JUMP COURSE DESIGN MANUAL

How to Plan and Set Practice Courses
for Schooling Hunter, Jumper, and Equitation Riders

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DISTANCES

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WHAT IS AN APPROPRIATE DISTANCE?

Learning how to determine and set the appropriate distance between related obstacles is one of the biggest challenges for any course designer. When designing courses at home, you should adjust the distances, as well as the jumps that you choose to use, to be appropriate for the horse and rider schooling them. But what does that mean, exactly?

In truth, there is no perfect set of distances that work in *every* situation for *every* horse. Yet in order to set exercises and courses safely, it is necessary to have an understanding of what is generally accepted as an appropriate distance for lines and combinations, and to know how to adjust those distances to fit your specific situation. It will help if you know how the term "distance" is actually used in the hunter/jumper world. It can be somewhat confusing, as the term can have different meanings when it comes to jumping an obstacle or when setting, or walking, a course.

"SEEING" THE DISTANCE

For riders, distance is the word they use to describe *the point where the horse leaves the ground when jumping a fence*. This takeoff spot is a direct result of the stride length, pace, and track that was created by the rider on the way to the jump. A horse can leave from a long,

Because learning to "see" a distance is one of the hardest skills for a rider to learn, setting correct distances for schooling at home is just as important as setting the distances correctly for a course at a show. This colorful in-and-out combination is from JUMP4JOY World Class Jumps (www.hitech-horsejumps.com). Notice the use of ground lines to help horse and rider find the right takeoff points. When you set a course at home, always adjust the distances to be appropriate for the horse and rider schooling them (refer to the generally accepted distance ranges listed on p. 25).

short, or ideal distance. An ideal distance is the place where the horse can leave the ground allowing him to create the most efficient *bascule* (geometric curve) over a particular obstacle (see p. 27).

The bascule bridge (or drawbridge) has a counterweight that continuously balances the length, or span, of the bridge as it rises or lowers. Likewise, when jumping, the horse first shifts his weight to his hindquarters as a counterweight as he pushes off from the ground. This allows the horse to rise up through his back and lift and tuck his front legs in order to clear the height of the obstacle. The horse's arc peaks when his withers are at the highest point over the fence. Then, by stretching his neck forward and down, the horse creates the counterweight needed to land safely, and in balance, on the other side.

If a horse leaves the ground from a *long distance*, it means that he left the ground a little farther away from the base of the jump than what would be ideal. Leaving from what's often called a "long spot" flattens the horse's arc over the fence because he will have to reach out horizontally in order to clear the width of the obstacle. Because the arc is flatter, the apex of the bascule will be later, resulting in a longer landing distance. A really long spot draws gasps from the spectators, as it is often very apparent the horse may not be able to clear the width of the obstacle.

If the horse leaves from a *short distance* it means he has gotten a little too close to the base of the fence, and perhaps even added an extra stride in the line or combination. This is referred to as a "chip" or "leaving from a deep spot" and requires the horse to expend more energy vertically in order to clear the fence. Leaving from a short distance moves the apex

> This is a standard 60-foot line, which for hunter and equitation riders, would be generally ridden in four strides. In the jumper ring it is left up to the rider to decide how many strides to ride in the lines and combinations. As a rider advances she should practice riding this line not only in a *slightly forward four strides* (it will ride long because it is set up in an indoor arena), but also in *five medium strides*, and in *six collected strides*, in order to practice adjustability. This illustrates that the physical measurement for distances may not directly correlate to a hard-and-fast number of strides. It is the pace, length of stride, and quality of the canter that determines the optimum number of strides that should be ridden between related elements.

of the bascule closer to the takeoff spot, resulting in a steeper angle over the fence, and a landing that is closer to the fence on the backside. Furthermore, if the rider asks the horse to take off so close to the base of the fence that the jump is entirely out of the horse's field of vision (see the discussion on the horse's perspective, beginning on p. 7).

MEASURING A DISTANCE

Distance is also the term used to refer to *the measurement, in either feet or meters, between related obstacles*. When you are talking about distance in regards to a jump course, you are most likely using this definition. This physical measurement, which is noted on the course diagram posted at the in-gate for all obstacles with related distances of 90 feet or less (it is optional for the course designer to post distances in excess of 90 feet), is converted by the rider into a corresponding number of strides that a horse should take between those related obstacles. The number of strides is calculated by taking the physical measurement between the two obstacles, subtracting 12 feet (the generally accepted guideline for the space needed for landing and takeoff), and then dividing the remainder by 12 feet.

Educated riders can look at a course diagram or walk a course and easily convert the physical measurement into a number of strides. When developing their plan for how they will ride the course, riders refer to the distance between related obstacles as a one-, two-, or three-stride combination, or a four-, five-, or six-stride line (for example), rather than quoting a physical distance measurement.

And, just as the takeoff point can be *long*, *short*, or *ideal*, lines and combinations often have the descriptor of *long* (forward), *short* (collected) or *medium* ("easy"). When the physical measurement of a line results in something *less* than an equal number of 12-foot strides the line will be a little short. Conversely, when there is a remainder *over* an equal number of 12-foot strides, the line will ride slightly long. These descriptors actually refer to the pace, or the quality of the canter, and the corresponding length of stride that is needed to accurately negotiate the line or combination in order to arrive at the correct takeoff point for each obstacle.

Originally, stridecounting was a tool that helped beginning riders judge the quality of their canter so as to arrive at an ideal takeoff point in front of a fence. This practice evolved into a requirement at horse shows to "ride the numbers," in part because jumping courses began to be held in arenas with smaller square footage and a perimeter fence. This is in contrast with jumping competitions from days gone by where the courses were jumped in an open field over varied terrain, and where a "good gallop" such as one would carry when foxhunting was what was needed to meet the fences properly. The smaller footprint of today's riding arenas requires more

accuracy in order to meet the shorter distances between obstacles, and knowing how physical distances translate into a corresponding stride count helps with the negotiation of a course. In the hunter and equitation divisions, there can be heavy penalties if a rider either adds or leaves out a stride in a line or combination.

FACTORS THAT AFFECT DISTANCE

Distances are affected by many factors, such as the course design itself, the condition of the footing, weather conditions, and the slope of the arena. The horse's natural jumping ability and stride length, as well his adjustability, has an influence on how distances are met. Perhaps the most significant factor is the way in which a rider approaches a fence, either in terms of the quality of the canter achieved or the angle of the track the rider chooses to take. The rider must practice the ability to create the optimum forward and balanced canter so she can ride up to the distance, whether it be medium, slightly long, or slightly short.

All distances included in the course diagrams in this book are set for horses. When schooling ponies be sure to take the difference in stride length into consideration. Here I have included the pony distance recommendations that appear in the USHJA Trainer Certification Manual. Note that the USHJA recommends that pony riders practice riding lines set for horses and learn to fit an even number of strides within that distance.

Distances for Ponies

Strides	Small	Medium	Large
1	20′	22′	24′
2	30′	32′	34′
3	39′	41′- 42′	45′
4	48′- 50′	52′- 53′	56′
5	58′- 61′	62′- 64′	67′- 68′
6	68′- 71′	72′- 74′	78′- 80′
7	78′- 80′	82′- 84′	89′- 91′

DISTANCE RANGES

When building schooling exercises and courses your goal is to avoid anything "trappy" or unsafe. The tables and illustrations in this section provide you with ranges for distances between related obstacles that are generally accepted as appropriate, helping you avoid setting any distances that will "ride on the half-stride"—that is, either 6 feet shorter or longer than the standard range.

When setting an exercise or a course to be used primarily for beginning riders or green horses (with low fences), or when schooling horses short on scope (that is, those with a stride length less than a normal 12 feet), set the obstacles toward the shorter end of the distance ranges. Also, courses set up indoors tend to require slightly shorter distances because the smaller square-footage and tighter corners in an indoor arena tend to slow down the horse's forward motion and shorten the length of the horse's stride. However, it is important to remember that in competition, distances are set for horses with a normal to big stride (12 to 13 feet), so beginner riders and shorter-strided horses do need to practice a more forward pace so they can meet the distances they will encounter at a show.

When jumping 3 feet to 3 feet 6 inches, set schooling fences toward the middle of the recommended distance range. For jumps higher than that, related distances should run toward the upper end of the ranges (or perhaps even a little longer).

RELATED DISTANCES

When setting up *combinations*—that is, two or more obstacles with three strides or less between them—it

DISTANCE CHART

1 The minimum distances contained in the chart on this page are appropriate for fences with a height of 3 feet. The maximum distances are more typical for a 4-foot course. One pace is equal to one human 3-foot step (or one yard).

2 The chart shows distances for horses (with a 12- to 13-foot stride) jumping an outside course. Distances should be adjusted (shortened) about 4 feet for small ponies (a 9- to 10-foot stride) or you can simply add an extra stride when the lines are set at the minimum distances. For medium ponies (a 10- to 11-foot stride), shorten the lines anywhere from 2 to 8 feet, or set the fences so it is again comfortable for the pony to simply add one full stride in the line. For large ponies (11- to 12-foot stride), the minimum distance measurement may be used, assuming the pony carries a fairly forward pace.

3 When trotting into a line, the line will ride a minimum of 3 feet longer. Typically, when trotting into a line the horse takes one additional canter stride between the elements.

4 There are a number of factors that cause a line to ride shorter or longer, so adjust your lines to fit specific conditions. For example:

- **Lines ride shorter** (because the horse's stride tends to lengthen) by at least a foot when: the arena is large and open; the horse is galloping fast; there is a downhill line; you are riding the inside track of a broken or bending line; or you are on the last line of the course and going toward "home" or the in-gate.
- **Lines ride longer** (because the horse's stride tends to shorten) by at least a foot when: the conditions are muddy; the arena has deep or soft footing; the jumping arena is small; the line is uphill; the jump is after a tight turn or rollback: the jumps are big, spooky, solid, or airy; or you are jumping away from "home" or away from the direction of the in-gate.

5 The type of fence used and its order in the sequence of a line affects the distances. A vertical-to-vertical line rides as a shorter distance than a vertical-to-oxer, for example. (See pp. 26-29 for details on how the type of fence affects how a distance will ride.)

6 The longer the distance between the fences, the more room there is for adjustment on the rider's part. Shorter distances and combinations require a greater degree of accuracy in course design and setup.

Trot/Canter and Placing Poles

		PACES	FEET
Trotting Poles	Min	1.5	4′
	Max	2	5.5′
Canter Poles	Min	3	9′
	Max	3.5	10′
Placing Pole Front of Fence (Cantering)	Min	3	9′
	Max	3.5	10′
Placing Pole After a Fence (Cantering)	Min	3.5	10′

The recommended minimum and maximum number of human paces and physical measurement when setting ground poles.

Between Fences at a Canter

		PACES	FEET
Bounce	Min	3.5	10′
	Max	4	12′
One Stride	Min	8	24′
	Max	9	28′
Two Strides	Min	11	33′
	Max	13	39′
Three Strides	Min	18	24′
	Max	17	52′
Four Strides	Min	20	60′
	Max	22	65′
Five Strides	Min	24	72′
	Max	26	78′
Six Strides	Min	28	84′
	Max	30	90′
Seven Strides	Min	32	96′
	Max	35	105′

The recommended minimum and maximum number of human paces and physical measurement when setting related fences.

STRIDE CHARTS COURTESY OF CHRYSTINE TAUBER AND USHJA