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IMPORTANT INFORMATION

In order to use this book effectively, follow these simple procedures: first, remove from the center of the book the pattern of the weapon that you wish to construct. Note: Be very careful not to rip the pattern. Study the diagrams and the photographs of the desired weapon in order to gain a general concept of the weapon. Secondly, read the section on constructing the weapon once or twice. Next, using the book as a guide, gather the necessary materials and tools and find a suitable construction area. Finally, following the step-by-step instructions and the explicit diagrams, construct the actual weapon. It may be useful to use a photocopier to enlarge the diagrams to actual size for use as patterns. Otherwise, these can be made out of paper or cardboard according to the dimensions of the diagrams. If you wish to construct a weapon more than once, be sure not to use the actual patterns that come with the book, always use a photocopier. Remember, use these designs as a guide. They need not be followed exactly, but the basic concept of the weapon and its function must be kept in mind. It does not matter, for example, if blades are a little longer, shorter, narrower, or wider, but they should be thick enough to have the strength needed to function properly. Above all else, a weapon must be reliable.
Today, due to the demand for Ninja weaponry, various commercial manufacturers have offered Ninjutsu weapons and devices to the general public. Some of these weapons are overpriced and of poor quality. Many people who desire to practice the Art of the Silent Way cannot afford to purchase the equipment that they need. A problem of equal concern to practitioners of Ninjutsu involves the limiting, controlling, or complete prohibiting of the sale or ownership of Ninja weapons. In the U.S. and Canada, for example, a number of areas have banned the sale or ownership of "Martial Arts Weapons" through legislation. At this time, there is a bill going through the American Congress which will ban all such weapons on a national scale. In Japan and other nations, such bans already exist.

But the Koga Ninja have faced such obstacles to the Way before. In feudal Japan, much like today, most Ninja could not afford to purchase expensive weapons as the more affluent Samurai did. In fact, if anyone outside of the warrior classes was caught with a weapon of any kind, he could be punished with death. But without weapons, the Ninja would be more vulnerable and at a disadvantage. To surmount such odds against them and to protect themselves and maintain their way of life, the Ninja were left with only one choice. In their efforts to survive and become self-sufficient, the Ninja became skilled in making their own weapons—inexpensive, but effective weapons—from whatever materials were available. The Ninja needed weapons that worked, weapons that were cheap and easy to make, and weapons that were disposable if need be.

The last point cannot be stressed enough. Often weapons and equipment had to be hidden in areas where the Ninja were active, including around their homes. House to house searches were frequent, especially during times of occupation or civil war. Weapons and equipment had to be disposable, especially when Ninja had to swim, run, or climb, and could not be weighted down. They had to be prepared to throw a weapon away, if need be, in order to succeed in their mission or escape. It was dangerous to become attached to material things. Concern for losing a weapon might cause one to hesitate, and that moment of hesitation might cost the Ninja his or her life. Effectiveness of being a Ninja is not dependent on any one weapon, but in being able to succeed with any available. Not being dependent on any weapon, he could bury or throw away without hesitation. But how many today can afford to deal with their expensive commercial equipment in the true manner of the Ninja? Solution is to make their own weapons at a fraction of the commercial prices, out of the readily available materials. In fact, the metal works to the advantage of the Ninja. By using materials are available, and most people have access to the necessary tools.

Today's Ninja can find most of the material to make the weapons in this book in any hardware store. What most people call scrap metal has potential in the hands of a skilled person. An untrained mind may only see rusty junk, whereas the Ninja has the vision to see the making of a future arsenal. Many scrap metals of today are far superior to the poor, inferior grades of metal and alloys once available in small supply many years ago. If one searches local salvage yards, they may even decrease more.

The weapon designs presented in this book are simple and inexpensive to make. They are a result of hundreds of years of Ninja research and experience. Most of these weapons are so simple in concept that the diagrams are almost explanatory. Once a Ninja becomes skilled in making them, he or she will realize just how simple it is. It may very well turn out that these weapons are of even higher quality and utility than those commercially available. There are many important lessons to be gained from this knowledge. This is the Art of the Silent Way.
SECTION I: NINJA-TO CONSTRUCTION

List 1.1: Construction Steps

1. Fashion blade.
2. Fashion handle and handle pegs.
3. Fashion handguard and spacers.
4. Attach handguard and spacers with glue.
5. Attach handle with glue.
6. Clamp or tape the handle together temporarily.
7. Drill holes in handle and glue in pegs (removing clamps or tape afterwards).
8. Sharpen blade.
9. Paint to camouflage (optional).
10. Wrap handle with 1/8" nylon cord (optional).

The Ninja-To was the premier weapon of the Koga Ninja. No Ninja would be without one. Follow the above steps to make a basic model. (See Photo 1.1 for a picture of a finished Ninja-To.) Try to commit the procedure to memory. Many of the concepts and principles described in this first section will also be applied to the manufacture of the other weapons in the other sections as well.

Step 1: Fashion blade.

Acquire a suitable piece of metal to work with (see Appendix A: Metallurgy). One that most closely matches the dimensions of the design will save both time and effort. See Diagram 1.0 for the basic design. The standard thickness of the blade is 1/4". If 1/4" material is not available, metal of reasonable thickness can be substituted. A sword blade should at least be 3/16" thick; any thinner and the blade will be too flimsy, and beyond 1/2" the metal becomes difficult to work by hand.

Put the blade stock into a bench vice and shape the blade dimensions with a hacksaw. Saw off the unwanted portions at the tip of the blade and around the handle. DO NOT SHARPEN THE BLADE AT THIS TIME, AS IT WILL THEN BE DANGEROUS TO WORK WITH AS THE SWORD IS CONSTRUCTED. In fact, file down any burrs or rough edges, especially around the handle. Tape the blade and the point as an added safety precaution.

This first step is not always easy. Doing the work by hand will require patience and effort, but it will decrease the cost of production considerably. Do not use a power grinder to shape a blade. Doing so will often make the metal brittle, ruining whatever temper it has. Always use the finest metal available, and do not worry if it is rusty at first. The metal can always be cleaned up later.

Step 2: Fashion handle and handle pegs.

Fashion the handle halves out of either wood or plastic and into whatever shape and thickness of handle is desired. Shape the handle to fit the hands of the user. Use 1/4" dowel rods for the handle pegs (see Diagram 1.0).

Step 3: Fashion the handguard and spacers.

Cut the square handguard out of metal with a hacksaw. Use a drill and a file to cut out the sword slot. Drill consecutive holes next to one another that match the thickness and width of the blade. Overlap them somewhat. Using a rat-tail file, file out the excess spurs of metal so that the handle will fit into the slot. The handguard should stop against the blade. Use a razor knife to cut the spacers out of leather. Leather or leather scraps can be found at most craft shops. If leather is not available, vinyl can be substituted.
Step 4: Attach handguard and spacers.

Begin assembling the sword by lining up the spacers and their slots on either side of the handguard. Slide the spacer-handguard-spacer over the handle until they stop against the blade. The fit should be snug, and the blade should be centered in the handguard. Use epoxy glue to give added strength to the handguard-to-handle.

Step 5: Attach handle with glue.

Attach one-half of the handle at a time. Glue the handle together for added strength. If the handle turns out to be loose in certain places, fill these areas with epoxy to form a secure fit. Wood putty or auto-body filler will also work well.

Finish any further shaping of the handle and the handguard, eliminating any sharp edges and forming the handle to fit the hands of the user.

Step 6: Clamp or tape the handle together temporarily.

To keep the handle from coming apart while drilling the holes for the handle pegs, temporarily clamp the handle together with two hose clamps or else tape the handle together in two places for additional strength.

Step 7: Drill handle holes and glue in pegs (removing clamps or tape afterwards).

Using a 1/4" drill bit and a drill, make the handle holes. Be sure that the handle holes are clean and unobstructed, or the pegs might not fit. Glue the 1/4" pegs into place in the handle and file off any excess peg or glue. Do not glue the clamps or the tape to the handle, and remove clamps or tape only after the glue holding the pegs in is dry.

Step 8: Sharpen blade.

Sharpen the blade with a mill bastard file to shape the point and edges of the blade equally from both sides. Put a finishing edge on the sword with an oiled sharpening stone (see Appendix C: Sharpening). Do not grind the blade unless one has the skill to do so without hurting the metal.

Step 9: Paint sword to camouflage (optional).

Paint all of the sword as desired. Possible colors could be white, black, green, grey, brown, or a camouflage pattern of a variety of colors. Use flat colors instead of shiny enamels. In this way, a Ninja can make a variety of swords, camouflaged for any condition. Do not forget to sharpen the paint off the edge and the point. For best results, clean off any rust from the blade before painting, and use rust preventative paint. Auto body primers are normally flat, rust inhibitive and inexpensive.

Step 10. Wrap handle with 1/8" nylon cord (optional).

Wrap the handle with 1/8" nylon cord in order to make it easier to grip. Cover the cord with a coat of glue if necessary. Nylon cord is better than cotton cord because nylon will not rot. Do not use brightly colored cord.

Refer back to Section I for similar procedures for other weapons. See Diagrams 1.1 and 1.2 for a more advanced design of the Ninja-To. See Appendixes A (Metallurgy), B (Heat Treating), and C (Sharpening) for additional information. Photo 1.2 shows a Ninja wielding a finished Ninja-To.
Ninja-To Sword—longer, advanced design with 2 piece scabbard
SECTION II: NINJA TANTO CONSTRUCTION

List 2.1: Construction Steps

1. Fashion blade.
2. Fashion handle and pegs.
3. Fashion handguard and spacers (optional).
4. Attach handguard and spacers with glue (optional).
5. Attach handle with glue.
6. Clamp or tape handle together temporarily.
7. Drill handle holes and glue in pegs (removing clamps or tape afterwards).
8. Sharpen blade.
9. Paint to camouflage (optional).
10. Wrap handle with cord (optional).

The Ninja Tanto, or dagger, was probably the most common weapon in the Ninja arsenal. It can be made without a handguard, as in the basic design (Diagram 2.0) or with a handguard as in the advanced design (Diagram 2.1). Use the basic design first. The construction of the tanto is very much like that of the Ninja-To. Follow the same procedures as outlined in Section I. See Photo 2.1 for a completed Ninja Tanto.

Remember that the tanto was designed to penetrate armor. Sharpen the blade and the point as carefully as one would a sword (see Appendix C: Sharpening).
NOT TO SCALE

3.0" SQUARE TSUBA

2 LEATHER SPACERS
2.5" IN DIA.

2 PIECE WOODEN HANDLE
1/4" DOWEL HOLES

DRILL 1/4" DIA. 2 PLACES

LEATHER PATCH (TO HOLD BLADE)

SHAPE TO BLADE
DIMENSIONS

INSIDE

2 PIECE 6" WOODEN SCABBARD

OUTSIDE

NINJA TANTO, ASSAULT DAGGER PATTERN 2.1
SECTION III: SCABBARD MAKING

List 3.1: Construction Steps

1. Cut scabbard pieces to fit the dimensions of the blade (sword, dagger, etc.).
2. Drill the belt loop holes in the bottom piece.
3. Glue the side pieces securely to the bottom piece, making sure that the blade will slide in and out.
4. Insert the belt loop (made out of 1/8" nylon cord). Tie the knot on the outside of the scabbard in the back. Make the loop as large as is needed (see Diagram 3-A for further explanation).
5. Glue the top piece of the scabbard on.
6. Glue the endpiece on.
7. Tape the scabbard for extra strength (optional).
8. Paint to camouflage (optional).
9. Insert blade weapon and check for proper fit.

Construct scabbards out of 1/8" plexiglass, or if that is not available, use 1/4" wood. In an emergency, a temporary scabbard can even be fashioned from cardboard or rolled up newspaper and tape, but obviously such a scabbard will not last long. The basic design for a standard Ninja Tanto scabbard is presented in Diagram 3.0. Lengthen the basic scabbard design for a sword; the design will be the same, but the scabbard pieces will be longer to fit the sword blade. Do not use too thick a cord to make the belt loop with, or the sword will not fit in the scabbard. Do not glue the sword to the scabbard, but be sure that the sword fits. The more advanced design, the two-piece scabbard, is shown along with the advanced sword and dagger designs, and is more difficult to make. Work with the basic designs first, as they require no carving. Scabbards are shown along with the Ninja-To (Photo 1.1) and the Ninja Tanto (Photo 2.1).
SECTION IV:
NINJA YARI CONSTRUCTION

List 4.1: Construction Steps

1. Fashion blade.
2. Saw out the notch for the blade in the spearhaft.
3. Fit and glue the blade into the notch.
4. Attach the hose-clamps as shown; tighten them until the blade is firmly held (optional).
5. Drill the holes through the spearhaft and the spear blade in order to hold the spear pegs.
6. Fashion spear pegs.
7. Glue the spear pegs in.
8. Sharpen the spearpoint and blade.
9. Paint to camouflage.

The Ninja Yari (spear) was primarily a thrusting weapon. See Diagram 4.1 for more advanced polearm designs. The basic yari is even more simple to make than a sword or dagger. The only problem is usually cutting the slot in the center of the spearhaft. The hose clamps are necessary to keep the spear slot from splitting and to strengthen the weapon. The spearhaft itself is usually a standard 5' long, but it can be of any length from 5'-20' long. A finished Ninja Yari is shown in Photo 4.1. A Ninja with a yari is shown in Photo 4.2.
NINJA WEAPON PATTERN
Use a 5'-20' chain or rope to connect the shoge to a metal ring, a fighting weight, or even a grappling hook.

NINJA SHOGE
DRILL 1/4" DIA. 3 PLACES

(2) WOODEN HANDLES

SECURE HANDLES TO BLADE WITH TWO 1/4" x 1 1/4" WOODEN DOWELS

H O G E  7.0
THE BLADE IS ATTACHED TO THE HANDLE WITH WOODEN PINS AND RING CLAMPS.

NINJA KUSARI GAMA
(SICKLE & CHAIN) 6.0

DRILL 3/4" DIA. 2 PLACES

USE A SCREW-EYE TO CONNECT A 10'-30' CHAIN OR ROPE TO A FIGHTING WEIGHT OR GRAPPLING HOOK.
ATTACH HAFT TO BLADE WITH TWO GEAR CLAMPS AND TWO 1/4" x 1 3/8" WOODEN DOWELS

2 GEAR CLAMPS

NINJAYARI: FIGHTING SPEAR
SPEAR (BASIC PATTERN)

BLADE

HAFT (END VIEW)
LENGTH CAN VARY FROM 8' TO 12'

SPEAR BLADE SLOT

PEG HOLES

DRILL 1/4" DIA. HOLES 2 PLACES

SPEAR HAFT - SIDE VIEW

GEAR CLAMPS
SECURE HANDLES TO BLADE WITH TWO 1/4" x 1 1/4" WOODEN DOWELS

NINJA T.
DRILL 1/4" DIA. 2 PLACES

(2) WOODEN HANDLES

ANTO 2.0
DIAGRAM NO. 1: NIN.

3" SQ., 1/8" THICK LEATHER SPACER (NEED TWO)

4" SQ., 1/4" THICK METAL HANDGUARD

SAND FOR A TIGHT
A-TO CONSTRUCTION
NINJA KUSARI FUNDO 5.0

- Weight on each end of chain or rope
- (Dimensions unnecessary)
- Cloth sack
- Sand, pebbles, rock(s), etc.
- Tie rope to sack, and sack to rope.
A length of chain or rope with two weighted ends to swing and strike with, the Kusari Fundo, sometimes called a Manrikigusari, is the simplest of all weapons to make. Traditionally it is made out of chain and metal end weights, but as illustrated in Diagram 5.0, a version of the weapon can even be made from two cloth bags (doubled socks work just as well), a length of rope, wire, or strong cord, and rocks, beans, or even sand for the end weights. Deceptively simple, the Kusari Fundo is one of the most deadly weapons in the Ninja arsenal. A length of chain or rope with a weighted end or hook is often used with other weapons as well, such as the shoge and the Kusari Gama. See Photo 5.1 for a picture of a finished Kusari Fundo, and Photo 5.2 to see a Ninja using a Kusari Fundo.

List 5.1: Construction Steps

1. Cut desired length of chain (or rope), usually 3' long.
2. Fashion end weights out of metal strips (standard size: 1/4" x 1 x 3). Optional: drill holes in the metal weights to lighten them somewhat and for better gripping (fill doubled socks or cloth bags with heavy items).
3. Attach an end weight to each end of the chain with swivels, master links, or even wire or cord (or attach end weights to each end of the rope by tying the rope to the bag, and the bag to the rope).
4. Paint to camouflage (optional).
SECTION VI:
NINJA KUSARI GAMA CONSTRUCTION

List 6.1: Construction Steps

1. Fashion blade.
2. Fashion handle and cut blade slot.
3. Insert blade into blade slot of handle.
4. Attach ring clamps as shown in Diagram 6.0.
5. Drill peg holes through handle and blade.
6. Attach pegs and secure with glue.
7. Fashion rope or chain and end device.
8. Attach the other end of the 5' rope or chain to the end of the handle with an eyelet (glue in).
10. Paint to camouflage (optional).

The Kusari Gama is a unique, chain and sickle weapon. The basic pattern has a straight blade (Diagram 6.0). Other more advanced designs are shown in Diagram 6.1. Blade-to-handle construction and various end weight and hook designs are shown in Diagram 6.2. A finished Kusari Gama is shown in Photo 6.1. A Ninja is shown in a fighting stance with the Kusari Gama in Photo 6.2.
SECTION VII: 
NINJA SHOGE CONSTRUCTION

List 6.1: Constructions Steps

1. Fashion blade.
2. Fashion handle and pegs.
3. Attach handle with glue.
4. Clamp or tape handle temporarily.
5. Drill handle holes and glue in pegs (removing clamps or tape afterwards).
6. Cut chain or rope to desired length.
7. Fashion and attach end device to one end of chain or rope.
8. Attach the other end of the chain or rope to the end of the shoge handle (see Diagram 7.0)
10. Wrap handle with cord (optional).
11. Paint to camouflage (optional).

The shoge is a special kind of knife attached to a length of rope or chain with a weighted or hooked end (see Diagram 7.0). The construction procedure follows some of the simple guidelines of both a knife and a Kusari Fundo. The only difficulty will be in shaping the blade. Use a hacksaw to cut off most of the excess metal, and file off the rest until the blade is shaped. If a ringed endweight is desired, cut it out of metal, make it out of heavy wire or cable, or find one ready made, such as a large washer. Photos 7.1 and 7.2 show a finished Ninja Shoge.
MOUTHPIECE MADE OF BUILT UP TAPE

TUBE CAN BE OF ANY LENGTH

METAL DART RETAINER

3" WIRE DART HEATED ON ONE END AND MELTED INTO A PLASTIC BEAD

ROLLED PAPER STRIP OR TAPE WITH PIN OR SMALL NAIL INSERTED

FILL WITH CHEMICAL PASTE

PLUGGED METAL TUBE, CUT OFF AT A SHARP ANGLE LIKE AN INJECTION NEEDLE

GROOVES TO HOLD CHEMICALS

SHARPENED WOODEN SPIKE

NINJA FUKIYA: BLOWGUN & DARTS 8.0
SECTION VIII:
NINJA BLOWGUN AND DART CONSTRUCTION

List 8.1: Construction Steps:

1. Cut 3/8" blowgun tube to desired length (standard lengths for Ninja blowguns are 18" and 2').
2. Install wire dart-retaining guard to mouth piece with tape.
3. Fashion mouth piece out of built up waterproof electrical tape, making it big enough to fit the user's mouth.
4. Paint to camouflage (optional).
5. Fashion darts of the proper diameter.

The Ninja use blowguns often, and at times they administer chemicals or poisons with them. Fukiya are so simple to make that a Ninja will want to make many of them in various sizes and colors (see Diagram 8.0). Plastic or metal tubing make the best blowguns. The standard diameter of tubing is normally 3/8", but blowgun tubes slightly larger or smaller will work as well with matching darts. Longer blowguns will shoot farther and more accurately. The blowgun darts must be slightly smaller than the inside diameter of the blowgun. If a dart becomes stuck, ram it out with a dowel rod, which can also double as a cleaning rod. Tie a length of cord at both ends of the blowgun to act as a sling. Darts should be carried in a safe pouch (see Photo 8.1). The dart retaining wire will keep the user from inhaling a dart accidentally. A finished Ninja blowgun and some darts are shown in Photo 8.1. Photo 8.2 shows a Ninja using a blowgun.
SECTION IX:
TETSU-BISHI CONSTRUCTION

List 9.1: Construction Steps

Type A
1. Cut designs out of sheet metal or old cans.
2. Paint to camouflage (optional).
3. Sharpen points and edges if needed.
4. Attach pieces together by their slots.

Type B
1. Fashion balls or cubes of available materials.
2. Insert sharp spikes.

Tetsu-bishi, known to the western world as caltrops, are simple but effective weapons if they are used correctly. Type A caltrops can even be used against vehicles to flatten tires (see Photo 9.1), although in that case they should be at least 1/4" thick. Cut them out of sheet metal with a hacksaw. Normally they are carried separately to save space, and assembled only when needed, but they can be glued, wired, soldered, or welded together permanently if that is desired. They can be of any size. One of the more advantageous sides of the Type A design is that they can be used as shuriken as well.

The Type B caltrop is not as durable, but it is easier to produce Tetsu-bishi of any size, and in great numbers. Small balls of hard putty or autobody filler are formed first. Then while they are still semisoft, sharp spikes made out of needles, or headless nails or pins or even wire are jammed into them. Wire or bolt cutters can be used to snip the heads off nails and pins. Sharpen the points on a file if necessary. Work fast, because most of the mentioned compounds dry quickly. Have everything else ready first. Dry the caltrops by sitting them up on small pegs or tubes. In that way, the spikes will not be moved out of place. No matter how a caltrop falls, one or more points should stick up.

In a pinch, other substances can be used as Tetsu-bishi. Broken glass or marbles can be scattered over an area. Most people instinctively hesitate before walking across broken glass, and marbles will impede sure footing on smooth surfaces. To carry caltrops silently and safely, keep them in a box, padded and mixed up with straw, grass, or strips of paper or cloth. A variety of Tetsu-bishi are shown in Photo 9.2. A Ninja is shown assembling a four point Type A Tetsu-bishi in Photos 9.3 and 9.4.
SHURIKEN TETSU-BISHI; CONNECT TWO OF THEM TOGETHER BY THEIR SLOTS. THESE WILL STOP ANIMALS OR VEHICLES.

BALLS OR CUBES OF HARD PUTTY, BODY FILLER, OR RUBBER WITH SPIKES OF NEEDLES, WIRE, OR SMALL NAILS SHOVED INTO THEM.

MARBLES OR BALL BEARINGS TO TRIP UP PEOPLE AND ANIMALS, ESPECIALLY ON SMOOTH SURFACES.

NINJA TETSU-BISHI: CALTROPS 9.0
 SECTION X:
NINJA SHURIKEN CONSTRUCTION

List 10.1: Construction Steps

Type A

1. Cut star designs out of 3/16” sheet metal with a hacksaw.
2. Drill center holes.
3. Sharpen points and edges if needed.
4. Paint to camouflage.

Type B

1. Cut the heads off nails that are at least 6” long.
2. Sharpen one or both ends.
3. Paint to camouflage.

Shuriken are Ninja throwing weapons. Type A is a throwing star (constructed in a manner similar to the Type A Testu-bishi), and Type B is a throwing spike (see Diagram 10.0).

To make Type A throwing stars, use a hacksaw to cut them out of 3/16” sheet metal. Make Type B throwing spikes by cutting the heads off nails which are six inches long or longer and by sharpening one or both ends. Photo 10.1 shows completed shuriken, and Photo 10.2 shows a Ninja prepared to throw a shuriken.
SECTION XI:
NINJA NUNCHAKU CONSTRUCTION

List 11.1: Construction Steps

1. Cut Nunchaku handles to desired length (12" or 14") out of 1¼" diameter wooden dowel rod. Harder woods make better weapons.
2. Insert and glue in 1/2" eyelets into an end of each handle.
3. Attach the handles with a 4" length of chain (or use nylon cord if chain is not available, using enough cord to tie secure knots).
4. Paint to camouflage.

The Nunchaku primarily consists of two rods joined together by a short length of cord or chain (see Diagram 11.0). Some people feel that longer handles (14") make Nunchaku easier to manipulate, but standard Nunchaku have 12" long handles. Handles are 1¼" in diameter normally, but 1" handles will work well also. The eyelet should be glued into the handle to keep it from being pulled out. If cord is used in place of chain, use enough cord to tie the cord onto the eyelets with secure knots. Excess cord can be cut off. With extended use, cord will wear out faster than chain. Photo 11.1 shows a finished pair of Nunchaku, and Photo 11.2 shows a Ninja using the Nunchaku.
NINJA NUNCHAKU 11.0
APPENDIX A: TYPES OF METALS USED FOR WEAPONS: METALLURGY

Carbon Steels (tool steels)

Low carbon steels: .02-.30% carbon content.
Medium carbon steels: .30-.60% carbon content.
High carbon steels: .60-1.7% carbon content.

Carbon steels are plain, harder steels, normally used commercially. The higher the carbon content, the harder the steel (and also the more difficult it is to cut and work with). Carbon content also determines how the metal will be affected by heat treating.

Alloy Steels

Chrome Vanadium Steel
Characteristics: superb hardness, strength, workability, and resistance to corrosion.

Stainless Steel (chromium or nickel chromium steels)

1. 440C stainless steel
2. 154CM stainless steel
These are two of the finest.
Characteristics: hardness and a superb ability to resist corrosion, heat, salts and acids.

Molybdenum Steel

Characteristics: increased strength and resistance to heat.

Tungsten Steel

Characteristics: superb hardness, even at high temperatures.

This book is primarily designed to allow anyone to construct inexpensive and functional weapons from any available materials. These weapons are meant to be disposable. Others, however, may wish to construct finer weapons out of better materials. The first concern, therefore, is the type of metal used in making the weapon.

Metallurgy is a complex area of knowledge, but a number of brief suggestions shall be given concerning more desirable construction materials. This information is not comprehensive, but it will give the weapons maker an initial point of reference from which to start. In an oversimplified view, quality metals for weapons are either of two kinds: carbon or alloy steels.

The quality of an alloy steel depends upon the alloy content. Further discussion of this metal, however, can become very technical and complex. For a semitechnical and more comprehensive discussion of metallurgy, consult your local library. Any of the carbon or alloy steels mentioned above will work well.
APPENDIX B:
HEAT TREATING

There are three types of heat treating: 1) Hardening, Annealing, 3) Tempering. The first two procedures are highly technical and require extremely expensive equipment. Realistically, only tempering can be performed by an individual with simple tools.

Tempering hardens a blade and makes it less brittle. It can be performed with a propane torch. In a safe area, heat the blade to one of three colors: brown, purple, or blue (ONLY IF IT IS CARBON STEEL). Then quench the metal in cool water. If, when heated, the steel turns dark blue or black, the metal has been heated too much. The metal must be cooled and the process must be repeated. This procedure will not work for alloy steels, however, and for all intents and purposes, alloy steels should not be tempered by nonexperts.

Safety is a major concern when tempering metal. Do not use a propane torch if you are not skilled in using one. Do not use a torch around combustible materials. Most importantly, extremely hot metals can cause very severe burns if they come into contact with human skin even momentarily. Hold the metal securely in vise grips or a vise. Never touch the metal directly. Wear eye protection.

APPENDIX C:
SHARPENING BLADES

Most of the weapons in this book can be given a fine edge with a mill bastard file. Swords and knives, however, will need to be as sharp as possible. Shape the edges at first by putting the blades in a bench vise and using a mill bastard file. Then, using an oilstone, finish the edge at a 20 degree angle, using the same number of strokes on each side of the blade. For a knife, try to shave off an imaginary layer of stone, using the entire edge with each stroke of the knife. The armor piercing point must be sharpened separately.

Possibly, for a sword, and especially if the oilstone is small, it is better to run the stone along the blade. In either case, one should be careful not to cut oneself. There are also numerous sharpening devices commercially available, such as two crossed ceramic sticks, which will put a fine edge on a blade of any length. A blade can be considered sharp enough when it will cut smoothly through a single sheet of newspaper. All blades should be sharpened periodically. For best results when sharpening, keep a thin film of oil on the blade edge.
Always keep in mind the Ninja concept of *all weapons and no weapons*. In order to truly be the master of your destiny, you must master all weapons and yet be dependent on no weapon. Thus the true Ninja becomes a living weapon: unbeatable. Once you have learned this lesson, you are close to the mastery of the Silent Way.

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