



Bit Selection for Riding and Training Horses

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Bits are designed for riders to cue a horse by placing pressure in and around a horse's mouth. This pressure is used to control the speed and direction of movement. Bit selection is influenced by a variety of factors, including the style of riding and tradition of bit use, the rider's ability, the level of the horse's training, and the intended use of a horse.

Certain riding disciplines use one type of bit more than another does. For example, stock seat horses are ridden mostly with one hand on the reins with a curb bit. Conversely, hunt seat horses are ridden mostly in ring snaffles and guided with two hands on the reins.

Bit selection will also vary because of differences in the abilities of horses and riders. Inexperienced or incorrectly trained horses may be confused and respond adversely to the type or intensity of pressure applied by some bits. Similarly, some riders apply inappropriate levels of pressure with some bits, or they apply pressure at the incorrect times.

The objective of this fact sheet is to assist the inexperienced rider in the selection of bits. Identifying differences in bit construction and understanding some of the important principles of bit use will provide an educated basis for selecting bits. Readers are encouraged to continue their education by receiving "hands-on" instruction from experienced professionals and by reading and viewing the many resource materials that have been developed on training horses. By doing so, riders will gain a better understanding of the training process and how bit use and selection can assist in achieving their riding goals.

Bit Nomenclature

To begin, riders must have a working knowledge of bit construction and design. Some of the more commonly used terms for identifying bits are presented below.

Bars: The mouthpiece portion that is located between the shank and port. The bit's headstall is adjusted so that the bars are positioned to rest on the bottom palate (the lower gum area between the front and back teeth) of the horse's mouth. This gum area is also termed the "bars" of the horse's mouth.

Bosal: Noseband portion of a hackamore. Bosals are made to surround the bridge of the horse's nose and lower jaws. Bosals are most commonly constructed with rawhide braided around a rawhide or cable core. Hackamores using bosals are commonly referred to as "breaking hackamores" because of their popularity of use with young or inexperienced horses.

Bridle bit: A commonly used term for a bit that applies curb or leverage pressure.

Broken mouthpiece: Mouthpiece of bit that is hinged or jointed near the mouthpiece's center. It is most common for broken mouthpieces to have one hinged joint.

Chin (curb) strap: A leather or chain strap attached to the shanks of a curb bit. It is positioned under the horse's chin behind the muzzle. Chinstraps provide the lower boundary point of pressure when rein pressure is ap-

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plied to curb bits. Most horse show organizations require that chinstraps be at least 1/2 inch in width and lie flat against the jaw. Usual adjustment allows for release of chin pressure when reins are loose. The longer or more loosely attached the chinstrap is, the less abrupt and intense is applied pressure.

Curb bit: A type of bit with a mouthpiece and shanks. The headstall is attached to upper shanks and the reins are attached to lower shanks of a curb bit. Curb bits apply leverage pressure. When reins are pulled, the action of the mouthpiece and curb strap tighten on various locations in and around a horse's mouth. Curb bit construction is modified to apply varying amounts of pressure on the tongue, lips, bars, and roof of the mouth; and, by way of the chinstrap and headstall, under the chin and over the poll on the horse's head. The poll is the area on top of the horse's head behind the ears.

Hackamore: Headstall and noseband designed to exert pressure on the bridge of the nose and under the chin of the horse's head.

Mechanical hackamore: A noseband device with a curb strap and hinged sidepieces. Mechanical hackamores apply pressure around the nose and chin. The main function of a mechanical hackamore is to slow or stop horses, as the design limits lateral pressure even when a single rein applies pressure.

Mouthpiece: The part of the bit that lies across the tongue of the horse's mouth. Bits usually have a single mouthpiece. The mouthpiece is positioned in the horse's mouth to lie on top of the tongue. Most often, the headstall is adjusted so that the bit's mouthpiece is positioned to lightly touch the horse's mouth where the upper and lower lips join. Snaffles may be positioned slightly below (approximately 1/8 inch to 1/4 inch) this area when hanging freely.

Port: Raised portion of solid mouthpieces. Some hinged mouthpieces also have ports. The port places pressure along the tongue and, if high enough, the roof of the mouth. Wider port widths allow for less pressure on the tongue.

Pressure points: Areas where bits apply pressure when rein pressure is applied. Pressure points include the tongue, bars, roof, and corners of the mouth (area where the upper and lower lips connect), and the nose, poll, and chin of the head.

Rings: The outer portion of snaffle bits that function to position the mouthpiece and allow attachment of the headstall and reins. Variations in ring diameter and shape influence the location and intensity of rein pressure.

Shanks: The sidepieces of a curb bit. Upper shanks extend above the mouthpiece and serve as an attachment point for headstall and curb strap. Lower shanks extend below the mouthpiece to serve as an attachment point for the

Bridles



Bosal Hackamore



Mechanical Hackamore



Snaffle Bit



Curb Bit

reins. Variations in bit construction in the length and angle of shanks allow for differences pressure.

Snaffle: A type of bit made of a mouthpiece and rings. Snaffle bit mouthpieces are most commonly jointed in the middle. Because of this, curb bits with jointed mouthpieces may also be termed a snaffle, although the bits actually work by curb pressure. True snaffles are constructed so the bridle headstall and reins are attached to rings positioned on the outside of the horse's mouth. As such, the bits apply rein pressure directly to the mouthpiece. Snaffle bits place pressure on the tongue, corners of the mouth, and the bars of the mouth.

Solid mouthpiece: A non-jointed mouthpiece. Solid mouthpieces have bars and ports, which alter the amount and area that pressure is applied.

Variation in Bit Construction

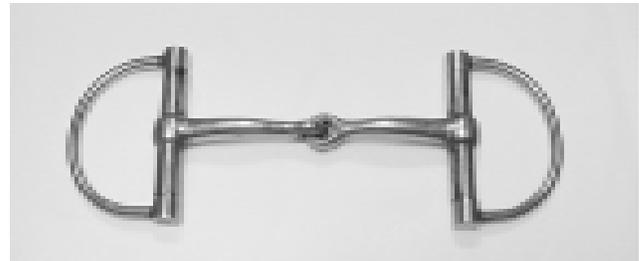
Bits are constructed to vary the location, intensity, and type of rein pressure. Some of the main ways bits vary in construction to alter pressure are provided below.

Bit balance: altering the placement, weight, and shape of the shanks and mouthpiece creates Bit balance of curb bits. Bits constructed to significantly release pressure when rein pressure is released are termed "over-balanced." Bits that maintain pressure without rein pressure are termed "balanced" or "under-balanced." Balance can be determined by laying an unattached bit on your fingers, which are positioned under each end of the mouthpiece. A bit is over-balanced if the lower shanks of the bit hang

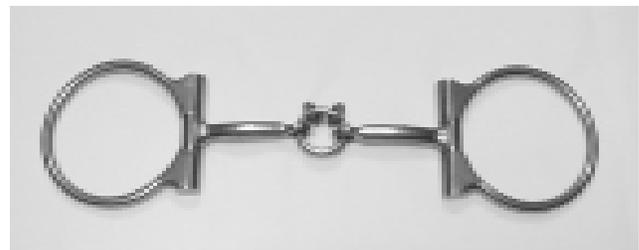
Snaffle Bits



Smooth O-Ring: Recommended for daily training where lateral pull is required.



Smooth D Ring: Ring shape spreads out pressure along outside of the horse's mouth



'Dr. Bristol' mouthpiece: Rings in center of the mouthpiece assist in holding tongue in place below the mouthpiece.



'Iron twist': Twist decreases the contact on the tongue thus intensifying amount of pressure.



'Wire Twist': Twist with small diameter greatly intensifies pressure on corners of the mouth when rein pressure is applied. Not recommended for everyday use.

Curb Bits



Jointed Mouthpiece intensifies pressure on corners of the mouth. This mouthpiece and shank length is frequently used as the first curb bit when making a transition from bosal or ring snaffle



“Grazing” port allows for little tongue pressure and no palate pressure. Curved shanks create over balance, thus heightens release of pressure when the rider is not applying rein pressure. In general, this is a mild bit and is recommended as a transition from a jointed mouthpiece curb to a “solid” mouthpiece.



“Sweetwater” port allows tongue to escape rein pressure. Pressure is applied on the bars.

forward of the mouthpiece and upper shanks. It is under-balanced if the lower shanks hang behind the mouthpiece. Because it is desirable to have a release of pressure when not cueing, most bits are designed to be over-balanced. Balanced bits are used infrequently, and then only on experienced horses and by experienced riders.

Bar elevation: The bar portion of a mouthpiece may extend straight from the shanks to the port or elevate upward and forward. More elevation allows for more area between the mouthpiece and the horse's tongue.

Bit material: Most bits are made of steel, iron, or aluminum. Some have mouthpieces made of or inlaid with copper. Other mouthpieces are covered with rubber. Some shanks are engraved or inlaid with precious metals (silver or gold) for aesthetic value.

Mouthpiece diameter: Mouthpiece diameter typically varies from 5/16 inch and 3/4 inch, although there are smaller and larger sizes.

Mouthpiece elevation: Distance from the bottom to the top of the port or mid-section of a mouthpiece. Ports with 2 1/2 inches or more of elevation can apply pressure on the upper palate and, because of the sensitivity of this area, should not be used on inexperienced horses or by inexperienced riders.

Mouthpiece placement: As viewed from the side, the angle created by the position of the port and the position of the upper shanks. Mouthpiece placement usually varies from the port and upper shanks being in line with one other to the port positioned forward of the upper shanks by about 20 degrees to 30 degrees.

Mouthpiece shape: Most mouthpieces are smooth and rounded. Some mouthpieces are twisted, rolled, or flattened to cause variations in intensity of pressure.

Port shape: Port shape varies from maintaining the mouthpiece shape in rounded mouthpiece bits to being flattened, rolled, or covered. The top of the port may be flattened

backward to heighten pressure on the tongue or to alter bit balance.

Port Size: Port widths vary to allow for differences in the amount of tongue relief from pressure. Port heights vary to allow for differences for tongue relief and pressure on the upper palate.

Shank length: Upper shanks are usually 1 inch to 2 inches in length. Lower shank length varies more with commonly observed differences of 3 inches to 7 inches. However, there are several noted exceptions for upper and lower shank lengths.

Shank position: When viewing bits from the side, shank position varies from shanks constructed in line with the mouthpiece to positions where the bottom and/or top shanks angle behind the mouthpiece.

Bitting Principles

Bits provide one of the major points of control when riding horses. Knowledge of horse behavior and training principles used to modify behavior must be considered when selecting and using bits. Some of the important training principles related to bit use are provided below. Readers are encouraged to also review OSU fact sheet ANSI-3915, “Training Principles for Developing Safe Horses,” to supplement the following.

Bitting Process: Bitting is a continual process of training, which through repetitive and step-wise training, teaches horses to accept bits and properly respond to bit pressure.

Curb pressure: Curbs with longer lower shanks in relation to upper shank length increase pressure by increasing the leverage of pull. Pressure is intensified on specific pressure points by variations in mouthpiece design.

Curb use: Curbs are used primarily to slow or stop horses with pressure created by leverage and to guide horses by using a neck rein cue. Curbs are used on horses trained previously to respond to direct and neck rein cues from earlier training with snaffles and/or hackamores.

Ground driving: Ground driving employs the use of long lines attached to a ring snaffle bit. The lines are directed through a biting harness or saddle to aid in directing the pull from the handler to the horse's mouth. The handler guides the horse by use of the lines while positioned several feet behind the horse. Horses can be taught to stop, back up, and guide with direct rein pressure before ridden for the first time. Ground driving is used with young horses to introduce bit pressure and also as a reinforcement aid on older horses. As with other horsemanship practices, inexperienced handlers should receive "hands-on" instruction before attempting ground driving for the first time.

Hackamore use: Bosal hackamores, similar to snaffle bits, are used in training of young horses in the stock seat discipline. Bosals are used to a lesser extent with older horses, as many horse exhibitions require the use of curb bits with older horses. Mechanical hackamores are used to enforce a stop or slowing action in activities such as roping and speed events. Mechanical hackamores limit lateral pull as compared to snaffles, even when single rein cues are used. Mechanical hackamores are most effectively used on horses with previous training rather than as a beginning bridle.

Pressure Intensity: The goal of the biting process is to train the horse to respond from as little pressure as possible to perform a given task. As such, cues should employ as small amount of rein pressure as possible. Pressure intensity is heightened when reinforcing a previously applied rein cue. (See OSU fact sheet ANSI-3915, "Training Principles for Developing Safe Horses.") Applying large amounts of pressure intensity when cueing a horse for the initial response increases the frequency of undesirable responses from the horse, and limits the ability of the horse to learn additional tasks. Inexperienced horses should be trained in bits that apply mild intensity, direct pressure instead of bits that intensify pressure or work with leverage.

Pressure Release: Applying single episodes of long-term pressure encourages resistance and avoidance of cues. As such, application of bit pressure should be short-termed and immediately followed by a release period. If more rein pressure is needed for reinforcement, additional "pull-and-release" pressure should be applied instead of lengthening the duration of the initial cue.

Pre-ride biting: Horses in beginning stages of training are accustomed to the bit and taught to respond to rein pressure before riding. Familiarizing a horse to the bit is accomplished by several sessions of bridling the horse with a snaffle bit, and allowing it to wear the

bit for several hours at a time without reins attached. The second objective is to teach the horse to respond to rein pressure. One method is to tie the reins from a snaffle bridle to a biting harness so small amounts of pressure are applied to the horse's mouth until the horse responds acceptably. Another method is ground driving. Unless experienced with these methods, readers are encouraged to receive "hands-on" instruction from knowledgeable people before attempting these pre-ride biting methods.

Snaffle pressure: Ring snaffles apply direct pressure from the reins to the horse's mouth. Most ring snaffles have jointed mouthpieces to intensify the pressure on the corners of the horse's mouth. This enhances the ability to pull laterally, thus directly guiding movement by redirecting the horse's head. Pressure is intensified by using smaller mouthpieces or by rolling or twisting mouthpieces.

Snaffle use: Inexperienced horses are taught to respond from a direct pull of the reins. Young or inexperienced horses are expected to require frequent reinforcements following the horse's response to an initial cue. Snaffles apply a simple type of pressure, direct pull, and, when used correctly, are mild enough to use with frequent reinforcements. English-style riding allows for continual snaffle use throughout use of horse. Most western showing requires that older horses perform in curb bits. Even so, snaffles are commonly used as a training tool throughout the life of horses ridden western because of the advantages of snaffle action when applying frequent reinforcements.

Bits That Greatly Increase Pressure Intensity

All bits are subject to misuse when improper intensities or lengths of pressure are applied. However, some bits are constructed to increase pressure intensity. As a general rule, these bits should be used as short-term correctional bits and then only on experienced horses. Only experienced riders should use the bits. The following examples intensify pressure as compared with bits constructed to be used daily.



Long shank length greatly increases leverage of pull.



'Correctional' mouthpiece applies intense pressure on the sides of the tongue and the bars.



'Las Crusas' mouthpiece applies pressure on the upper palate of the mouth, and does not provide tongue relief from pressure.

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