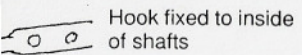


Chain end with ram's horn hook

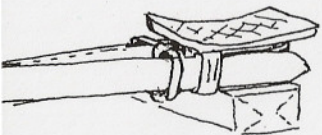
Various types of trace end.



Hook fixed to inside of shafts



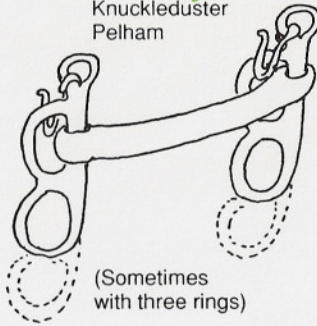
Roller bolt on four-wheeled Carriage or Coach



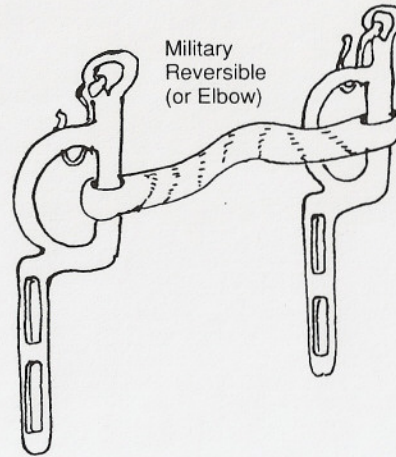
Trace ends should be used with the type of hook or bolt they are designed for.

### Butterfly

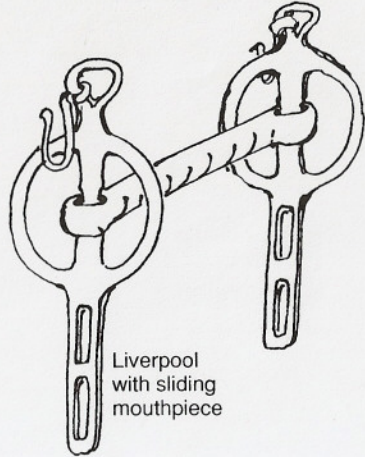
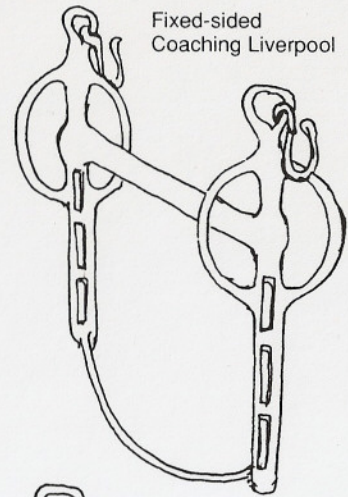
Knuckleduster Pelham



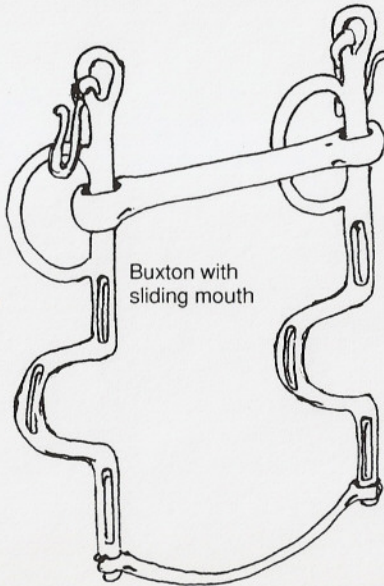
Military Reversible (or Elbow)



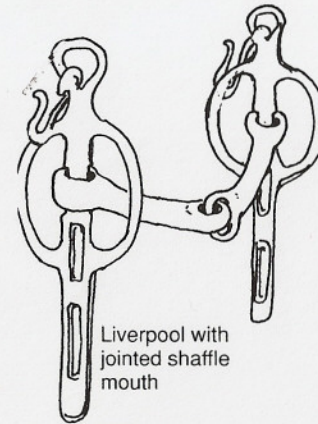
Fixed-sided Coaching Liverpool



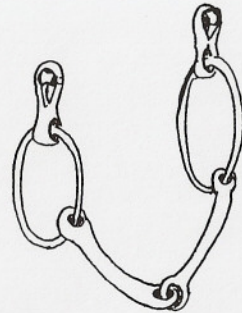
Liverpool with sliding mouthpiece



Buxton with sliding mouth



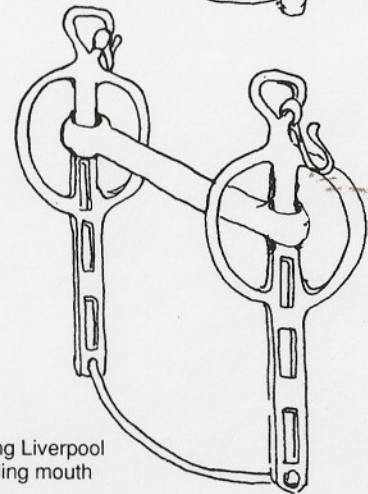
Liverpool with jointed shaffle mouth



Pulley Bridoon (used with bearing rein)

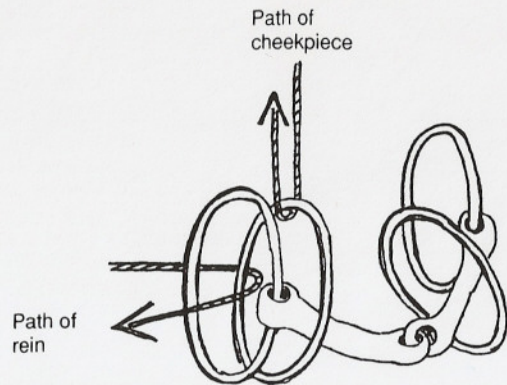
Some driving bits.

Coaching Liverpool with sliding mouth



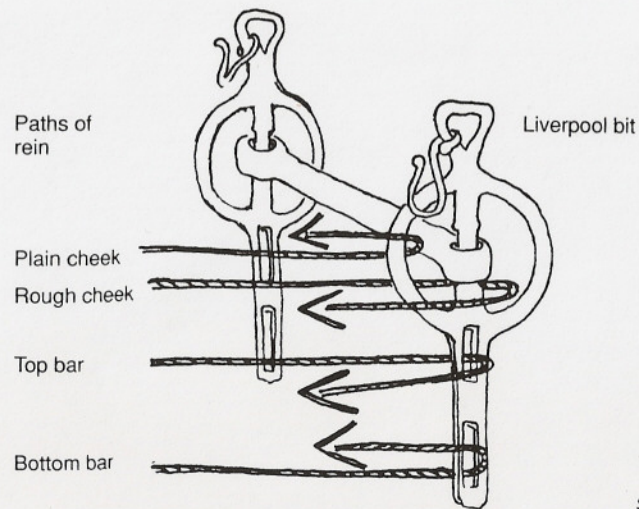
see also ~~Rabinowitz~~  
Rabinowitz p. 8-9



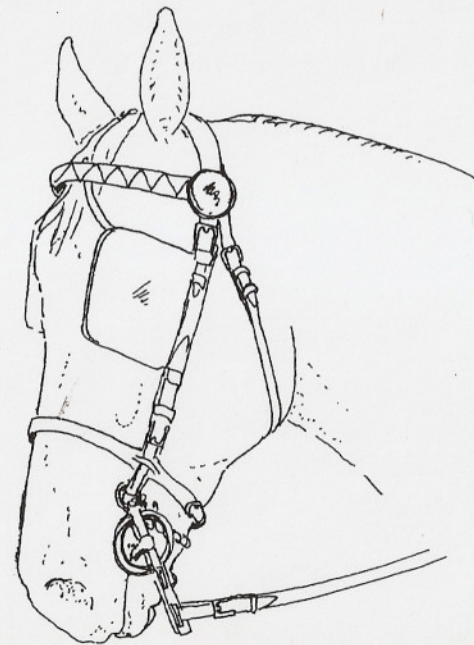


Wilson snaffle, also called four-ring or loose ring snaffle

For a more severe action, the rein is buckled to the fixed ring only, using the same settling each side



Examples of rein attachments for driving bits.



When the rein is attached to the bottom bar of a bit such as a Liverpool bit, severe pressure is transmitted to the bars of the mouth, poll and lower jaw.

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## Proper Harness Condition and Fit

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### **Marjorie R. Margentino**

Whenever a horse is put to harness, whether it is for training, pleasure or show it is important that the harness be in good operable condition and properly fits the horse.

Harness does not have to be brand new to be serviceable but in good condition without evidence of excessive wear. Before use, especially after being stored over the winter, it is important to check all buckles and stitching. Buckles will wear, becoming thin and weak in spots where the leather passes through and rubs against the metal. Checking the buckle tongues is especially important during inspection. The tongues take the brunt of the force and will start to crack or break entirely through without being noticed. Stitching will also break with stress, but the most common stitching defect is rotted stitches that break or pull out. Rotted stitches are usually the result of using too much oil when conditioning the leather.

Other signs to look for in a defective harness is dry leather that is cracked and easily broken; leather that is too oily which will stretch and pull apart easily; and leather that has rodent damage. Also inspect any area where the leather passes through metal. This should not be limited to buckle areas, but also where the breeching and breast collar straps pass through the "O" or "D" rings and where the reins pass through the backsaddle terrets, breastcollar terrets and at the bit attachment. It is also important to check the bit, looking for rust; flaking metal (usually see in chrome or nickel plated bits); and stress cracks in the metal where the mouthpiece joins the bar, and in the rings where the headstall and reins attach.

Anytime the horse is in harness, the harness should be properly adjusted to ensure a comfortable and safe fit. If harness pads are used, it is important to make sure they are clean, dry and securely fastened. Harness pads that slip and rub can sometimes cause more problems than if no harness pads are used at all.

Wet, muddy or sweaty harness pads will irritate the horse's skin, often causing skin irritations that take days, even weeks to heal.

Starting at the head, good bridle fit is essential for safety. Blinders or Winkers should not touch the eye or eyelashes, but should fit snug enough to prevent the horse from seeing behind or alongside. The eye should fit in the center of the winker. The throatlatch should be snug enough to prevent the bridle from slipping off the horse's head, but not tight enough to choke the horse. The Cavesson or Noseband should be buckled tightly to prevent the horse from pulling its tongue over the bit. If appropriate to the bit being used, the Curbchain should lie flat in the groove of the horse's chin with two finger space between the chin and chain so that the skin is not pinched. The Bit should lie evenly on the bars of the jaw in the interdental space. The horse's teeth should be floated annually so that interference of the teeth with the bit is not likely. Care should be taken that the bit is of the proper width for the horse's mouth so as not to pinch the lips. A bit drawn up too high in the mouth will interfere with the tongue and cause sores in the corner of the mouth. A bit hung too low will allow the horse -to pull its tongue over the bit and not give the driver the necessary control. Reins should be attached in the appropriate shaft notch or ring to ensure proper control.

The Breastcollar should be positioned so that it will not impede the motion or breathing of the horse. A breastcollar adjusted too highly will constrict the wind pipe, while a collar hung below the point of the shoulder restricts the shoulder's range of motion. The Neckstrap should sit in front of the withers. The Backsaddle sits just behind the withers of the horse, not directly on the withers, and should not touch the back. There should be space between the tree and the backbone of the horse. The bars of the tree should lie to either side of the backbone, keeping direct pressure off the spine. The Bellyband or Girth should not be as tight as one would girth up a saddle, but allow the passage of one finger between the horse and band.

The adjustment of the Breeching is very important. Breeching that is too loose serves no purpose, and breeching adjusted too high or low can cause a horse to buck, scooch down or become entangled. The intent of the breeching is to act as a brake and help hold the carriage back when going downhill. In order for it to work properly, the breeching should be hung low enough over the hips that the horse can sit its haunches back in it, but not low enough to hit the hocks. Hung too high, the breeching can get caught under the dock of the tail. The Breeching Straps should be adjusted so that the breeching fits snugly against the horse but not too tight as to cause the horse to lose its footing. Straps that are too loose allow the shafts to push forward, until they are stopped by the backsaddle. This turns the backsaddle and girth into the brake. Pressure from the carriage in this manner will soon cause girth sores and bruised withers.



Another problem may also occur with poorly fitted breeching. Often the distance between the front of the carriage and the back of the horse is not great, and long breeching straps will allow the carriage to hit the horse, riding up on his legs and haunches.

Harness that is properly fitted and in prime condition is essential for the safety of the driver, passengers and anyone that comes within range of the carriage.

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*NASD Review: 04/2002*

*Marjorie R. Margentino, Program Associate in 4-H Animal Science*

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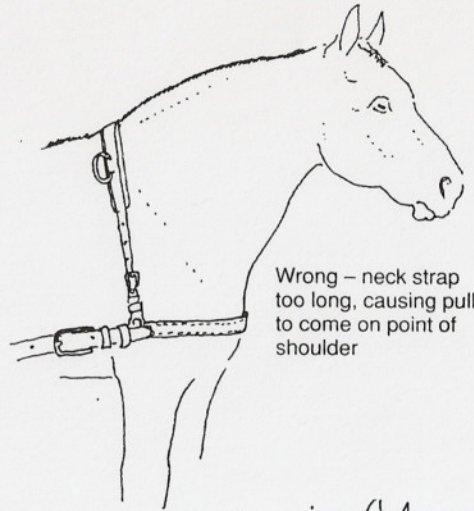
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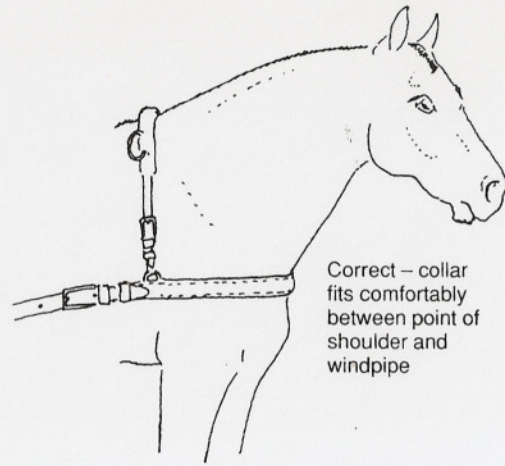
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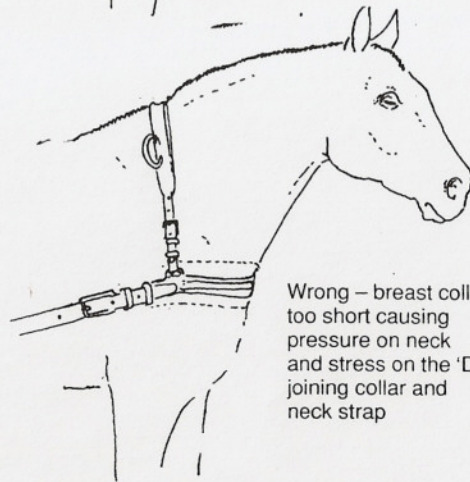
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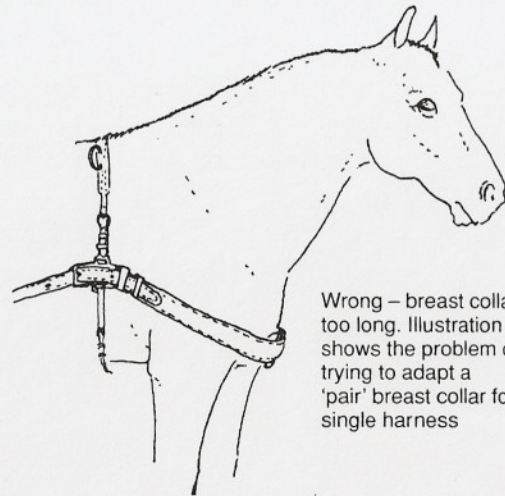
Wrong – neck strap too long, causing pull to come on point of shoulder



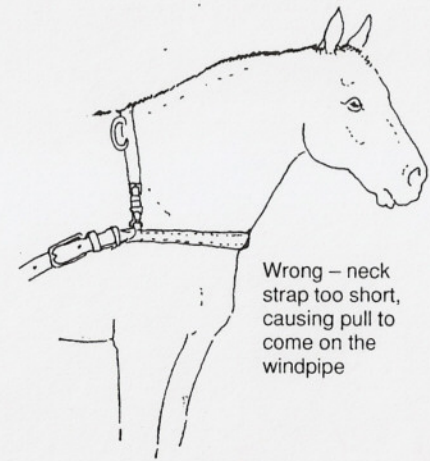
Correct – collar fits comfortably between point of shoulder and windpipe



Wrong – breast collar too short causing pressure on neck and stress on the 'D' joining collar and neck strap



Wrong – breast collar too long. Illustration shows the problem of trying to adapt a 'pair' breast collar for single harness



Wrong – neck strap too short, causing pull to come on the windpipe

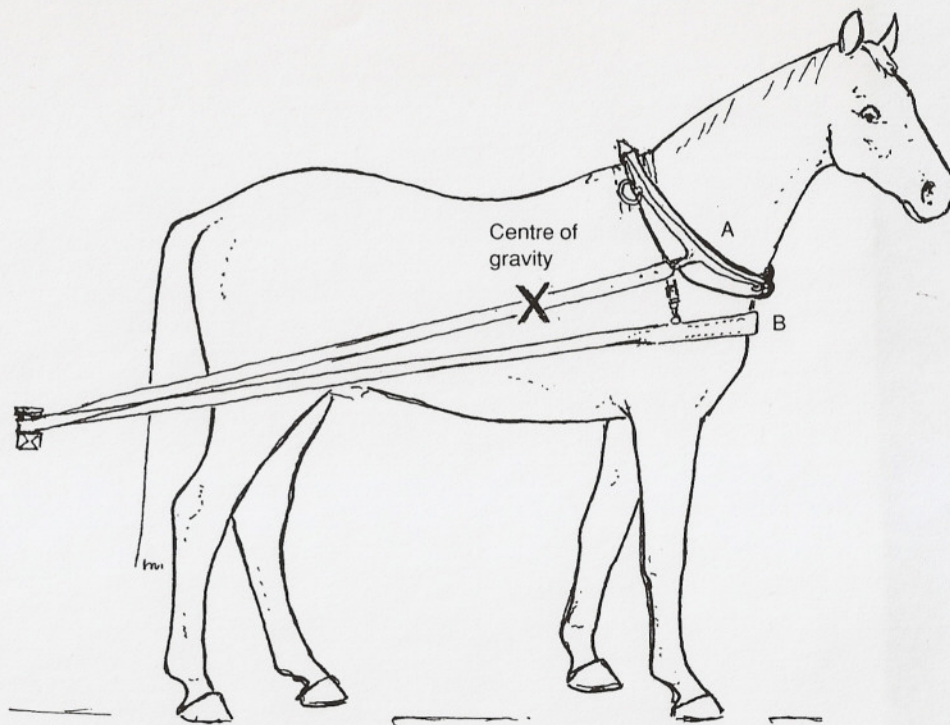
*Fitting a breast collar.*



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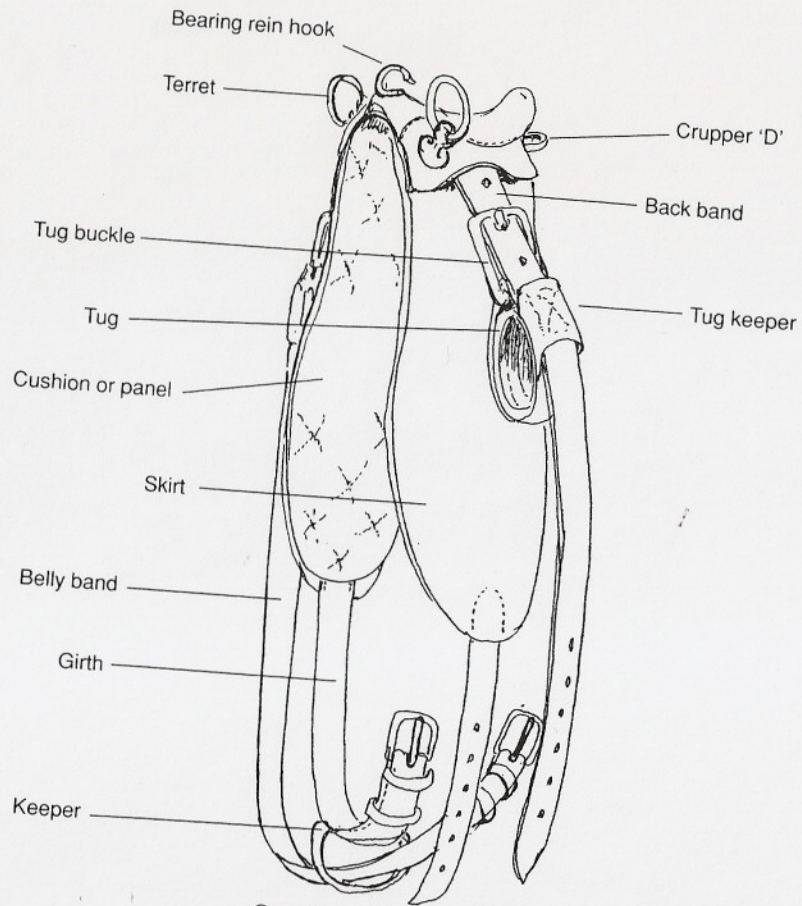
*The line of draught from a full collar (A) should pass through the centre of gravity of the animal. A breast collar (B) cannot be fitted high enough to achieve this, so the pulling capacity is reduced.*

should not rock either forward or backward, but should lie still.

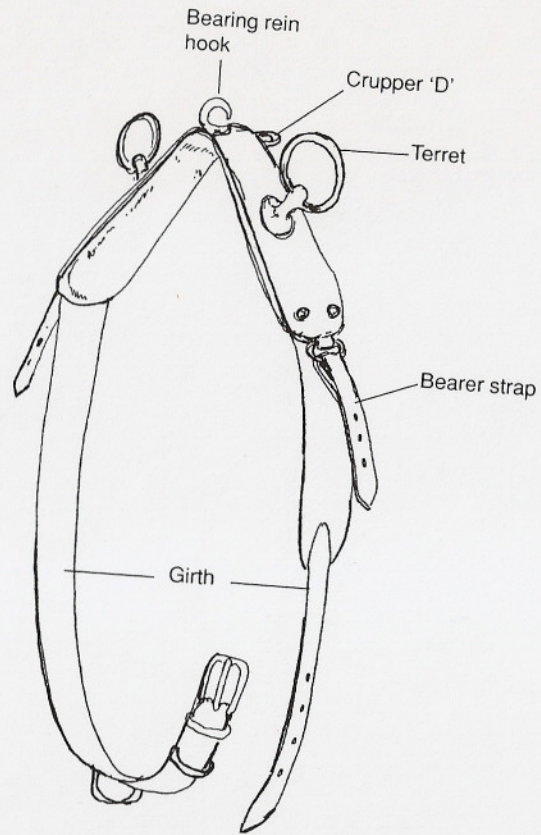
The next test is to watch from the ground to see whether the collar stays in the same position when the animal is driven at a good trot. A collar which seemed long enough while at the halt may prove too short when the animal is in action, particularly if he has a big crest.

A critical look must then be taken at the height of the tug or anchor pull on the hame. This is to see whether it comes in the best place in conjunction with the height of the trace hooks to make the draught come on the shoulder blades at the part well away from the shoulder joints or point of shoulder, and also to ensure that the draught will pass through the animal's centre of gravity.



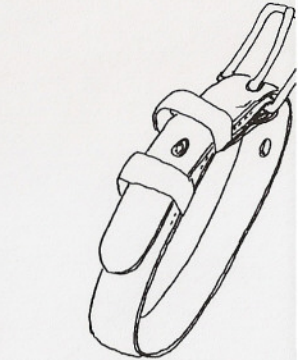


Single pad or saddle  
 with slide-through back band

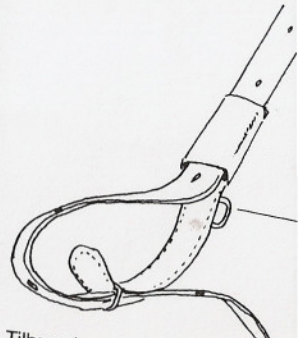


Pair pad (nearside)

Types of pad or saddle.



Soft loop tug -  
 adjustable

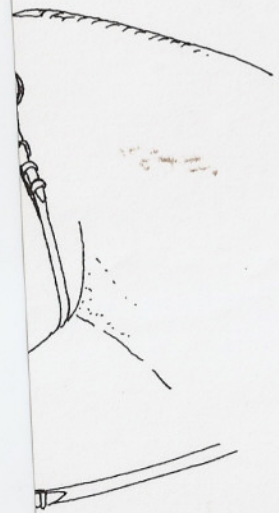


Tilbury tug

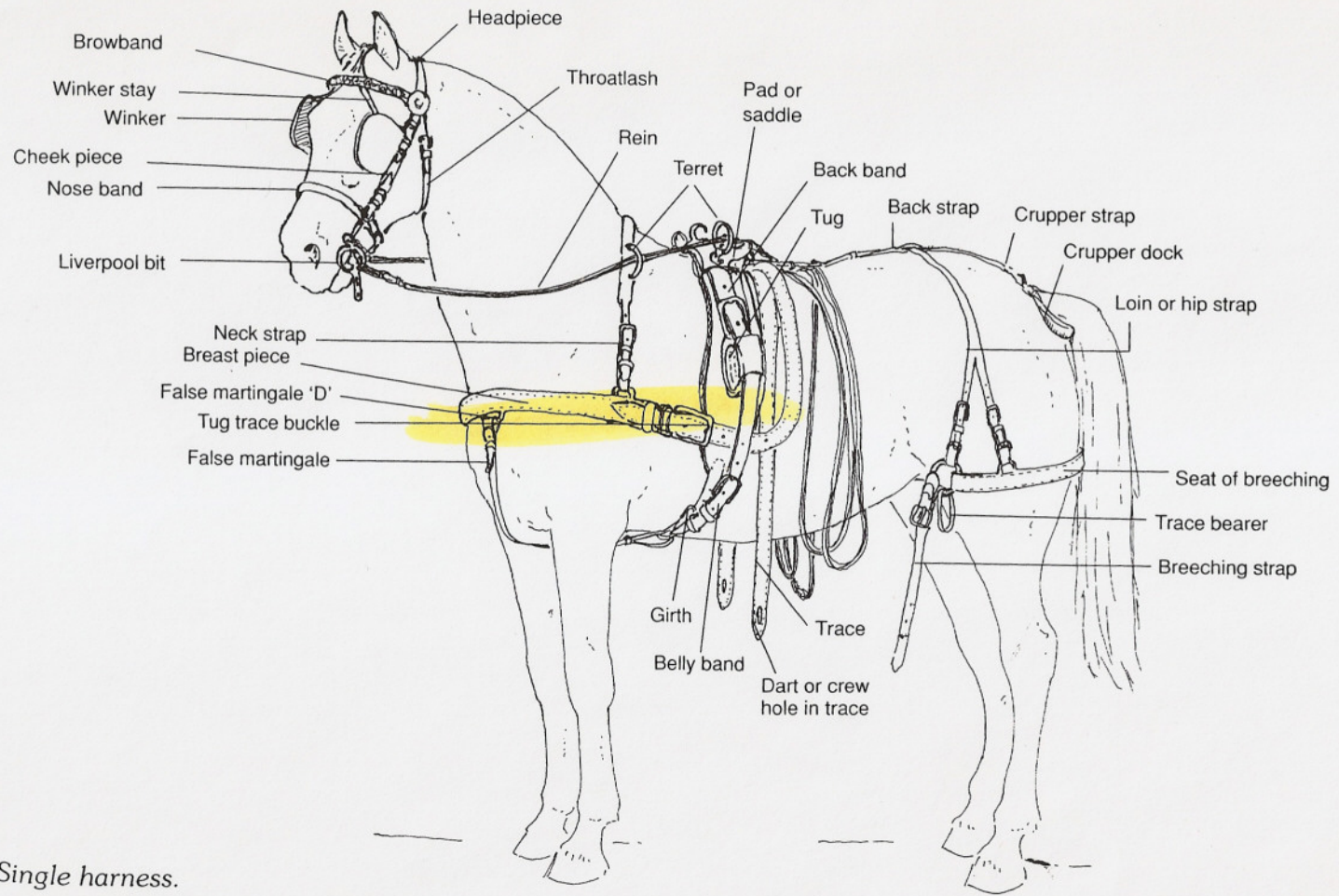
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Types of tug.



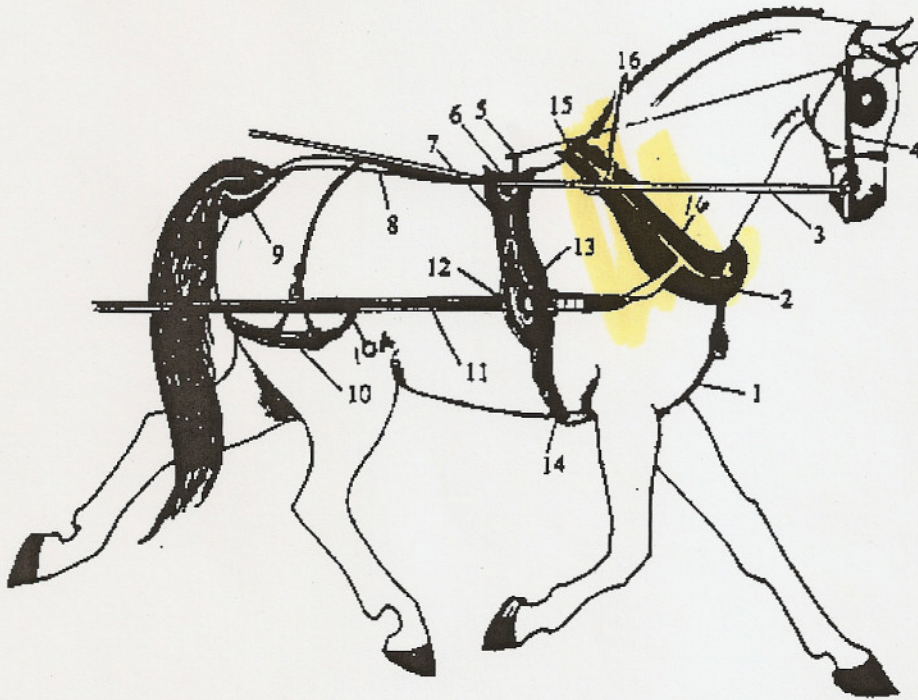


ttom bar of a bit  
sure is transmitted  
over jaw.



Single harness.





- |                     |                      |
|---------------------|----------------------|
| 1. False martingale | 10. Breeching        |
| 2. Neck collar      | 10A. Hold back strap |
| 3. Rein or line     | 11. Trace            |
| 4. Driving bridle   | 12. Tug loop         |
| 5. Overcheck hook   | 13. Bellyband        |
| 6. Rein terret      | 14. Girth            |
| 7. Saddle           | 15. Hamestrap        |
| 8. Crupper strap    | 16. Hames            |
| 9. Crupper          |                      |



Top



# DRIVING

## Introduction

Horses were used to pull loads for thousands of years and back in the Roman days chariots were used by warriors. It was some centuries later (in the 1500s) that they were used to carry people. By the early 1800s the wealthy all owned coaches and many of the traditions of driving date back to this period.

Horse drawn transport declined at the beginning of the 1900s and now the art of carriage driving is kept alive by a few knowledgeable enthusiasts in driving societies. Memberships of these clubs have grown beyond all expectation as the skills of driving are less restrictive than those of riding.

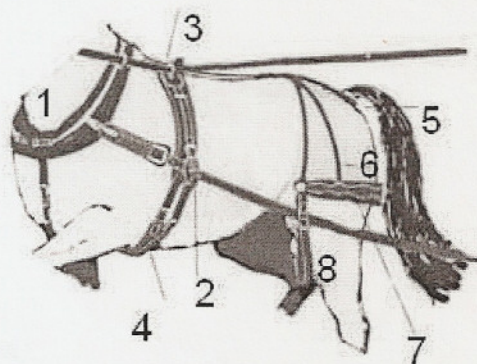
The main parts of the harness are as follows:

**The breastplate** (or collar, 1) bears the weight of pulling the carriage. It has a buckle on each side to which the traces are joined. The traces are then attached to the carriage.

**The backsaddle** (3) takes a small part of the load. It is kept in place by the crupper (a piece of leather that runs under the tail, 5) and a girth (4). Over the saddle is a backband which carries the tugs (loops, 2) through which the shafts pass and is lightly buckled under the horse's belly (2) to prevent the shafts from rising.

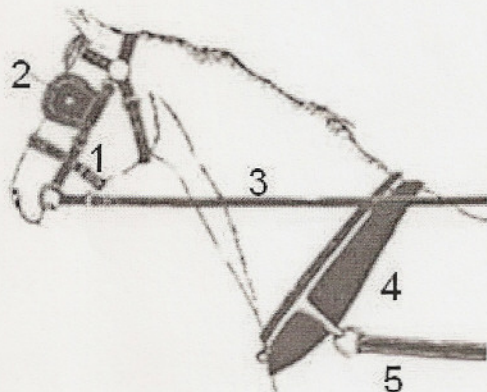
### Parts of Harness

- 1 = Breastplate/ collar
- 2 = Tug in which the shaft rests
- 3 = Saddle
- 4 = Girths
- 5 = Crupper
- 6 = Back strap
- 7 = Breeching
- 8 = Breeching strap



**The breeching** is a thick strap (7) that fits around the back of the horse. It is joined to the shafts by a breeching strap (8) and effectively provides the brakes of the carriage. It must be fitted so that it can take the weight of the vehicle when going downhill without interfering with the horses' quarters.

**The bridle** (1) which is similar to that of a riding horse except it has winkers (2) so that the horse or pony looks straight ahead and is not distracted by what is going on at the rear. Long reins (3) pass through loops on the head collar and 'saddle' to the driver and are used to guide the horse.

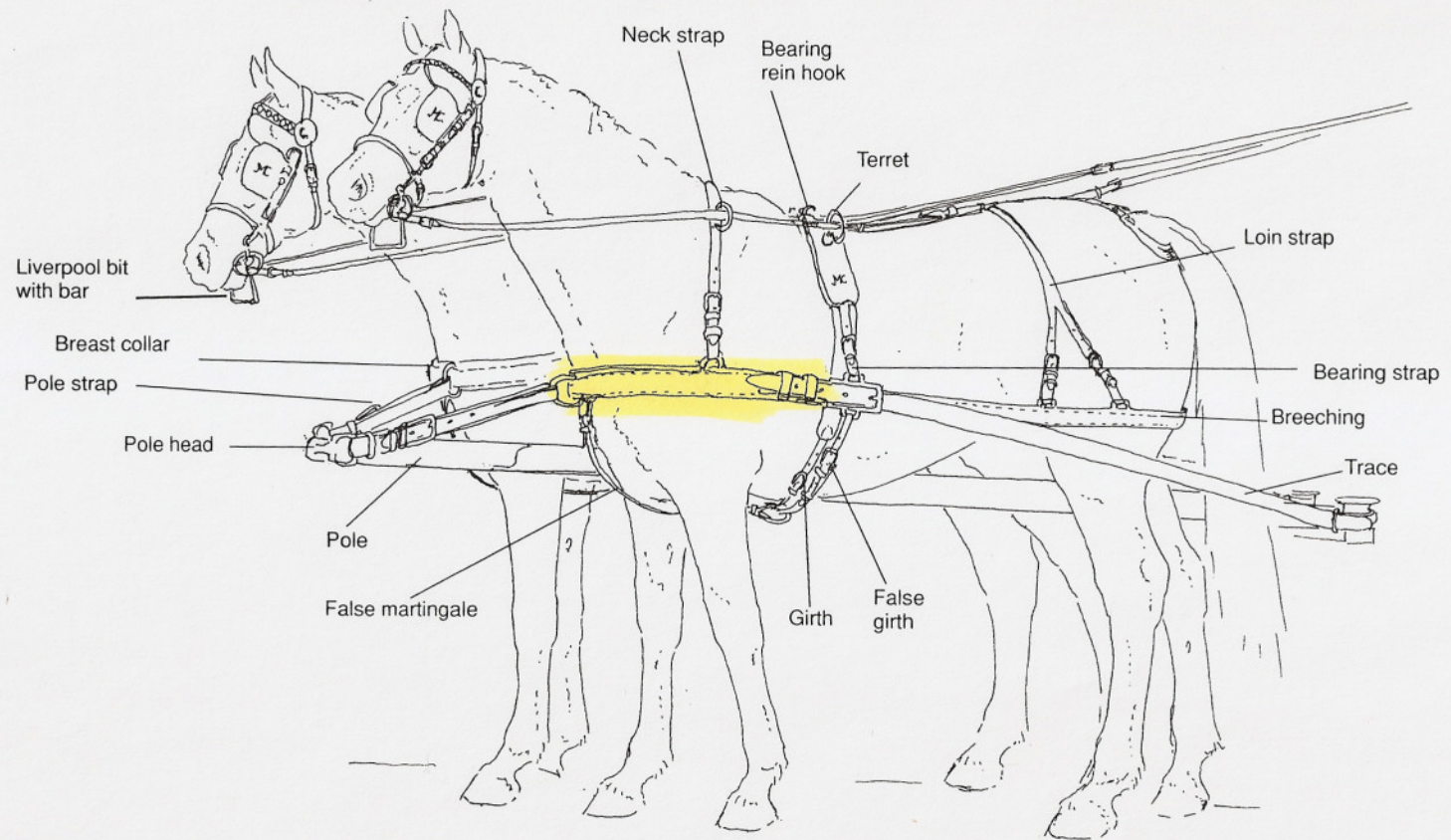


- 1 = Bridle
- 2 = Winker
- 3 = Reins through loop on the
- 4 = Breastplate or collar
- 5 = Trace which joins to the shaft

**The driver** will wear smart clothing for the dressage, with gloves, driving whip and a knee rug. For the cones and marathon phases, both the driver and groom will wear their distinctive colours and a hard helmet.

## The Competition





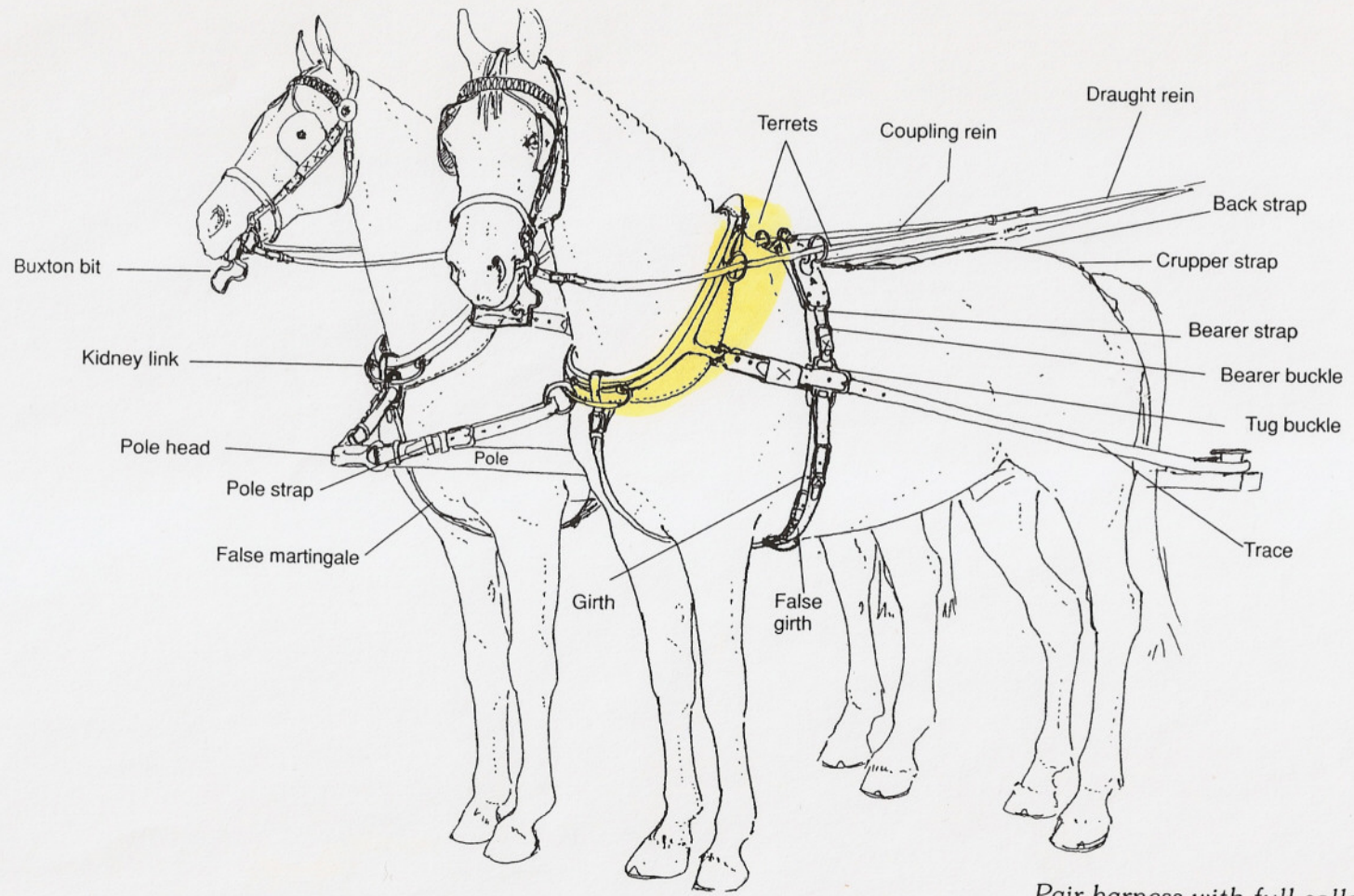
Pair harness with breast collars.



port straps each side which do no more than hold up (if used). Instead of dart the traces have running end to go over the roller the other form of loop. on the breeching fixed to straps fixed to the pole ess by 'D's sewn onto the full collars, to the rings the bottom of the hames links should be fixed to straps or by passing the kidney links. Alternatively, and the throat of the col-

run from the bits to the porter coupling reins are out halfway along the

als, if wearing full collars of their necks on the ps run at an angle from the head, the collar will ck. In seeking to avoid ll soon learn that, by ey can keep the collar the disagreeable habit



*Pair harness with full collars.*



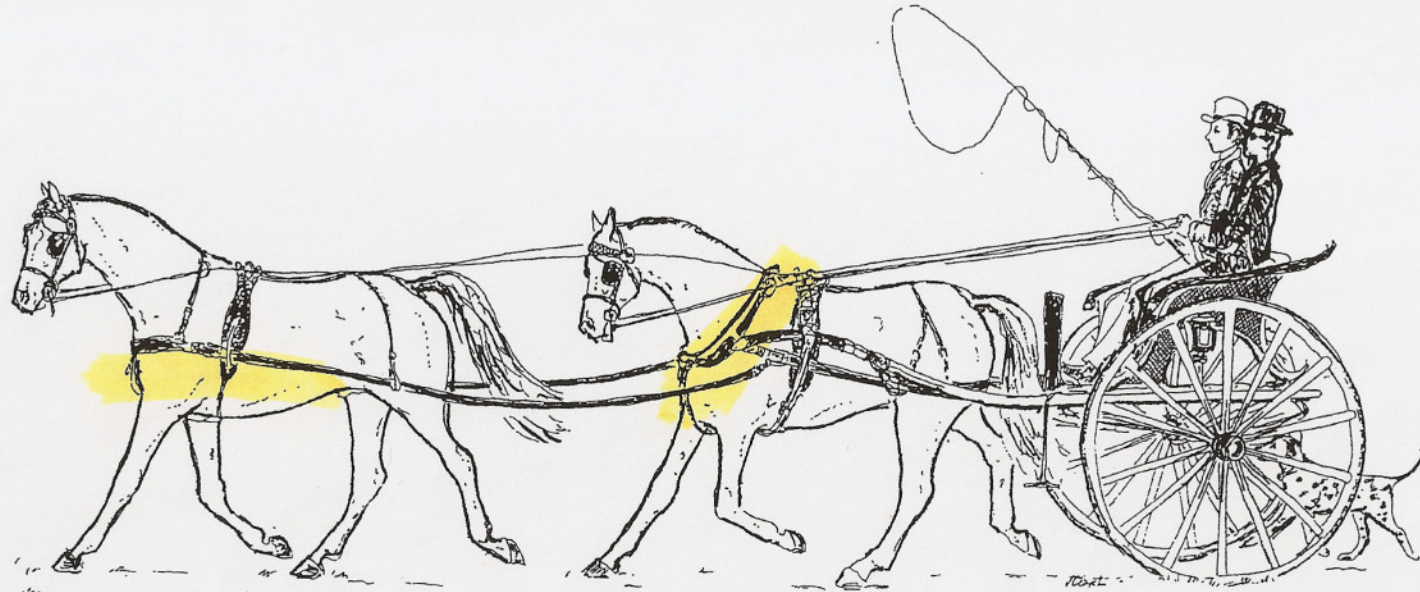
CHAPTER 12

## Driving Tandem

Whereas, in a pair, the two animals are side by side, in tandem driving, they are one behind the other.

Tandem driving has always had a comparatively small following, but those who do drive a tandem are usually very enthusiastic. This is, perhaps, understandable since considerable skill and concentration are required and many people give up tandem driving after a short experience.

There is a certain increased risk in driving a tandem but, if we wanted to avoid difficulties and risk altogether,



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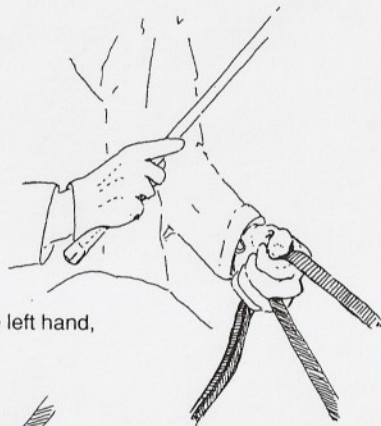
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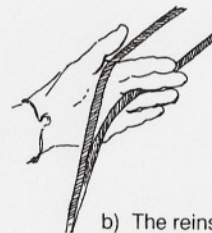
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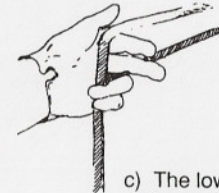
are required to assist in certain steering functions, such as looping in tandem and team work (these techniques are discussed in Driving Tandem, Chapter 12).



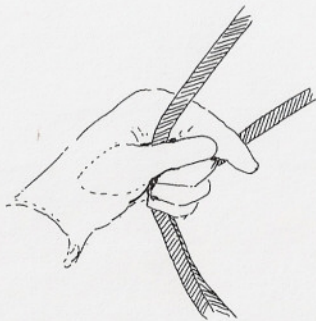
a) Reins held in the left hand, whip in the right



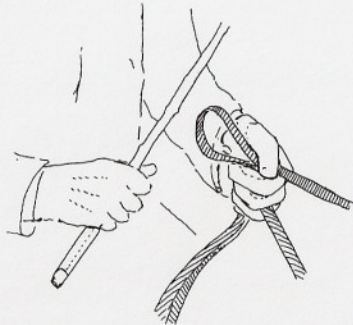
b) The reins are held in the left hand with the nearside rein passing over the index finger and the offside rein passing between the third and fourth fingers



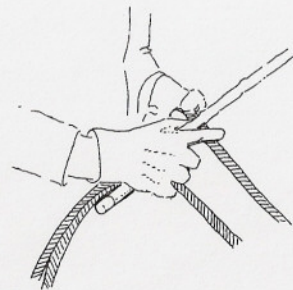
c) The lower fingers curl round the two reins gripping them firmly



d) The thumb is lowered but does not grip the rein because...



e) ... it needs to be free to pinch the rein when taking a loop to turn to the left, or to place the whip under when the right hand has to be empty for making a hand signal – or receiving a rosette!



f) The right hand assisting the left in holding the whip balanced. The middle fingers remain mobile to grasp one or other of the reins (or both) in an emergency stop, or while shortening the reins

### The use of the hands.

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