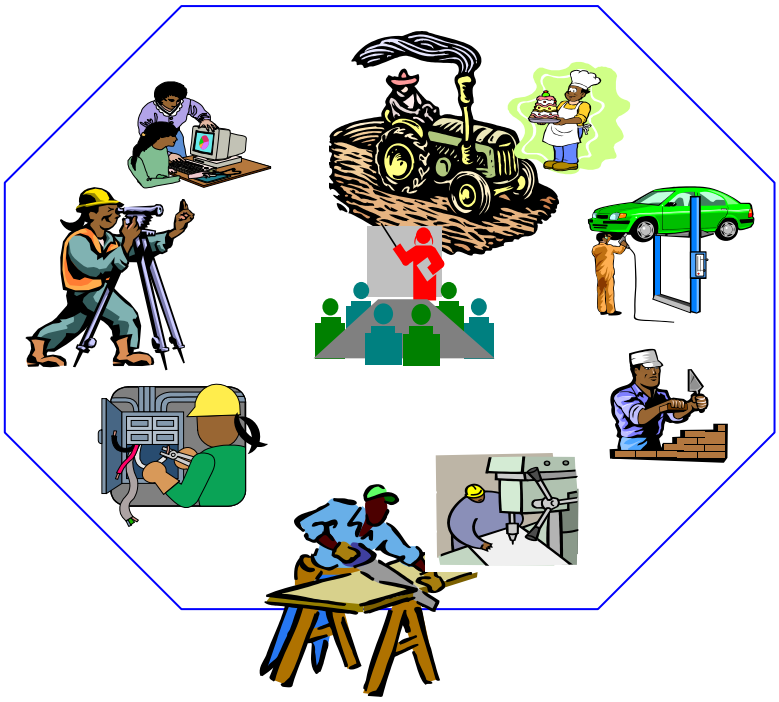
Basic Footwear Production Level I

Based on Nov, 2019, V5 OS and Feb, 2020 V1 Curriculum



Module Title:- Cut material by hand

LG Code: IND BFP1 MO7 LO(1-7) LG(30-36)

TTLM Code: IND BFP1 TTLM 1220v1

December 2020

Contents

LG #30	LO#1- Identify, prepare and use hand tools, materials and equipment

instruction sheet

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:

- **Identifying materials, hand tools and equipment**
- **Checking tools are checked for**
- **Cleaning, checking, maintaining and storing serviceability and safety**
- **Clearing work area**
- **hand tools and equipment**

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:

- **Identify materials, hand tools and equipment**
- **Check tools are checked for serviceability and safety**
- **Clean work area**
- **Clean, check, maintain and stort hand tools and equipment**
- **hand tools and equipment**

Learning Instructions:

1. **Read the specific objectives of this Learning Guide.**
2. **Follow the instructions described below.**
3. **Read the information written in the "Information Sheets". Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them.**
4. **Accomplish the "Self-checks" which are placed following all information sheets.**
5. **Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (You are to get the key answer only after you finished answering the Self-checks).**
6. **If you earned a satisfactory evaluation proceed to "Operation sheets**
7. **Perform "the Learning activity performance test" which is placed following "Operation sheets" ,**
8. **If your performance is satisfactory proceed to the next learning guide,**
9. **If your performance is unsatisfactory, see your trainer for further instructions or go back to "Operation sheets".**

Information Sheet 1- Identifying materials, hand tools and equipment

1,1 A Tool is an item or implement used for a specific purpose. A tool can be a physical

object such as mechanical tools including saws and hammers

1,2 A hand tool is a device for performing work on a material or a physical system using

only hands. The hand tools can be manually used employing force, or electrically powered, using electrical current. Virtually every type of tool can be a hand tool and many have also been adapted as power tools, which get their motive power from motors or engines rather than from human mechanical action.

1,3 Equipment is defined as a set of tools, devices, kit, etc., assembled for a specific purpose.

The difference between hand tool and equipment is usually that hand-tools usually refer to manual tools. Equipment is usually referring to anything that is powered by either

1,4 Tools Used For Hand Cutting

Following Tools are required for hand cutting:

(v) Cutting handle with blade.

(vi) Tin pattern

(vii) Cutting board --- this is mostly made of tin sheet. Sometimes

people use

glass boards also to cut glazed kid.

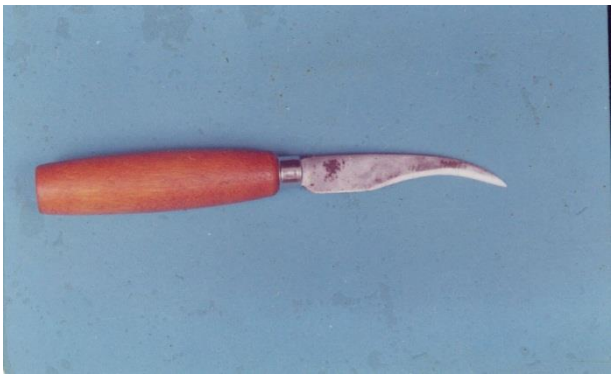
(viii) Sharpening stone: - used

1,5 TYPES OF KNIVES

Various types of knives are used for cutting. These are listed below:

One-piece Knife

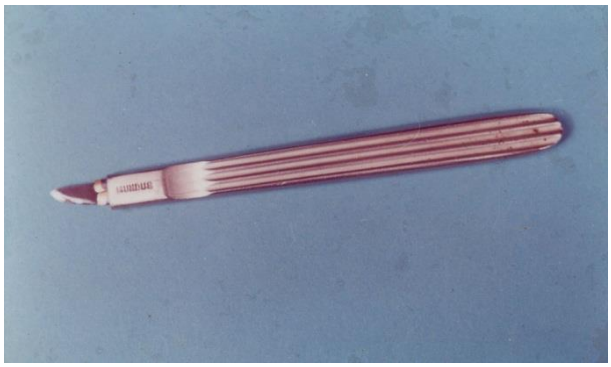
Commonly this is called a Hyde cutting knife with a solid non-detachable blade.



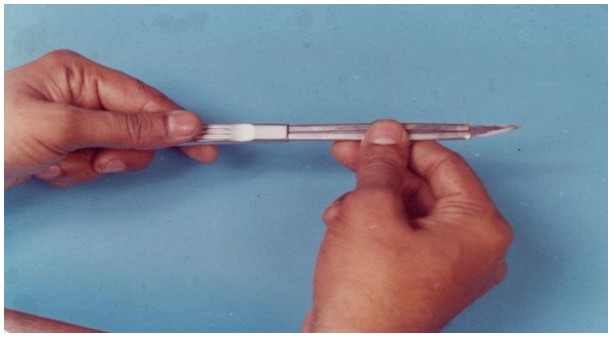
The extra length of the blade makes this an excellent knife for cutting synthetic rolls into various lengths.

Scalpel

This knife is used extensively by pattern cutters and European clickers.



The jaws are placed into the handle.

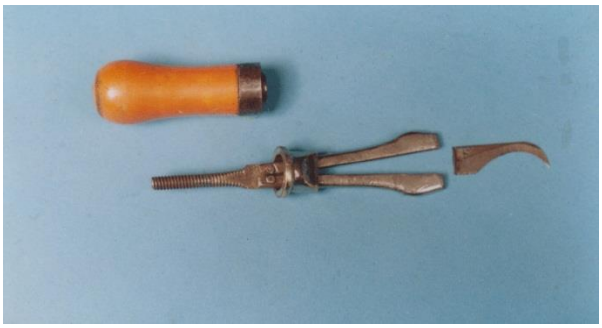


Hand Cutting Knife

This knife is very common, used throughout India. It consists of following parts :

Detachable handle

It is made up of 3 main parts. Handle Jaws and Blade.



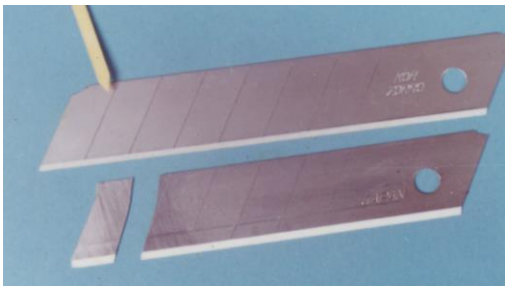
The threaded end of the jaws screw into the handle.

By screwing the handle not the jaws the knife blade is held secure in the clicking handle.

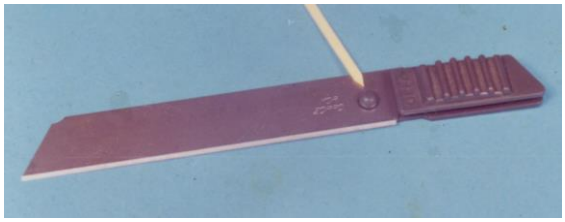
Snap Off Blade Knife

Good knife for pattern cutting.

The blade in this knife can be broken off in stage to give the cutter a new sharp cutting edge.



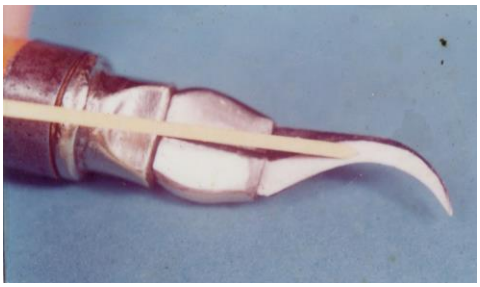
The blade is held into place by the finger adjustment.



BLADE SHAPES AND THEIR USES

Deep Curve

This is used for cutting very thick leather especially sole leather or insole board etc.

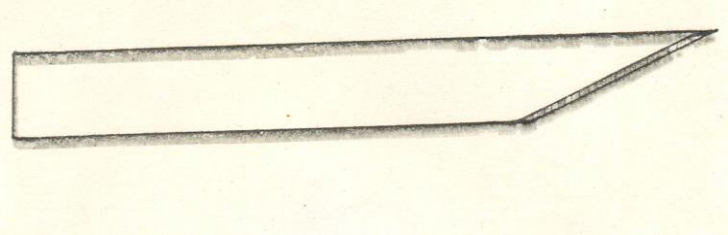


Medium Curve

Mostly used for cutting 1.2 to 1.4 mm. thick leather.

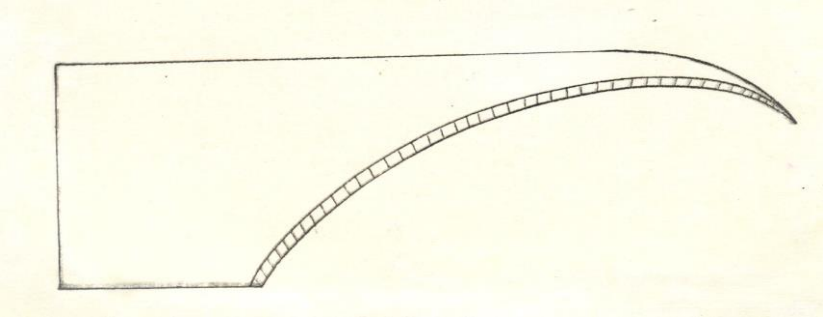
Flat Blade

These types of blades are mainly used in the pattern cutting departments for cutting paper.



Shallow Curve Blades

Used for paper or very light leathers such as kid.



Selection of patterns for cutting

A good deal is expected of a pair of shoes. They must keep feet dry and warm in winter, cool in Dimmer and provide adequate protection to maintain good foot health at all times. In order to make a shoe stand up to such heavy demands, there are many non-visible components built into a shoe that are its real backbone.

Parts of upper

The requirements for different largely on their function parts of the shoe will depend

- **Vamps:** Require substance and quality, therefore they should be cut from the Butt and the Middle
- **Toecaps:** Generally supported by aa lighter substance will remember it is the front toe puff, therefore be accepted but of the shoe.
- **Back straps counters and saddles**: Generally these parts are "fitted" in when cutting the different parts of the shoe but remember they must look good appearance is more important than substance
- **Facings**: Appearance is more important than substance.
- **Tongue:** Should be light in substance so as not to give discomfort to the wear.

Remember when cutting parts of shoes (particularly out of aniline leathers) that not only the pair of shoes should match but also the shoe parts.

- **Toe-puff:** The main purpose of introducing special materials in the toe area is to provide shape retention. Toe protection is secondary except for safety box toes on industrial footwear. Such materials are called toe puffs. They may be hard, soft, straight or wing-tipped and made from a variety of materials and chemicals.
- **Counters:** A counter is a renforcement in the back part of the shoe placed between the upper and quarter lining. They help the shoe keep its shape and also provide support for the foot. They can be made of chemically treated fiber-board or textile.
- **Interlining:** Textiles with a napped surface are often used to provide additional plumpness to the finished shoe in the vamp and quarter areas, particularly for flight weight leather.
- **Quarters**: The facings and top line must be firm but a lighter weight will be acceptable because generally it is supported by a stiffener.
- **Insoles:** The insole is the foundation of the shoe to which is anchored the upper, heel and outsole. No matter how light a substance fashion may demand, it is the basic component on which the whole shoe is built. Insoles therefore have a strong bearing on wear, comfort; shape retention, foot health and appearance.

Leather is still an important insole material, particularly in men's high grade shoes, but in women's fashion shoes, where lightness and flexibility are most important, manmade insoles are in great but are used because of their suitability for the purpose, having been made to meet specific demands.

- **Materials in shoe bottoms or soles:** Many types of shoe bottom materials, other than leather, are used in modern shoemaking. Almost four fifths of all shoe bottoms that may be tailored to meet the requirement of specific end uses.

Self-check 1	**Written test**

Name: _____ **Date:** _____

Instructions: Write all your answers in the provided answer sheet on page

(Total marks:-8)

Directions: Answer all the questions listed below.

Test I: One word answer

1. Which kind of blade is normally used for cutting leather thickness 1.2-1.4mm? (Mark 1)

2. Write down the name of one major tool used for hand cutting. (Mark 1)

3. Write down the use of sharpening stone? (Mark 1)

4. Which kind of cutting blade is used for paper or very light leathers such as kid? (Mark 1)

Test II: Fill in the blank

5. ---------- is a device for performing work on a material or a physical system using only hands. (Mark 1)

6. ---------- is defined as a set of tools, devices, kit, etc., assembled for a specific purpose. (Mark 1)

7. ---------- usually refer to manual tools. (Mark 1)

8. ----------blade is used for cutting very thick leather. (Mark 1)

Answer Sheet

Score = _____

Rating: _____

Name: _____ *Date:* _____

You can ask you teacher for the copy of the correct answer

Note: Satisfactory rating - 10 points Unsatisfactory - below 10 points

Information Sheet 2- Checking tools are checked for serviceability

and safety

2 ,Checking tools for serviceability and safety

Introduction

Leather is a very complex material, which there are, however, a few crude and quick tests, which can help the buyer in taking correct decision.

These tests will give a danger signal, regarding the whole consignment. so before buying and simply receiving the whole ordered leather depending only on the tanneries' leather grading system, while receiving the order by using random tests method reassessing is very crucial. Then, after receiving the whole order before using it directly for production, conducting reassessment/re-grading of the whole consignment is important.

1.2.1,Objective

Once all machinery and plant have been identified, the hazards associated with them can be identified.

Physical hazards are such as noise, heat/cold, radiation, microwaves, etc.

Chemical hazards are derived from chemical used in the work place including toxic gases, noxious fumes and flammable/ corrosive liquids.

Ergonomic hazards are related to physical dimensions of equipment, the placement of equipment and accessibility of a storage area, the weight of equipment or the support of furniture.

Movement hazards are caused by a manual handling such as lifting or moving loads and repetitive movement**.**

Physical Hazards

Heat ; Wear heat resistant gloves when carrying hot parts and equipment.

Avoid working conditions with poor ventilation may lead to heat stress.

Electricity; Electricity is a serious hazard because electric shock can be fatal.

1.2.2, Occupational Health and Safety requirements

Fire fighting

Firefighting is the act of extinguishing fires. A firefighter fights fires to prevent loss of life, and/or destruction of property and the environment. And there should be an emergency allocation of resources, required to deal with an unforeseen problem or fire.

Firefighting equipment includes portable fire extinguishers and hose reel.

a. fire extinguishers b. hose reel

First aid

-First Aid firefighting equipment includes portable fire extinguishers and hose reel.

-Secure the scene (move people away, make sure there is no more danger).

-Do not move the person unless it is absolutely necessary.

-Start first aid or ask a First Aider to start first aid (stop any bleeding, cover with a blanket, try to keep the person calm)

- Know the fire safety and emergency procedures.

Make sure you kThings you can do to minimize the risk:

- now how to use firefighting equipment such as fire extinguishers and fire blankets.
- Make sure you know where the firefighting equipment is kept.
- Don't use water on oil, fat or electrical fires
- Get rid of rubbish which may cause a fire hazard

Fire

There is a high risk of fire in a Model unit.

Protective clothing

Protective clothing is that protects the head, body, and extremities, and consists of at least the following components: Foot and leg protection, hand protection, body protection, eye, face, and head protection. All firefighting members will wear protective clothing meeting the requirements of OSHA (29 CFR 1910.156) and summarized below:

1. Foot and leg protection. Foot and leg protection will be achieved by either of the following methods:
   a) Fully extended boots which provide protection for the legs; or
   b) Protective shoes or boots worn in combination with protective trousers.

2. Body protection

- Body protection will be coordinated with foot and leg protection to ensure full-body protection for the wearer. This may be achieved by one of the following methods:

a) Wearing of a fire-resistive coat in combination with fully extended boots; or

b) Wearing of a fire-resistive coat in combination with protective trousers.

3. Hand protection.

Hand protection will consist of protective gloves or glove system which will provide protection against cut, puncture, and heat penetration.

4. Head, eye, and face protection.

Head protection shall consist of a protective head device with earflaps and chinstrap. Protective eye and face devices will be used by fire-brigade members when performing operations where the hazards of flying or falling materials which may cause eye and face injuries are present.

Emergency actions

Raise the alarm – anyone who discovers a fire shall immediately inform all his colleagues who might be affected by the fire.

- Attack the fire – try to extinguish the fire with the available first aid firefighting equipment only if safe to do so.

Safety requirements

Cutting machine/clicking machine

In using a Cutting machine/clicking machine the following safety rules must be followed.

Do not operate the machine without prior approval

Do not work without written job order card

Only one person is allowed to work on the machine at one time

Before the start of the cutting, check the die for the Article, Size, and Upper/lining/interlining.

Before starting cutting, set the pressure and adjust the aluminum plate 10mm above the die

Check the die for deformation of shape before proceeding for cutting

Do not keep the Dies on top of the other

Switch off the machine when not in use

Use only one die on the Nylon board while cutting material

Knives:

- Use the right knife for the task.
- Keep knives sharp
- Always cut on a stable surface, like a cutting board.
- Always cut away from your body.
- Store knives safely in a rack or knife block.
- Don't leave knives in washing –up water.
- Always carry knives with the blade pointing downwards.

Splitting machine

Do not operate the machine without prior approval

Switch off the machine when not in use

Only one person is allowed to work on the machine at one time

Do not work without written job order card

Grinder

In using a grinder especially for blade making; the following safety points must be followed.

Hair must be tied back

Wear tight clothes

Shoe must be protective

Do not operate the machine without prior approval.

Do not work without safety glass.

Only one person is allowed to work on the machine at one time.

Switch off the machine when not in use.

Do not spill the water on the machine.

Break the hack saw blade on the vice.

Do not wear loose cloth while sharpening the blade,

Clean your work place after completing your work.

Do not walk around carrying the knife with the cutting blade exposed. It can cause injury.

Do not try and catch a falling knife instead when it is not in use put your knife in a secure place

Strap cutting machine

Do not operate the machine without prior approval

Switch off the machine when not in use

Only one person is allowed to work on the machine at one time

Do not work without written job order card

Skiving machine

In using a skiving machine the following safety rules must be followed.

Set and check the rotary parts of the machine before switch on the machine.

- Belt guard should be in place.
- While sharpening the knife care should be taken so that scraps do not catch fire due to sparkles.
- Work area must be kept tidy.
- Never use hand to remove jammed material, use a brush or stick.
- Wear specified mask during skiving.
- Wear specified glass during dressing and sharpening.
- Use finger guard during skiving.
- Use appropriate footwear and apron.
- Know your fire drill.
- Inform your superior in case of any events.
- Keep your tools and accessories in reachable place.

Stamping machine

Do not operate the machine without prior approval.

Only one person is allowed to work on the machine at one time.

Switch off the machine when not in use.

do not spill the water on the machine

do not wear loose cloth while working,

place the component on machine platform carefully

keep the hands away from the heated number plate/die

Clean your work place after completing your work.

Empty the leather waste in to waste bin only.

Written Test	Self-Check 2

Instructions: Write all your answers in the provided answer sheet on page no. 24.

Test I: True or False: (Total points: 8X8=8)

Do not work without written job order card.

Only one person is allowed to work on the machine at one time

Before the start of the cutting, do not check the die for the Article, Size, and Upper/lining/interlining.

Before starting cutting, do not set the pressure and adjust the aluminum plate 10mm above the die

Check the die for deformation of shape before proceeding for cutting

Keep the Dies on top of the other

Switch off the machine when not in use

Use only one die on the Nylon board while cutting material

Information Sheet 3-Clearing work area

1.3, Clearing work area

Introduction

Products that are manufactured from leather are directly and indirectly influenced by the quality of leather.

Generally, defect on leather prominently affects the quality of products, production quantity and productivity of the workers.

1.3,1, Objective

Identify different types of defects on the leather Clearing work area

Generally products that are manufactured from defected leathers have degraded value in front of the customer.

CLEAN TOOLS AND WORK AREA

SUMMARY

The objective of this information sheet is to show you how to keep work areas and tool clean and operational. At the end of each working day clean the tools and equipment you used and check them for any damage. If you note any damage, tag the tool as faulty and organize a repair or replacement.

PREPARATION AND SAFETY:

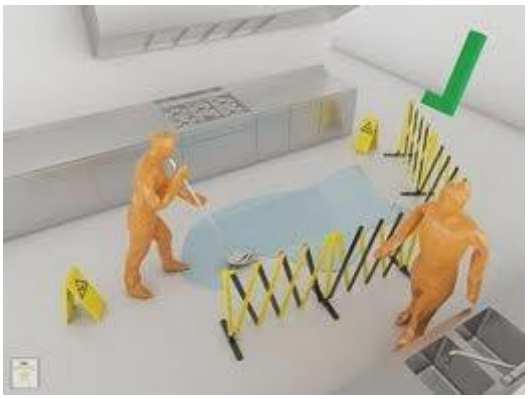
PERSONAL SAFETY

Whenever you perform a task in the workshop you must use personal protective clothing and equipment. Among other items, this may include:

- Work clothing - such as coveralls and steel-capped footwear
- Eye protection - such as safety glasses and face masks
- Ear protection - such as earmuffs and earplugs
- Hand protection - such as rubber gloves and barrier cream
- Respiratory equipment - such as face masks and valved respirators

If you are not certain what are appropriate or required, ask your Instructor.

SAFETY CHECK



- Some cleaning agents are toxic. Refer the instructions on any cleaning agent and follow any recommendations before using it.
- Do not use flammable cleaners or water on electrical equipment.
- Make sure designated walkways are kept clear of any obstructions.
- Always wear protective clothing and the appropriate safety equipment.
- Make sure that you understand and observe all legislative and personal safety procedures when carrying out the maintenance tasks. If you are unsure of what these are, ask your Instructor.
- Clean tools and equipment helps work more efficiently. At the end of each working day clean the tools and equipment you used and check them for any damage. If you note any damage, tag the tool as faulty and organize a repair or replacement.
- Electrical current can travel over oily or greasy surfaces. Keep electrical power tools free from dust and dirt and make sure they are free of oil and grease.
- All workshop equipment should have a maintenance schedule. Always complete the tasks described on the schedule at the required time. This will help to keep the equipment in safe working order.
- Store commonly used tools in an easy-to-reach location. If a tool, or piece of equipment, is too difficult to return, it could be left on a workbench or on the floor where it will become a safety hazard.

- Keep your work area tidy. This will help you work more efficiently and safely.
- Always use chemical gloves when using any cleaning material because excessive exposure to cleaning materials can damage skin.
- Some solvents are flammable. Never use cleaning materials near an open flame or cigarette.
- The fumes from cleaning chemicals can be toxic, so wear appropriate respirator and eye protection wherever you are using these products.
- When cleaning products lose their effectiveness they will need to be replaced. Refer to the suppliers' recommendations for collection or disposal. Do not pour solvents or other chemicals into the sewage system. This is both environmentally damaging and illegal.

CLEANING OF EQUIPMENT

To maintain cleaning equipment and keep it in a good working condition, it must be thoroughly cleaned and stored correctly every time it is used. If regular maintenance does not occur, the equipment may, over time, become dangerous to individuals.

Equipment and Floor that will need cleaning includes:

- Garbage receptacles
- Pans
- Brooms, dusters and brushes
- Mops and buckets
- Electrical equipment, Ex: vacuum cleaners, polishers, scrubbers.

Every time a piece of equipment is used, the general rule is to clean it straight away so it is ready for the next person to use. The manufacturers' instructions should be strictly followed when maintaining and cleaning equipment.

Cleaning Up Work Area

You have to be:

- Clear and clean the area
- Store any reusable materials
- Check, clean and store away any tools and equipment
- Dispose of hazardous and non-hazardous waste according to legal and workplace requirements.

Skills And Actions Need To Clean Up Your Own Work Area

Cleaning And Clearing Techniques

- Select and use an appropriate method for cleaning
- tools and specialist equipment
- any leakages
- Restore your work area to a safe and tidy condition
- Make sure that any materials, components, tools and equipment that you may need for the next task are set up ready for use.

Material Storage Techniques

- Sort reusable equipment, components and materials from waste
- Reusable materials are correctly stored
- All Tools And Equipment Are Properly Stored.

Safe Disposal Techniques

- Handle and dispose of waste materials appropriately according to organizational and legal requirements
- Recognize what materials are hazardous and require special procedures
- Report any problems associated with cleaning, storing or disposing of materials and equipment to the relevant person.

Hazardous And Non-Hazardous Materials

- Types of waste material generated in the work area
- Know how to handle hazardous waste and reusable materials safely including:
  - Fluids
  - Adhesives
  - Solvents.
- Personal protective equipment is required and how to use it.

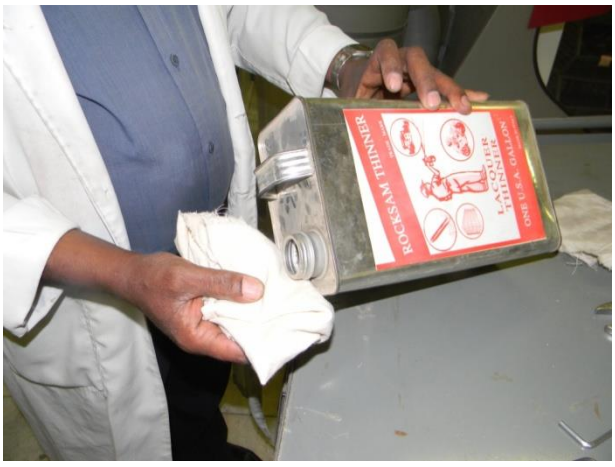
Step-By-Step Instruction

Clean Hand Tools

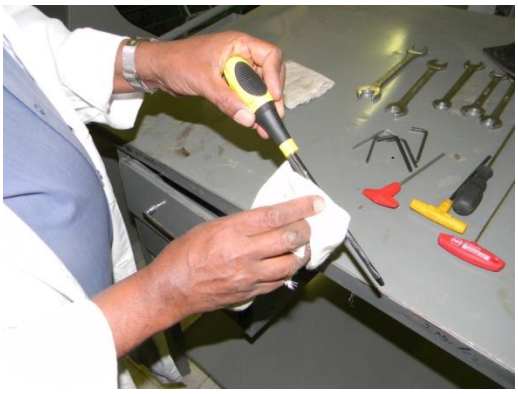
Keep your hand tools in good, clean condition with two sets of rags. One rag should be lint-free to clean or handle precision instruments or components.

The other should be oily to prevent rust and corrosion.

- Use kerosene/solvent for cleaning tools



- Clean tool and keep their place




Clean Floor

Wipe off any oil or grease on the floor and check for fluid leaks. If you find any, top up the hydraulic fluid. Occasionally, apply a few drops of lubricating oil to the wheels and a few drops to the posts of the safety stands.


Self-Check 1	Written Test

Test I: Short Answer Questions

Directions: Answer all the questions listed below. Examples may be necessary to aid some explanations/answers.

1. *Write skills and actions of Material Storage Techniques? (2 marks)*
2. *Write short note of 'Clean Floor'?(2 marks)*
3. *Give examples of 'Personal Protective Equipment'? (2 marks)*
4. *Write the steps of 'Cleaning Tools'?(2 marks)*

Test II: Fill in the blanks:

1. _____can travel over oily or greasy surfaces.(1 mark)
2. Keep your work area_____. This will help you work more efficiently and safely.(1 mark)

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet 4- Cleaning, checking, maintaining and storing hand tools and equipment

.4, Cleaning, checking, maintaining and storing hand tools and equipment

Introduction

While checking, it is not just simply inspecting the quality of leather instead sorting and identifying the leather as per the shade, grade and types for the required shoe model is very important. common steps to identified and evaluate the leather suitability for cutting are starts before received or buying the whole leather from the tanneries and the inspection shall be continued in the store while receiving from the supplier and before dispatch it to the cutters.

1 .4.1, Objective

Random testing: These are conducted in the tanneries before shipping or sign the agreement. Randomly the *sample* is inspected and the whole batch may be pass or fall.

- Incoming leather inspection.

- After received the whole consignment and before it used in production the following
- should be carried out:

The main difference between random sampling testing method from that of reassessment/regrading, in random sampling method only one or two leather from the lot/batch are tested if this tested sample pass the *whole batch* will pass.

But while conducting regrading/reassessment of the consignment the whole /piece/ or each of the leather in the batch should be evaluated and checked.

- As per the sample quality and quantity should be checked.
    - ✓ Selection of samples
    - ✓ Substance/thickness
    - ✓ Finish appearance
    - ✓ Feel/softness and stretch
    - ✓ Adhesion of finish
    - ✓ Cracking
    - ✓ Wet and dry rub
    - ✓ Strength
    - ✓ Fading
    - ✓ Water repellency
    - ✓ Chemical resistance

Based on the above criteria's, tried to check the quality of the products of the lot/batch. Based on this the lot will be accepted or reject before the shipment is conducted.

- Re-grading and purchase cost variance shall be conducted.

Reassessing the grade and sorting into a new grade group if required. Re-grading is sorting the leathers in a new grade. Because the received leathers may not have the quality as written grade on the leather so that grouping as per the actual cuttable area of the leather into a new

1.4.2, Reason for leather sorting:

Leather is a natural product and is subject to ***variation*** from one skin to another, even though most tanneries try to ensure uniformity within batch. In some batches variation may be slight, in order they may be more noticeable. Even variation of leather not only might happened on the same batch of different leathers, variation of grain, color and shade may also happen on the same(one) leather.

1.4.3, Variation in leather may include the following:

a) **Color:** different skin can show color variation which is a very normal phenomenon with aniline dyed leather.
b) **Substance:** skin of the same area and from the same type of animal can often considerably in substance,(thickness) correct leather sorting will ensure that the various substance can be selected and allocated for different styles.
c) **Amount of stretch:** the direction of stretch does not very but the amount of stretch does zoning the tanning process the leather can be made finer or softer, which influence the amount of stretch but it is impossible to make the amount of stretch totally uniform.
d) **Grain:** the grain of the leather can vary from skin to skin even within single skins; changes in grain structure can also affect color and dyer glass.
e) **Defect and marks:** these one caused by numerous natural and man-made sources and vary widely in degree.

The material is put on the leather horse according to the following rules

- At first he can put thinner leather and thicker ones are put up.
- Color shades are put from the darkest to the lightest ones step by step (for an easier pairing).
- Whole leather is over loaded at the longitudinal axis by grain up and shifted out slightly.

Self-Check 4	Written Test

Name: _____ Date: _____

Time started: _____ Time finished: _____

Choose the correct one: (Mark 4)

1, which one of the leather normal phenomenon with __- dyed leather.

A ,**aniline** b ,softer c ,Grain: d , all

2,Which one of the following is the common variation that may happen on the leathers? (1 point)

a) Color b) grain C) substance D) amount of stretch E) all

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

You can ask you teacher for the copy of the correct answe

Note: **Satisfactory rating - 10 points** **Unsatisfactory - below 10 points**

LG #31	LO #2- Perform interlocking of upper components

Instruction sheet	

This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics:

- Identifying leather quality region
- Identifying direction of tightness and stretchiness in hides and skins
- Identifying leather defects
- Performing interlocking of upper components

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, **you will be able to**:

- Identify leather quality region
- Identify direction of tightness and stretchiness in hides and skins
- Identify leather defects
- Perform interlocking of upper components

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below.
3. Read the information written in the “Information Sheets”. Try to understand what are being discussed. Ask your trainer for assistance if you have hard time

understanding them.

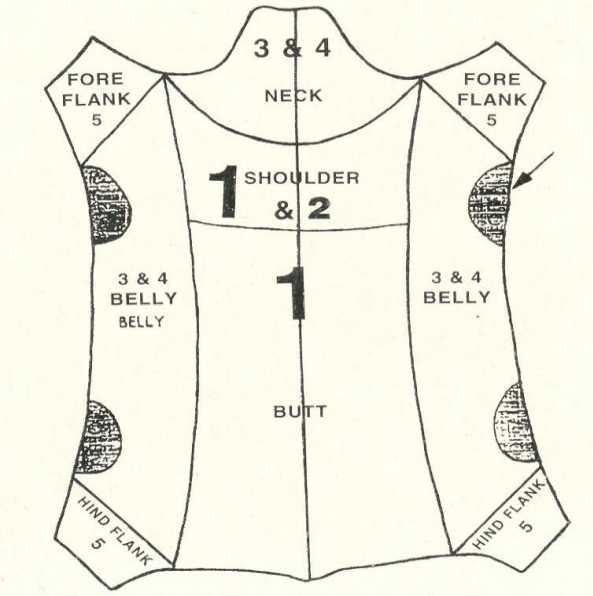
4. Accomplish the “Self-checks” which are placed following all information sheets.
5. Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (You are to get the key answer only after you finished answering the Self-checks).
6. If you earned a satisfactory evaluation proceed to “Operation sheets
7. Perform “the Learning activity performance test” which is placed following “Operation sheets” ,
8. If your performance is satisfactory proceed to the next learning guide,
9. If your performance is unsatisfactory, see your trainer for further instructions or go back to “Operation sheets”.

Information Sheet 2-Identifying leather quality region

2,2,1 Quality Regions

The various areas of H/S have different quality regions.

Quality is directly related to the “Tightness & the compactness” of the fiber structure. Therefore, the “best quality” of an H/S is BUTT and the worst quality “part which is almost useless from users point of view is offal. The diagram gives you a description of the quality areas of hide/skin.



Note: The quality areas are indicated by number i.e. 1, 2, 3 etc.

You will note here that the neck & belly both are marked by 3 to 4. This is just to explain that sometimes, neck is better than belly because of extensive looseness in belly and sometimes, belly is better than neck because of growth marks in neck.

Leather from different parts of the animal varies in its characteristics, and this has to be taken into account when using leather in products. The hide thickness varies all over the animal, and to get it to the right thickness it is usually split on a special cutting machine or buffed to an even thickness. The main parts of the hide are shown in the diagram below

2,2,1 The butt is composed of the stoutest leather as this covers the delicate organs along the back. This is also most even in quality and texture.

2, 2,2 The shoulder is of lighter substance but the quality remains good.

2,2,3 The neck varies considerably. Cattle, especially bull calf, and sheep, tend to be quite stout in substance but heavily lined with growth Marks. This does not apply as much to goats.

2,2,4 The shanks are light but the quality is often quite sound.

2,2,5The belly this part of the hide is quite thin and has a much looser fiber structure than the back, and often stretches under stress.

Self-Check – 2	**Written test**

Name: _____ **Date:** _____

(Total Marks: -4*1=4)

Instructions: Write all your answers in the provided answer sheet on page

Test I: Fill in the blanks

Directions: Answer all the questions listed below.

1. The proper skin is to be regarded as perfect that is there is no -------- anywhere.
2. Quality is directly related to the ---------- of the fiber structure.
3. Cutting usually commences from the ----------.
4. Part which is almost useless from user's point of view is ----------.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

You can ask you teacher for the copy of the correct answers.

Note: **Satisfactory rating - 10 points** **Unsatisfactory - below 10 points**

Information Sheet 3-Identifying direction of tightness and stretchiness in hides and skins

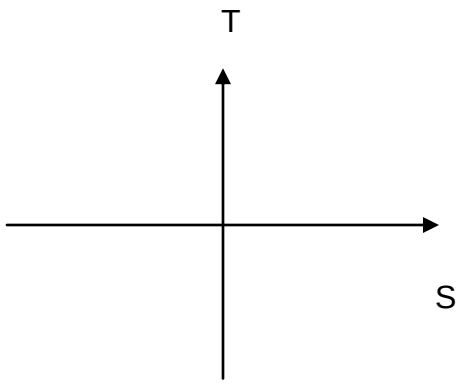
2,3,1 Line of tightness and stretch of cow and buff skin:

The direction of lines of tightness and lines of stretch play a major role in cutting of pattern from hides or skin.

Lines of tightness are defined as the direction in which the material does not extend in length or very little increment in length takes place on applying force by two thumbs.

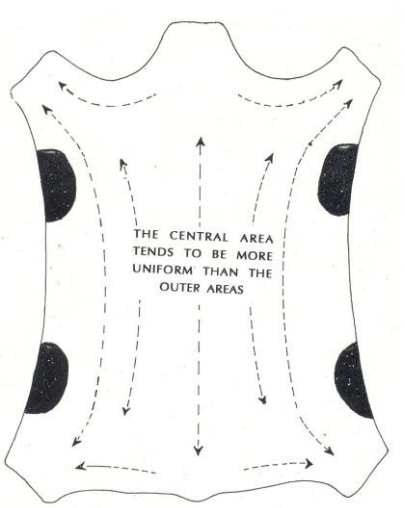
Whereas, in the direction of lines of stretch, material is increased in length or stretches more by applying the same amount of pulling force.

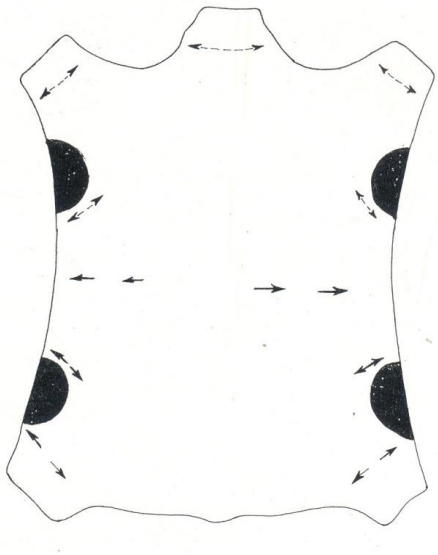
Normally, the line of tightness is just at 90° to the lines of stretch.



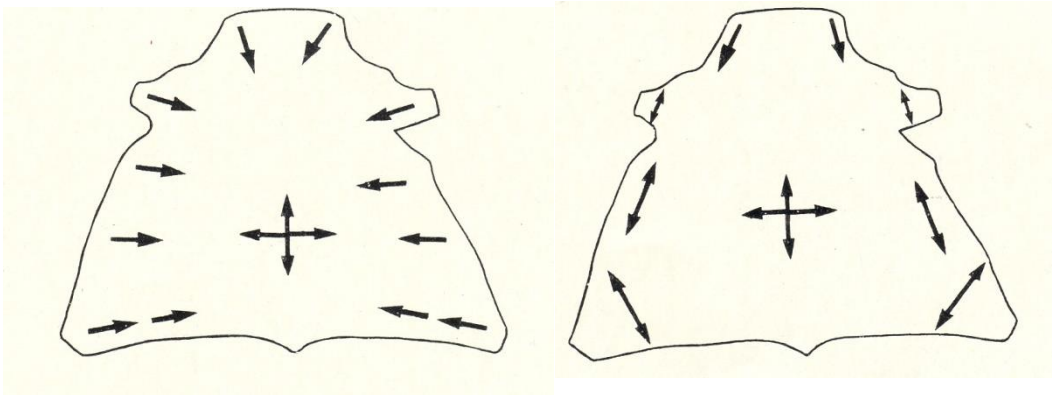
Line of tightness varies in case of skin & it is towards the butt from the flank region. Therefore the care shall be taken in the case of calf & kid leather whenever cutting process is initiated.

These lines are important in cutting because the upper component must be cut in such a way that the lines of tightness cut along the length of the shoe for proper shape retention in other words, we say that the component are cut “tight to toe”. This rule is strictly adhered to in cutting most types of footwear. It is disregarded only in special circumstances e.g. open toe sandal, boots etc.





Line of tightness and stretch of kid/goat skin:



Self-Check – 3	**Written test**

Name: _____ **Date:** _____

(Total Marks: -2*2=4)

Instructions: Write all your answers in the provided answer sheet on page

1. The direction of lines of tightness and ---------- play a major role in cutting of pattern from hides or skin.
2. Normally, the line of tightness is just at ---------- to the lines of stretch.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

You can ask you teacher for the copy of the correct answers.

Note: **Satisfactory rating - 10 points** **Unsatisfactory - below 10 points**

Information Sheet 4-Performing interlocking of upper components

2,4,1,INTER LOCKING

Inter locking is the process of laying the patterns in the appropriate position so that waste can be minimized efficiently. It is the process of making the patterns to fit on the

leather. It is also called NESTING. Before proceeding for nesting the person who cuts must know all the cutting principles like the lines of tightness and stretch the quality division of the components etc. In order to achieve better pattern interlocking one may consider –

- Curve to curve,
- Straight edge to straight edge interlocking.

Silver marking pen is used to mark on leather with patterns for cutting components to achieve the maximum cutting value. It is used to mark on the components for fixing fittings with the help of patterns and to mark defects on during the sorting process.

GRADING THE SKINS FOR GRAIN MATCHING:

1) Before Tracing or cutting any goat or kid skins the cutter must be aware of the grain variation on the skin.

2) The grain will usually vary between the Butt and Neck portion.

3) The grain will also vary between the backbone and belly region.

4) Skins are normally grouped after grading into fine grain, medium grain, and coarse.

5) The cutter would normally start using the large grain skin/ coarse grain in the largest size first.

6) The size of the skin will also influence the grain, the older the animal the larger the skin, the coarse the grain.

7) When grouping the skins it should be folded across the width of the skin and are used to refer to specifications and patterns and complete required documentation. Self management skills are used to ensure safe use of technology and conformance of own work to quality standards.

2,4,2 Cleaning And Maintenance Of Cutting Board

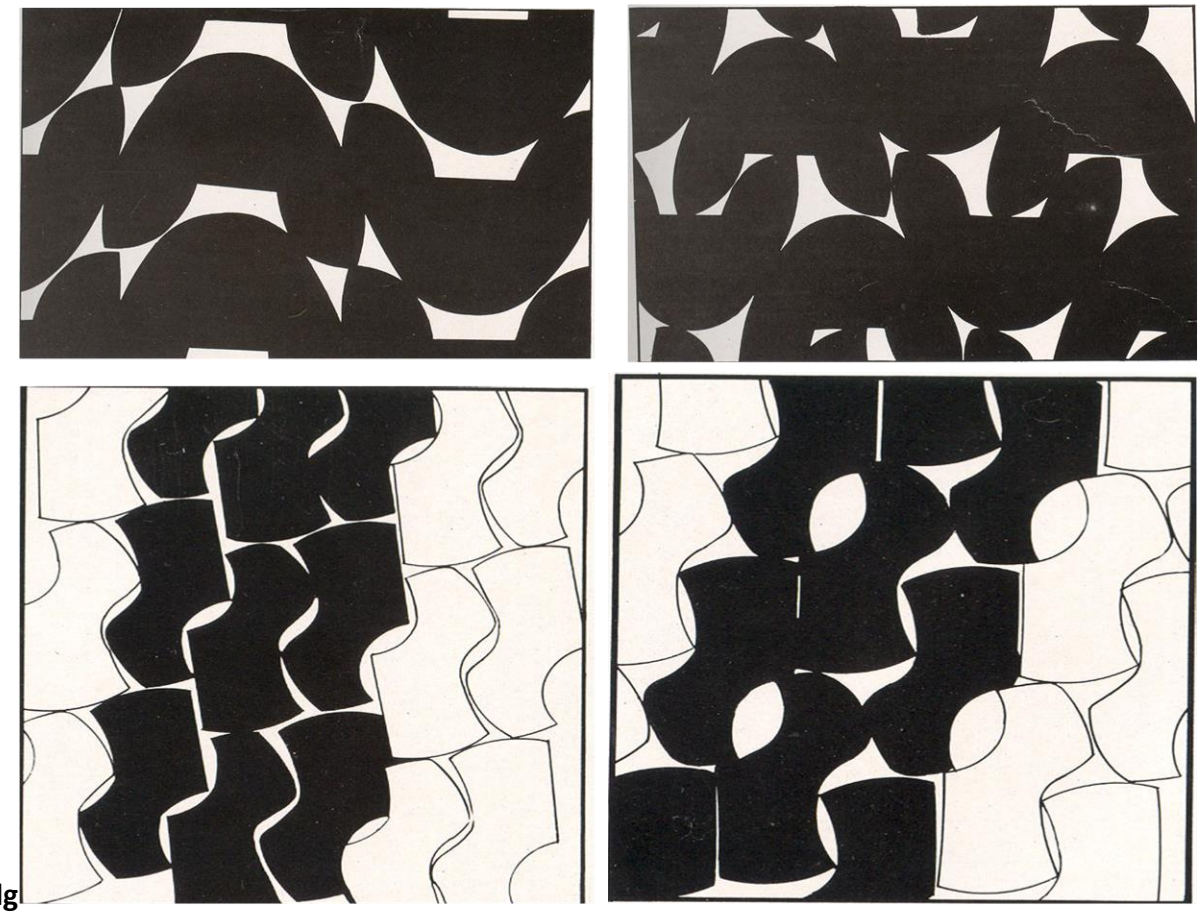
For cutting Paper Patterns the Rubber sheet also used. The cutting should be flat and convenient. Sometimes people use glass boards also to cut glazed kid.

A recent trend has seen thick solid rubber pads used as cutting boards in the leather

Interlocking :-There are guidelines given for achieving better dies/knives interlocking. One may consider the following while interlocking:

1. **Curve to curve interlocking.**

2. Straight edge to straight



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Curve to curve interlocking.

1. **Straight edge to straight edge**
2. **The person must be clear about the lines of tightness of all the components to make a pair of shoe, their quality division & the allowances.**
3. **B. The cutter must be able to virtually divide the skin correctly in various parts i.e. butt, belly, shoulder and should have a clear understanding of lines of tightness in different parts of the skin/side.**
4. **. The aim of the cutter should be to use his/her leather as economical as possible by avoiding wastage due to bad die interlocking.**

5. **D. Cutters are not required to interlock components in pairs in the case of corrected grain cutting exercise. Rather on completion of the work, they should end up with approx. equal no. of pairs.**
6. **Cutting usually commences from the butt, continue along the backbone, working outwards as far as the substance (thickness) and quality permits, utilizing the poor quality areas for the parts which have little or no strain during wear.**

Self-Check – 4	**Written test**

Name: _____ Date: _____

Time started: _____ Time finished: _____

Directions: Answer all the questions listed below.

Part- A

Fill in the blanks: (5 * 1= 5)

1- Grain will usually vary between them ---------- and Neck portion.

2- Put everything in order – ----------, Materials, ----------, Tools etc.

3- ---------- finger and ---------- finger are guiding the direction and lay in to the cutting material.

4- ---------- is performed with the aid of scale by putting the material

on cutting board.

5- ---------- Records for ---------- the net consumption of process materials/chemicals.

You can ask you teacher for the copy of the correct answers

Note: **Satisfactory rating - 10 points** **Unsatisfactory - below 10 poin**

LG #33	LO #3- Assess materials

Instruction sheet

This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics:

- Assessing materials against job specifications.
- Checking finishing of leather materials for defects
- Storing materials according to color, grain or shade

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, **you will be able to**:

- Assess materials against job specifications.
- Check finishing of leather materials for defects
- Store materials according to color, grain or shade

Learning Instructions:

10. Read the specific objectives of this Learning Guide.
11. Follow the instructions described below.
12. Read the information written in the “Information Sheets”. Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them.
13. Accomplish the “Self-checks” which are placed following all information sheets.
14. Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (You are to get the key answer only after you finished answering the Self-checks).
15. If you earned a satisfactory evaluation proceed to “Operation sheets
16. Perform “the Learning activity performance test” which is placed following “Operation sheets” ,
17. If your performance is satisfactory proceed to the next learning guide,

18. If your performance is unsatisfactory, see your trainer for further instructions or go back to “Operation sheets”.

Information Sheet 1-Assessing materials against job specifications.

3,1,1 LEATHER

Leather is the most suitable material for uppers, linings, insoles, outsoles, heels, toe puff and stiffeners. Leathers for foot wear are commonly produced from calf, cow, buffalo, kid goat and sheep.

Sources of leather and its characteristics.

Calf leather: is produced from the young ones of cow or buffalo usually chrome tanned having an area of 5 to 15 sq.ft calf leather has close fibrous structure with little variation in substance over the whole area of the hide. The leather could be smooth boarded or suede finished have a rubbery feel with good lasting characteristics are used in the manufacture of high quality ladies and men's shoe

Hides: are produced from cattle. They are cut into two along the back bone and are called sides. Usually each side will have an area of 11-35sq.ft and are chrome, semi chrome or chrome retanned. They have strong fibers structure, coarse grain with heavy feel. The fibrous structure as well as the substance varies from but to belly-looser in the belly than in the butt. Surfaces are finished smooth boarded or printed grain and splits are processed as suds. Side leathers are used for making uppers from medium grade shoes, boots sandals chappal straps and ladies footwear.

Kid: kid skins are from milk fed young ones of a goat having an area of 1 1/2 to 3 ¾ sq.ft. They have strong fibrous structure, tight grain, and light substance with a full rounded mellow feel. The surface could be glazed, gold or silver finished and go in for marking ladies high grade foot wear.

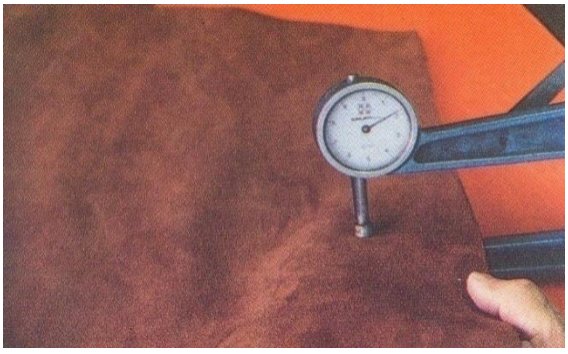
Goat skins: they have an area of 4 to 8 sq.ft with a coarse fibrous structure varying between butt and belly. Substance is thick, surfaces are glaze, resin or polyurethane finished and are used in ladies medium grade footwear. Vegetable tanned goat skins are used as linings.

Sheep skins: sheep skins have loose fibrous structure, loose grain surface and light substance with a soft feel. They have an area of 2 to 9sq.ft. And are suede finished. The wool sheep skins can be sheared. Sheep skins are used for linings.

Material assessment:

a) Substance/thickness

The thickness of the leather is measured comparing with the reference sample leather and with the help of thickness gauge.



b) Finish appearance

The finish appearance of the leather is checked by comparing with the reference sample leather or shoe.

c) Feel/softness and stretch

Feel/softness of the leather is checked by filling up with palm with it at different places and comparing with the reference sample leather.

d) Color

Color of the leather is checked by comparing with the reference sample leather or shoe.

Fabrics

Fabric are made out of yearn and are classified as woven, non-woven and knitted. Natural fibers of cotton, jute and synthetic such as nylon, terylene and so on are used, in fabric manufacture. Fabrics are extensively used as upper materials, linings, inter-linings and backers. Fabrics are manufactured and sold in rolls.

Fabrics are woven from yarns which run at right angles to each other. Warp threads are those which run the length of the fabric. Weft threads are those which run the width of the fabric. Warp threads stretch less but possess more tensile strength. Weft threads stretch more but have less strength as compared to warp threads.

Woven fabrics: warp fabrics have good strength and low elongation at break. This has the disadvantage of breaking during wear in certain shoe constructions. The fabric is cut in bias (diagonal) direction, for use as tapes and top line bindings.

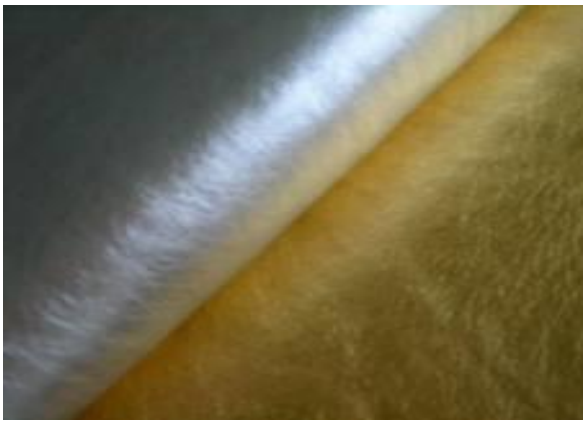
Knitted fabrics: knitted fabrics have high stretch but low strength. These are used in slipper and casual shoes, as insole coverings. The disadvantage being raw edges fray.

Non-woven fabrics: Non-woven fabrics are produced by a random arrangement of fibers. Woolen felts, needle felts and bonded fibers are used in non-woven fabrics. In woolen felts the fibers are milled and passed to lock the portion fibers together. Needle felts are obtained when the fibers are tangled together by reputedly thrusting needles through the fibers mat. Bonded fabrics are manufactured by using resin binder or adhesive to hold the fibers together. Bonded fibers are also known as impregnated non-woven and when abraded gives a finish similar to suede with leather like appearance and touch.

Material assessment:

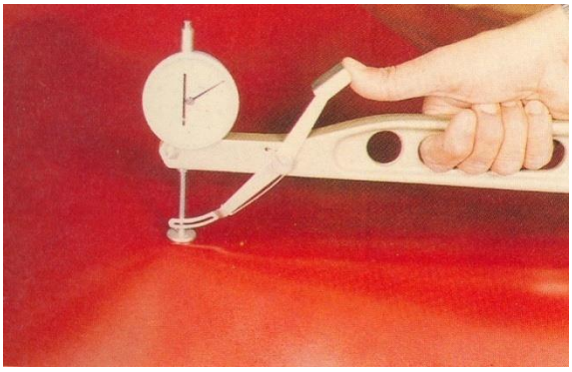
a) Color

Color of the fabric is checked by comparing with the reference sample fabric or shoe.



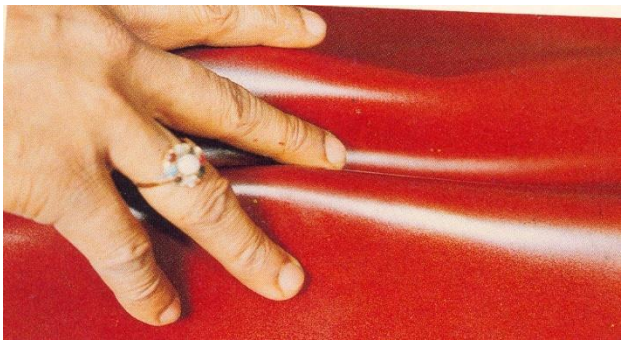
b) Substance/thickness

The thickness of the fabric is measured comparing with the reference sample fabric and with the help of thickness gauge.



a) Feel/softness and stretch

Feel/softness of the synthetic is checked by filling up with palm with it at different places and comparing with the reference sample fabric.



Toe-Puff And Counter Stiffener Material.

Toe puffs

Toe puff is inserted in between the toe portion of a shoe the toe portion of the shoe upper and the lining. Toe puff preserves the toe shapes and protects the front portion of the foot. A toe puff material is to produce toes that are either soft and flexible or firm and extremely resilient with excellent shape retention in wear. Toe puff are produced from vegetable tanned leather, leather bored, polystyrene impregnated fabric, rubber impregnated fabric and thermo plastic material

Leather

Vegetable tanned leather from shoulder or belly is split to the required thickness wetted and applied to the upper by an adhesive latex gum starch paste. Leather toe puff is strong durable but takes longer time to dry and costly

3,1,2 Nitrocellulose impregnated fabric

Woven cotton fabrics with a Napa non-woven needle fabric from a blend of synthetic fabrics are impregnated by a solution of nitrocellulose is precipitated on the fabric as discontinues particles dried and rolled into sheets.The toe puff is activated by a solvent using acetone and industrial spirits.

3,1,3 Polystyrene impregnated fabric

The fabric is impregnated by polystyrene using a solvent based impregnate.

During attachment it is activated by a solvent containing toluene. Thermoplastic toe puffs these toe puff are made from (A) un vulcanized rubber fabric (b) synthetic fibers impregnated with styrene butadiene rubber lattices (C) poly chloroprene rubber lattices. The toe puff is given a coating of hot melt adhesive of EVA. Toe puffs are available at different thickness varying between 0.60mm to 1.7 mm. they are cut in multiple layers on the bias with the adhesiveside on the top. The material is skived on the cylinder knife heavy duty skiving machine, or with silicon based lubricant applied to the ball knife

edge. (D) styrene/acrylate copolymer. Thermoplastic toe puffs are heat activated and applied under pressure**.**

The basic types of toe puff used by the footwear industry are:

(i) Paint on liquids

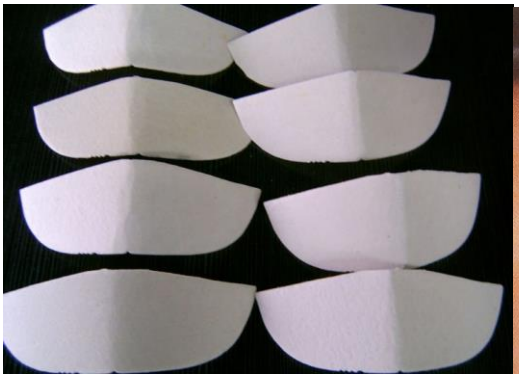
(ii) Impregnated Fabrics

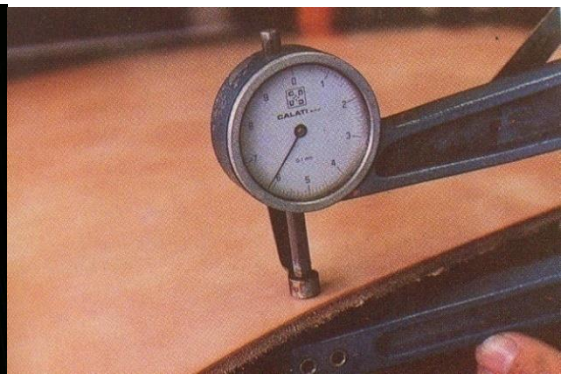
(iii) Thermoplastic /Thermo adhesive (heat activated)

(iv) Solvent activated

(v) Print on Hot-Melt Resin

(vi) Steel toe cap and etc.





3,1,4 Stiffeners

Stiffeners or counters are attached in between the upper and the lining at the back part of the shoe. Stiffener imparts snug fit to thee foot and prevents the shoe from slipping. A stiffener should be stiff resilient moisture break down, give a soft flexible and firm back part in the finished shoe. it should also have excellent molding characteristics.

Materials used for stiffeners vegetable tanned leather, leather board, fiber board solvent activated plastics and thermo plastics and thermoplastic. Leather and leather

board after cutting to shape is reduced to required thickness, bonded to the upper by latex or neoprene based adhesive.

Fiber board stiffener is polished and coated on both sides by a thermoplastic adhesive. These are pre moulded to the shape of, the counter of the last, attached to the upper under heat and pressure.

3,1,5 Thermoplastic stiffeners

Non –woven needle fabrics made from a bland of synthetic fibers are impregnated with styrene copolymer containing plasticizer. The material is coated with hot melt EVA adhesive.

3,1,6 Solvent activated stiffeners

Non- woven needle fabric, from a blend of synthetic fibers and impregnated with polystyrene based synthetic latex. The counter is conditioned using a suitable polystyrene softener attached to the upper under pressure and lasted while still, there is solvent present in it. The solvent activated stiffeners are used mostly in tack lasted shoe leather bored stiffeners for welted high grade women's shoes and thermo plastic stiffeners for all types of footwear.

Apart from the materials used which are similar to that used for toe puff except for the thickness, leather board can be used. There are three types of stiffener:

- ✓ Flatstiffener
- ✓ Semi-moulded stiffener
- ✓ Fully-moulded stiffener

Stiffener can be:

- ✓ Solvent dipped
- ✓ Thermal activated
- ✓ Pre molded leather board

Self-Check – 1	Written test

Name: _____ **Date:** _____

(Total marks:-8)

Instructions: **Write all your answers in the provided answer sheet on page 7**

Test I: Fill in the blanks

Directions: **Answer all the questions listed below.**

1. ---------- is produced from the young ones of cow or buffalo

   (Mark:-1)

2. ----------are produced from cattle.
   (Mark:-1)

3. ---------- are from milk fed young ones of a goat having an area of ----------

   (Mark:-1)

4. ----------have loose fibrous structure, loose grain surface and light substance with a soft feel.
   (Mark:-1)

5. ---------- have an area of 4 to 8 sq.ft with a coarse fibrous structure
   (Mark:-1)

6. ---------- have good strength and low elongation at break.
   (Mark:-1)

7. ----------are attached in between the upper and the lining at the back part of the shoe.
   (Mark:-1)

8. The fabric is impregnated by ---------- using a solvent based impregnate. (Mark:-1)

Answer Sheet

Score = _____

Rating: _____

Name: _____ **Date:** _____

You can ask you teacher for the copy of the correct answers.

Note: **Satisfactory rating - 10 points** **Unsatisfactory - below 10 poin**

Information Sheet 2-Checking finishing of leather materials for defects

3,2,1 Leather Defects

Leather is an incredibly wonderful natural fabric that's been used for thousands of years. No man made material has been able to surpass the natural beauty and toughness of leather but there are defects which may be caused during the life or after death of an animal which may finally appear on finished leather. Some of the common leather defects are listed below: Every skin of an incoming shipment of upper leather is examined for possible defects.

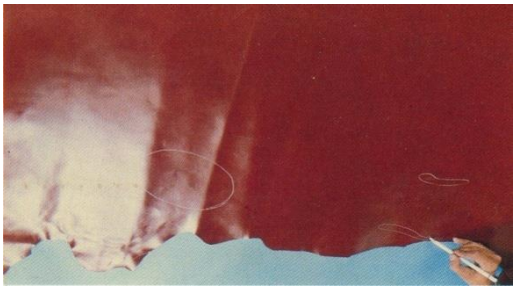
Faults & Surface Defects Of Suede Leather

- Flay cuts or butcher marks-These cuts are on the flesh side of the skin & usually trimmed off.

- Patchy coloring- It's due to the size of the nap.

- Strength- Full strength of suede split.

3,2,2 Scratches or Blemishes in the Grain: - one of the most common damages of hide and skins is the grain scratches and tears. The main causes are barbed wire, nails, thorns, horns, etc. which encounter the animals during their grazing time, fighting each other or rubbing of the animal to get relief from insect bites, sores, etc.



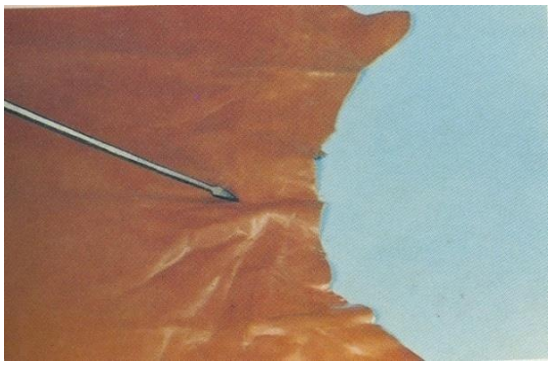
3,2,3 Brand Marks in Butts: - is burning of the hide/skin protein with a red hot iron. The animals are normally burned so deep that the scar tissue forms through the skin and the brands are visible on the flash side. Brands are made.

A. As a sign of ownership.

B. As a cure from disease.

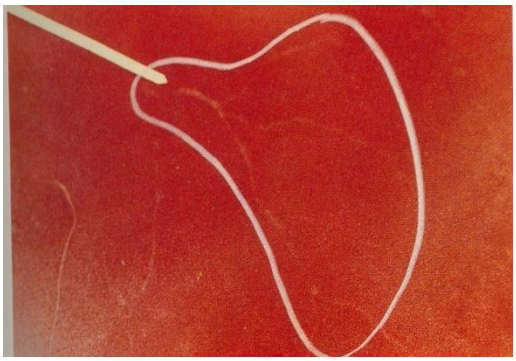
Growth Marks in the Neck

3,2,4 Loose Flanks.



3,2,5Vain Marks.

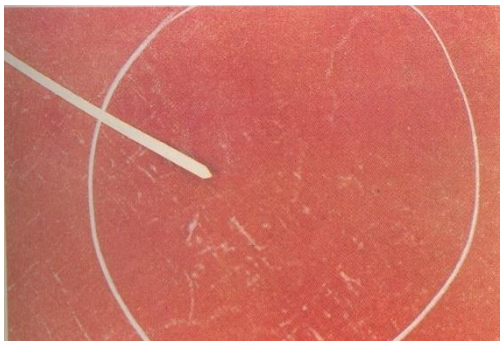
Vainness in which branching lines of blood vessels can be seen on the flesh side. (If, because of poor curing or old age, for example, the structure around them becomes loose, the skin is said to be veiny, and the branching pattern of the veins usually shows through on the grain side.



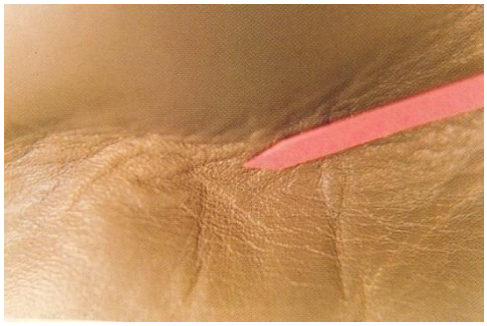
3,2,6 Flay Cuts: - these flaying defects reduce considerably the value of a hide (skin). The damages can all be avoided since they are caused by carelessness or flaying by inexperienced person or by using improper tool.

Stain Marks on Reverse Side, if used for Unlined Shoes

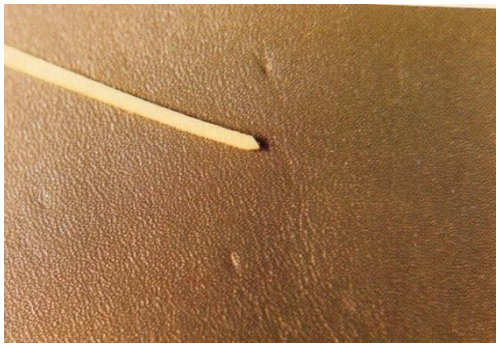
Coarse finish



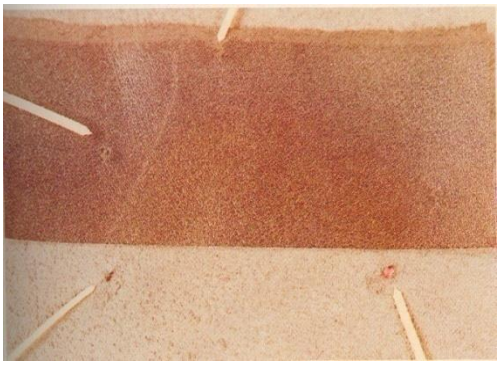
Heavy Break



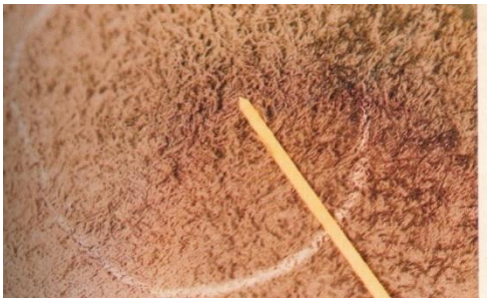
3,2,7 Tick Marks: - leave scars or pits on the hide (skin) or on the finished or semi-finished leather. Rubbing to get relief from the itching leads to grain scratching or tearing and secondary infection. Ticks usually attack the tender part of the skin/hide (bellies). Grain correction cannot remove all damages.



3,2,8 Warble Holes: - The larvae of the warble fly known as grab live in the flesh and lower depths of the corium makes holes through the hide for breathing and later on for escaping from the animal. Warble flies are found in hot countries**.**



Loose Fibers



3,2,9 Check finishing of materials for defects

1. Closely look at the leather for the defects, these include surface marks, flay cuts, loose offal, and mark these areas lightly with white pencil.

2. Check the flesh side of the skin for warble holes & flay cuts.

3. Check skin for the correct line of tightness, this will vary from skin to skin.

4. Check the components to make sure that all the patterns are there, if you are missing a pattern you may find it impossible to grain match later.
5. Ensure that your workbench is clean.

6. From your cutting sheet always when possible start cutting with the largest size pattern & the larger skins. This will give you better material usage.
7. Using a suede split this skin is regarded as perfect i.e. no flay cuts , brand marks etc. As you are laying out the skin keep in the mind to lay the components in pairs, left & right, inside or outside. This is imperative because the finished skin must be in pairs of complete upper.

3,2,10 Lining leather

Color and thickness should match according to the specifications. Color of all the components should match in each pair. Thickness of all the components also in pair should match with each other.

INSOLE BOARD:

1. No uniformity of thickness
2. Creaking due to moisture
3. No flexibility
4. No resistance to shrinkage or growth
5. Dust and dirt on the board
6. No ability to hold tacks adhesives or stitches.
7. More bulky

FACTORS OF DETERIORATION:

Deterioration is a change of original state of any material by interaction between the object and the factors of destruction. The different types of deterioration of the cellulose board materials are reflected in wear and tear, shrinkage, cracks, discoloration, abrasion, hole, dust and dirt etc.

Humidity and Moisture: - Humidity is the amount of moisture in the atmospheric air. The moisture is measured in terms of relative humidity. All organic objects absorbs water to a greater or lower extent and the water goes inside the object through

surrounding air. Because of this absorbency property, the fiber board absorbs more moisture when there is high humidity. Certain amount of humidity is necessary for the flexibility of fiber board but in prolonged high humid condition, board becomes wet and the moisture weakens the fibers of board.

Dust and Dirt: - Fine dry particles of any matter present in the air are known as dust. Since dust is air borne it settles down on any surface of the object

Heel:

a. Not good quality finish.
b. Color not matching.
c. Cracking on attachment.
d. Last bottom profile not match with heel
e. Size not matching
f. Inadequate Pin Holding Strength

Toe Puff And Stiffener Sheet

1. No uniformity of thickness.
2. Less tack retention.
3. No ability to survive molding and shape retention.
4. Skiving problem.
5. Coating of adhesive not good.

Shank

1. Variation of thickness
2. Strength or performance
3. Length & width problem

Shank design not match

Self-Check – 2	Written test

Name: _____ **Date:** _____

(Total marks:-10)

Instructions: **Write all your answers in the provided answer sheet on page 18.**

Test II: Fill in the blanks

Directions: **Answer all the questions listed below.**

1. ---------- are on the flesh side of the skin & usually trimmed off.
   (Marks 1)

2. Patchy coloring is due to the size of the ----------.

   (Marks 1)

3. ---------- in Buttsis burning of the hide/skin protein with a red hot iron.

   (Marks 1)

4. Check the flesh side of the skin for ----------.

   (Marks 1)

5. Check skin for the correct ----------, this will vary from skin to skin.

   (Marks 1)

6. ----------is the amount of moisture in the atmospheric air.

   (Marks 1)

7. ---------- is a change of original state of any material by interaction between the object and the factors of destruction.

   (Marks 1)

8. Fine dry particles of any matter present in the air are known as ---------.

   (Marks 1)

9. ----------leave scars or pits on the hide (skin) or on the finished or semi-finished leather.

   (Marks 1)

10. ---------- in which branching lines of blood vessels can be seen on the flesh side.

    (Marks 1)

Answer Sheet

Score = _____

Rating: _____

Name: _____ **Date:** _____

You can ask you teacher for the copy of the correct answers.

Note: **Satisfactory rating - 10 points** **Unsatisfactory - below 10 poin**

Information Sheet 3-Storing materials according to color, grain or shade

3,3,1 Leather

Leather is the most suitable Material for uppers, linings, insoles, outsoles, heals toe puffs and stiffeners. Leathers for foot wear are commonly produced from calf, cow buffalo, kid, goat and sheep. Most high quality shoes sold today are still made of leather just as they have been for centuries. Leather is still the material of choice for its durability and flexibility. Some leathers are more desirable than others and in this article we will go over some of the qualities of different leathers and how they are used.

Full grain side leather: - which is used to make the uppers for shoes is one of the most versatile of all leathers as well as being the most common. This type of leather is very durable and malleable while possessing the other desired characteristics of leather such as breathability.

Corrected grain leather: - as the name indicates has the surface grain either partially or completely removed due to the fact that the tannery has deemed that the hide has too many natural hallmarks on the surface. This of course would reduce the cutting efficiency of the hide so the tannery will buff the surface and then apply a simulated grain to the surface after the pigmented finish is applied. This improves the durability of

the surface. When produced by a tannery experienced in the manufacture of leather, corrected grain leathers can be expected to give excellent service.

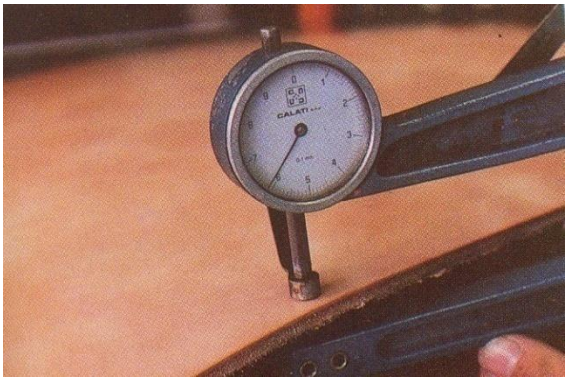
Nubuck leather is a type of leather with a soft, velvety surface and is some of the most expensive leather to purchase. Unlike the less expensive suede, Nubuck leather is far more durable and is excellent for use in shoe because it will last much longer than suede.

Suede is produced from the under layer of the hide that has been split. The split side is aniline dyed and buffed to create the typical velvety effect.Suede splits are used in shoes, garment and handbag industries.

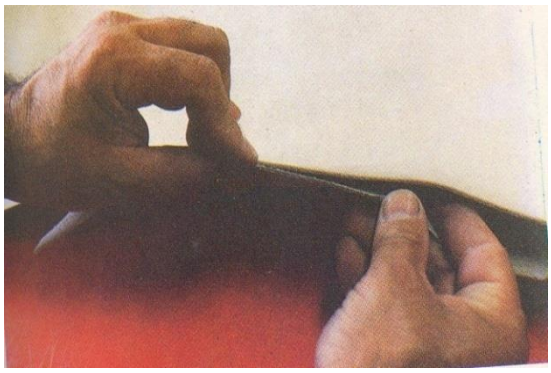
Sorting of the suede leather

For doing this nesting exercise following points is to be considered

i) Suede split –The skins are usually too thick & heavy for footwear upper.



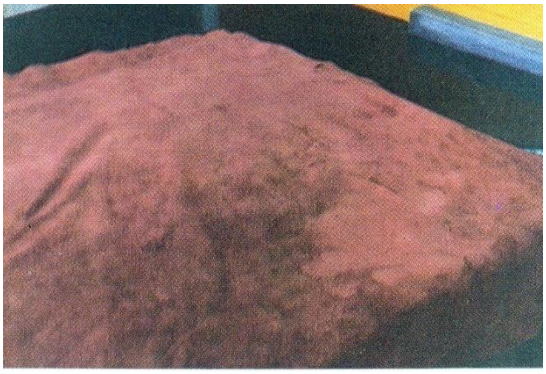
ii) They are usually split.



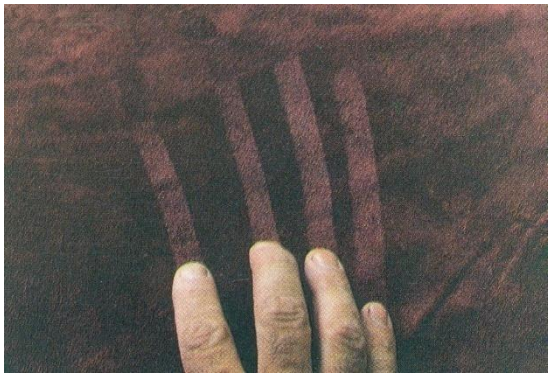
iii) The flesh side is made in to suede.

iv) Flesh split make inferior suede leather(splitting cuts the fiber structure)

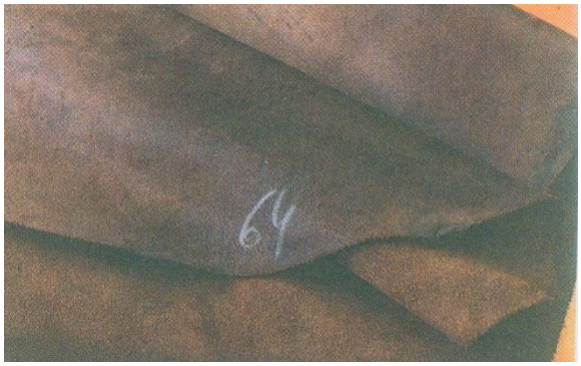
v) The skins vary in colors.



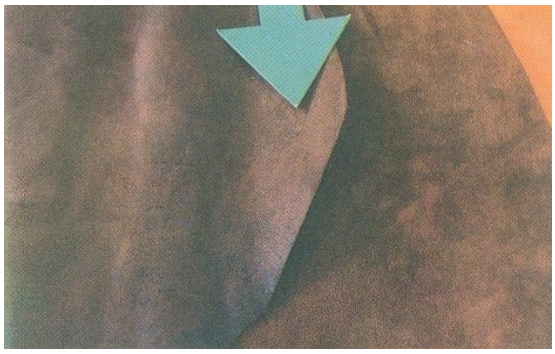
vi) The nap varies all over the skins (the nap refers to the fineness or coarseness of the split texture.



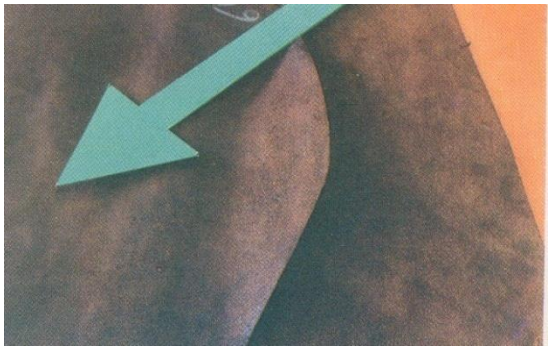
vii) The size of the suede usually varies from 50-150 sdm.



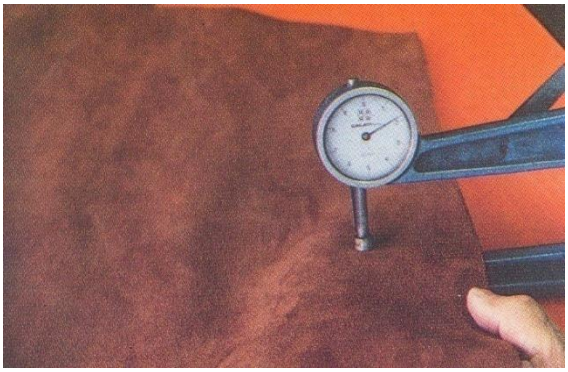
viii) Sealed break: The reverse side (back) of suede is sealed on the flesh side of the skin.



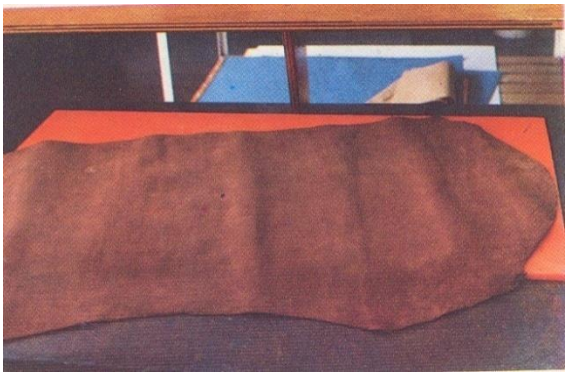
ix) Sealed back: Sealing back also waterproofs the material & improves the comfort in an unlined shoe.



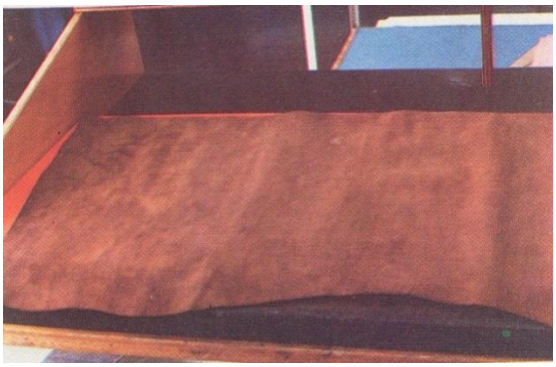
x) The thickness of the suede varies from 1.2-2.5mm.



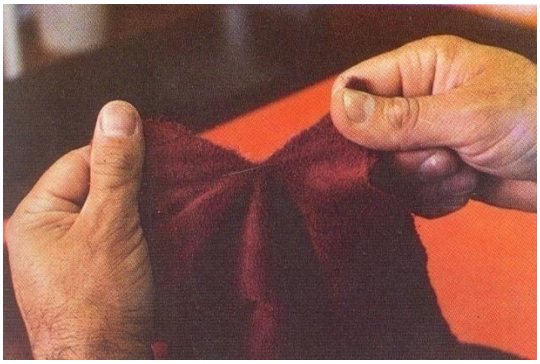
xi) The skins are usually trimmed severely.



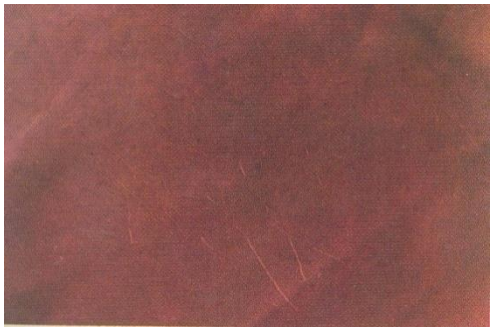
xii) They are almost trimmed in square.



xiii) Suede split have a weak fiber structure.



xiv) Full grain suede-When the grain surface of otherwise good quality skins is damaged. The flesh side is snuffed to make the suede. This leave grain layer as backer to the flesh side & thereby making strong leather.



xv) The color of the suede may vary due to the nap. The nap varies greatly especially in the belly & flank area.

Sheep Napa leather is a full-grain leather, typically dyed, made from sheep-skin by tanning with salts of chromium or aluminum sulfate, and noted for softness and durability. It is often used in high-quality leather products.

Sorting of goat leather

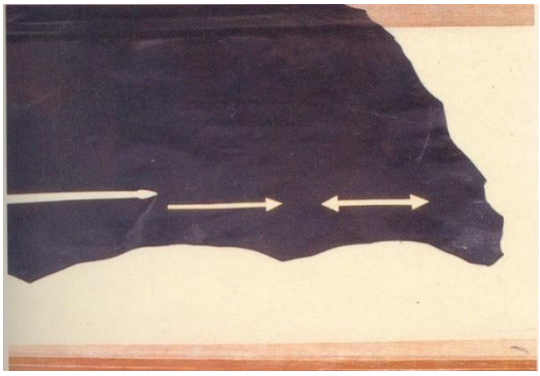
1. A goatskin is very similar to a kidskin, only larger in size. The grain of the leather will be coarse with areas around the flank showing slightly more offal, although this will vary from skin to skin.

2. Substance will also vary over the skin.

1. Due to the size of the skin approx. 2 prs. plus will be normal. If the skin cuts 2.5 pairs then the same rules for grain matching apply as kid.

2. Variation in the color can be found in the goat. This must be taken in to consideration when grain matching.

3. The same rule applies with the back bone as in the kid. It should not be used in the center of the vamp as the grain will be open up.



4. In goat leather the clicker must test his leather for stretch, to ensure that the cut parts are correct.

5. They should always grain & color matches his skins prior to the cutting.

6. These will be graded in to three grades, fine grains, medium grain & coarse grin.
7. The smaller skin is used for small sizes, the larger skins for the larger size.

8. After grading & selection of the cutter should place the leather on hoarse.

9. Ensure that your patterns are smooth & the knife is sharp.\

Self-Check – 1	Written test

Name: _____ **Date:** _____

Instructions: **Write all your answers in the provided answer sheet on page 32.**

Directions: **Answer all the questions listed below.**

(Total marks:-8)

Test I: Fill in the blanks

1. Cutter should ensure that patterns are --------- & the knife is ----------. (Mark
2. The thickness of the suede varies from ----------. (Mark
3. --------is produced from the under layer of the hide that has been split. (Mark
4. ---------- leather is a type of leather with a soft, velvety surface (Mark

Test II: One word answer:

5. Write down about the range of size of suede. (Mark
6. What is the name of the best region of the skin? (Mark
7. What is nap? (Mark
8. What is the reason of variation in color of suede? (Mark

Answer Sheet

Score = _____
Rating: _____

Name: _____ **Date:** _____

You can ask you teacher for the copy of the correct answers.

Note: **Satisfactory rating - 10 points** **Unsatisfactory - below 10 poin**

LG #34	**LO #4- Set up workstation**

Instruction sheet

This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics:

- Setting up and arranging workstation
- Selecting and preparing cutting equipment and patterns
- Collecting, sorting and laying out materials
- Maintaining records

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, **you will be able to**:

- Set up and arranging workstation
- Select and prepare cutting equipment and patterns
- Collect, sort and lay out materials
- Maintain records

Learning Instructions:

19. Read the specific objectives of this Learning Guide.
20. Follow the instructions described below.
21. Read the information written in the “Information Sheets”. Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them.
22. Accomplish the “Self-checks” which are placed following all information sheets.
23. Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (You are to get the key answer only after you finished answering the Self-checks).
24. If you earned a satisfactory evaluation proceed to “Operation sheets
25. Perform “the Learning activity performance test” which is placed following “Operation sheets” ,
26. If your performance is satisfactory proceed to the next learning guide,
27. If your performance is unsatisfactory, see your trainer for further instructions or go

back to “Operation sheets”.

Information Sheet 1-Setting up and arranging workstation

4,1,1 Workstation:

- The workstation is the place a worker occupies when performing a job.
- A well designed workstation is important for preventing disease related to poor working conditions, as well as for ensuring work is productive.
- Every workstation should be designed with both the worker and the task in mind.

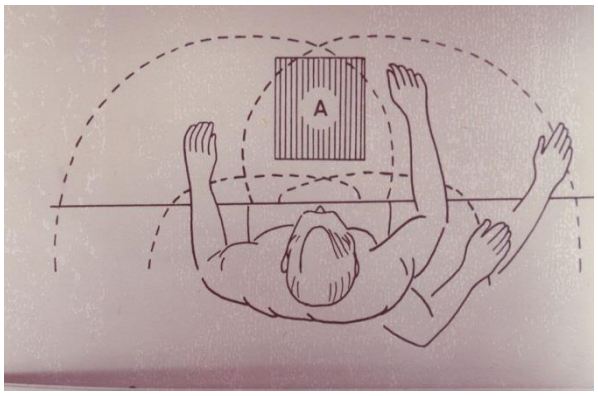
- A properly designed workstation should allow the worker to maintain a correct and comfortable body posture

Pre-Operation Procedures

Work Place Layout

✓ Always keep your work in front of you in an orderly manner. This will also help in minimizing the possibility of over cutting an order.

✓ Keep your tools and equipment within easy reach.



- ✓ Work at height that is comfortable. Either raises you by standing on a platform. (Old cutting boards can also be used.)

- ✓ Or raise your cutting board.

Remember: That the strain on your back/today could affect you in later life.

- ✓ Keep your tools equipment in a fixed place.

Safety points for hand cutting:

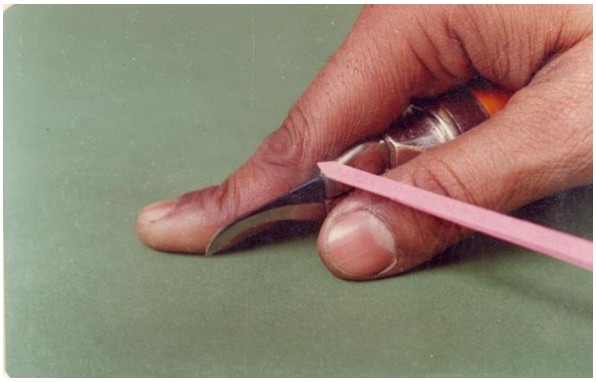
- ✓ Hold your knife correctly for cutting.

  (Right handed cutter)

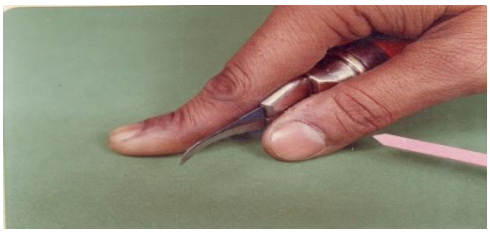
  Hold the handle with your 2nd, 3rd and 4th fingers.

- ✓ Place your 1st finger across the clamping jaws so that it will just touch the material being cut.

  This finger helps guide you.



- ✓ Place the thumb on the side of the clamping jaws.



- ✓ A left handed person does the same with the left hand.

Self-Check – 1	Written test

Name: _____ **Date:** _____

(Total marks:-6)

Instructions: Write all your answers in the provided answer sheet on page

Directions: Answer all the questions listed below. Examples may be necessary to aid some explanations/answers.

Test I: Fill in the blank:

1. The ---------- is the place a worker occupies when performing a job. (Mark 1)

2. A well designed workstation is important for preventing ---------- related to poor working conditions, as well as for ensuring work is ----------. (Mark 1)

3. Keep your tools equipment in a ----------. (Mark 1)

4. Always keep your work in front of you in an ----------. (Mark 1)

5. Hold the handle with your ---------- fingers. (Mark 1)

6. Place your 1st finger across the ---------- so that it will just touch the material being cut. (Mark 1)

You can ask you teacher for the copy of the correct answers.

Note: **Satisfactory rating - 10 points** **Unsatisfactory - below 10 poin**

Information Sheet 2-Selecting and preparing cutting equipment and patterns

4,2,1 A Tool is an item or implement used for a specific purpose. A tool can be a physical object such as mechanical tools including saws and hammers

A hand tool is a device for performing work on a material or a physical system using only hands. The hand tools can be manually used employing force, or electrically powered, using electrical current. Virtually every type of tool can be a hand tool and many have also been adapted as power tools, which get their motive power from motors or engines rather than from human mechanical action.

Equipment is defined as a set of tools, devices, kit, etc., assembled for a specific purpose.

The difference between hand tool and equipment is usually that hand-tools usually refer to manual tools. Equipment is usually referring to anything that is powered by either electricity or by a motor off some sort.

Tools Used For Hand Cutting

Following Tools are required for hand cutting:

(i) Cutting handle with blade.

(ii) Tin pattern

(iii) Cutting board --- this is mostly made of tin sheet. Sometimes people use glass boards also to cut glazed kid.

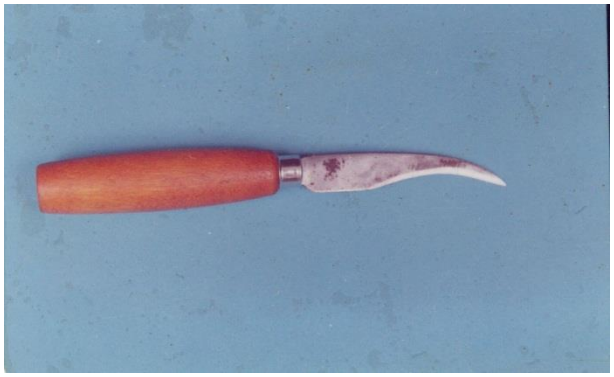
(iv) Sharpening stone: - used to sharper the cutting edge of knife .This must be lubricated using m/c oil.

TYPES OF KNIVES

Various types of knives are used for cutting. These are listed below:

One-piece Knife

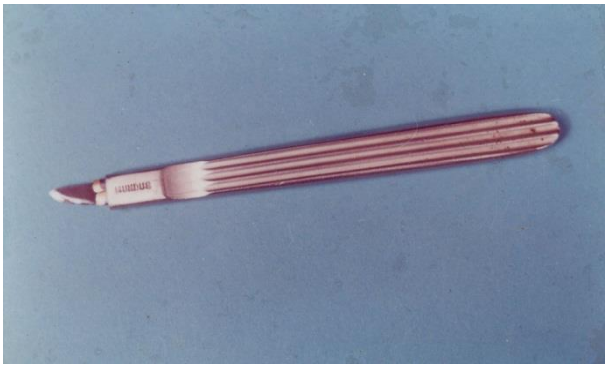
✓Commonly this is called a Hyde cutting knife with a solid non-detachable blade.



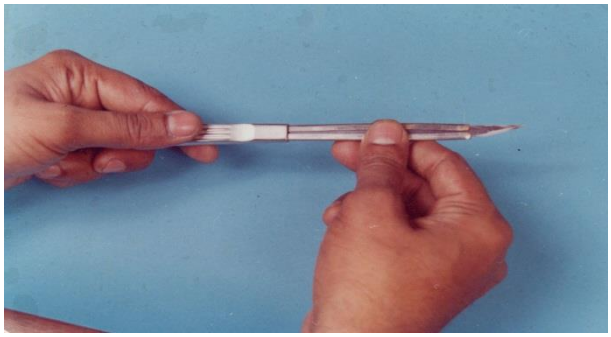
✓The extra length of the blade makes this an excellent knife for cutting synthetic rolls into various lengths.

Scalpel

✓This knife is used extensively by pattern cutters and European clickers.



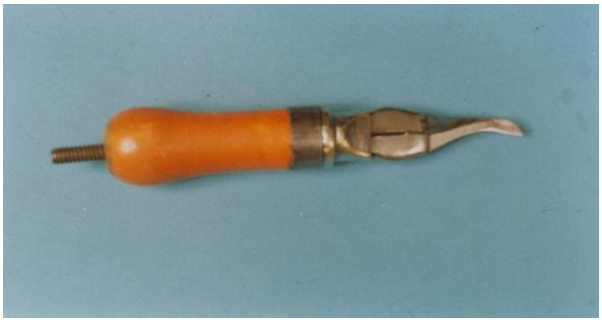
✓The jaws are placed into the handle.



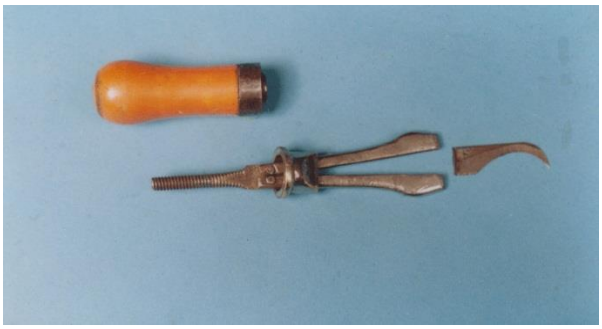
Hand Cutting Knife

This knife is very common, used throughout India. It consists of following parts :

✓Detachable handle



✓It is made up of 3 main parts. Handle Jaws and Blade.

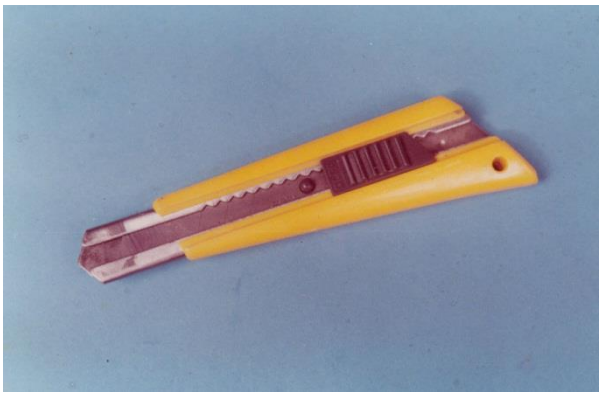


✓The threaded end of the jaws screw into the handle.

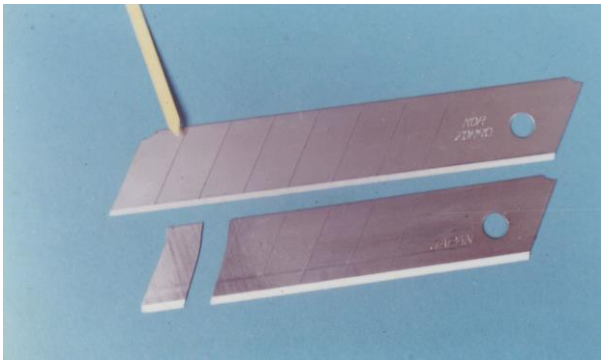
✓By screwing the handle not the jaws the knife blade is held secure in the clicking handle.

Snap Off Blade Knife

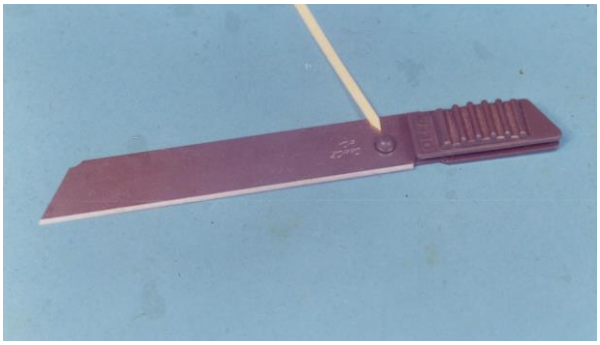
✓Good knife for pattern cutting.



✓The blade in this knife can be broken off in stage to give the cutter a new sharp cutting edge.



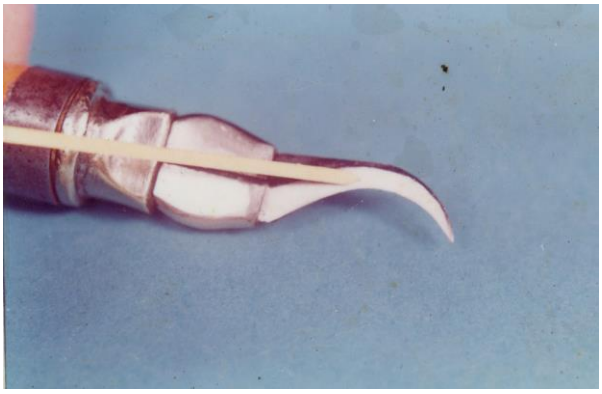
✓The blade is held into place by the finger adjustment.



BLADE SHAPES AND THEIR USES

Deep Curve

This is used for cutting very thick leather especially sole leather or insole board etc.

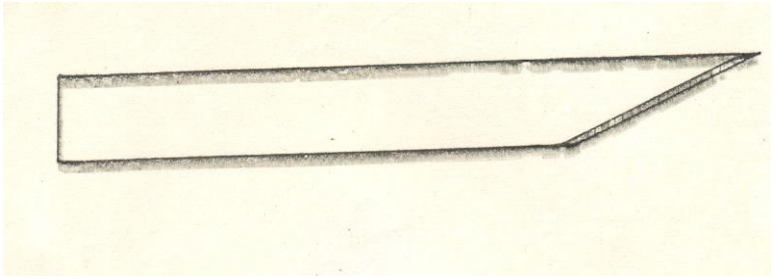


Medium Curve

Mostly used for cutting 1.2 to 1.4 mm. thick leather.

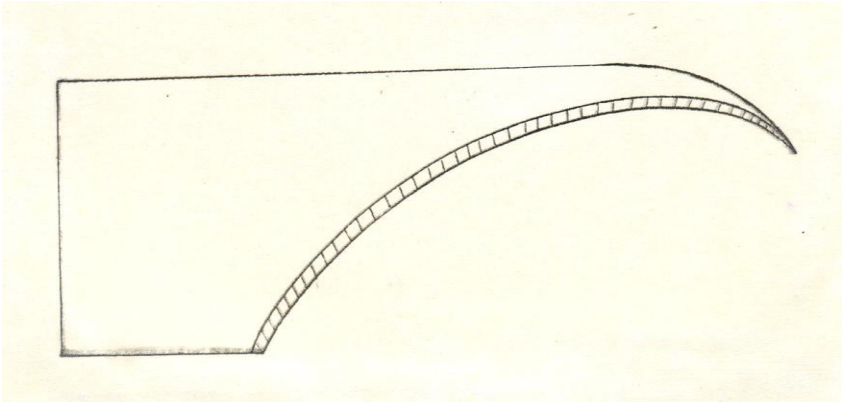
Flat Blade

These types of blades are mainly used in the pattern cutting departments for cutting paper.



Shallow Curve Blades

Used for paper or very light leathers such as kid.



Selection of patterns for cutting

A good deal is expected of a pair of shoes. They must keep feet dry and warm in winter, cool in Dimmer and provide adequate protection to maintain good foot health at all times. In order to make a shoe stand up to such heavy demands, there are many non-visible components built into a shoe that are its real backbone.

Parts of upper

The requirements for different largely on their function parts of the shoe will depend

- **Vamps:** Require substance and quality, therefore they should be cut from the Butt and the Middle
- **Toecaps:** Generally supported by a a lighter substance will remember it is the front toe puff, therefore be accepted but of the shoe.
- **Back straps counters and saddles**: Generally these parts are "fitted" in when cutting the different parts of the shoe but remember they must look good appearance is more important than substance
- **Facings**: Appearance is more important than substance.
- **Tongue:** Should be light in substance so as not to give discomfort to the wear.

Remember when cutting parts of shoes (particularly out of aniline leathers) that not only the pair of shoes should match but also the shoe parts.

- **Toe-puff:** The main purpose of introducing special materials in the toe area is to provide shape retention. Toe protection is secondary except for safety box toes on industrial footwear. Such materials are called toe puffs. They may be hard, soft, straight or wing-tipped and made from a variety of materials and chemicals.
- **Counters:** A counter is a re-enforcement in the back part of the shoe placed between the upper and quarter lining. They help the shoe keep its shape and also provide support for the foot. They can be made of chemically treated fiber-board or textile.
- **Interlining:** Textiles with a napped surface are often used to provide additional plumpness to the finished shoe in the vamp and quarter areas, particularly for flight weight leather.
- **Quarters**: The facings and top line must be firm but a lighter weight will be acceptable because generally it is supported by a stiffener.
- **Insoles:** The insole is the foundation of the shoe to which is anchored the upper, heel and outsole. No matter how light a substance fashion may demand, it is the basic component on which the whole shoe is built. Insoles therefore have a strong bearing on wear, comfort; shape retention, foot health and appearance. Leather is still an important insole material, particularly in men's high grade shoes, but in women's

fashion shoes, where lightness and flexibility are most important, manmade insoles are in great but are used because of their suitability for the purpose, having been made to meet specific demands.

- **Materials in shoe bottoms or soles:** Many types of shoe bottom materials, other than leather, are used in modern shoemaking. Almost four fifths of all shoe bottoms that may be tailored to meet the requirement of specific end uses.

Self-Check 3	**Written Test**

Name: _____ Date: _____

Instructions: Write all your answers in the provided answer sheet on page

(Total marks:-8)

Directions: Answer all the questions listed below.

Test I: One word answer

1 Which kind of blade is normally used for cutting leather thickness 1.2-1.4mm?

(Mark 1)

2 Write down the name of one major tool used for hand cutting. (Mark 1)

3 Write down the use of sharpening stone? (Mark 1)

4 Which kind of cutting blade is used for paper or very light leathers such as kid?

(Mark 1)

Test II: Fill in the blank

5---------- is a device for performing work on a material or a physical system using only hands. (Mark 1)

6---------- is defined as a set of tools, devices, kit, etc., assembled for a specific purpose. (Mark 1)

7---------- usually refer to manual tools. (Mark 1)

8----------blade is used for cutting very thick leather. (Mark 1)

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

You can ask you teacher for the copy of the correct answers.

Note: **Satisfactory rating - 10 points** **Unsatisfactory - below 10 poi**

Information Sheet 3-Collecting, sorting and laying out materials

4,3,1Leathers

Leather can be made from the skin of any animal, bird, fish or reptile although only that from cattle and a few other farm animals, such as sheep, are of major commercial importance. The skin of most animals consists of three main layers: the grain, the corium and the flesh. The grain is outer most on the animal; the corium is the main or central layer with thicker fibers and provides most of the strength of the leather; and the flesh is a thin layer between the corium and actual flesh of the animal. The latter is of little value in the finished leather and may be partly or wholly removed. Leather is usually sold as whole skins or as sides. A side is one half of a whole Skin cut along the backbone. Most skins are split down in thickness and, therefore, do not contain all three lasers. The best leathers have the grain laver intact with varying amounts of corium. Flawed leathers have the grain bulled or corrected before finishing. Most suede's are made from splits without the grain. A split may also be coated to simulate a grain surface. The skin is converted to leather by a process known as tanning. The two main methods are chrome tanning and vegetable tanning. Most shoe leather is chrome tanned although mixed vegetable/chrome treatments are also popular. Chrome tanned leather has good resistance to heat, moisture and perspiration.

Suitability of leather for upper materials

- Elasticity and plasticity
- Strength and stretch
- Permeability
- Surface characteristics
- Ease of working and maintenance

A. Collecting, sorting and lay out materials in preparation of cutting

Material collection: It means the amount of the material issued to the clicker from the store for a particular order or plan. A work ticket is issued to the clicker. In this work ticket order no., color of the leather, sizes of the pairs, sizes of the skins, no. of the pairs to be cut etc. is mentioned. On the basis of this work ticket leather is issued to the clicker. Clicker collects the leather from the store.

Cutter's ticket

NAME OF THE ORGANIZATION

CUTTERS' JOB TICKET.

CUTTER'S NAME:-_____

DATE:-_____

MATERIAL:-_____

COLOR:-_____

GRADE:-_____ **LAST NO:-**_____

STYLE MODEL:-_____

SIZE	PAIRS

MATERIAL ISSUED:-_____

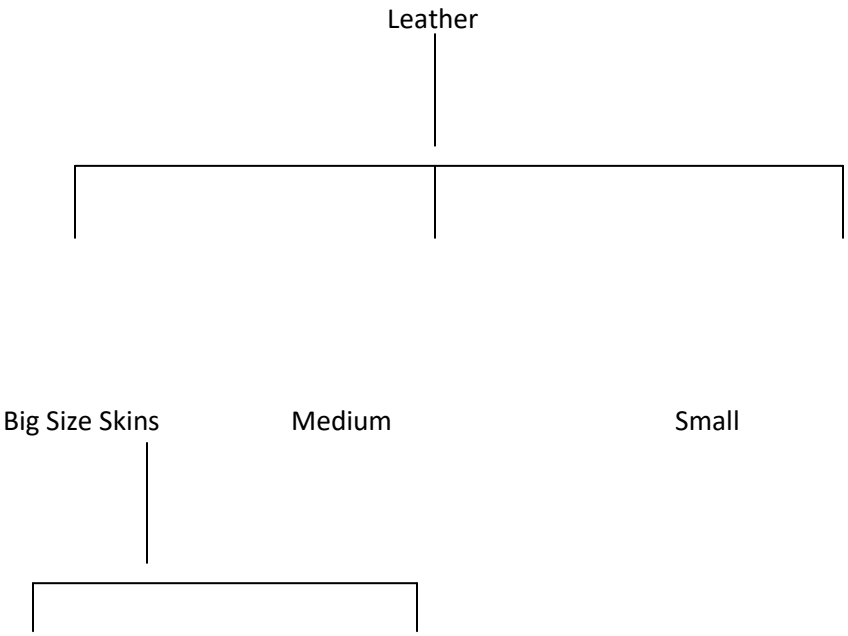
MATERIAL RETURN/EXTRA:-_____

SAVED/WASTE MATERIAL:-_____

DEPARTMENT'S SINGNATURE:-

Sorting of Leather

Leather may be sorted for standard **size, grain and shade**. This increases his productivity. The sorting is done as follows:



Before starting cutting the cutter must check

(i) Tin patterns

(ii) Work tickets

(iii) Production samples and production guide

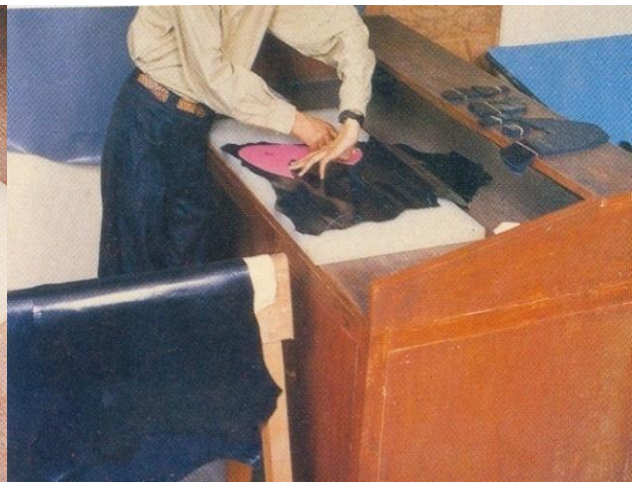
The perfect state of tin pattern has the important task at clicking out. At the check the clicker concentrate on

(ii) Cutting edge quality

(iii) Dimension (time to time the patterns are checked with the master pattern in production)

(iv) Design

(v) Faults

The material is put on the leather horse according to the following rules

- At first he can put thinner leather and thicker ones are put up.
- Color shades are put from the darkest to the lightest ones step by step (for an easier pairing).

Whole leather is over loaded at the longitudinal axis by grain up and shifted out slightly.

Textile

This term describes any-woven or knitted material. Yarns used for weaving and knitting are of natural origin, such as cotton, wool or linen, or a host of synthetic yarns, such as viscose, nylon, etc. Some fabrics are made of a blend of natural and synthetic fibers. All textiles used in shoe production must be backed with another material, usually cotton sheeting or drill, or double-woven in such a way to provide the necessary weight or thickness required of shoe uppers and linings.

- **In shoe uppers:** There is a wide variety of non-coated fabrics used for shoe uppers. Textile fabrics such as cotton duck, corduroy and denim are in great demand for rubber-soled shoes and sneakers. Nylon straw and mesh find their place in summer shoes for men, women and children. Textile fabrics are also used for many types of slippers. Fake furs that are essentially a

textile product imitating sealskin, leopard and a host of other animal skins, are used in winter footwear.

- **In Linings:** The most commonly used vamp lining fabric for women's dress shoes used to be a textile fabric known as faille. Today, because of the demand for softness in footwear, nylon tricots backed by foam, are now the most commonly used women's footwear linings. They have a padded or soft feel. The use of cotton drills for the vamp linings of men's and boy's shoes are still common practice.

Reinforcement

Reinforcements are used to give extra strength to the weaker areas of the shoes, which are prone to failure. In shoe making reinforcement are small pieces of leather or other material or tapes which are stitched to the upper between the upper shell and lining shell to strengthen the points where strain and wear are greatest for example, the top lines, back seam, Punches and derby stay etc.

Different types of reinforcements are available in percent shapes or tapes and sheets to suit the different category of footwear. Now days various materials like nylon, Polyester, Cotton, Paper etc are being used as reinforcement for footwear. Reinforcements are available in different width and colors and thickness of reinforcement may vary from 0.2mm to 0.5mm. These may

be either pressure sensitive or heat sensitive or self-adhesive and may be woven, non-woven, knitted or braided.

Need Of Reinforcement

As the name implies, reinforcements means adding strength or reinforce the material to which they are attached. Their purposes are as follows:

- Reinforces the material to which it is attached.
- Adds strength to the material, thus ensuring durability.
- Helps in overcoming shoemaking problems by preventing stretching of material.
- Helps in retaining the appearance/ shape of the shoe.
- Enhances the final get up and appearance of the shoe.

Choice/Type of Material for Reinforcement Depends upon Many Factors

- Material of upper
- Style of upper
- Possible areas for reinforcement in relation to design and function.

Bottoms Components

This is a term which refers to the whole of the bottom of shoe as opposed to the upper. It generally includes some of the following, depending on type of construction.

a. Insole
b. Sole.
c. Welt.

d. Bottom fillings.

e. Heel, heel lifts and top piece.

Components: This is collective term which is used to describe items which is in

Corporate in shoe and includes the following.

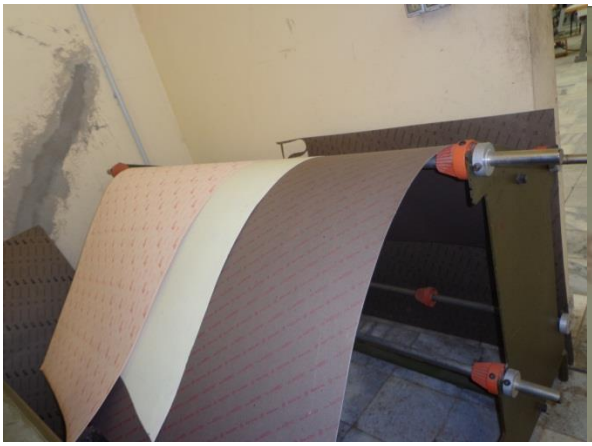
a. Toe puff.

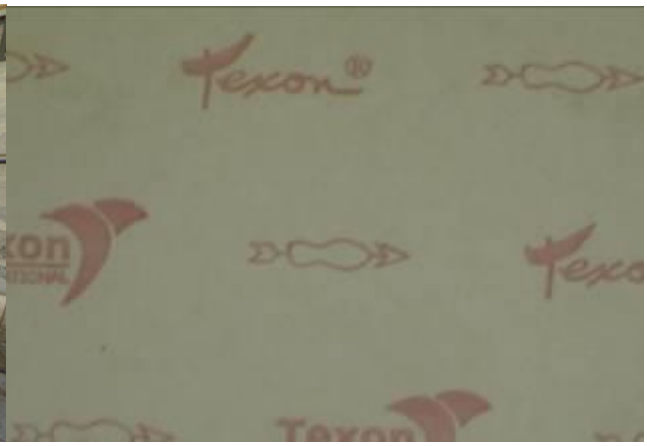
b. Stiffener.

c. Shank board

d. Insole board

e. Socks





Self-Check 4	Written Test

Name: _____ Date: _____

Instructions: Write all your answers in the provided answer sheet on page

Directions: Answer all the questions listed below.

(Total marks:-8*1=8)

Test I: Fill in the blanks:

1. Leather may be sorted for standard ----------.

2. Before starting cutting the cutter must check ----------.

3. ---------- are used to give extra strength to the weaker areas of the shoes.

4. ---------- is the property of leather.

Test II: One word answer:

1. One the basis of what document the clicker knows about the detail of cutting.
2. Write down the name of one bottom component.
3. What is the use of reinforcement?
4. On what basis leather is sorted.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

You can ask you teacher for the copy of the correct answers.

Note: **Satisfactory rating - 10 points** **Unsatisfactory - below 10 point**

Information Sheet 4-Maintaining records

4,4,1 INTRODUCTION:

In this chapter, participants should be able to understand how records are maintained concerning upper material consumption, number of pairs cut, lining material consumption, other material consumption, productivity of upper cutting, productivity of

lining cutting. All concerns activities help to participants to produce quality and productivity.

For both establishing the initial cost of style and to control the consumption of material by the clicker it is necessary to determine the amount of material required.

It is important to get an accurate figure because:

1. The upper is typically the largest single item in the cost of materials of the shoe and sufficiently accurate figures are needed to set material consumption allowance for product development, product costing, material requirement planning.
2. The profitability of the company depends on accurate costing.
3. The consumption allowance relating to a batch for a clicker to cut is called.

CLICKER ALLOWANCE can be used as a basis for payment by results on “Leather saved” against the allowance by the clicker.

Any system for predetermining the material consumption allowance needs the following attributes:

1. Consistency between styles and shoe sizes.
2. Consistency between material types.
3. Sufficient accuracy to be used as a standard against which cutting results can be compared so that steps can be taken to eliminate excessive wastage.

Work Order Sheet

The most important document is the work order sheet. This document gives the details of the buyers order and for the companies. ‘The current order position’. The planning department of the organization to prepare this keeping the customer’s priority listed. The order is broken down to the pair’s basis. The delivery dates are also mentioned to ensure that goods are required to be delivered on time.

Lot Number

To follow the safeguard and convenience during shoe production is to divide the complete shoe order in to the quantities or lots as per the dispatch schedule. This is because of:

- Buyers are very rear asks for the whole order quantity at once,
- Different destination suggested to ship,
- Storage cost or any damage against heavy loading unloading.
- Payment releases and
- Working capital.

The planned dispatch quantities of shoes are divided in to the small lots and Lot No is allocated accordingly. The Lot No is stamped over the components edges or (suitable area), which helps to recognize the component against any happening during production.

Example

Suppose on Ist January, 5000 pairs of shoe uppers order has been received from buyer, which is to be dispatched according to following:

- Pairs 500 to be dispatched by 31st January,
- Pairs 500 to be dispatched by 31st March,
- Pairs 1200 to be dispatched by 3oth April,
- Pairs 1400 to be dispatched by 31st May,
- Pairs 1400 to be dispatched by 3oth June,

Now for the convenience during the production is to divide the Ist dispatch quantity in following ways:

- Order break up of first 500 pairs will divided in to five equal lots.
- One Lot of 100 pairs (even number) is considered suitable for calculation purposes during recording and planning.
- Serial all the concerns Lots in numbers like 1, 2, 3, 4 and 5 (100 each).

This 100 pair Lot is allocated further by providing numbering in following ways:

- Take lot number one of 100 pairs and start planning the serial number from one to hundred.
- Material to be issued for cutting will be according to the lot number one.
- Stamping done on above lot material will be given as serial number like **order number/article number/size/lot number/serial number.**

Plan Sheet

The work orders are broken in to plans. This typical plan sheet indicates breaking up of the order in to small lot. Usually the production is broken down in to small lots of 10 pairs in every size though; the lot size is variable from company to company. The breaking of the order is necessary to track the pairs and ensure that the pair mix-up is not taking place. Also the company – for the buyer they remain in the fair position to check that whether the orders are reaching on time or in case of delay how much delay can occur.

The plan sheet depicted indicated here shows the article/design details for tracking and then breakup of the plan.

Note

- The size break up is 10 prs. Per size.
- The plan number cannot be repeated within the order no. and article number.
- The article number can be alfa – numeric.
- Each plan contains equal number of pairs.
- The issue of the material has to be plan wise only depending on the day's capacities.
- The daily lot has to be completed.

Daily Plan Sheet (production)

Date	8.30 9.30	9.30 10.30	10.30 11.30	11.30 12.30	Total Production	1 to 2	2 to 3	3 to 4	4 to 5	Total Production
Monday										
Tuesday										
Wednesday										
Thursday										
Friday										
Saturday										
Total										

Work Loading Chart

(i) Based on the planning sheet the daily loading chart is prepared this is necessary for loading the individual workstation.

(ii) The example shown here is for the daily load plan for any workday. For the preparation of the day plan following things are required :

- Capacity of the department
- Individual department's capacity
- Availability of the material
- Capacity of the individual cutter
- Size assortment to be cut
- Delivery dates
- Types of material to be cut on individual machine
- Skill of the operator.

(iii) Based on the individual capacities of the workstation the loading is carried out. You may note that individual sizes (big and smaller sizes) are mixed together. This is done to save the material.

(iv) This is merged with the plan. Therefore the cutter will have to cut 10 plans. Each plans containing the 10prs. of the individual plan. Number e.g. 001 (pl. refer plan sheet). Therefore 10 plans of the 10 prs. each are given accounting to 100 prs.

(v) The clicker cuts the material as per the plan. The cutting ticket shows the plan numbers to be cut. That is the reason why lots are accepted in 10 prs. The qc personnel marks this out (the plan number) and the checking is carried out as per the plan number work allocation.

Specification Sheet:

Generally specification sheet is designed according to the order sample and maximum time it is sent by customer along with the order sheet. This helps in identifying the material concern for the shoe upper to be made and dictate all production terms as per the sample. This is a kind of agreement between buyer and manufacturer regarding deal of particular products.

Manufacturer cannot neglect the given specifications during making the shoe and buyer will have to accept the related product, if it is to be made according to the specifications given. Specification can be of regarding following types:

- Material specifications,
- Technical specifications
- Machinery specifications,
- Method specifications and
- Packing and dispatch specifications.

These specifications are collected from the buyer and recording has been done at various levels of the system. All the concerns information is sent to the respective departments and necessary considerations are taken care of. Transparency is made at all levels of production for the necessary specifications to be followed and necessary steps are taken for the remedial action.

Clicker/Cutter's Ticket

The clicking ticket is prepared after preparing the load chart. This is prepared as per the load chart. Changes may occur in case of absentees of the operator or certain priority orders.

This is made on accounting principles. The amount of the material required as well as issue quantity is also mentioned. The amount of the material returned is credited to the cutters accounts.

NAME OF THE ORGANIZATION

CUTTERS' JOB TICKET.

CUTTER'S NAME:-_____

DATE:-_____

MATERIAL:-_____

COLOR:-_____

GRADE:-_____ **LAST NO:-**_____

STYLE MODEL:-_____

SIZE	PAIRS

This also shows the cut along with sizes to be and materials article details to be used. In some cases die numbers are also mentioned. It is better to mention quality requirements on the cutting tickets to ensure that the quality remains addressed in all respects such as shade matching, defects, or grain matching.

MATERIAL ISSUED:-_____

MATERIAL RETURN/EXTRA:-_____

SAVED/WASTE MATERIAL:-_____

DEPARTMENT'S SINGNATURE:-

Cutter's ticket

Demo Layouts

Demo layouts are used to explain the operators that how the cutting process is to be followed this helps the operator to understand the quality requirements as well as the allowances.

The simple process that is explaining on the board or tracing one skin with actual patterns is the commonly used method. The operators usually follow this before cutting.

Quality Report

The quality reports are prepared for the control of the defective pieces going through the process thereby preventing the production of the defective footwear. This is required to be carried out for the 100% inspection, unless such is not the case (cutting of the synthetics).

The QC report is prepared in accordance of the work plan and load chart. In inconsistency is noted therefore preventive actions are initiated to prevent the reasons. Cause analysis helps the company to prevent future happening or higher rate of rejections.

Dispatch Report

Dispatch records are maintained to ascertain that how much work is completed against the load schedule. The QC passed complete uppers are only entered in the dispatch record .This is recorded as per the plan number and work allocations.

Date	Dept.	Order No	Article No	Plan No	Size	Input (Prs)	WIP (Prs)	Rejection (Prs)	Output (Prs)	Packing (Prs)

Reading A Work Ticket

The clicking tickets can vary from company to company. The one explained here is only a demonstrative example.

There are two requirements of a clickers work ticket:

(i) To give clear cutting instructions.

(ii) To control material usage.

(i) To give clear cutting instruction:

When an order is received from the buyer the order may be broken in to economical cutting or planning reasons. The wok ticket that is issued to the clicker should never be more than one day's work and should also contain mix sizes.

(i i) Material Control:

This area of the ticket records material usage.

- **Calculated:** This is the amount of material that is cost to complete the work.
- **Received:** This is amount of material actually received by the clicker to complete the work.

- QTY. The quantity of material issued by the store this will vary from the calculated quantity as the store may issue various grades of leather.

  Price per unit in DM2 OR SQ. decimeter or mtr sq. for the grade of leather that has been issued 4TH grade leather would be cheaper than 1st grade leather.

- R-Calculated value of material issued.

- **Returned:** This portion of the ticket records in the same way as previous. However care should be taken that the material returned by the clickers credited at the correct grade and price.
- **Calculated:** This is used to give a total loss or profit result for the order.

By keeping records of orders an assessment of each clicker is possible daily, weekly or monthly basis.

Self-Check – 2	**Written test**

Name: _____ **Date:** _____

Time started: _____ **Time finished:** _____

Directions: Answer all the questions listed below.

(Total marks 8*1=8)

Test I: Short answer questions:

1. What are the two requirements for maintaining the records? (1 mark)
2. What is clickers' allowance? (1 mark)
3. What is the use of work loading chart? (1 mark)

4. What is indicated in the plan sheet? (1 mark)

Test II: Fill in the blanks

5. The work orders are broken in to plans. (1mark)
6. ----------gives the details of the buyers order and for the companies. (1mark)
7. ---------- is designed according to the order sample and maximum time it is sent by customer along with the order sheet. (1mark)
8. Delivery date is also mentioned in the ----------. (1mark)

You can ask you teacher for the copy of the correct answers.

Note: **Satisfactory rating - 10 points** **Unsatisfactory - below 10 point**

LG #35	LO #5- Apply basic ergonomic principles
Instruction sheet	

This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics:

- Identifying causes of stress in work area
- Identifying causes of fatigue in work area
- Considering and identifying work
- Identifying hazards as per OHS practices.
- Identifying the distance between the machines and the operator
- Designing workplace following ergonomic and economy of movements.

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, **you will be able to**:

- Identify causes of stress in work area
- Identify causes of fatigue in work area
- Consider and identifying work
- Identify hazards as per OHS practices.
- Identify the distance between the machines and the operator
- Design workplace following ergonomic and economy of movements.

Learning Instructions:

28. Read the specific objectives of this Learning Guide.

29. Follow the instructions described below.

30. Read the information written in the “Information Sheets”. Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them.

31. Accomplish the “Self-checks” which are placed following all information sheets.

32. Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (You are to get the key answer only after you finished answering the Self-checks).

33. If you earned a satisfactory evaluation proceed to “Operation sheets

34. Perform “the Learning activity performance test” which is placed following “Operation sheets” ,

35. If your performance is satisfactory proceed to the next learning guide,

36. If your performance is unsatisfactory, see your trainer for further instructions or go back to “Operation sheets”.

Information Sheet 1- Identifying causes of stress in work area

Safety and health in the use of ma

Adjustable features

. Adjustability, for example of height, to accommodate users of different sizes should be taken into account in machinery design.

. Operating positions

The operating position should be designed and constructed in such a way as to prevent any risk due to exhaust gases or lack of oxygen.

If the machinery is intended to be used in a hazardous environment presenting risks to the safety and health of the operator, or if the machinery itself gives rise to a hazardous environment, adequate

means should be provided to ensure that the operator has good working conditions and is protected against any foreseeable hazards.

. Where appropriate, the operating position should be fitted with an adequate cabin designed, constructed and equipped to fulfil the above requirements. The exit should allow rapid evacuation. Moreover, where applicable, an emergency exit should be provided in a direction which is different from the usual exit.

Seating

. Where appropriate and where the working conditions permit, workstations constituting an integral part of the machinery should be designed to allow the installation of seats.

. If the operators are supposed to sit during operation, and the operating position is an integral part of the machinery, the seat should be provided with the machinery.

General statements on the working environment

Operators' seats should enable them to maintain a stable position, and the operators should be able to adjust their seats and their distance from the control devices.

. If the machinery is subject to vibration, the seat should be designed and constructed in such a way as to reduce the vibration transmitted to the operator to the lowest level that is reasonably possible. The seat mountings should withstand all stresses to which they can be subjected. Where there is no floor beneath the feet of the operator, footrests covered with a slip-resistant material should be provided.

Control systems

. Safety and reliability of control systems

. Control systems should be designed and constructed in such a way as to ensure that as few hazardous situations as possible

arise. They should be designed and constructed taking into account the following aspects:

(a) they should be able to withstand the intended operating stresses and external influences, taking into account foreseeable abnormal situations. External stresses include humidity, temperature, impurities, vibration and electric fields;

(b) a fault in the hardware or software of the control system should not lead to hazardous situations;

(c) errors in the control system logic should not give rise to hazardous situations; and

(d) reasonably foreseeable human error during operation should not give rise to hazardous situations.

. Particular attention should be paid to the following points:

(a) the machinery should not start unexpectedly;

(b) the parameters of the machinery should not change in an uncontrolled way;

(c) the machinery should not be prevented from stopping if the stop command has already been given;

(d) no moving part of the machinery or piece held by the machinery should fall or be ejected unintentionally;

(e) automatic or manual stopping of the moving parts, whatever they may be, should be unimpeded;

Control systems

(f) protective devices should remain fully effective or give a stop command; and

(g) safety-related parts of the control system should apply in a coherent way to the whole of an assembly of machinery and partly completed machinery.

. For cableless control, an automatic stop should be activated

when correct control signals are not received, including loss of communication.

. Control devices

. Control devices should be:

(a) clearly visible and identifiable and readily distinguishable from one another by their separation, size, shape, colours or feel, and by labelling controls either with words or with unambiguous and easily recognizable symbols to identify the function or consequences of using the controls;

(b) designed in such a way that controls for starting or stopping are clearly marked;

(c) positioned in such a way as to be safely operated without hesitation or loss of time and without ambiguity;

(d) designed in such a way that the movement of the control device is consistent with its effect;

(e) located outside danger zones, except where necessary for certain control devices such as an emergency stop or a teach pendant;

(f) positioned in such a way that their operation cannot cause additional risk;

(g) designed or protected in such a way that the desired effect, where a hazard is involved, can be achieved only by a deliberate action; General obligations, responsibilities and duties

health protection of workers is optimized during the work task process

Information Sheet 2- Identifying causes of fatigue in work area

main factors to be addressed include:

(a) characteristics of the working environment and its impact on workers;

(b) equipment/workstation overall design and flow-through;

(c) the weight of the product or tools being handled;

(d) the frequency of handling products, tools and applying force;

(e) the duration in which products or tools are handled or force is applied;

(f) the postures adopted by workers when handling the materials/ products or applying the force; and

(g) the physical characteristics of workers when carrying out their activities (height, build, gender and age).

. Investigations of the origin and underlying causes of work-related injuries, ill health, diseases and incidents should identify any failures in the OSH management of machinery and should be documented.

The results of such investigations should be communicated to the safety and health committee, where it exists, and the committee should make appropriate recommendations.

. The results of investigations, in addition to any recommendations from the safety and health committee, should be communicated to appropriate persons for corrective action, included in the management review and considered for continual improvement activities.

Safety and health in the use of machinery

. Recording and documentation

. Employers should establish appropriate recording systems relating to safety and health in the use of machinery and document the relevant information on matters such as significant safety and health hazards and risks arising from machinery used in the workplace, the arrangements for prevention and control, and details of any dangerous occurrences or accidents that occur. Employers should ensure that such records are available and readily retrievable at all reasonable times for the workers concerned and their representatives and the competent authority. Employers should share information on faults and defects with the manufacturer and supplier.

. Records and documentation on safety in the use of machinery should be periodically reviewed, updated and, where appropriate, communicated and made readily accessible to workers and their representatives and the competent authority.

. Employers should consider creating documented work methods for machinery identified as high risk following the risk assessment. This could include, but should not be limited to:

(a) safe operating procedures (SOPs);

(b) job safety analysis (JSA);

(c) safe work method statements (SWMSs);

(d) work instruction (WI).

These can be used for training, competency assessment, quality and skill development purposes.

. Use of machinery

. Employers should take the measures necessary to ensure that machinery is suitable for the work to be carried out, or otherwise properly adapted for its intended purpose, and is safe for workers.

General obligations, responsibilities and duties

. Employers should ensure that machinery is correctly installed and safeguarded and that protective devices and markings are used so that workers are protected from danger to their safety and health.

. Employers should ensure that workers are adequately trained and competent.

. Employers should ensure adequate and competent supervision of work and work practices, including adherence to work procedures.

. Maintenance

. Employers should take all necessary measures to ensure that, throughout its working life, machinery is maintained in a condition such that it continues to meet the relevant safety requirements.

The manufacturer's instructions should be taken into account when maintenance is carried out.

. Employers should ensure the safety of machinery through a system of preventive maintenance, including regular inspections and testing, where appropriate, of protective devices and guards and emergency stops. Any defects should be rectified promptly. In the event that serious defects are noted, the machinery should not be used until the defects have been corrected.

include written procedures and communication on how the work can be carried out safely (for example, "permit to work" systems, procedures for working in confined spaces and lock-off procedures).

. Employers should ensure that maintenance is performed safely and that, where appropriate:

(a) the work is performed in accordance with the relevant special instructions and procedures;

Information Sheet 3- Considering and identifying work

1. Identifying the true, underlying problem
2. Framing the problem accurately

Problems are unique to their contexts, so you will probably have to talk with several different stakeholders to get the full picture.

Stakeholders on your policy journey can include:

- Those who are affected by the policy (directly or indirectly)
- Those directly involved with or responsible for the policy
- People whose jobs or lives might be affected by the policy or any part of the policy process

- Community members and leaders
- Neighborhood associations and networks
- Those with strong influence in the community (e.g., media, clergy, doctors, CEOs)
- State and local health departments
- Interest groups (e.g., business, activists, academics)
- Funders and other resource providers

- Schools and educational groups
- Funders and other resource providers
- Evaluators
- Legislators, government officials, and other policymakers

- you can identify potential stakeholders by networking with existing partners.

EXAMPLE: IDENTIFYING THE UNDERLYING PUBLIC HEALTH PROBLEM

The public health example below is for illustration and demonstrates the concept of identifying the underlying public health problem. It can be used for a variety of health topics.

In a city, women in Neighborhood A were getting adequate prenatal care, but women in Neighborhood B were not. However, the neighborhoods had the same risk factors for not getting adequate prenatal care.

To learn more about this issue, researchers asked stakeholders to provide data on why Neighborhood B had such low rates of prenatal care. Local clinicians said there was an increase in the number of missed appointments in that neighborhood over the past few years.

After interviewing health care providers and community members, the team learned that bus services in the neighborhood had been drastically cut in the last two years.
In this situation, stakeholder interviews helped the researchers understand the true, underlying cause of the lack of prenatal care in the city. They originally thought it was a health care problem, but in reality, it was a transportation problem.

Tools

Investment Learning Platform (ILP)

Project identification

The purpose of project identification is to develop a preliminary proposal for the most appropriate set of interventions and course of action, within specific time and budget frames, to address a specific development goal in a particular region or setting. Investment ideas can arise from many sources and contexts. They can originate from a country's sector plan, programme or strategy, as follow-up of an existing project or from priorities identified in a multi-stakeholder sector or local development dialogue. Identification involves:

- a review of alternative approaches or options for addressing a set of development problems and opportunities;

- the definition of project objectives and scope of work at the degree of detail necessary to justify commitment of the resources for detailed formulation and respective preparatory studies; and
- the identification of the major issues that must be tackled and the questions to be addressed before a project based on the concept can be implemented.

Sufficient information on project options must be gathered to enable the government and financing agencies to select a priority project and reach agreements among stakeholders on arrangements for preparation work, including setting up steering committees or national preparation teams. The results of identification work should be summarized in a report, project brief or concept document, the format of which will depend upon the government's and/or financing agencies' requirements.

. Identify Tools And Methods You Never Considered Before

One of the steps in a Training Needs Assessment involves surveys, observations and other forms of evaluation to identify learning obstacles. Of course, this tells the company who needs more of the old training. But it can also reveal new training approaches that hadn't been considered before.

For example, let's imagine that a survey reveals that classroom-based workshops take too much time out of the workday, and employees are falling behind on their responsibilities. As a result, employees feel stressed and negative toward training. This insight might lead the company to choose an LMS so that employees can learn from anywhere, anytime, and at their own pace.

4. Achieve A Greater Return On Investment

Ask any CFO what the importance of a Training Needs Assessment is, and they'll give you 3 capital letters: ROI. Because they know that training decisions based on real, measurable skill gaps are more likely to result in learning and performance improvement, the return on training investment every company is looking for.

But there's more. Through the Training Need Analysis process, you'll be able to measure how effective past training was, too. For example, have skill gaps closed since the last assessment? Have learning obstacles been removed? Or, are employees still unable to meet their performance goals, despite previous learning initiatives?

This kind of evidence of the effectiveness of training is hard to ignore. Which is why a Training Needs Assessment builds credibility for training among stakeholders, earns the respect of senior managers, and justifies the need for a training budget. Do we even need to continue?

5. Engage Staff In Continuous Learning And Development

Employee engagement might not be something you expected to see on this list. But, boy, does it belong here! Why? Reports have shown that staff who feel their employers listen to and acknowledge their input are almost 5 times more likely to feel encouraged to do their best work. And a Training Needs Assessment is the perfect way to make them feel heard.

To start with, learning needs assessment questions in the form of surveys or interviews get employees actively involved in training decisions. For example, when employees say

they need a more digital training delivery and are gifted with a powerful LMS, like TalentLMS, in the next quarter, they'll know the company is listening to their needs.

More than that, the results of a needs assessment give managers the insights they need to plan the best development paths for their employees and succession plans for their teams. In other words, it's a real win-win.

6. Make Organizational Change An Easy Transition

An old saying is that the only constant in life is change. And the same applies to business. Because the chances are that your company has already, or will still, adopt a new software program, restructure a department or shift its strategic vision. So, if you can't avoid change, how do you best equip employees for these transitions?

The answer, of course, is training. But to understand which training will be the most helpful to employees in times of change, you have to assess their needs in each situation. For example, fostering a customer-centric culture might require training in customer service and related soft skills. Learning how to use a new training platform, on the other hand, requires technical training.

How To Perform A Training Needs Analysis

If by now, you're not wondering how to conduct a Training Needs Assessment, you haven't been paying attention. Because there are lots of solid reasons to start evaluating training needs in your company today. Here's how to do it.

1. **Set Clear Business Objectives**

   First, identify the objectives of training. Is the company's goal to reduce costs? Improve innovation? Or is maybe the aim to become more efficient? Understanding the performance areas that employees need to improve on in order to help the company achieve its goals is the key to the next step.

2. **Identify The Competencies Needed To Achieve Them**

   Once you know what employees must improve on, identify *how* they will improve. In other words, which knowledge and skills will they need to develop in order to become more productive, efficient or innovative?

3. **Remove Learning And Performance Obstacles**

   Next, through surveys and other evaluation techniques, identify any obstacles that would prevent employees from learning and developing their knowledge and skills. This could be anything from poor training delivery methods, to a lack of management support.

4. **Provide The Appropriate Training**

   Finally, armed with information from the previous 2 steps, design and deliver the most appropriate training for each employee or team's needs. (And be confident that the results will be positive.)

Dive into the full details of the Training Needs Analysis with this step-by-step article.

Conclusion

It's hard to deny that a Training Needs Assessment requires a bit of extra effort. More importantly, though, it saves time and resources by ensuring that the right training is delivered to the right people in the right way, and for the best results

Information Sheet 4 - Identifying hazards as per OHS practices

5,4,1 Types of Hazards:

Once all machinery and plant have been identified, the hazards associated with them can be identified.

- **Physical hazards** are such as noise, heat/cold, radiation, microwaves, etc.
- **Chemical hazards** are derived from chemical used in the work place including toxic gases, noxious fumes and flammable/ corrosive liquids.
- **Ergonomic hazards** are related to physical dimensions of equipment, the placement of equipment and accessibility of a storage area, the weight of equipment or the support of furniture.
- **Movement hazards** are caused by a manual handling such as lifting or moving loads and repetitive movement**.**

PHYSICAL HAZARDS

Heat

- Wear heat resistant gloves when carrying hot parts and equipment.
- Avoid working conditions with poor ventilation may lead to heat stress.

Electricity

- Electricity is a serious hazard because electric shock can be fatal.

Occupational Health and Safety requirements

Fire fighting

Firefighting is the act of extinguishing fires. A firefighter fights fires to prevent loss of life, and/or destruction of property and the environment. And there should be an emergency allocation of resources, required to deal with an unforeseen problem or fire.

- Firefighting equipment includes portable fire extinguishers and hose reel.

b

First aid

-First Aid firefighting equipment includes portable fire extinguishers and hose reel.

-Secure the scene (move people away, make sure there is no more danger).

-Do not move the person unless it is absolutely necessary.

-Start first aid or ask a First Aider to start first aid (stop any bleeding, cover with a blanket, try to keep the person calm)

Things you can do to minimize the risk:

- Know the fire safety and emergency procedures.
- Make sure you know how to use firefighting equipment such as fire extinguishers and fire blankets.
- Make sure you know where the firefighting equipment is kept.
- Don't use water on oil, fat or electrical fires

- Get rid of rubbish which may cause a fire hazard

Fire

There is a high risk of fire in a Model unit.

Protective clothing

Protective clothing is that protects the head, body, and extremities, and consists of at least the following components: Foot and leg protection, hand protection, body protection, eye, face, and head protection. All firefighting members will wear protective clothing meeting the requirements of OSHA (29 CFR 1910.156) and summarized below:

5. Foot and leg protection. Foot and leg protection will be achieved by either of the following methods:

c) Fully extended boots which provide protection for the legs; or

Protective shoes or boots worn in combination with protective trousers.

6. Body protection

- Body protection will be coordinated with foot and leg protection to ensure full-body protection for the wearer. This may be achieved by one of the following methods:

Wearing of a fire-resistive coat in combination with fully extended boots; or

Wearing of a fire-resistive coat in combination with protective trousers.

7. Hand protection.

Hand protection will consist of protective gloves or glove system which will provide protection against cut, puncture, and heat penetration.

8. Head, eye, and face protection.

Head protection shall consist of a protective head device with earflaps and chinstrap. Protective eye and face devices will be used by fire-brigade members when performing

operations where the hazards of flying or falling materials which may cause eye and face injuries are present.

Emergency actions

- Raise the alarm – anyone who discovers a fire shall immediately inform all his colleagues who might be affected by the fire.

- Attack the fire – try to extinguish the fire with the available first aid firefighting equipment only if safe to do so.

Safety requirements

Cutting machine/clicking machine

In using a Cutting machine/clicking machine the following safety rules must be followed.

Do not operate the machine without prior approval

Do not work without written job order card

Only one person is allowed to work on the machine at one time

Before the start of the cutting, check the die for the Article, Size, and Upper/lining/interlining.

Before starting cutting, set the pressure and adjust the aluminum plate 10mm above the die

Check the die for deformation of shape before proceeding for cutting

Do not keep the Dies on top of the other

Switch off the machine when not in use

Use only one die on the Nylon board while cutting material

Knives:

- Use the right knife for the task.
- Keep knives sharp

- Always cut on a stable surface, like a cutting board.
- Always cut away from your body.
- Store knives safely in a rack or knife block.
- Don't leave knives in washing –up water.
- Always carry knives with the blade pointing downwards.

Splitting machine

Do not operate the machine without prior approval

Switch off the machine when not in use

Only one person is allowed to work on the machine at one time

Do not work without written job order card

Grinder

In using a grinder especially for blade making; the following safety points must be followed.

Hair must be tied back

Wear tight clothes

Shoe must be protective

Do not operate the machine without prior approval.

Do not work without safety glass.

Only one person is allowed to work on the machine at one time.

Switch off the machine when not in use.

Do not spill the water on the machine.

Break the hack saw blade on the vice.

Do not wear loose cloth while sharpening the blade,

Clean your work place after completing your work.

Do not walk around carrying the knife with the cutting blade exposed. It can cause injury.

Do not try and catch a falling knife instead when it is not in use put your knife in a secure place

Strap cutting machine

Do not operate the machine without prior approval

Switch off the machine when not in use

Only one person is allowed to work on the machine at one time

Do not work without written job order card

Skiving machine

In using a skiving machine the following safety rules must be followed.

Set and check the rotary parts of the machine before switch on the machine.

- Belt guard should be in place.
- While sharpening the knife care should be taken so that scraps do not catch fire due to sparkles.
- Work area must be kept tidy.
- Never use hand to remove jammed material, use a brush or stick.
- Wear specified mask during skiving.
- Wear specified glass during dressing and sharpening.
- Use finger guard during skiving.
- Use appropriate footwear and apron.
- Know your fire drill.
- Inform your superior in case of any events.

- Keep your tools and accessories in reachable place.

Stamping machine

Do not operate the machine without prior approval.

Only one person is allowed to work on the machine at one time.

Switch off the machine when not in use.

do not spill the water on the machine

do not wear loose cloth while working,

place the component on machine platform carefully

keep the hands away from the heated number plate/die

Clean your work place after completing your work.

Empty the leather waste in to waste bin only.

Self-Check 3	Written Test

Instructions: Write all your answers in the provided answer sheet on page no. 24.

Test I: True or False: (Total points: 8X8=8)

Do not work without written job order card.

Only one person is allowed to work on the machine at one time

Before the start of the cutting, do not check the die for the Article, Size, and Upper/lining/interlining.

Before starting cutting, do not set the pressure and adjust the aluminum plate 10mm above the die

Check the die for deformation of shape before proceeding for cutting

Keep the Dies on top of the other

Switch off the machine when not in use

Use only one die on the Nylon board while cutting material

Test II: Short Answer Questions:

Directions: Answer all the questions listed below. Examples may be necessary to aid some explanations/answers. **(Total Points:-2X3=6)**

1. What are the safety requirements in hand cutting and machine cutting?
2. What are the safety requirements in cutting department of footwear manufacturing other than cutting machine?

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet 5 Identifying the distance between the machines and the operator

Hazard Identification and Assessment

One of the "root causes" of workplace injuries, illnesses, and incidents is the failure to identify or recognize hazards that are present, or that could have been anticipated. A critical element of any effective safety and health program is a proactive, ongoing process to identify and assess such hazards.

To identify and assess hazards, employers and workers:

- Collect and review information about the hazards present or likely to be present in the workplace.
- Conduct initial and periodic workplace inspections of the workplace to identify new or recurring hazards.
- Investigate injuries, illnesses, incidents, and close calls/near misses to determine the underlying hazards, their causes, and safety and health program shortcomings.
- Group similar incidents and identify trends in injuries, illnesses, and hazards reported.
- Consider hazards associated with emergency or nonroutine situations.
- Determine the severity and likelihood of incidents that could result for each hazard identified, and use this information to prioritize corrective actions.

Some hazards, such as housekeeping and tripping hazards, can and should be fixed as they are found. Fixing hazards on the spot emphasizes the importance of safety and health and takes advantage of a safety leadership opportunity. To learn more about fixing other hazards identified using the processes described here, see "Hazard Prevention and Control."

Action item 1: Collect existing information about workplace hazards

Action item 2: Inspect the workplace for safety hazards

Action item 3: Identify health hazards

Action item 4: Conduct incident investigations

Action item 5: Identify hazards associated with emergency and nonroutine situations

Action item 6: Characterize the nature of identified hazards, identify interim control measures, and prioritize the hazards for control

Action item 1: Collect existing information about workplace hazards

Information on workplace hazards may already be available to employers and workers, from both internal and external sources.

How to accomplish it

Collect, organize, and review information with workers to determine what types of hazards may be present and which workers may be exposed or potentially exposed. Information available in the workplace may include:

- Equipment and machinery operating manuals.
- Safety Data Sheets (SDS) provided by chemical manufacturers.
- Self-inspection reports and inspection reports from insurance carriers, government agencies, and consultants.
- Records of previous injuries and illnesses, such as OSHA 300 and 301 logs and reports of incident investigations.
- Workers' compensation records and reports.
- Patterns of frequently-occurring injuries and illnesses.
- Exposure monitoring results, industrial hygiene assessments, and medical records (appropriately redacted to ensure patient/worker privacy).
- Existing safety and health programs (lockout/tagout, confined spaces, process safety management, personal protective equipment, etc.).
- Input from workers, including surveys or minutes from safety and health committee meetings.
- Results of job hazard analyses, also known as job safety analyses.

Information about hazards may be available from outside sources, such as:

- OSHA, National Institute for Occupational Safety and Health (NIOSH), and Centers for Disease Control and Prevention (CDC) websites, publications, and alerts.
- Trade associations.
- Labor unions, state and local occupational safety and health committees/coalitions ("COSH groups"), and worker advocacy groups.
- Safety and health consultants.

Action item 2: Inspect the workplace for safety hazards

Hazards can be introduced over time as workstations and processes change, equipment or tools become worn, maintenance is neglected, or housekeeping practices decline. Setting aside time to regularly inspect the workplace for hazards can help identify shortcomings so that they can be addressed before an incident occurs.

How to accomplish it

- Conduct regular inspections of all operations, equipment, work areas and facilities. Have workers participate on the inspection team and talk to them about hazards that they see or report.
- Be sure to document inspections so you can later verify that hazardous conditions are corrected. Take photos or video of problem areas to facilitate later discussion and brainstorming about how to control them, and for use as learning aids.
- Include all areas and activities in these inspections, such as storage and warehousing, facility and equipment maintenance, purchasing and office functions, and the activities of on-site contractors, subcontractors, and temporary employees.
- Regularly inspect both plant vehicles (e.g., forklifts, powered industrial trucks) and transportation vehicles (e.g., cars, trucks).
- Use checklists that highlight things to look for. Typical hazards fall into several major categories, such as those listed below; each workplace will have its own list:
  - General housekeeping

- Slip, trip, and fall hazards
- Electrical hazards
- Equipment operation
- Equipment maintenance
- Fire protection
- Work organization and process flow (including staffing and scheduling)
- Work practices
- Workplace violence
- Ergonomic problems
- Lack of emergency procedures

- Before changing operations, workstations, or workflow; making major organizational changes; or introducing new equipment, materials, or processes, seek the input of workers and evaluate the planned changes for potential hazards and related risks.

Note: Many hazards can be identified using common knowledge and available tools. For example, you can easily identify and correct hazards associated with broken stair rails and frayed electrical cords. Workers can be a very useful internal resource, especially if they are trained in how to identify and assess risks.

Action item 3: Identify health hazards

Identifying workers' exposure to health hazards is typically more complex than identifying physical safety hazards. For example, gases and vapors may be invisible, often have no odor, and may not have an immediately noticeable harmful health effect. Health hazards include chemical hazards (solvents, adhesives, paints, toxic dusts, etc.), physical hazards (noise, radiation, heat, etc.), biological hazards (infectious diseases), and ergonomic risk factors (heavy lifting, repetitive motions, vibration). Reviewing workers' medical records (appropriately redacted to ensure patient/worker privacy) can be useful in identifying health hazards associated with workplace exposures.

How to accomplish it

- Identify *chemical hazards* –review SDS and product labels to identify chemicals in your workplace that have low exposure limits, are highly volatile, or are used in large quantities or in unventilated spaces. Identify activities that may result in skin exposure to chemicals.
- Identify *physical hazards* –identify any exposures to excessive noise (areas where you must raise your voice to be heard by others), elevated heat (indoor and outdoor), or sources of radiation (radioactive materials, X-rays, or radiofrequency radiation).
- Identify *biological hazards* –determine whether workers may be exposed to sources of infectious diseases, molds, toxic or poisonous plants, or animal materials (fur or scat) capable of causing allergic reactions or occupational asthma.
- Identify *ergonomic risk factors* –examine work activities that require heavy lifting, work above shoulder height, repetitive motions, or tasks with significant vibration.
- Conduct *quantitative exposure assessments* –when possible, using air sampling or direct reading instruments.
- *Review medical records* –to identify cases of musculoskeletal injuries, skin irritation or dermatitis, hearing loss, or lung disease that may be related to workplace exposures.

Note: Identifying and assessing health hazards may require specialized knowledge. Small businesses can obtain free and confidential occupational safety and health advice services, including help identifying and assessing workplace hazards, through

Workplace incidents –including injuries, illnesses, close calls/near misses, and reports of other concerns– provide a clear indication of where hazards exist. By thoroughly investigating incidents and reports, you will identify hazards that are likely to cause future harm. The purpose of an investigation must always be to identify the root causes (and there is often more than one) of the incident or concern, in order to prevent future occurrences.

- Develop a clear plan and procedure for conducting incident investigations, so that an investigation can begin immediately when an incident occurs. The plan should cover items such as:

    - Who will be involved
    - Lines of communication
    - Materials, equipment, and supplies needed
    - Reporting forms and templates

- Train investigative teams on incident investigation techniques, emphasizing objectivity and open-mindedness throughout the investigation process.
- Conduct investigations with a trained team that includes representatives of both management and workers.
- Investigate close calls/near misses.
- Identify and analyze root causes to address underlying program shortcomings that allowed the incidents to happen.
- Communicate the results of the investigation to managers, supervisors, and workers to prevent recurrence.

Effective incident investigations do not stop at identifying a single factor that triggered an incident. They ask the questions "Why?" and "What led to the failure?" For example, if a piece of equipment fails, a good investigation asks: "Why did it fail?" "Was it maintained properly?" "Was it beyond its service life?" and "How could this failure have been prevented?" Similarly, a good incident investigation does not stop when it concludes that a worker made an error. It asks such questions as: "Was the worker provided with appropriate tools and time to do the work?" "Was the worker adequately trained?" and "Was the worker properly supervised?"

Note: OSHA has special reporting requirements for work-related incidents that lead to serious injury or a fatality (29 CFR 1904.39). OSHA must be notified within 8 hours of a work-related fatality, and within 24 hours of an amputation, loss of an eye, or inpatient hospitalization.

Action item 5: Identify hazards associated with emergency and nonroutine situations

Emergencies present hazards that need to be recognized and understood. Nonroutine or infrequent tasks, including maintenance and startup/shutdown activities, also present potential hazards. Plans and procedures need to be developed for responding appropriately and safely to hazards associated with foreseeable emergency scenarios and nonroutine situations.

How to accomplish it

- Identify foreseeable emergency scenarios and nonroutine tasks, taking into account the types of material and equipment in use and the location within the facility. Scenarios such as the following may be foreseeable:
    - Fires and explosions
    - Chemical releases
    - Hazardous material spills
    - Startups after planned or unplanned equipment shutdowns
    - Nonroutine tasks, such as infrequently performed maintenance activities
    - Structural collapse
    - Disease outbreaks
    - Weather emergencies and natural disasters
    - Medical emergencies
    - Workplace violence

Action item 6: Characterize the nature of identified hazards, identify interim control measures, and prioritize the hazards for control

The next step is to assess and understand the hazards identified and the types of incidents that could result from worker exposure to those hazards. This information can be used to develop interim controls and to prioritize hazards for permanent control.

How to accomplish it

- Evaluate each hazard by considering the severity of potential outcomes, the likelihood that an event or exposure will occur, and the number of workers who might be exposed.
- Use interim control measures to protect workers until more permanent solutions can be implemented.
- Prioritize the hazards so that those presenting the greatest risk are addressed first. Note, however, that employers have an ongoing obligation to control all serious recognized hazards and to protect workers.

LG #36	LO#1- . Cut material manually
instruction sheet	

This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics:

- Identifying problems or faults with patterns
- Using cutting knives with handles and patterns
- Identifying scars, marks and fault areas of leather and positioning patterns
- Positioning patterns to allow for identified flaws, nap of suede or other grain or print characteristics of leather.
- Using cutting techniques to match pattern shape, size and leather quality.
- Cutting at least 5 shoe styles of components precisely as per specifications.
  - Carrying out work according to OHS practices
  - **This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide,**
- Identify and refer Problems or faults with patterns for repair.
- Use Cutting knives with handles and patterns to minimize waste.
- Identify Scars, marks and fault areas of leather and positioned patterns accordingly.
- Position Patterns to allow for identified flaws, nap of suede or other grain or print characteristics of leather.
- Use Cutting techniques to match pattern shape, size and leather quality.
- Cut Pieces precisely to size and color coded and size and color matched.
  - Carrie out Work according to OHS practices

Learning Activities

1. Read the specific objectives of this Learning Guide.
2. Read the information written in the “Information Sheet 1”.
3. Accomplish the “Self-check 1” in page 7.
4. If you earned a satisfactory evaluation proceed to “Operation Sheet 2”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #2.
5. Submit your accomplished Self-check. This will form part of your training portfolio.
6. Read the information written in the “Operation sheet 2”.

7. Accomplish the “Lap test 2” in page 131.
8. If you earned a satisfactory evaluation proceed to “Information Sheet 2”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #6.
9. Read the information written in the “Information Sheet 2”.
10. Accomplish the “Self-check 2” in page 141.
11. If you earned a satisfactory evaluation proceed to “Information Sheet 3”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #9.
12. Read the information written in the “Information Sheet 3”.
13. Accomplish the “Self-check 3” in page 163.
14. If you earned a satisfactory evaluation proceed to “Information Sheet 4”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #12.
15. Read the information written in the “Information Sheet 4”.
16. Accomplish the “Self-check 4” in page 169.
17. If you earned a satisfactory evaluation proceed to “Information Sheet 5”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #15.
18. Read the information written in the “Information Sheet 5”.

19. Accomplish the “Self-check 5” in page 174.
20. If you earned a satisfactory evaluation proceed to “Information Sheet 6”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #18.
21. Read the information written in the “Information Sheet 6”.
22. Accomplish the “Self-check 6” in page 183.
23. Request you teacher to observe your demonstration of the exercises and give you feedback.

Information Sheet-1	Identifying problems or faults with patterns

.

6,1,1 Check patterns with master patterns.

Before start cutting the operator must check the all patterns, this is simply improve by assemble the patterns and check which pattern is missed and he must have the sketch or the sample of the model. This is used to cut quality leather for seen part of the shoe and he is simply understood the stretch and tightness or generally the grain line. Before starting the cung the cutter should consider the following things:-

1. **Cutter’s ticket: -** With the help of this cutter can know the article no., no of pairs to be cut, leather color, leather type, size assortment of the pairs etc.

XYZ SHOE FACTORY

CUTTER'S TICKET

DATE **SR.NO**

NAME **LAST** **ORDER NO.**

MATERIAL TYPE **MATERIAL-** **COLOUR**

DIE NO. **THICKNESS** **ARTICLE**

	TYPE	**SIZES**										
	A	38	39	40	41	42	43	44	45	46	47	
	B	35	36	37	38	39	40					
	C	33	34	35	36	37						TOTAL
PAIRS												
Consumption/Pair												
QTY												

MATERIAL ISSUED	**TOTAL LEATHER**
	CONSUMED
MATERIAL RETURNED	**ACTUAL NORM(+/-)**
SUPERVISOR	SIGN(STORE 1/C)

2. **Cutting patterns: -** Should be checked properly.

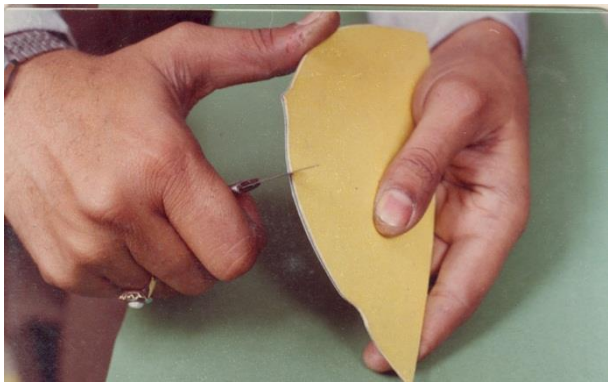
3. **Cutting handle: -** Blade of the cutting handle should be sharpened properly and curve of the blade should be according to the material to be cut.

4. **Tin sheet: -** Should be properly cleaned.

Checking Handling and Maintenance of Patterns

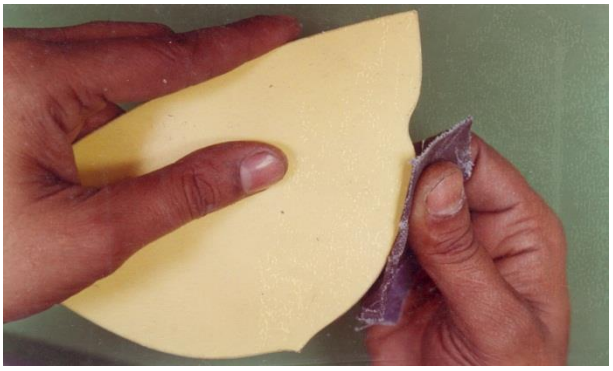
- ✓ Check patterns for nicks or rough spots. The smallest nick on a pattern could cause a knife to blunt quickly.

- ✓ Patterns should be checked by running the back of the knife over the edge of the pattern if you use your fingers,

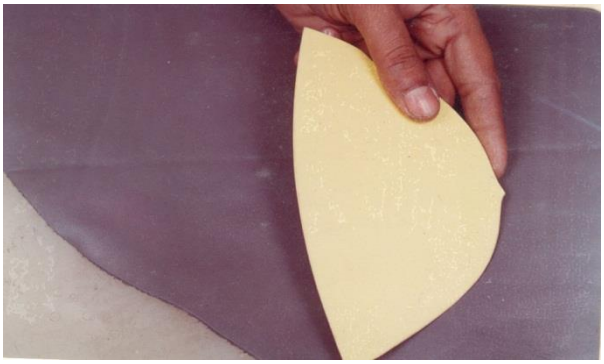


Remember: A good sharp edge on a pattern could cut you.

- ✓ Keep your patterns in good condition smooth off any rough sports with a fine piece of emery.



- ✓ Lift your patterns off the material. Sliding a pattern off can result in scratching the leather.



Check sizes with cutting plan.

The understanding of the following things written on the pattern is required:

- The name of the each pattern
- The number to be cut
- It is left**/**right or not
- The grain line
- The notch marks
- The size of the pattern.

Self-Check 1	Written Test

Name: _____ **Date:** _____

(Total marks:-6)

Instructions: **Write all your answers in the provided answer sheet on page**

Directions: **Answer all the questions listed below.**

Fill in the blanks:

1. Before start cutting the operator must check them ----------.

2. Check patterns for ---------- spots.

3. ---------- of the cutting handle should be sharpened properly.

4. Before start cutting the operator must check the ----------.

5. Cutter must have the ---------- of the model.

6. The smallest nick on a pattern could cause a ----------to blunt quickly.

Answer Sheet

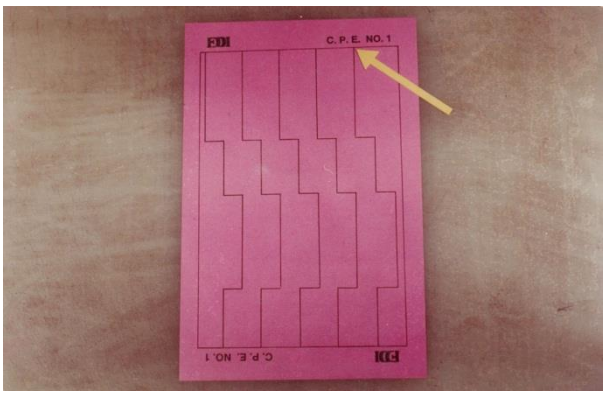
Score = _____
Rating: _____

Name: _____ Date: _____

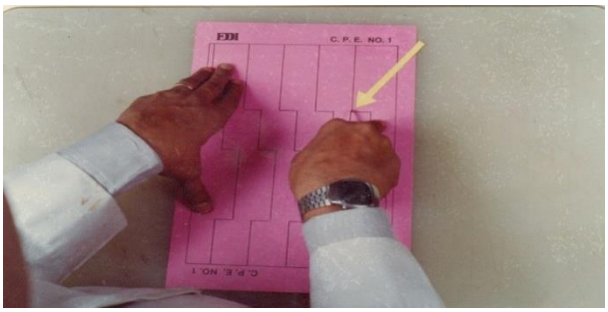
Operation sheet -2	**Cutting knives with handle to be used to minimize cutting wastage**

Cutting Paper Exercises 1 (CPE 1)

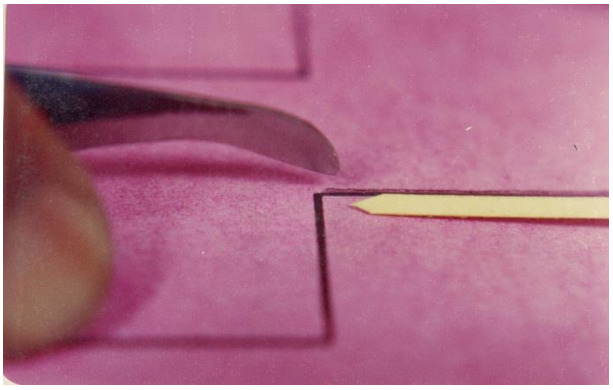
Starting at the top of the card. (Right hand side)



Stopping at the 1st 90-degree turn.

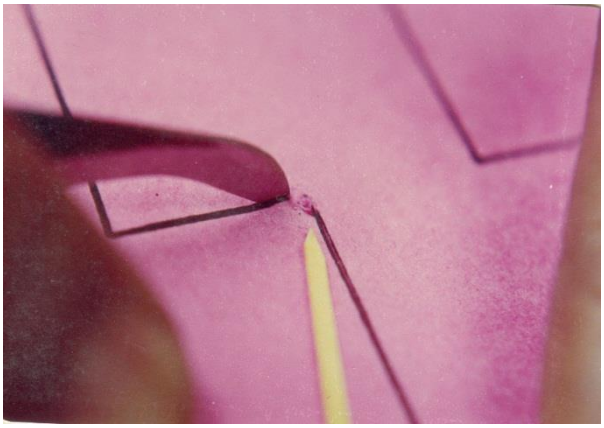


Remove the point of the knife.

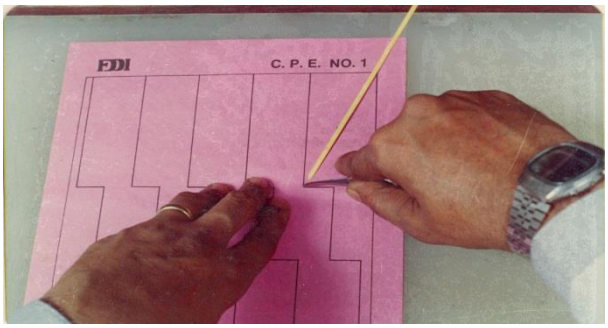


Do not try to swivel the point of the blade, this will only tear the corners of the exercise sheets.

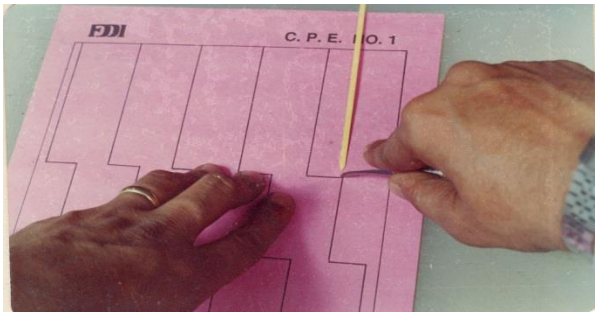
Or possibly break the point of the blade.



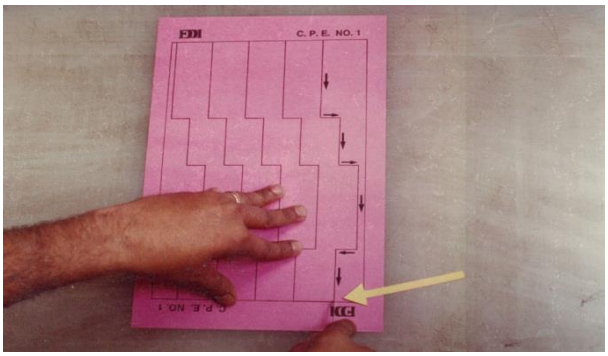
Reposition the point of the blade into the exercise sheet



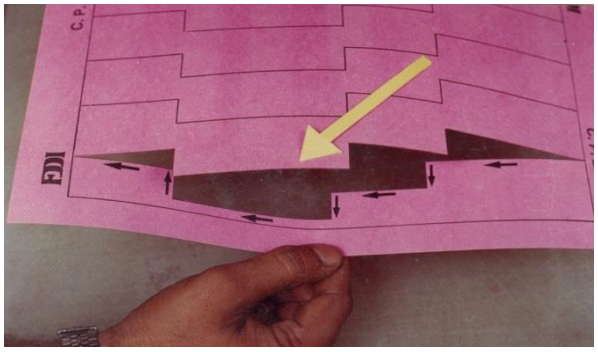
Commence cutting until you reach the next 90 degree turn then stop.



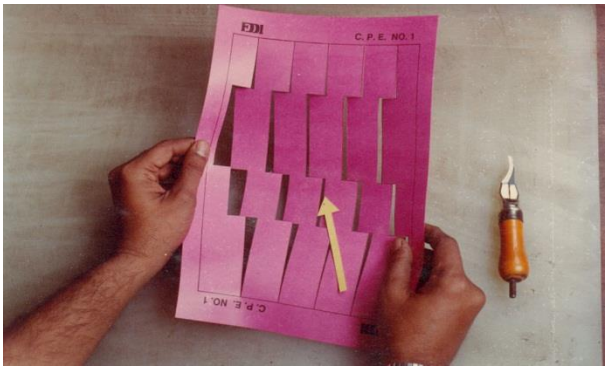
Continue until you have completed the line.



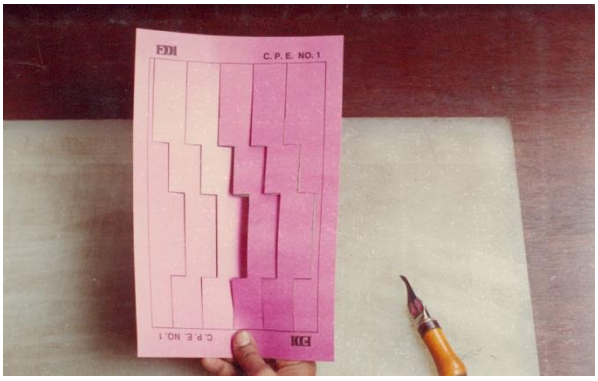
Check to see if you have cut through the exercise card.



Repeat until you have completed the exercise card.



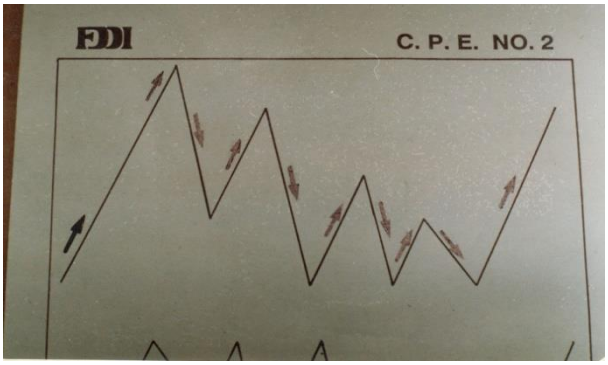
Show your instructor for approval.



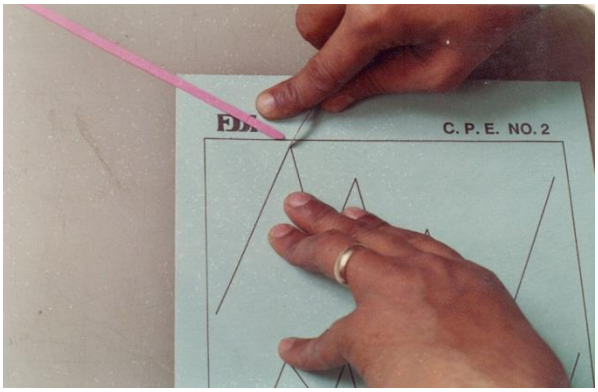
Cutting Paper Exercises (CPE 2)

Starting at the top of the page. (Do not turn card sideways).

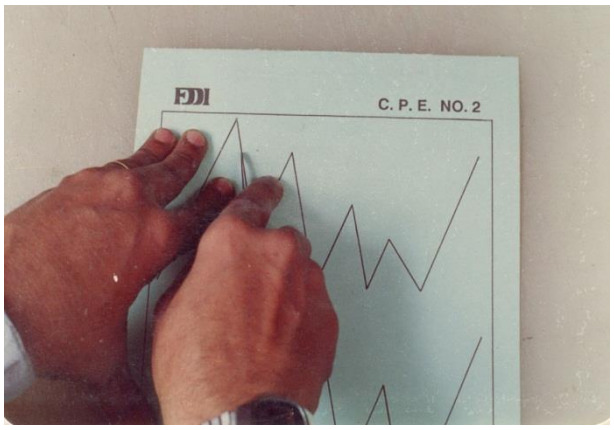
Follow cutting in the direction of the arrows. This exercise is to help develop wrist movement.



Stop at each peak, remove point of knife.

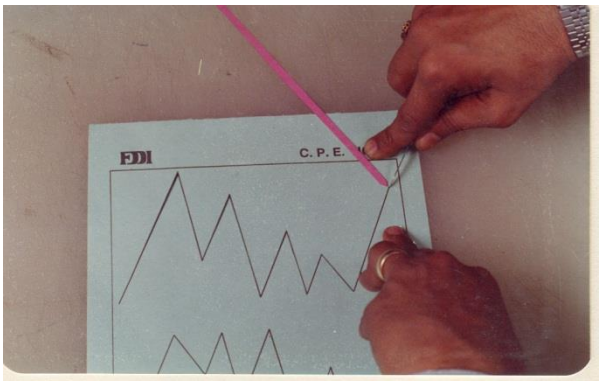


Place point of knife back into exercise card and continue cutting until next peak is reached.

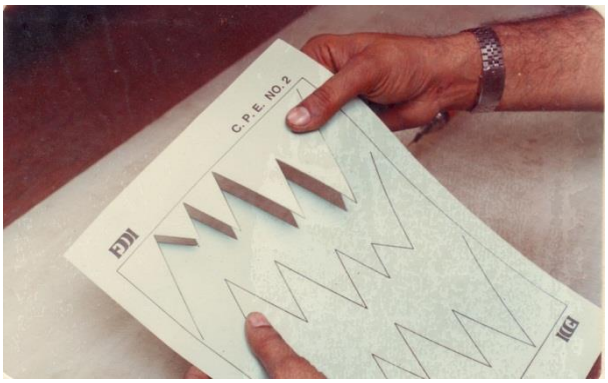


Continue until you have

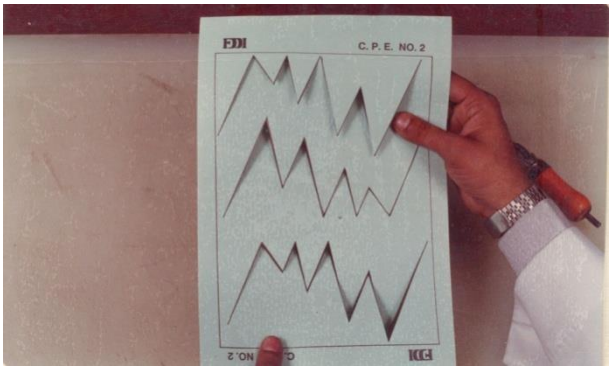
cut the completed line.



Check to see if you have cut through the exercise card.



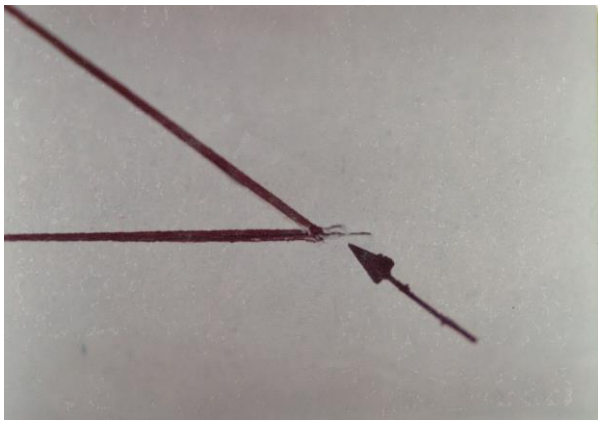
Complete the CPE card.



Faults

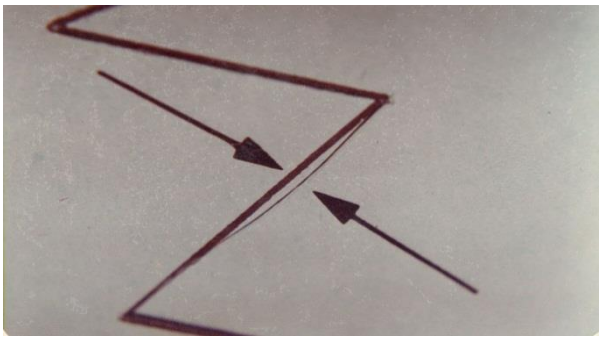
Do Not Over Cut

This will incur a full penalty point.



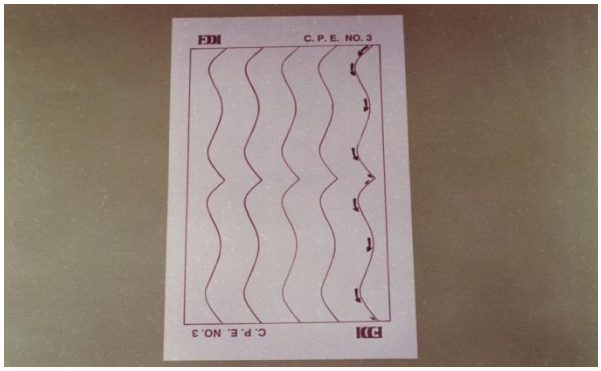
Do Not Run Off the Line

This will incur a ½ penalty point each time you run off the line.

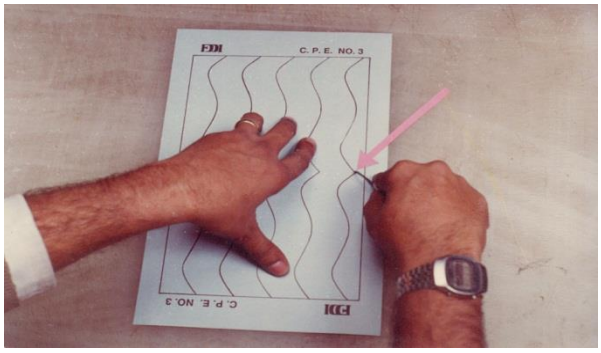


Cutting Paper Exercises (CPE 3)

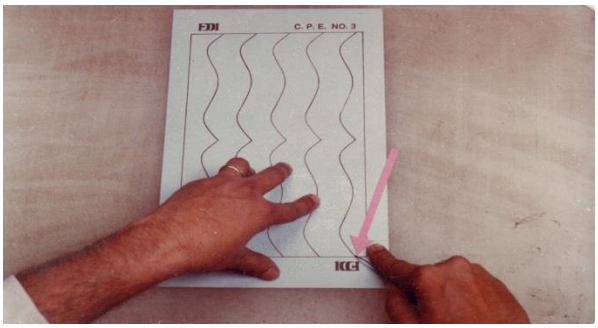
Starting at the top of the page on the right hand side.



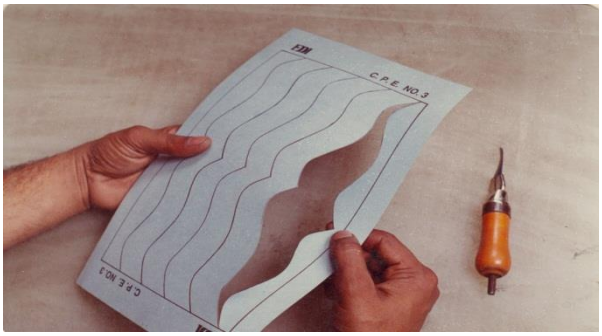
Cut in one continuous stroke until you reach the center point.



Reposition your knife blade and continue until the end of the line.



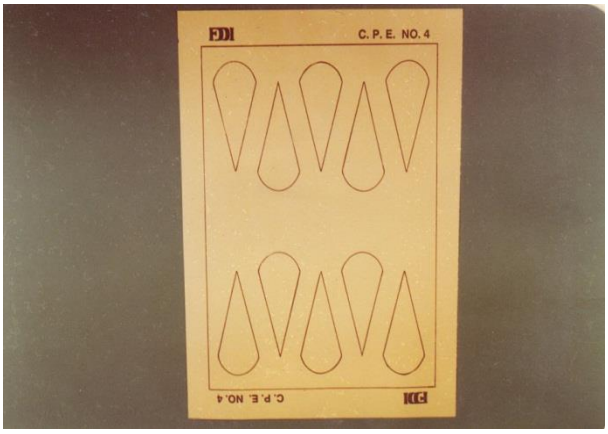
Remove the blade and inspect your cut.



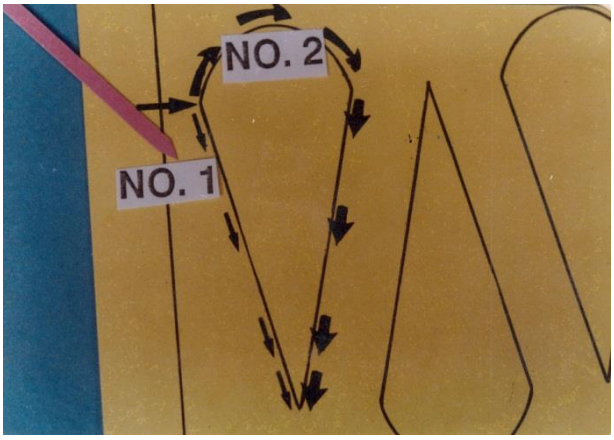
Complete your C.P.E. 3 exercise card.

Cutting Paper Exercises (CPE 4)

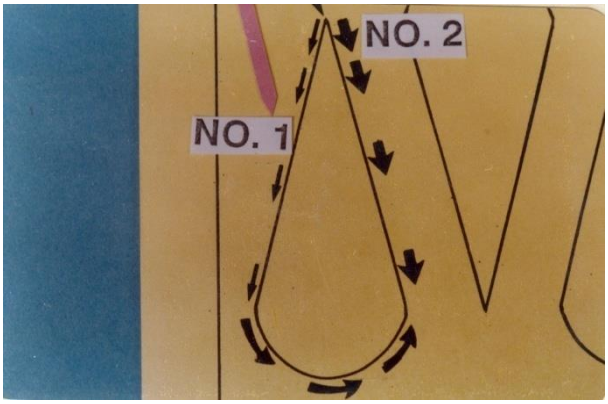
Starting at the top of page left hand side.



This cone exercise must be cut in two cuts.

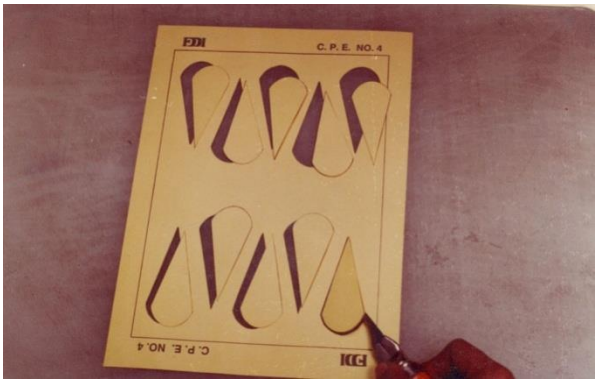


The reverse cone exercise should be cut in this sequence.



Check to see if you have cut through the exercise card.

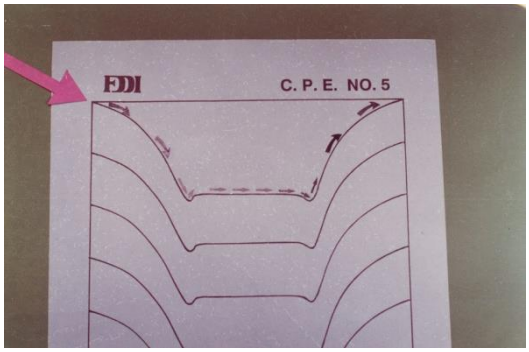
Complete the C.P.E. no 4 card.



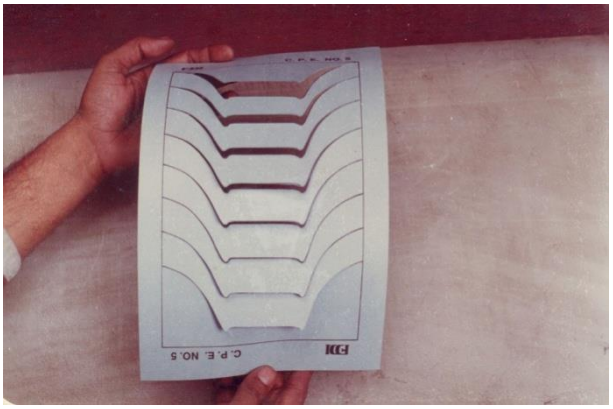
Examine the cut cones for smooth tops and points at bottom.

Cutting Paper Exercises (CPE 5)

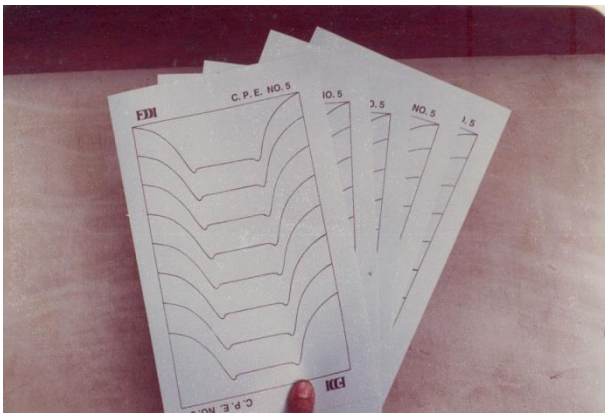
This exercise should be cut in one cut. Starting at the top left hand corner.



After completing the card present to your instructor for approval.



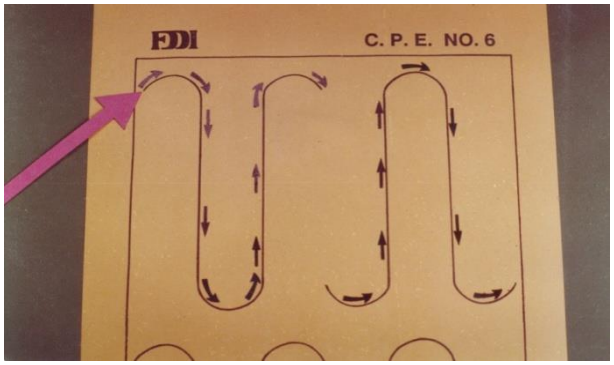
If acceptable commence the 5 exercise cards.



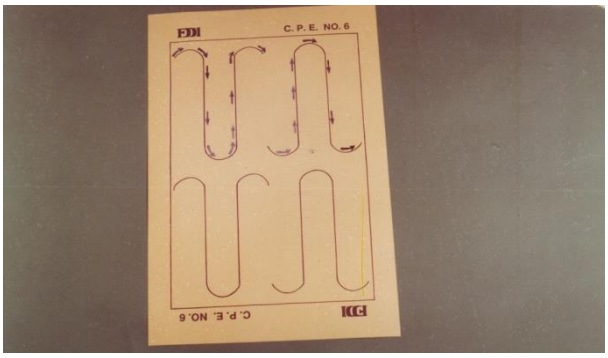
Present to your instructor for inspection. It is your responsibility to have your record sheet marked.

Cutting Paper Exercises (CPE 6)

Start at the top of the left hand card.

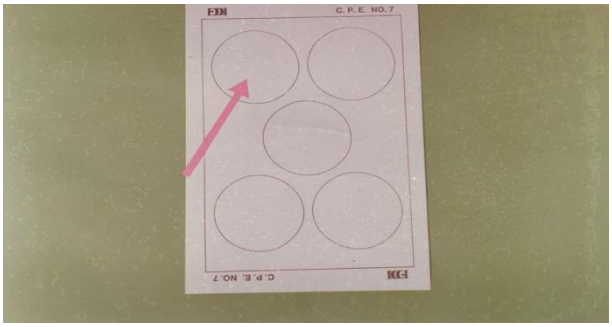


This exercise is a single cut exercise.

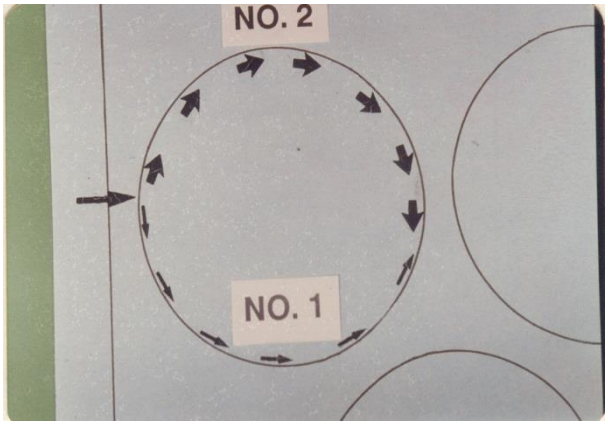


Cutting Paper Exercises (CPE 7)

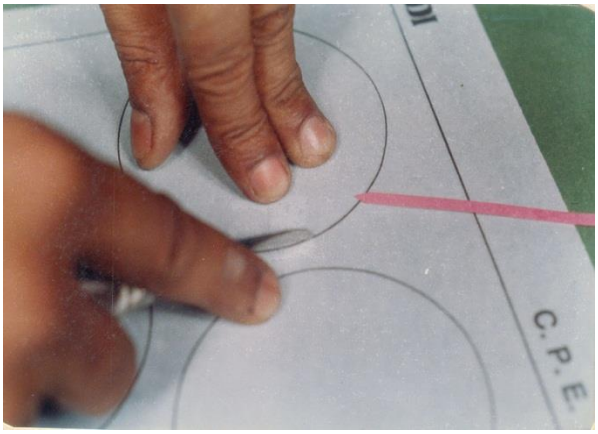
Start at the top of the page commencing with the far left hand circle.



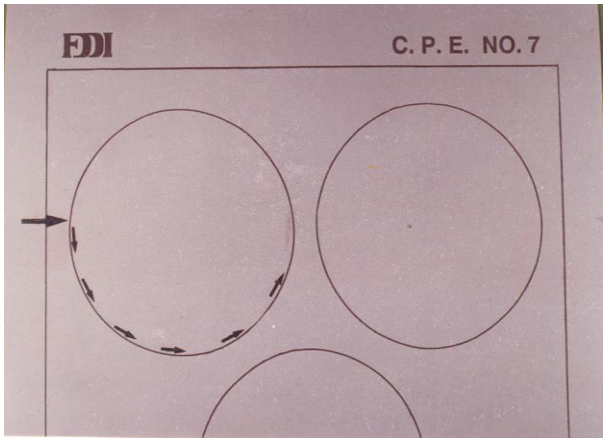
A circle should be cut with only two cuts.



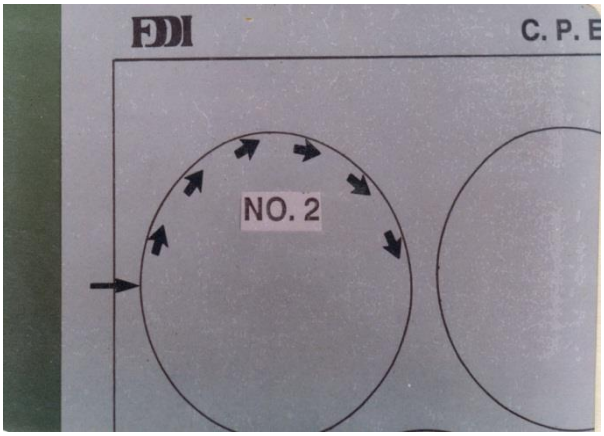
A small circle this size would normally be held in place by the thumb and 2 fingers.



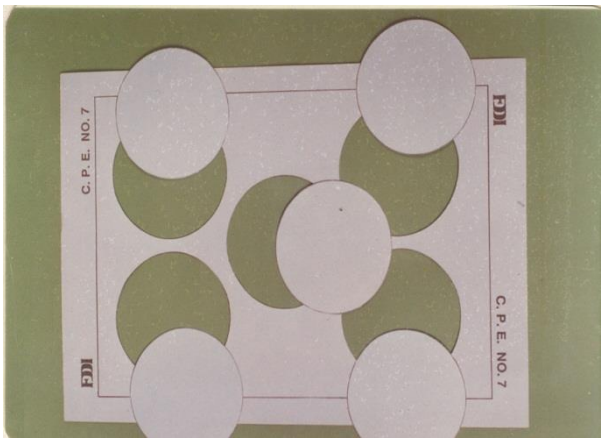
Commence cutting the underarm cut first.



Then cut the over arm or top of the curve (each cut starts at the side arrow point).

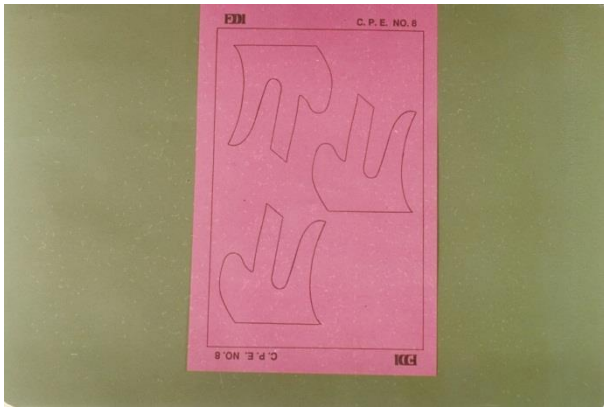


Cut out the 5 circles.

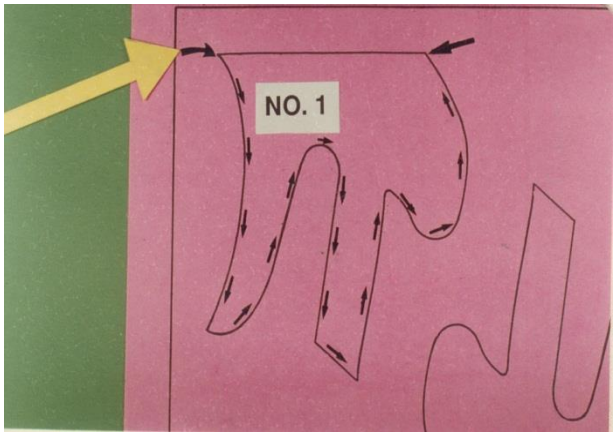


Cutting Paper Exercises (CPE 8)

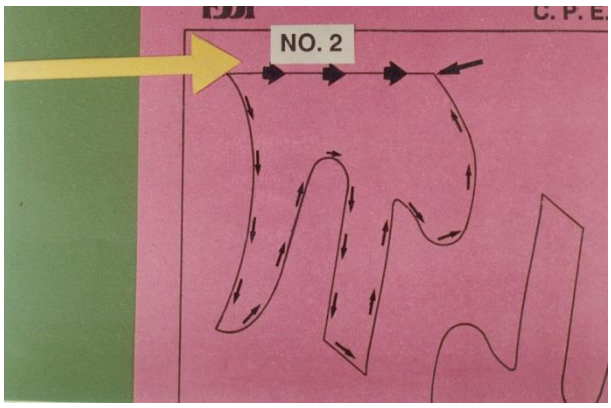
Start at the top left hand corner.



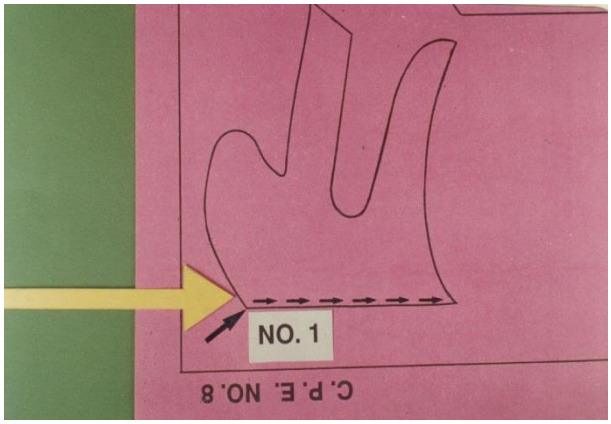
The first cut is the underarm cut (Follow the line or arrows).



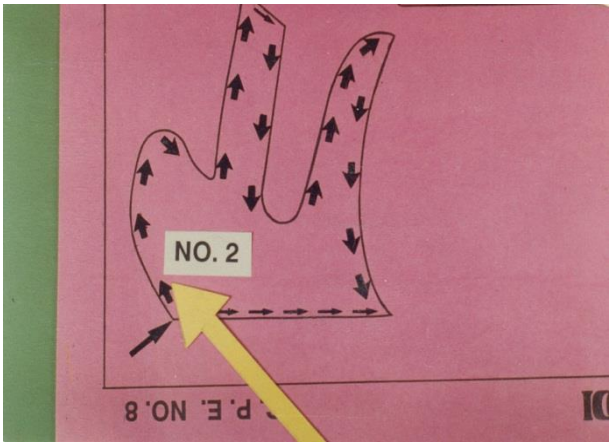
The second cut is an overarm cut across the top of the pattern. Remember to keep your fingers close together and standing in a upright position to reduce the chance of cutting them.



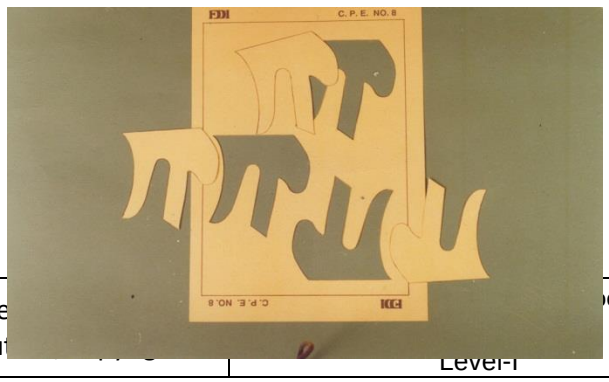
The second pattern is cut in reverse; the underarm cut at the bottom is cut no 1.



Followed by the over arm cut No. 2.



Complete all 3 shapes on the exercise card, and present to your instructor for inspection.



1. SYNTHETIC CUTTING EXERCISES

Cutting Synthetic Exercises 1 (CSE 1)

1. Start at the top of the pattern (left hand side): down side direction

1st Step

2nd Step

3rd Step

2. Again start from the top of the pattern(90* angle of the first cut)

3. Start from the top of the pattern(right hand side): down side direction

1st Step

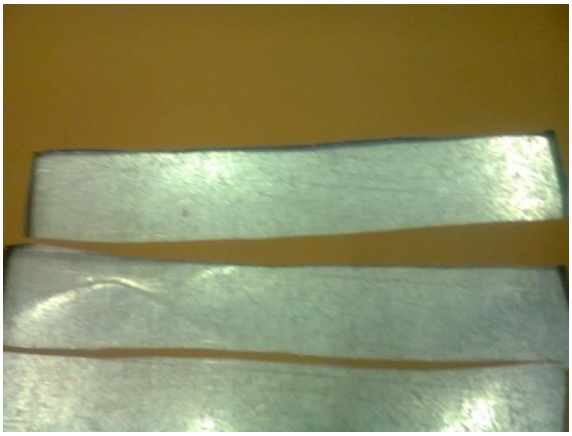
2nd Step

4. Start cutting from the bottom of the component (left hand side)

5. Check the qualilty of the component:

6. Check the cut exercise for the quality (fibres should not be come out)

7. Check the interlocking (for material wastage)



Cutting Synthetic Exercises 2 (CSE 2)

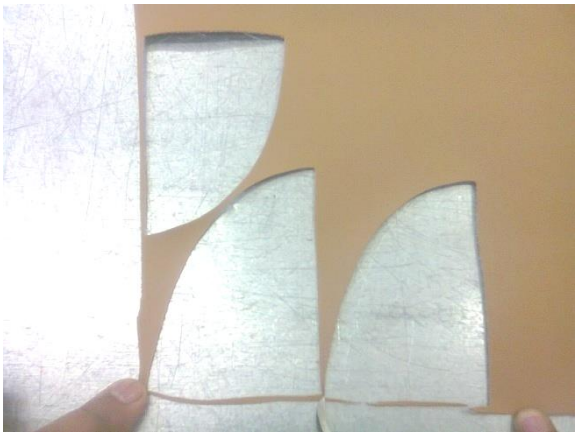
1. Start at the top of the pattern (left hand side)

2. Again start from the top of the pattern (right hand side curved area)

3. Again start cutting from the bottom of the component (left hand side)

4. Check the cut exercise for the quality (fibres should not be come out)

5. Check the interlocking (for material wastage)

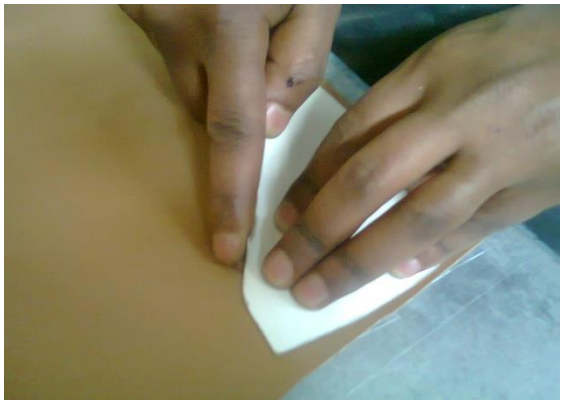


6. Check component for wrong cutting:

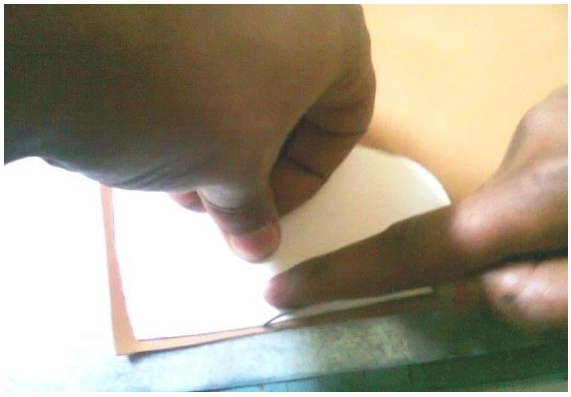
Cutting Synthetic Exercises 3 (CSE 3)

1. Start at the top of the pattern (left hand side): down side dierection

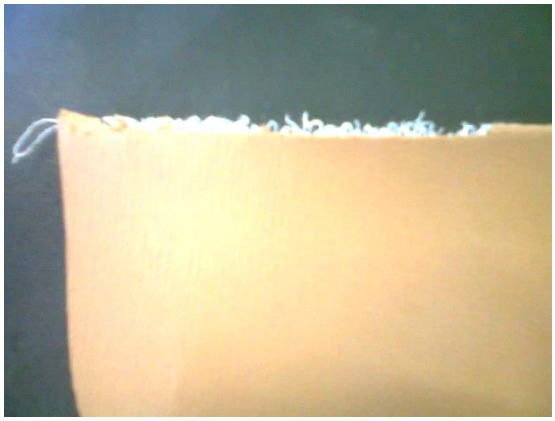
2. Again start from the top of the pattern (right hand side curved area): downside dercetion



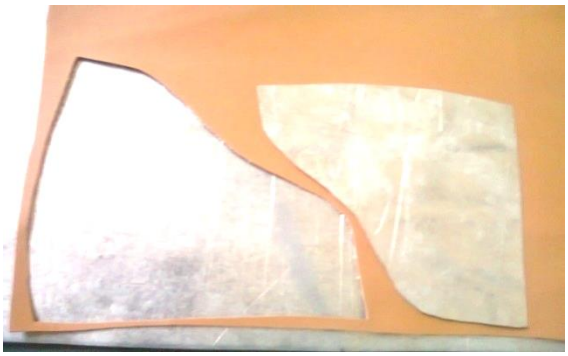
3. Again start cutting from the bottom of the component (left hand side)



4. Check the cut exercise for the quality (fibres should not be come out)



5. Check the interlocking (for material wastage)



6. Check component for wrong cutting:

Cutting Synthetic Exercises 4 (CSE 4)

1. Start at the top of the pattern (left hand side): upside direction

1st step

2nd Step

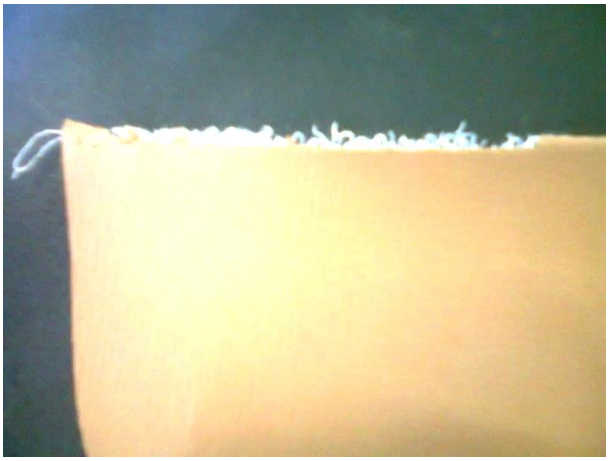
3rd Step

4th Step

2. Again start cutting from the bottom of the component (left hand side)

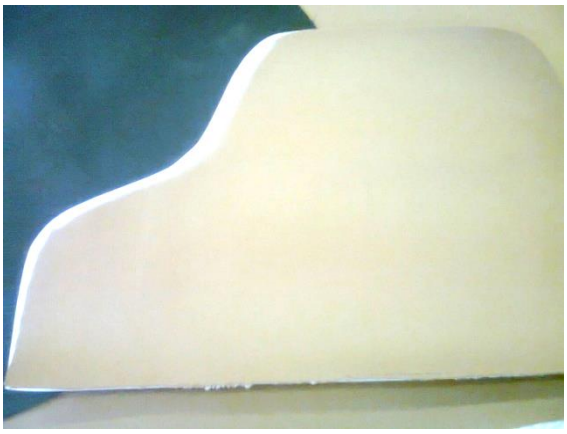
3. Check the component for quality:

4. Check the cut exercise for the quality (fibres should not be come out)



5. Check the interlocking (for material wastage)

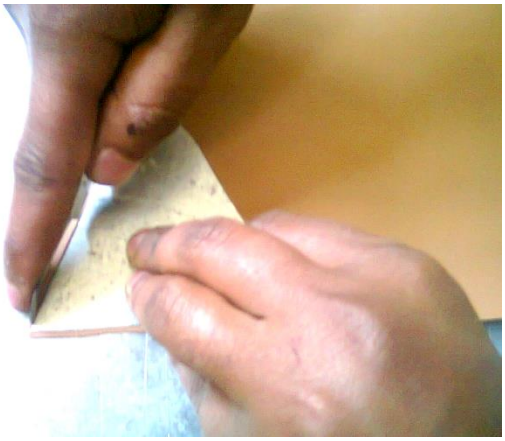
6. Check component for wrong cutting:



Cutting Synthetic Exercises 5 (CSE 5)

1. Start at the bottom of the component (left hand side): upside direction

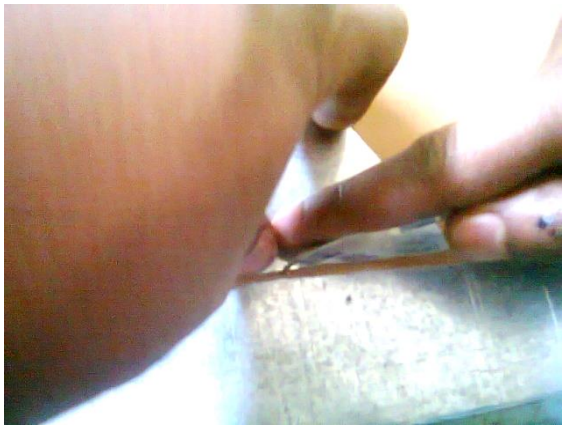
1st Step



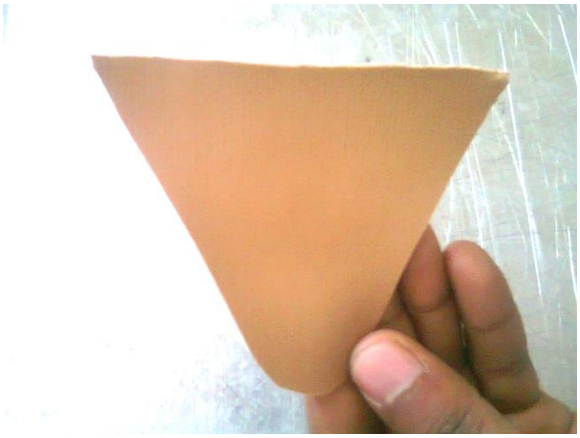
2nd Step

3rd Step: downside direction

2. Again start cutting from the bottom of the component (left hand side)

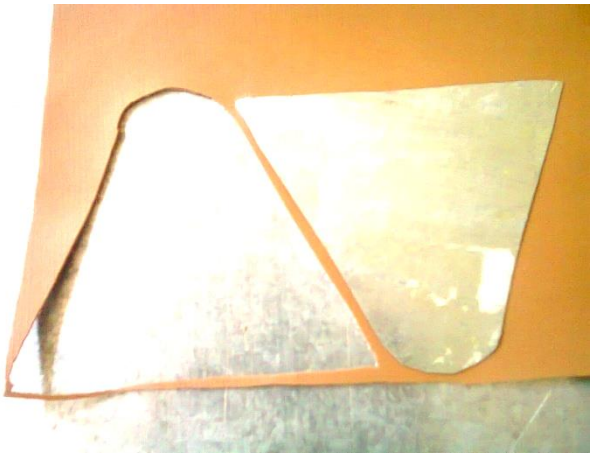


3. Check the quality of the component:

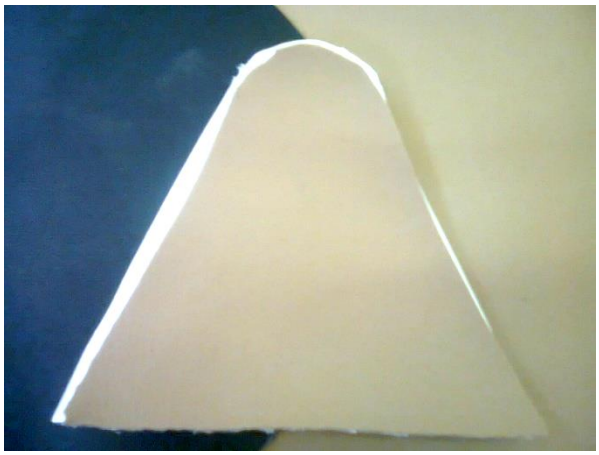


4. Check the cut exercise for the quality (fibres should not be come out)

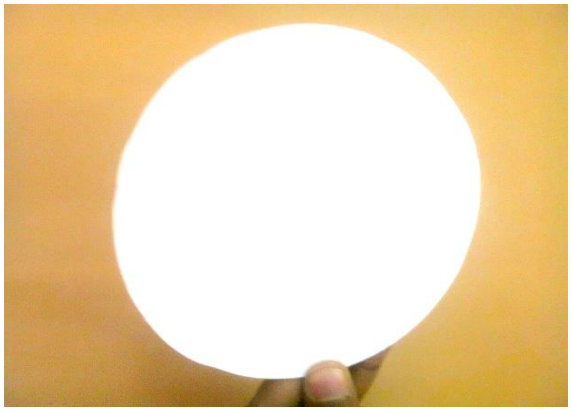
5. Check the interlocking (for material wastage)



6. Check component for wrong cutting:



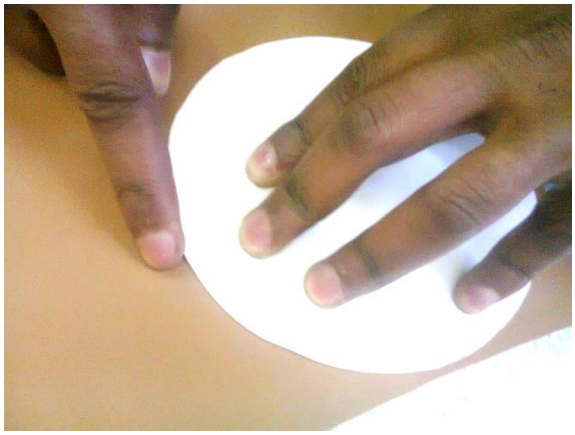
Cutting Synthetic Exercises 6 (CSE 6)



1. Start cutting from the middle of the component upside direction (left hand side)

1st Step

2nd Step

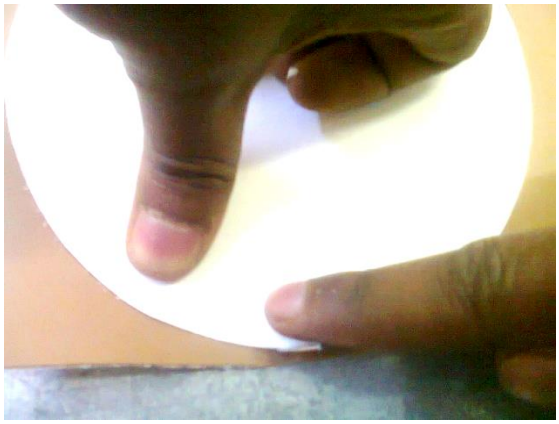


3rd Step: downside direction

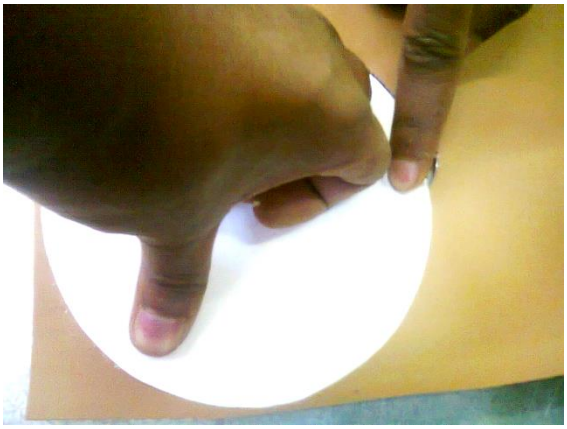
2. Again start from the middle of the component downside direction (left hand side)

1st Step

2nd Step

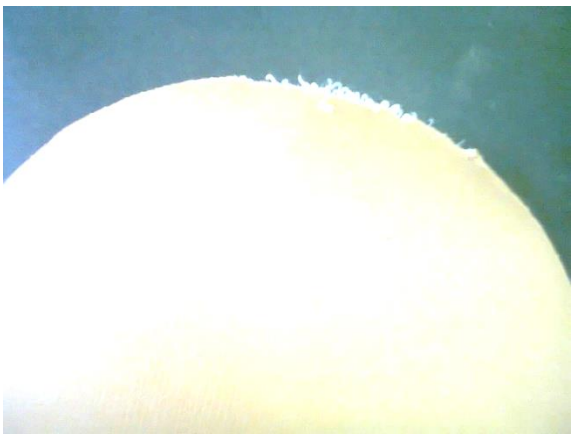


3rd Step: upside direction

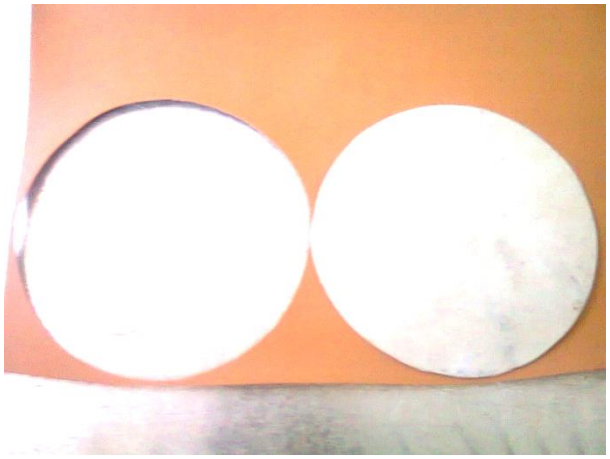


3. Check the component for quality

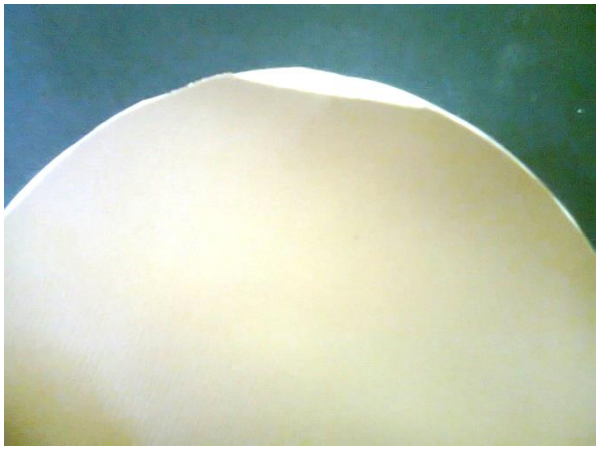
4. Fibers should not be come out



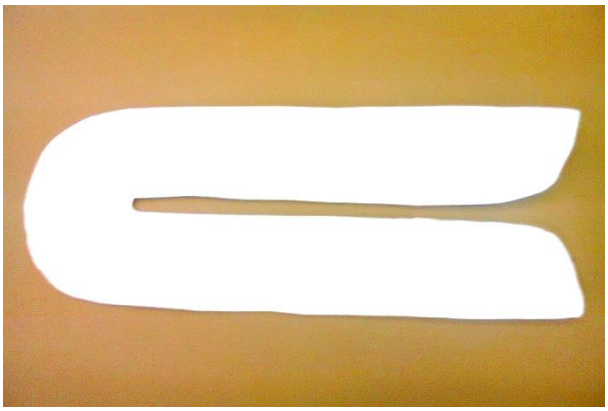
5. Check the interlocking (for material wastage)



7. Check component for wrong cutting:

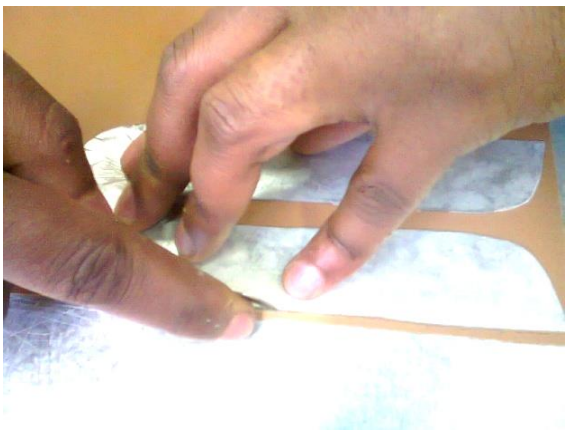


Cutting Synthetic Exercises 7 (CSE 7)



1. Start cutting from the left hand side (upside direction):

1st Step



2nd Step

3rd Step: down side direction

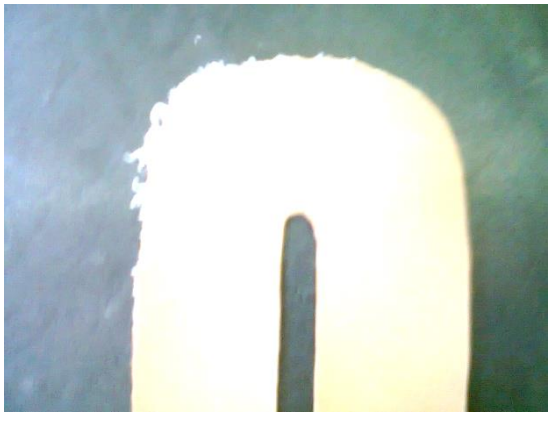
2. Again start from the inside of the component (left hand side)

1st Step

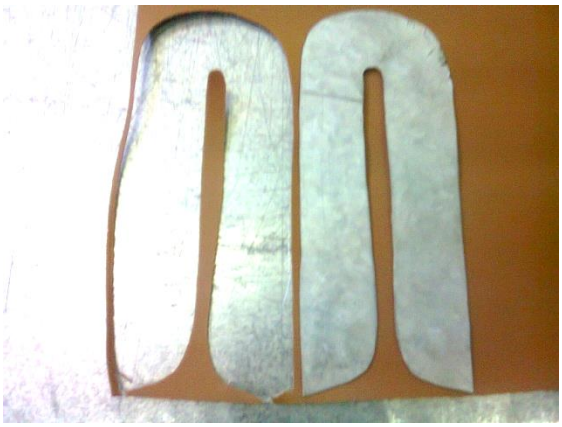
2nd Step: down side direction:

3. Check the component for quality

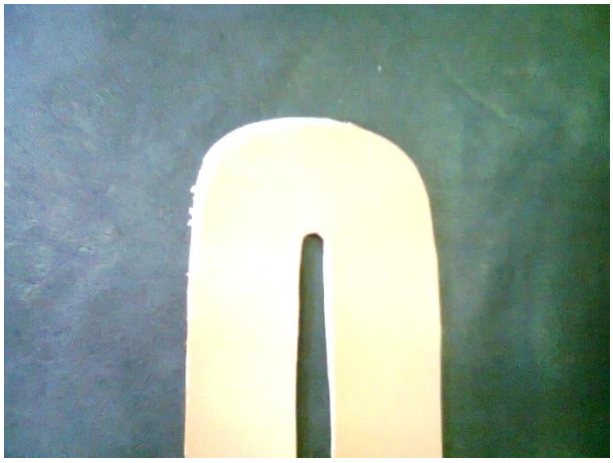
4. Fibers should not be come out



5. Check the interlocking (for material wastage)



6. Check the component for wrong cutting:



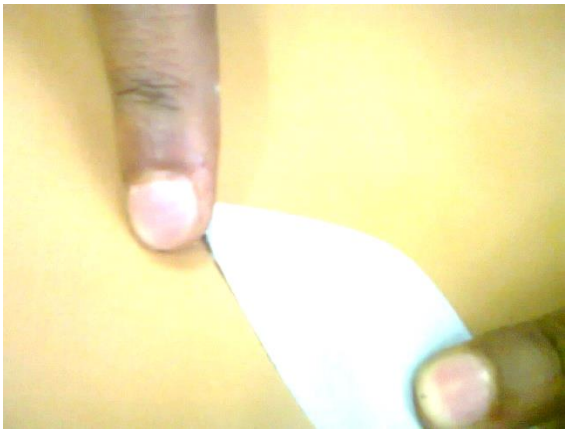
Cutting Synthetic Exercises 8 (CSE 8)

1. Start cutting from the left hand side

1st Step (down side direction)

2nd Step

3rd Step

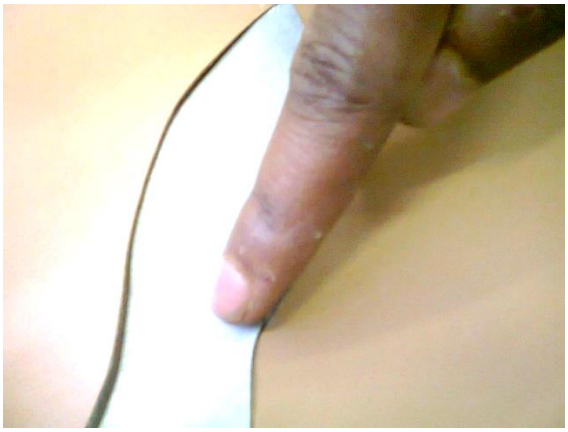


2. Again start cutting from the left hand side

1st Step

2nd Step

3rd Step

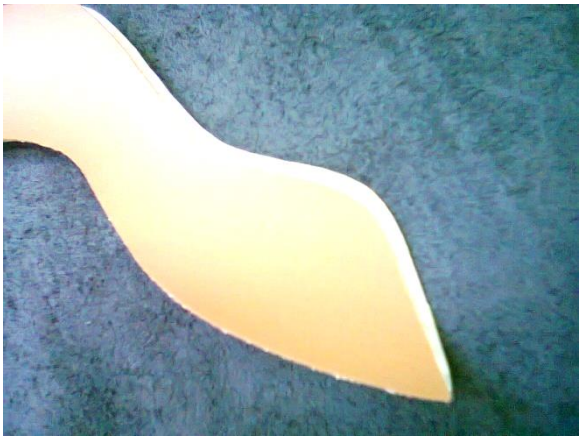


3. Check the component for quality:

4. Fiber should not come out

5. Check the interlocking (for material wastage)

6. Check the component for wrong cutting:

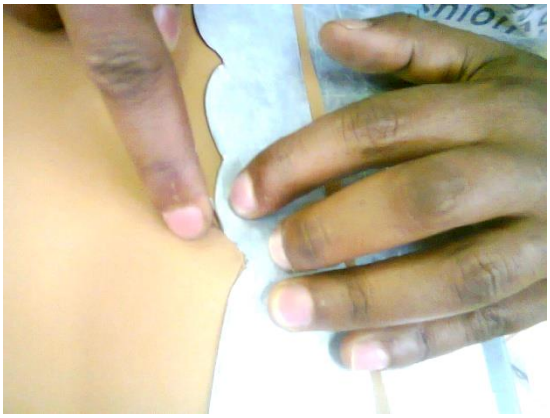


Cutting Synthetic Exercises 9 (CSE 9)

1. Start cutting from the left hand side

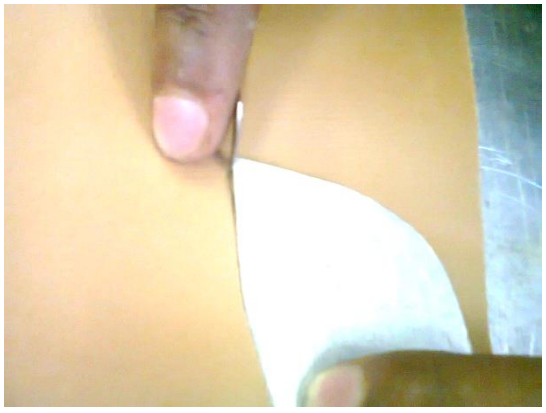
1st Step

2nd Step



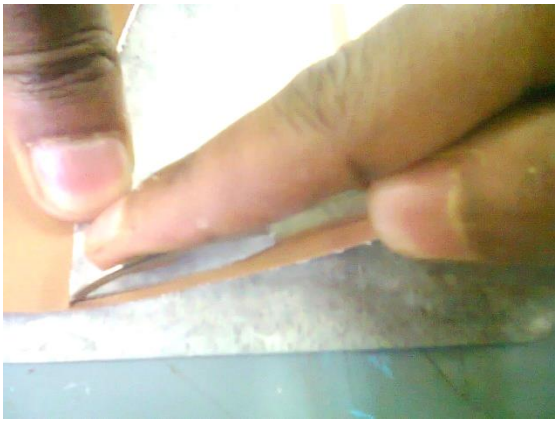
3rd Step

4th Step

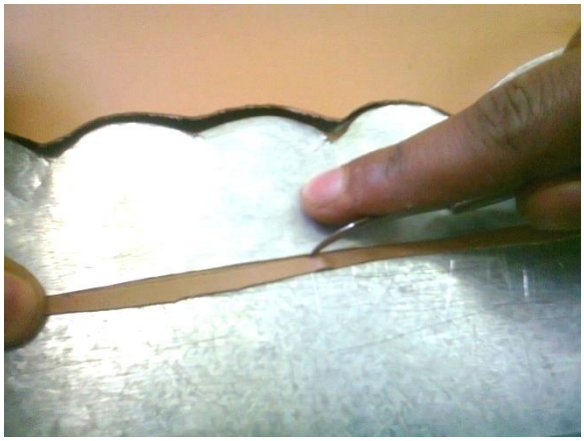


2. Again start cutting from left side (downside direction)

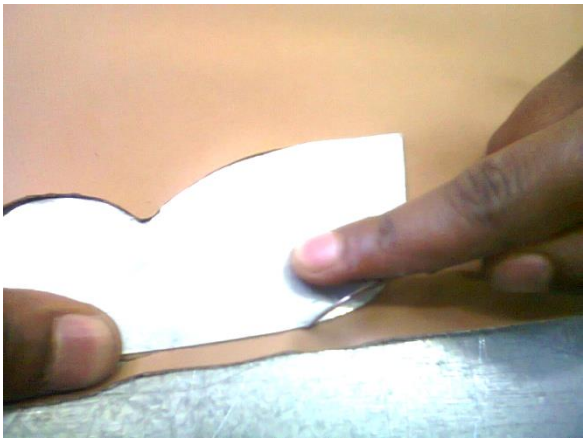
1st Step



2nd Step



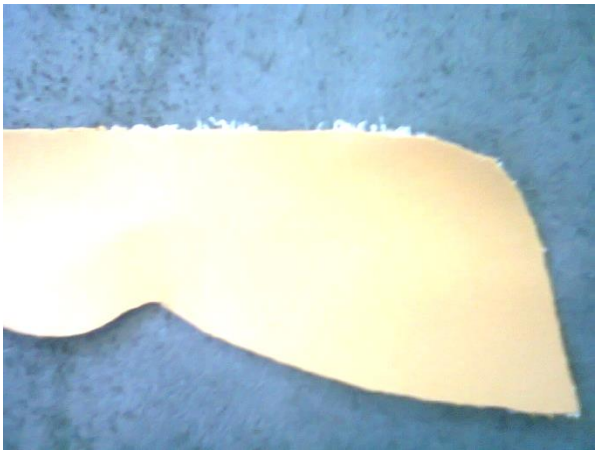
3rd Step (upside direction)



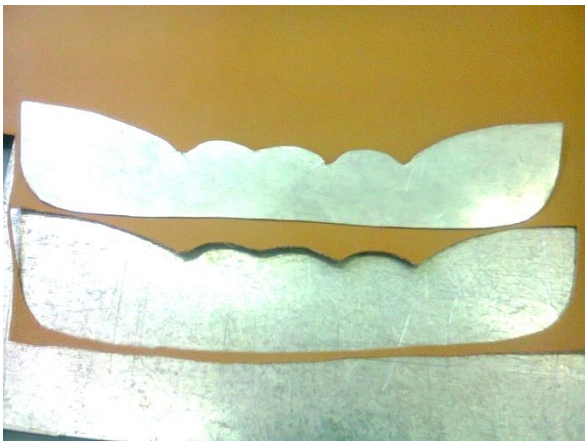
4th Step

3. Check the component for the quality

4. Fiber should not come out



5. Check the interlocking (for material wastage)



6. Check the component for wrong cutting

Cutting Synthetic Exercises 10 (CSE 10)

1. Start cutting from the left hand side

1st Step (up side direction)

2nd Step (down side direction)

3rd Step (upside direction)

4th Step (Straight)

5th Step (down side direction)

6th Step (up side direction)

7th Step (down side direction)

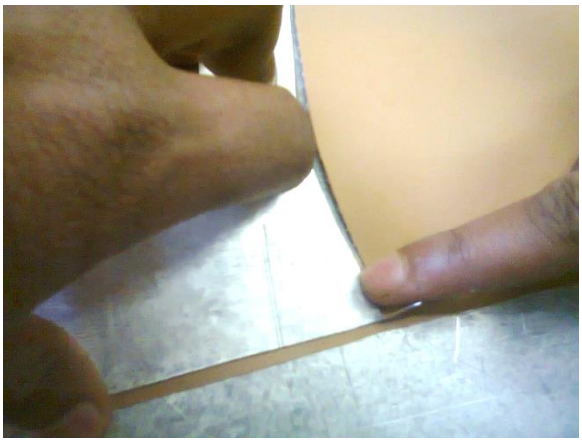
8th Step (down side direction)

9th Step

2. Again start cutting from the left hand side.

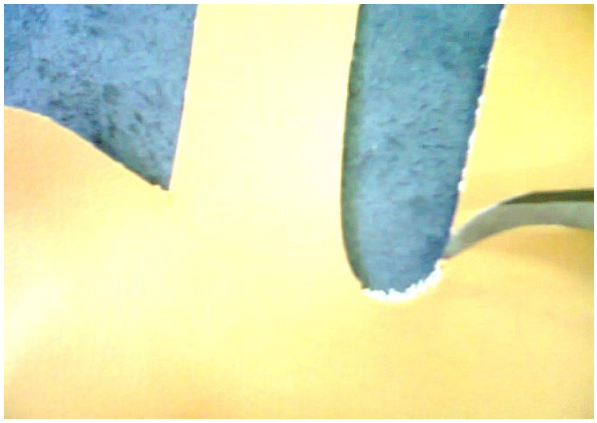
1st Step

2nd Step

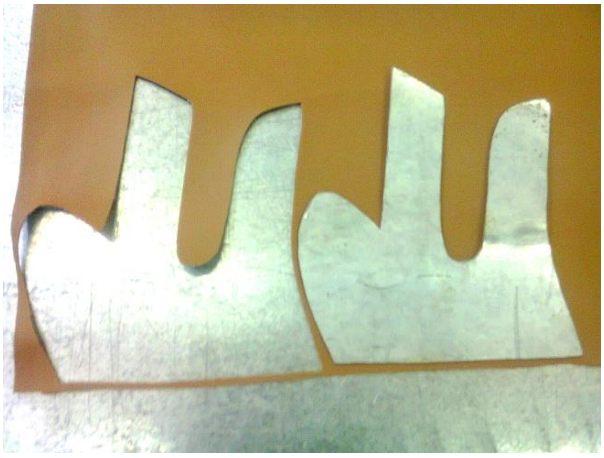


3. Check the component for quality

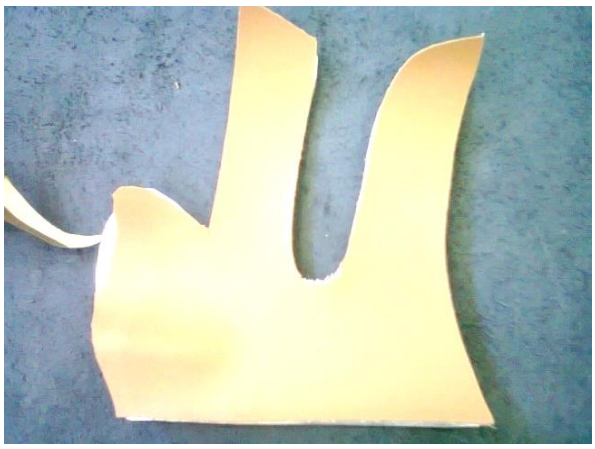
4. Fiber should not come out



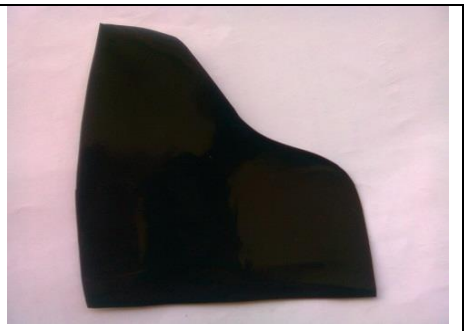
5. Check interlocking wastage



6. Check the component for wrong cutting



Exercise #	Best time	Max time	No. of pairs to be cut	Picture
Synthetic cutting exercises 1	**06min**	**10min**	**10pairs**	
Synthetic cutting exercises 2	**05min**	**08min**	**10 pairs**	

Synthetic cutting exercises 3	**06min**	**10min**	**10 pairs**	
Synthetic cutting exercises 4	**01min**	**2min**	**2 pairs**	
Synthetic cutting exercises 5	**05min**	**07min**	**10 pairs**	
Synthetic cutting exercises 6	**03min**	**04min**	**5 pairs**	

Synthetic cutting exercises 7	**06min**	**08min**	**5 pairs**	
Synthetic cutting exercises 8	**05min**	**07min**	**5 pairs**	
Synthetic cutting exercises 9	**05min**	**008min**	**05 pairs**	
Synthetic cutting				

exercises 10	**06min**	**08min**	**5 pairs**	

Note: **½ mark for wrong cutting**

5 marks for waste material

1 mark for every one minute

0.5 mark for every extra one minute.

2. CUTTING OF DIFFERENT TYPES OF DESIGNS.

Derby shoe

Here we have considered all upper and leather components are of leather and tongue is not one piece with vamp but cut separately. The interlining is attached to add strength to the upper material if upper material has enough strength then interlining may not be required. The components of Derby shoe are:

Upper

- Two Vamp (1 left foot and 1 for right foot)

- Four Quarters (2 inside and 2 outside)
- Two Back strap (one for left and one for right shoe)
- Two Tongue (one for left and one for right)

Lining:

- Two Vamp lining (one for left foot and one for right foot)
- Four Quarter lining (two for inside and two outside)
- Two Heel grip (one for right and one for left foot)

Interlining (Swansdown)

- Two for vamp
- Four for quarter

Peaks or cut out is given on the inside of the vamp and vamp lining. These indicate left and right feet. They must always be facing on the inside of the upper and lining. Peaks or cutouts are also given on the quarter lining these indicate inside and outside to match quarter and vamp. Care should be taken to stitch inside quarter with the inside portion of the vamp and lining for left foot must be stitched on the left upper and right foot lining on right foot upper.

Oxford shoe

Oxford shoes have following components. Here we have considered all upper and leather components are of leather. In some case vamp lining could be of drill and quarter lining can be of synthetic material. The interlining is added to add strength to the upper material if upper material has enough strength then interlining may not be required.

Upper

- Two Toe cap (one for left foot and one for right foot)
- Two Vamp (one for left foot and one for right foot)
- Four Quarters (2 inside and 2 outside)
- Four Eyelet facing (2 for left foot and 2 for right foot)
- Two Tongue (one for left foot and one for right foot)

Lining:

- Two Vamp lining (one for left foot and one for right foot)
- Four Quarter lining (two for inside and two outside)
- Two Heel grip (one for right and one for left foot)

- Two Tongue lining (one for right foot and one for left foot)

Interlining (Swansdown)

- Two for Vamp
- Four for Quarter
- Four for Eyelet facing

Peaks or cut out is given on the inside of the vamp and vamp lining. These indicate left and right feet. They must always be facing on the inside of the upper and lining. Peaks or cutouts are also given on the quarter lining these indicate inside and outside to match quarter and vamp. Care should be taken to stitch inside quarter with the inside portion of the vamp and lining for left foot must be stitched on the left upper and right foot lining on right foot upper.

Court shoe

Here we have considered all upper and leather components are of leather. The interlining is added to add strength to the upper material if upper material has enough strength then interlining may not be required. Interlining is pasted on flesh side of upper components. Top line can be given various treatments. Bow can also be attached on the vamp. We have considered plain court shoe with inside quarter. The main components of court shoe are:

Upper

- Two Vamp (1 left foot and 1 for right foot)
- Two Quarters (one for left foot and one for right foot)

Lining:

- Two Vamp lining (one for left foot and one for right foot)
- Two Quarter lining (one for left foot and one for right foot)
- Two Heel grip (one for right and one for left foot)

Interlining (Swansdown)

- Two for vamp
- Two for quarter

Peaks or cut out is given on the inside of the vamp and vamp lining. These indicate left and right feet. They must always be facing on the inside of the upper and lining. Peaks or cutouts are also given on the quarter lining these indicate inside and outside to match quarter and vamp. Care should be taken to stitch lining for left foot must be stitched on the left upper and right foot lining on right foot upper.

Slip on shoe

Here we have considered all upper and leather components are of leather and tongue is not one piece with vamp but cut separately. The interlining is attached to add strength to the upper

material if upper material has enough strength then interlining may not be required. The components of slip on shoe are:

Upper

- Two Vamp (one for left foot and one for right foot)
- Two Quarters (one for left foot and one for right foot)
- Two counters (one for left foot and one for right foot)
- Two saddle strip (one for left foot and one for right foot)
- Two collars (one for left foot and one for right foot)

Lining:

- Two Vamp lining (one for left foot and one for right foot)
- Four Quarter lining (two for inside and two outside)
- Two Heel grip (one for right and one for left foot)
- Two Saddle lining (one for right and one for left foot)

Interlining (Swansdown)

- Two for Vamp
- Two for Quarter
- Two for Counter

Peaks or cut out is given on the inside of the vamp and vamp lining. These indicate left and right feet. They must always be facing on the inside of the upper and lining. Peaks or cutouts are also given on the quarter lining these indicate inside and outside to match quarter and vamp. Care should be taken to stitch inside quarter with the inside portion of the vamp and lining for left foot must be stitched on the left upper and right foot lining on right foot upper.

3. Cutting of different types of leather

Layout on corrected grain leather

Introduction

We all know that leather is a natural product, which is derived from the raw hide and skin of the animals. Hide is the outer covering of animal of large skins e.g. cow, buff etc. whereas, skin is the outer covering of animals of small species e.g. goat, sheep etc. A hide is normally divided into two parts through the backbone for convenience in handling. Each part is called a side.

A large proportion of the hide or skin coming to the tannery are full of defects and they are either unusable or it is very costly for shoe manufacturers to use them. The tanner therefore, endeavors to improve the quality by eliminating or rendering these defects by a procedure called “Correcting the grain side”.

Defective portion is removed partly by buffing (rubbing with fine emery paper) and then finished and plated at high temperature & pressure to give it a good appearance. This leather whose grain side is corrected by buffing & plating is called “Corrected Grain Leather”.

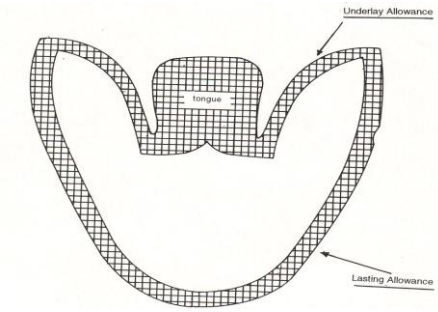
Corrected grain leathers are available in various forms depending on the plate that has been used i.e. smooth corrected grain, hair all printed, printed milled etc.

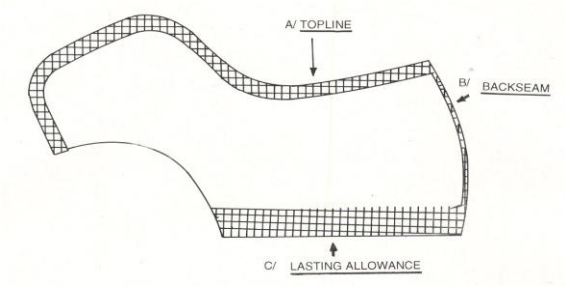
“Layout means nesting of pattern of a particular style on leather”. Most economically, considering all the quality parameters of a side or skin e.g. quality region etc. lines of tightness and the quality requirement of a shoe.

Leather might be in the form of hide, side or skin.

ALLOWANCES OF COMPONENTS

The quality requirements for different parts of a shoe depend on their functions during wear e.g. toecaps are highly noticeable and therefore, first quality is needed but since, they are supported by toe puffs even a lighter substances accepted whereas, it is always advised to take tongue from tighter substance so as to avoid discomfort in wear. Furthermore, when a clicker is cutting, he/she should take into account the various quality requirements of each component.





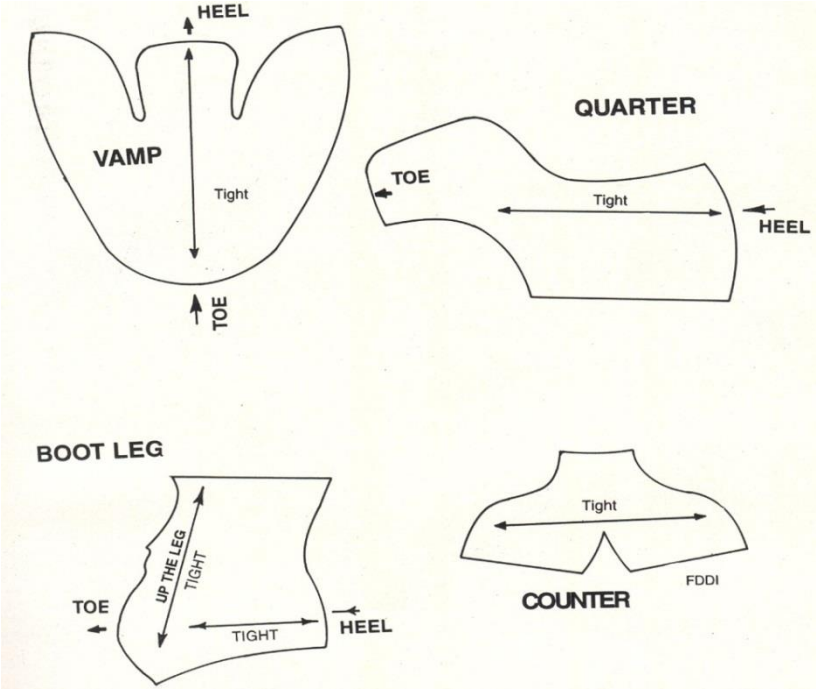
e.g. Lasting allowance: This area we can take from leather having close defects, which effect only the appearance not the strength of

the leather but we can't take loose fibers as it will create sole bonding problem.

Underlay allowance; this area may have slight scars but should be strong.

Lines of Tightness and Quality Requirements of Basic Derby

The quality requirements for different parts of shoe depend on their functions during wear.



Toecaps are equally noticeable and first class quality is needed. They are not subjected to such hard wear and are supported by the toe-puffs. A lighter substance is, therefore, acceptable

Vamps must withstand great stress and strain from the flexing of the foot in walking. They are also the most noticeable part of the shoe. Both substance and quality are needed. Vamps, therefore, are cut from the butt and middle.

Quarters should match the vamp where they are joined and match each other at the back seam. Facings and top line should be firm but light substance may be included at the heel where the quarter is supported by the stiffener. Better quality is preferable on the outside of the shoe, as this is more noticeable.

Back straps, counters, saddles etc. must be cut from the usable leather which remains. Appearance is more important than substance as these are stitched over the upper leather, which can itself by of inferior quality as blemishes will be hidden.

Tongues should be light in substance so as to avoid discomfort to the wearer.

Quality Division of Components

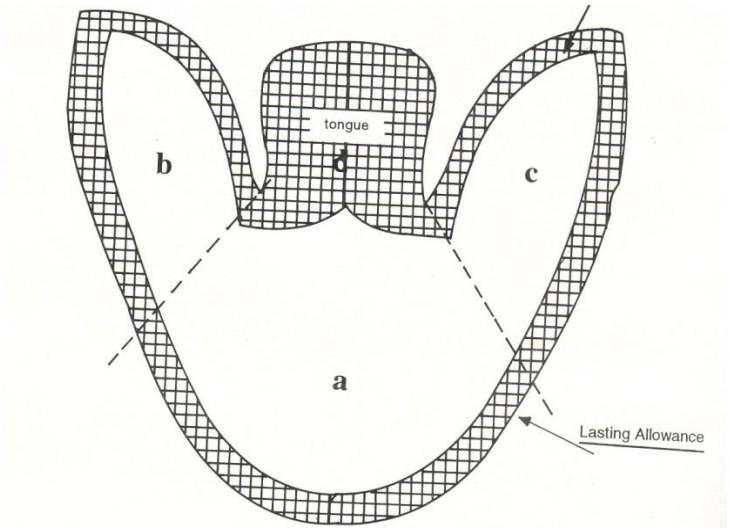
Quality of the Vamp

When a clicker is cutting he/she should take into account the various quality, requirements of each component.

Example: Lasting allowance. This is the part of the upper that is lasted under the shoe. This area can have brand or wire marks. It should not have loose fibre as it also creates the bonding of the sole to the upper. Lasting allowances vary from factory to factory but average 13 to 15 mm.

Quality Region of Vamp

- The front of the vamp (toe must be clean of all defects and should have sufficient strength to withstand the lasting.
- The outside wing of the vamp should be clean but does not need the same strength as the toe.
- The inside wing of the vamp can have small defects as this goes to the inside of the shoe and is not seen.
- **Tongue:** The tongue may be of lighter substance and have slight marks.



Quality Regions of a Quarter

Top Line

The top of the quarter (top line) or folding allowance (4mm) folds under and is covered by a lining. This needs to be tight and strong, scar's and flow's in this area tend to open up after skiving.

Back Seam

The back of the quarter has a 1mm seaming allowance. A clicker cannot take much advantage of this allowance. However, the clicker must keep this back portion tight, a common problem when sewing when sewing back seam's is stretching of one quarter out of shape creating unsightly back seam's in making.

Lasting Allowances

This is the same as the lasting allowance on the vamp.

(i) The front of the quarter joins the vamp and should be clean and of good quality.

(ii) The center of the quarter can incorporate slight markings. This is more so on the inside quarter than the outside quarter.

(iii) The back of the quarter can be of slightly lighter weight due to the counter reinforcement.

Note: The inside of a vamp or quarter is normally denoted by a recess or peak in the bottom of the pattern.

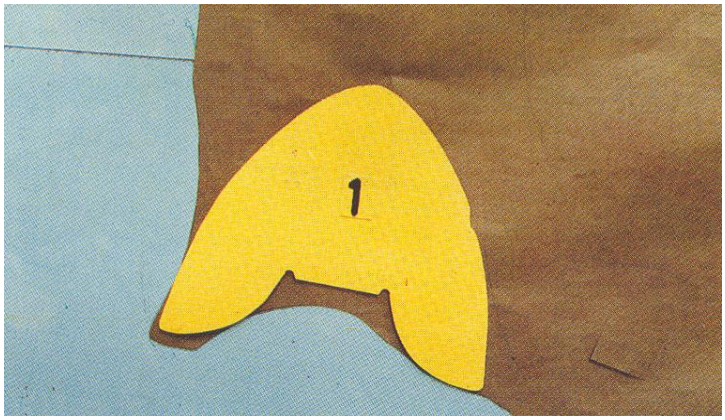
Nesting of Derby Exercise

To complete this exercise you will require the following.

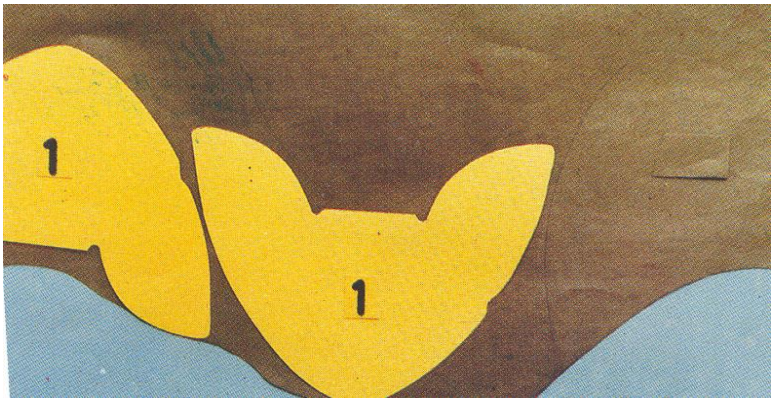
A set of 6 paper skin shapes one of these is to be a copy of the same skin shape used in the photos.

- A set of basic derby patterns.
- Pencils red and black.
- Rubber.

Trace No. 1 Left Vamp (No.1)



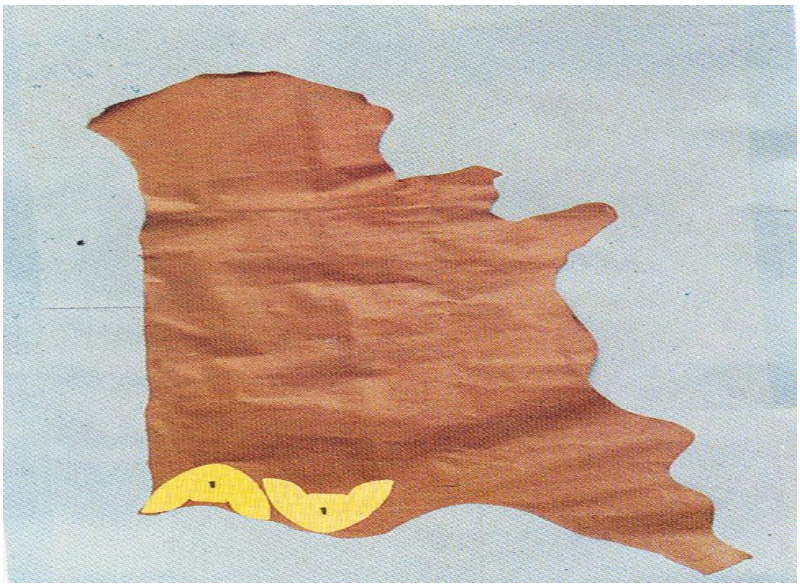
Trace No. 2 Right Vamp (No.1)



This is your most important cut as it influences the inter locking of the patterns for the complete skin.

In this case we have pointed the toe in the neck direction but it could also be cut with the toe pointed to the butt.

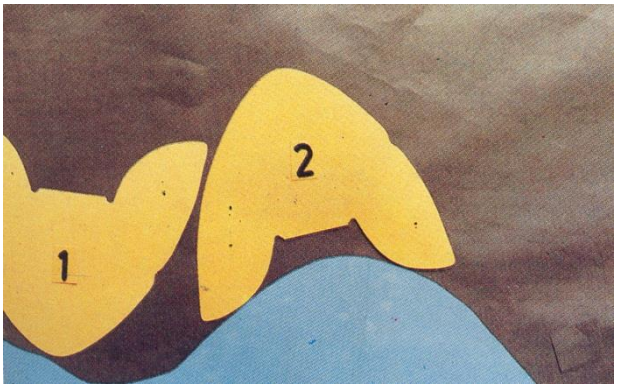
Note: How the two patterns are interlocked.



Remember: To leave yourself enough room to allow the inside wing of your 3rd trace of interlock into place above trace no.1

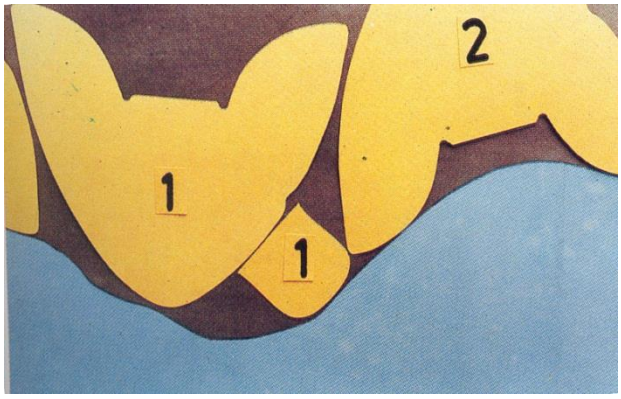
Trace No.3 Left Vamp No. (2)

Notice how we have placed the inside wing of the vamp to the belly side of the skin, and kept the toe high up away from the shank area.

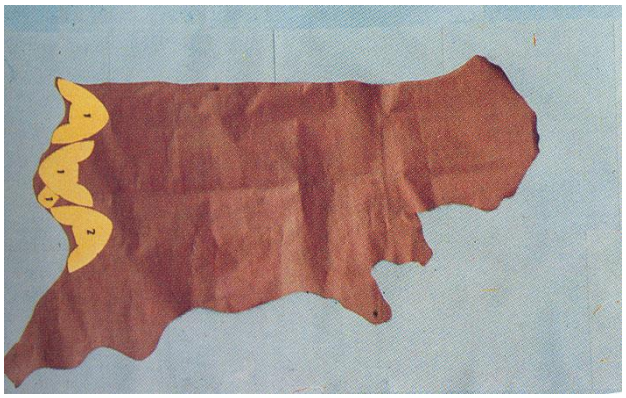


Trace No. 4 Tongue (No.1)

Tongues are cut from any area of the skin but should not be used to cover up bad inter locking.



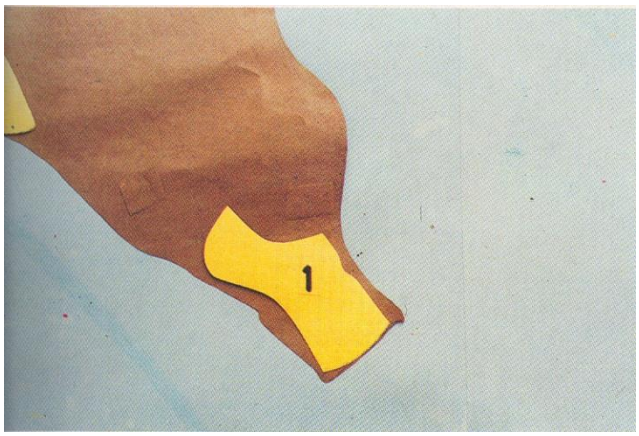
A good clicker is normally at least 3 cuts ahead of the cut he is working on. Before you



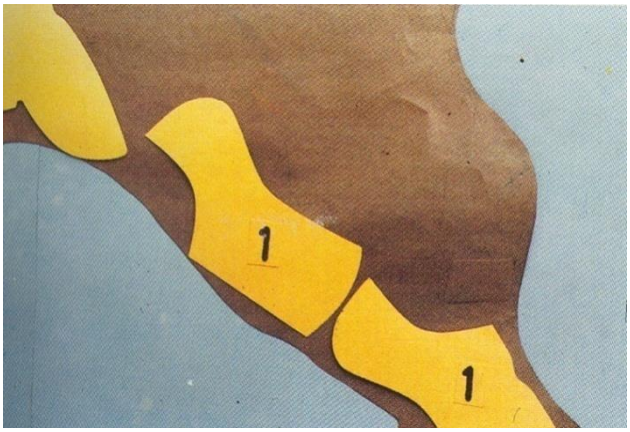
turn the page try to visualize where you would put your next cut.

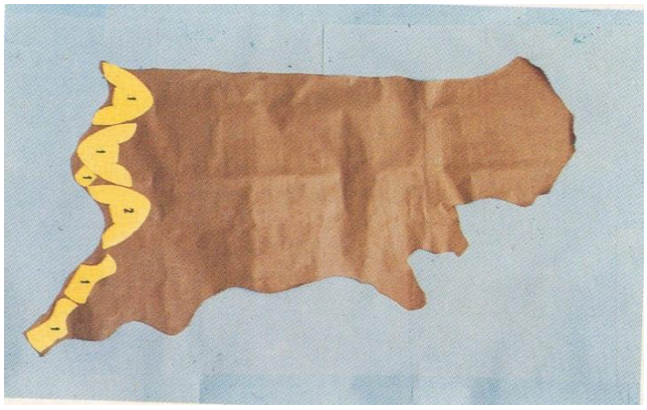
Note: How close our patterns are but they are not over lapping.

Trace No. 5 Left inside Quarter (No.1)



Trace No. 6 Left outside Quarter (No.1)





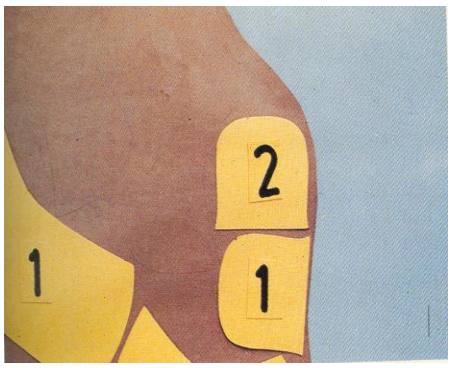
If you study the photo you can see how we have worked across the skin from the backbone of the butt of the flank.

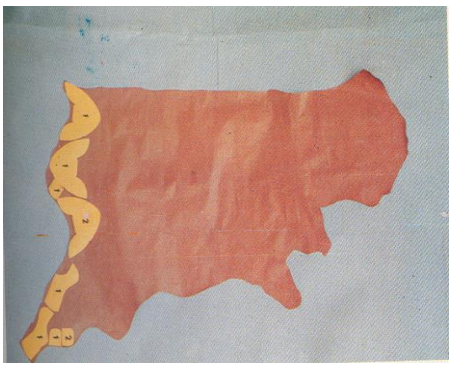
Trace No. 7 Tongue (No. 1)

Note: The use of the flanks and belly region on the sin will vary, this will be influenced by the amount of bad leather that has been trimmed at the tannery, but this exercise is assuming the leather is very good 1st grade.

Remember: Always work out of the legs of flank. Never work into the flank this produces wastage.

Trace No. 8 Tongue (No. 2)



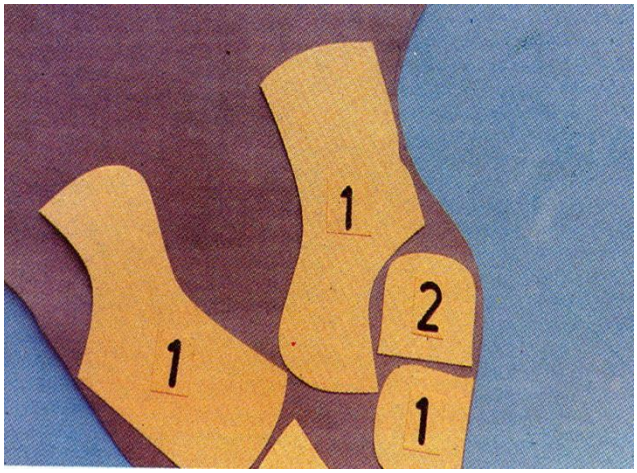


If you look at the last two photo's you will notice that one tongue is against the lines of tightness. In this flank region stretch will vary from skin to skin, depending on the trim off done by the tannery.

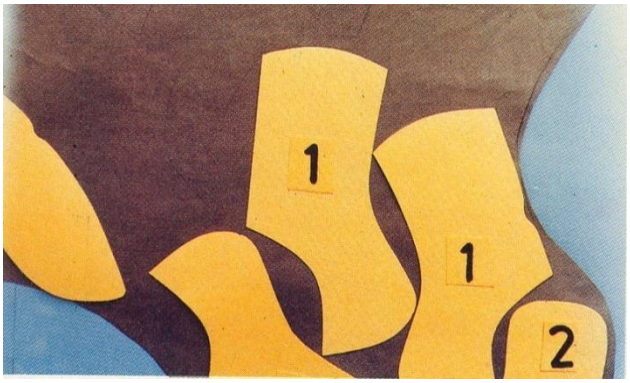
It is therefore, advisable to test each flank area for stretch and offal.

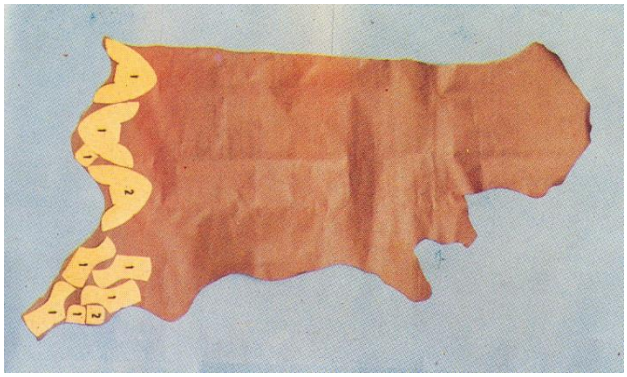
It may not be possible on some skins to cut even one tongue out of this area.

Trace No. 9 Right Inside Quarter (No. 1)



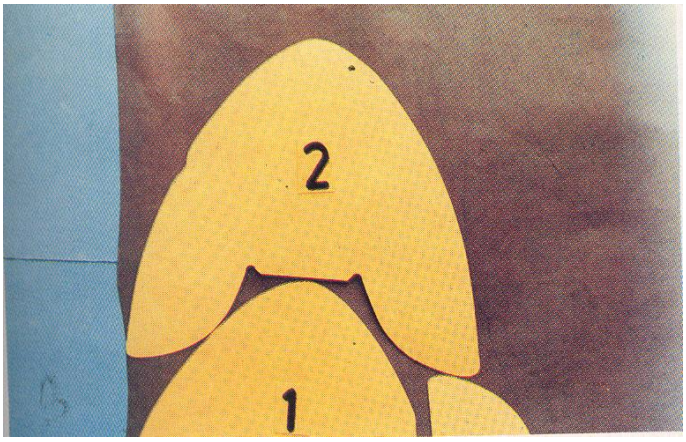
Trace No. 10 Right Outside Quarter (No. 1)



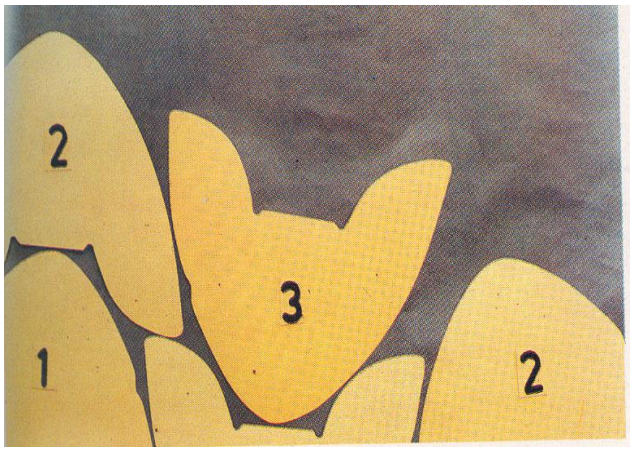


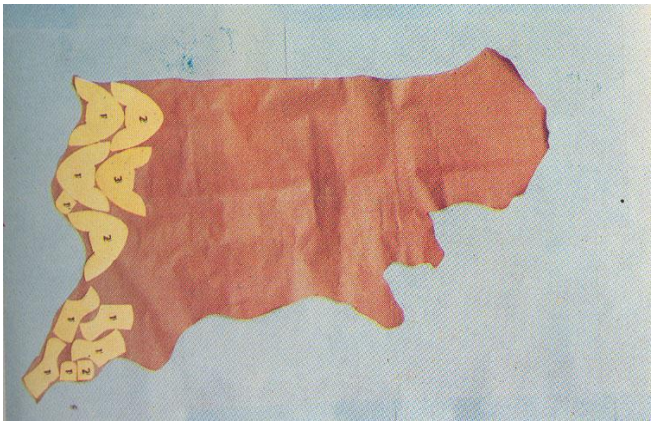
Notice: How we have put the lasting allowance towards the belly on the inside quarter. Try to keep your top line tight at all times.

Trace No. 11 Right Vamp (No. 2)



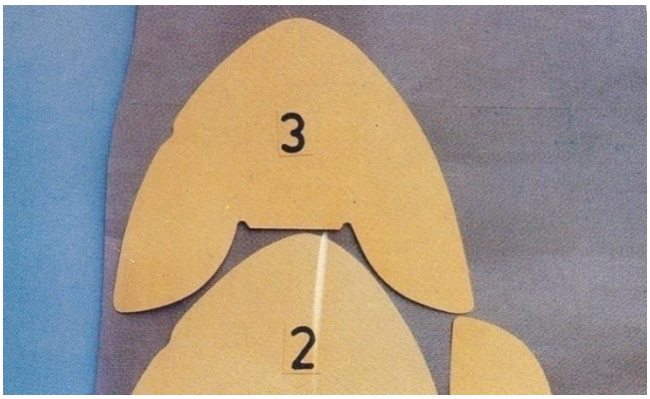
Trace No. 12 Left Vamp (No. 3)



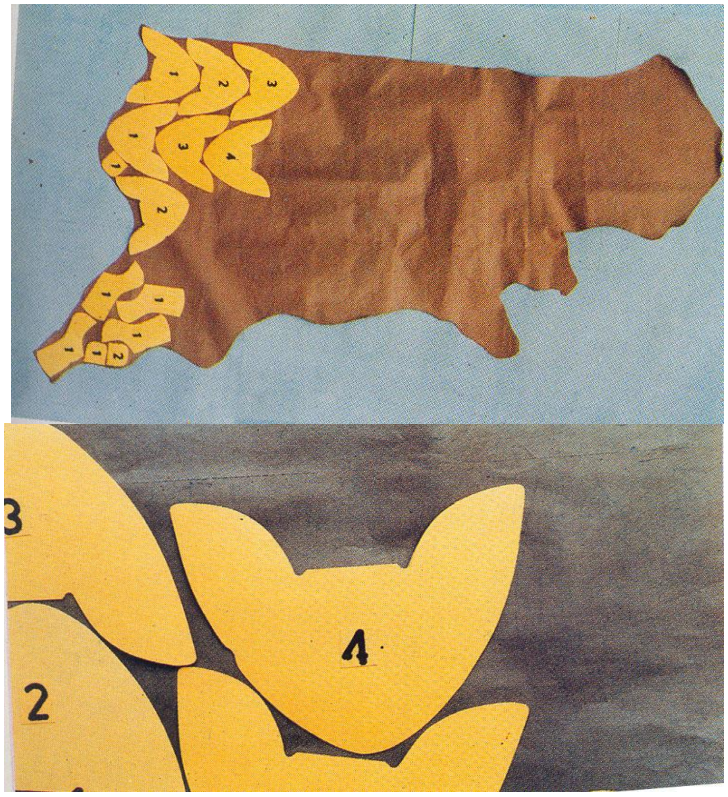


We are now working again from the backbone to the belly. Can you work out your next cut before you turn the page?

Trace No. 13 Right Vamp (No. 3)



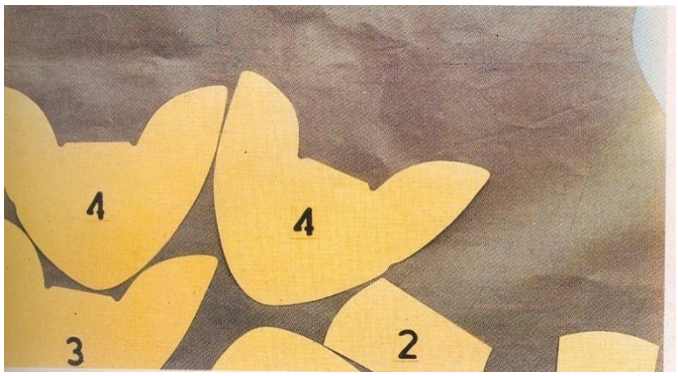
Trace No. 14 Left Vamp (No. 4)

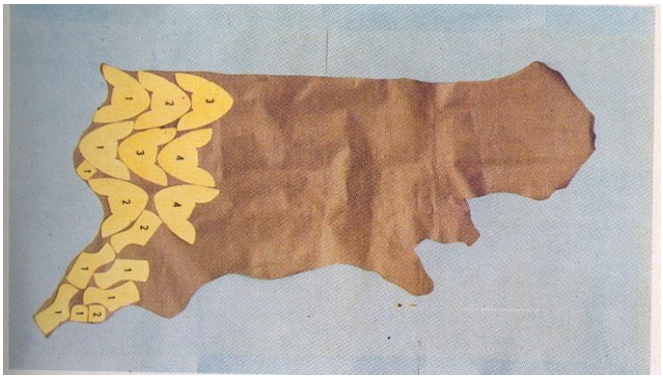


Again we went up the backbone then across towards the belly. Now, we must even up our line of cutting by continuing right across the skin.

Trace No. 15 Left outside Quarter (No. 2)

Trace No. 16 Right vamp (No. 4)

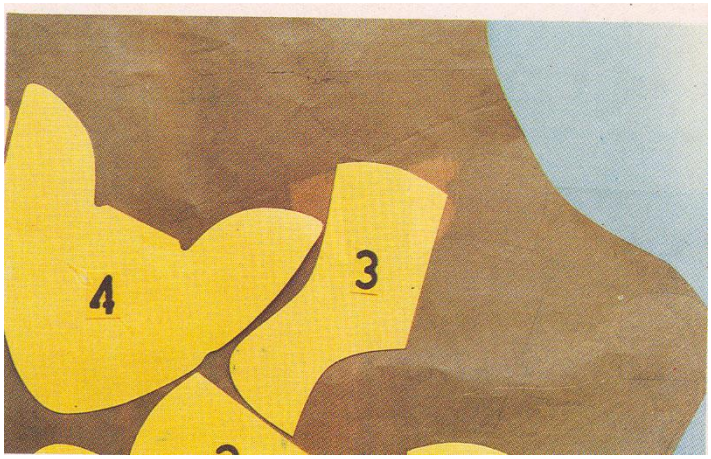




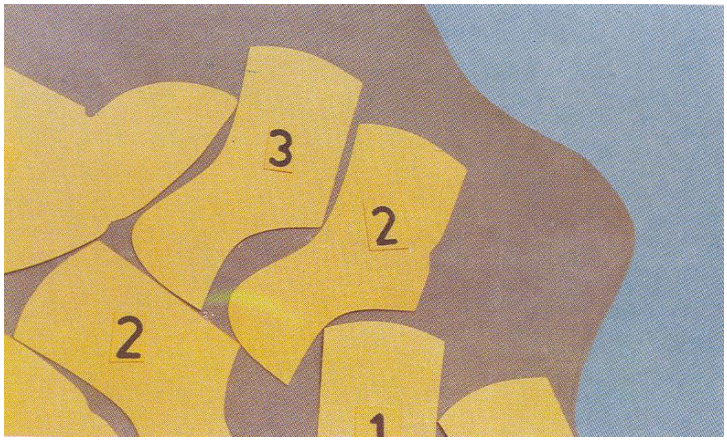
Trace No.15 The left outside quarter has been cut on the maximum angle sometimes you will do this to save material but it should never be done if the leather quality is not acceptable.

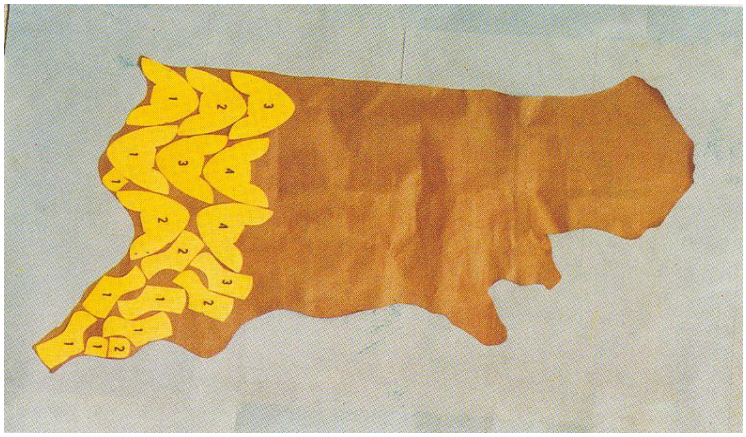
Remember: To try to place the inside of the vamp towards the belly.

Trace No. 17 Left outside Quarter (No. 3)



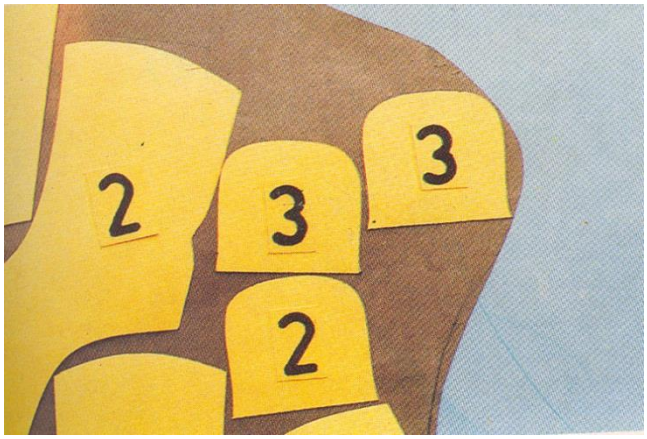
Trace No. 18 Right Inside Quarter (No. 2)



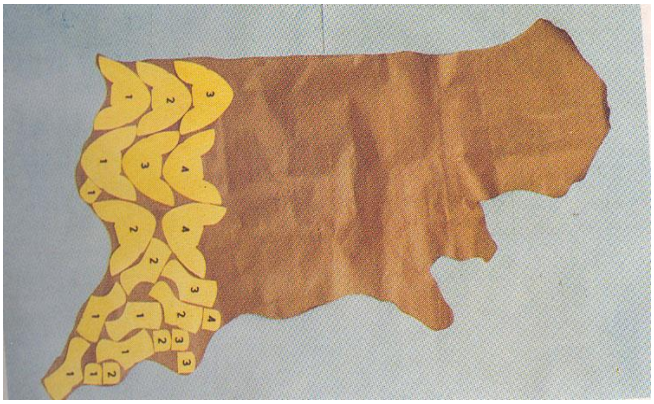


Now we have nearly evened up the line of cutting.

Trace No. 19 Tongues (No. 2-3-3)

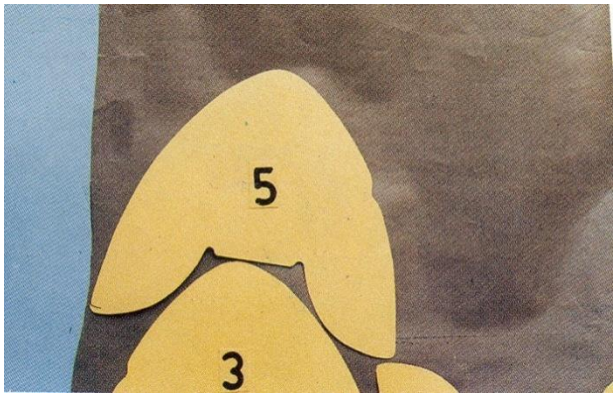


Trace No .20 Tongue No .4



Remember: To start your next cut from the backbone and work access to the belly.

Trace No. 21 Left Vamp (No .5)



Trace No. 22 Right Vamp (No. 5)

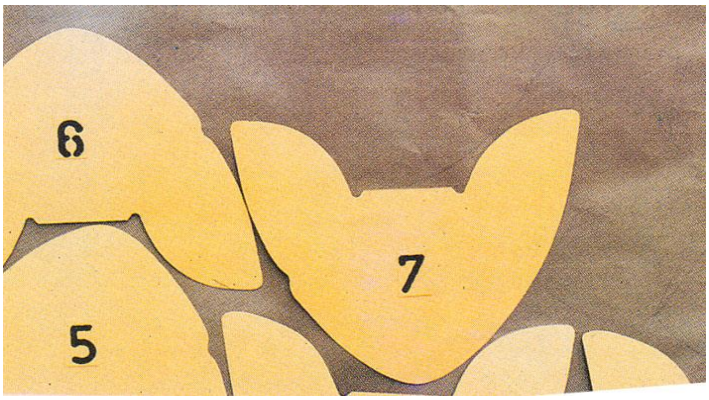
Trace No. 23 Right Vamp No. 6

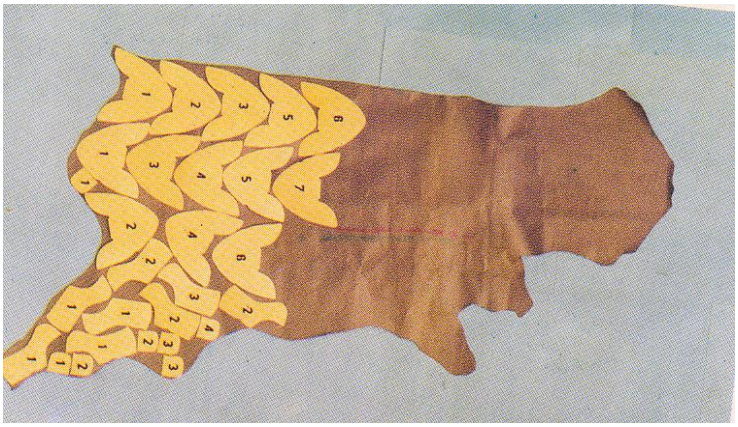
Trace No. 24 Left inside Quarter (No. 2)

Remember: Cutting should usually commence at the butt, continue along the backbone, working outwards as far as substance and quality will permit and utilizing the pooper parts of the side for the parts which have little or no strain during wear. If by reason of defects the material near the backbone is unsuitable for uppers, cutting should still be in accordance with the principle of working in the direction from backbone to shank, commencing as near as possible to the defects, in order to ensure the minimum waste of the best material, which invariably is to be found in the butt.

Trace No. 25 Left Vamp (No. 6)

Trace No. 26 Left Vamp (No. 7)



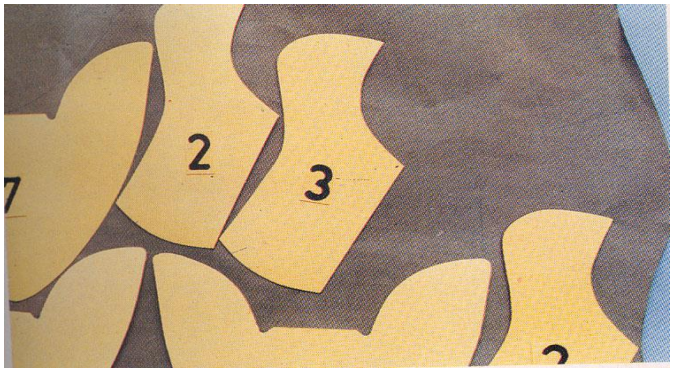


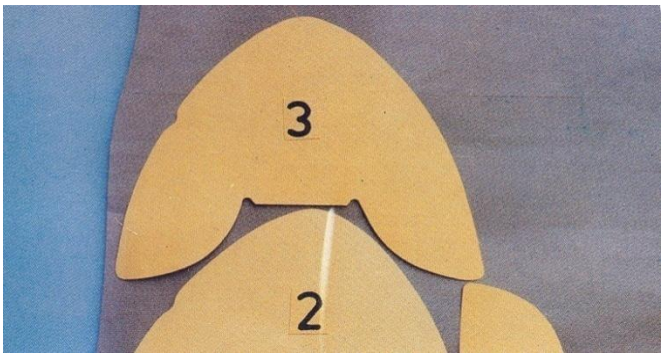
Try to assess the area left how many vamps do you want?

Notice: How we will not change to only 2 rows of vamps to allow us to cut the required amount of quarters from this skin.

Trace No. 27 Right Outside Quarter (No. 2)

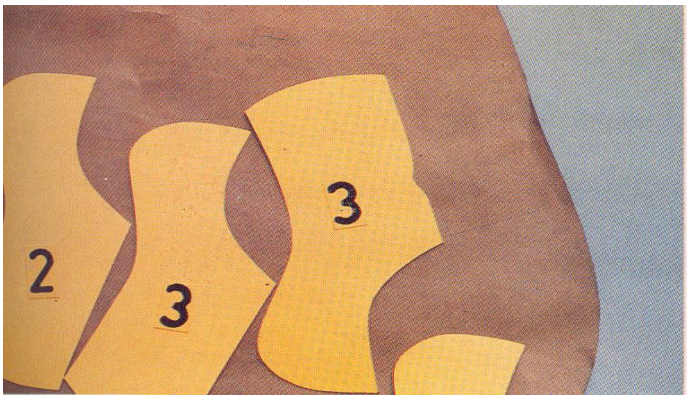
Trace No. 28 Right Outside Quarter (No. 3)



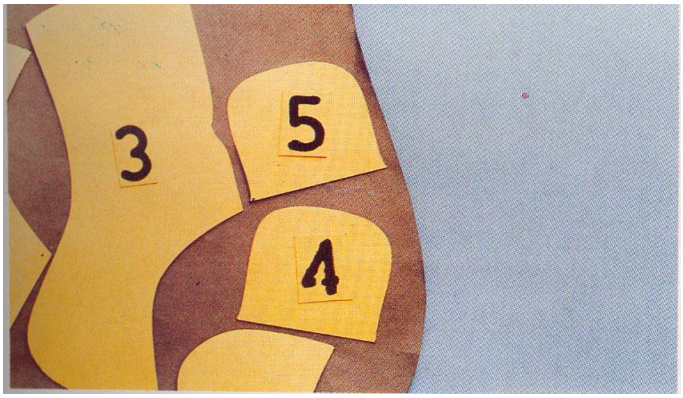


'**Note :** Push your vamp' is an expression that is in frequent use and it is certainly very good advice when cutting from selected skins, but, like all other established principles, its virtue changes to vice if exploited unduly. Ascertain first to what extent this is necessary and act accordingly. For the cutter should never forget the areas from where a vamp should be cut. Pushing vamps does not mean cutting them from the belly.

Trace No. 29 Right Inside Quarter (No. 3)

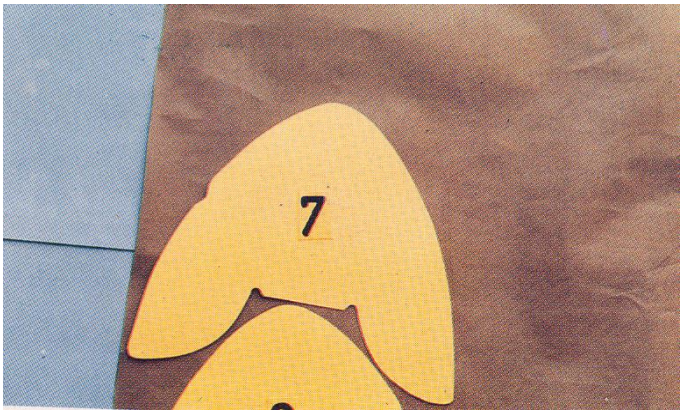


Trace No. 30 Tongues (No. 4-5)

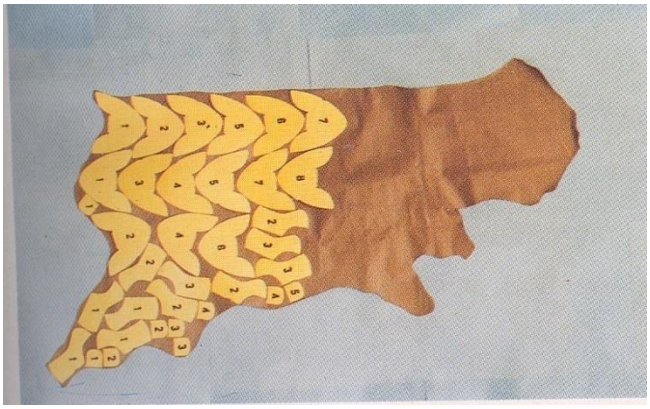


Notice: How we have put the tongues along the belly or the age of the skin.

Trace No. 31 Right Vamp (No. 7)

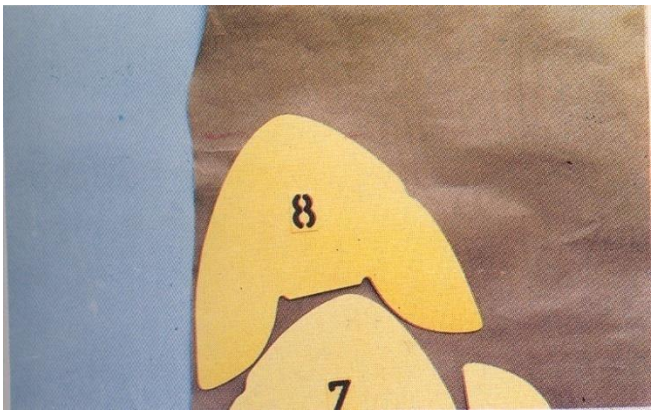


Trace No. 32 Right Vamp (No. 8)



Remember: You are not required to lay your components in pairs but on completion of your work you should end up with approximately equal pairs.

Trace No. 33 Left Vamp (No. 8)

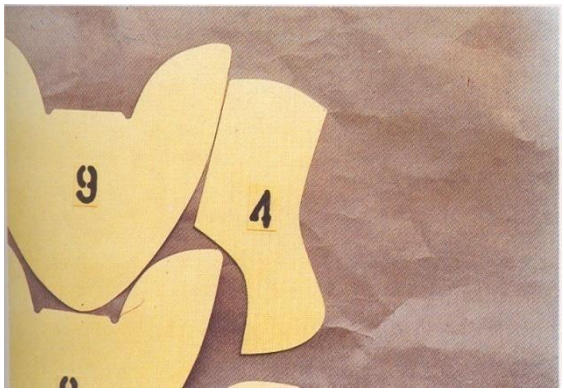


Trace No. 34 Left Vamp (No. 9)

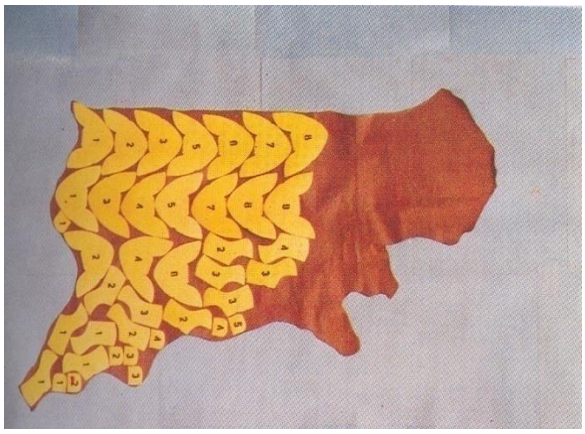
In these two cuts we have gone back to the backbone.

If we had continued across the skin we would have ended up with the quarters that are being cut next, higher than the vamps, this would have actually been incorrect cutting as it would have forced you to have any wastage on the backbone side of the skin.

Trace No. 35 Right Outside Quarter (No. 4)

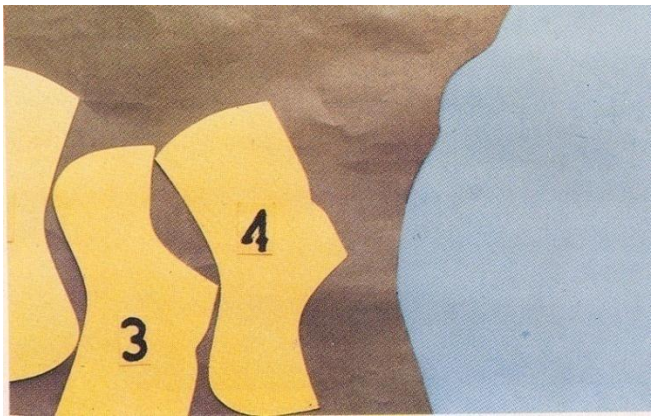


Trace No. 36 Left inside Quarter (No. 3)

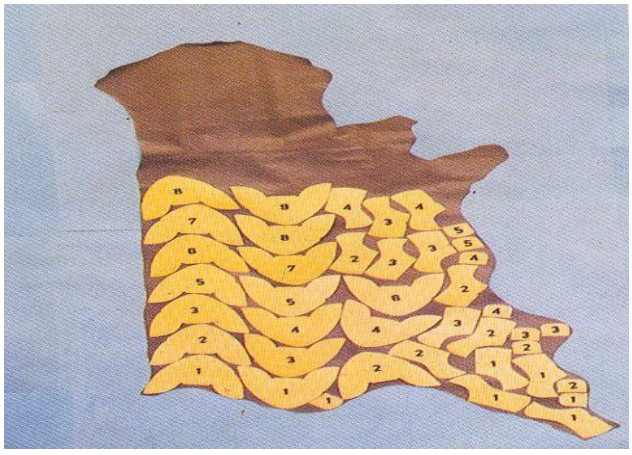


How we have evened up the line of cutting.

Trace No. 37 Right Inside Quarter (No. 4)



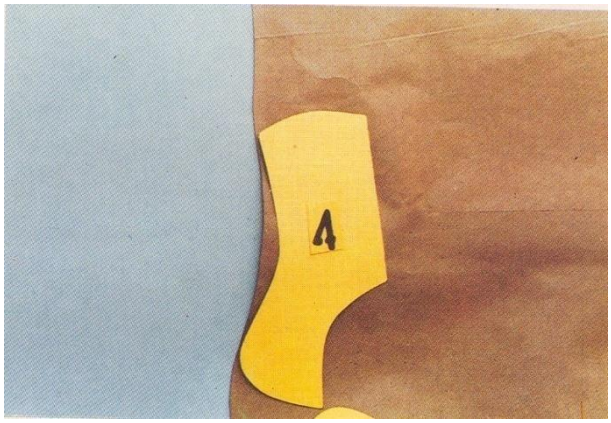
Trace No. 38 Tongue (No. 5)



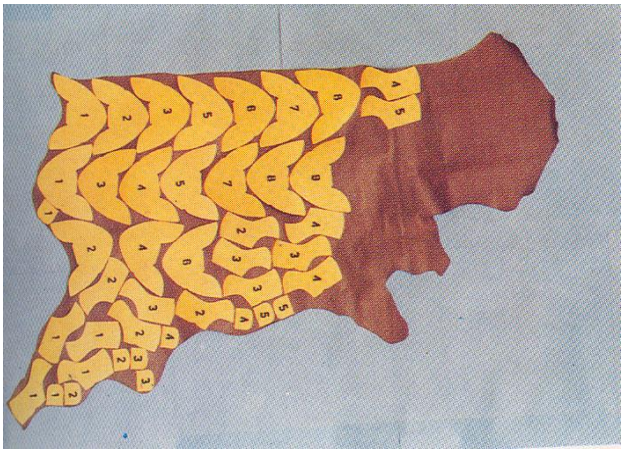
We have now come up as high as we should on this skin with our vamp pattern.

In actual cutting without paying attention to wanting approximate pairs we may have gone one more row of vamps higher but this would depend on the skin. The neck fiber structure although strong breaks down in flexing.

Tracing No. 39 Left outside Quarter (No. 4)



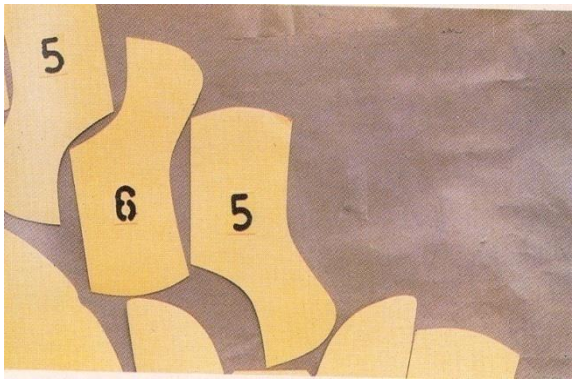
Trace No. 40 Left Outside Quarter (No. 5)



The placing of this cut may vary depending on the cutter's experience and the growth marks found in the neck area. In some cases the quarter could be placed along the backbone against the lines of tightness as this backbone area does not have a lot of stretch. By doing this the growth marks should not open up when lasting ask your superior to show you an example.

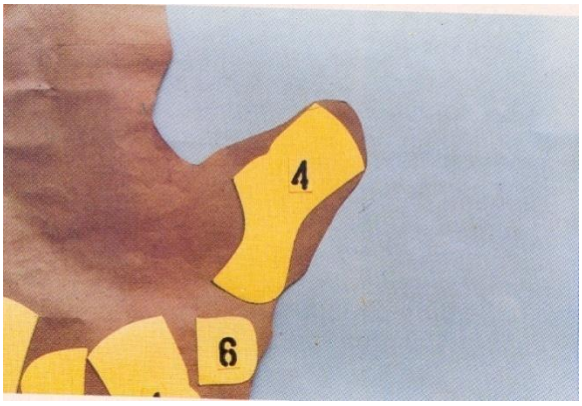
Trace No. 41 Left outside Quarter (No. 6)

Trace No. 42 Right Outside Quarter (No. 5)

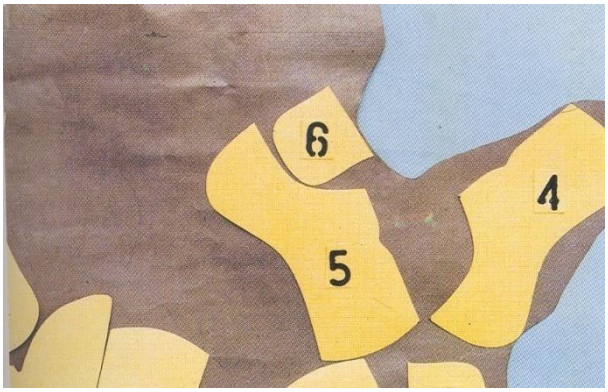


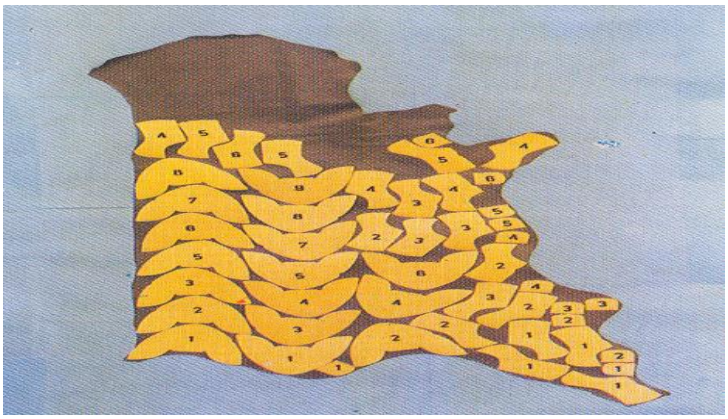
Remember this Rule: Work out of legs/shanks. Never work into a leg as this causes excess wastage.

Trace No. 43 Left inside Quarter (No. 4)



Trace No. 44 Left inside Quarter (No. 5)



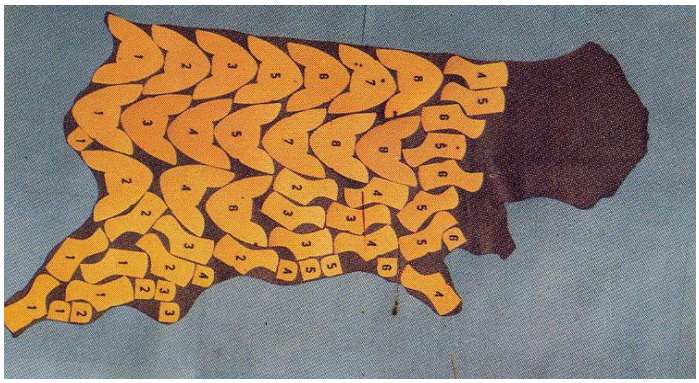


When cutting in this area you will have to check that the offal has been trimmed if this skin was not trimmed this region around the front leg may only have been usable for tongues.

Notice: How we now work out of the leg area using inside quarters and tongues.

Trace No. 45 Right Inside Quarter (No .5)

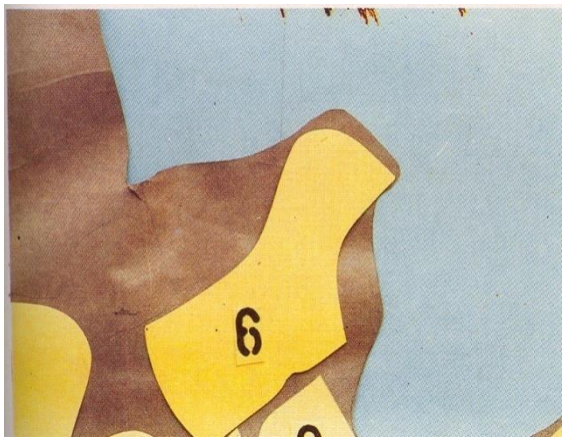
Trace No. 46 Right Inside Quarter (No. 6)



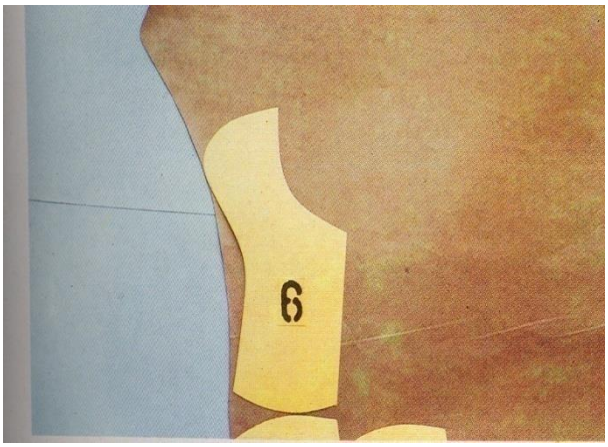
Now try to even up your quarters to match the amount of vamps you have cut.

How many more quarters do you need?

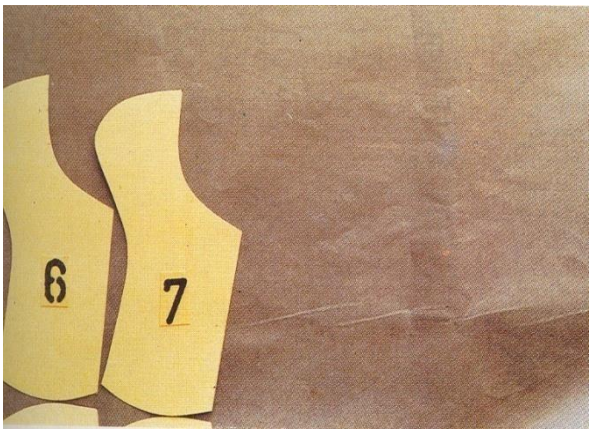
Trace No. 47 Left Inside Quarter (No. 6)



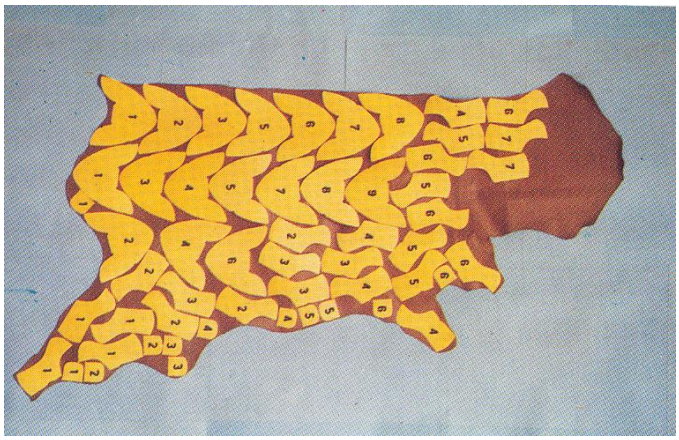
Trace No. 48 Right Outside Quarter (No .6)



Trace No. 49 Right Outside Quarter (No. 7)



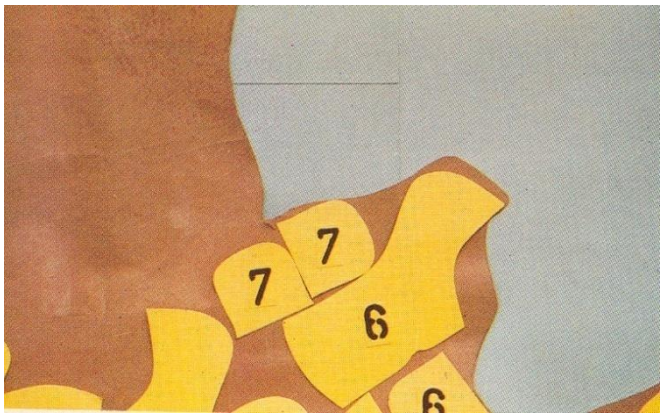
Trace No. 50 Left Outside Quarter (No. 7)



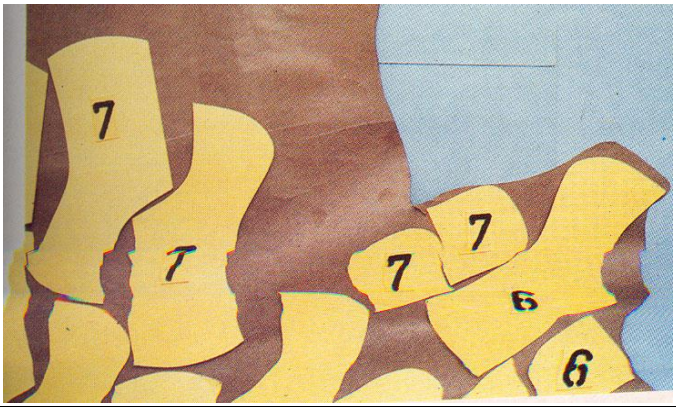
Remember: That methods of interlocking will vary this exercise is only one example.

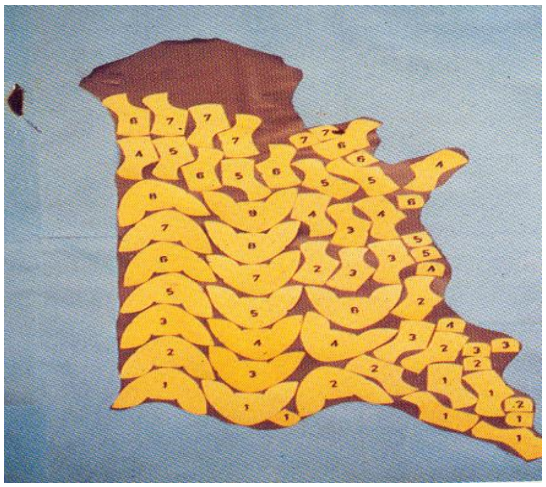
You have another 5 tracings to find out various interlocking methods after you have achieved satisfactory completion of this tracing.

Tracing No. 51 Tongue's (No. 7.7)



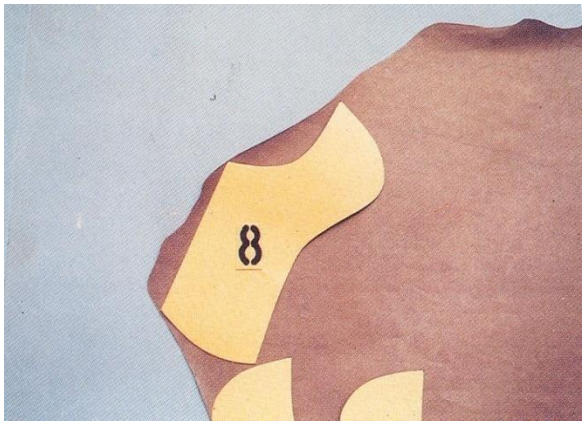
Trace No. 52 Right Inside Quarter (No. 7)

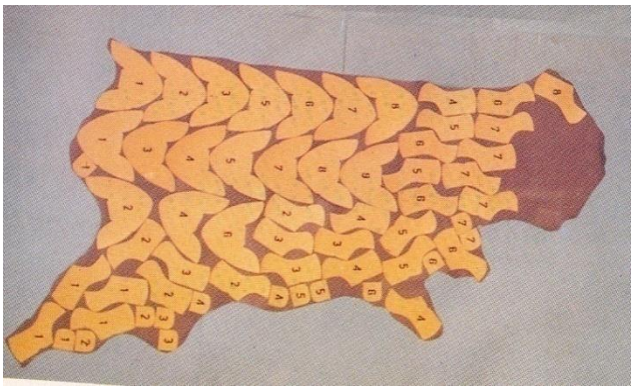




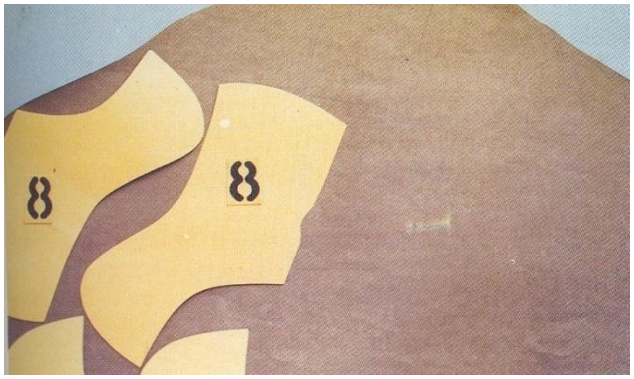
Trace No. 53 Left inside Quarter (No. 7)

Trace No. 54 Left outside Quarter (No .8)

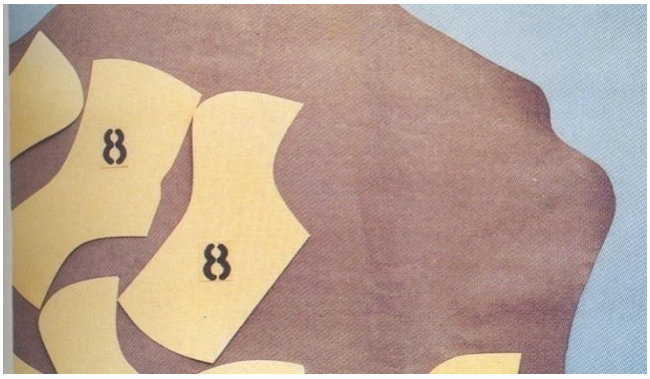


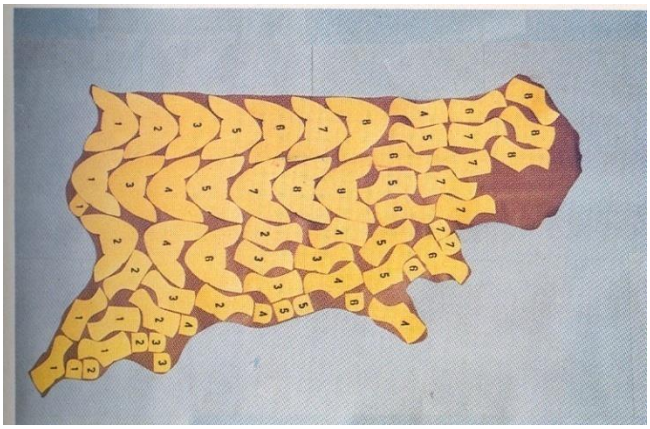


Trace No. 55 Right Inside Quarter (No. 8)

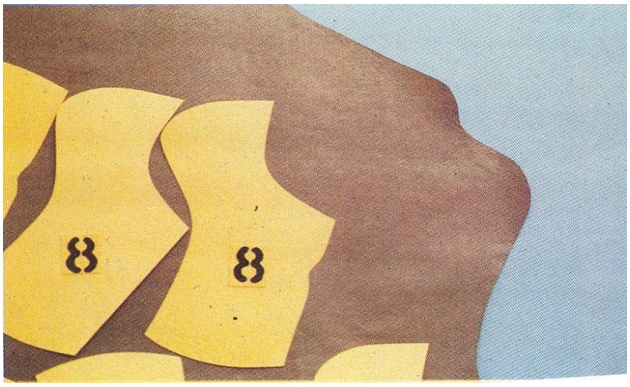


Trace No. 56 Right Outer Quarter (No. 8)

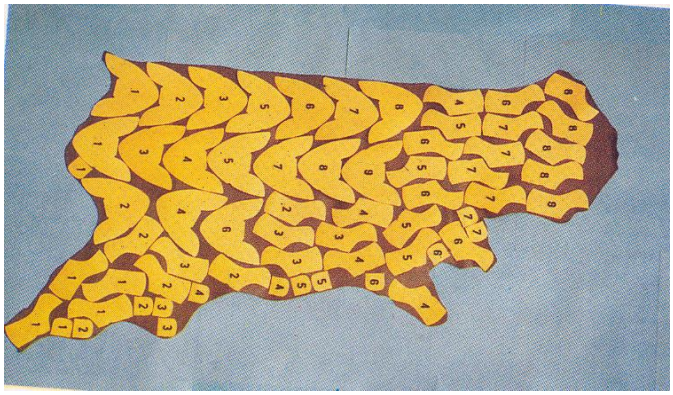




Trace No. 57 Left inside Quarter (No. 8)

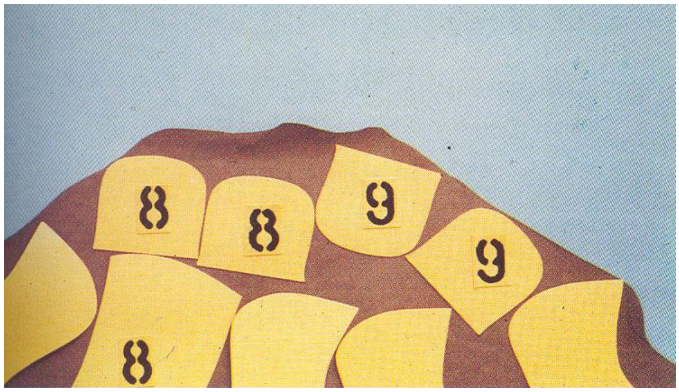


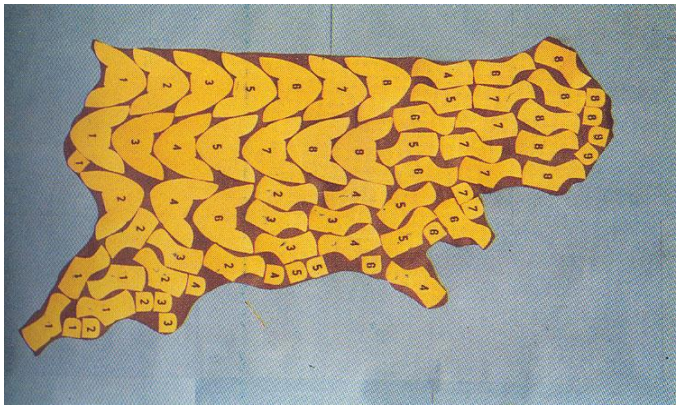
Trace No. 58 Right Outside Quarter (No. 9)



In the small portion that is left at the top of the skin a clicker will sometimes cut his last quarter across the top. This is against the lines of tightness but in cheaper shoes sometimes quire acceptable to the buyer.

Trace No. 59 Tongues (6-6-9-9)





You have now completed your first tracing.

You will now complete your remaining tracings. After the completion of each tracing present it to your supervisor for inspection.

CUTTING OF SUEDE & NUBUCK LEATHER

Introduction

We all know that leather is a natural product, which is derived from the row hide and skin of the animals. Hide is the outer covering of animal of large skins e.g. cow, buff etc. whereas, skin is the outer covering of animals of small species e.g. goat, sheep etc. A hide is normally divided into two parts through the backbone for convenience in handling. Each part is called a side.

The quality of skins, removed from the animal who are normally younger or the H/S is lesser defects in terms of area are usually converted in to full grain leather. Ideally, the full grain leather does not have any correction process on the grain layer. The correction on the grain layer is only carried out when the quality of the grain surface does not provide any substantive cutting value.

The leather retrieved from the good H/S are usually converted in to full grain leather basically to retain its original grain pattern visible. The finishing process thus applicable on these types of leather is usually costly. It is however to be noted that the any type of finishing process may be applicable on any type of leather. It should also be noted that any skin could be converted in to full grain leather.

Raw hides & skins of domestic animals are commonly used for making leather. They consist of cattle hides (cow, ox, and bull) , buffalo hides, calf skins, goat skins and sheep skins. Hides and skins differ in their structure depending upon the breed and origin of the animal, its mode of life, its food, its environmental conditions, age, sex etc. These factors also influence the leather manufacturing process.

Furthermore, there are differences in quality between different parts of the same hide or skin. In case of cattle hide the fibers are heavier in the back (butt) areas than in the belly and the hair is longer.

From anatomical structure point of view, in case of calfskins there is firmness of grain, smaller collagen fiber-bundles, smaller and closer hair follicles found as compared to cattle hide. As a result, calfskins have a very fine structure and therefore useful for finest of leather. In case of buffalo hides the hair pores are less in number and the pore diameter vary widely. Goatskins as compared to sheepskins have very tight, firm fiber structure but have less fats (grain is also very compact) and so are used in the manufacture of shoe upper leather for premium market segment. The wool sheep are more porous whereas the hair sheep is tighter.

The suede leather is prepared from the leather has more defects on the grain surface therefore snuffing is carried to develop naps on the flesh surface. These are prepared in two ways- keeping the grain surface on the leather thereby making a stronger leather & split leather converted in to the suede leather. In this case there is no grain layer thereby considerable reduction on the strength aspect.

The nubuck leather is prepared with the snuffing on the grain surface. This is usually better selection than corrected grain leather. A good velvet effect is thus created on the leather. The fine naps results in the shade effect . Therefore, these are used for the high end of the shoes.

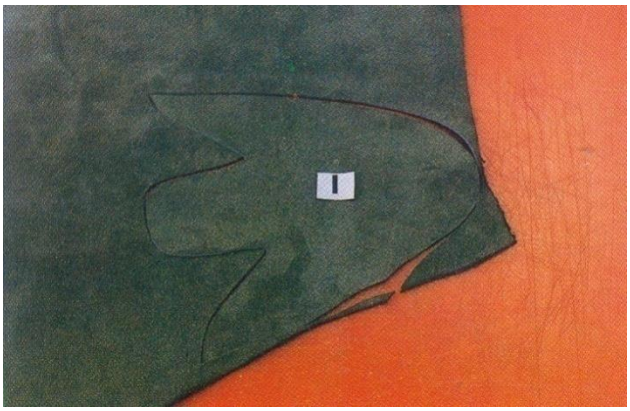
The complexity can be variation of the shades with in or in the lot. Due to this reason the leather is required to be cut in the shade matching concept, rather than generic way of the cutting.

Either the case, the system of cutting remain `pair wise.' Leather might be in the form of hide, side or skin.

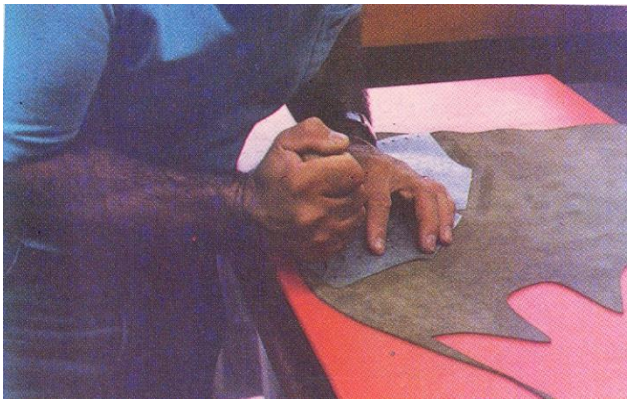
CUTTING OF SUEDE LEATHER

Closely inspect the leather for any flaws or surface defects & highlight these areas with chalk for easy identification. Before cutting any component, that area must be checked for the direction of strength. The lines of strength vary considerably from skin to skin .It must be remembered to cut left & right & right to left across the skin & always cut the lowest part of the skin first.

2. 1st Cut- Left foot vamps. Taking advantage of the skin shape & keeping heel to toe tightness.

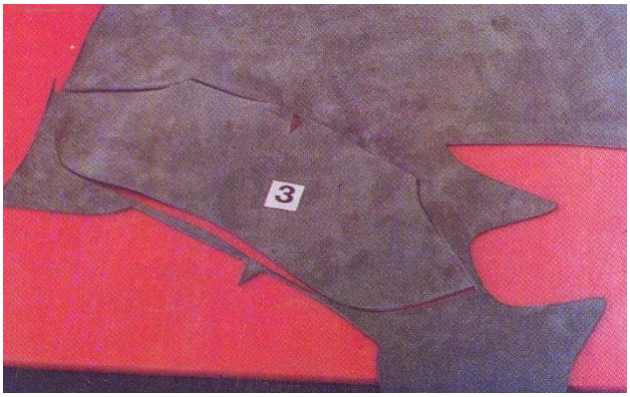


3. Remember to prick mark & cut the locating nicks when they are needed.

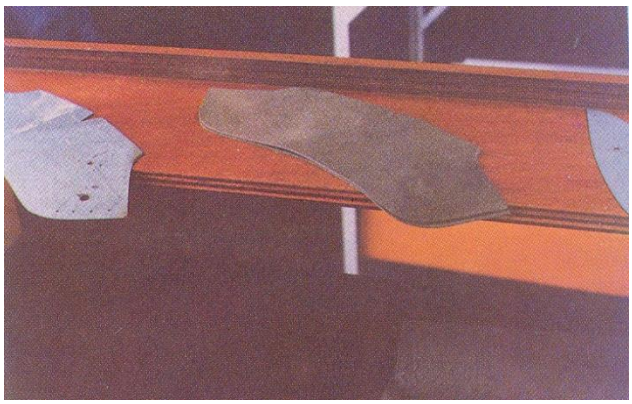


4. 2ND Cut- Full back taking advantage of the skin shape. The fiber structure is little weaker in this part of the skin, but is adequate for this component

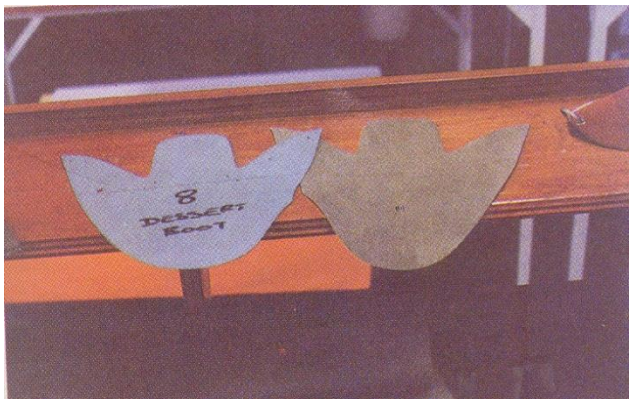
5. 3rd cut- Full back. Interlocking & keeping heel to toe tightness. This completed a pair of full backs.



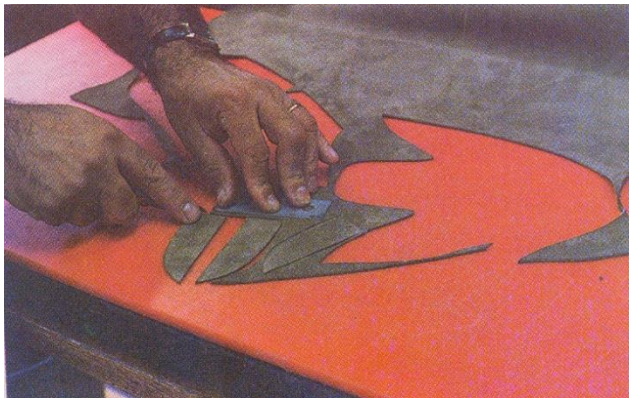
6. When a pair of components is completed, stack them with the nap face to face.



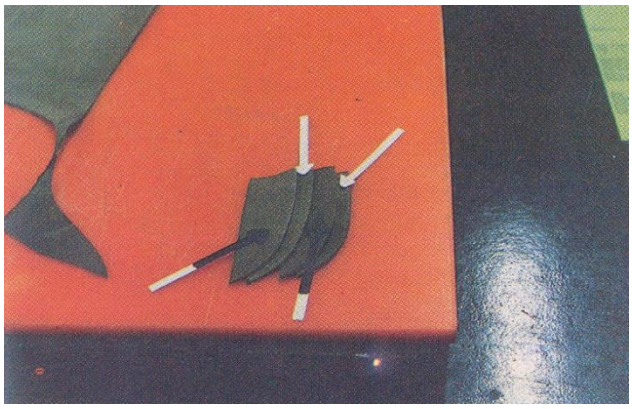
7. On the left & right patterns, always turn the pattern over when you have made a cut. This will ensure the next cut you make will be of the opposite foot.



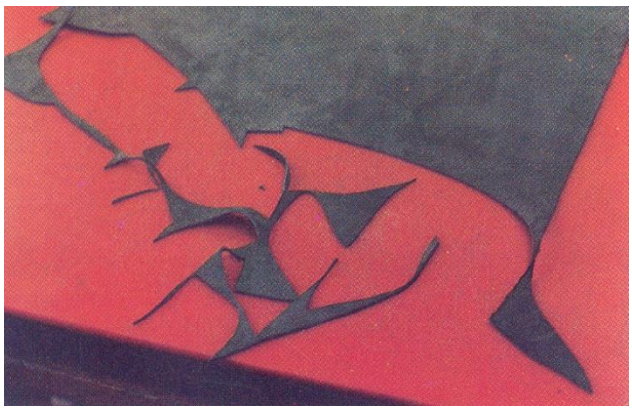
8. The facing can be cut out of the interlocking offal whenever possible.



9. One pair of the facing is completed. White arrows point to the suede surface. Black arrows point to the sealed back.

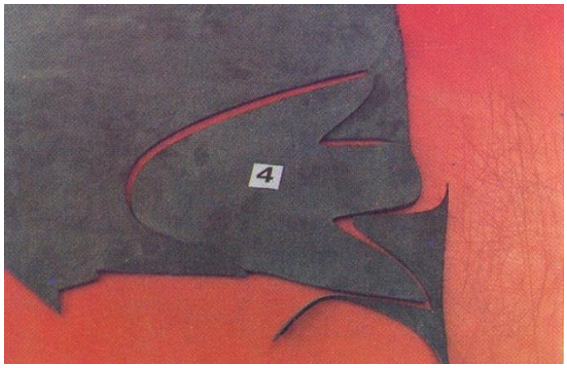


10. Interlocking your pattern so that the waste will fall away

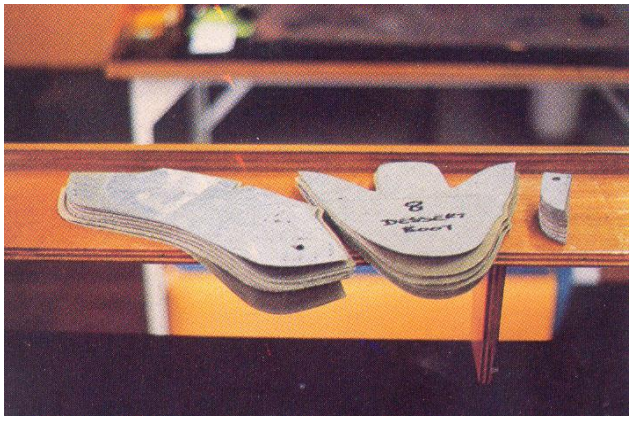


11. 4TH cut:

Right foot vamp. Keeping this component near the back bone area where the fiber structure is of better quality.



12. Keep cutting in this manner until 5 pairs of upper are completed.

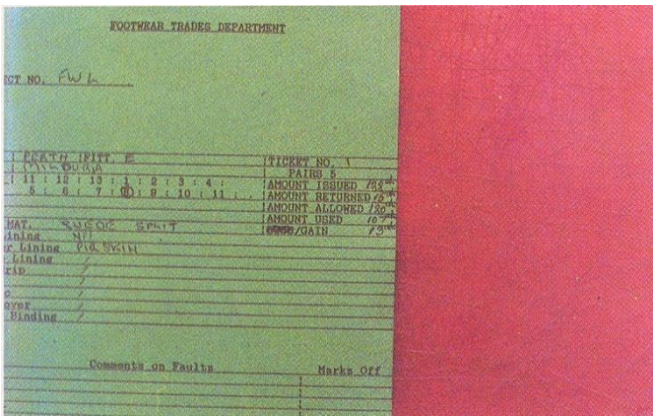


13. Measure your remaining leather on the leather measuring machine.

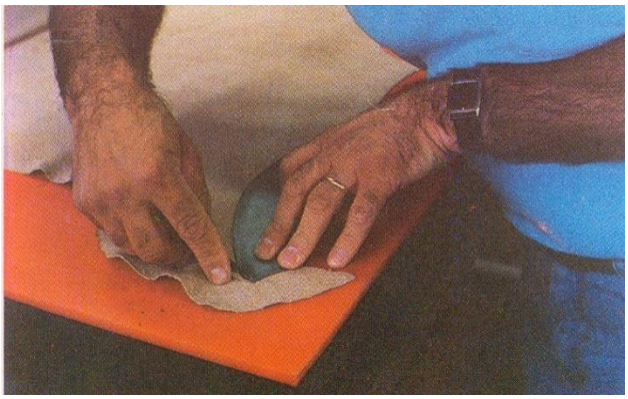
14. Check the measurement & return the needle to zero.

With the crayon, write the measurement on the sealed back of the leather.

15. Take away the remaining leather figure from the amount you were given & record that figure in the actual used section of the cutter ticket. Return the remaining leather to your supervisor.



16. Bundle up the outside in to their individual components & place them neatly aside. Proceed to cut the linings as indicated on the work ticket.



The full back lining is cut out of the skin to complete five pairs.

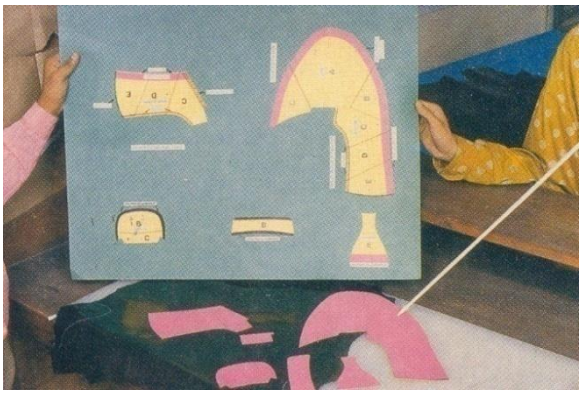
CUTTING OF GOAT LEATHER

Closely inspect the leather for any defects. These include surface marks, flay cuts & loose offal. Mark these areas for easy identification.

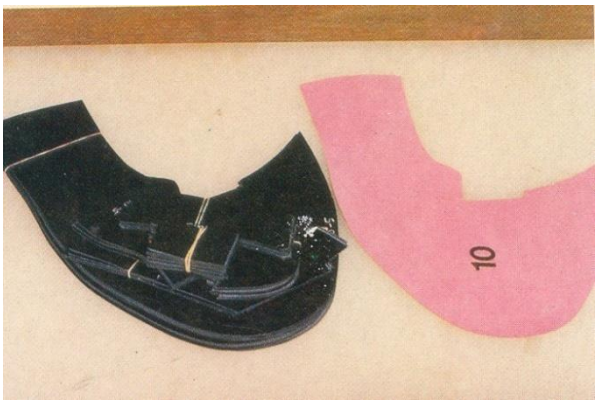
Check the flesh side of the leather for warble holes & flay cuts.

1. Check for the correct line of tightness as this will vary slightly form skin to skin.

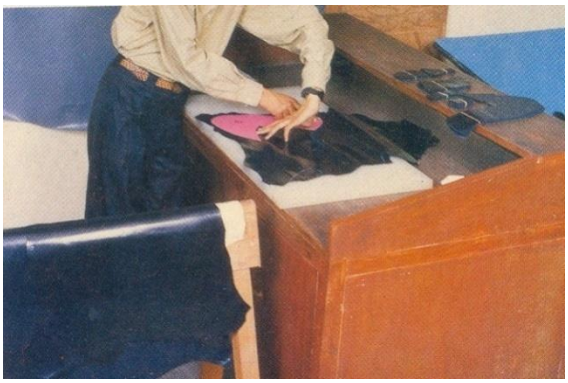
2. Check the components to be cut , make sure that all parts are there.(In case any pattern is missing then it is very difficult to match the grain at a later stage- so first check for the pattern)



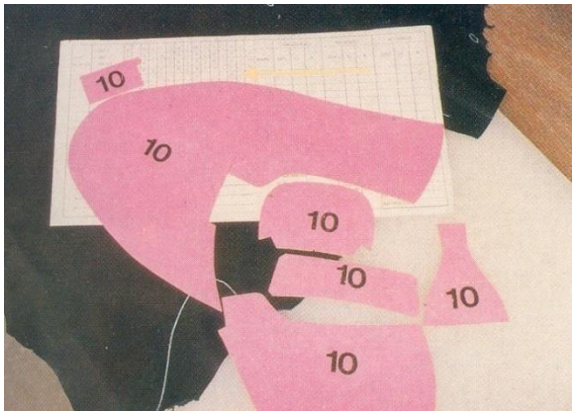
3. Both kid & goat are stacked in the pair basis.



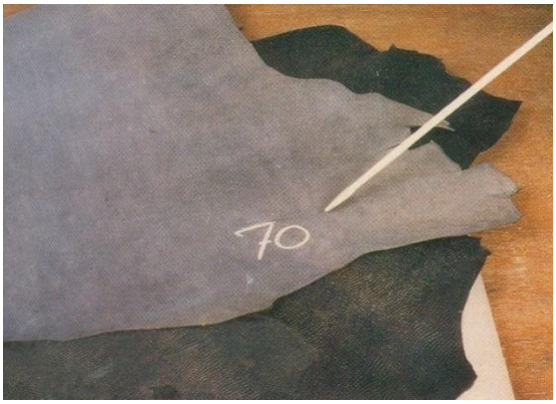
4. Ensure that the work bench is clean.



5. From your cutting sheet select the largest size patterns.

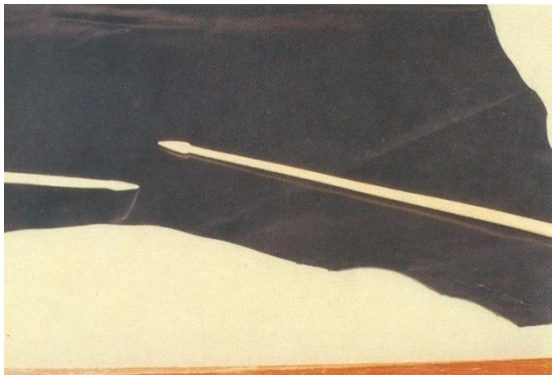


6. Select your skins (Large skins for large sizes.)



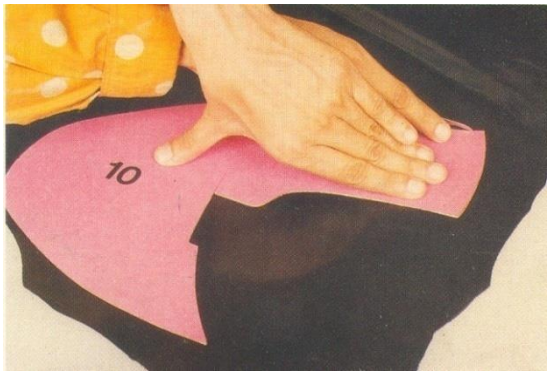
7. A clicker would also have a set of small size patterns to run in. Sometimes he would cut 1 prs. Large size & one pair of small size from the same skin

8. A clicker would cut flank to back bone then the opposite flank to the back bone. It is a personal preference as to which side is to start first.



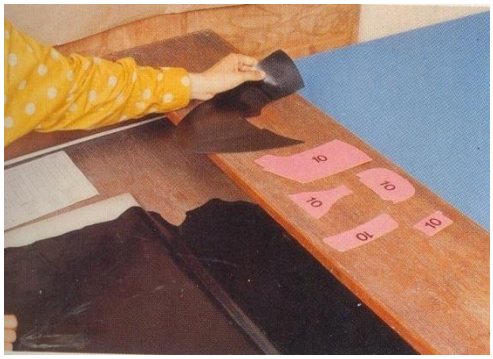
9. For identification purpose we have covered the tine pattern with different patterns.

10. The first cut is the vamp however he should ensure that the wastage does not takes place during placement.

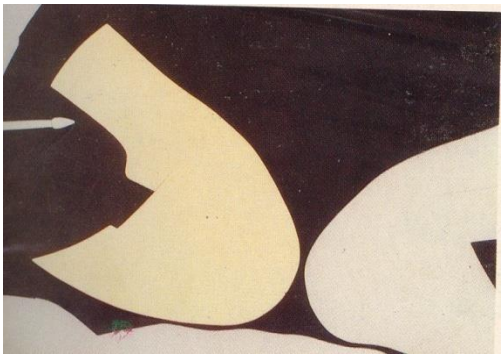


11. After cutting the clicker must check the quality of the product.

12. Then place the cutting on the top of the bench, in front of him.



13. No.-2 cut left ¾ cut vamp (pr.no.-1). This is the matching opposite foot. It is a mirror image cut of the 1st cut; the toe is put close to the back bone.

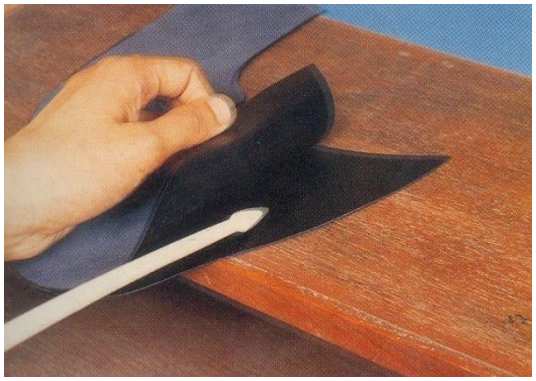


14. The clicker starts cutting with a under arm cut from the top of the quarter.

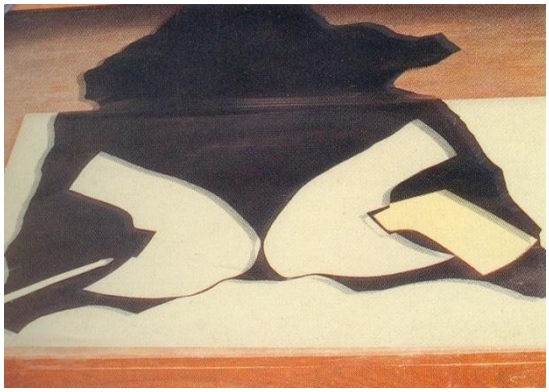
15. The next cut will be the over arm cut components for tightness.

16. After cutting clicker must check the cut components for tightness.

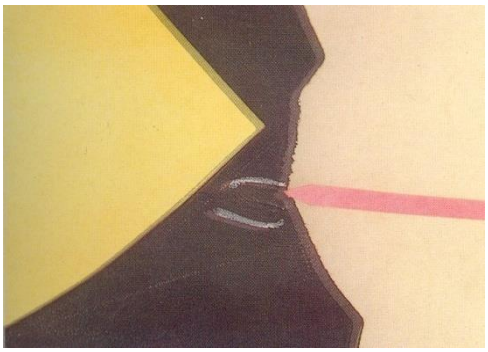
17. Then place the vamp on the top of the 1st vamp, grain side down (face to face).



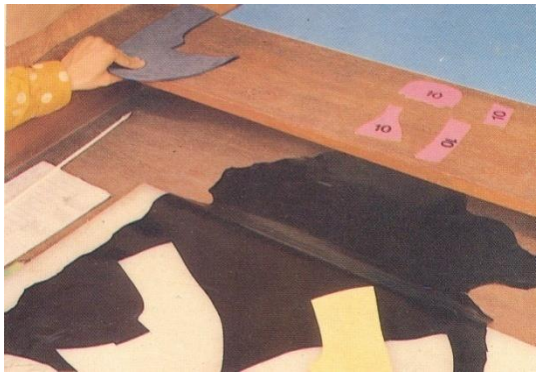
18. No. 3 cut left inside quarter (pr.no.-1). This quarter will actually match the vamp cut from the opposite side of the skin.



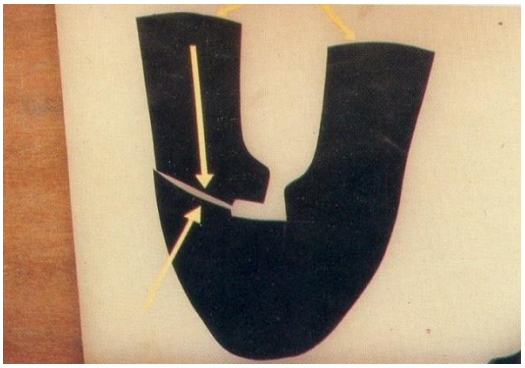
19. The small flaw found in the flank must not be allowed to enter the back seam as this could stretch the line of tightness runs from heel to toe.



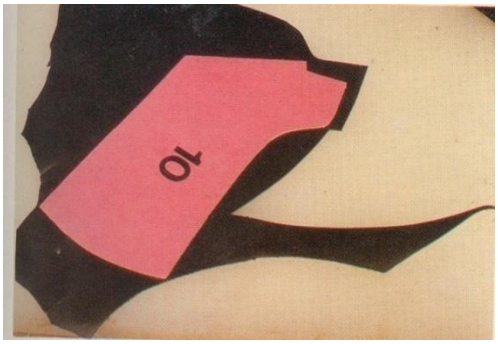
20. After cutting the clicker must check the quality then place it on the bench in front of him.



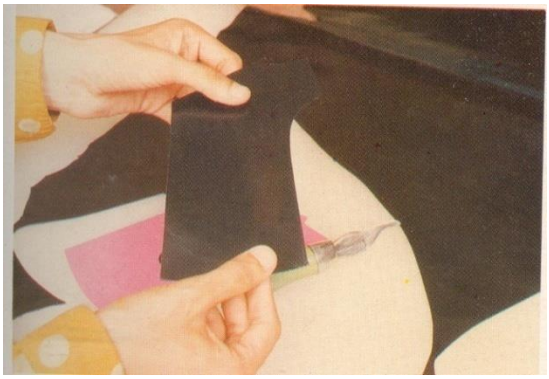
21. If unsure of the grain match he could check it against the vamp. The quarter should grain match on the front of the quarter & the back seam.



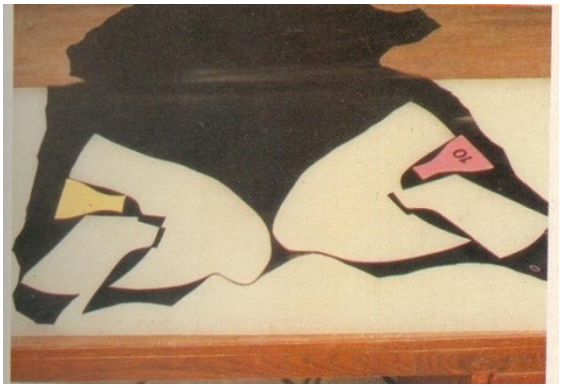
22. Cut-4left outside quarter(pr-1). This is a mirror image of the previous cut.



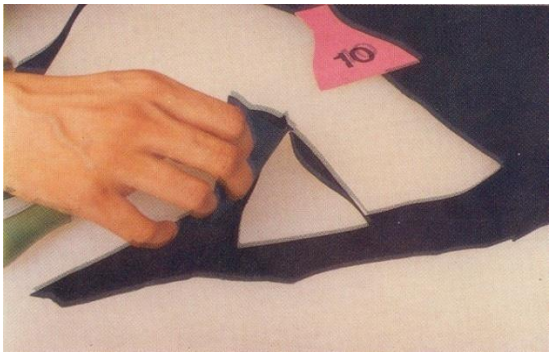
23. After cutting check for the stretch or defect then place this quarter on the previous quarter to face.



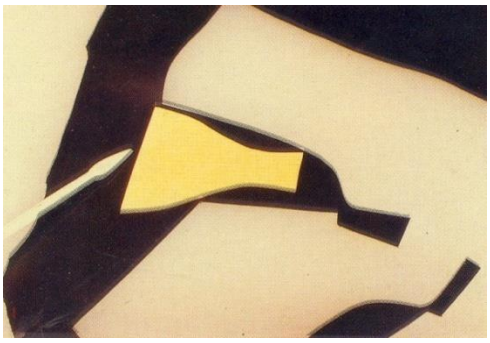
24. Cut no.-5 counter pr.-no-1Both counters are cut from the same portion of the skin in a mirror image itself.



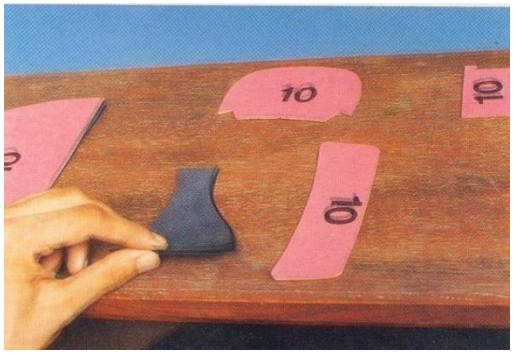
25. The right counter would be cut first.



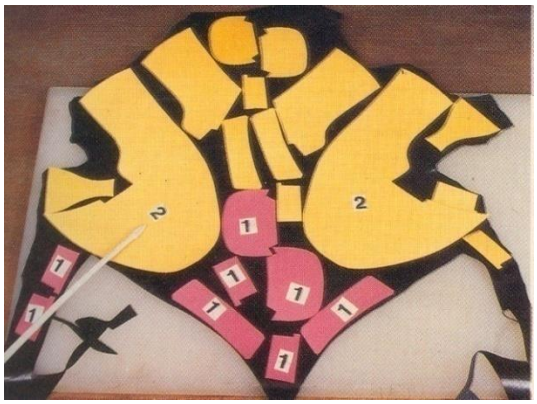
26. Then the left notice how the lasting allowance was put closest to the edge of the skin.



27. After cutting both pieces are inspected and placed face to face as a pair.

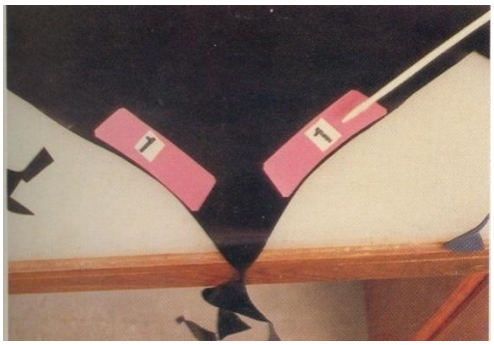


28. We are now half way up the skin. At this point the clicker must visualize what he is going to cut from the remaining skin. He must also consider grain match



.

29. Cut number-6, saddle s bars pair number –1.The saddle divides the tongue & the vamp as it crosses the two, the saddle needs to have a similar grain match, although some times the saddle can be used as an area to slightly break up the grain variation will depend on the price structure of the shoe.



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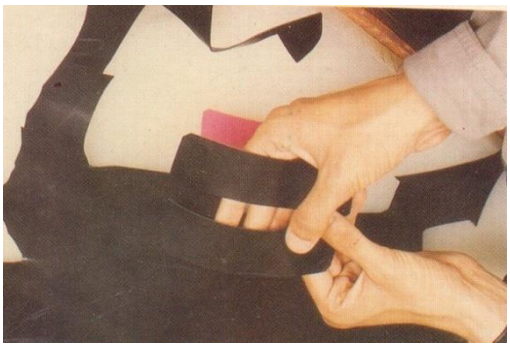
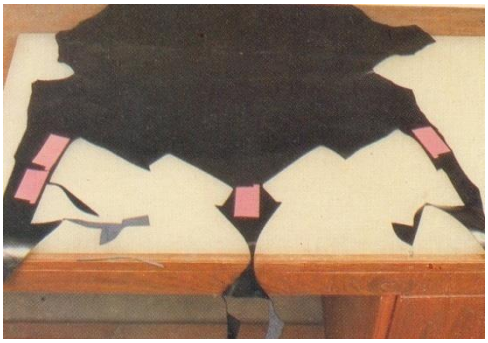
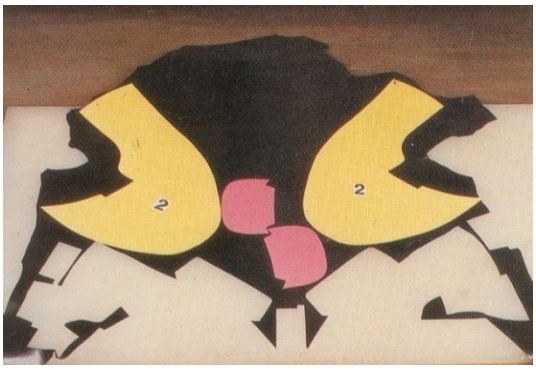
30. After cutting, the clicker inspects the grain & places the saddles on the bench as a matching pair



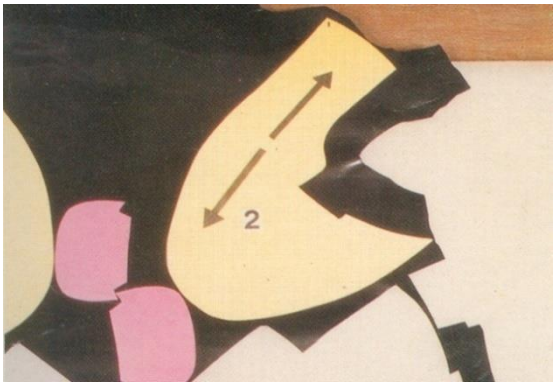
31. Cut no.-7, there are four saddles to a pair, grain match is minimum as they are rolled up to make the decoration.



32. At this point the clicker must make sure that the next pair of ¾ cut vamps can fit, here must also allow enough grain matching grain to be left for the tongue.



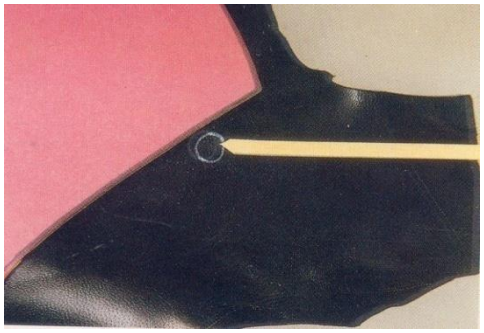
33. The vamps are most important before cutting the clicker must also check the line of tightness in the leather.



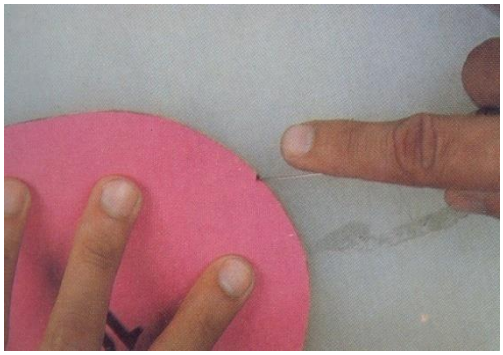
34. Pattern interlocking is the key to the good clicking. Leather is money do not waste it.

35. Although we have not completed the 1st pair at this stage we would cut the second vamp. This is to ensure pattern interlocking.

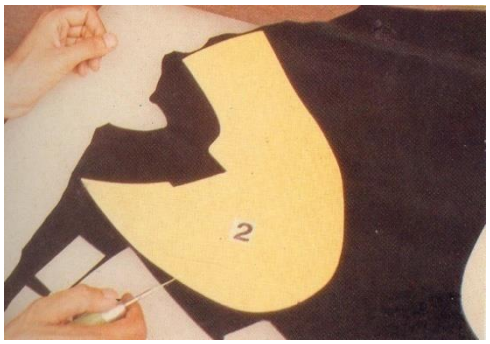
36. Cut number 8,right vamp(pair –2). The top line would be reinforced with tape or string to give extra strength. Defects should not put in to top line.



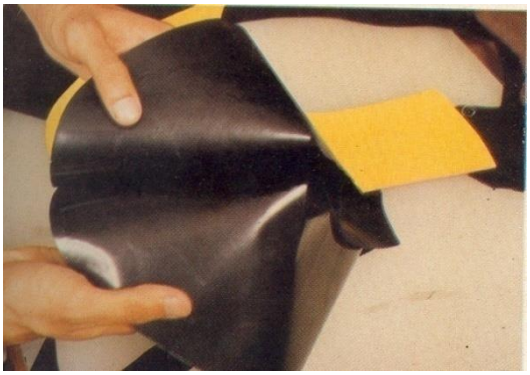
37. The clicker would also put any nocks /center pointy or prick marks in the patterns as he cuts them.



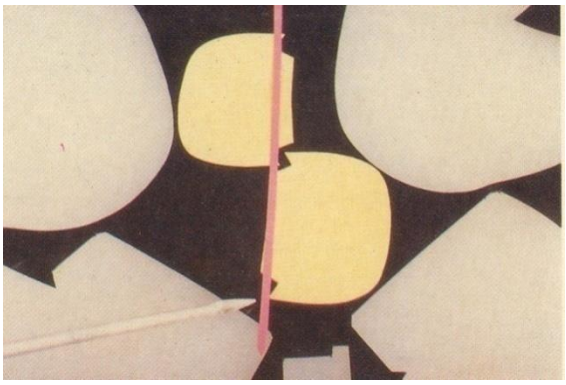
38. Cut no.-9(left vamp prs.-2)



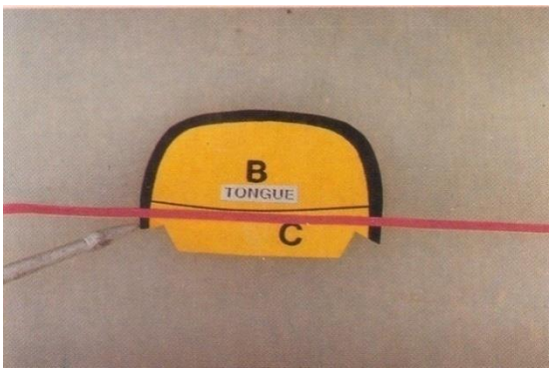
39. After cutting the clicker must check the pair for grain matches in the plug area.



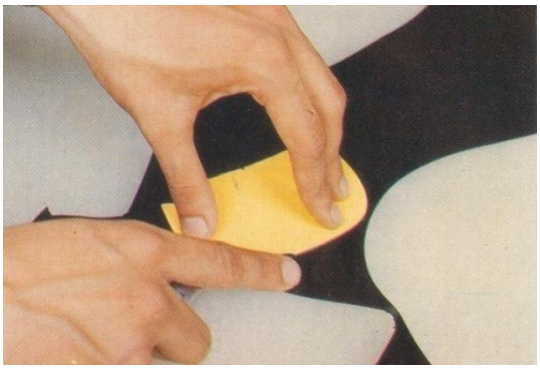
40. We now complete the tongue for pair no.-1.Down the center of the skin is the back bone. The top of the tongue should not be cut out of this area as the grain may pull out.



41. The grain from the back bone can be placed in the area that the saddle covers.

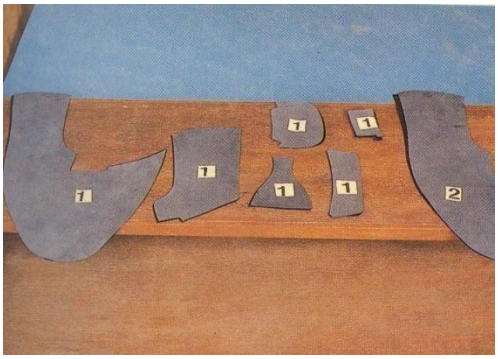


42. Cut no.-10, single tongue for pair no.-1.

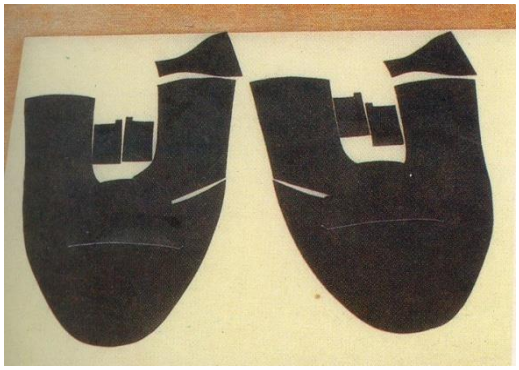


43. Cut no.-11, single tongue for pair number 1, this tongue has been reversed to allow the back bone to be placed under the saddle.

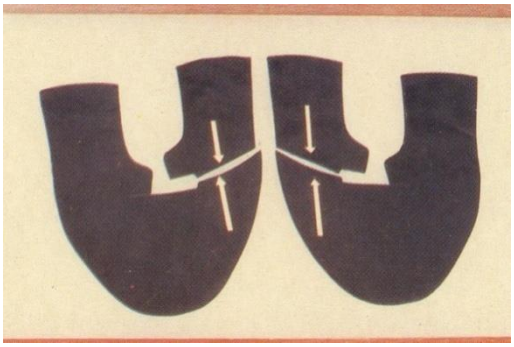
We have completed the pair no.-1.



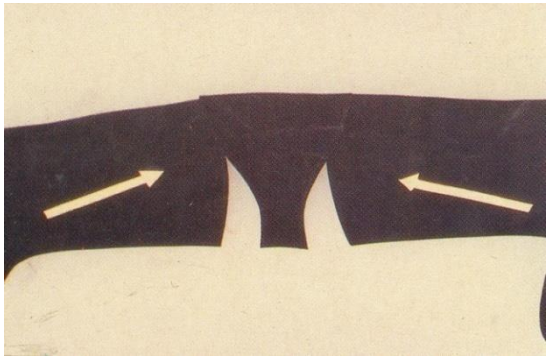
44. All parts of the shoe should be collected for the grain matching.



45. The front of the quarter must match with the area of the vamp. They are also to be inspected together.

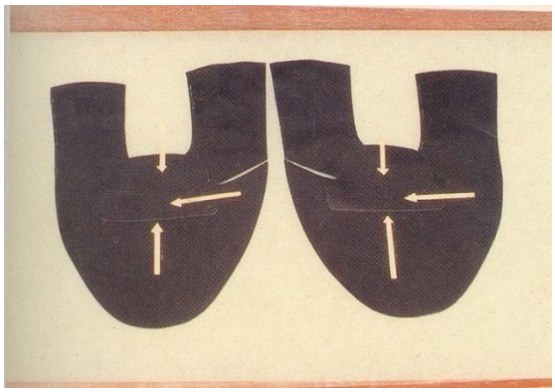


46. The back seamers should not stretch. In this shoe a counter covers the back seam. So preference should be placed on matching the counters & quarters.

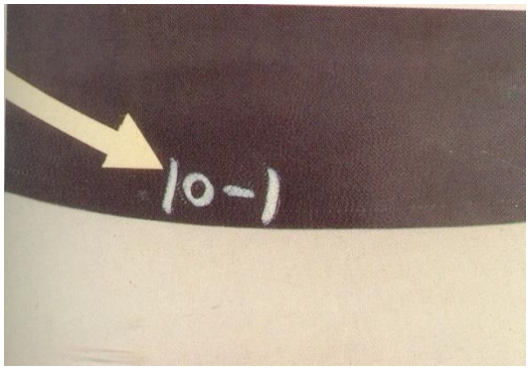


47. Both vamp should match.

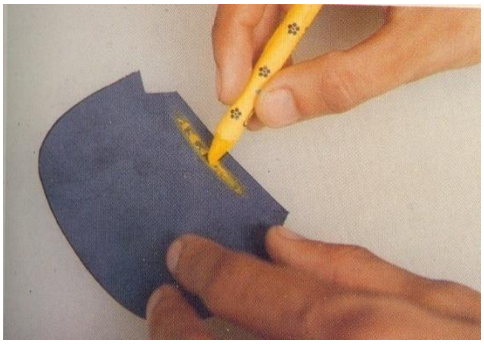
48. The top of the vamp, saddle & tongue must also match.



49. After checking the grain & color match the clicker must identify each pair. In this system the clicker is writing the size & pair number. Size 10-1 is the pair number.

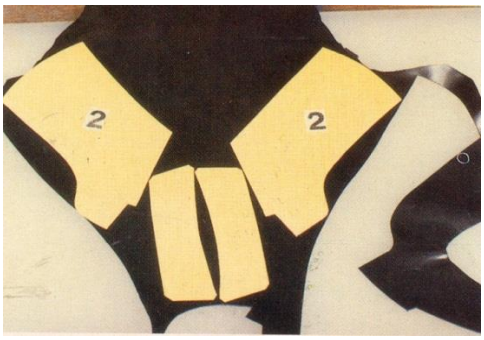


50. Color code can also be used. Each pair of the bundle would be marked by a different color. Color coding is limited to the amount of color available.



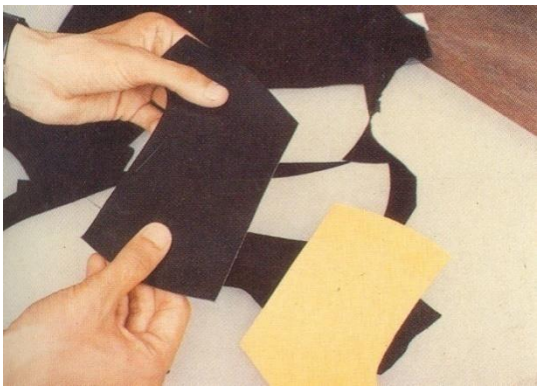
51. After grain matching marking the upper components are placed grain side out, this allows the stamping operator to pick up each pair & stamp them without having to sort.

52. Again the clicker must asses the area that is available & calculates the best possible interlock.



53. Cut no.-12, inside quarter (pair-2). The area available is sufficient to cut the remaining components required. However make sure the quarter being the largest components fits. It would cut first.

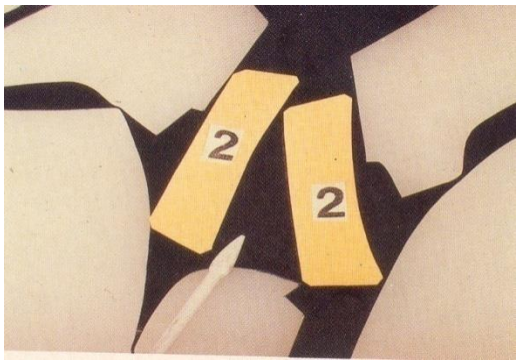
54. After cutting the clicker must check his work for quality & stretch. Then place it on the bench in front.



55. Cut-13, right inside quarter pair number-2. This is a mirror image of the previous cut.

56. After cutting the clicker must again check the components & place on top of the matching pair.

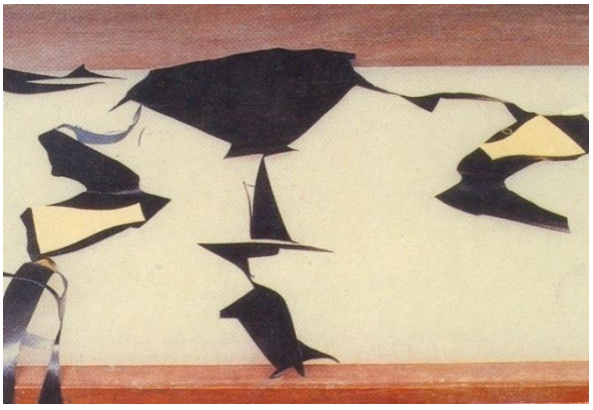
57. Cut 14, left+ right saddles (pr.-2). The back bone is running between the cuts.



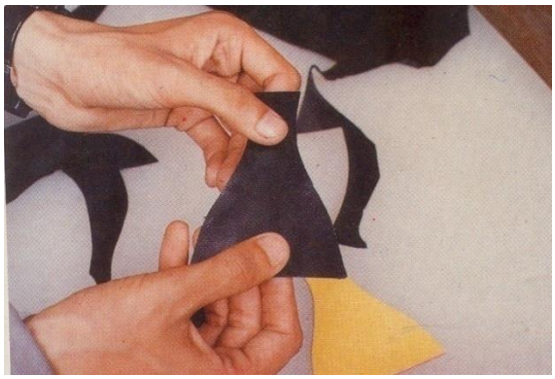
58. Check & place in a pair on the top of the bench.

59. Counters: The grain of the counter may need to be checked against the back of the quarter before cutting.

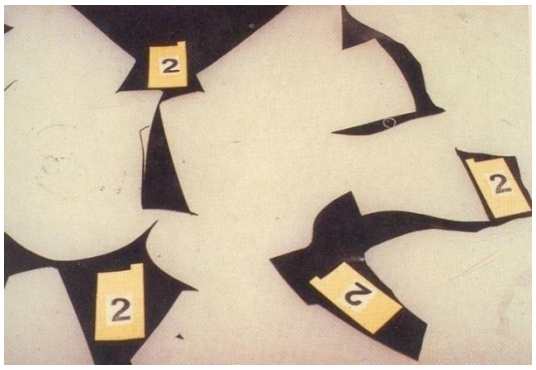
60. Cut-15, counter left + right (pair-2), both counters are being cut from the small pieces of leather in the front legs.



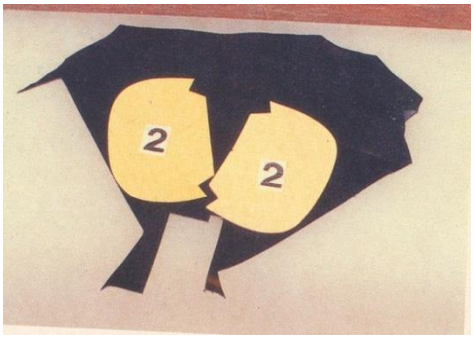
61. After cutting the clicker must again check these for both grain match & stretch. The counter can have slightly more stretch as this part is sewn on to the quarter & then a stiffener is inserted again to reinforcing it. This component is then placed a s pair on the bench.



62. Cut-16(pair-2) tassels. These are cut from the scrap. They should not be cut from any area that had excessive stretch or surface break.



63. Cut-17, tongue (prs.-2) these are cut from the remaining neck after checking the grain match



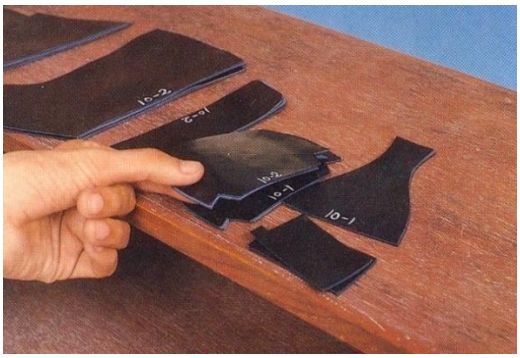
64. We have now completed one skin. The small amount of leather left may possibly match to the neck of the skin.

65. We have also completed the second pair of uppers.

66. The completed shoe must be checked for color & grain match.

67. Then number as previously had shown. Remember that this pair-2. All parts should bear the pair number-2.

68. They are then placed on the pair-1.



69. The bundling has to be carried out as explained in F/G.

LAP Test	Practical Demonstration

Name: _____ **Date:** _____

Time started: _____ **Time finished:** _____

Instructions:

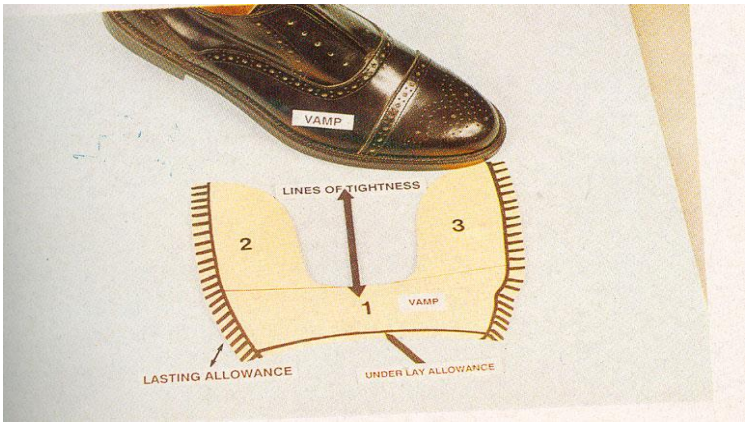
1. You are required to cut by hand CPE 1-8 exercises.
2. You are required to cut following pairs of SCE 1-10 exercises:
    a. First exercise 10 pairs
    b. Second exercises 10 pairs
    c. Third exercises 10 pairs
    d. Fourth exercises 2 pairs
    e. Fifth exercises 10 pairs
    f. Six exercises 5 pairs
    g. Seventh exercises 5 pairs
    h. Eighth exercises 5 pairs
    i. Ninth exercises 5 pairs
    j. Tenth exercises 5 pairs
3. Prepare a nesting exercise on the brown paper with the help of the derby shoe patterns.
4. Cut the five pairs on the suede leather with the help of the giving patterns.
5. Cut the five pairs on the goat leather with the help of the giving patterns.
6. Request your teacher for evaluation and feedback of your work.

Information Sheet-3	**Identifying scars, marks and fault areas of leather and positioning patterns**

6,3,1 The area in the front of the vamp is a 9mm underlay allowance.

The line tightness is heel to toe.

There are two vamps to each pair.



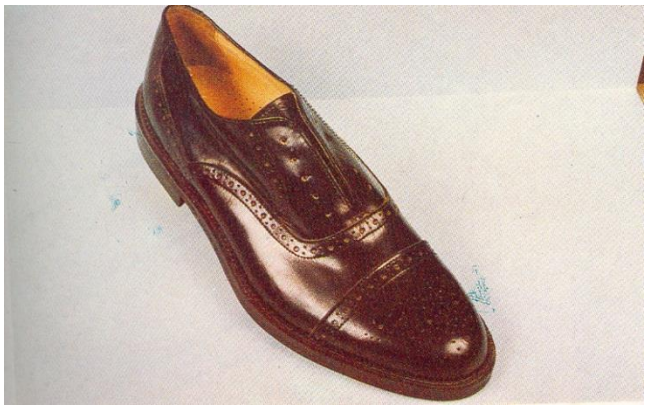
Quality Division of Component

To help in the ability to mark quick & accurate decision when cutting the clicker must know the shoe he is cutting.

He/she should be able to break the shoe down into the various parts and their divide these parts into their quality regions.

They should be able to mark lines of tightness in each component and mark the allowance at each component.

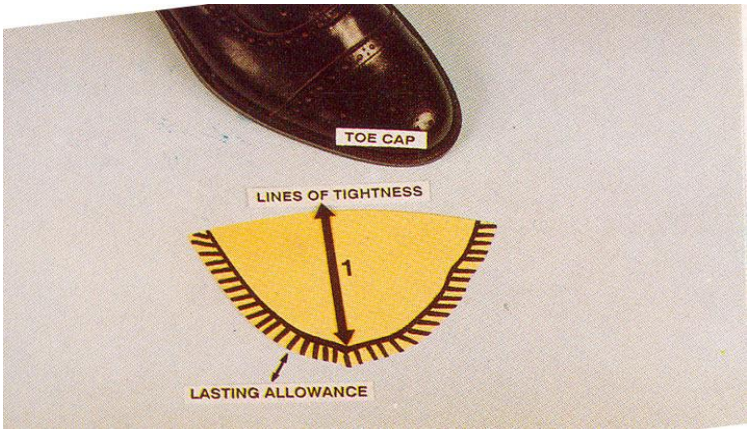
Here, is given an example of the quality division of the components of Oxford shoe.




LINES OF TIGHTNESS
TOE
HEEL

Toecap

This is the main parts of the shoe; it must be cut from the best possible leather for looks and wear. There are two toecaps to each pair.

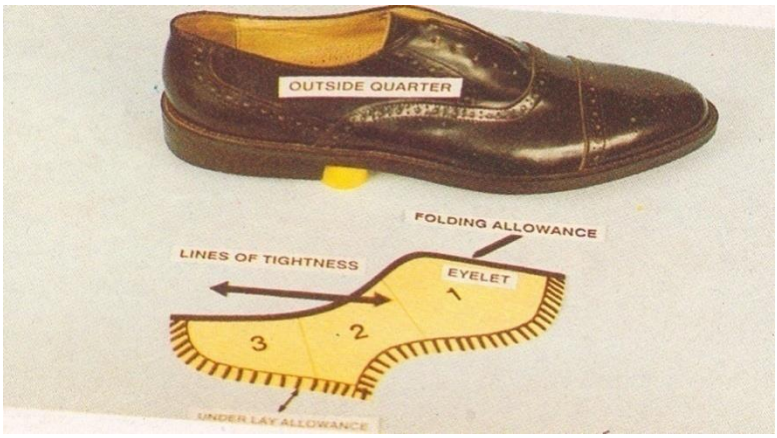


Vamp

Although this does not take the same wear that the toecap does it must be kept clean. The vamp is divided up into 3 quality areas with a lasting allowance of 12 to 14 mm.

Outside Quarter

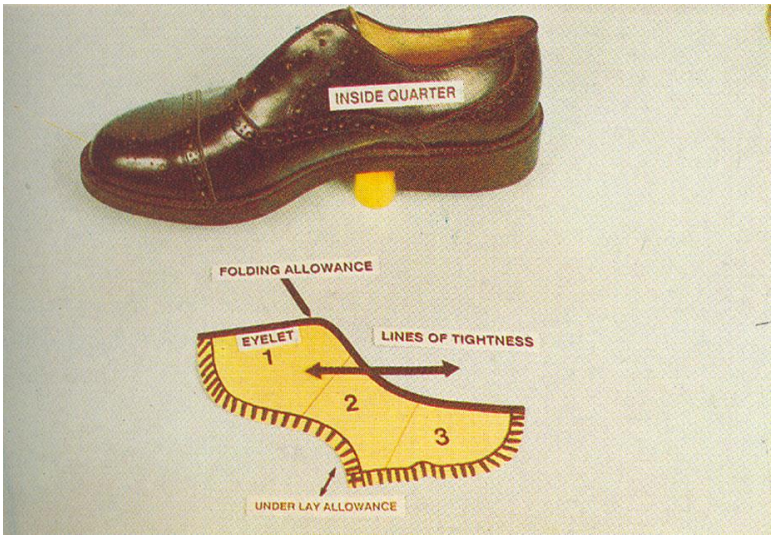
This area of the shoe takes a large amount of wear. It is also the part of the shoe most often seen. The top line must be tight and the eyelet area should be strong enough, to withstand the pressure of lacing. The best part of the quarter is the area that is in contact with the vamp.



Inside Quarter

This inside quarter does not take a much wear as the outside quarter; therefore, a slightly lower grade can be used.

The same rule applies to the top line and eyelet areas.



The line of tightness runs from heel to toe no defects should be put into the folding allowance as this area is skived down to approx. ½ substance to allow folding, scars etc. that are put in this area will often break when folding is done.

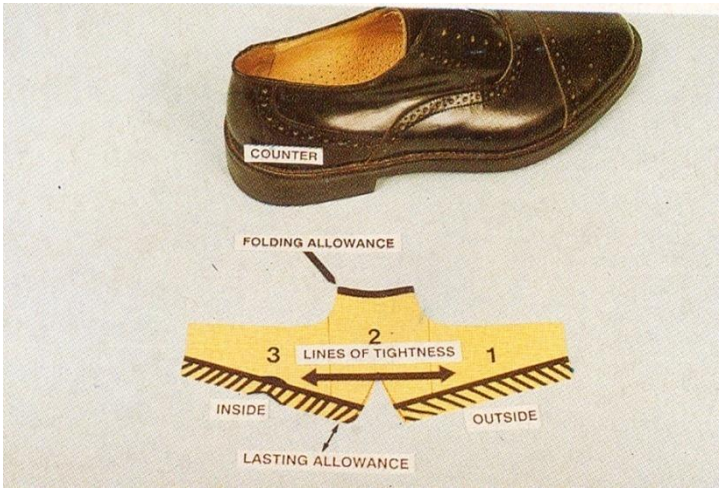
Counters

This is divided up into 3 quality areas with the inside portion of the counter taking light vein marks, defects etc.

The amount of defects that can be placed in a shoe depends on the price of the article.

The counter has a small folding allowance at the top, with a 12 mm to 14mm lasting allowance at the bottom.

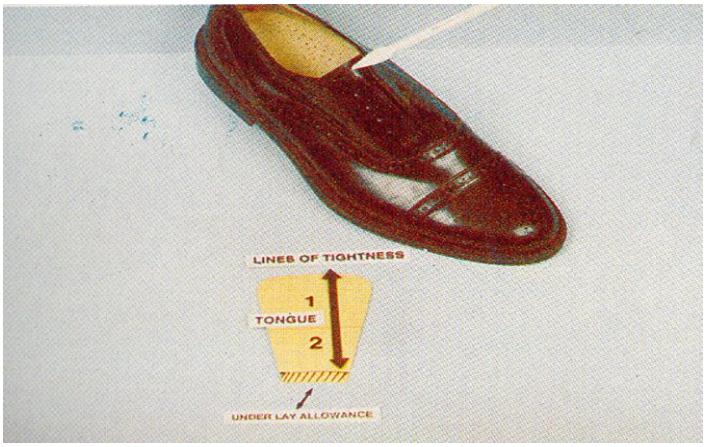
There are 2 counters to a pair.



The tongue has a 9 mm underlay for stitching on to the vamp.

Tongue

The tongue is an area that is not seen on most shoes. However, the clicker should not put in stretchy leather nor should be put in extra heavy scars. The tongue should be tight from heel to toe.



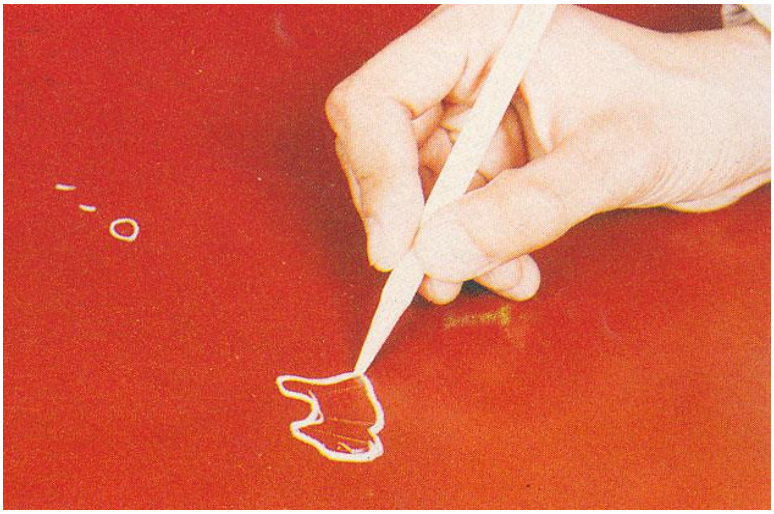
Nesting of oxford pattern is to be done in the similar way as nesting of derby has been done.

It is important to consider the points given on nesting principle mentioned earlier before starting nesting to get optimum utilizations of material without rejects.

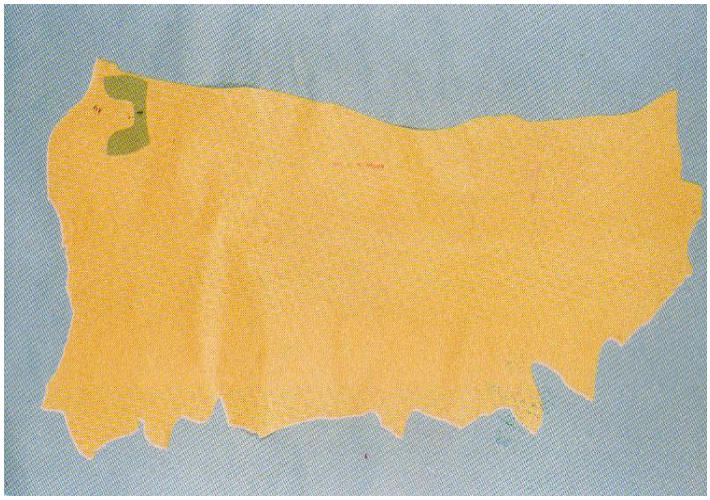
Nesting Exercise

In these figures, utilization of defects on skin/leather is also shown.

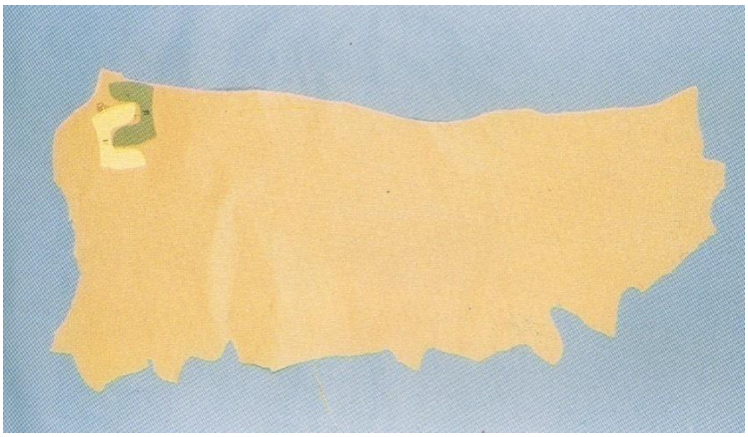
Mark the Defect with the Pen



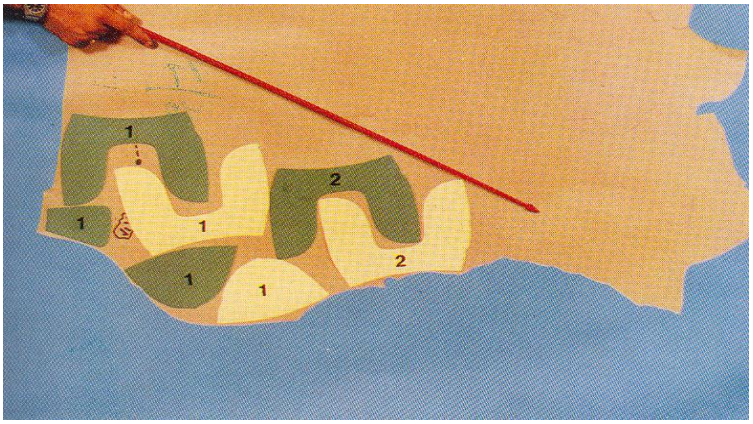
Start from the Backbone to the Belly



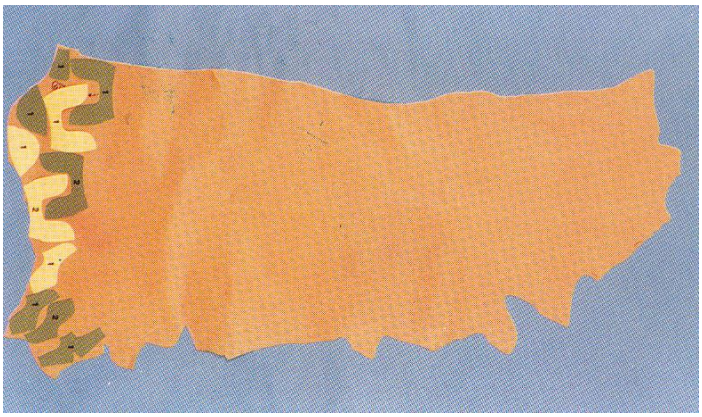
The Second Vamp will interlock into the Throat of First Vamp.



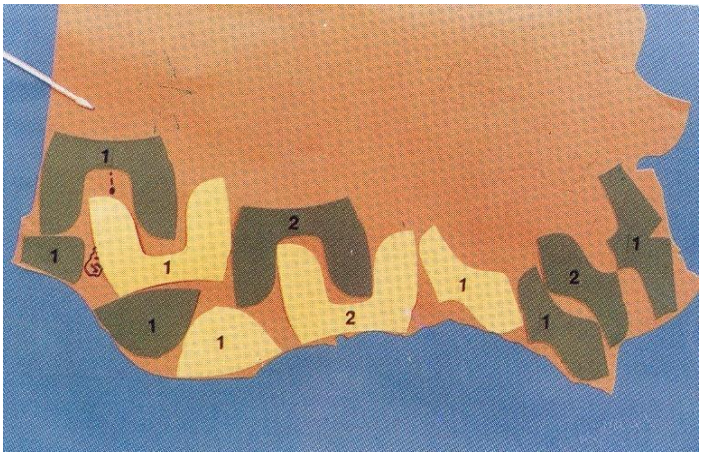
Notice How we are Working across the Skin from the Backbone to the Flank Area



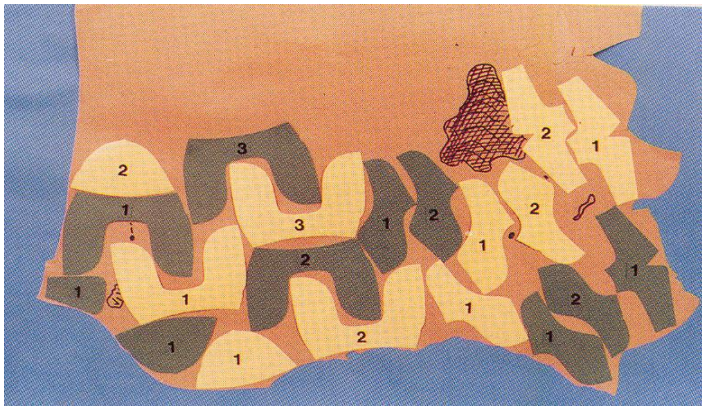
We have now Completed the First Line of Nesting from the Back Bone to the Belly



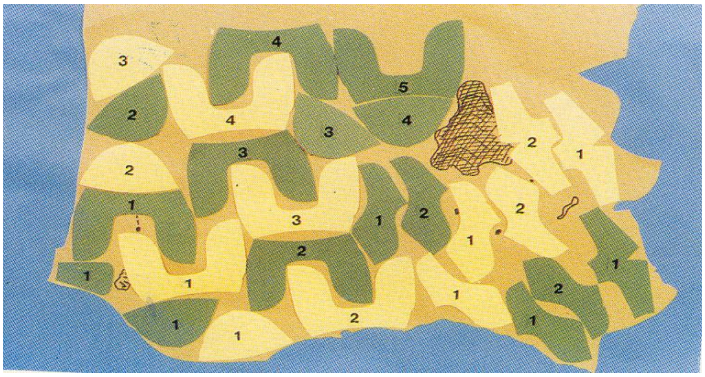
We now Start next Tracing from the Backbone and again Work across the Skin



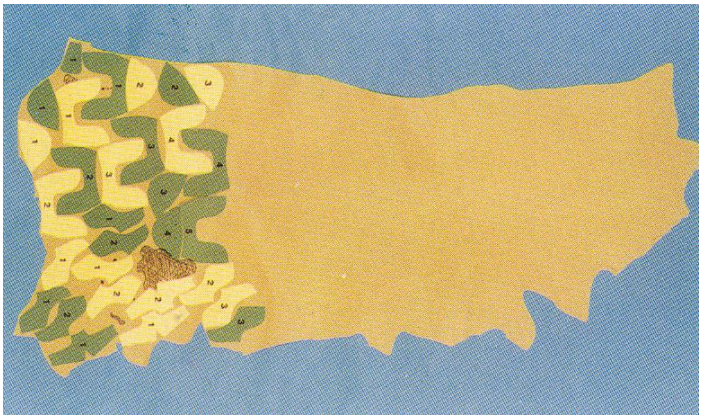
Due to the Defect in the Skin You must Work out Your Cutting Sequence to Minimize Wastage



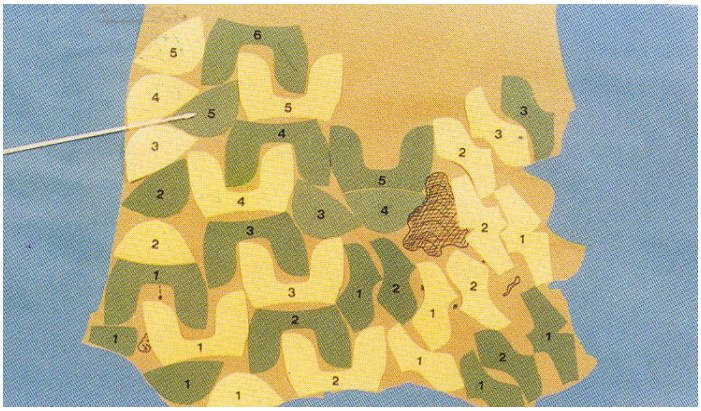
You must Think Ahead before Starting Tracing



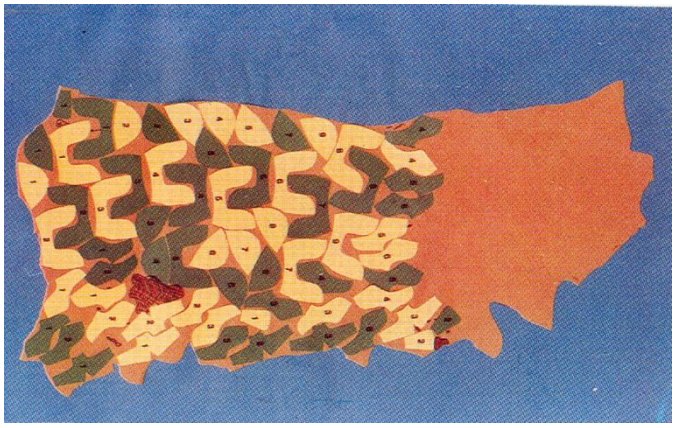
We have Now Completed Approximately 1/3rd of the Skin



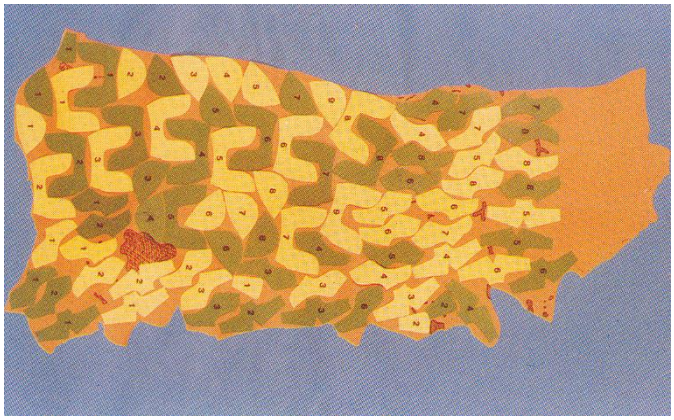
We again Commence Tracing on the Backbone with a Toecap. It is Important to on a Good Skin to push your Vamps and Caps



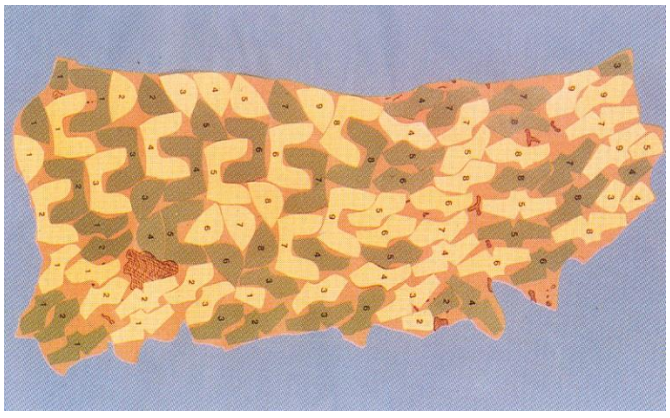
Our Line of tracing now looks like this



This How we have traced up the Side of Paper to this Stage



The Complete Side of Paper Skin



Self-Check 2	Written Test

Name: _____ **Date:** _____

(Total marks:-5)

Instructions: Write all your answers in the provided answer sheet on page

Directions: Answer all the questions listed below.

Fill in the blanks:

1. Start nesting from the ----------.

2. ----------of oxford pattern is to be done in the similar way as nesting of derby has been done.
3. The line of tightness is ----------.
4. The top line must be ---------- and the eyelet area should be ----------enough, to withstand the pressure of lacing.
5. The tongue has a ----------mm underlay for stitching on to the vamp.

Answer Sheet

Score = _____

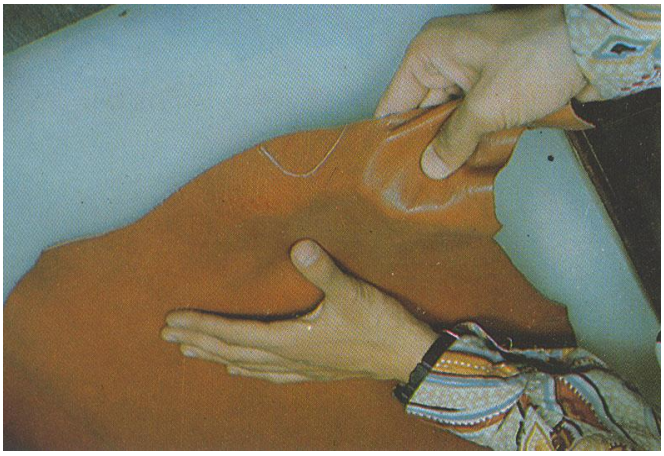
Rating: _____

Name: _____ Date: _____

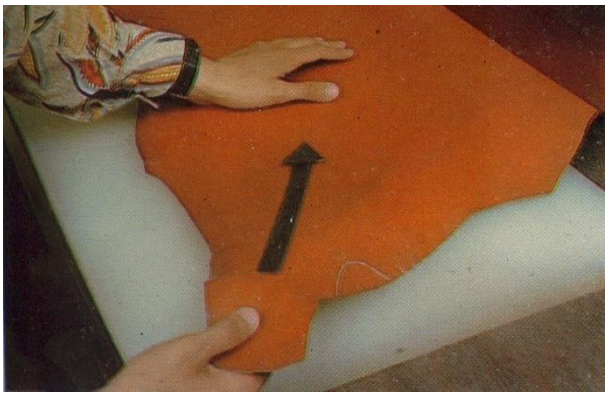
Information Sheet-4	**. Positioning patterns to allow for identified flaws, nap of suede or other grain or print characteristics of leather.**

6,4,1 Grain, color & shade matching:

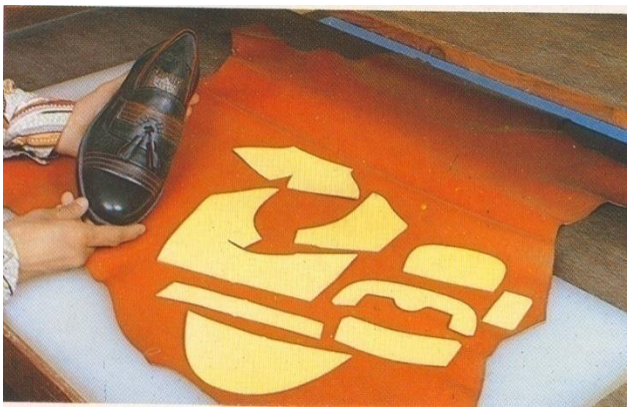
8. When cutting in the pairs cut pair matching grain, color & shade.



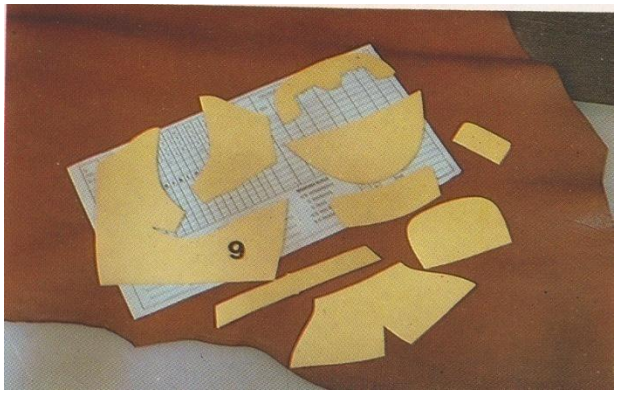
9. Check tightness



10. Check the components to make sure that all the patterns are there, if you are missing a pattern you may find it impossible to grain match later.

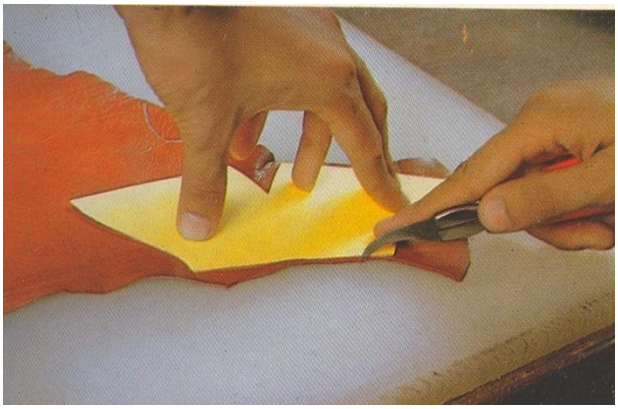


11. From your cutting sheet always when possible start cutting with the largest size pattern & the larger skins. This will give you better material usage.

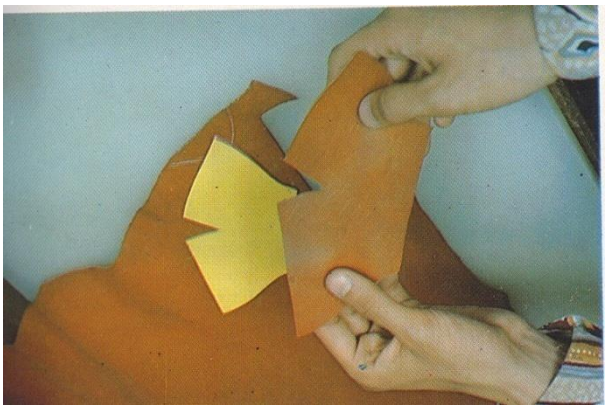


12. Buff calf leather has a matching grain that is the same on both side of the backbone.

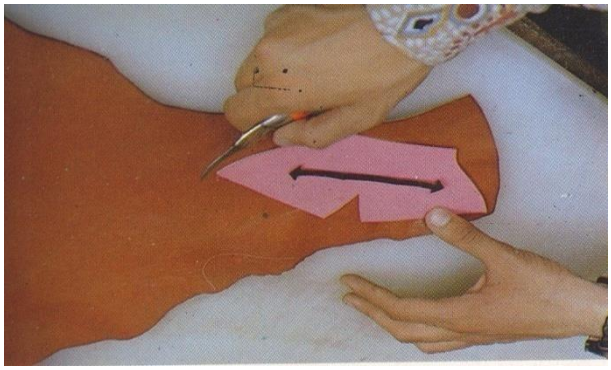
13. Counter right foot pair no.1. The counter is cut from leg, this area is often a little stretchy but the counter is reinforced with the stiffener & this gives extra support.



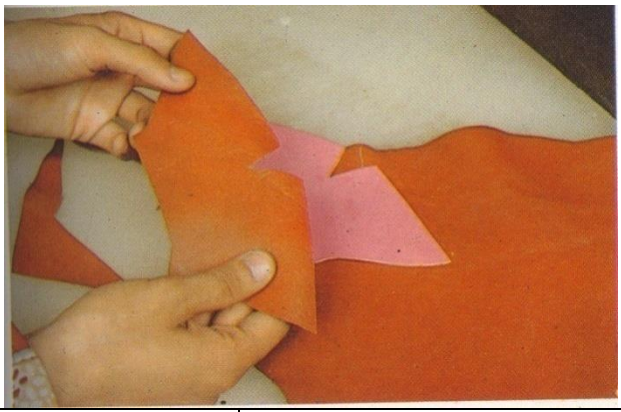
14. After cutting the clicker must check the component for quality & stretch, and then place it on the bench in front of him.



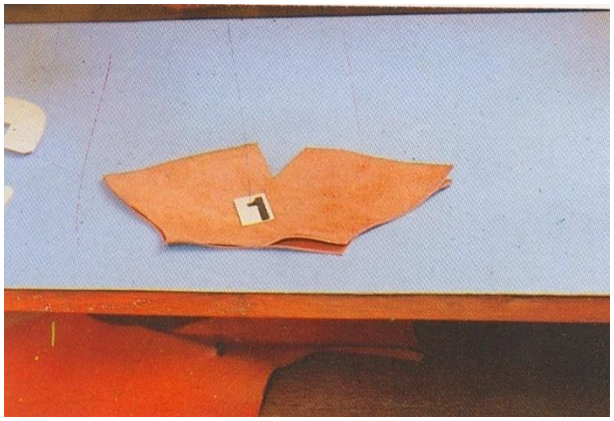
15. Left foot counter pair number –1. This is the mirror image of the previous side, the black arrows shows the line of tightness.



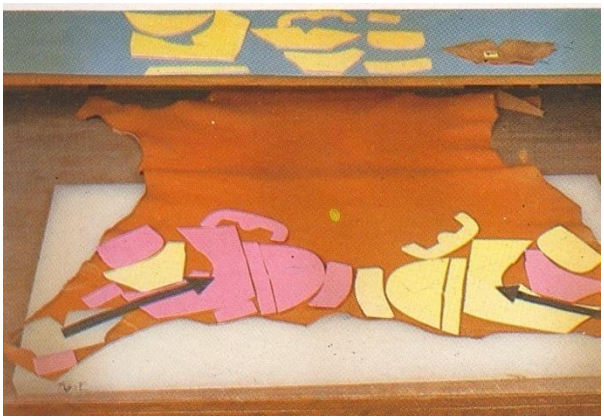
16. Check for quality & stretch.



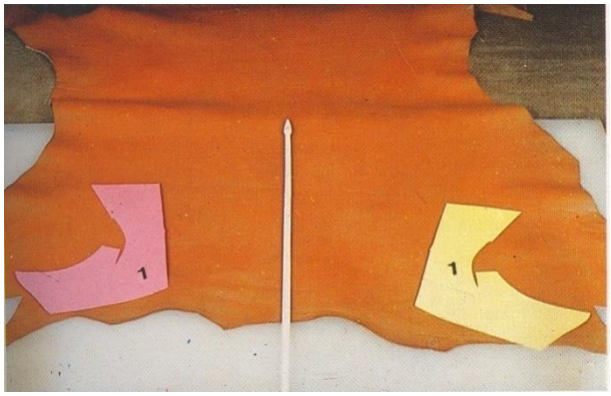
17. Then place grain side down on the counter, this is counters for pair –1 The small area of the leather left is very loose offal.



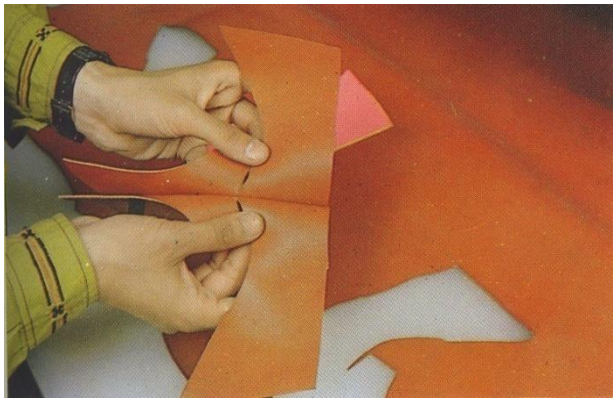
18. A clicker must have a clear picture in his /her mind of how he is going to cut up the skin. Taking in to account grain & stretch. This arrangement shows approx. how the cutter expects the skin to cut out in his mind.



19. Left & right ¾ cut vamp pair no.-1.The clickers first cut will now be a ¾ vamp. He would have to cut both these vamps from the same area of the skin on the either side of the backbone.

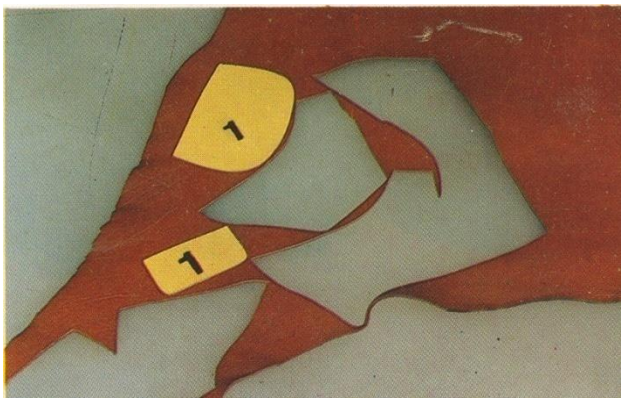


20. After cutting, the clicker must check for quality in grain matching. Then place on the bench grain face together.

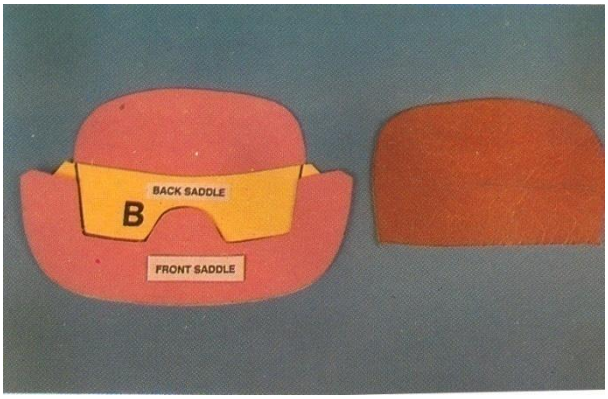


21. Left foot inside quarter pair-1.This quarter has been cut with the front of the quarter close to the vamp to enable the clicker to get the best grain match.

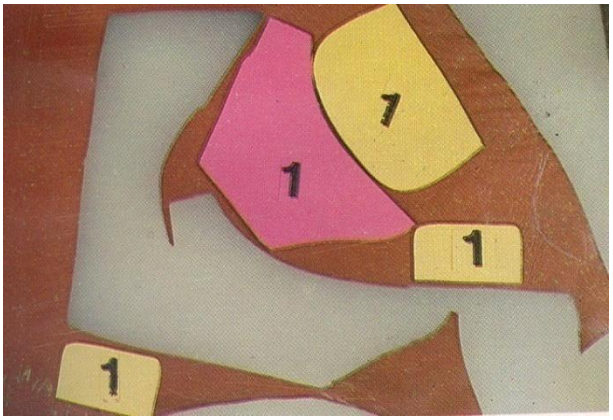
22. Left foot tongue & 1 tassel. Before the clicker returns to the other leg to cut the right quarter he would cut both these component.



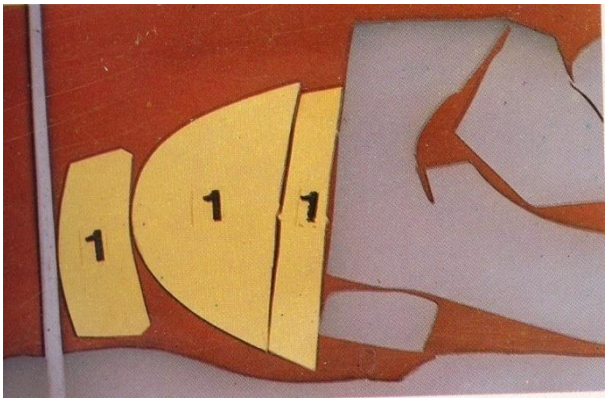
23. The tongue grain only has to grain match at the top, half of the tongue is covered by the saddle.



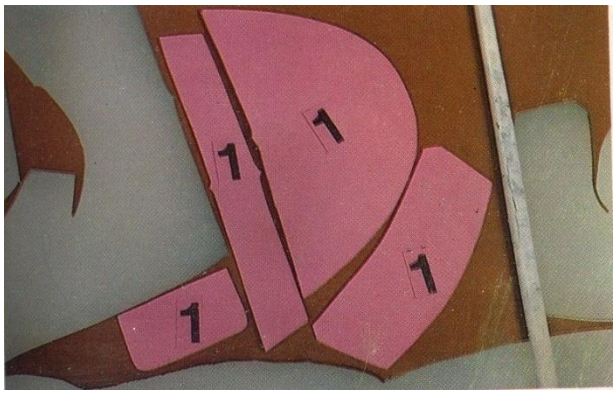
24. The clicker would now repeat the same cuts for the other back flank area. Right quarter left tongue, & the tassel.



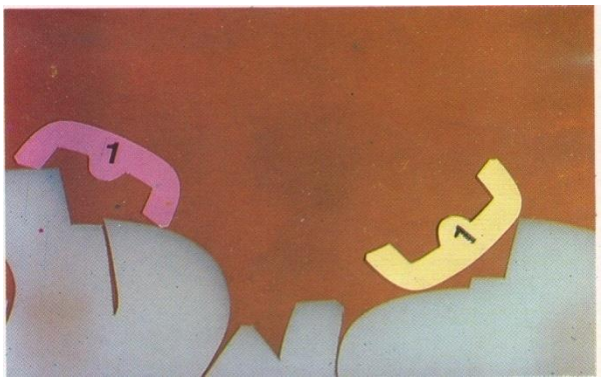
25. Left toe cap strap toe cap & back saddle for the pair number 1. The back bone runs down the center of the skin the clicker must interlock all parts of the shoe to give correct grain match.



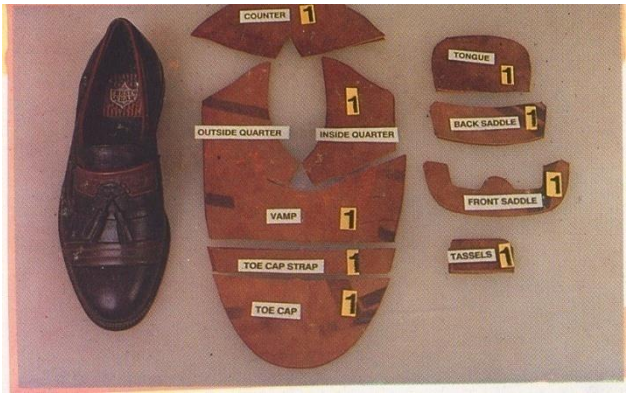
26. Right toecap strap, toecap, back saddle & tassel. This is the mirror image of the opposite side.



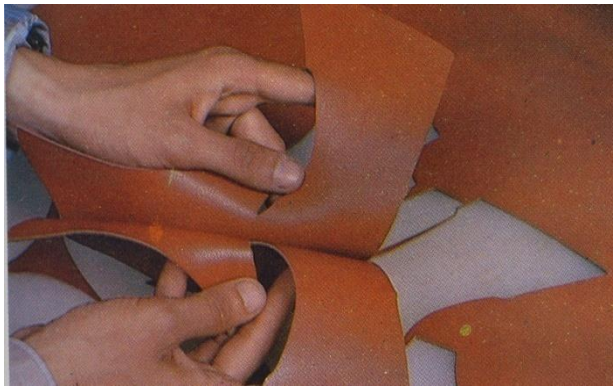
27. Right & left front saddle pair number-1.



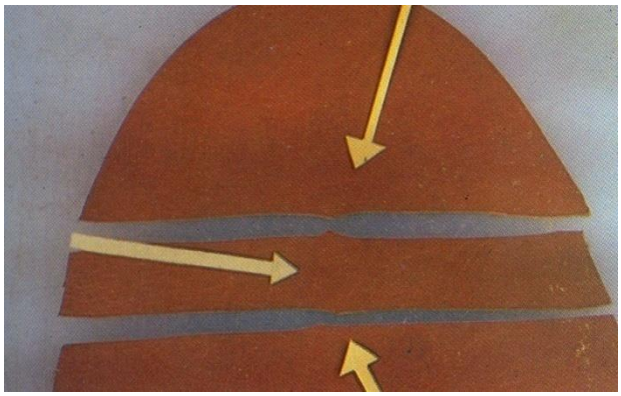
28. The clicker has now completed pair number –1.The completed shoe must be grain & shade match.



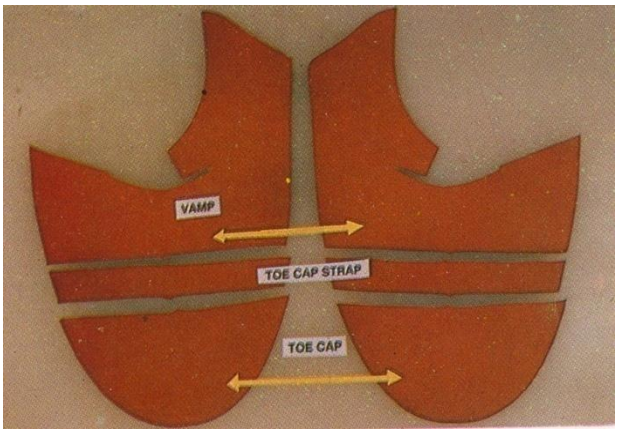
29. The ¾ cut vamp is the main part therefore it must be matched first.



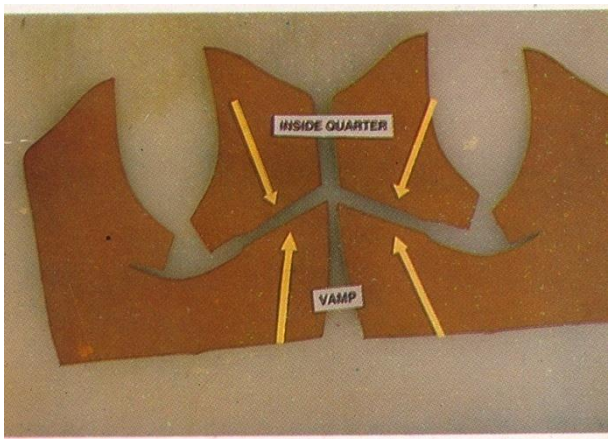
30. The toe cap must match the toe strap & the toe cap must match the vamp.



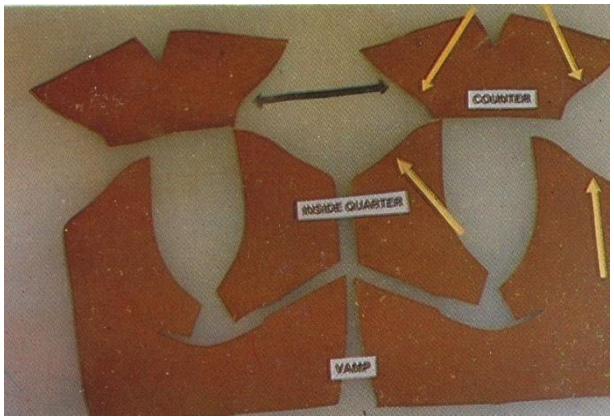
31. The left foot must match the right foot.



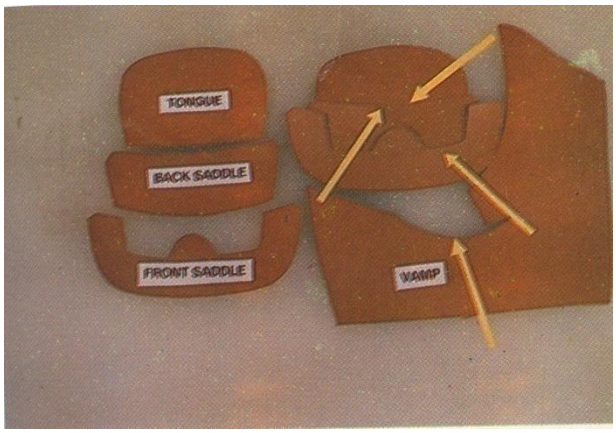
32. The front of the inside quarter must match the vamp.



33. Counter must match with the quarter.

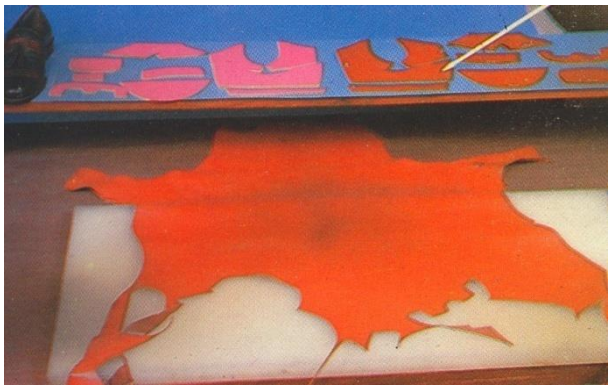


34. The decoration on the front of the vamp must also match. These tassels are not required to be matched.

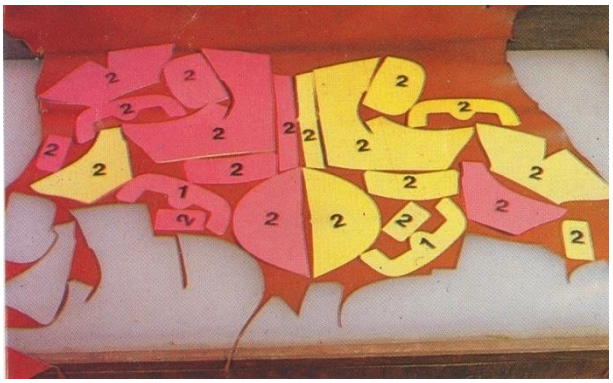


35. After grain matching the components are laid grain side out & pairs are numbered as –1

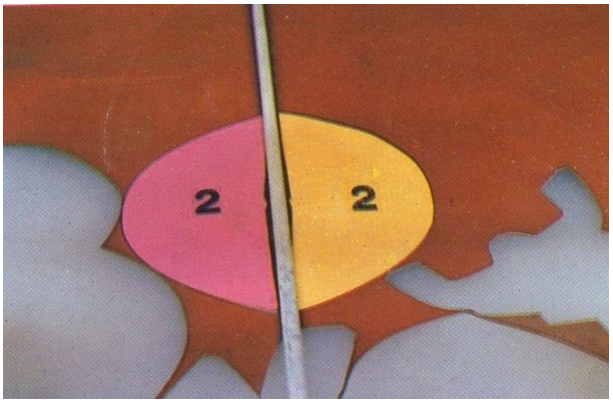
36. They are then placed on the bench in front of the clicker.



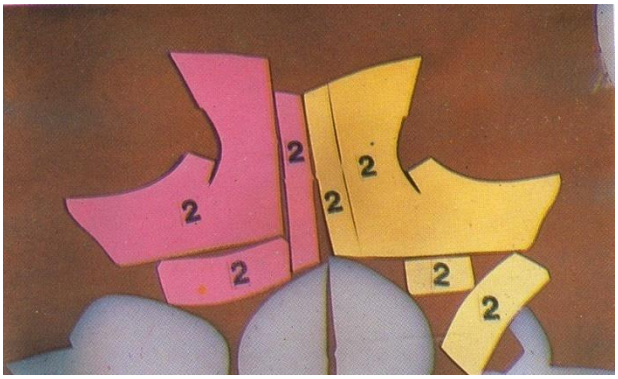
37. Again the clicker must picture in his mind the next pair to be cut.



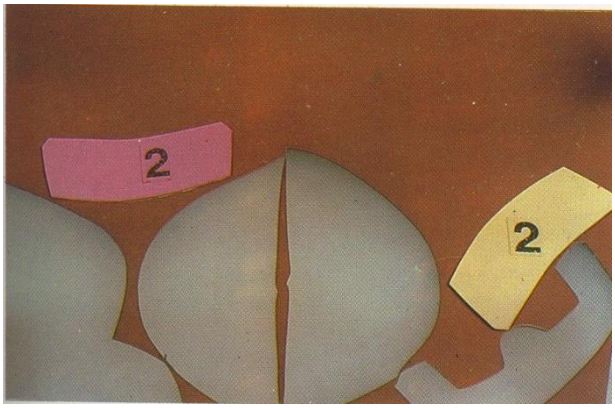
38. Left & right toecap pair number-2.Both these toe caps are cut on either side of the backbone.



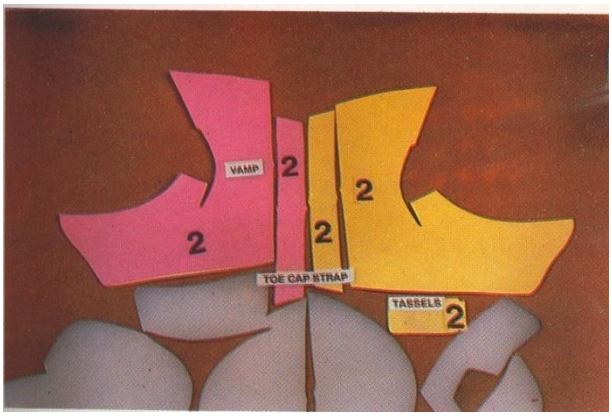
39. The clicker again must visualize his next line of cut. Left & right toe cap straps. Left & right vamps & back saddle plus 1 saddle.



40. The first cut of the clicker could be the left & right back saddle.

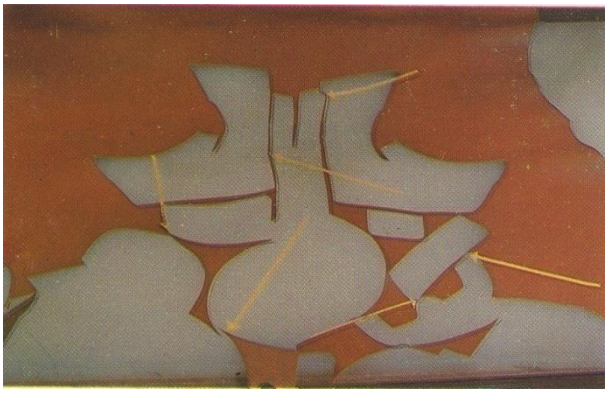


41. The clicker would then cut his toe cap straps, then the ¾ cut vamp & last the tassel.

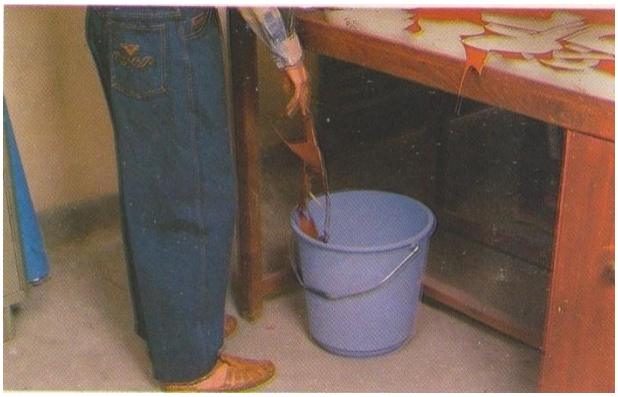


42. He should continue to check for quality & stretch after cutting.

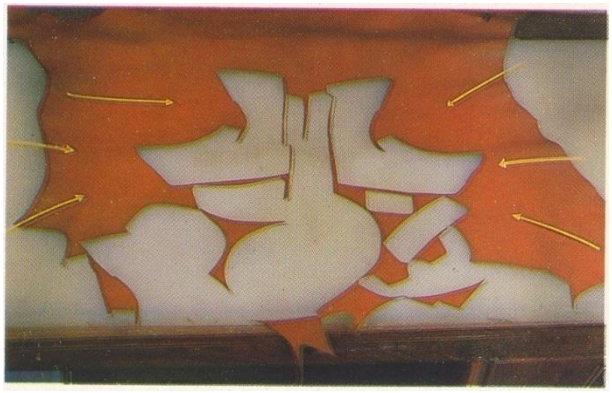
43. Notice how close together the clicker is cutting the leather, even though he is color grain matching.



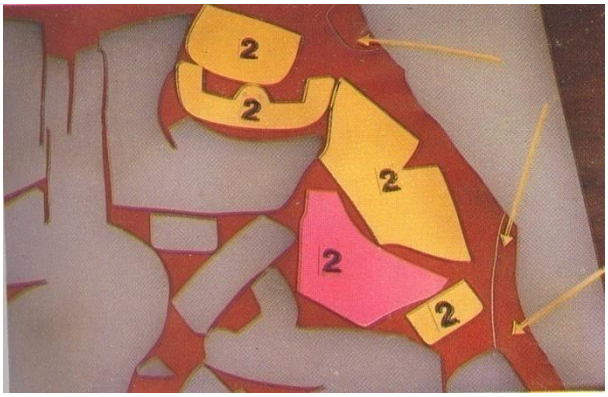
44. All waste should be placed in to bin.



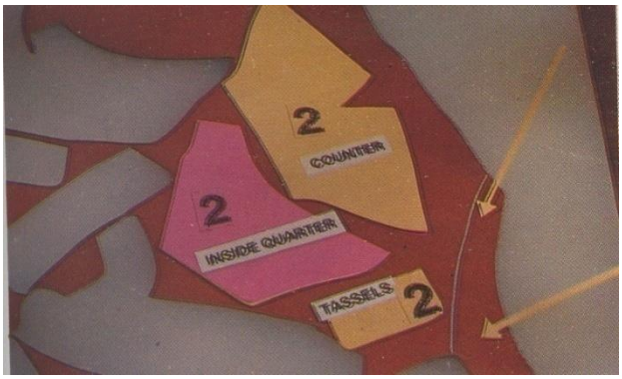
45. The leather left on both side of the back bone similar . This is because the skin is a mirror image.



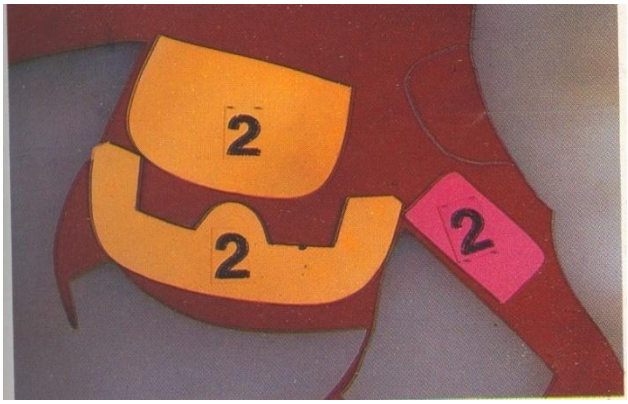
46. The clicker must now concentrate on cutting one side of the back bone to obtain a straight line of cut. Beware of stretchy belly area.



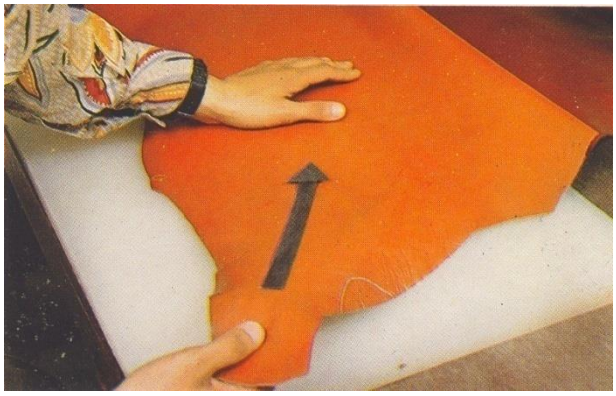
47. The inside quarter would be cut next than the counter, the tassels are out of an area that does not have loose fiber or surface defects.



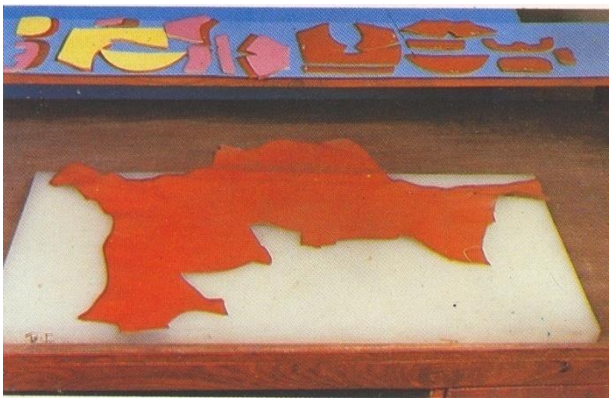
48. The front saddle & tongue pair number 2 must be to allow minimum stretch & good grain match.



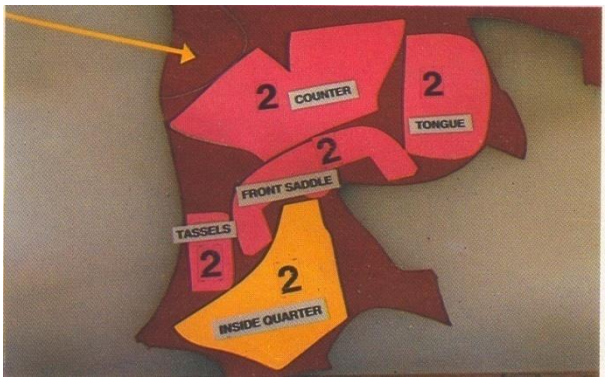
49. To check the line of tightness the clicker often has to lightly pull the leather. This can also show up flaws in the leather.



50. The bench area must be kept in an orderly manner. This reduces mistakes.

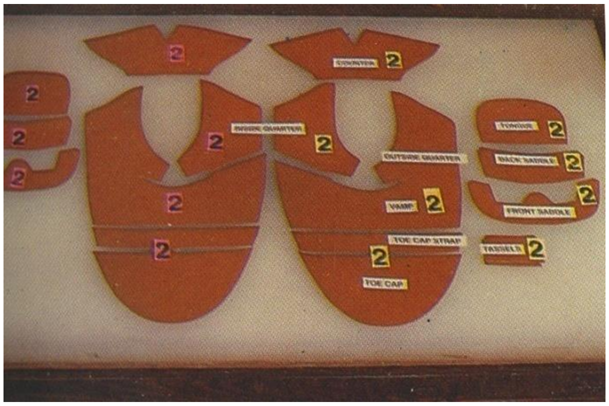


51. The clicker must now repeat the same cutting sequence on the opposite side or as close as possible.

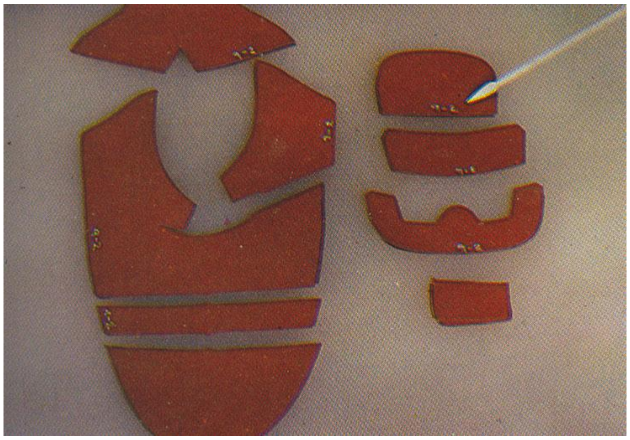


52. The clicker would cut the inside quarter first then continue working up the skin.

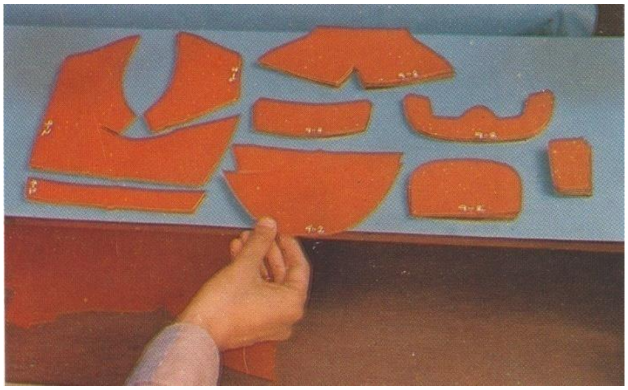
53. This now completes the second pair.



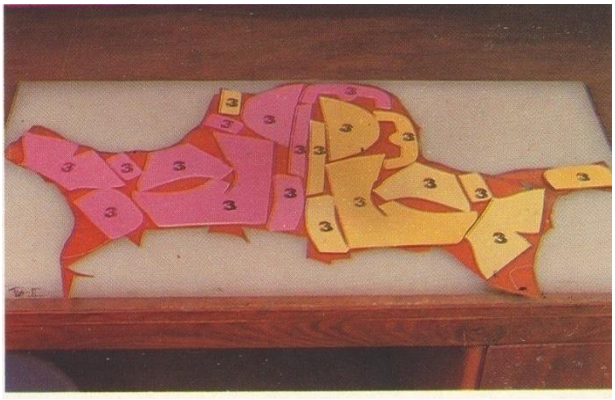
54. All pairs must be colored and grain matched & marked as pair number 2.



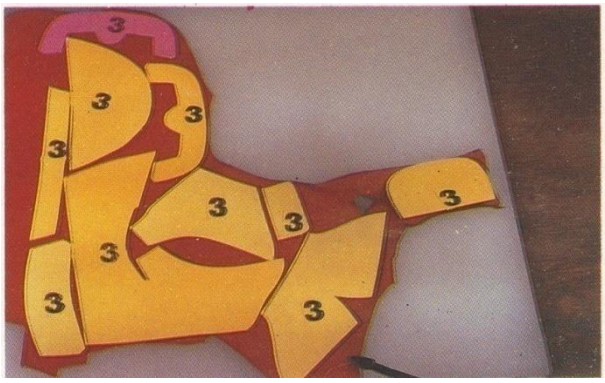
55. Then place on top of pair number –1.



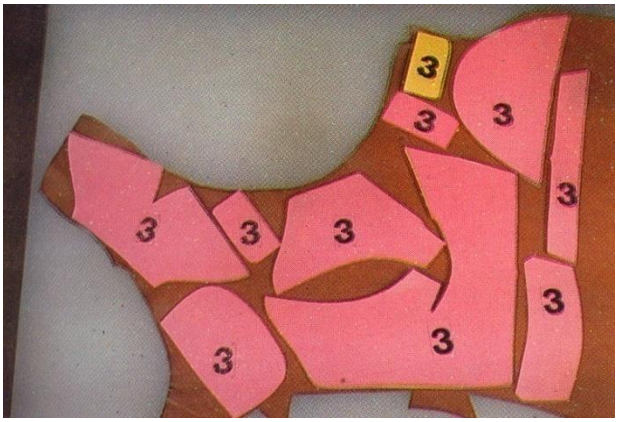
56. The clicker must again visualize how he will cut his third pair. In the neck area growth mark will make the grain fairly coarse, the clicker must make sure each area to match.



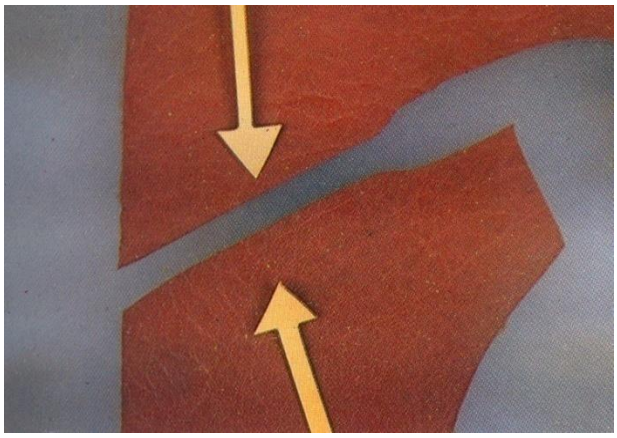
57. If the neck portion is small, the clicker will often cut the one complete side first.



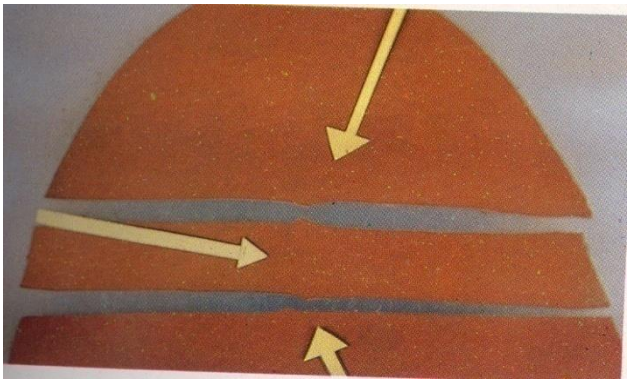
58. Then complete the other side next.



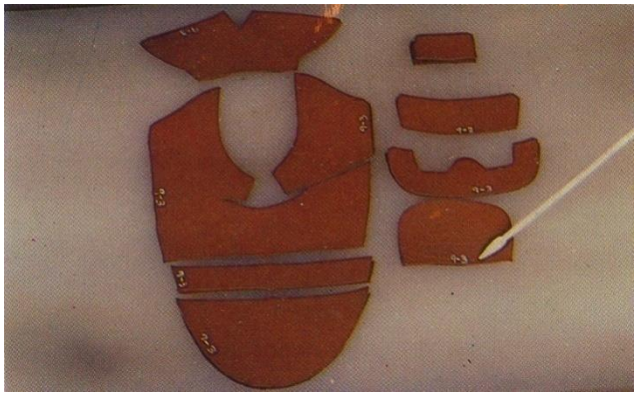
59. Your main concern is grain match. The quarter must match the vamp.



60. The toe cap & strap must match the vamp.



61. After grain, matching the complete shoe must be numbered with the size &pair number.

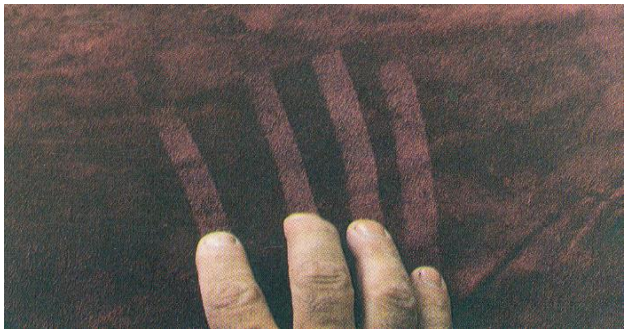


62. The clicker will continue the cutting until he has cut the required pair age. They would normally be bundled in 5 pair lots.

Nap matching in suede and Nubuck

The color of the suede may vary due to the nap. The nap varies greatly especially in the belly & flank area. When pair of components is completed the operator has to stack them with the nap face to face.

The nap varies all over the skins (the nap refers to the fineness or coarseness of the split texture.



Self-Check 4	Written Test

Name: _____ **Date:** _____

(Total marks:-8*1=8)

Instructions: Write all your answers in the provided answer sheet on page

Directions: Answer all the questions listed below.

One word answer:

1. We should always start cutting bigger size or smaller size. (Marks:-1)
2. We should always start cutting with larger skin or small skin. (Marks:-1)
3. What are the biggest problems in full grain leather cutting? (Marks:-1)
4. After cutting what clicker should check? (Marks:-1)

Fill in the blank:

1. The color of the suede may vary due to the --------. (Marks:-1)
2. The nap varies greatly especially in the ---------- area. (Marks:-1)
3. The nap refers to the ---------- of the split texture. (Marks:-1)
4. He should continue to check for ---------- after cutting. (Marks:-1)

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet -5 Using cutting techniques to match pattern shape, size and leather quality.

6,5,1 Nesting principles

Before proceeding for nesting exercise following points is to be considered

(i) The proper skin is to be regarded as perfect that is there is no defect anywhere.

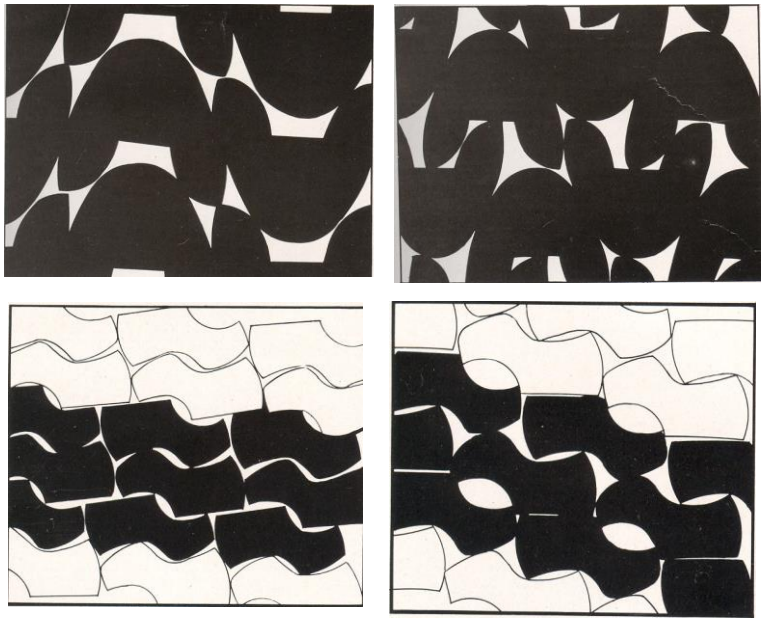
(ii) The person must be clear about the lines of tightness of all the components to make a pair of shoe, their quality division & the allowances.

(iii) The cutter must be able to divide the paper skin correctly in various parts i.e. butt, belly, shoulder and should have a clear understanding of lines of tightness in different parts of the skin/side.

(iv) The aim of the cutter should be to use his/her leather as economical as possible by avoiding wastage due to bad pattern interlocking.

(v) Before starting nesting on paper skin directly they must take interlocking trial one or more times with every pattern as for every pattern there is more than one method of pattern interlocking

(vi) There are guidelines given for achieving better pattern interlocking one may consider these while interlocking.



a. Curve to curve interlocking.

b. Straight edge to straight edge.

(vii) Cutters are not required to nest components in pairs in the case of corrected grain cutting exercise. Rather on completion of the work, they should end up with approx. equal no. of pairs.

(viii) Cutting usually commences from the butt, continue along the backbone, working outwards as far as the substance (thickness) and quality permits, utilizing the poor quality areas for the parts which have little or no strain during wear.

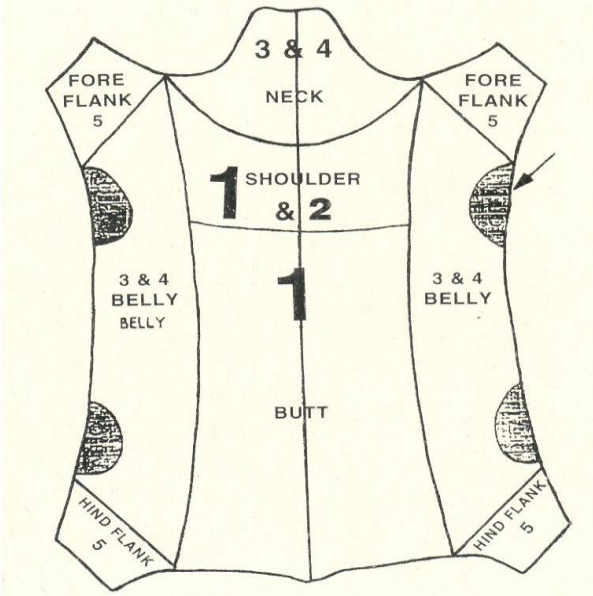
(ix) If by reason of defects the material near the backbone is unsuitable, cutting should still be in accordance with the principle of working in the direction from backbone to bank commencing as more as possible to the defects, in order to ensure the minimum waste of the best material, which invariably is to be found in the butt.

(x) Change the direction of the patterns for getting components pair wise.

QUALITY REGIONS

The various areas of H/S have different quality regions.

Quality is directly related to the “Tightness & the compactness” of the fiber structure. Therefore, the “best quality” of an H/S is BUTT and the worst quality “part which is almost useless from users point of view is offal. The diagram gives you a description of the quality areas of hide/skin.



Note: The quality areas are indicated by number i.e. 1, 2, 3 etc.

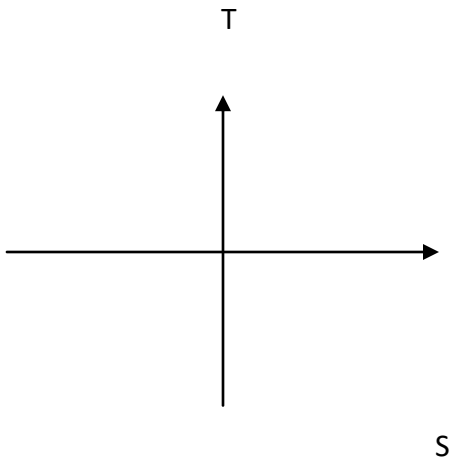
You will note here that the neck & belly both are marked by 3 to 4. This is just to explain that sometimes, neck is better than belly because of extensive looseness in belly and sometimes, belly is better than neck because of growth marks in neck.

The direction of lines of tightness and lines of stretch play a major role in cutting of pattern from hides or skin.

Lines of tightness are defined as the direction in which the material does not extend in length or very little increment in length takes place on applying force by two thumbs.

Whereas, in the direction of lines of stretch, material is increased in length or stretches more by applying the same amount of pulling force.

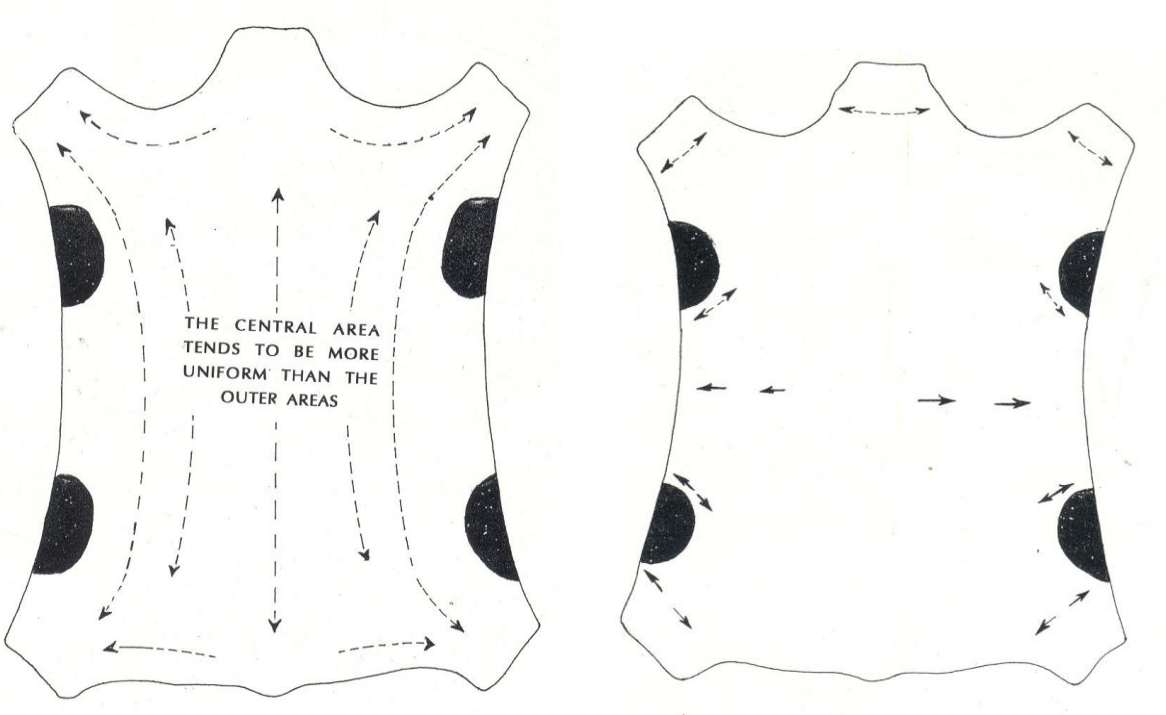
Normally, the line of tightness is just at 90° to the lines of stretch.



Line of tightness varies in case of skin & it is towards the butt from the flank region. Therefore the care shall be taken in the case of calf & kid leather whenever cutting process is initiated.

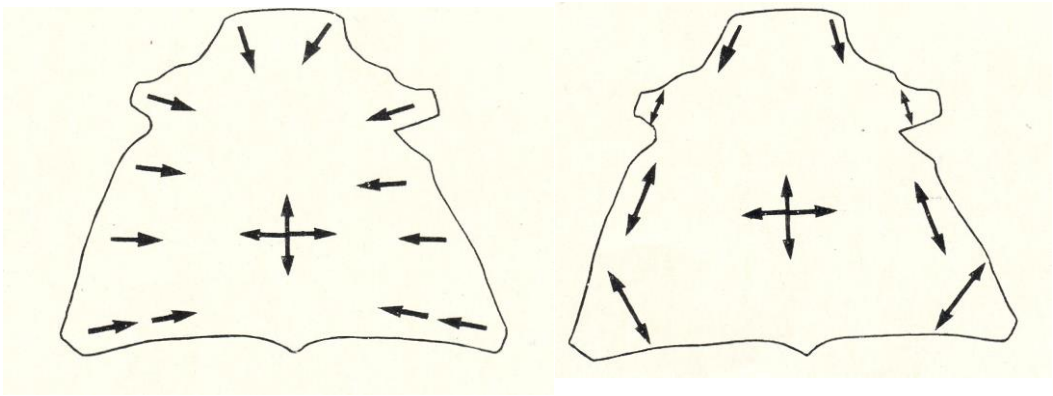
These lines are important in cutting because the upper component must be cut in such a way that the lines of tightness cut along the length of the shoe for proper shape retention in other words, we say that the component are cut “tight to toe”. This rule is

strictly adhered to in cutting most types of footwear. It is disregarded only in special circumstances e.g. open toe sandal, boots etc.



Line of tightness and stretch of cow and buff skin:

Line of tightness and stretch of kid/goat skin:



Self-Check 5	Written Test

Name: _____ Date: _____

(Total Marks: -6*1=6)

Instructions: Write all your answers in the provided answer sheet on page

Test I: Fill in the blanks

Directions: Answer all the questions listed below.

1. The proper skin is to be regarded as perfect that is there is no --------anywhere.
2. The direction of lines of tightness and ---------- play a major role in cutting of pattern from hides or skin.
3. Normally, the line of tightness is just at ---------- to the lines of stretch.
4. Quality is directly related to the ---------- of the fiber structure.
5. Cutting usually commences from the ----------.
6. Part which is almost useless from user's point of view is ----------.

Answer Sheet

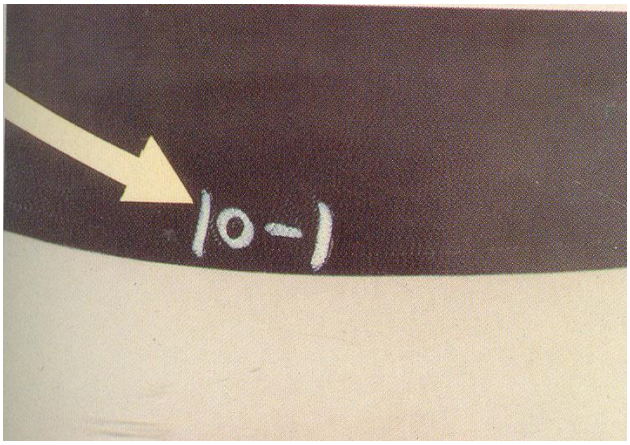
Score = _____
Rating: _____

Name: _____ Date: _____

Information Sheet -6 Cutting at least 5 shoe styles of components precisely as per specifications.

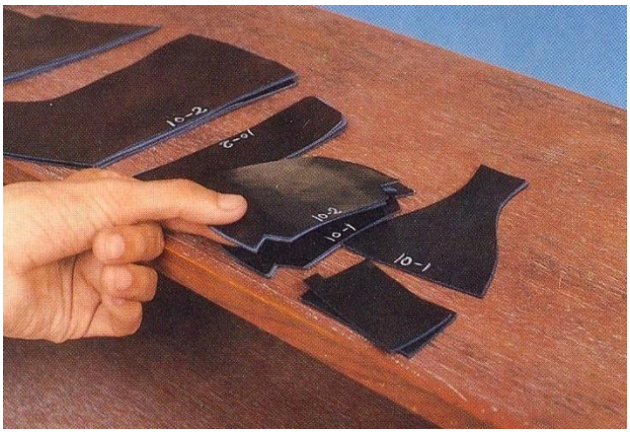
6,6,1 After checking the grain & color match the clicker must identify each pair. In this system

2 the clicker is writing the size & pair number. Size 10-1 is the pair number.

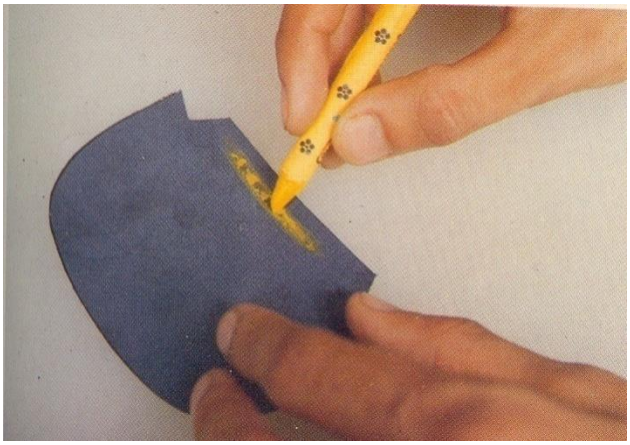


1. This is pair-2. All parts should bear the pair number-2.

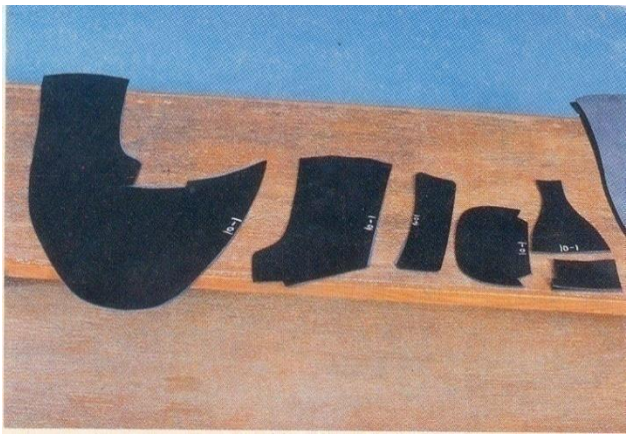
2. They are then placed on the pair-1.



3. Color code can also be used. Each pair of the bundle would be marked by a different color. Color coding is limited to the amount of color available.



4. After grain matching marking the upper components are placed grain side out, this allows the stamping operator to pick up each pair & stamp them without having to sort.



This is carried on by coloring marking the edge of the component with crayon ink or paint. Different colors are used to identify the sizes

Self-Check 5	**Written Test**

Name: _____ Date: _____

(Total marks:-3)

Instructions: Write all your answers in the provided answer sheet on page

Test I: Short Answer Questions

Directions: Answer all the questions listed below. Examples may be necessary to aid some explanations/answers.

Fill in the blank

1. After checking the ---------- match the clicker must identify each pair.

2. Different ---------- are used to identify the sizes

3. Size 10-1 is the ----------.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet 7 Carrying out work according to OHS practices.

6,7,1 Safety norms of cutting

Hand cutting

Method of holding the knife must be in a proper way and Method of cutting must be in a way that the cutter's finger or hand will not be damaged.

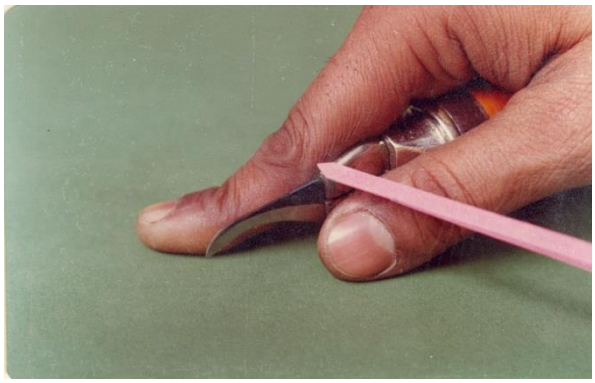
- ✓ Hold your knife correctly for cutting.

  (Right handed cutter)

  Hold the handle with your 2nd, 3rd and 4th fingers.

- ✓ Place your 1st finger across the clamping jaws so that it will just touch the material being cut.

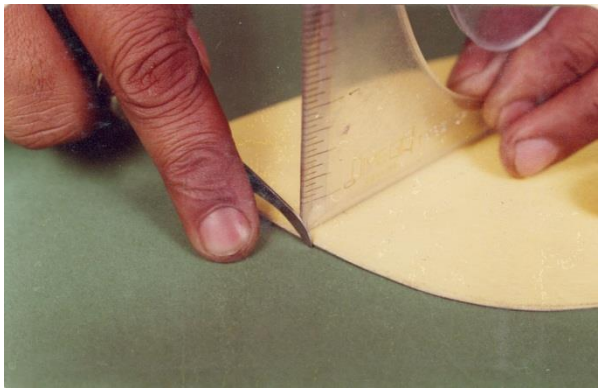
This finger helps guide you.



✓ Place the thumb on the side of the clamping jaws.

✓ A left handed person does the same with the lift hand.

- ✓ The knife is held at about 90 degree to the edge of the pattern.



- ✓ And pulled along at about 30 degree to the horizontal.

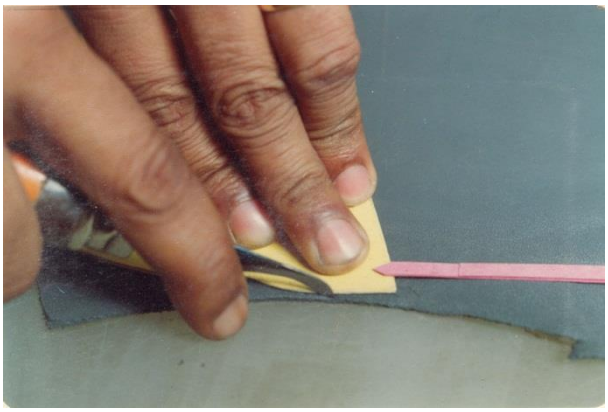
- ✓ Holding large patterns may require all fingers to obtain the necessary pressure.

- ✓ Small patterns may only require two or three fingers.

- ✓ Ensure that your fingers never the edges of the pattern.

- ✓ Fingers should be grouped in the area being cut, apply even pressure to secure the pattern.

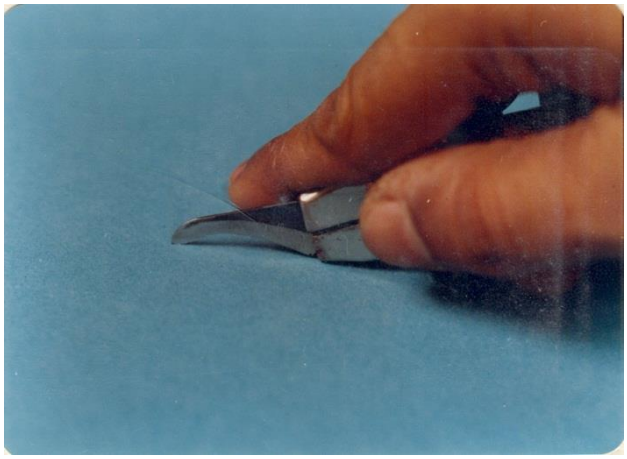
✓ Fingers should follow just behind the knife, in the direction of the cut.



✓ Fingers should NEVER be allowed in front of the knife.

✓ Thumb and fore- finger help to guide the blade in cutting

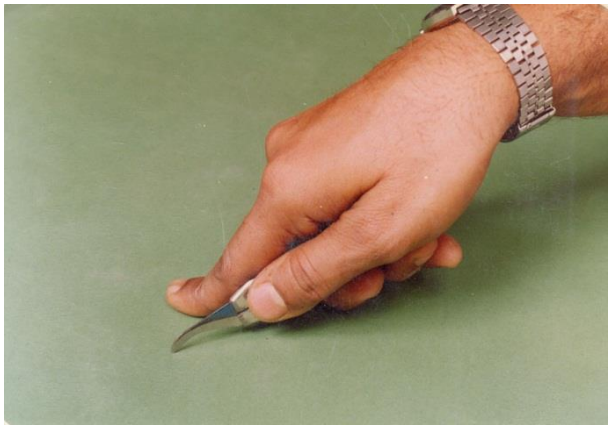
- ✓ The tip of the fore-finger just touches the material to act as a brake and pivot for turning sharp corners.



- ✓ Pressure is placed on the knife blade against the edge of the pattern.

✓ Pressure is placed downwards on the blade of the knife.

✓ The knife must not be pressed to hard or it will cut too deeply into the cutting board.



First aid knowledge:

Often people are hurt while working. First aid must be provided immediately. A first aid box should be kept in stitching room, which should contain necessary medicines. It should be kept in such a location so that everyone identifies it easily. The medicines in first aid box must be checked frequently for expiry dates and for replacement of the medicines.

Self check- 6	**Written test**

Name: _____ Date: _____

Time started: _____ Time finished: _____

Instructions: Write all your answers in the provided answer sheet on page

Test IV: Short Answer Questions

Directions: Answer all the questions listed below. Examples may be necessary to aid some explanations/answers.

1. Write down the step by step procedure of hand cutting by taking in to consideration of safety norms. (Total marks: 5)

Answer Sheet

Score = _____
Rating: _____

Name: _____ Date: _____

LG #-36	LO#7- . . Check and dispatch cut components
instruction sheet	

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:

- Arranging cut components and tying grain to grain as per ticket number
- Checking finished cut products
- Addressing faults and irregularities

  Accomplishing necessary record and report

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:

- Arrange cut component and tied grain to grain as per ticket number
- Check finished cut products against job specifications and enterprise quality standards.
- Address faults and irregularities following company standard procedures.
- Accomplish necessary record and report in accordance with work procedures and standard format.

Learning Activities

24. Read the specific objectives of this Learning Guide.
25. Read the information written in the “Information Sheet 1”.
26. Accomplish the “Self-check 1” in page no.6.

27. If you earned a satisfactory evaluation proceed to “Information Sheet 2”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #2.
28. Submit your accomplished Self-check. This will form part of your training portfolio.
29. Read the information written in the “Information Sheets 2”.
30. Accomplish the “Self-check 2” in page no.16.
31. If you earned a satisfactory evaluation proceed to “Information Sheet 3”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
32. Read the information written in the “Information Sheet 3”.
33. Accomplish the “Self-check 3” in page no.21.
34. Request you teacher to observe your demonstration of the exercises and give you feedback.
35.

Information Sheet - 1 Arranging cut components and tying grain to

grain as per ticket number

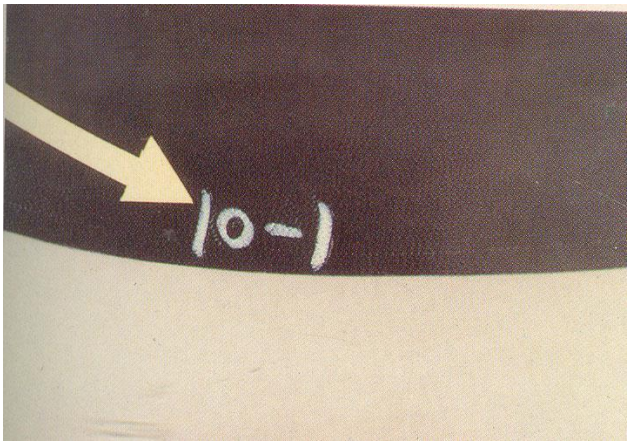
7,1,1 Bundling Of The Cut Components:

Check the color & shade of the components

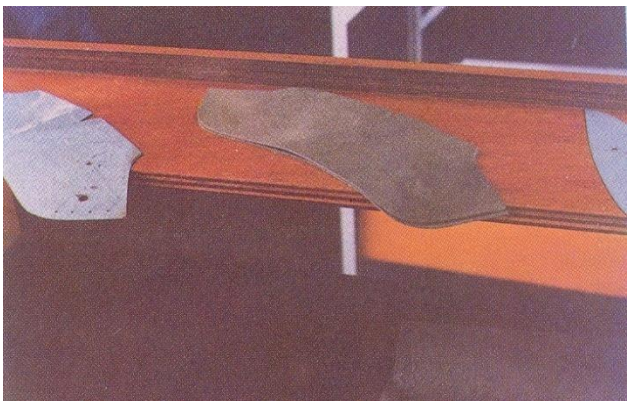
Check the grains of the components particularly those cut in goat and kid skins

Arrange and tie cut components grain to grain as per ticket number.

1. After checking the grain & color match the clicker must identify each pair. In this system the clicker is writing the size & pair number. Size 10-1 is the pair number.

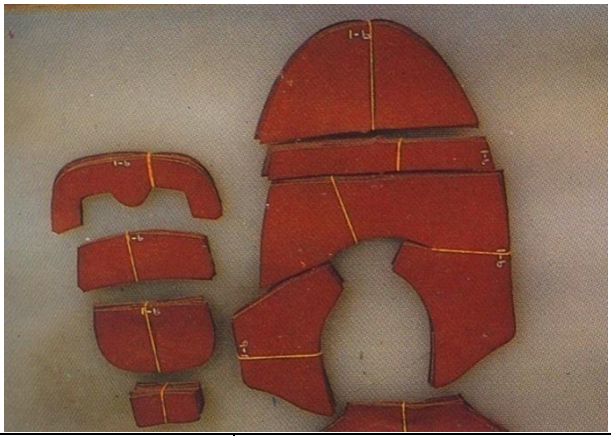


2. When a pair of components are completed , stack them with the nap face to face

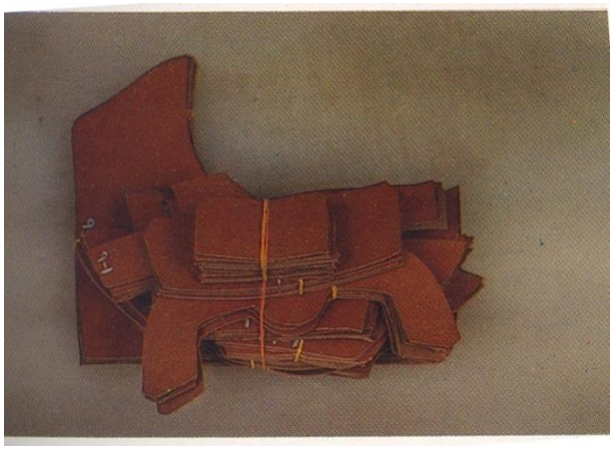


3. After grain matching the components are laid grain side out & pairs are numbered

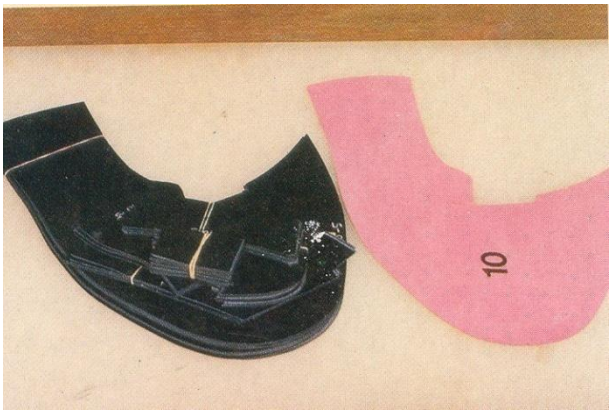
4. Elastic bands are paced on each group of the components.



5. Then each completed 5 pairs are bundled securely together.



6. Both kid & goat are stacked in the pair basis.



Self-Check 1	Written Test

Name: _____ Date: _____

(Total marks:-4)

Instructions: **Write all your answers in the provided answer sheet on page**

Test I: Short Answer Questions

Directions: **Answer all the questions listed below. Examples may be necessary to aid some explanations/answers.**

Fill in the blanks:

1. When a pair of components is completed, stack them with the nap ----------.

2. ----------are placed on each group of the components.

3. Check the ---------- of the components

4. Arrange and tie cut components ---------- as per ticket number.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet - 2 Checking finished cut products

7,2,1 Inspection method for cut components

1. **Check the visual defects on the cut components.**

   The cut components should be inspect for the following defects.

- Loose or fibrous material
- Brand marks operation scars and open flaws.
- Closed flaws wire marks and scratches
- Growth marks or fat wrinkles
- Veins
- Fly cuts
- Discolored areas
- Insect or parasitic damage.
- Any other defect that may render an area of leather unusable.

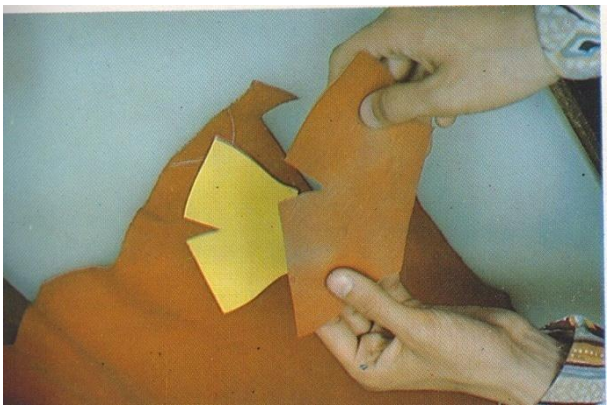
2. **Check the edge of the cut components.**

   Components should be check if any fault on the edges of the components.

3. **Check the line of tightness and stretch direction**

   The line of tightness runs from toe to heel.

   After cutting the clicker must check the component for quality & stretch1.

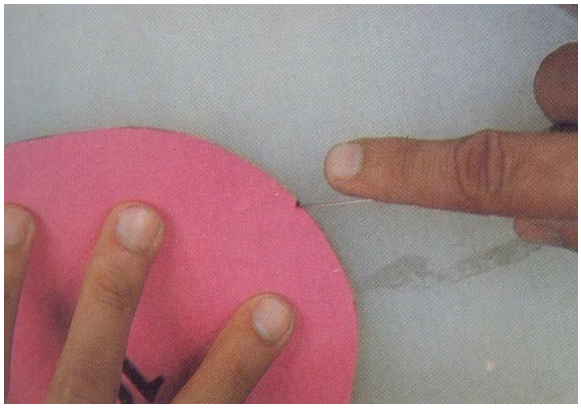


4. Check the thickness of the leather

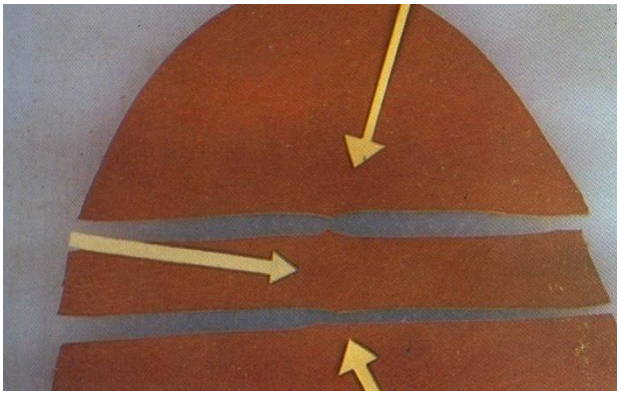
Suede split –The skins are usually too thick & heavy for footwear upper.

5. Check the notches and perforation on the components

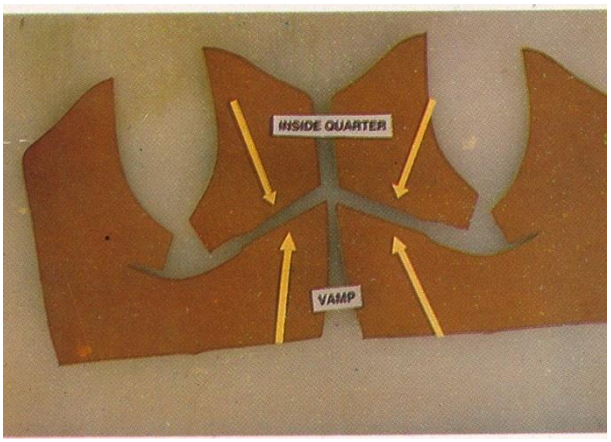
The clicker would also put any notches /center pointy or prick marks in the patterns as he cuts them.



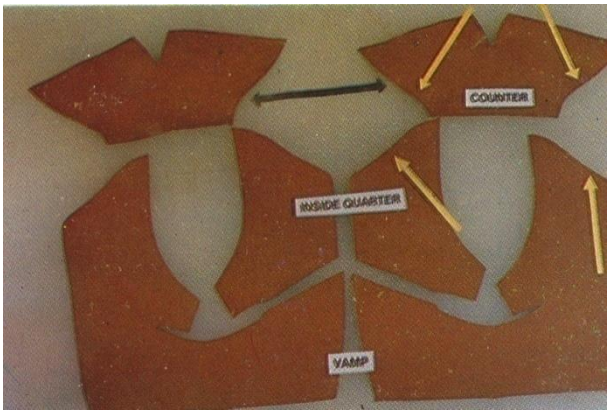
6. The toe cap must match the toe strap & the toe cap must match the vamp.



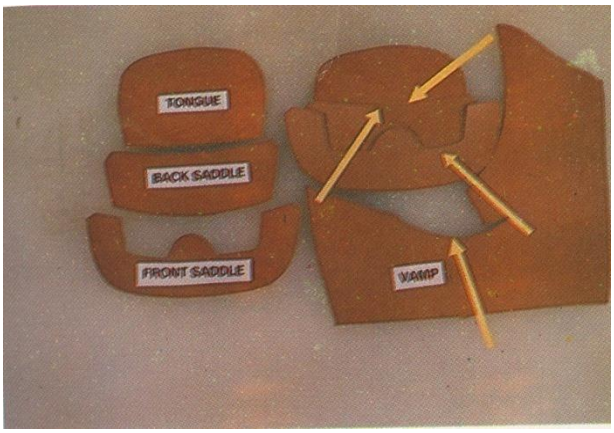
7. The front of the inside quarter must match the vamp.



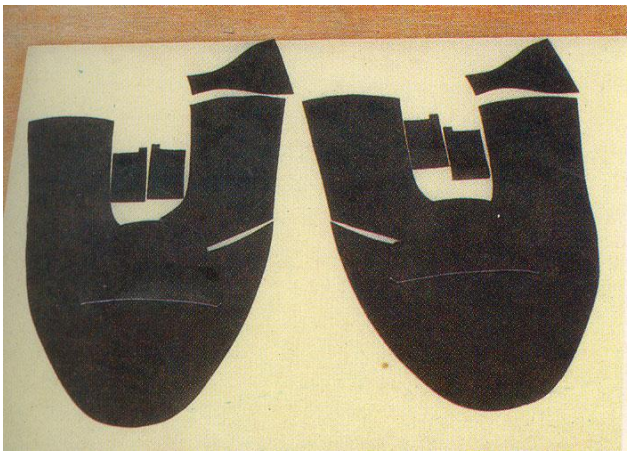
8. Counter must match with the quarter.



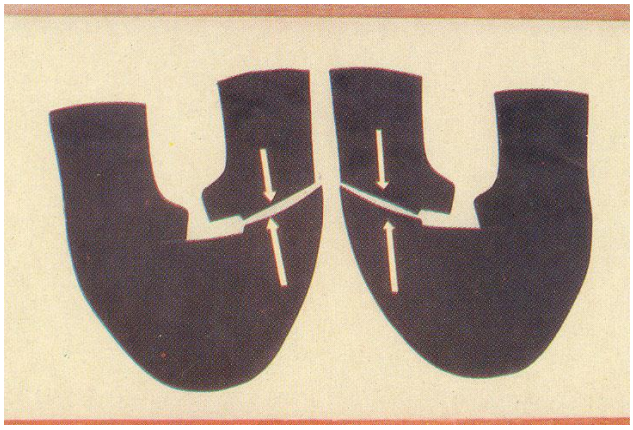
9. The decoration on the front of the vamp must also match. These tassels are not required to be matched.



10. All parts of the shoe should be collected for the grain matching.



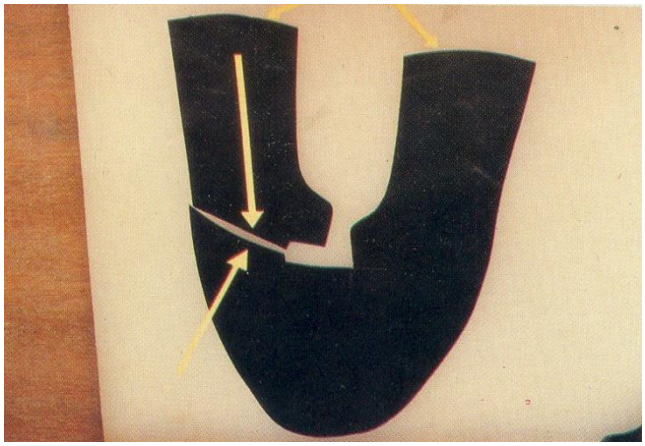
11. The front of the quarter must match with the area of the vamp. They are also to be inspected together.



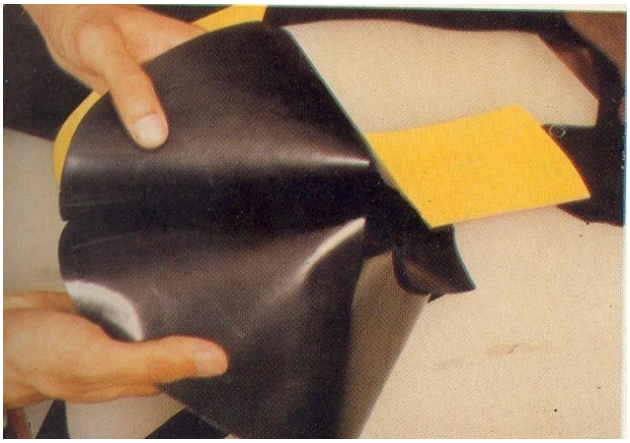
12. After cutting clicker must check the cut components for tightness.

13. Both vamps should match.

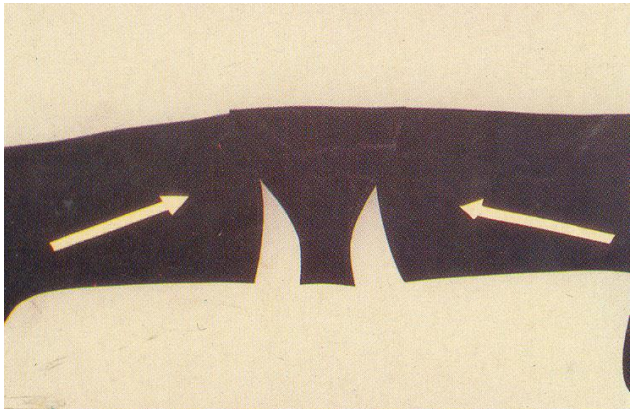
14. The quarter should grain match on the front of the quarter & the back seam.



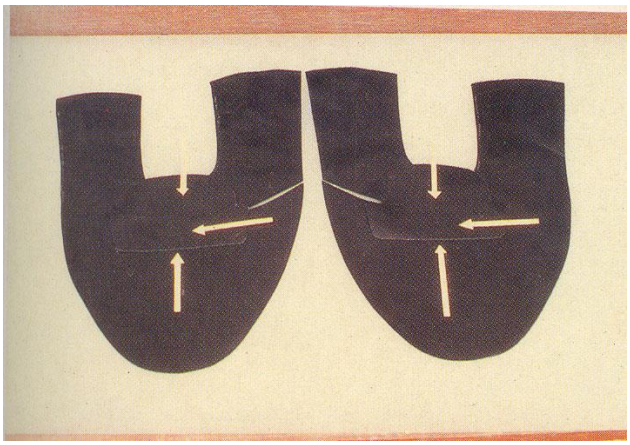
15. After cutting the clicker must check the pair for grain matches in the plug area.



16. The back seamers should not stretch. In this shoe a counter covers the back seam. So preference should be placed on matching the counters & quarters.

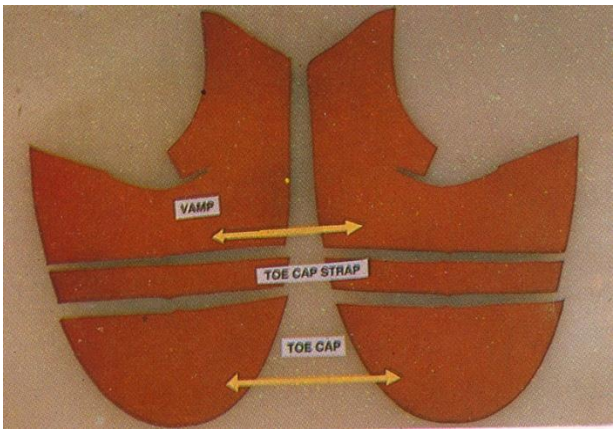


17. The top of the vamp, saddle & tongue must also match.

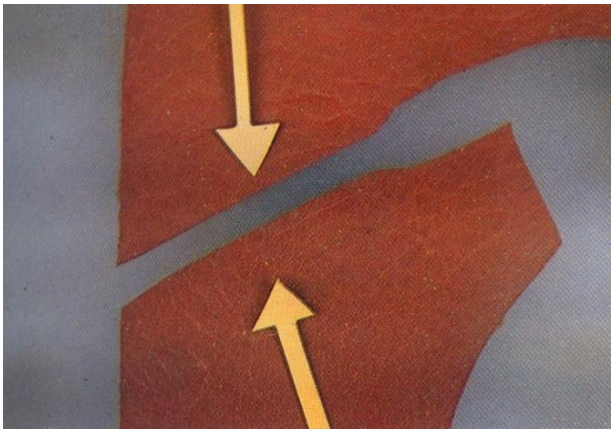


18. Counters: The grain of the counter may need to be checked against the back of the quarter.

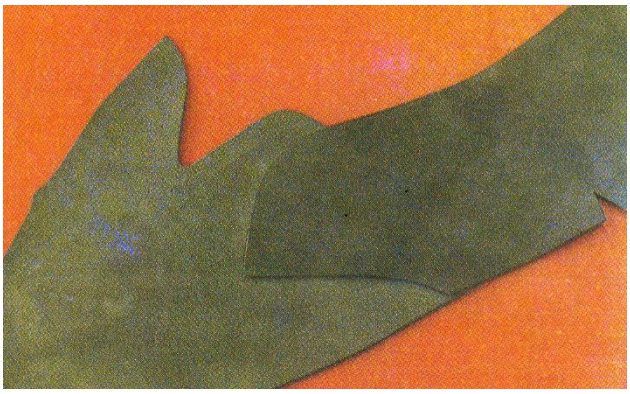
19. The left foot must match the right foot.



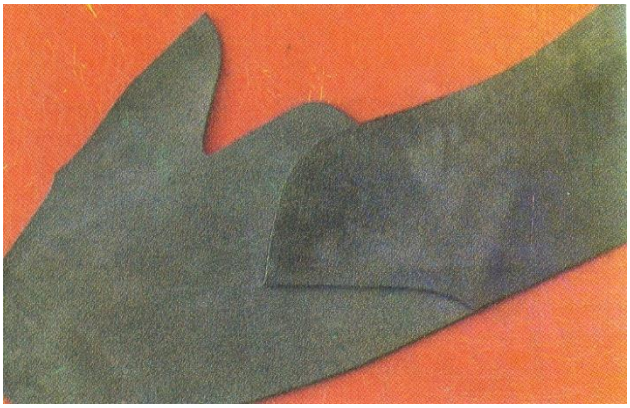
20. The quarter must match the vamp.



21. Nap of suede and nubuck leather components should be matched.



22. Color of suede and nubuck leather components should be matched.



Self-Check 2	Written Test

Name: _____ Date: _____

(Total marks:-4)

Instructions: Write all your answers in the provided answer sheet on page

Test I: Short Answer Questions

Directions: Answer all the questions listed below. Examples may be necessary to aid some explanations/answers.

Fill in the blanks:

1. ---------- of suede and nubuck leather components should be matched.
2. After cutting clicker must check the cut components for ----------.
3. All parts of the shoe should be collected for the ----------.
4. The left foot must match the ----------.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet -3 . Accomplishing necessary record and report

7,3,1 Cut component inspection report

Final inspection is very important in catching quality problems. This is the last check before the cut components are sent to the next operation. Skilled auditors are required to perform this job because many of the defects at this point require the attention of a skillful eye.

Cut components final inspection report:

CUTTING FINAL INSPECTION

DATE:_____ **ART/COLOR:**_____ **PASSED QTY:** _____

PLAN No:_____ DESCRIPTION:_____ REJECTED QTY:_____

PLAN Qty:_____ No of pairs seen:_____ PERCENTAGE :_____

S/N	DEFECT	VAMP		QUARTER		COUNTER	H/GRIP /	SOCKS	TOUNGE		TOTAL		% age
		U	L	U	L	U	L	L	U	L	U	L	
1	Loose Leather												
2	Uneven Skiving												
3	Under Thickness												
4	Improper Skiving Allowance												
5	Edge Cut in Cutting												
6	Improper Splitting												
7	Under Substance												
8	Skiving Damage												
9	Wrong Size												
10	Color Vibration												
11	Different Type Of Leather												
12	Stamping												
13	Plan No. Mixed												
14	Pair No.Size Not Stamped												
15	Embossing Not Clear												

DAILY QUALITY REPORT

With the help of this report we can know the how much components are rejected in a particular plan. With this report

we can know the name of the components and the percentage of the rejection can be known easily.

UPPER/LINING CUT COMPONENT INSPECTION

DATE:_____ **ART/COLOR:**_____ **PASSED QTY:** _____

PLAN No:_____ **DESCRIPTION:**_____ **REJECTED QTY:**_____

PERCENTAGE :_____

Plan Qty:_____ **No of pairs seen:**_____

S/N	DEFECT	VAMP/		QUARTER		COUNTER/ BACK STRAP	H/Grip	SOCKS	TOUNGE/		SADDLE		MUDGUARD		APRON		TOTAL		% age	
		U	L	U	L	U	L	L	U	L	U	L	U	L	U	L	U	L	U	L
1	Loose Leather																			
2	Open Defect																			
3	Cut/flaw																			
4	Vein Marks																			
5	Scratches																			
6	Growth Marks																			
7	Under thickness																			
8	Bossy nap																			

Daily production report

A daily production report (**DPR**) is a term for the form filled out each day of production for a shoe to summarize what occurred that day. There is standard template for a production report and the purpose of this form is to keep track of a production's progress.

XXX COMPANY									
DAILY CUTTING PRODUCTION REPORT									
DATE									
MODEL NO									
PLAN NO									
COLOUR									
	TYPE	SIZES							
	M	38	39	40	41	42	43	44	
	W	34	35	36	37	38	39	40	
	C	33	34	35	36	37	38		
MATERIAL	SIZES								TOTAL
UPPER									
LINING									
TOE PUFF									
COUNTER STIFINER									
SOCKS									
FOAMS									
TEXTILE									
INSOLE									

Self-Check 3	Written Test

Name: _____ Date: _____(Total marks:-2)

Instructions: Write all your answers in the provided answer sheet on page

Test I: Short Answer Questions

Directions: Answer all the questions listed below. Examples may be necessary to aid some explanations/answers.

One word answers:

1. What is the purpose of daily production report?
2. What is the purpose of final inspection?
3. Who can do the final inspection cut components?
4. Which report helps us in knowing the % rejection of the components?

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____