

HIGH MUZZLE ENERGY PROCEDURES

1. The National Rifle Association (NRA) and MoD approved procedures below must be used on MoD ranges when civilians are shooting on constructed ranges with firearm / ammunition combinations where muzzle energy (ME) exceeds 4500 Joules. Note that:

- a. No firearm with a muzzle energy exceeding 7000J may be used on a constructed MoD range.
- b. HME procedures do not apply on No Danger Area (NDA) ranges, but the range limitations must be checked to ensure that the developed MV and ME lie within permitted values.
- c. The zeroing procedures below must be carried out: on an NDA range or a range with a stop butt that is immediately behind the target and that meets Gallery Range criteria; exceptionally, for large calibre historic or hunting rifles being used at distances of 200 metres or less only, into the zeroing butt at 100yd on the British Sporting Rifle Club layout at Bisley.

2. The Chairman of the appropriate Club must give authorisation in writing before a shooter may use a firearm / ammunition combination generating over 4500J muzzle energy. Such authorisation will normally be given through the certification process.

3. The shooter is to check zero using the procedure described below under the supervision of an RCO who holds the NRA RCO (HME) qualification (except when checking zero on the Zero Range at Bisley, which is a NDA Range and on which supervision by an RCO (HME) is not required), as the first activity of any range session. If HME fire will be carried out from distances in excess of 200 metres, then the full procedure below is to be carried out. If HME fire will take place only from 200 metres or less, then only paras a, c, d, e and f apply:

- a. The RCO (HME) is to record in the MoD Form 906, Land Range Log, when a firearm / ammunition combination is being used which generates muzzle energy greater than 4500J.
- b. Before shooting at any distance greater than 200 metres, the shooter is to demonstrate that the firearm is correctly zeroed by firing a 3-shot group which must fall within the box of the issued NRA/MoD approved target at 200 metres or, at Bisley only, within the box of the appropriate HME zero card used on the Zero Range. The RCO is to confirm that the zeroing target being used is correct for the firearm / ammunition combination and for the planned subsequent activity.
- c. The target is to be attached such that the target centre line is set on the target screen centre line both vertically and horizontally.
- d. The shooter is to clarify to the RCO (HME) the rifle type and technique to be used to ensure a hit with the first shot.
- e. Because of the increased risk of splashback with high energy bullets the butt marker is to wear safety glasses in addition to hearing protection.
- f. The RCO will appoint a person to observe the initial fall of shot until the initial strike on the target screen is identified:
 - (1) If a strike off the target screen is clearly identified the shooter may adjust and fire again.
 - (2) If no strike is identified the shooter is to cease fire until the weapon has been re-collimated or bore-sighted to the RCO (HME)'s satisfaction.

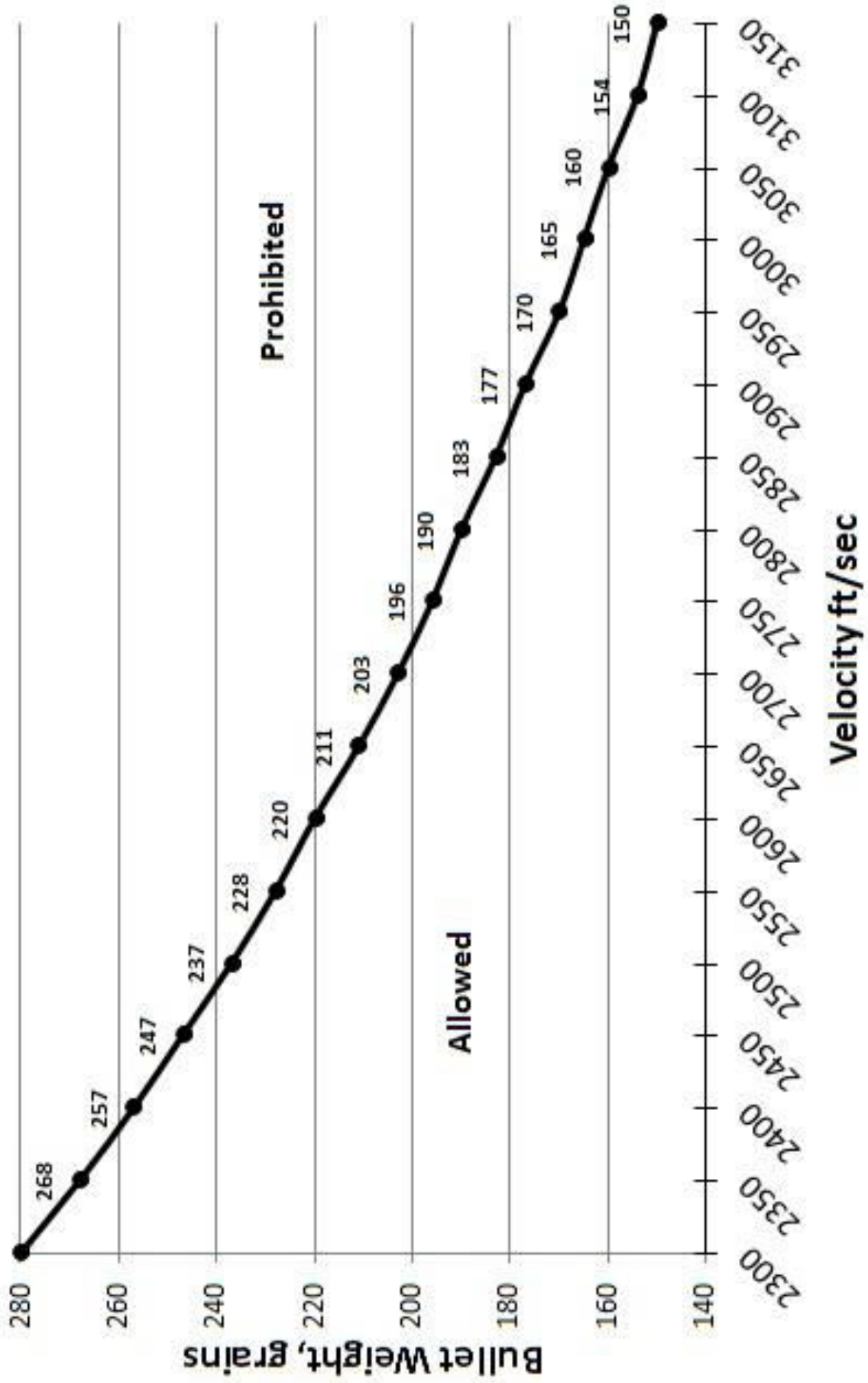
- g. Rounds on target may be adjusted but only the 3 final rounds are to be counted for the group, one of which may include the final adjusting round.
 - h. All 3 rounds of the final group must be within the box before the shooter may move to a different distance.
 - i. The butt marker is to identify clearly and mark those shots which were used as sighting shots and which are not to be included in the qualifying group.
 - j. After qualification the target is to be completed and signed by the shooter and the RCO (HME) and retained by the Club for 12 months.
4. Direction is provided on the NRA / MoD approved target for sight adjustment for different distances subject to achieving a successful group.
5. The zeroing procedure is to be carried out on each day the shooter wishes to shoot unless the zeroing is for an official competition or training course where firing is carried out on consecutive days, when the procedure may be considered valid for the duration of the competition or course.
6. Once zeroed using the procedure in paragraph 3 above, the shooter may shoot under the direction of a qualified NRA RCO who need not have the HME qualification. If, in any practice, the first shot from an HME firearm misses the intended target, the firer may only continue if one of the following applies (derived from a reduced version of the exemptions in NRA rules for such an occurrence in competition – as at 31 Mar 14, NRA rule 277):
- a. The shot was seen to strike the stop butt, or was registered by an electronic scoring system.
 - b. The firer identifies and rectifies a fault or error (eg left instead of right wind allowance) that would reasonably account for the miss.
 - c. There is reasonable evidence (eg an unexplained shot on the next target) that the firer has crossfired.
 - d. There is reasonable evidence (eg based on the advice of other firers) that the wind allowance applied was such as to account for the miss.

HME at 200 metres or less.

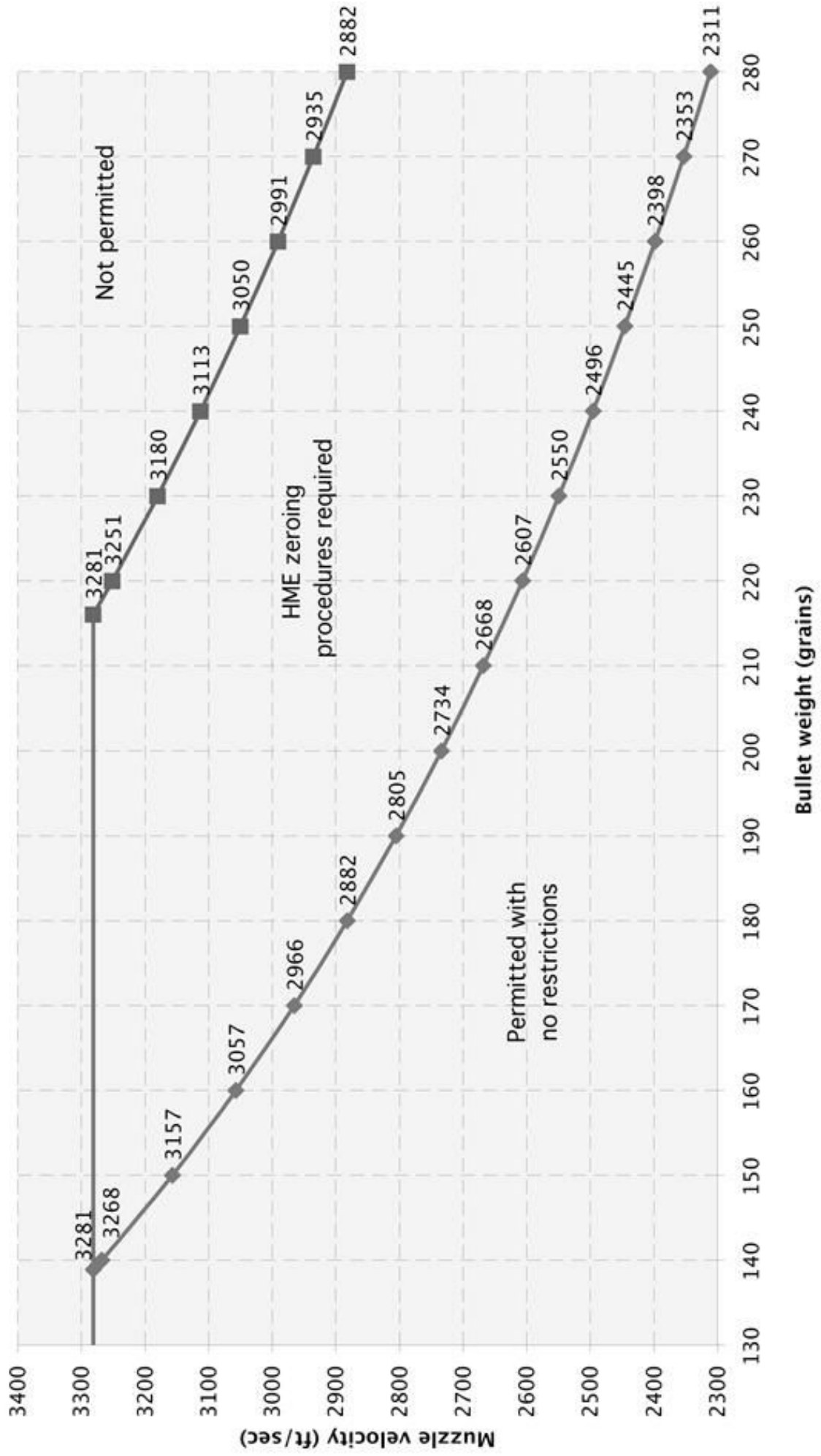
Since the allowable cone of fire for deliberate supported fire is contained within the stop butt of a gallery range at 200 metres or less, all that is required to ensure capture of bullets in the stop butt is that the firer confirms that the firearm is correctly set and then fires a deliberate correctly aimed shot on such a range. Para 1(c) of the HME procedure defines the ranges that may be used. Provided that the impact of that shot is registered, whether by eye, by a strike on the target or by an electronic scoring system, the firer may then continue. The process to achieve that is set out at paragraph 3. Note that this procedure does not require use of a special target.

The firer may engage the target intended for the subsequent practice from the start, provided that it enables hits to be registered and meets the requirement regarding placing on the target screen. Note also that initial zeroing at any distance less than 200 metres is, by implication, valid for any subsequent distance up to 200 metres, other than the special case of BSRC.

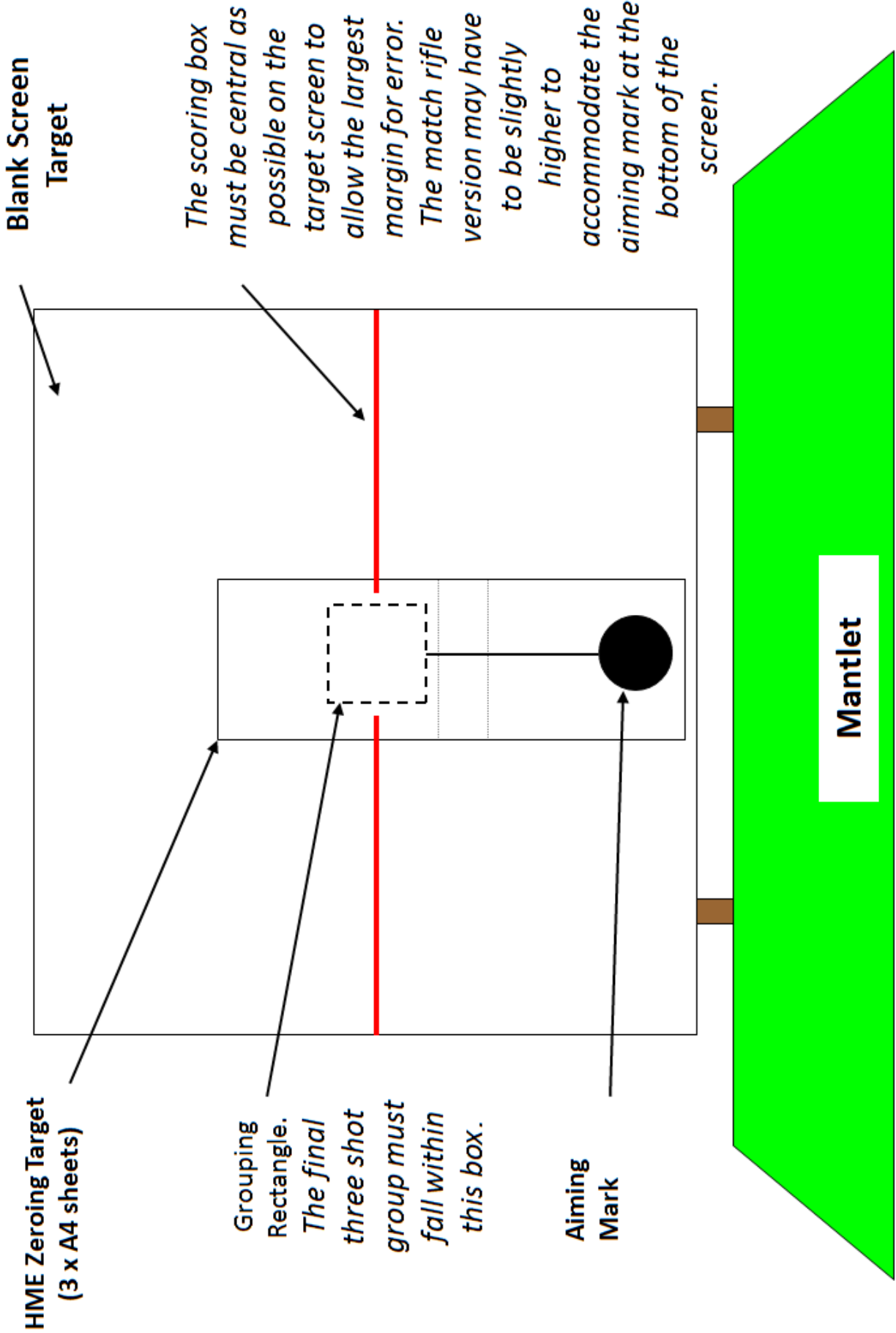
Bullet Weight (grains) vs Velocity (ft/sec)



Allowable limits for muzzle velocity and bullet weight

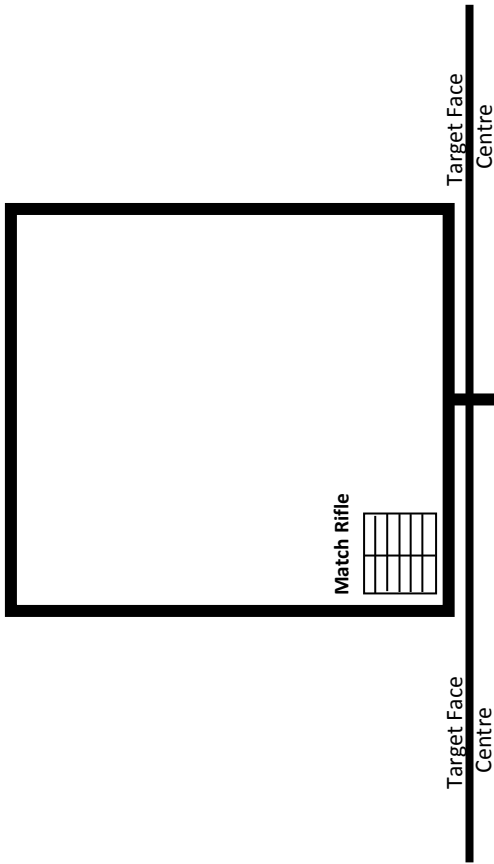


THREE-PIECE ZER TARET FOR DISTANCES GREATER THAN 200 YDS/MTRS, FOR USE WITH RIFLES SET UP FOR LONG RANGE SHOOTING (cannot zero point of aim at 200)



NRA 200 YRD/MTR THREE-PIECE HME ZEROING TARGET FOR USE WITH RIFLES SET UP FOR LONG RANGE, **NOT CAPABLE OF DIRECT (PoA) SETTING OF ELEVATION.**

The position of the scoring box varies on the blank target for F Class (flatter trajectory) or match rifle (steeper trajectory).

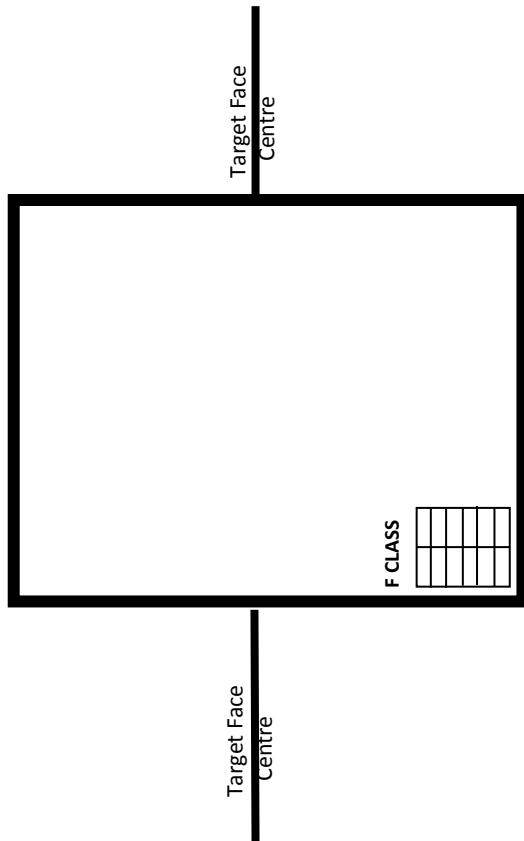
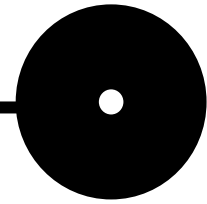


Match Rifle

**NRA 200 yard Zero Target
For 600 yards elevation:
telescope sights only.**

Name:.....
Signature:.....
Club:.....
Rifle calibre:.....
Rifle Ser No.....
Ammunition (bullet wt load)
.....

Date:.....
RCO
RCO Signature.....

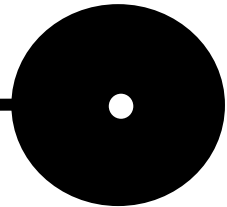


F Class Rifle

**NRA 200 yard Zero Target
For 600 yards elevation:
telescope sights only.**

Name:.....
Signature:.....
Club:.....
Rifle calibre:.....
Rifle Ser No.....
Ammunition (bullet wt load)
.....

Date:.....
RCO
RCO Signature.....



NRA 200 Yard / Metre HME Zeroing Target for use with Firearms capable of direct setting of elevation for 200. Final group must fall within black aiming mark.

Name _____ Club _____

Rifle Serial No _____ Numeric elevation reading _____

Ammunition: Cal _____ Bullet Wt _____ Load _____

Date _____ Firer Sig _____ RCO Sig _____



Attach bottom of sheet 2 along this line

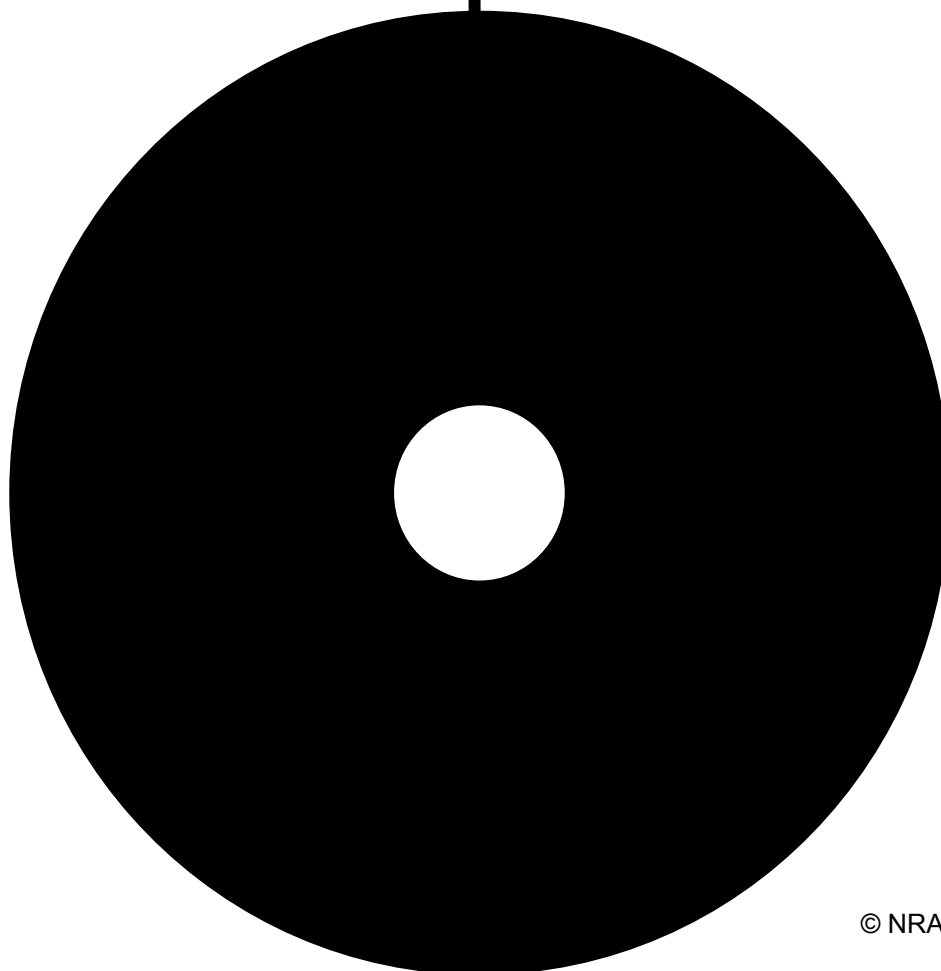
NRA 200 yard Zero Target
For 600 yards elevation:
telescope sights only.

F – Class type Rifle

Range	Elevation
200	0
600	7
1,000	22
1,100	27
1,200	32

.308 – (NRA Match Rifle)

Range	Elevation
200	0
600	11
1,000	30
1,100	36
1,200	42



Target Centre Height

**For .308 (NRA Match Rifle) attach
bottom of sheet 3 here**

Instructions for use

1. Attach the bottom of Sheet 2 onto Sheet 1 at the dotted line.
2. Attach the two sheets onto the 200 yard target with the **bold** line at the top of sheet 2 as near as possible to the target centre line.

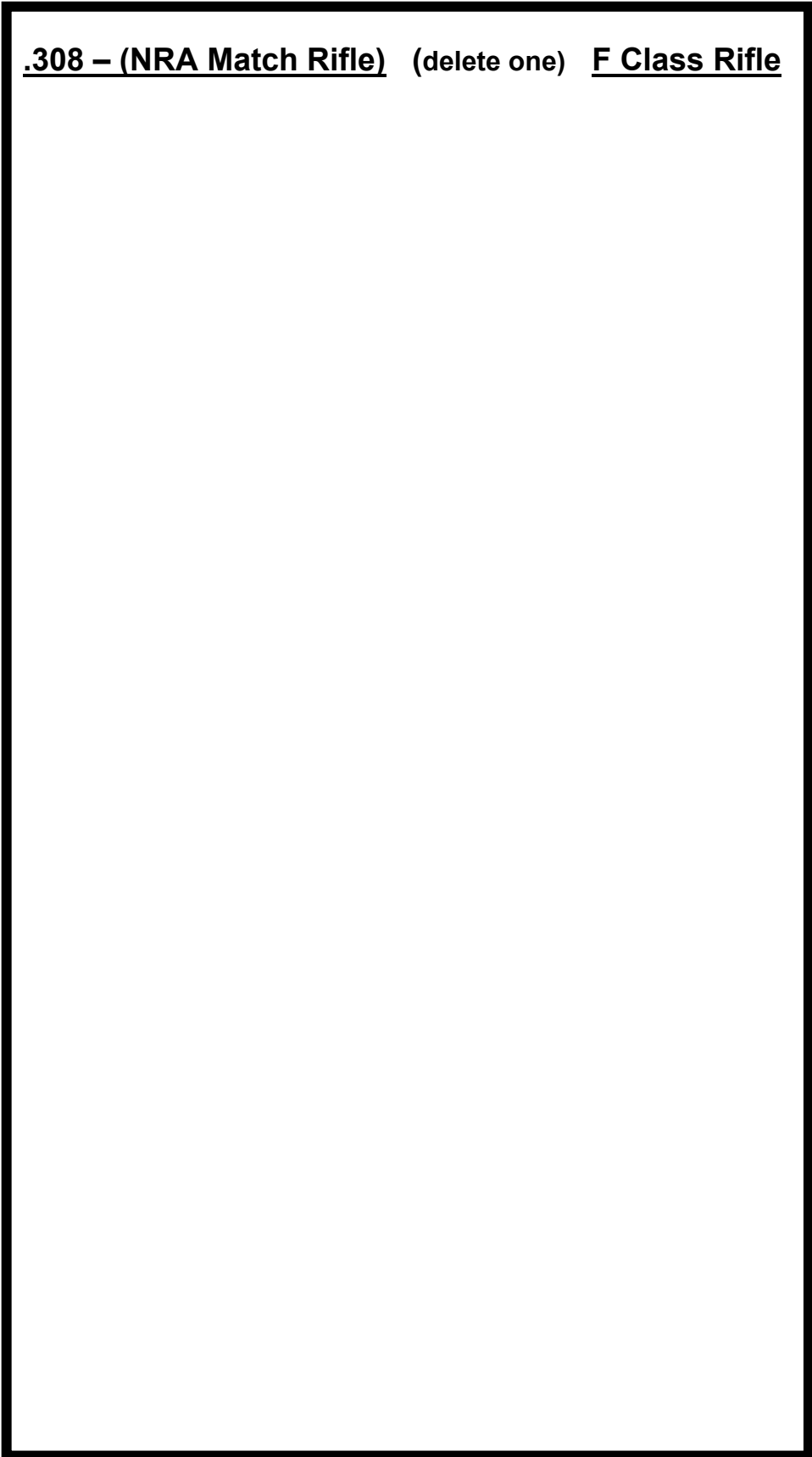
4. For F class Rifle attach the Bottom of sheet 3 at the dotted line at the base of sheet 2.

3. For .308 (NRA Match Rifle) attach the bottom of sheet 3 onto the dotted line at the top of sheet 2.

Sheet 2

**For F Class Type Rifle
attach bottom of sheet 3 here**

.308 – (NRA Match Rifle) (delete one) F Class Rifle



Date:.....
RCO
RCO Signature.....

Name:.....
Club:.....
Rifle Ser No:.....
Ammunition calibre bullet wt and load:
.....