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*Prestigious shooting range design through talent and vision.*

## Shotgun Range Safety Distances

When designing a shooting range where shotguns are to be the only firearm used, the safety distance is generally set to 300 yards (275 meters) in the direction of shot. This is assuming the maximum shot size used is 7½ load.

There are several controlling bodies that recognize this safety distance and their statements can be found within their documentation, as shown in the extracts below.

First though, we should look at shotgun ammunition ballistics, and there is a recognized calculation defined as Journee's Formula:

**Chart B**

Shotgun ranges according to Journee's Formula, for round lead balls. Journee', developed this formula which states the maximum range of a smooth round lead ball is roughly 2,200 times its diameter (in inches).

Shot Size (No.)	Diameter (inches)	Maximum Range (yards)
9	.08	176
8	.09	198
7 2	.095	209 ←
6	.11	242
4	.13	286
2	.15	330
#1 buck	.30	660
0 buck	.32	704
00 buck	.34	748

As can be seen in row 3 (shot size 7½) the maximum range of shot fall is 209 yards (191 meters).

On the following page are extracts from the NRA Manual defining the safety distances for shotgun ammunition for the various shooting disciplines.



## Likewise, for International Trap (Olympic Bunker)

### 3.01.2.3 International Trap

3.01.2.3.1 International trap is shot on a 15 trap bunker that must be constructed according to UIT specifications. International and automatic trap consists of 25 targets each with six shooters on a squad. Having six shooters allows one shooter to be walking from station 5 to station 1 at all times. Shooters move to the next station after firing at one target. Shooters may shoot two shells at each target. A target is scored dead whether hit with the first or second shot.

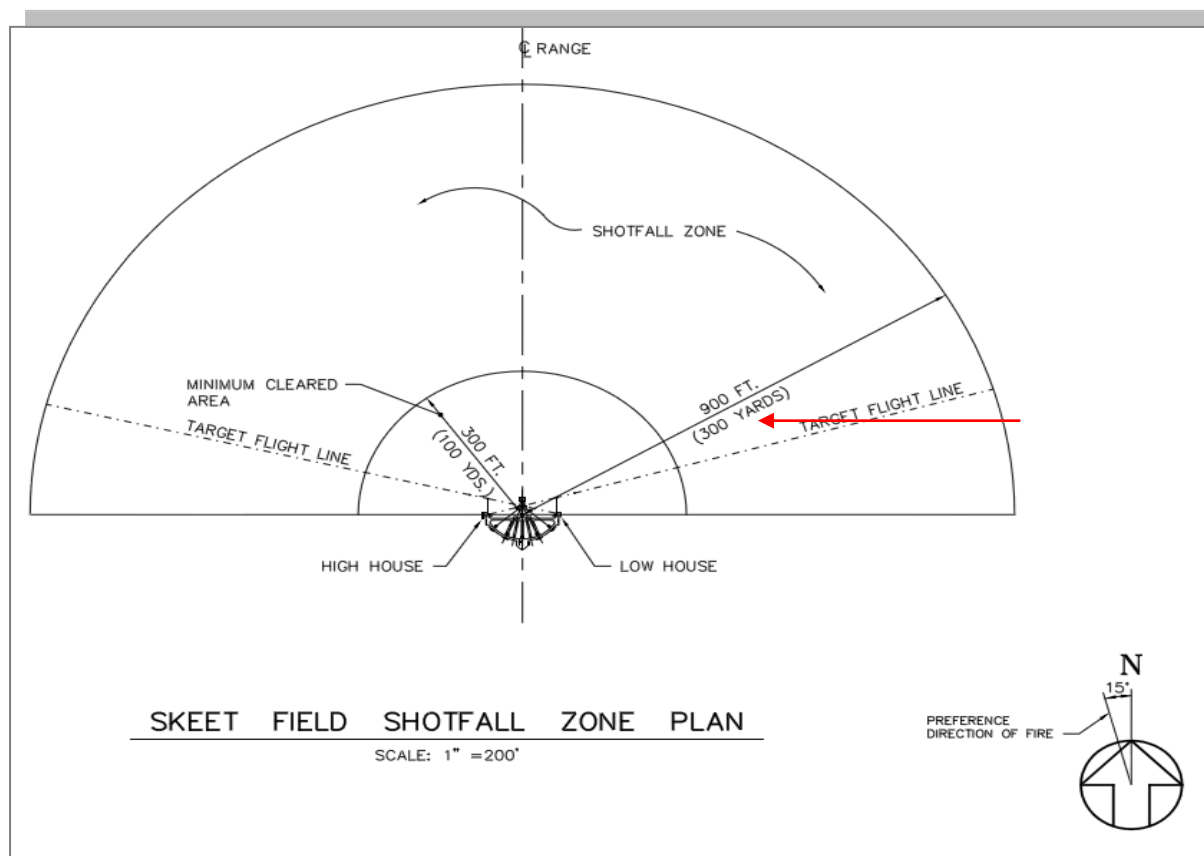
### 3.01.3 Shotfall Zones

3.01.3.1 Shotfall zones for trap fields are laid out to include all angles common to trapshooting, providing ample space exists for shotfall zones. \*Note the recommended depth for the shotfall zone is 300 yards or 900 feet. However, these shotfall zones can be reduced, if the range controls type of ammunition and the size of the shot. (See drawing C-32 for an illustration of the shotfall zones.)

## For International Skeet:

### 3.01.8 Shotfall Zones

3.01.8.1 Shotfall zones extend the same distance 300 yards directly in front of each field for all shotgun ranges. Target angles will vary according to the shooting activity, and shotfall zones will differ in width, but not depth.



For Sporting Clays and Compak Sporting Clays, the same distances are used.

### 3.03.1.6 Shotfall Zone

- 3.03.1.6.1 Minimum shotfall zones of 300 yards are required at each firing station. (A chart showing the maximum range of shot is included in Section I, Chapter 1. Shotfall zones may coincide provided the point of intersection of each zone (area) is a minimum of 100 yards down range from any shooting position.

The above copy is from the NRA Range Manual.

The copy below is from the National Sporting Clay Association Manual (NSCA)

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## V. NSCA 5-STAND SPORTING™

NSCA 5-STAND Sporting events consist of targets shot in 25 bird increments from five shooting stands with each shooter rotating from station to station. The game offers several different skill levels and utilizes six or eight automatic traps to simulate game birds. Targets are released in a predetermined set sequence marked on a menu card in front of each shooting cage. Targets are registered separately under a special set of rules; however, they utilize the NSCA Classification system and all targets are included for total targets shot for the year. NSCA 5-STAND Sporting rules must be followed at all times while conducting this event.

### A. LAND

1. Minimum area 50 yards wide along shooting stand line.
2. Minimum 300 yards deep left and right of the center of shooting stand line creating an 80 degree arc for safe shot fall. (Game can be overlaid on a skeet and/or trap field.)

Finally, a general statement from the NRA regarding ALL shotgun safety distances.

- 3.02.1.4 On shotgun ranges, shot fall zones are determined by the largest size shot fired on the facility. Additional yardage must be included to compensate for the displacement of shot by adverse wind conditions. For skeet, a nominal angle of 180 degrees from station eight is used. For trap 90 to 100 degrees are allowed for the wider target flights. Shot sizes for trap and skeet facilities are usually restricted to No. 7 2 or smaller, except on a patterning range. Shotfall zones extend to 300 yards for most shotgun ranges.

Other shooting bodies that recognize this safety distance are:

International Shooting Sports Foundation.  
National Shooting Sports Foundation  
Federation Internationale Sportives De Chasse

ISSF  
NSSF  
FITASC