

Practical Restoration Handbook

**Hand Tools - Use, Care and
Maintenance**

by

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CONTENTS

Introduction

Digging and Loading – Spades and Shovels

- Handles
- Blades
- Technique for Use
- Maintenance

Picks and Mattocks

- Technique for Use
- Safety
- Maintenance

Striking and Levering

Forks, Rakes and Grappling Hooks

Cutting

- Technique for Use of a Slasher
- Safety

Wheelbarrows

Packing and Storing

Acknowledgements

References

Appendix 1 – Handtools Colour Coding

INTRODUCTION

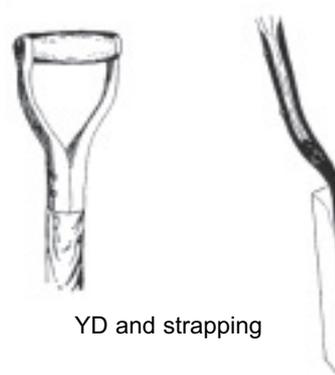
1. Hand tools are the most common and frequently neglected items of kit we come into contact with while on site. If used improperly or when damaged progress will be hampered and injury is likely to occur.
2. This document covers the range of tools available, the specific types most useful while carrying out restoration work, what to purchase, use of and maintenance/storage of hand tools.
3. Whenever working on site, adequate safety clothing must be worn. Stout boots with steel toe caps and a hard hat less than 3 years old are the minimum, with extra items suggested in relation to more specific situations.

DIGGING AND LOADING - SPADES AND SHOVELS

4. There is a wide variety of spades and shovels available. Their size, shape and name is dependent on what county or even what country you are in. The few types required for general work are detailed below, along with the more specialist ones and their application.

Handles

5. Before we look at the working end of a spade the users end must first be considered. There are two common types of handle on wooden shafted spades, the Crutch (or “T”) and the “YD” type. The YD type is more comfortable to hold than the “T” type, and a capped “YD” handle is stronger than the capped metal type. Please see the diagram below.
6. There are two ways of attaching the handle to the blade, using either the socket or strapped method. Of the two, the strapped method is stronger as the handle retains its full diameter to the end, hence no weak points where it could break.
7. The handle and the fasteners should be smooth so the hand can slide unimpeded along the shaft when the tool is in use. The blade should be securely attached to the handle, if loose it is likely your hand will get trapped.
8. It is possible to obtain spades made entirely from metal which makes breaking the shaft very unlikely but once damaged the whole tool is a write off. The handles are also very cold on the hands. Deluxe versions are available with plastic coated shafts which are more comfortable to use. The drawback of this style is that the plastic tends to get damaged down the back of the shaft. This eventually produces a very rough surface which requires the plastic to be removed.

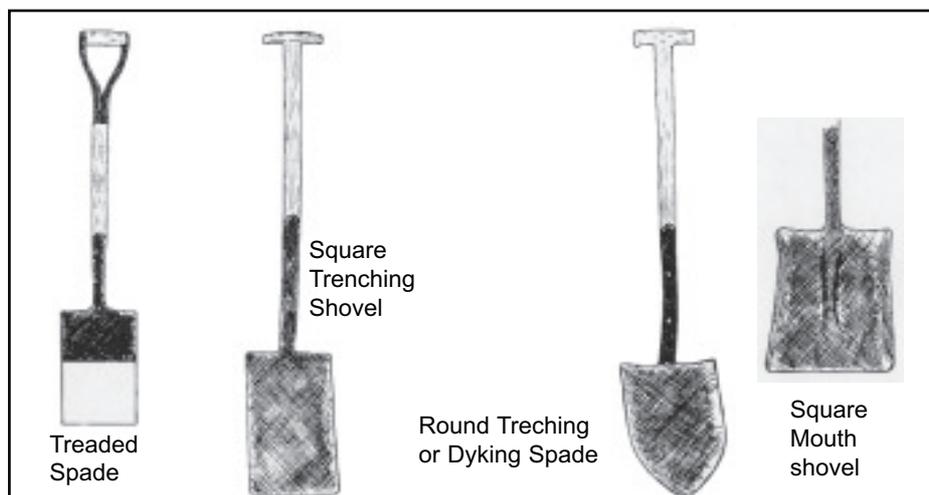


YD and strapping

Blades

9. The most useful general purpose digging tool is the **Treaded Spade**. The treads on top of the blade make it more comfortable to drive into hard ground than the Contractors or plain Garden Spade.

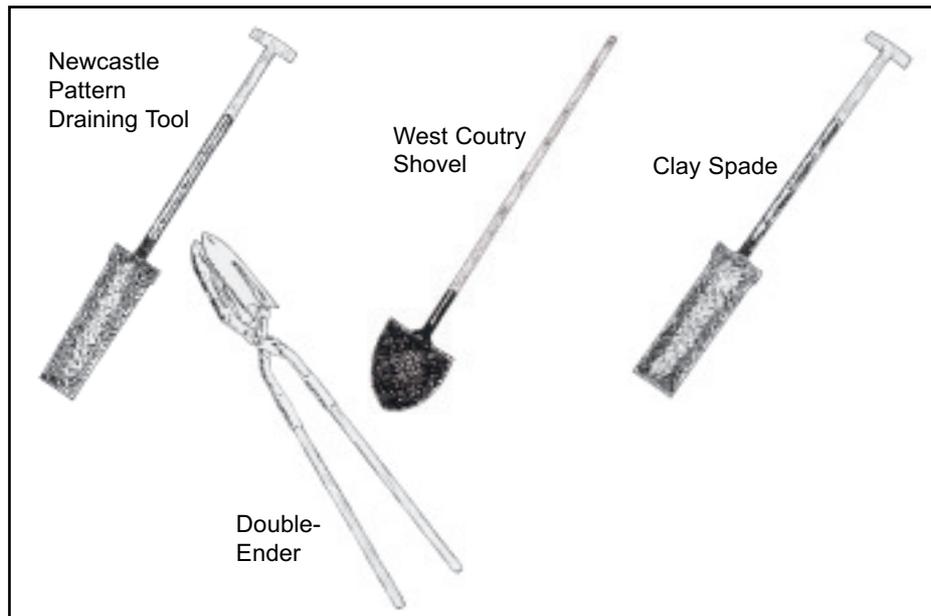
10. For shifting loose soil or gravel and for ditching work the **Square Trenching Shovel** should be used, which is really a halfway house between a spade and a shovel. For rubble and hard packed gravel the **Round Trenching or Dyking Spade** should be used, as it requires less effort to drive into coarse material than a square blade.
11. The final type of general blade is the **Square Mouth Shovel**, which is used to shift large quantities of sand, very loose gravel or earth, silt etc.



12. It is considerably easier to dig clay or wet, clinging soil with a blade made of stainless steel instead of plain steel as the spoil does not stick to the blade. Unfortunately, tools with stainless blades are approximately twice the price of normal ones.
13. For digging drains, post holes or narrow trenches then the **Newcastle Pattern Draining tool** should be used, the “wings” particular to the Newcastle style results in less strain on the foot.
14. The combination/post spade, shoveholer or “**Double - Ender™**” tool makes digging post holes quicker than with a normal spade. The hole should be started with a digging spade and then a Newcastle Pattern used to break up the material in the hole. The shoveholer is used to remove the spoil, but not to dig. If many holes have to be dug it is well worth obtaining one, but bear in mind how long and cumbersome these tools are when it comes to storing and transporting them.
15. Although less common the **Irish and West Country Shovels** should be considered. With characteristic “long knob handles” they save bending while using them. This makes them easier on the back than other types of spade, but limits the amount of material that can be moved per lift because the long handle exerts greater strain on your back. For digging the long and pointed Irish blade is more suitable than the West country’s shorter and wider shovel like blade.
16. When digging clay a **Clay spade** should be used. This has a narrow treaded blade similar to the Newcastle Draining type but with a parallel instead of tapered side to the blade. In use the tool produces a round plug of clay.

Technique for use

17. Stout boots should be worn especially when digging in hard ground. There are boots available with striking plates built into the soles to protect the feet, a very worthwhile consideration if a lot of digging is to be done by hand.



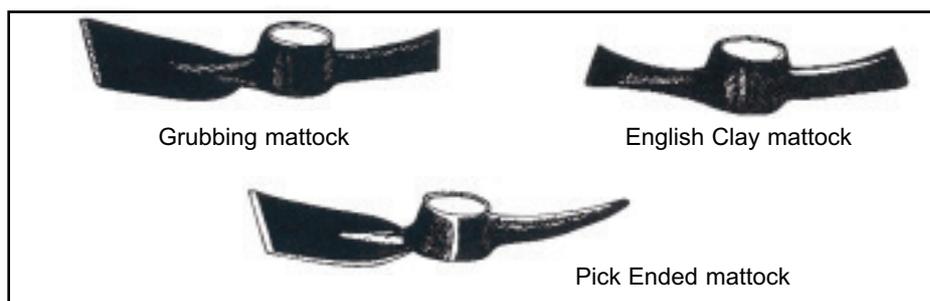
18. To dig with a spade, stand up straight holding the handle with both hands. Using whichever foot suits you, place it on the tread and push the blade into the ground. Cut the soil into square lumps which are as large as possible but still comfortable to move (trial and error). Hold the spade with one hand on the handle and the other halfway down the shaft. Placing the blade behind the lump you have cut, lever and then lift it clear it to wherever the spoil is being deposited.
19. Shovels should be held by the handle with the other hand halfway along the shaft. It is very important a proper stance is used while shovelling, or backache and even injury can result. Ensure you have a sound footing, for example if working on a bank cut a small step for each foot. When loading the shovel do not fill it beyond your ability to lift and control it comfortably. You should position yourself such that the minimum amount of twisting is done while moving the spoil. Turning while holding a heavy load on the end of a shovel is not good for your back. A slip while holding a loaded shovel can easily lead to a sprain and as we often work in wet, slippery conditions be sure of your footing at all times.
20. It is often easier to work as a team, one person breaking the material up while the other shovels it away.

Maintenance

21. Waterway Recovery Group and Kent & East Sussex Canal Restoration Group Logistics keep their tools painted to protect and identify them. However an occasional wipe with some linseed oil will help preserve them especially if they are to be stored for a long time. If the handles are painted they should be regularly inspected as paint can hide splinters, splits etc. Splinters should be sanded out but if a split is found the handle should be replaced. The blade should be free of burrs and straight. If damaged it should be ground but not to a razor sharp edge. If the blade has been bent it should be hammered straight on a flat surface.
22. The blades should be cleaned immediately after use before being put away. This is imperative if the days work has involved any construction work with mortar or concrete.

PICKS AND MATTOCKS

23. Although innocent looking tools, a pick or a mattock can inflict serious personal or third party injury. **It is imperative anyone using a pick or mattock is fully aware of how to use the tool and the potential dangers to both themselves and those around them!**
24. Picks and Mattocks are constructed in a similar fashion with a hickory shaft and a steel head. The type of steel used and the shape of the head distinguishes between the two.
25. Picks have a hardened steel head that gives them the strength to withstand being used to break up hard and stony ground. They can also be used to lever rocks out of the ground (but should not be used as wrecking bars!).
26. Mattock heads are made of much softer steel than a pick head, and so will burr if used on hard ground and bend if used to lever things. The **Grubbing mattock** has a wide flat blade which is used to break up soft ground, while the cutting end is used to cut tree roots. The **English Clay mattock** has a cutting blade at either end, and being slightly longer than the grubbing mattock is very useful for cutting roots when digging out stumps. The **Pick Ended mattock** is purely a digging tool, the lack of cutting edge makes it of little use when working with roots.



Technique for use

27. The art to using a mattock as with any tool you lift is to let gravity do the work for you. Hold the tool with one hand at the end of the shaft and your other hand near the tool head. If using a pick or the cutting end of a mattock lift the tool over your shoulder until the hand at the head end of the shaft is alongside your own head. Bring the tool down in front of you by simply guiding it and letting it fall under gravity. As the tool descends slide your far hand nearest the head along the shaft back towards your other hand. As the tool nears the floor you should bend over with it. **Do not** use your own weight or strength while bringing the tool down, as you will only prematurely tire yourself and possibly damage the tool itself.
28. With practice it becomes possible to place where the blade lands very accurately, especially useful when cutting roots.
29. The flat end of a grubbing mattock is not as strong as a pick or the cutting end of a mattock, and if swung from head height will be damaged. It should instead be used with half swings, holding the shaft with one hand at the end and the other halfway along. This technique should also be used with picks and cutting mattocks if the ground is very stony or a root particularly hard otherwise the tool could bounce back and hit you. If a large lump of stone is encountered it should be dug round to loosen it, and then prized out with a bar instead of trying to smash it with a pick.

Safety

30. Always wear proper safety boots with steel toe caps and good tread. Clothing should be un-restrictive but not so baggy it could get caught. A hard hat should be worn with the headband properly adjusted so it does not fall off when you bend forward. If breaking up masonry of any kind goggles or safety glasses should be worn to protect your eyes from flying splinters.
31. Do not carry the tools over your shoulder but alongside horizontally at the balance point.
32. Before using the tool check the shaft is free of splinters, cracks and is generally in good condition. Check you have the right head for the shaft and that the head is securely on the shaft - see the maintenance of picks and mattocks.
33. The shaft should be clean and dry. It is advisable not to wear gloves, but if soft hands make it a necessity only wear one on the hand that slides along the shaft. The other hand needs to have a firm grip on the end of the shaft to ensure the tool is not inadvertently let go while being swung.
34. Before wildly swinging a pick into the ground check there isn't anything solid just below the surface. Use the half swing technique initially or explore the surface with a bar.
35. If it is either raining or very slippery underfoot do not swing the tool from shoulder height, but again use the half swing technique. Ensure you have a sound footing and do not ever work downhill as it is very easy to lose your balance. Check there are no low branches or other obstructions immediately above you.
36. While working always be aware of who and what is behind you, and ensure everyone round you is aware you are swinging a pick/mattock or are about to do so. Always allow 3 metres between yourself and anyone else in the same area. If working with someone shovelling make sure you let them know only to approach when **you** have given them the signal, and are resting with the tool on the ground. At all other times ensure they keep a few metres back.
37. Never underestimate how stupid the general public can be. Be extra vigilant if working on a towpath and stop if you see anyone approaching. Rest until they have passed before resuming work

Maintenance

38. The heads should be left on the shafts at all times. The one exception to this rule applies to tools made along the army design fitted with a "**Grip-fast**" on the shaft. This is a metal sleeve which means the shaft is protected from damage caused by the head cutting into it.
39. The end of the shaft should sit just proud of the head, not below the edge of the hole or very proud (the sign of a head/shaft mismatch). If you find the head becomes loose while on site try placing the tool with the head under water for 20 minutes. This will make the shaft swell and tighten the head up. Any splinters found on the shaft should be sanded. If a split is found the shaft should be replaced.
40. The cutting end of a grubbing mattock and those of a clay mattock should be kept sharp. The flat blade of a grubbing mattock should be kept clear of burrs and any severe dents/chips ground out. It should not however be sharpened like a cutting edge. It is important picks and cutting mattocks are kept cool while grinding by regularly placing it in water. If the steel is over heated it will lose it's temper and become soft.

STRIKING AND LEVERING

41. For general demolition/construction works a **sledge hammer** is the most useful. For long periods of use a 4.5Kg (10lb) head is comfortable but for stronger people or more demanding jobs sledges with a 6.3Kg (14lb) and even bigger heads are available. A sledge hammer should not be used on wood, i.e. driving in posts because it will split them.
42. To use a sledge follow the instructions for a pick or cutting mattock, but bear in mind it is considerably heavier and is quite capable of breaking a shin should you slip! It is imperative you do not use a sledge heavier than you can manage, not only could you injure your back but you would lack control which could endanger both yourself and others working round you.
43. As with mattocks the sledge shaft should be inspected before use and discarded if split (sledges are prone to shaft damage just before the head). Replacing a shaft is a skilled job. The shaft must be carefully sanded until the head just fits. Once the head is on the shaft with the end flush with the shaft hole, suitably large wedges must be driven in to expand the end of the shaft and hold the head in place.
44. **Lump or club hammers** come in a range of sizes upto 3.2Kg (7lb) but are fitted with very short handles as opposed to the long shaft of a sledge. 1-2kg (2-4¹/₂lb) are most comfortable for extended periods of use.
45. **Scutch** hammers are very useful when cleaning bricks to chip off the old mortar. The flat blade at the end of the head can be replaced if necessary.
46. When fencing a **fencing hammer** or **fencing pliers** should be used. This combination tool has a set of cutters for wire, grips to pull on wire, hammer to drive in staples and spike to lever staples out. A **claw hammer** is a very useful tool when carrying out woodwork jobs. Again available in a range of sizes and typically with synthetic maintenance free shafts.
47. A **Mell** or **Maul** hammer is used to drive **wooden** posts in. A mell is made of cast iron or aluminium with large flared ends. Because they are cast they will shatter if used to strike anything hard. A maul is a very large wooden hammer. With a greater diameter than a mell it is less likely to split a post but being lighter needs to be lifted higher. It is important posts are hit squarely with an experienced assistant holding the post vertical otherwise the post will split. If driving in a tall post find something stable to stand on so you are level with the top.
48. Rubber mallets exist but are not suitable for driving in posts as they have a tendency of bouncing away. They are used to position flags when laying an area with flag stones.
49. A **Drivall™** or “post bonker” is less tiring and safer to use than post hammers. The larger ones are best used between two people. The Drivall should be lifted over the post, raised slightly and dropped. Let gravity do the work for you to save your strength and so not to break the top off the Drivall. It is very important the Drivall is not lifted too high because it can catch the post and jam, or even come off the post completely. This results in you pulling it towards your head. If the post is being driven in close to ground level do not bend over but work on one knee as it gets lower.
50. A **Tamper** is very useful when posting to firm the soil around a post when placing in the ground, and for compacting gravel on towpaths. On site an upturned post or suitable branch can be used if a tamper is not available.

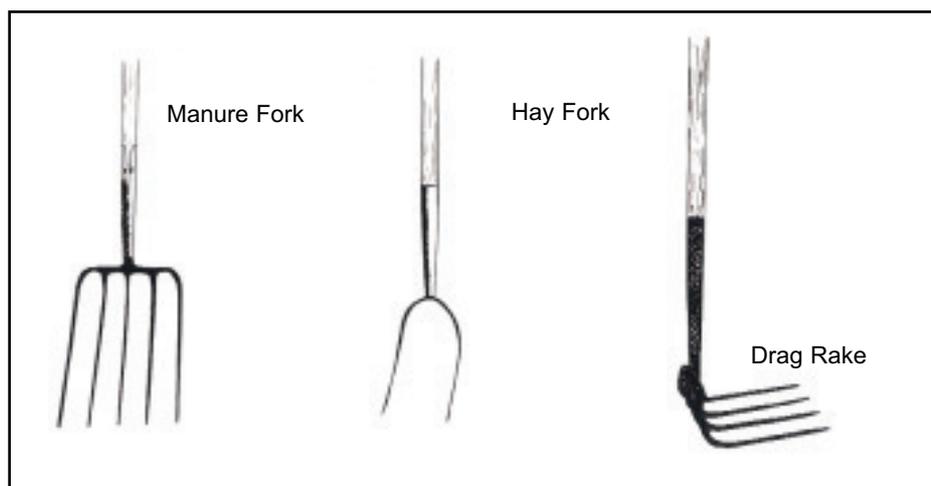


51. **Crowbars and Wrecking Bars** are available in various lengths with either a straight or swan neck. They are used to move or position heavy objects such as coping stones, breaking up old masonry or brickwork, start post holes etc. Wrecking bars have a chisel at one end and a point on the other. The length and diameter depends on application and strength, but a 1.5m (5') or 1.8m (6') by 3.2cm (1¹/₄") is most useful.
52. A crowbar or nailbar is shorter with a swan neck and is more manageable in confined spaces than a straight bar and can be used to remove nails.
53. Never carry a straight bar over your shoulder but vertically with the point near the ground. Straight bars are used to lever heavy objects, start holes for posts etc. They should not have scaffold poles slid over them to obtain more leverage or be used by more than one person as they will bend and be ruined.
54. When placing coping stones you will sometimes find a "V" cut into the top edge. This is so the stone can be levered into place without damaging the dressed edge.
55. Do not hammer a wrecking bar as this will ruin the hardened point. Should the end of a bar become damaged it will require grinding back to the correct shape. It is important the bar is kept cool while grinding by regularly placing it in water. If the steel is over heated the temper of the steel will be lost and then it will become soft.

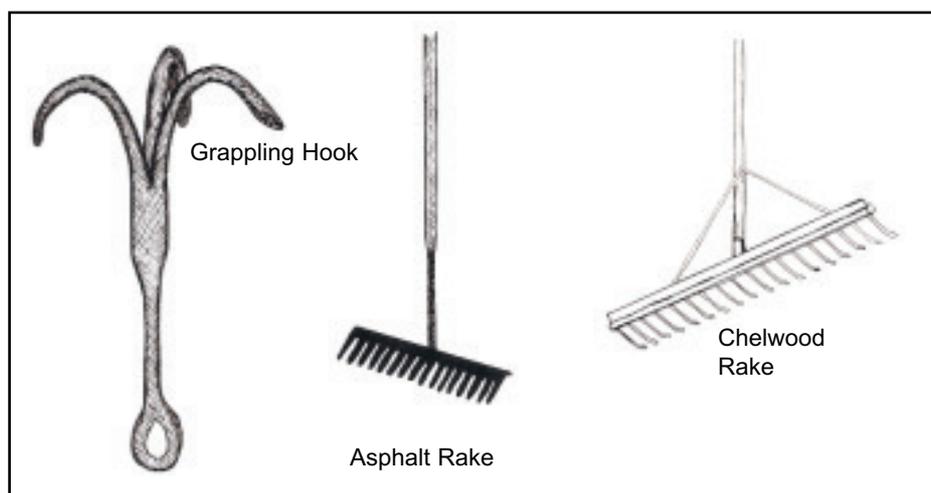
FORKS, RAKES AND GRAPPLING HOOKS

56. The **Digging Fork** is useful for loosening soil when digging. The "YD" style handle is preferable for comfort and preferably constructed with a strapped handle for strength.

57. When scrub clearing the four pronged **Manure Fork** is best for carrying vegetation, while the two pronged **Bale Fork** is ideal while tending a fire (the two pronged hay fork isn't as strong as a bale fork). Be careful not to overheat or burn the handle as this will weaken it.
58. A **Manure Drag** or **Drag Rake** or **Keb** was originally invented to pull manure off an open backed cart and spread it over a field. It readily adapts to restoration duties pulling vegetation/rubbish out the cut, and is ideal when retrieving objects dropped into the cut/locks etc.
59. A **Grappling hook** with a length of rope attached is a most useful tool if felling across the cut for example and the cut is in water. Before throwing the hook ensure the other end of the rope is tied off and the rope is not tangled. With half the rope coiled with the hook, hold the rest of the rope in your other hand. Keep the palm of this hand flat so the rope can pay off as the hook travels away. Finally check there is no-one behind you as the hook is swung and most importantly there is no-one anywhere near where you intend the hook to land.
60. **Garden Rakes** or the more robust and wider **Asphalt Rake** are required when finishing towpath surfaces in gravel, and when landscaping. The **Chelwood Rake** has a flat "bulldozer" type blade on the reverse side of the prongs which is used to move the material as it is spread out. Rakes do not have the strength required to lift material onto a fire and should not be used to do so. Wooden hay rakes do not have the strength for most jobs associated with restoration work.



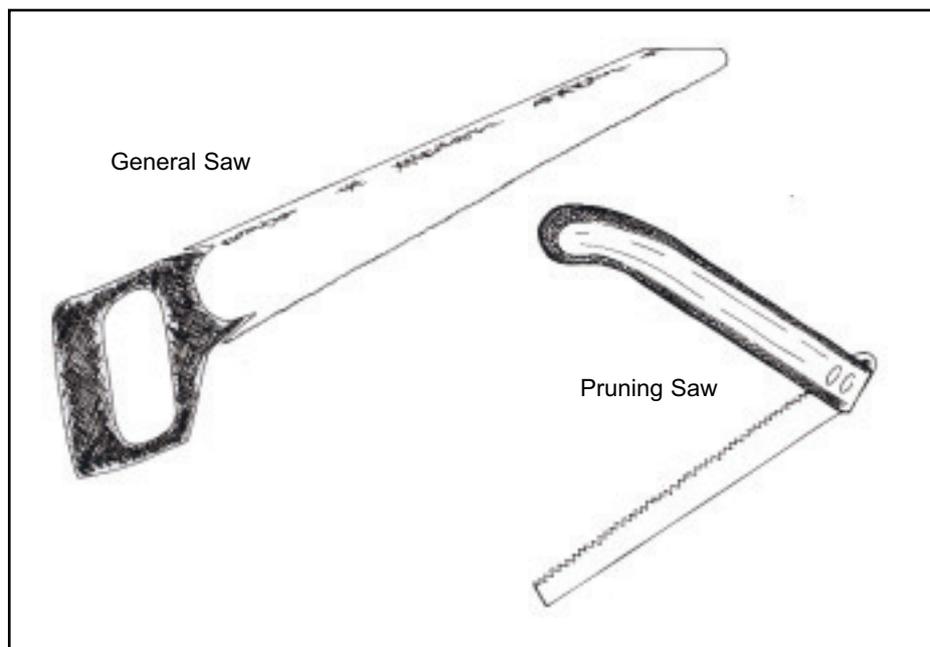
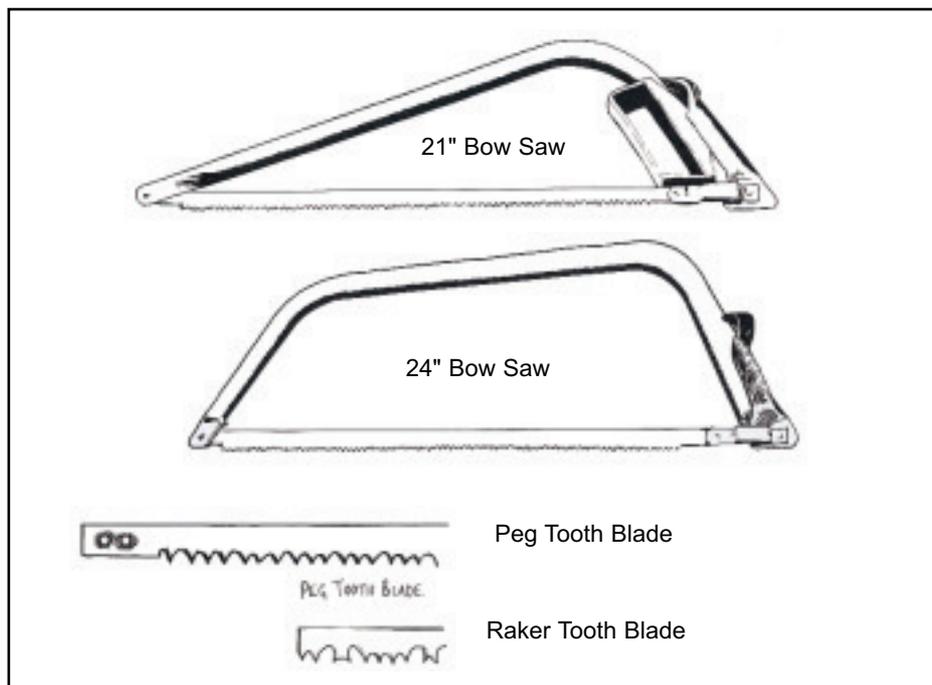
61. Always leave rakes with the prongs in the ground when not in use. This will avoid the classic comedy scene where someone stands on the prongs and is hit in the face by the handle.



CUTTING

62. The most common type of saw used on site is the **Bow Saw**. They are made of spring steel and have a quick release blade retention system. They are available in a range of sizes as follows; 30cm (12"), 53cm (21"), 61cm (24"), 76cm (30") and 91.5cm (36").
63. The 30cm saw is a little small for tree work unless working in a very cramped situation, but it will accept 30cm hacksaw blades which saves carrying a separate hacksaw. The 53cm saw has a triangular shape which allows it to be used in confined spaces but with the ability to cut up to 13cm (5") diameter. The 61cm saw is the smallest of the 'D' shaped types. It is the most universal, being comfortable to use and able to cut up to 23cm (9") diameters. The 76cm saw is more suited to logging while the 91.5cm saw is best used by two people.
64. Bow saws can be fitted with two types of wood cutting blades, peg or raker tooth. Peg toothed blades (Sandvik type 51) are suited to dry or hard woods, i.e. thorn. They will jam if used to cut wet or green wood. The Raker toothed blade (Sandvik type 23) is designed specifically for cutting wet and green wood. It creates a far wider cut meaning the blade does not jam so easily. Bow saw blades cut in either direction, but hacksaw blades do not. They are marked with an arrow which should be fitted with the arrow pointing to the end of the saw. The blade cuts as you push the saw away from you.
65. The saw should be used with slow full length strokes as opposed to short rapid strokes concentrated on the centre of the blade. If using the 91.5cm saw between two people, they should be at either end pulling on alternate strokes. As blades wear out the teeth lose their set (the amount they are offset from the blade) and they stretch. This makes them very tiring to use as the blade will jam easily and makes it very difficult to cut in a straight line. A blade in this condition should be discarded.
66. Used blades should not be left lying around but wrapped up and disposed of properly, preferably at a local council dump. To change a blade the saw should be held vertically with the blade against the ground. The handle should be folded down which allows the blade to be released from the handle. At the end of the saw the blade is fastened with a rivet which should be pushed through the frame to allow the blade to be removed. Fit the new blade into the end of the saw ensuring the rivet is located in both sides of the frame. Locate the blade into the handle and fold the handle back up until firmly against the frame. The handle can snap back and so should be taken with the saw held against the ground.
67. Saws come with protective covers when new which should be safeguarded while the saw is being used. They should be replaced when the saw is finished with as they prolong the life of the blade and make it considerably safer handling the saw. When walking with a bow saw it should be carried over the shoulder with the blade behind you.
68. **Pruning saws** are very useful when removing smaller branches from trees. They are available either as folding or fixed types designed to be attached to a pole. The folding type is useful when snedding trees (the removal of branches off trees that have been felled before they are logged). The fixed type are used when brashing trees (removing branches higher up on a tree to be left). Fixed types are available with a hook on the end of the blade to stop it slipping out of the cut. Both types only cut on the pull stroke (the blade is not rigid enough to allow cutting on the push cut).
69. The **General Purpose Saw** is a very useful addition to any tool kit. Although primarily a wood saw it can also cut metal and plastics. The handle can be adjusted relative to the blade making it ideal for awkward locations.

70. **Masonry saws** are available which can be used on softer stone. Their coarse teeth makes them very distinctive compared to other saws.



71. **Bill hooks** and **Slashers** are available in a variety of shapes. The **Southern Counties/Devon Billhook** is the most ideal for clearing and snedding work. It is light enough to be used with one hand without strain. The **Irish** is the best type of slasher for general work. The double edged types should be avoided as they are heavy, require practice to use and are very dangerous in unskilled hands.
72. Before using either tool check the handle for splinters or cracks. Splinters should be sanded out and if split the handle should be discarded. The blade should be firmly attached to the handle and it must be sharp!

Technique for use of a slasher

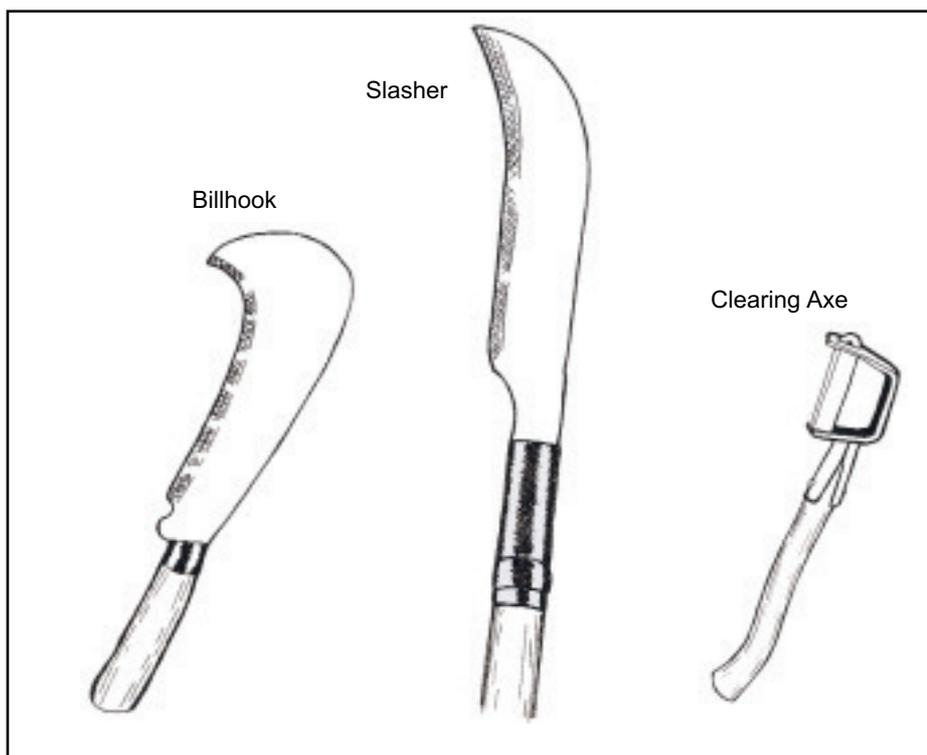
73. It is imperative anyone using a slasher is fully aware of how to use the tool and the potential dangers to both themselves and those around them!
74. For clearance of scrub the slasher should be held with one hand on the heel and the other halfway along the shaft. The slasher should be swung through a wide arc bringing the hand along the shaft to meet the one at the heel towards the end of the swing. The cutting relies on the momentum of the swing rather than energy from the user. Both hands should be kept on the shaft at all times, do not end the swing hanging on to the end of the shaft with one hand. This is dangerous as the tool is not under control.
75. Conserve energy by using regular swings as clearing is heavy work. If started swinging wildly you will quickly tire. This could lead to pulled muscles or injury through the slasher not being under control.

Safety

76. Gloves should not be worn when using a slasher as it reduces the grip on the handle. Goggles or safety glasses should be worn to protect your eyes from wood chips or thorns/branches. Ensure you are **AT LEAST** 5m (16') away from anyone working in the same area. Equally, do not work on your own in case you have an accident. Stop work if you begin to feel tired.
77. Do not use a slasher down hill, and do not work if it is raining heavily or is slippery underfoot. Slashers should be carried beside you at an angle with the blade pointing down in front of you.
78. It is very important the blade is kept sharp as it is tiring to use when blunt and can bounce off the wood rather than cutting it, potentially causing an injury.

Sharpening

79. On site the blade should be touched up regularly using either a **Cigar Stone** or preferably a **Canoe Stone**. The canoe stone is finer than a cigar stone which leaves a sharper edge to the blade required for cutting woody vegetation.
80. **Sharpening a blade requires concentration and skill.** If disturbed stop until your full concentration can again be applied.
81. To sharpen the blade you should kneel holding the slasher firmly with the blade downwards. One hand is used to hold the handle while the other holds the stone. Wear a glove on the hand holding the stone. The stone should be wetted, and then used to grind the edge of the blade in small circular movements. It is very important the stone is held at the same angle as when the blade was last sharpened. Once the length of the blade has been ground the slasher should be turned over and the exercise repeated. If the blade is ground with too sharp an angle it will quickly blunt, but if you try and grind the blade at too fine an angle you will find it impossible to sharpen with a stone.
82. If the blade is damaged it will need grinding on a bench mounted grinding machine. This should only be attempted if experienced with the use of such a power tool.
83. A **Clearing Axe** is designed purely for snedding trees. It has a replaceable blade and so does not require sharpening skills and is a lot safer to use than a billhook.
84. I suggest machettes are not kept in a common kit as they are dangerous tools. They need to be looked after and used with great care. They must be kept very sharp to be effective.



85. **Lopping Shears** can be used for cutting scrub and small branches up to 4cm (1"). They are available with either Bypass (Parrot nosed) or Anvil Blades. The bypass pattern is more effective on green wood. Loppers are often ruined by being used to cut material thicker than they were designed for. If they will not cut through the branch in one cut without a large amount of effort an alternative tool should be used, i.e. a bowsaw, billhook or clearing axe.
86. A **Hatchet** is a light one-handed axe with a wide body but narrow shouldered head. It can be used while snedding, hedging and for putting points on the end of fence posts for example. A **Wedge axe** is heavier and designed to cut soft woods. With a thick blade it forces the wood apart as it is cut and is useful for splitting logs. Axes are dangerous tools, great care must be taken while they are in use. It is strongly advised you do not use felling axes as they require great expertise to use - not only how to swing the axe but training in how to bring a tree down.
87. Axes should be inspected before use, any damage to the handle repaired if possible or the handle should be discarded. It is very important the axe head is firmly attached to the handle. The blade should be kept sharp, a special two sided axe stone with a rough and smooth side is available to sharpen axes. The advice for sharpening slashers should be followed using the rough side first if the edge has been damaged, finishing it off with the fine side.
88. When on construction sites **Bolt Croppers** are useful tools for cutting steel bar. They are available in a number of sizes and have replaceable jaws. They should be used by only one person at a time, and not subjected to excessive effort as they are designed to yield rather than break. The tool should not be rocked from side to side while being used to cut as the jaws will break.
89. Larger croppers have bolts around the pivot to adjust the gap between the jaws when fully shut. These will need to be adjusted periodically as the croppers wear with use, and set if new jaws are fitted. Once the adjustment bolts have been set do not forget to tighten the lock nuts.



WHEELBARROWS

90. There is a variety of wheelbarrow styles available. For restoration work I suggest the “contractors” type is used as opposed to the common garden type. The contractors barrow is stronger and, with the hopper further forward over the wheel, is easier to support when heavily laden. The long and shallow front to the hopper helps when tipping wet sand, concrete etc. as the load doesn’t stick. It is always worth carrying a foot pump and a puncture repair kit because pushing a barrow through mud, laden with a flat tyre is very hard work.

PACKING AND STORING

91. As mentioned in the text previously, tools should always be cleaned before being put away. If to be put away in damp conditions blades should be lightly smeared with oil to stop them rusting, and if wooden handles are not painted they should be given a wipe over with some linseed oil to help preserve them.
92. Ensure wherever your tools are to be stored is kept secure. Items like wrecking bars and sledge hammers are very useful for breaking into houses - worth bearing in mind if tools are to be kept in a garden shed for example.
93. Not only does painting the tools help protect them it also identifies them as each group has their own colour scheme. Please see the Appendix 1 for details of who uses what.
94. Waterway Recovery Group and the Kent & East Sussex Canal Restoration Group keep their tools in trailers. Although the trailers are very different to each other, they require careful packing to get all the tools in securely. If using either kit please make careful note of how they were loaded before anything is taken out. Each piece of tool or piece of equipment should be checked off against the kit list (the WRG kit is individually numbered) before being issued.

95. If any equipment is damaged while on site it should be marked with a note stating it should not be used, and put back in the trailer. A note explaining what has happened to it should be placed beside the entry for that particular item on the kit list.
96. Tools should not be transported in vans when carrying passengers unless in some kind of box, crate etc. which should be secured down.

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REFERENCES

Caldwells tool catalogue

The Michael Richmond tools catalogue

APPENDIX 1 – HANDTOOLS COLOUR CODING

Base Colour only	
Red	WRG
Yellow	WRG North West
Light Blue	Huddersfield Canal Society
Split Base	
Red and White	WRG London
Red and Yellow	IWPS (Bugsworth Basin)
Red and Blue	WRG Camps Kit A
Red and Yellow	WRG Camps Kit B
Red and Purple	WRG Camps Kit C
Red and Black	WRG Camps Kit F
Red and Green	WRG Camps Kit R(eserve)
Red and Grey	WRG Camps Brick Kit 1
Red and Orange	WRG Camps Brick Kit 2
Red and Green	WRG Montgomery Project
Red and Silver	Chris Spencer
Stripes only	
2 Yellow sripes	Alan Jervis
2 Red stripes	Dave Wedd
1 Blue and 1 Yellow	Wilts and Berks CAG
1 Blue/1 White/1 Green	Chris Davey
1 Burgundy/1 Grey	Peter Smith
1 Light Green/1 Maroon	Wilts and Berks Canal Co
1 Light Green/1 Purple	Rachel Banyard
Base plus	
Green with fluorescent yellow band	KESCRG
White plus Black band	Hereford and Glos
White base, Yellow patch plus three Red stripes	John Palmer
White plus 1 Red 1 Blue stripe	WRG BITM
White plus Blue stripe	Luke Walker
Patch only	
Gold letters "Di"	Di Smurthwaite
Orange	Wey and Arun
Orange letters "SB"	Sue Burchett
Blue patch plus Yellow spot	Bob Dewey
Pink	WRG NE
Green patch/Purple patch	Alan Thorpe
Patch plus	
Yellow patch plus Black cross	Chelmsford IWA