shots will be recorded as the measure of the group. A shot mark is included within a ring when it cuts the circumference of the largest circle which can be described within that ring by means of a pencil held at right angles to the target.

(iv) All shot marks found on a target will be included in the group to be measured. No points will be allotted to a group unless there are five shot marks at least on the target. If more than five shot marks are found on the target there will be no score, and the practice will be repeated.

(v) When the ring is placed to include all the shots, the centre of the ring will be taken as approximately the point of mean impact; its distance from, and direction with reference to the point aimed at will be recorded, *e.g.*, 7 inches, four o'clock.

5. (i) Method of scoring and signalling :—

Signal.	Methods of Signalling.	Value of Hit.
Bull's-eye or figure ..	Polished metal or white disc placed on shot hole	4 points
Inner (remainder of inner circle)	Black disc waved twice across the face of the target and placed on the shot hole	3 "
Outer (remainder of elementary target) or magpie (remainder of large circle on figure target)	Polished metal or white disc revolved in front of the target and then placed on the shot hole	2 "
Outer (remainder of figure target)	Black disc moved vertically up and down the left of the target and then placed on the shot hole	1 point
Richochet or miss ..	Red and white flag shown on the same side as the direction of the miss. If the direction cannot be determined the flag will be waved across the face of the target	Nil

(ii) When for any reason it is found to be impracticable to send the firers into the gallery after a grouping practice, the following signals may be used :—

Bull's-eye signal denotes a 4-in. group.

Inner signal denotes a 8-in. group.

Magpie signal denotes a 12-in. group.

Outer signal denotes a 12-in. group, with one wide shot.

When the signal has been made, after a short pause, the point of the pole will be placed on the point of mean impact of the group.

6. Attention is directed to the following extract from Australian Military Regulations :—

A.M.R. 1213. An officer (or a non-commissioned officer of the Instructional Staff) must be present at target practice and exercise the utmost vigilance to prevent accidents, observing that each senior cadet handles his rifle with the care necessary to prevent the possibility of danger to himself and others. The ammunition must be retained in the possession of the officer (or non-commissioned officer of the Instructional Staff), only the requisite number of rounds necessary for the practice being issued, and at the conclusion of the practice every precaution must be taken that none remains in a cadet's possession. Arms must be examined before the practice commences, also at the conclusion of the firing at each range, and before leaving the ranges. The officer (or non-commissioned officer of the Instructional Staff) in charge will be held personally responsible that all target practices are in every respect regularly carried out at an authorized rifle range, and that the necessary flags, discs, &c., are provided and in order for use. *No senior cadet is to be permitted to act as a marker under any circumstances whatever.*

PART III.

SYLLABUS OF EXAMINATIONS.

FOR APPOINTMENT AND PROMOTION OF OFFICERS AND
NON-COMMISSIONED OFFICERS OF SENIOR CADETS.

I.

Examination up to the rank of 2nd Lieutenant.

1. Boards will be appointed as directed in A.M.R. 1217. Promotion will be by competitive examination.
2. Examinations will be practical and oral only.
3. At the conclusion of the examination the Board will forward to the Battalion Commander the results showing the names of all the candidates in the order in which they passed for each rank.
4. The results of the examinations of the candidates who pass will be published in Battalion Orders.
5. In recommending successful candidates for commissions as 2nd Lieutenants, Battalion Commanders will certify on A.M. Form A22 that the provisions of A.M.R. 1217 have been complied with.
6. In the examinations for the appointment and promotion of officers and N.C.O.'s, the Board in assessing marks will give particular consideration to the power of command shown by each candidate.
7. The subjects of the examination for the various ranks and the maximum marks allotted to each will be :—
 - (a) Regimental duties (50 marks) for ranks of Company Sergeant-Major, Company Quartermaster-Sergeant, and 2nd Lieutenant.

(b) Drill (100 marks) for all ranks up to 2nd Lieutenant.

(c) Physical training (100 marks) for all ranks up to 2nd Lieutenant.

To pass candidates will be required to obtain 50 per cent. of the maximum marks for each subject.

(a) REGIMENTAL DUTIES.

For rank of Company Sergeant-Major and Company Quartermaster-Sergeant.

Subject.	Text Books.
Organization and training of Senior Cadets; appointment and promotion of Senior Cadets to be non-commissioned officers and officers; discipline	Australian Military Regulations, 1206-1219, 1235-1240.

For rank of 2nd Lieutenant.

Registration; inspection and medical examination; exemption; organization and training of Senior Cadets; appointment and promotion to be non-commissioned officers and officers; officers generally; discipline; uniform and equipment; competitions	Australian Military Regulations, 364-371, 374-5, 377-8, 773-783, 785-790, 792, 1206-1249.
--	---

(b) DRILL.*For rank of Corporal.*

Subject.	Text Books.
Squad drill without arms	Infantry Training, 1914, Secs. 10-46.
Squad drill with arms and Rifle Exercises	Training, Musketry, and Rifle Exercises, Senior Cadets, Chapter II.
Firing Instruction ..	Training, Musketry, and Rifle Exercises, Senior Cadets, Chapter IV., Sec. 45 to end of chapter
Care of arms	Training, Musketry, and Rifle Exercises, Senior Cadets, Chapter III.
Section and platoon drill and extended order drill	Infantry Training, 1914, Secs. 75-80, 90-96.

For rank of Sergeant.

As for Corporal and—

Musketry Exercises ..	Training, Musketry, and Rifle Exercises, Senior Cadets, Chapter IV., Secs. 36-43
Musketry Course, Senior Cadets, and Preliminary Training and Range Practices	Training, Musketry, and Rifle Exercises, Senior Cadets, Chapter I., Part II., and Chapter V.
Acting as Section and Platoon Commander in Company Drill	Infantry Training, 1914, Secs. 81-89.

For rank of Company Sergeant-Major and Company Quartermaster-Sergeant.

As for Sergeant, but of a higher standard.

For rank of 2nd Lieutenant.

Subject.	Text Books.
As for Company Sergeant-Major and Quartermaster Sergeant and— Company Drill Infantry Training, 1914, Secs. 81-89.
Guard and Sentry Duties	Manual of Ceremonial 1912, Secs. 127-131, 133.

(c) PHYSICAL TRAINING.

Text Book.—Manual of Physical Training, 1908
(Reprint, 1914).

Subject.	Text Books.
For rank of Corporal ..	Section vii. An elementary knowledge of groups of Exercise A, B, and C.
For rank of Sergeant ..	Section vii. An elementary knowledge of groups of exercises A, B, C, F, and H
For rank of C.S.M. and C.Q.M.S.	As for Sergeant, but with a more detailed knowledge of the groups of exercises specified
For rank of 2nd Lieutenant	Section vi. Class arrangements. Section vii. A good knowledge of the groups of exercises specified for rank of Sergeant

II.

Examinations for the ranks of Lieutenant, Captain, and Major.

1. The examination will be practical and oral.
2. The Boards appointed by the District Commandant under A.M.R. 1224 will be composed of one or more officers of the Permanent Forces and an Area Officer.
3. Examinations will usually be held twice in each year in the various localities.
4. When there is more than one candidate at any locality, arrangements will be made so that, while the examination in the oral test is being conducted, candidates will be unable to communicate the nature of the question to one another.
5. The names of the officers who pass the examination, the rank for which they were examined, together with the marks obtained in each subject and the aggregate, will be published in District Orders.
6. To pass, officers will be required to obtain not less than 50 per cent. of the maximum marks for each subject. To obtain "Special Mention" an officer must pass in each subject at one examination and obtain not less than .8 Marks in the aggregate.
7. The subjects of the examination will be :—
 - (a) Regimental duties.
 - (b) Drill and field training.
 - (c) Map reading.
 - (d) Physical training.

8. The maximum marks allotted for each subject will be 100.

9. The following certificates will be accepted in lieu of examination in the subjects for which the certificates were given, for promotion to the next higher rank only :—

Drill—A “ passed ” certificate obtained within two years of the date of examination at a School of Instruction for Infantry in lieu of the examination in “ Drill.”

Map Reading—A “ passed ” certificate obtained within five years of the date of examination at a School of Instruction in Map Reading and Field Sketching in lieu of examination in “ Map Reading.”

(a) REGIMENTAL DUTIES.

For ranks of Lieutenant, Captain, and Major.

Defence Act and Regulations—An examination in knowledge of the *Defence Act*, as far as it relates to the training and efficiency of Senior Cadets, and the Regulations for the organization and training of Senior Cadets, to consist of oral questions and answers. The questions will be prepared for each examination by the President of the Board on Parts V., XII., XIII., XIV., and XV. of the *Defence Act* and Australian Military Regulations 200, 301, 302, 364-371, 374-378, 381-385, 773-790, 792-796, 860-864, 1206-1249.

(b) DRILL AND FIELD TRAINING.
For rank of Lieutenant.

Subject.	Text Books.
Squad drill without arms ..	Infantry Training 1914, Secs. 10-46.
Squad drill with arms and rifle exercises	Training, Musketry and Rifle Exercises, Senior Cadets, Chapter II.
Section and platoon drill and extended order drill	Infantry Training, 1914, Secs. 75-80, 90-96.
Company drill	Infantry Training, 1914, Secs. 81-89.
Care of arms, Musketry Instruction and Rifle Exercises	Training, Musketry and Rifle Exercises, Senior Cadets, Chapters II., III., and IV.
Theory of Rifle fire and its practical application, Visual training and ranging	Musketry Regulations 1909, Part I., Secs, 17-35, 65-68.
Musketry Course, Senior Cadets, and Preliminary Training and Range Practices	Training, Musketry, and Rifle Exercises, Senior Cadets, Chapter I., Part II., and Chapter V.
Ceremonial	Manual of Ceremonial, 1912, Secs. 67-69, 127-131, and 133.

For rank of Captain.

As for Lieutenant and—

Battalion Drill ..	Infantry Training, 1914, Secs. 97-99.
Training in Field Operations	Infantry Training, 1914, Secs. 107-113.

For rank of Major.

As for Captain, but of a higher standard.

(c) MAP READING.

For Rank of Lieutenant.

The examination will include a few simple practical tests in—

Setting a map.

Definition of terms used,

Conventional signs,

Recognition of hill features.

Identifying observer's position on a map,

Measuring distances.

For ranks of Captain and Major.

As for Lieutenant, but of a higher standard.

(d) PHYSICAL TRAINING.

Text Book.—Manual of Physical Training, 1908
(Reprint, 1914).

Subject.

Text Books.

For rank of Lieutenant ..	Section vi. Class arrangements. Section vii. A good knowledge of groups of exercises A, B, C, F, G, and J
For rank of Captain ..	As for rank of Lieutenant with a more detailed knowledge
For rank of Major ..	A good knowledge of Section vi. Class arrangements. Section vii. All groups of exercises, excluding groups D, E, and K

CHAPTER II.

RIFLE EXERCISES.

1. *General Rules.*

1. Cadets, before they commence the Rifle Exercises, are to be taught the names of the different parts of the rifle, and the care of arms.

The instructor will always be provided with a rifle when at drill, in order that he may show the cadet the required positions and motions. Such practical instruction will, as far as possible, be substituted for the detail given in the text.

2. Drilling by numbers will be restricted to the instruction of recruits, and will be used as little as possible.

3. The cadet having been thoroughly instructed in the rifle exercises by numbers, will be taught to perform them in quick time, the words of command being given without the numbers, and executed as detailed in the following sections, with a pause of one beat of quick time between each motion.

4. The rifle must be carefully handled, especially when coming to the *Order*.

5. The rifle exercises are of special importance as being required on parade in close order and for the ordinary routine of peace.

They must be thoroughly taught and be carried out with smartness and precision.

2. *The Order.*

The cadet will fall in as directed in Infantry Training, Part I., S. 27, with the rifle held perpendicularly at his right side, the butt on the ground, its toe in line with the toe of the right foot. The right arm to be slightly bent, the hand to hold the rifle lightly, back of the hand to the right, thumb against the thigh, fingers slanting towards the ground.

When each cadet has got his dressing, he will stand at ease.

3. *Stand-at-Ease from the Order.*

Stand at—
Ease. { Keeping the legs straight, carry the left foot about 12 inches to the left so that the weight of the body rests equally on both feet. At the same time incline the muzzle of the rifle slightly to the front with the right hand, arm close to the side, the left arm to be kept in the position of *attention*.

4. *The Attention from Stand-at-Ease*

Squad—
Attention. { The left foot will be brought up to the right, and the rifle returned to the *Order*.

5. *The Slope from the Order.*

Slope Arms—
One. { Give the rifle a cant upwards with the right hand, catching it with the left hand behind the backsight, and the right hand at the small of the butt, thumb to the left, elbow to the rear.

Two. { Carry the rifle across the body, and place it flat on the left shoulder, trigger-guard outwards from the body. Seize the butt with the left hand, the first two joints of the fingers grasping the outside of the butt, the thumb about 1 inch above the toe, the upper part of the left arm close to the side, the lower part horizontal, and the heel of the butt in line with the centre of the left thigh.

Three. Cut away the right hand to the side.

6. *The Order from the Slope.*

Order Arms—
One. { Bring the rifle down to a perpendicular position at the left side to the full extent of the arm, at the same time meeting it with the right hand in line with the left shoulder, arm close to the body.

Two. { Bring the rifle to the right side, seizing it at the same time with the left hand just below the foresight, butt just clear of the ground.

Three. { Place the butt quietly on the ground, cutting the left hand away to the side.

7. *The Present from the Slope.*

Present Arms
—*One.*

{ Seize the rifle with the right hand at the small, both arms close to the body.

Two.

{ Raise the rifle with the right hand perpendicularly in front of the centre of the body, trigger-guard to the left; at the same time place the left hand smartly on the stock, wrist on the trigger-guard, fingers pointing upwards, thumb close to the forefinger, point of the thumb in line with the mouth; the left elbow to be close to the butt, the right elbow and butt close to the body.

Three.

{ Bring the rifle down perpendicularly close in front of the centre of the body, guard to the front, holding it lightly at the full extent of the right arm, fingers slanting downwards, and meet it smartly with the left hand immediately behind the backsight, thumb pointing towards the muzzle; at the same time place the hollow of the right foot against the left heel, both knees straight. The weight of the rifle to be supported by the left hand.

8. *The Slope from the Present.*

Slope Arms—
One.

{ Bring the right foot in line with the left and place the rifle on the left shoulder as described in the second motion of the *Slope* from the *Order*.

Two.

Cut away the right hand to the side.

9. *Inspecting Arms on Parade.*1. The Cadets will stand at the *Order.*

*For
Inspection,
Port—Arms.*

Cant the rifle, muzzle leading, with the right hand smartly across the body, guard to the left and downwards, the barrel crossing opposite the point of the left shoulder, and meet it at the same time with the left hand close behind the backsight, thumb and fingers around the rifle, the left wrist to be opposite the left breast, both elbows close to the body. Passing the right hand over the outside of the butt, place the thumb in the loop of the lever and with a smart forward jerk open the breech and grasp the butt midway between heel and small, first two joints of the fingers on the outside and the thumb pointing towards the muzzle.

NOTE.—A squad, before being inspected, will receive the command *Rear Rank, One Pace Step Back—March.*

*Ease—
Springs.*

Place the forefinger of the right hand round the trigger, remaining fingers under the lever, press the trigger without touching the lever, press the lever home to the catch, then seize the small of the butt with the right hand.

- Order Arms*—{ Holding the rifle firmly with the left hand,
One. { seize it with the right hand below the band.
- Two.* { As in the second motion of the *Order* from
 { the *Slope*.
- Three.* { As in the third motion of the *Order* from
 { the *Slope*.

2. When arms are inspected at the *port* only, as in inspecting a platoon on parade, the officer or non-commissioned officer will see that the exterior of the rifle is clean and free from rust; that the breech and action are clean and in good order; that the sights are at zero; and that no parts are loose or damaged. He will here and there examine the bore of a rifle to see that it has been cleaned and oiled and is free from obstructions.

Each cadet, when the officer has passed the file next to him, will, without further word of command, *ease springs, order arms, and stand at ease*.

When the inspection is completed, the ranks will be closed on the command *Close Ranks—March*, when the rear rank will take one pace forward.

Examine—
Arms. { Both ranks, being at the *port*, will come to
 { the position for loading with the muzzle so
 { inclined as to enable the officer to look
 { through the barrel, the thumb-nail of the
 { right hand being placed in the breech so as
 { to reflect light into the barrel.

The cadet, when the officer has passed the next file to him, will *ease springs, order arms, and stand at ease*.

NOTES.—(i) If it is necessary to examine arms, the cadets when in the position of *for inspection, port arms*, will be cautioned to remain at the *port*. Ranks will be closed when the examination has been completed.

(ii) In ordering arms from the examine, the first motion is to seize the rifle with the right hand between the back-sight and the band, at the same time bringing the left foot back to the right. With the second motion the rifle will be brought to the order, the left hand being cut away to the side.

10. *Paying Compliments with Arms.*

When a cadet, carrying a rifle passes or addresses an officer he will do so at the *Slope*, and will salute by carrying the right hand smartly to the small of the butt, forearm horizontal, back of the hand to the front, fingers extended, saluting at the same number of paces before reaching the officer, and cutting the hand away, as directed when saluting without arms.

In passing an officer the cadet will always turn his head towards him in the same manner as when unarmed.

A cadet, if halted when an officer passes, will turn towards him and stand at the *Order*.

Sentries, when saluting otherwise than by presenting arms, will carry the right hand to the small of the butt as directed above.

11. *The Trail from the Order.**

Trail—Arms. { By a slight bend of the right arm give the rifle a cant forward and seize it at the point of balance, bringing it at once to a horizontal position at the right side at the full extent of the right arm, which should hang easily from the shoulder, fingers and thumb round the rifle.

12. *The Order from the Trail.*

Order—Arms { Raising the muzzle, catch the rifle below the band, and come to the *Order*.

13. *Short Trail from the Order.*

No word of command. { Raise the rifle about 3 inches from the ground, keeping it otherwise in the position of the *Order*.

14. *Use of the Short Trail.*

If standing with ordered arms, and directed to form fours, to close to the right or left, to step back, or to take any named number of paces forward, men will come to the *Short Trail*.

* The *trail* is not to be used in close order drill. It will be used when required for movements in the field in both close and extended order.

15. *The Change from the Slope.*

*Change
Arms—
One.*

{ Seize the butt of the rifle with the right hand, back of the hand up, at the same time slipping the left hand up to the small.

Two.

{ Carry the rifle, turning the trigger-guard outwards, on to the right shoulder, bringing it well to the front so as to clear the head, which is to be kept quite steady.

Three.

Cut the left hand to the side.

To "Change Arms" again, reverse the above motions.

16. *To Change Arms from the Trail.*

*Change
Arms—
One.*

{ Bring the rifle to a perpendicular position in front of the right shoulder, trigger-guard to the front, upper part of the arm close to the side, forearm horizontal, hand in line with the waistbelt.

Two.

{ Pass the rifle across the front of the body, catching it with the left hand at the point of balance, at the same time cutting the right hand smartly to the side. In this position the rifle is to be held perpendicular and opposite the left shoulder, trigger-guard to the front, upper part of the left arm close to the side, left forearm horizontal, hand in line with the waistbelt.

Three.

{ Lower the rifle to the full extent of the left arm at the *trail*.

17. *Slinging Arms.*

*Sling—
Arms.*

{ The sling of the rifle having been loosened to the full extent, the cadet will pass his head and right arm between the sling and rifle, muzzle upwards, rifle hanging diagonally across the back.

18. *Grounding and Taking up Arms.*

*Ground—
Arms.*

{ Place the rifle gently on the ground at the right side, trigger guard to the right, muzzle pointing in the same direction as the right foot. The right hand will be in line with the toe as it places the rifle on the ground. Then return smartly to the position of *attention*.

*Take up—
Arms.*

{ Bend down, take up the rifle, and return to the *order*.

CHAPTER III.

Extracts from Musketry Regulations, 1909, Part I. (Reprint 1914), with Modifications for .310-in. Cadet Rifle.

Note.—The number of the paragraphs and sections correspond with those used in the Musketry Regulations, Part I.

CARE OF ARMS.*Section 9.—General Instructions.*

84. Area officers are responsible for the condition of the arms on their charge, and for instructing the cadets in the care of and method of cleaning the rifles allotted to them.

85. Wear in the bore of a rifle is due to three causes: (a) the friction of the bullet; (b) the heat generated when ammunition is fired; and (c) the friction of the pull-through gauze when the bore is being cleaned.

Undue wear is caused by improper and unnecessary use of the pull-through gauze.

86. When a rifle barrel is new, the interior of the bore carries a high polish, and this is a great safeguard against rust and metallic fouling, but it must be recognised that, as the bore becomes worn, this polish will diminish. Efforts to restore it with wire gauze on the pull-through result in unnecessary wear. At the same time it must be clearly understood that, in a well-cared-for rifle, while the brilliancy of the polish will diminish, the lands of the bore should still be bright and free from all stain of rust or fouling.

87. The pull-through is made with three loops: the first (*i.e.*, nearest the weight) is for the gauze when used; the second for the flannelette; the third is provided merely as

a means of withdrawing the pull-through in case of a jamb; neither flannelette nor gauze should be placed in this loop. When signs of wear appear a new cord should be taken into use, to avoid the risk of the pull-through breaking in the rifle. If a breakage does occur, no attempt should be made by the cadet to remove the obstruction.

88. *Use of the Pull-through.*—In order to ensure the gradual compression of the flannelette, drop the weight through the bore *from breech to muzzle*. The pull-through should be drawn through in one motion, otherwise the spot where the flannelette is allowed to rest, while a fresh grip of the cord is being taken, will not be properly cleaned. Very great care must be taken not to allow the cord to rub against the muzzle, otherwise a groove, technically known as "cord wear," will be cut, which in course of time will destroy the accuracy of the rifle.

Only regulation flannelette is to be used. When cleaning or drying the bore after washing out with water, a piece of dry flannelette large enough to fit the bore tightly (about 4 inches by 2 inches) should be placed in the second loop of the pull-through.

For oiling the bore, a slightly smaller piece of oily flannelette, which will fit the bore loosely, should be used. Care must be taken not to use too much oil, as it will be squeezed out of the flannelette at the entrance to the bore and will run down into the action when the rifle is placed in the rack, and may then cause miss-fires.

89. Grit must be removed from the pull-through before use.

91. No oil other than Russian petroleum should be allowed to remain in the bore. The function of this oil is to cover the bore with a waterproof film, and thus prevent moisture attacking the steel and forming rust. It must be well worked into the flannelette with the fingers, otherwise it will be scraped off by the breech end of the barrel. When paraffin has been used, all traces of it should be thoroughly removed and the bore coated with Russian petroleum, for paraffin, though an efficient agent for removing rust, does not prevent its formation.

92. No gritty or cutting material, such as emery powder or bath brick, is to be used for cleaning any part of the rifle.

Section 10.—Instructions for Cleaning.

93. In order that the "Instructions for cleaning" may be understood, it is essential that the causes of fouling in rifle barrels should be briefly explained. Fouling may be said to be of two kinds:—(a) Internal—probably caused by the forcing of gas or harmful material into the pores of the metal; (b) Superficial—caused by the deposit in the bore of the solid products of combustion of the charge and of the cap composition.

The result of neglect in either case is the same, viz., the formation of rust in the bore, and, as a consequence, corroded barrels, calling for the excessive use of wire gauze, or even more drastic treatment, thereby causing unnecessary wear.

Internal fouling can be removed satisfactorily by the use of boiling water (see para. 101). If for any reason this method of cleaning cannot be used, the barrel will "sweat," and a hard black crust of fouling will appear in the bore.

This will turn to red rust if not removed, and the rifle will then require repeated cleaning with flannelette for a time, which will vary according to climatic conditions and the state of the bore.

Superficial fouling is readily removed when warm by the use of a pull-through and flannelette, but if it is allowed to remain long in the barrel, it will become hard and will have a corrosive effect equal to that produced by internal fouling.

96. *Daily cleaning.*—The outside of the rifle will be cleaned regularly, all parts of the action wiped with an oily rag; the bore of the rifle will always be left oily—once a week this oil will be removed and the bore re-lubricated. In the case of rifles that have once become rusty, the bore will be daily wiped out with flannelette and re-oiled. For daily cleaning after firing, see para. 99.

97. *Cleaning before firing.*—The action will be wiped with an oily rag, and all traces of oil will be removed from the bore and chamber by the use of a pull-through *which has no gauze on it.*

Neither the cartridge nor the chamber of the rifle are, on any account, to be oiled before loading, nor is any other form of lubricant to be used with a view to facilitate the extraction of the empty case. Such a procedure is liable to injure the rifle.

98. *Cleaning after firing.*—Arms will be cleaned immediately after firing. The fouling can be easily removed while it is still warm, and before it has had time to set hard. While the less the time that is allowed for the fouling to exercise its power of absorbing moisture from the air, the

less chance there is of rust forming. If it is impossible to clean the rifle at once, an oily rag should be pulled through the bore, and the rifle should be cleaned at the earliest opportunity.

99. *The bore.*—The following method of cleaning the bore should be adopted :—

Place a tightly-fitting piece of dry flannelette in the second loop of the pull-through (*see para. 87*), and draw it through till the bore is clean. Finally oil the bore with a loosely fitting piece of flannelette, using enough oil to cover the bore thoroughly. The rifle will be cleaned in this manner for three days following that on which it was fired.

100. After firing blank ammunition, special care should be taken that the cleaning is thorough, as, although there is no friction between bullet and bore and so no internal fouling or "sweating," there is greater accumulation of superficial fouling from blank than ball cartridge, there being no bullet in blank ammunition to scour the fouling left by the preceding round. The firing also is in most cases more prolonged, and a greater interval must usually elapse before the rifle can be thoroughly cleaned. When blank firing precedes practice with ball, the rifles will be carefully cleaned before ball practice commences.

101. An effective means of cleaning the bore, whether firing has taken place or not, is found in the use of *boiling* water. Before boiling water is used superficial fouling and grease should be removed. About five or six pints should be poured through the bore from the breech, using a *funnel* to

prevent its entering the action. The rifle should then be *thoroughly* dried and the bore oiled. Not only does the boiling water remove the fouling, but the expansion of the metal due to the heat of the water loosens any rust there may be and makes it easily removable.

102. The appearance of metallic fouling or "leading" should be watched for. It is caused by a portion of the bullet being left on the surface of the bore, and appears as a whitish streak on the lands, or as a slight roughness on the edge of the grooves. If it is deposited near the muzzle or the breech it is visible to the eye when the bore is clean, but in the centre of the bore it can only be detected by the use of the gauge plug. It is a cause of inaccuracy, and if a rifle, for no apparent reason, shoots badly, its presence should be looked for as a possible explanation. The cadet will make no attempt to remove it himself, but will hand his rifle to the sergeant instructor, or other qualified person, to be cleaned.

103. *The action and outside.*—Wipe the inside of the body, as far as practicable, the block and the cartridge chamber with an oiled rag, to prevent rust and remove dirt; also rub the outside of the barrel. Close the breech by pressing the trigger.

The inside of the action will be cleaned when necessary by an armourer.

The back sight should be kept thoroughly clean and well oiled, particular care being taken that the elevating screw does not become clogged.

The back sight should always be lowered gently.

The steel sight protector should be removed and the inside rubbed with an oiled rag to prevent the formation of rust.

104. The instructions regarding the use of an oily rag for cleaning the action and outside will not apply in dusty countries, where all parts of the action will be kept dry and clean.

105. *Cleaning .22-inch rifles and aiming tubes.*—As a foul rifle shoots very inaccurately it is of the utmost importance, from considerations of safety, that the barrel should be frequently wiped out during use.

The rod and brush should be inserted from the breech end. Under no circumstances should they be inserted from the muzzle, as the friction of the rod is liable to enlarge the bore and make the muzzle bell-mouthed, thus causing inaccuracy.

Section 11:—Instructions for Care of Arms.

106. When the rifle is not in use, the leaf and slide of the backsight should be lowered to avoid the risk of damage from a blow or fall.

107. The mainspring should never be allowed to remain compressed, except when the rifle is loaded, as the spring will thereby be weakened. The position of the indicator shows whether the mainspring is compressed or not.

111. Care should be taken to prevent the browning being rubbed off the rifle.

112. No non-commissioned officer or cadet is permitted to take to pieces any portion of the action, nor is he allowed to loosen or tighten any of the screws.

113. In dusty localities it may be found necessary to cover the muzzle and action with a cover of khaki or other suitable material, to prevent the dust gaining access to the interior of the rifle, but anything in the nature of a plug in the muzzle is expressly prohibited.

115. The oil will only be removed from the bore of the rifle :—

- i. Immediately before firing.
- ii. For inspection.
- iii. For parades and duties as may be ordered.

In all cases it will be replaced as soon as possible.

Note.—The greatest care must be taken to prevent the barrel being bent or dented, as either would be detrimental to accurate shooting. A rifle must never be used for carrying weights, or for any unauthorized purpose. Placing rifles forcibly in a rack, or leaving them carelessly against a wall or a fence so that they fall down will often cause serious damage to the barrel, especially at the muzzle.

Care must be taken not to run the muzzle into the ground ; should this be done accidentally, the dirt must be removed at once, for if the rifle be fired with any obstruction in the muzzle the barrel will probably burst.

The foresight must be carefully protected from being injured ; and the rifle should never be carried with the leaf of the back sight raised.

CHAPTER IV.

[*Extracts from Musketry Regulations 1909, Part I. (Reprint 1914), with Modifications for .310 inch Cadet Rifle.*]

Note.—The number of the paragraphs and sections correspond with those used in the Musketry Regulations, Part I.

MUSKETRY EXERCISES.

AIMING INSTRUCTION.

Section 36.—Stages of instruction.

198. Aiming will be taught in stages, as follows:—

Explanation of the theories of sighting, elevation, and deflection.

Method of adjusting the sights.

Explanation of aiming with the backsight and foresight.

Aiming with scrupulous accuracy from a rest.

Demonstration of results of inaccuracy in aiming.

Aiming combined with trigger pressing.

Declaring point of aim at moment of discharge.

Aiming from a rest at figures and ground.

Aiming at indistinct targets described by word of mouth.

Aiming off, making allowance for deflection as ordered.

Rapid adjustment of sights in accordance with orders.

Rapid alignment of sights.

It is immaterial whether the instruction is given in the above order, but further training should be deferred until the eye is shown to be accurate in aiming. Ample time

should be devoted to trigger pressing and declaring the point of aim on discharge; this instruction may conveniently be given indoors.

199. Aiming instruction should proceed simultaneously with firing instruction, short lectures and questions being included.

Section 37.—Accuracy in aiming.

200. Especial care will be taken that the sights of any rifle used in aiming instruction are in perfect order.

201. The aiming mark in the earlier stages will be a special aiming target* placed at a distance not exceeding 100 yards, but when the habit of accuracy has been acquired service targets will be used and care will be taken that there is no falling off in accuracy owing to the shape and comparative invisibility of these targets.

202. The instructor must inspect the sights frequently to ensure that they are correctly adjusted in accordance with his orders.

He will explain the following rules, and demonstrate the results to be anticipated from common errors in aiming:—

- i. The backsight must be kept upright.
- ii. The left or right eye, according to the shoulder from which the cadet shoots, must be closed.
- iii. Aim must be taken by aligning the sights on the centre of the lowest part of the mark, the top of the foresight being in the centre of, and in line with, the shoulders of the U or V of the back-sight.

* For description of target see Part II. of Musketry Regulations, 1909.

203. When these principles have been mastered, the instructor will loosen the sling, adjust the sights for any given range and aim from the rest at the target, taking care that his eye is immediately above the butt-plate. It will be convenient to use a sandbag aiming rest to steady the head during the aiming. Having aimed, he will call on each individual to observe the correct method of aligning the sights on a mark. Each cadet will then act similarly, when the instructor will verify the aim, point out errors, and explain how they would have affected the accuracy of the shot, and how they are to be avoided. He should occasionally call on a cadet to point out any errors which may have been made by his comrades.

204. *Extreme accuracy of aim must be insisted on even during the first lesson.*

Section 38.—Common faults in aiming.

206. The most common faults in aiming are :—

- i. Taking too much or too little foresight into the U or V of the backsight.

It should be explained that a fine or half sight will cause the bullet to strike lower than when the correct sight is taken.

The following method will be found useful to guide a cadet in taking the correct amount of foresight :—Lay the edge of a piece of paper on the upper edge of the backsight cap, when the sight will appear as shown in one of the subjoined

diagrams. A piece of cardboard laid on the cap and held in place by an elastic band will answer the same purpose.



Correct.



Too Fine.



Too Full.

ii. Inaccurate centering of the foresight in the notch of the backsight.

The cadet should understand that this inaccuracy will deflect the muzzle of the rifle to the side on which the line of aim is taken, *e.g.*, if aim be taken over the right edge of the notch the direction of the line of fire will be to the right of the line of sight.

iii. Fixing the eyes on the foresight, and not on the object.

If the eye is accommodated for the foresight, the firer will retain only a blurred image of the target. This may not affect the result of his shooting at stationary vertical targets, but when firing at service targets which appear and reappear, or at areas of ground, it will be necessary for him to watch the target closely.

iv. Inclining the backsight to one side.

In this case the bullet will strike low, and to the side of which the sights are inclined. The resulting error will be considerable at long ranges.

Section 40.—Aiming at the ground, and marking down an enemy.

210. The eyesight must be gradually trained in aiming at figures or other service targets and at ground which might conceal an enemy. For this latter purpose a cadet will be directed to show himself for a few seconds at different ranges. The squad will then aim from rests at the ground which they believe to be occupied. After a short interval the cadet will stand up, when errors will be corrected and criticized.

211. Further practice will be given in aiming at ill-defined targets described by word of mouth.

Section 41.—Aiming off for wind.

212. The use of the windgauge will be explained, but it is not to be regarded as the normal means of making allowance for wind under service conditions.

213. The cadet should be taught to discriminate between mild, fresh, and strong winds, by the effect which they exercise on natural objects, and to note the direction of the wind as front, rear, right angle, or oblique, by turning his face full towards the wind.

214. The approximate allowances in elevation or deflection for these winds at decisive range will be taught. Practice will be afforded in aiming off a full-length figure target according to the range, and the strength and direction of the wind, actual or supposed.

215. The cadet should be accustomed to make deflection allowance with reference to the breadth of the target, the full length figure target being rather less than 2 feet wide. Such practices should be limited to 300 yards, but in addition there must be practice in aiming off at all ranges according to orders, the allowance being indicated if possible by reference to the breadth of the target, or intervals in a formation, or by selection of an auxiliary aiming point. If this is not possible, it must be expressed in feet or yards.

216. In such exercises it is necessary to employ a cadet at the target to indicate the correct point of aim with a marking disc after each aim taken by the cadet. The amount of allowance made will be observed by the instructor with an aim corrector, unless an aiming rest is used.

Section 43.—Rapid adjustment of sights.

219. Instructors will frequently test their squads in setting their sights rapidly and accurately. They will give orders for aiming or firing at definite targets, but without naming the range, and require their squads to adjust their sights before they bring the rifle to the shoulder. The careful adjustment of sights will thus become instinctive.

220. Adjustment of sights will also be practised in connexion with movement of the firer or the target.

221. When there is time, the sights will be adjusted for every alteration in the range, and aim will be taken at the lowest part of the mark, but frequent small changes of sighting lead as a rule to loss of fire effect, and may be avoided by aiming up or down.

FIRING INSTRUCTION.*Section 45.—Instructors.*

227. Instructors will teach by force of example rather than by word of mouth, and be careful to refrain from any form of comment which may discourage cadets. Words of command are seldom required except in collective firing instructions, all motions of firing being performed independently, and each cadet being required to use his own judgment as much as possible. Faults must not, however, be overlooked or allowed to become formed habits; the essential points of the firing positions are to be insisted upon from the beginning, as the foundation of fire discipline.

228. In the early part of training, squads will not, as a rule, consist of more than seven men, who will be assembled round the instructor in a semicircle. The instructor will explain the uses of the different firing positions and illustrate them to the squad. Cadets will practise the motions separately until able to combine them, and assume each position rapidly and without constraint.

229. The position of each individual will be corrected in turn; the regulation positions may be varied if physical characteristics render them unsuitable in any case, but awkwardness in the first stages of instruction will not be accepted as an indication that the regulation position requires modification.

230. The instructor should stand about five paces from the cadet and to his right front while correcting his faults.

*Section 46.—Firing rest.**

231. The firing rest will be frequently employed in early instruction to enable the cadet to support the rifle and rest his muscles, whilst the instructor modifies, or corrects, his position. An incorrect position, however, usually arises from want of accuracy in the preliminary actions which lead to it, and it is to these that attention must be given, for a faulty position once acquired cannot easily be corrected.

Section 47.—Trigger pressing.

232. Before he is permitted to practise snapping, the cadet will be given several lessons in the correct way of pressing the trigger. The rifle will be rested on sandbags or in an aiming rest, and the cadet will be seated with his elbows rested on a table. The instructor will first take steps to insure that the cadet can move his trigger finger independently of the remainder of the hand and arm.

233. The instructor will explain (i) that the direction of the pull-off is diagonally across the small of the butt; (ii) that the first joint of the forefinger should be placed round the lower part of the trigger; and (iii) that in order not to disturb the aim breathing must be restrained when pressing the trigger.



* For description of rest see Part II. of Musketry Regulations, 1909.

234. In order that he may learn from experience the pressure required to release the cocking-piece, the cadet will also be directed to place his forefinger under that of the instructor, but without exercising pressure, whilst the instructor carries out the motion. Then, to enable the instructor to ascertain whether the method is understood, the cadet will place his finger over that of the instructor, and exert the pressure. Finally, the cadet will himself press the trigger, whilst the instructor uses the aim corrector. The main object is to release the spring without disturbing the aim.

235. Special care will be taken that the breathing is restrained while pressing the trigger, and the cadet is always to say after the spring is released whether the aim was maintained truly at the moment of snapping. If not, he must state definitely the direction in which the rifle was pointed at the moment of discharge.

236. From time to time the instructor will test the aim and steadiness of each cadet with an aim corrector, and, if necessary, further lessons in trigger pressing will be given. Practice with miniature cartridge may advantageously be given, to develop steadiness until range practice is begun.

237. Trigger pressing requires most careful individual instruction, during which the necessity for determination and strong personal effort will be impressed on the mind of every cadet.

239. The use of the sling for steadying the rifle during firing is not to be taught.

Section 48.—Firing standing.

240. The standing position will as a rule be used on service to fire from breastworks, high walls, and cover, such as long grass or standing corn, or to take a snap shot, when advancing, so that the pace of the advance is not materially checked.

241. It is a convenient position for elementary instruction, but when cadets have acquired facility in handling the rifle, they will be practised for the most part in the prone position in the open, and occasionally in the kneeling position, or lying behind cover.

242. *To load.*—Turn half right ; carry the left foot to the left and slightly forward so that the body is equally balanced on both feet. Bring the rifle to the right side in front of the hip, with the muzzle pointing upwards, small of the butt just in front of the hip, and grasp the stock with the left hand immediately in front of the trigger-guard.

Placing the thumb of the right hand inside the loop of the lever, open the breech by a *smart forward jerk*, put a cartridge in the chamber, and press it home with the thumb ; then press the lever home to the catch *and remain steady*.

243. *To unload.*—As when loading, but after opening the breech, press the trigger, press the lever home to the catch, lower the backsight, turn the steel sight-protector and order arms.

244. *To adjust the back sight.*—Hold the rifle at the loading position so that the lines of the backsight can be clearly seen, and raise the leaf by placing the thumb of the left hand on

the milled underportion. Then with the thumb and forefinger of the right hand rotate the milled screw until the line on the slide is level with the line on the leaf, giving the elevation for the distance named. Remove the left thumb.

245. *To lower the backsight.*—Hold the rifle as when adjusting the backsight, and rotate the milled screw until the slide is at its lowest point. Remove the left thumb.

246. *To adjust the windgauge.*—Holding the rifle as when adjusting the backsight, turn the windgauge screw until the central line is level with the line giving the required deflection.

To turn the steel sight-protector.—The rifle will be held as when loading. Then lower the rifle to a convenient position at the right side, keeping the muzzle pointed upwards, and turn the steel sight-protector with the right hand, drawing it back to the nose-cap. Return the rifle to the loading position.

249. *To aim and fire.*—Load, and direct the eyes on the mark. Then bring the rifle into the hollow of the right shoulder, press it in with the left hand, grasp the small firmly with the thumb and three fingers of the right hand, place the forefinger round the lower part of the trigger; the backsight to be upright, left elbow well under the rifle, right elbow a little lower than, and well to the front of, the right shoulder; as the rifle touches the shoulder bring the cheek down on the butt, keeping the face well back from the right hand, and close the left eye, align the sights on the mark, restrain the breathing, and press the trigger. After a pause bring the rifle to the loading position, and repeat the practice.

250. Great care must be exercised to insure that the forefinger is not placed on the trigger before the rifle is in contact with the shoulder, and that a firm grip is maintained with both hands while firing.

251. During this exercise the instructor will explain to the cadets that uniformly accurate shooting cannot be obtained unless the butt rests firmly in the hollow of the shoulder, and that the further the eye is kept from the backsight the more clearly will the sights be defined, the less strained the position of the head and neck, and the less the effect of recoil.

252. The firer should always declare the direction of his aim at the moment of discharge before removing the rifle from the shoulder.

Section 49.—Firing prone.

253. The prone position will generally be adopted by cadets on open ground, or when firing from continuous low cover, or from behind small rocks, trees, ant-heaps, &c. Preliminary instruction in firing, and firing exercises, will, as a rule, be carried out in the prone position.

254. i. *To lie down.*—Turn half right, bring the rifle to the right side as when standing. Place the right hand on the ground, and lie down on the stomach obliquely to the line of fire, with the legs separated, left shoulder well forward, left arm extended to the front, and rifle resting on the ground in a convenient position, muzzle pointing to the front.

ii. *To load.*—As when standing.

iii. *To unload.*—As when standing.

iv. *To adjust sights.*—Draw the rifle back with the left hand until the lines on the backsight can be clearly seen, and proceed as when standing.

v. *To aim and fire.*—Proceed as when standing, closing the right elbow towards the left. To obtain elevation, the body must be raised on the elbows and slightly retired.

255. Cadets will be trained to assume the prone position rapidly, and to perform the loading and aiming motions with as little movement as possible. The oblique angle is not to be unnecessarily exaggerated. Behind objects affording a restricted amount of cover, the body and legs will be parallel to the line of fire, if the oblique position would increase vulnerability.

Section 50.—Firing in other positions.

256. The cadet will also be instructed to fire—

- i. Sitting, which is most suitable when on ground falling at a steep slope. In this position the right shoulder should be kept well back, and the left forearm supported by the thigh, the right elbow resting against the right knee, or unsupported, as desired.
- ii. Kneeling, used mainly when firing from continuous cover, such as a low wall, bank, or hedge, or in long grass, crops, &c., which would obstruct the line of sight if the prone position were adopted.

The cadet may kneel on the right knee or on both knees. In the former case the body may be supported on the heel or not as desired; the left knee will be in advance of the

left heel, and the left elbow rest on or over the left knee; the left leg, hand, and arm, and the right shoulder, should be in the same vertical plane when firing in the open. In the latter, the body may rest on both heels, or be kept upright to suit the height of the cover, the elbows in both instances being unsupported by the body.

Section 51.—Use of cover.

257. Besides teaching the firing positions which are described above, the instructor will explain to his squad the best means of using various forms of cover for fire effect and protection.

258. In the intervals of firing in the open the head should be lowered, but ground in front must still be watched by selected observers.

259. The value of cover from view and the means of concealment afforded by small folds in the ground, a few tufts of grass, &c., will be illustrated, and the tendency to attract attention by exaggerated movements of the head, arms, or rifle, in loading and aiming, will be pointed out and checked.

Section 63.—Tests of elementary training.

296. *Range practices and more advanced training may be regarded as waste of ammunition and time unless cadets have been thoroughly grounded in elementary training.* The following system of tests has therefore been designed in order to provide instructors with a means of testing cadets to ensure that they have reached a sufficient standard before they begin range practices, and to ensure that trained cadets have retained their efficiency.

These tests are divided into oral, inspection and standard tests. A record will be kept for each cadet of the results of the various tests, which will be inspected periodically by the commanding officer. Extracts from these records will furnish useful guides as to the efficiency when cadets are transferred to other localities.

It is important that teaching should not be confused with testing. In the former a cadet is instructed by example and explanation; in the latter he is questioned, or ordered to carry out a certain exercise without any explanation or assistance, and either passes the qualifying standard or is relegated for further instruction.

Section 64.—Method of conducting the tests.

297. *Oral tests.*

i. *Care of arms and ammunition.*

A few questions should be put to each cadet.

ii. *General theoretical knowledge.*

A few questions should be put to each cadet regarding the objects of, and reasons for, various details that have been taught him.

298. *Inspection tests.*

Every cadet should be individually inspected in all firing positions and the existence of any of the following serious faults should be noted in a book for production at subsequent tests, viz., firing from left shoulder, eye near thumb in aiming, want of grip with either hand, excessive constraint, finger round trigger in loading position.

299. *Standard tests.*i. *Adjustment of sights.*

Several distances will be named and sights examined after.

ii. *Regulation aim.*

To be tested by aiming disc.

iii. *Trigger pressing.*

Trigger pressing will be tested by means of the aim corrector.

CHAPTER V.

[*Extracts from Musketry Regulations 1909, Part I. (Reprint, 1914), with Modifications for .310 inch Cadet Rifle.*]

Note.—The number of the paragraphs and sections correspond with those used in the Musketry Regulations, Part I.

PRELIMINARY TRAINING AND RANGE PRACTICES.

PRELIMINARY TRAINING.

Section 72.—Preliminary training of recruits.

343. Although it is only by practice in shooting that a high degree of proficiency can be attained in the use of the rifle, the ammunition allowances are necessarily limited, and are calculated on the assumption that firing will be preceded by a most thorough course of preliminary instruction.

344. Cadets before they begin a course of firing must reach a satisfactory standard in aiming, and in holding their rifles steadily while pressing the trigger; otherwise range practice will result only in waste of ammunition.

345. Shooting from the left shoulder is not to be permitted, unless it is rendered necessary by defective eyesight.

350. The miniature range should be used to illustrate lessons of preliminary training as far as possible.

Section 74.—Miniature cartridge practice.

354. Practice with miniature cartridges is a valuable preliminary to firing with full-charge ammunition, provided that the rifles or aiming tubes possess a high degree of accuracy, and the methods of instruction are such as to expose and correct the faults of the firer.

355. During preliminary drill, frequent use should be made of the miniature range, and the lessons of aiming, pressing the trigger, declaring the point of aim on discharge, &c., should be practically illustrated by means of miniature ammunition.

356. The principles followed should be those of practice with full-charge ammunition; at first there should be exercises in grouping only until a 3-in. standard is reached. Methods of correcting error accordingly to the result of the last shot fired should be illustrated in the early stages by using an elementary target; correction should afterwards depend on observation of fire aimed at a figure target set up on a sawdust bank.

359. The windgauge may be used to represent wind, and the firers taught to aim off so as to correct the deflection given, acting sometimes on their own judgment, sometimes according to orders for fire direction.

361. Due regard should be paid to the visibility of service targets, and bull's-eye targets should be used for the first few rounds only.

362. It is desirable that firing should take place in the open air if possible, so that artificial conditions of light and visibility may be avoided.

367. No person, except the officer or non-commissioned officer in charge, or the marker, is to pass from the firing point up to the target during practice. Should it be necessary to stop firing, the same precautions are to be taken as at rifle practice.

INSTRUCTIONAL RANGE PRACTICES.

Section 76.—General.

372. When cadets have shown clearly that they have acquired a satisfactory standard of skill in all branches of preliminary training, it is necessary that they should verify for themselves by practice the lessons which, up to that time, have been taught in theory only.

374. Instructional range practices need not be continuous; intervals of time between the exercises are often beneficial, especially to nervous cadets, but in any case time should be found to continue the exercises of preliminary training on days allotted to range practices, in order that there may be no separation between theory and practice.

375. In preliminary training the cadet has not accustomed himself to the shock of discharge. In some cases there is extreme difficulty in overcoming the tendency to flinch from this shock, and this is one of the commonest causes of inaccurate shooting. Cadets who flinch should not proceed with firing practice, the cause of the finching can be detected and sometimes be removed after one or two rounds only.

376. It is a common experience that serious faults become formed habits in recruits before they are discovered by the instructor; and that they are exposed only after repeated visits to the range, by which time it will be difficult to correct them.

377. In order to compel analysis of faults, to indicate clearly how defects may be remedied, and to remove all suspicion as to the accuracy of his rifle, preliminary and qualifying practices are divided into exercises in (A) grouping, and (B) applying fire.

Section 77.—Grouping.

378. Individual grouping is an exercise in firing a series of shots (usually five) at a definite aiming point without alteration of aim or sighting during the series. As it is necessary to exclude atmospheric influences as much as possible, the range should not exceed 100 yards.

The term "group" is used to define the diagram made on the target by the series of shot marks. The value of such a group is determined by the relative closeness of the shot marks. It is measured by means of rings of various sizes, and points are allotted according to the size of the ring which will contain all the shots, or, when specially prescribed, all the shots but one, which is called a "wide shot." When the ring is applied so as to contain all the shots, the point where the centre of the ring falls on the target is regarded as the point of mean impact. The position of the point of mean impact, with reference to the mark aimed at, has no influence on the value of the group. Its position is, however, of great importance for instructional purposes, because it indicates approximately the error of the rifle, and gives information as to any constant fault of the firer.

379. Should a cadet make a bad group, and the rifle is suspected, it should be at once fired under similar conditions by a reliable marksman. Should the marksman also make

a bad group with the rifle, the rifle should be tested, and if found "inaccurate," the cadet to whom the rifle belongs should be allowed to recommence the course. If the rifle is proved accurate, the cadet's aim should next be tested by the triangular method, and his let-off should be tested by means of the aim corrector. His eyesight and nervous condition should be examined.

380. Unsteadiness may be traced to lack of determination, or to illness, or to some habitual excess, such as cigarette smoking. The position of the shots on the target may indicate errors in aiming or inclination of the sights; they may show that the firer moves his shoulder forward to meet the shock of discharge, which will tend to throw shots low left, or that he flinches from the shock, directing them high. If the trigger is jerked by the wrist instead of being pressed by an independent action of the finger, shots will usually strike low right.

381. Instructors should carefully note the positions of good groups as well as bad ones, for some constant error in aiming or fault of the rifle may thus be discovered, which will escape notice in application practice when every shot is signalled and error is attributed to wind or other cause for which allowance is easily made in fighting. Such errors are not uncommon, even among marksmen, and often affect their shooting unfavorably in field practices when there is no shot for shot signalling.

383. Faults may sometimes be remedied at once by correcting the fire positions, by allowing time to elapse between the shots or by snapping practice. Sometimes the

cause of the failure is due to the firer's effort to succeed ; he dwells too long on his aim, his muscles become tired, the vision becomes blurred and his will-power is impaired. It is necessary to take time in such cases.

384. A complete analysis of the faults of the firer and his rifle should be made before leaving the range, and a note should be made on the register of the steps decided upon for remedying defects.

Section 78.—Application.

386. When a cadet is shown by the result of his grouping to have acquired sufficient skill in aiming and trigger pressing, he will be instructed in applying his shots to a definite mark. This form of practice, in which aim or sighting is altered as may be found necessary, is called "Application."

387. Instruction is given in making allowance for atmospheric influences, chiefly cross-winds ; but it is not desirable that trifling changes of wind should be met by minute adjustment of the windgauge. The instructor should call upon the cadet to estimate the wind before firing, and tell him the corrected allowance which he is to place on his sights. Subsequent alteration should be unnecessary. Similarly, small errors in elevation should be met by aiming up and down, though the target must always be kept in view.

Section 79.—Special instructions.

390. Instruction on the firing point is an indispensable form of musketry instruction for young soldiers, but if it leads to continual alterations of sighting to meet errors in

shooting, the firer is confirmed in his errors and his faults are only obscured. During the firing the instructor should watch the cadet, not the target, and should insist on being told the probable result of the shot before it is signalled.

391. No departure from correct firing positions should on any account be permitted ; the rifle must be gripped, the face kept back from the right hand, and there should be no constraint.

392. The management of the breathing and the let-off must be noticed and the cadet reminded of them continually, so that his mind may be centred on the more important details of shooting and not on changes of wind or light, with which he will become familiar later.

393. Although care and deliberation are necessary in elementary firing instruction cadets must not be allowed to fall into the habit of dwelling on their aim nor of aiming and returning to the loading position repeatedly before pressing the trigger. These errors arise chiefly from taking a fine sight and accommodating the eye so as to obtain a defined image of the foresight rather than the target. When such methods are adopted it is a sign that the object of range practices is misunderstood, and that the firer is in need of more practical instruction: