

# SHOTGUN RANGES

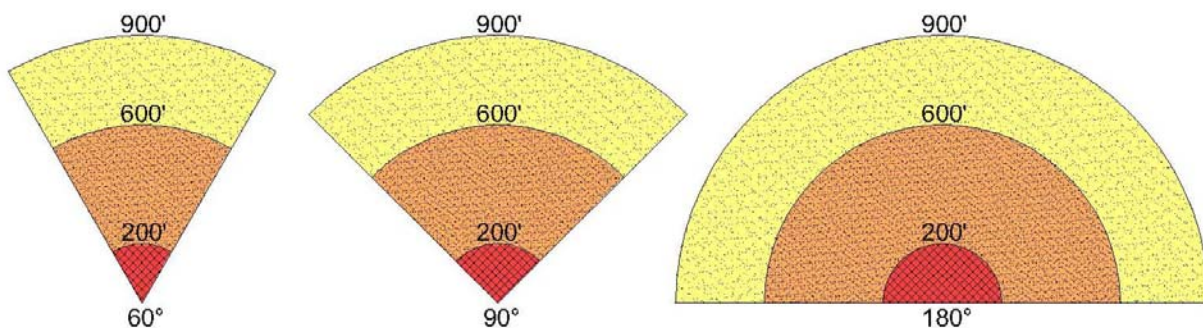
## Design Reference for a Shotgun Range Layout



**Introduction:** This guideline provides information related to the design of shotgun ranges at Boy Scout camps. There are several popular “clay target sports” such as Trap, Skeet, Five Stand, etc., each with its own range requirements. This guideline will focus on range requirements to support the Shotgun Shooting Merit Badge and note some of the differences for other types of clay target sports ranges. It is assumed that all activities will comply with the current version of the *Guide to Safe Scouting*. This generally limits the ranges to the use of 20-, 16- and 12-gauge shotguns firing ammunition containing No. 6 shot or smaller.

**Location:** The shotgun range is usually located on the outskirts of the camp away from troop sites and other heavily used areas. It is a common practice to locate the shotgun range near other “field sports” facilities such as archery and the rifle ranges. These programs all require large areas and frequently share program staff.

**Size and Shape:** The shape and size of the range depends on the number of shooters and which clay target sport the range is designed to accommodate. A range designed to meet the basic merit badge with a single trap will server two shooters. This range requires a protected area that extends in a 60 degree arc from the shooting positions. If two traps are used then the arc of the shot fall area is 90 degrees. This arc represents the “shot fall area” and extends 900 feet from the shooters. This may be reduced to 600 feet when ammunition used at the range is limited to No. 8 shot or smaller. A skeet shooting and other “multi-positioned” field sports requires the same 900 foot or 600 foot protected area, but because of the various shooting positions and paths of the targets, this arc covers 180 degrees.



As the illustration above shows, shotgun ranges require a large area. When planning a new camp, the location of ranges should be given early consideration. The 60 degree arc will be the shot fall



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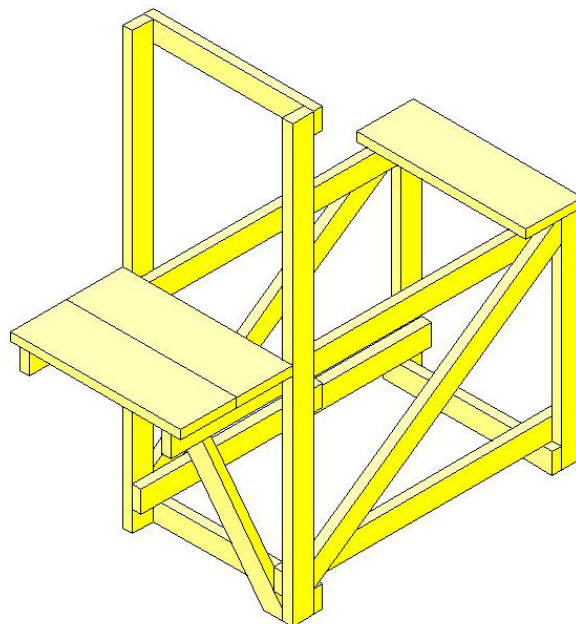
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area for a single shooter during merit badge instruction. The ninety degree arc would be the shot fall area for two shooters using the same thrower in merit badge instruction. The half-circle shot fall area represents the shot fall area for most competitive shooting. When building a new range or improving an existing range at a camp, careful consideration should be given to the required shot fall areas based on the intended use of the range.

**Direction of Fire:** Because shooters are firing at aerial targets, the sun can be more of a problem for a shotgun range than a rifle or archery range. A northern or northeasterly orientation is preferred to avoid glare from the sun.

**Firing Line:** For the basic range with the most narrow (60 degree) arc the trap should be set on the firing line either on the ground or mounted on a sturdy table or stand. Provide one trap to serve one or two shooters. Stands may be provided for shooters to help limit where the shotgun is pointed while shooting. Stands may be necessary for young and inexperienced shooters.



FIRING LINE BOOTH (ISOMETRIC)

**Ready Line:** The ready line should be a minimum of 10 feet behind the firing line. Provide benches for waiting groups behind the ready line fence.

**Fencing and Protection:** The area in front of the firing line should be cleared of trees and brush to a distance of 200 feet. This area should be fenced and marked with signs. The remainder of the shot fall area should be marked with warning signs. No camps or activities should be permitted in this area, and protection should be provided by marking the area or fencing where practical. The area between the firing line and the ready line should be fenced with one entrance provided to the rear. The shotgun range will be provided with a flag pole for a range flag.

**Storage of Equipment:** All guns and ammunition must be kept in separate, locked storage when not in use on the range. Because ranges are typically located on the edge of camp, and away from other activities, the shotguns and ammunition are normally not “permanently stored” at the range. Rather, they are locked up in a suitable facility near the range or at a designated controlled program equipment area at the camp. Temperature and humidity can damage stored firearms. While the range is in operation, during long-term camps or weekend programs, secure storage closets or a room containing gun lockers for separate storage of shotguns and ammunition is recommended.

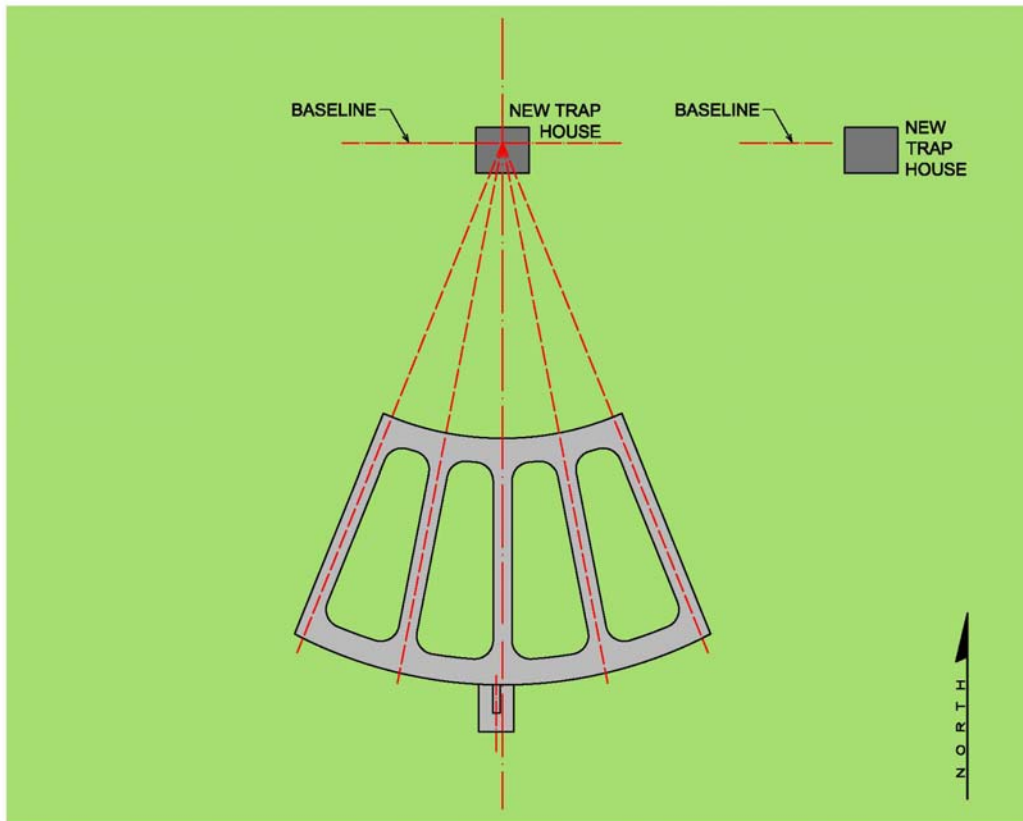
**Other Facilities:** As the range is typically located at the edge of camp, there are a few other facilities that are beneficial. A program shelter will provide a shaded area for waiting or instruction. Drinking water and latrines should be convenient to the range as well. Some form of a handwashing station should be provided for shooters. If the shotgun range is located near the archery and rifle ranges many of these facilities may be shared.

**Merit Badge Instructional Layout:** The Shotgun Shooting Merit Badge teaches Scouts firearm safety, basic skills and confidence. Scouts qualifying for the merit badge are required to hit 12 of 25 throw targets twice. These targets are to be thrown at a reasonable speed and in the same direction. Because of consistent throws, the 60 degree angle for the shot fall area can be used. Typically a shooting stand is used to position the shooter and limit the traverse of his shotgun while shooting. If multiple shooting positions are used for instruction, then sufficient space must be left for instruction and for throwing or tending the thrower. Typically this can be as much as 20 feet.



**Competitive Shooting:** Shotgun shooting has grown quite popular in recent years with a number of exciting competitions. These competitions put shooters in different positions firing at targets thrown from different locations and in different directions. This variation requires a larger angle for the shot fall area and fixed houses for the throwers and paved positions for the shooters. The exact configuration for these ranges may be found in information provided by the NRA or other shooting associations. The following is a brief description of Trap, Skeet and Five Stand competitive shotgun shooting.

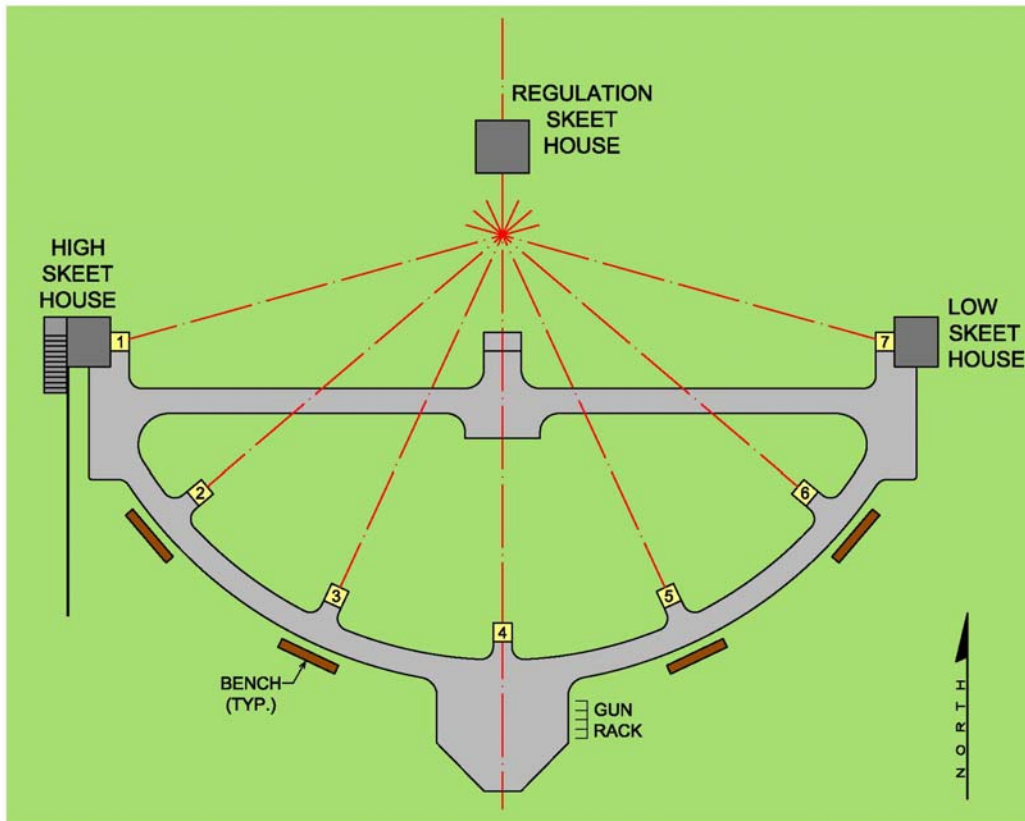
**Trap Range Layout:** For trap range layouts to be consistent with the Amateur Trapshooting Association (ATA), the range shall consist of a single launcher (wobbler type) in a trap house partially buried in the ground with five shooting stations 16 yards (48 feet) behind the trap house. The centerline of the field shall bisect the centerline of the trap house and shooting station three (16 yards directly behind the trap house). The launcher shall release clays at a random angle within a 17.14 degree angle to the right or left of the centerline of the trap house. Using standard clay targets the launcher must have a trajectory of 8 to 10 feet (9'-0"  $\pm$  1'-0") above the ground at 10 yards in front of the launcher landing at a minimum of 49 yards to a maximum of 51 yards from the trap house. The distance between each station shall follow along the arc of 16 yards distance from the centerline of the back of the trap house at 3-yard intervals. Station lanes shall be marked at each yard from the 16-yard marker to the 27-yard marker.



**TRAP FIELD PLAN**

**Trap Procedures:** The traditional game of trap has five shooters at each position with the shooter at station one (far left position when facing the trap house) being the first to shoot. Once station one has expended one shell (two for doubles), the shooter at station two may then call for their clay target. This follows for shooters at stations three, four, and five. After each shooter has expended five shells at their station, each shooter then moves to the station to their right with the station five shooter moving to station one. A single round of trap is complete once a shooter has expended five shells at all five stations for a total of 25 shots.

**Skeet Range Layout:** Skeet fields are laid out in a semi circle with eight shooting stations and two launchers housed in structures on the right and left sides of the field. The house on the left side of the field facing down range is the high house, while the house on the right side of the field is the low house. The high house launcher must be 10 feet above the ground and at a slight upward angle. The low house launcher must be three feet above the ground at a steeper angle. Clays are set to travel 58 to 68 yards and clear a white stake 10 feet downrange of the center of the semicircle. Stations one through seven follow along the semicircle from left to right when facing downrange. Station one is at the high house, with 26 feet 8 inch intervals between each station, with station seven ending at the low house. Station eight is at the center of the field in line and midway between the two houses. Each station is to be on a 3 foot by 3 foot pad.

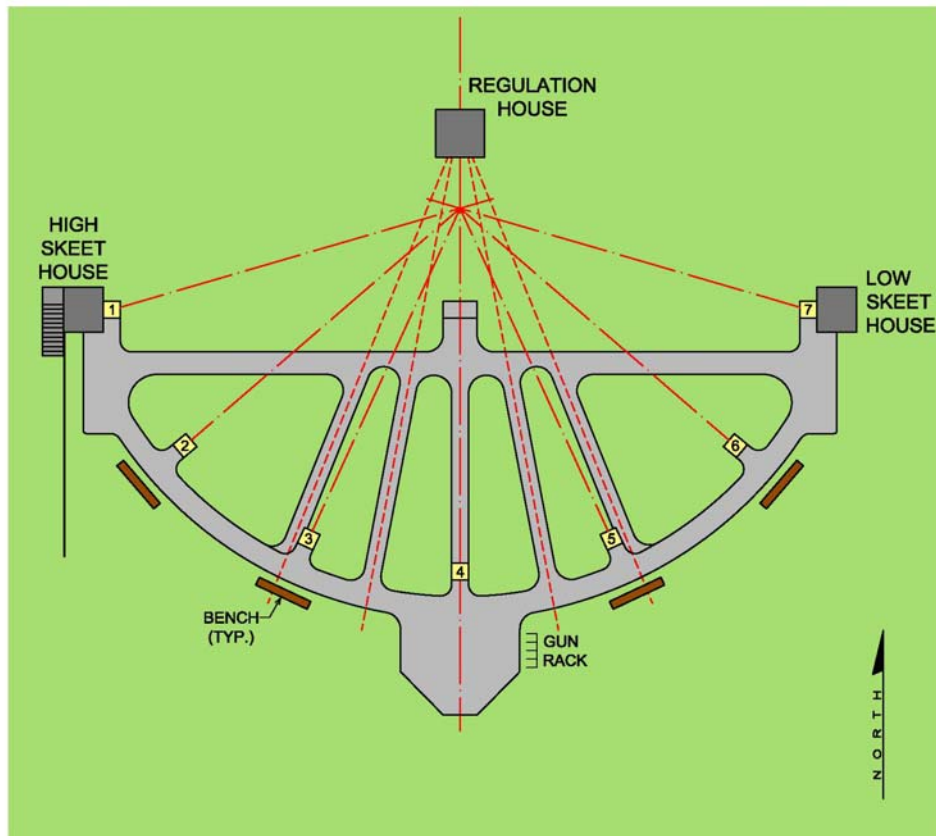


**SKEET FIELD PLAN**

**Skeet**

**Procedures:** Shooters begin at station one firing their allotted shots at each station before moving on to the next station. At stations one, two, six and seven a shooter is presented with four targets. The first is from the high house and then from the low house. After that a pair is presented from the high and low house simultaneously. At stations three, four and five the shooter is presented with only one target from each house, the high house first and then the low house. At station eight the shooter can be presented with a single target from each house or a pair simultaneously.

**Combination Trap and Skeet Plan:** It is possible to construct one range that will accommodate both Trap and Skeet competitions.



**COMBINATION SKEET/TRAP PLAN**

**Sporting Clays - NSCA 5-Stand Sporting Range Layout:** For a range to be sanctioned by National Sporting Clays Association (NSCA) there must be six to eight launchers on the field. The shooting stations are identical to the trap range. One launcher must be on a 40- to 70-foot high tower behind the stations presenting an outbound target. One launcher must be set down range and present an inbound target. One launcher must present a right-to-left crossing target (or quartering away, no restrictions on height of platform). One launcher must present a left-to-right crossing target (or quartering away, no restrictions on height of platform). A rabbit launcher must cross the field at a reasonable speed and presentation. A vertical (teal) launcher must present at a reasonable speed and trajectory. All launchers shall be numbered to determine the order of presentation. Order of presentation may be changed by the range operator.

**Sporting Clays - NSCA 5-Stand Sporting Range Procedures:** Procedures for shooters at each station are similar to trap procedures, with each shooter being presented with one target at each call and five targets per station. The difference is that up to four shells may be expended on each target. The order shall remain the same for each shooter. With every rotation the order of presentation moves up one station and cycles back to station one after launcher six or eight is presented in the previous rotation.

**References:**

*Shotgun Shooting Merit Badge Pamphlet*

*Guide to Safe Scouting, No. 34416D*

*Camp Program & Property Management*

*The NRA Range Source Book*