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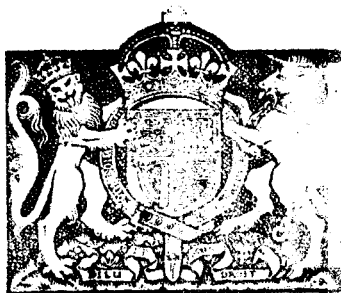
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# Small Arms Training

## Volume I, Pamphlet No. 18, 1939

# SUPPLEMENT

# Anti-Tank Rifle Course

**(For all units at Home other than R.A.C.,  
A.D.G.B., and O.C.T. Units)**

**1940**

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*Notified in  
A.C.I.s for the  
week ending  
14th February,  
1940*



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## Anti-Tank Rifle Course

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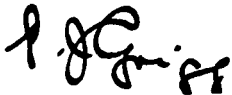
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*By Command of the Army Council,*

A handwritten signature in black ink, appearing to read 'J. G. G. G.', written in a cursive style.

**THE WAR OFFICE,**

*14th February, 1940*

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## ANTI-TANK RIFLE COURSE

(See Pamphlet No. 5, 1937, General, para. 5.)

1. The course is designed to give practice in firing at : -

- i. Crossing targets.
- ii. Fleeting (snapshooting) targets.

2. On account of the high penetrative powers and the great range of the anti-tank rifle, safety considerations on many range areas prohibit fire with .55-in. ammunition. Part I of the course is, therefore, designed to overcome this difficulty. The size of the target, its speed, and the range, are reduced to  $\frac{1}{2}$  those of the normal.

Part I is also intended to enable men to practise aiming and swinging under the simplest conditions before they fire .55-in. ammunition for the first time.

3. Part II will then be fired with .55-in. ammunition on an anti-tank rifle range. In stations at or near which anti-tank rifle ranges do not exist and where arrangements cannot be made for men to proceed to an anti-tank range to practise, men will fire up to 5 rounds of .55-in. ammunition, at 25 yards, into the stop butt of a classification range, to accustom them to the effect of such firing.

.55-in. ammunition will never be fired on a 30-yards range unless it has been passed for this purpose.

4. On anti-tank rifle ranges where targets are placed in the open, the following system of signalling will be employed :—

The target will be so placed that men in a pit to a flank can see the shot-holes. At the firing point there should be a replica target (6 inches square) which can be made under unit arrangements. Both targets are divided into 1-foot squares (see Fig. 1). These squares will be numbered from left to right, and from bottom to top. Thus, on the arrival of a shot on the target, the markers in the pit notify the firing point by telephone of its position by indicating, on the lines of an ordinary map reference, the square in which the shot-hole lies. If, therefore, a shot arrives on the target at " X " (see Fig. 1), the marker merely telephones " Square 34 ". The position of the shot is then plotted on the target at the firing-point.

5. The ultimate aim must be to train all men in firing the anti-tank rifle. For the immediate future, units will train not less than three men for each anti-tank rifle on their establish-

in aiming off and swing can be obtained by using the normal traffic passing along roads in the vicinity of barracks as aiming marks.

### THE 6-FT. HEAD-ON TANK TARGET

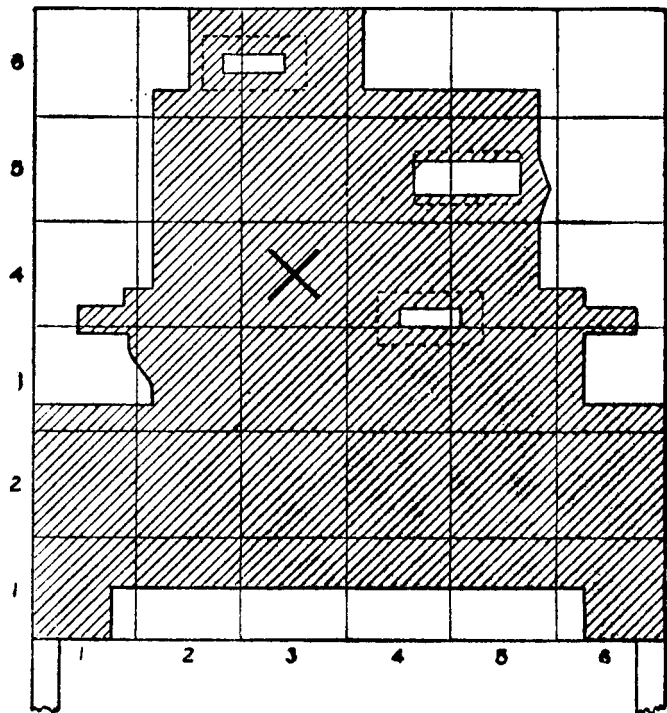


Fig. 1

### 6. Instructions for anti-tank rifle 1/5th scale shooting with .22-in. ammunition.

#### *Procedure*

#### *(A) At the firing point*

(1) Select a firing point opposite the centre of the target run, ascertain its distance from the latter and note which line in the Range Table (see Appendix I) applies.



(2) Ascertain that two posts are erected 62 feet apart alongside the target run, which may be any convenient greater length.

(3) Zero the .22-in. rifle at a stationary target at the range to be used so that shots hit a point aimed at with the anti-tank rifle sights.

*Note.*—At 100 yards a 4-inch group should be obtained.

The zeroing of the .22-in. rifle should be checked periodically during firing, especially if a constant error appears.

(4) Instruct firers to use the left-hand target for movement left to right, the right-hand target for movement right to left, and to take always the standard lead irrespective of the target speed.

(5) During each run of the target, time the latter over the 62 feet between the posts in seconds, refer to the appropriate line and column in the Range Table (*see* Appendix I), read off the distance in inches which the shots should be in front of or behind the centre of the target, and telephone this to the butts.

*Note.*—An ordinary watch with the second hand is sufficiently accurate for timing if a stop-watch is not available.

#### *(B) In the butts*

\* (6) Hang two targets on the screen, one at each end, and wedge them so that they do not move.

\* (7) After each double run, on receiving from the firing point the position of the correct shot with reference to the centre of the target, apply the scoring template to the screen with its centre in this position. The bar of the template is graduated in inches for this purpose. Note the position of each shot in relation to the template and signal this to the firing point, either by telephone using the clock ray method, or by displaying a target with spotting discs on it.

#### *(C) At the firing point*

(8) Mark the position of each shot on a duplicate target at the firing point and criticize.

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\* On ranges used only by the A.Tk. rifle the two targets may be pasted on the screen and the latter provided with a series of holes along the top numbered to show inches from the centre of each target. In this case the template should be hung from the appropriate hole by a hook, so arranged that, when it is in hole 0, the template coincides with the target (*see* Fig. 3).

Time of run left to right—7 seconds.  
Time of run right to left—12 seconds.  
One shot fired at each run.

*Firing point to butts.*—“ Left target—4 inches in front.  
Right target—17 inches in front.”

(BUTT CHECKS.)

*Butt to firing point.*—“ Left target—Miss, left, 8 o'clock,  
20 inches.  
Right target—Hit, right, 3 o'clock,  
4 inches.”

**7. Instructions for anti-tank rifle 1/30th scale shooting with .22-in. ammunition (miniature or 30-yards range) :—**

- i. The apparatus described in Appendix II, Part I, has been designed to provide practice at moving targets on a 1/30th scale range. It may also be used in connection with the 30-yards range.
- ii. An improvised 1/30th scale range for use on service, or when the recognized 1/30th scale miniature range cannot be provided, is described in Appendix II, Part II.
- iii. The following points should be noted :—
  - (a) On a scale of 1/30th a target 4.4 ins. by 2 ins. overall travelling at 1 ft. per second at a range of 15 yards represents a target 11 ft. by 5 ft. overall (the light tank type of direct crossing target) travelling at 20 m.p.h. at a range of 450 yards.
  - (b) A target run of 11 ft. gives an arc of fire at 15 yards of 14 degrees and gives a time for one run of 11 seconds.
  - (c) In order to judge the accuracy with which a firer takes the correct standard lead (*see* S.A.T. Vol. I, Pamphlet No. 5, 1937, Lesson 3) at a crossing target, scoring areas in advance of the actual target are required. In order to allow for the movement of the target during the time of flight of the .22-in. bullet over 15 yards these should be positioned the length of the target less .6 of an inch on each side of the actual target.

The length of the target plus scoring areas is thus 12 ins., and should be in black on grey paper 18 ins. long by 10 ins. deep on strawboard.



A.TK. RIFLE 1/5 SCALE TARGET

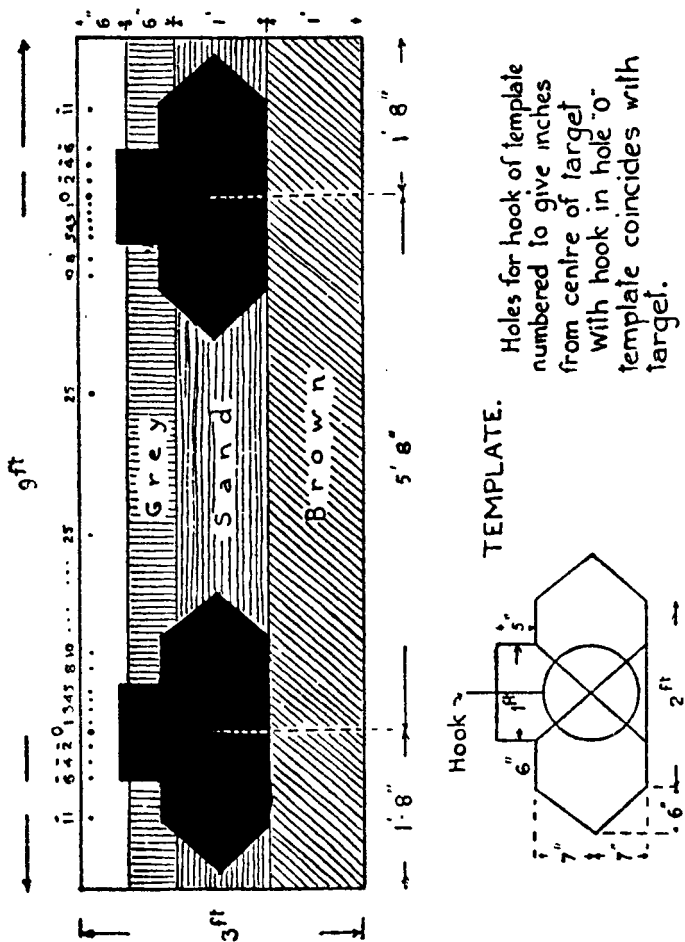


Fig. 3

## ANTI-TANK RIFLE COURSE

No.	Practice	Target	Distance in yards	Rds.	Detail	Remarks
<b>PART I.—1/5th or 1/30th scale with .22-in. ammunition.</b>						
1.	Preliminary	Crossing (representative tank)	Representative	6	3 rounds each direction.	
†2.	Direct crossing	"	" Total rounds	6 — 12	"	SCORING.—Each hit in circle, 2 points. Rest of scoring area, 1 point. H.P.S. 12 points.
<b>PART II.—A.Tk. range with .55-in. ammunition. (Suggested Course where practicable).</b>						
3.	Sighting	Head - on tank target, 6 - ft. stationary.	300	3	The position of each hit will be shown on a duplicate target at the firing point (see para. 4).	†These practices are Classification.
†4.	Snapshooting	Silhouette light tank.	300-500	5	Targets, operated from pits by cord and pulley, to be exposed at various places within area allotted for 5 exposures of 6 seconds each. 10 seconds between exposures.	SCORING.—Each hit in circle, 2 points. Rest of target, 1 point. H.P.S. 10 points.

PART II.—A.Tk. range with .55-in. ammunition. (Suggested course where practicable.)  
(continued)

No.	Practice	Target	Distance in yards	Rds.	Detail	Remarks
†5.	Direct crossing	Silhouette light tank	300	6	3 rounds each direction (target on trolley).	SCORING.—As above. H.P.S. 12 points.
†6.	" "	" "	500	6	3 rounds each direction (target on trolley).	SCORING.—As above. H.P.S. 12 points.
†7.	Diagonal crossing	Box light tank	500-200	5	One undulating run in each direction. 5 rounds to be fired while target is moving. 3 rounds as it approaches the firer and 2 on the return run.	SCORING.—Each hit on tank, 2 points. H.P.S. 10 points. <i>H.P.S. for course, 56</i>
			Total rounds	25		

NOTE.—In all moving target practices the target should be towed at a speed of 20-25 m.p.h.





## MINIATURE RANGE 1/30th SCALE MOVING TARGET FOR ANTI-TANK RIFLE WITH .22-in. AMMUNITION

### Part I.—The Standard Miniature (1/30th Scale) Range

#### 1. *Description of the apparatus* (References are to Plate I)

The apparatus consists of two uprights (A) of convenient height, slotted at the top to carry a composite board (B), about 12 feet long, on edge. The edges of this board are made to form a groove (C) in which travels a runner (D) formed of a piece of hardwood and shaped as shown to travel smoothly in the groove. To the sides of this runner are screwed two pairs of 3-ply brackets (E) each carrying a tin clip (F) which holds the target mounted on strawboard. Two cords are attached to hooks (G) on each side of the runner. These pass round hooks (H) at the end of the runner track and are carried back behind the firing point to two small winding drums (not shown in sketch) as illustrated at Fig. 4 of Plate 65 in S.A.T. Vol. V. One edge of the board forming the runner track is straight so that when the runner is pulled along by the cord the target travels on the level. The other side is shaped as shown in the sketch so that by reversing the board and placing the runner on the shaped edge the target is given an undulating movement.

With uprights 4 ft. high, the target is at a suitable height for firing in the standing position in the trench or in the prone position on the firing platform of a miniature range.

When using the apparatus on a 30 yards range with the target in the ricochet pit it may be necessary to have longer uprights, but, to avoid undue height, it should be so arranged that the bullets hit the rear slope of the ricochet pit and not necessarily the bullet catcher.

#### 2. *Provision*

The apparatus is provided locally at a cost of approximately £3 per set.

Strawboards and paper for the targets will be included in D.F.W.C.C. No. 967/1938.

#### 3. *Safety conditions*

##### i. *Miniature ranges*

Any existing Miniature Range of a width exceeding 16 feet should be suitable, if the protection specified in S.A.T. Vol. V, 1931, Sec. 29 para. 18, is provided. The general regulations laid down in S.A.T., Vol. V, 1931, Sec. 30, should be complied with.

In a range 24 feet wide the target may be placed 15 yards from the trench. In narrower ranges, to avoid possible damage to the side walls, the target will require to be nearer the stop butt and the firing point moved correspondingly forward.

## ii. 30 Yards ranges

Provided the rear slope of the ricochet pit is correctly constructed to prevent ricochets there should be no increased risk. The moving target will be included in the category of targets approved for use on 30 yards ranges. (S.A.T. Vol. I, Pamphlet No. 1, 1937, Sec. 3, para. 42 refers).

### 4. Use of the apparatus

Only very little practice is required to cause the target to travel smoothly at approximately 1 ft. per second, and the range is so short that the effect of a small discrepancy in the speed of the target on the result of a shot is negligible.

Only one shot should be fired at each run of the target but as shots can be easily observed from the firing point a firer can fire a series of shots, each of which can be criticised, without the targets being changed.

## Part II.—The improvised (1/30th scale range)

An improvised 1/30th scale range for use on service, or when material and labour is not available for the construction of the standard apparatus, is described in Plate II.

The materials required are as follows:—

- 2 lengths of wood (stout branches or young trees) about 4 ft. 8 ins. long, and from 3 ins. to 4 ins. in diameter.
- 2 Spring paper clips (2 ins. to 3 ins. wide).
- 2 3 ins. nails.
- 30 to 40 yards string.
- 3 staples (bent nails as alternative).
- 25 yards wire. (Telephone cable as alternative).

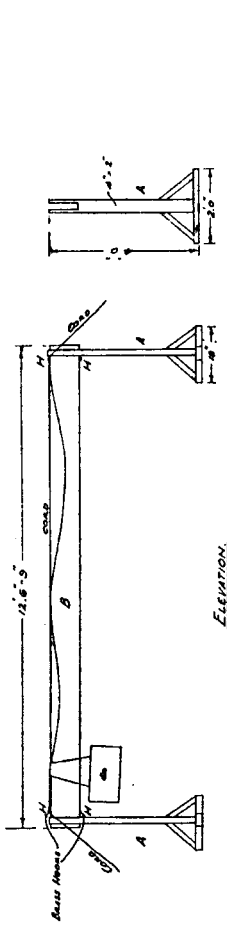
The two lengths of wood are firmly embedded into the ground about ten yards apart and the wire or telephone cable tied tautly, as shown in drawing (Fig. 3).

Staples are driven in as shown at the three places marked (a) to act as guides for the towing string.

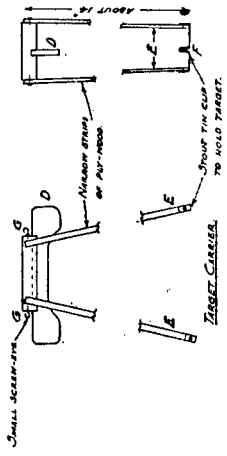
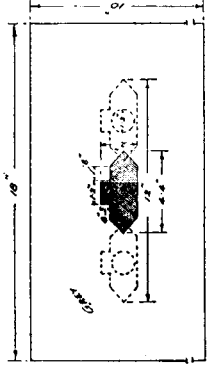
The target (1/30th Scale Silhouette Tank) as issued is clipped into the two spring paper clips, the two 3-in. nails are bent as shown in drawing (Figs. 1 & 2) and passed through the holes in the clips, and are used to suspend the target from the suspension wires.

The string is then tied to the centre of the nails, passed through the staples and back to the firing point. The target is then drawn across the suspension wires as desired. To change from the direct crossing wire (top) to the diagonal wire (bottom) remove the nails from the clips and attach to diagonal wire. The string must be passed through the bottom staple when using the device for diagonal movement.

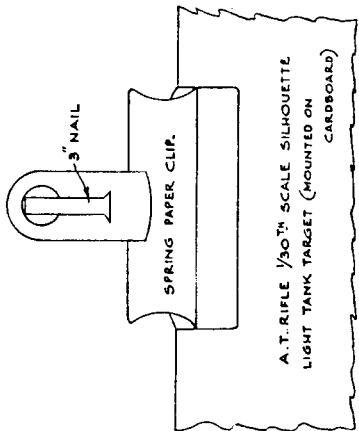
PLATE I  
 MINIATURE RANGE 1/30th SCALE MOVING TARGET for Anti-Tank Rifle, with .22-in. ammunition



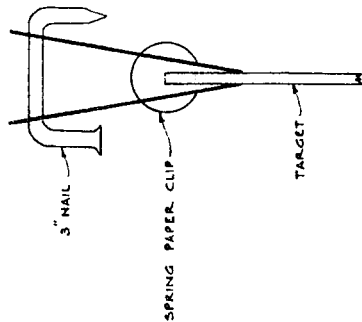
*SECTION OF RUNNING TRAIL.*



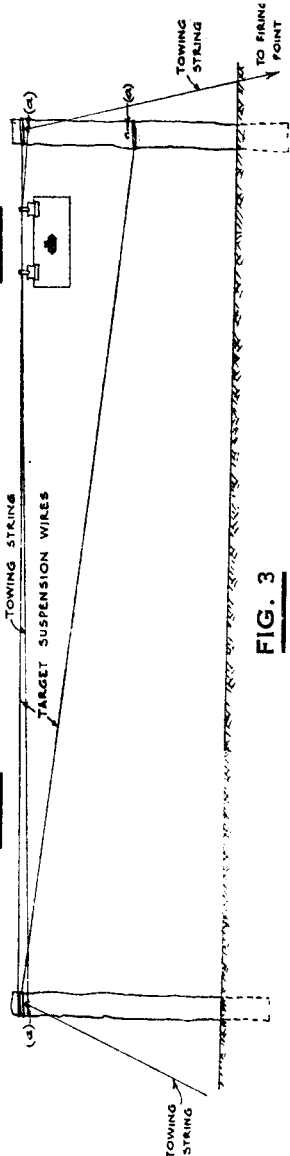
IMPROVED 1/30th SCALE RANGE APPARATUS



**FIG. 1**



**FIG. 2**



**FIG. 3**