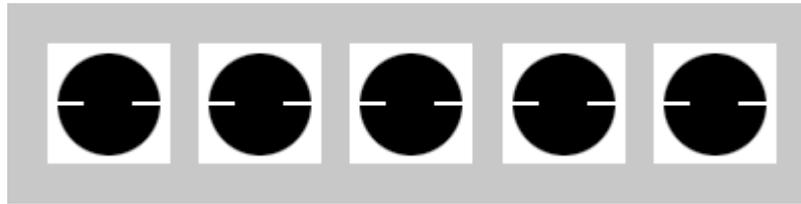




# THE RAPID FIRE MATCH

## Students' Notes V1.0



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**Attribution:** These notes have been prepared from material supplied by Tibor Gonzcol, a world-renowned Champion Pistol shooter and elite level coach. Tibor is also the President of Melbourne International Shooting Club.



## 1. INTRODUCTION

The Rapid Fire Match is one of the oldest of the five Olympic Pistol events. It has long traditions and is one of the "original" pistol competitions. The course of fire, rules and the targets for this match had changed a number of times, but the concepts and the skills required are basically the same.

### 1.1 Course of Fire

Currently the match is shot on the International Rapid Fire Targets, grouped in a line of five, all at the same height with a distance of 75 cm between the target centres. The event consists of 60 competitions shots, divided into two courses of 30 each. Each course is subdivided into 6 series of five shots. Two series is fired in 8 seconds, two in 6 and two in 4 seconds. One shot is fired on each target during a series.

Shooting starts from the "Ready" position where the pistol is pointed downward at an angle of no greater than 45 degree from the vertical.

### 1.2 The Gun

The .22 cal. (5.6 mm) pistols used for the match are relatively unrestricted, though the weight and the dimensions of the pistol are governed by the rules for the match (see the ISSF Special and General Technical Rules for details). Due to recent rule changes, the specifications for the Rapid Fire Pistol are the same as for the Standard Pistol event, and .22 "Long Rifle" ammunition must be used.



The Rapid Fire Match is the most dynamic of all I.S.S.F. pistol events with unique characteristics and requirements:

- a fast shooting tempo and rapid body movements
- accuracy and fine motor co-ordination

The gun configuration is a compromise between muzzle lift and inertia:

- muzzle weight reduces lift during recoil
- muzzle weight slows the motion of the pistol in response to the shooter's correction movements
- muzzle weight increases inertia effect when traversing target-to-target

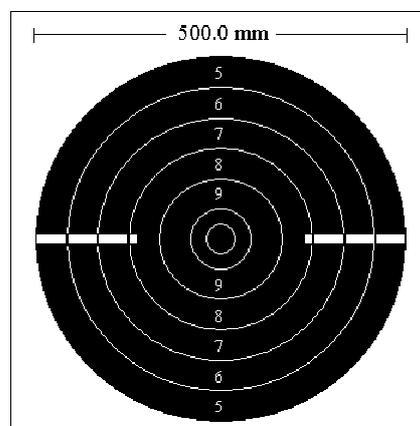


The muzzle lift reduction effect results in a slowed response of the gun to the shooter's arm and can cause slower re-alignment during recoil recovery.

This also applies a horizontal twisting effect when the shooter's arm is accelerating the grip toward the next target - due to the added inertia at the muzzle.

### **1.3 Sight Adjustment**

Sight adjustment is for 'area aim' in the centre of the target. Use the sighting series to confirm sight adjustment.



**Figure 1 : Rapid Fire Target**

### **1.4 Preparation**

To assist with the mental processes of relaxation and confidence, adopt a highly structured & routine approach to setting out the equipment.

During the loading sequence, use the time to rehearse and prepare for delivering shot string. At the call to load:

- start a timer (one minute)
- load the magazine and lay it down on the bench
- adopt the firing position
- practice the raising of the arm
- practice traversing using the trigger to simulate trigger operation - getting the rhythm and timing correct
- lift the gun & set the grip
- load the magazine into the gun
- test the sight alignment and traverse (using the time all the way to the end of the "ATTENTION, 3, 2, 1" count-down)
- 'lock and lower' - 'lock' the wrist and lower the arm to the 45 degree position under the 1st target



## 2. THE FUNDAMENTALS

Rapid Fire is **not** taught to a new shooter as his first event - the shooter should have achieved a reasonable proficiency in precision shooting before undertaking to learn Rapid Fire. Reminder:

- Stance - comfortable, with upper body firmly locked.
- Grip - hand firm, wrist locked.
- Hold - in centre area of target.
- Sight picture - front sight ABSOLUTELY clear, striving for perfection.
- Trigger - consistent smooth pressure, with ONLY the trigger finger moving.
- Carry over - the entire body is turning across the targets, pivoting on the legs, with the upper body, shoulder and arms locked and turning as one unit. Movement must stop on each target centre
- Follow through - firing an imaginary sixth shot to help expand length of concentration.

Rapid Fire requires an acute sense of timing, tempo and rhythm, and a perfect shooting technique. The relatively large body movements, stops and starts, must be smooth, retaining balance, and coordinated with accurate sight alignment and perfectly timed trigger control. Correct Rapid Fire techniques demand that these factors are practiced until they become semi-conditioned reflex actions, based on well-developed visual motor skills.

Because of its complexity, it is necessary to break down the individual elements of the match, learn and practice them one by one, step by step, until the skills become automated elements that can be linked and carried out in a coordinated smooth manner.

### 2.1 Requirements

The main elements of performance for shooting the Rapid Fire match proficiently are:

- a. stance and position to allow correct movement into first shot and then stability during carry-over
- b. a well-developed rhythmic routine in the preparation for each series
- c. smooth, positive, arm lift and firing an accurate, quick first shot
- d. pick up and alignment of sights during lift
- e. keeping sights aligned during carry over
- f. co-ordination of sights, movement and trigger
- g. sense of accurate timing
- h. uniform, even cadence and rhythm for each series
- i. high level of fitness to withstand the physical and mental pressures of the match
- j. mental stability through confidence in technique and training.



### **3. TRAINING AND PRACTICE METHODS**

The following is a description of the various elements of training and practice exercises to assist the shooter to advance to a high level of performance. All exercises should be practised both DRY and LIVE firing.

#### **3.1 Dry Fire Exercises**

##### *3.1.1 Correct stance and position*

For first shot and stability during carry-over to be achieved, the adopted stance and position provide the basis for accurate and consistent performance.

There are no "secrets" in shooting, but if there was such thing, the "secret" of good Rapid Fire shooting would be the firing of a quick, smooth, accurate FIRST SHOT. This is the most difficult and important shot in the series as it will influence the whole series. It is therefore important to take up a stance that will allow the gun/body system to stay balanced during the lifting of the arm and gun without shifting the centre of gravity, and at the same time enable the shooter to traverse across the targets smoothly, evenly, stopping on each target with his trunk, shoulder and arm locked and working as one unit.

As the firing of the first shot is critical, it is important that this stable but "elastic" stance should be orientated on the target that would favour the firing of the first shot. (some shooters find it easier to orientate their stance on the middle target).

Whatever the choice may be, it then must be applied exactly the same way every time when firing a series. Checking the position before shooting must become a second nature. Corrections - if necessary - must be applied by moving both feet and never by just shifting the arm.

This element of Rapid Fire shooting must be learned and practiced constantly, even by the most advanced shooters.

Establish a stance suitable for the individual, but within the physically and anatomically correct boundaries:

- Feet slightly wider than shoulder width
- Feet nearly parallel, with toes very slightly pointed outwards
- Legs straight, weight on both legs and close to centre of support area
- Body and head erect and straight, but with a slight lean back (away) from the target, to balance out the weight of the arm and pistol
- Left arm and shoulder loose but immobilised
- Right arm, shoulder joint, elbow and torso locked and used as one unit
- Right side of the body turned towards the target line
- Stance oriented on first target (some shooters prefer middle target)

Test the stance and position for stability, lift and carry over without changing the centre of gravity (eyes closed & opened tests etc).



### 3.1.2 *Smooth, positive, quick first shot.*

Establish stance and dry fire into aiming area from "ready" position, swinging the arm up with a smooth movement:

- start moving smoothly, without jerking, speed upwards then slow down gradually and smoothly to a complete stop
- movement must be straight up without sideways wavering
- "pick up" the sights<sup>1</sup> **during the arm lift** for fine correction and perfect alignment by the time the pistol stops
- commence trigger pull while the arm is being raised.

This coordinated set of actions to allow the shot break just as the pistol stops in the aiming area is a skill essential for firing an accurate and fast first shot.

### 3.1.3 *Carry-over.*

Practice moving from target to target smoothly, moving the whole torso and arm locked as one unit, with positive stopping on each target, and without any changes in the body balance.

**Changing from the vertical arm lift** - which is done without the use of the body and moving the arm only - **to the horizontal movement** that requires the locking of the arm and moving with the whole body as one unit is the next most difficult part of the Rapid Fire technique and requires extra practice. Include carry-over exercises in all RF training sessions:

- with eyes open
- with the eyes closed during the traversing movement, then opening the eyes after to check accuracy of body movement.

The moving, shooting, and all holding exercises with the eyes closed should NOT be regarded as means for checking only, but as a PRACTICE that will develop " muscle memory " and help in the **automation of technique**.

### 3.1.4 *Sight alignment during carry-over.*

Focus on the front sight **MUST BE MAINTAINED** during the carry-over from target to target. Watch sight alignment and correct to perfection during body traverse into acceptable aiming area.

Practise these actions to embed them into the memory:

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<sup>1</sup> To assist with "picking up" the sights, look at a position below the first target and wait for the start of target rotation. Raise the pistol quickly but smoothly and lower the eyes to gather the front sight during the rise.



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- dry fire on the 1st and 2nd target to practice the difficulty of changing from the large vertical arm movement to smaller horizontal move
- dry fire on all five targets keeping the line of movement even and straight
- Increase speed while keeping the focus on the sights.

### 3.1.5 Co-ordination of sights, movement and trigger pressure.

Practice as follows while coordinating the above actions:

- operate the trigger as for the first target:
  - commence a smooth, positive trigger pressure during the carry over
  - no movement in the wrist or in any other part of hand or fingers must occur (a difficult thing to do and must be learned and mastered separately, using various finger exercises).
- trigger action must be smooth, progressive and positive, and timed to "go off":
  - when the pistol "glides" and stops in the correct aiming area
  - the trigger finger should not leave the trigger more than necessary to allow the trigger mechanism to re engage (the correct adjustment of the trigger mechanism should be ensured)
- the trigger finger should take up slack in a smooth action, which is continued to become a progressive pull in next carry over as the pistol moves on to the next target.

### 3.1.6 Positive cadence for each series.

When sequencing and coordination is fluid, time the last shots and adjust performance to fit into correct time duration.

- learn this by using a stop watch, then the pistol, on both stationary and on turning targets, taking note of the time duration remaining after dry firing last shot
- work on learning an even cadence and tempo for the different series
- work on learning the handling of the difficulty caused by the change over from one time series to the next
- even when intending to practice only the 6 or 4 second series, always fire the slower courses - even if only a lesser number of series - so that the change over of timing and tempo difficulty is practiced.

## 3.2 Live Fire.



### *3.2.1 Correct Stance and Position*

For the first shot, and stability during carry-over, the application of the fundamentals of stance and position is essential:

- establish stance for correct line up on target, balance and stability (check & re-check before firing)
- rehearse arm lift and traversing across the targets, stopping on each.

### *3.2.2 Smooth, positive, quick first shot.*

Exercises for smooth arm lift, sight pick up and trigger pressure:

- firing at target number one, then one and two, then one, two and three in three seconds to develop confidence and ability for quick, smooth, positive first shots
- firing first shots only and dry firing the rest of the series (sixth shot if necessary)

### *3.2.3 Pick up and alignment of sights during carry over.*

Important element in this practice segment is the learning of where to focus the eye and to maintain focus on the front sight.

### *3.2.4 Co-ordination of sights, movement and trigger.*

Fire shots into a blank target, with particular attention to sight alignment during and after recoil – practise keeping the sights in focus.

Fire onto a single target to get the feeling of sight - trigger coordination.

"Analytical" firing of a series - without scoring - with attention bias on sights and trigger. Patterns only to be noted.

### *3.2.5 Positive Cadence for each series.*

The development of a pronounced rhythm and overall cadence<sup>2</sup> is evidence of the overall process becoming committed to the subliminal and adopting an automatic character:

- cadence developed through controlled repetition.
- continued checking with stop watch in relation to results.
- trends showing deviations must be remedied before becoming habits.

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<sup>2</sup> the flow or rhythm of events, esp. the pattern in which something is experienced



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- recording and graphing timed series and ½ courses to gain overall picture.
- from analysis, plan exercises and routines for fine tuning of technique.

#### 4. COMPETITION PRESSURE

Rapid Fire is also one of the matches with the highest tension or "pressure" on the shooter. The reason for this is the nature of the course of fire and of the rules:

- the shooter is performing on his own, shooting separately from the other shooters
- his scores are being scored and called after every five shot series
- he knows the results of the shooter in the next firing point
- the very short and exacting time limits
- the dynamic movements that must be combined with accurate timing, static work and fine neuro-muscular coordination
- in a high scoring competitive environment there is no room for error - one mistake may be too many
- increasing anxiety due to the decreasing time allowance for the series after each two series
- the difficulty of adapting to the shorter time limit
- after the time limit expires the targets turn away from the shooter also increases anxiety.

Not only there is the very strict time restriction factor in this match but also the added stress that once called, the shot and series cannot be cancelled. In this event, mistakes usually affect the following shots also.

Competition "stress" or "pressure" is very closely related to "stage fright" that occurs when performing in front of other people. In simple terms we are talking about the fear of failure, witnessed by others (loss of self esteem, "losing face" etc). And Rapid Fire shooting is just that, performing in front of an audience, more than in other matches. Because this match is one of the easier to watch, there are always spectators behind the shooters, and they too know the result of the series immediately.

There is a similar stress factor in the other moving target events, such as the Moving Target, Running Boar and the Clay Target events, but not to the same degree, as one bad shot does not affect the other shots to the same degree as in Rapid Fire (with the introduction of the FINALS, of course the stress factor increased in all matches, and this changes the character of these matches too).

Because of this high stress factor, it is even more important to realise that mastering the physical techniques of the match is not sufficient to succeed, without developing the psychological skills and control that allows the competitor to fully use his technique.



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### 5. CONCLUSION

Rapid Fire is - perhaps - the most "work intensive" match. It is a discipline that requires a lot of shooting, range work, and cannot be shot from "memory" - at least not consistently, and not at a high level.



**Ralf Schumann of Germany, World and Olympic Champion.**