Instruction Sheet	Learning Guide #2

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

- Perform fusing operations on leather components
- Perform pasting/folding operations using double side scotch tapes
- Perform appropriate pocket preparation
- Perform appropriate collar preparation
- Perform appropriate sleeve preparation
- Perform appropriate cuff preparation
- Preparation of components are carried out according to OHS practices

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to –

- Prepare leather garment components
- Practice safe way of operation for preparation of components
- Practice Appropriate way of operation for preparation of components

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described in number 3 to 31.
3. Read the information written in the “Information Sheets 1”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
4. Accomplish the “Self-check 1” in page 7.
5. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 1).
6. 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 Instruction #3.

7. Submit your accomplished Self-check. This will form part of your training portfolio.
8. Read the information written in the “Information Sheet 2”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
9. Accomplish the “Self-check 2” in page 10.
10. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 2).
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 Instruction #8.
12. Read the information written in the “Information Sheets 3”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
13. Accomplish the “Self-check 3” in page 14.
14. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 3).
15. 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 Instruction #12.
16. Read the information written in the “Information Sheets 4”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
17. Accomplish the “Self-check 4” in page 18.

18. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 4).
19. 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 Instruction #16.
20. Read the information written in the “Information Sheets 5”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
21. Accomplish the “Self-check 5” in page 23.
22. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 5).
23. 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 Instruction #20.
24. Read the information written in the “Information Sheets 6”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
25. Accomplish the “Self-check 6” in page 26.
26. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 6).
27. If you earned a satisfactory evaluation proceed to “Information Sheet 7”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Instruction #24.

28. Read the information written in the “Information Sheets 7”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.

29. Accomplish the “Self-check 7” in page 34.

30. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 7).

31. If you earned a satisfactory evaluation proceed to “Operation Sheet 1” in page24. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Guide #3.

Information Sheet-1	Perform fusing operations on leather components

Interfacing (Fusing)

Interfacing is essentially an extra layer of fabric that provides shape and support in detail areas. Almost every garment you make requires some type of interfacing for inner stability. Interfacing supports the fashion fabric and adds crispness, not bulk. It is used to reinforce areas that are subject to stress and helps a garment maintain its shape, wearing after wearing. It is commonly used in collars, cuffs, lapels, necklines, pockets, waistbands, buttonholes, facings and opening edges. Interfacing acts to keep these areas of your garment crisp through repeated wearing.

Your pattern will tell you if you need interfacing and how much. It will also tell you how to lay out your interfacing. You can use more than one type of interfacing on a garment; choose the type according to where it is going to be used and according to the desired effect. Interfacing is usually applied to the wrong/opposite side of what will be the outermost layer of leather.

Purposes of Interfacing

The purpose of interfacing is to:

- Stabilize fabric preventing stretching and sagging
- Customize seams
- Reinforce areas
- Support facings and/or garment details
- Stabilize necklines and waistbands.
- Soften edges
- Give smooth, firm body
- Provide shape to areas such as shoulders, hems, collars and cuffs

Types of Interfacing

Even though there are a lot of interfacing fabrics on the market, there are only three basic types: woven, nonwoven and knit. They can be sew-in or fusible. Woven and nonwoven are available in different weights. Each type of interfacing creates a different effect on the fabric.

2.1.1 Paper fusing or Nonwoven

Nonwoven interfacings are fiber webs. They are also called paper fusing. They are made by bonding or felting fibers together. These fabrics are flexible and do not ravel, wrinkle, or lose their shape.

There are several types of nonwoven interfacings.

• Stable – has little “give” in any direction. They are excellent for shoulder pads and craft items.

• Stretch – has stretch crosswise, but is stable lengthwise. They are used in fashion fabrics to maintain the natural stretch.

• All-bias – has stretch in all directions. Usually there is more stretch in the crosswise.

2.1.2 Synthetic fusing or Woven

Woven interfacings have lengthwise and crosswise grain. Woven interfacing is usually cut on the same grain as your fashion fabric. This enables the fashion fabric to maintain its natural drape and hand. If using woven interfacing in a knit fabric, cut the interfacing on the bias so the knit will maintain some of its basic “stretch” characteristics. Interfacings are mainly used on knits to stabilize and to prevent excess stretching.

2.1.3 Textile fusing

Knit interfacings are softer and more flexible because they stretch in all directions. They can usually be found in black, white, and neutral. These fabrics are softer than a woven interfacing. They can be fused at a lower temperature than other fusible.

Non-fusible and fusible interfacing applications

Woven or nonwoven interfacings with or without fusing properties are used. It can be light, medium or heavy in weight. It tends to add some rigidity to the garment. While selecting interfacing, it should give support and body without overpowering the

garment. In leather garment, interfacing is needed to maintain its shape as leather stretches.

- In case of non-fusible interfacings, pre-shrink the interfacings whereas in case of fusible interfacings, do not pre-shrink it as it may cause the fusing material to come off.
- Trim away interfacing at corners and points to eliminate bulk and turn smoothly. Place the non-fusible interfacing in the garment seam allowance and stitch 3 mm. away from the seam line. Trim the interfacing seam allowance close to the stitching.
- Trim away seam allowances and the corners of fusible interfacing before applying to the garment. Press with the tip of the iron to the interfacing at key points to hold the interfacing in place. Fusible interfacing should completely cover the garment otherwise it will leave visible line on the right side of the garment.

Fig 1:1 a. Non-fusible interfacing b. Fusible interfacing

Fusible interfacing has a resin coating on the back that fuses to the fabric when steam, heat, and pressure are applied. Fusible interfacing is quick and easy use and gives a crisper look after fusing. Also, fusible interfacings are great for stabilizing small areas such as buttonholes, slashes, and plackets.

Type of interlining adhesives

The interlining adhesive melts when heated, sticking to the material. Then, when cooled a stable bond is formed.

These days the most commonly used adhesives are as follows;

- Poly-amide
- poly-vinyl chloride
- Polyethylene
- Ethylene vinyl acid co-polymer (EVA)
- Polyester

How to Fuse

Here are a few general hints to assist you when using a fusible interfacing.

- Always read and follow the manufacturer's directions.
- Position the resin/glue side to the wrong side of the leather to be interfaced.
- Work from the center out, lifting and lowering the iron.
- As you fuse, overlap the iron positions to ensure complete fusing.
- Exert pressure on the iron to secure a good bond.
- After completing the fusing, let the piece cool undisturbed before moving.
- Turn to the right side and repeat the process.
- Using a press cloth is a good idea. It prevents the fusible adhesive from getting on your iron and protects the fashion fabric from excess heat.

Self-Check 1	**Written Test**

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What is interfacing (fusing)? (2 point)
2. What are the uses of fusing? (4 point)
3. What are the types of fusing? Explain each type. (6 points)
4. Explain the difference between fusible and non-fusible interlining. (4 points)
5. What are the types of non-woven fusing? (4 points)

Note: **Satisfactory rating - 10 points** **Unsatisfactory - below 10 points**
You can ask you teacher for the copy of the correct answers.

Answer Sheet

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Short Answer Questions

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Information Sheet- 2	Perform pasting/folding operations using double side scotch tapes

Double-Sided Scotch Tape is a double sided film tape coated with a photo safe, removable adhesive on both sides. It is with cotton as base material and covered by pressing glue, with compound resin and high-strength adhesive. It is used for attaching and mounting tasks; specifically for leather to leather applications. It can hold securely, yet is easy to remove or reposition. Specific applications include: temporary or permanent leather-to-leather applications for hem, folding; positioning lining and reinforcement to the leather; securing pockets on a garment prior stitching.

Fig. 2:1 Double sided adhesive tapes

Applying double sided Scotch tape

1. Unwind the tape roll and pasting on the inside part of the end to be folded
2. Peel out the removable adhesive cover
3. Fold and press the end of the garment component to attach the fold end

Self-Check 2	**Written Test**

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What is double sided adhesive tape? (2 point)
2. What are the uses of double sided adhesive tape? (4 point)
3. Explain how to apply double sided adhesive tape for sticking. (6 points)

Note: **Satisfactory rating - 6 points** **Unsatisfactory - below 6 points**
You can ask you teacher for the copy of the correct answers.

Answer Sheet

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Information Sheet- 3	Perform appropriate pocket preparation

Pocket is a pouch that has a closed end is usually stitched on a garment or even inside the garment. Pocket can be both functional and decorative purpose. Pocket helps in holding small article temporarily. It is important that pocket size, shape, and placement should complement the design of the garment.

Types of pockets

There are several types of pockets that can be incorporated onto a jacket namely flapped pocket, inset pocket, besom pocket, patch pocket, bellows pocket and the ticket pocket.

Flap Pocket

The flap pocket is standard for side pockets, and has an extra lined flap of matching fabric covering the top of the pocket. This flap was initially created to protect the contents of the pocket from any rain, and now the flap is seen as an accessory that completes the style. Any type of pocket that has an overhanging flat is called as “flapped pocket”.

Fig 3:1 Flapped pocket

Inset Pockets:

A pocket suspended on the wrong side of a garment from a finished slit on the right side that serves as its opening sometimes called a “slash pocket”, inset pockets may or may not be flapped.

Fig 3: 2 Insert pocket

Besom Pockets:

These are the “hidden pockets”, with only one slash evident on the front of the jacket. Both edges of the slash have narrow stitches folds or “welts” along the seams or the edges.

Fig 3:3 Besom pocket

Patch Pockets:

The patch pocket is, with its single extra piece of cloth sewn directly onto the front of the jacket, a sporting option, sometimes seen on summer linen suits, or other informal styles and made from the same fabrics as the jacket, this pockets is sewn on to the outside of the jacket so that it literally appears like a patch.

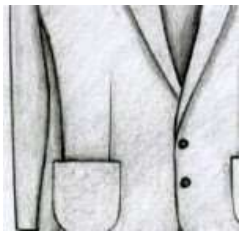

Fig 3:4 Patch pocket

Bellows Pockets:

These are sporty pockets and generally have folds around the three sewn sides so they are expandable.

Fig 3:5 Bellows pocket

Ticket Pockets:

These are very small pockets, with or without a flap, found on top of the regular right-hand pocket of a jacket. Styling details, as well as an extra convenience, the ticket pocket is also sometimes called the “change pocket”.

Fig. 3:6 Ticket pocket

All types of pockets are suitable for leather garments. The novelty inseam pocket for leather lapped seams is particularly attractive. It can be used vertically or horizontally and requires one pocket sack to form the underlay.

Self-Check 3	**Written Test**

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What is pocket? Explain its uses. (4 point)
2. Explain the types of pocket in detail. (4 point)
3. Which types of pockets are suitable for leather garment? (6 points)

Note: **Satisfactory rating - 7 points** **Unsatisfactory - below 7 points**
You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____
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Information Sheet- 4	Perform appropriate collar preparation

Collar

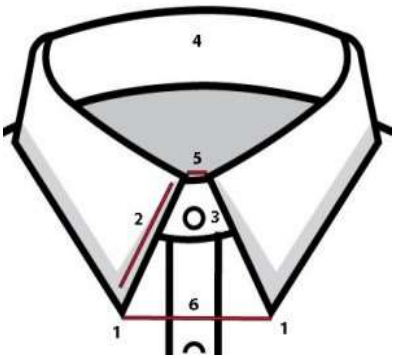
In clothing, a collar is the part of a shirt, dress, coat or blouse that fastens around or frames the neck. Collars are an important part of a garment because they serve as the frame for your face. The styling and application of a collar is important to wearer looks and the look of the garment.

Parts of collar

The stand is from the neckline seam to the roll line.

The fall is from the roll line to the outer edge.

The roll line is where the collar rolls over.



1. **Collar Points** - The tips of the collar.
2. **Collar Point Length** – The distance from the Collar Points to where they meet the Collar Band.
3. **Collar Band**- the piece of fabric that wraps around the neck.
4. **Collar Height**- The height of a folded collar as it fits on the neck.
5. **Tie Space** – The distance between the top of the folded collar parts when the shirt is buttoned.
6. **Spread** – The distance between Collar Points.

Types of collar

There are several types of collars. The three basic types are flat, standing, and rolled.

• **Flat** – lies flat and next to the garment at the neckline. When the corners are rounded, they are called Peter Pan.

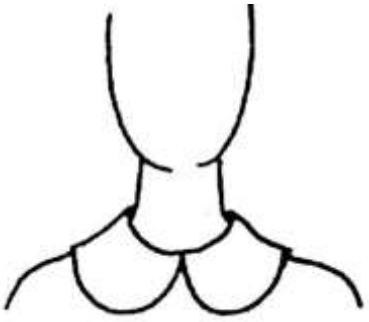


Fig 4:1 Flat collar

• **Full Roll** – the fall and stand are about the same height at center back.

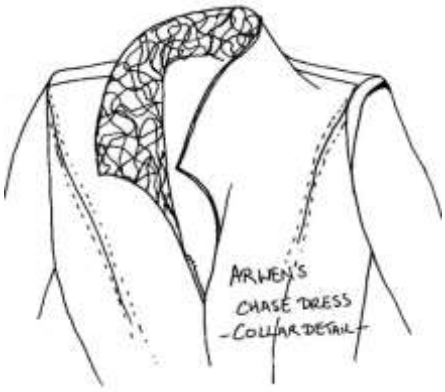


Fig 4:2 Full roll

• **Partial Roll** – has less stand and more fall.

• **Mandarin** – a stand-up collar (all stand and no fall).

Fig 4:3 Stand collar

• **Shirt** – has a separate neckband that serves as the stand.

Fig 4:4 Shirt collar

• **Convertible** – similar to a full roll, but hugs the neckline closer at the sides of the neck/shoulder.

Fig 4:5 Convertible

• **Shawl** – recognized by its center back seam. The under-collar is cut as part of the bodice.

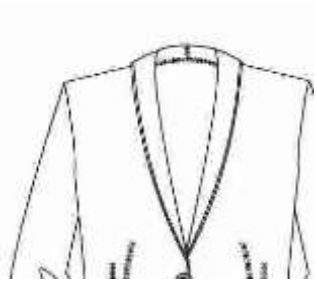


Fig 4:6 Shawl collar

Self-Check 4	**Written Test**

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What is collar? Explain its uses. (5 point)
2. Explain the types of collar in detail. (5 point)
3. Which types of collar are suitable for leather garment? (6 points)
4. Explain the parts of shirt collar. (4 point)

Note: **Satisfactory rating - 10 points** **Unsatisfactory - below 10 points**
You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____
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Name: _____ Date: _____

Short Answer Questions

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Information Sheet- 5	Perform appropriate sleeve preparation

Sleeves are both functional and design elements of a garment. As functional elements, sleeves must allow for freedom of movement and comfort and must enhance the overall purpose of the garment. As design elements, sleeves should complement the bodice to which they are attached.

Sleeve Types

There are three basic types of sleeves - set in, kimono, and raglan.

Set in sleeves

Set in sleeves are sewn to the bodice armholes. All set in type sleeves must be eased, gathered, darted, or tucked and sewn into the bodice armscye seam. They can be fitted or flared, cut to any length, and their hemlines finished in a variety of ways

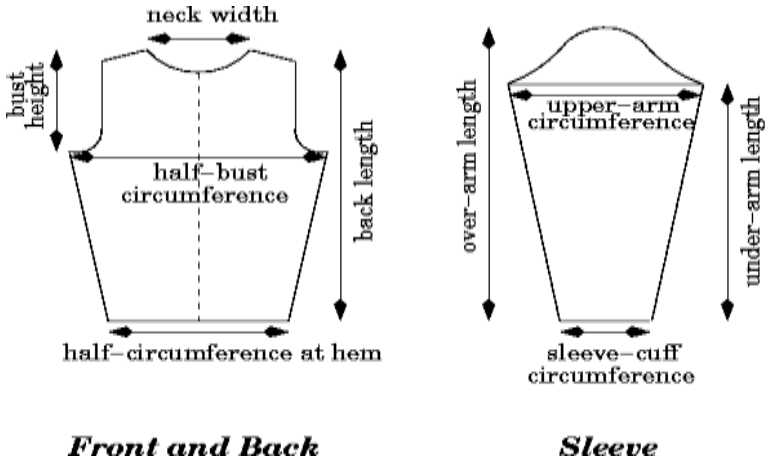


Fig 5:1 set in sleeve

Kimono sleeves

Kimono sleeves are cut all in one with the front and back bodice. The kimono sleeve is always cut with a deeper armscye than the set in sleeve. Wrinkles under the arm are inherent to this type of sleeve because of the extra fabric between the bodice and sleeve.

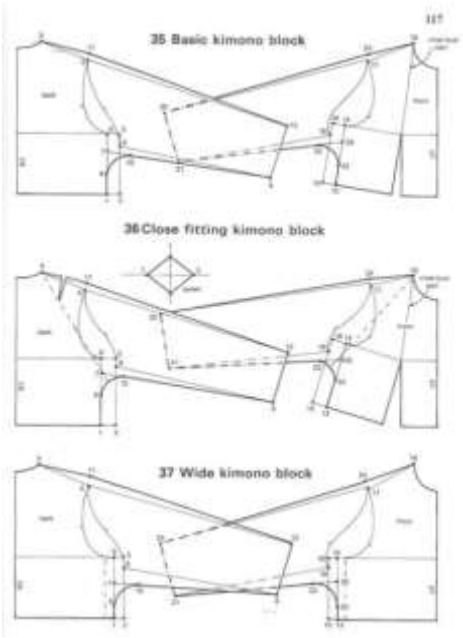


Fig 5:2 Kimono sleeve

Raglan sleeves

Raglan sleeves have part of the sleeve attached to the bodice. A diagonal seam is formed from the neckline to the underarm. Underarm wrinkles are common in this type of sleeve, as well. Extra ease is added across the chest and the armhole is lowered to increase freedom of movement.

Sewing and attaching sleeves

For the sleeve (when cut in 1 piece) fold it in half with right sides facing in and line up the curves. Sew the edge tapering stitches off the folded edge the same way you would sew a tuck. Finish edges and continue to next step

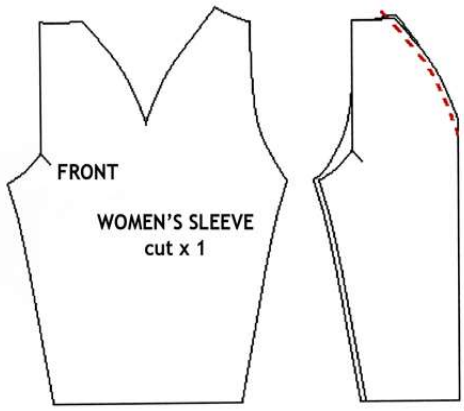
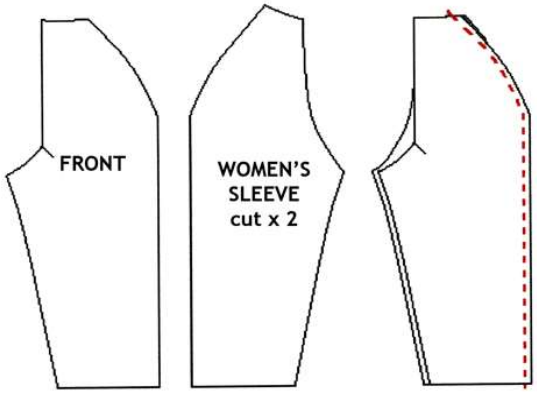
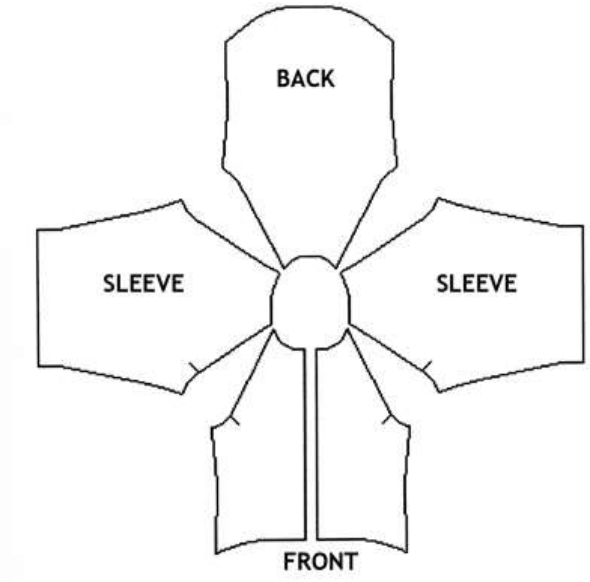


Fig 5:3 Raglan sleeve

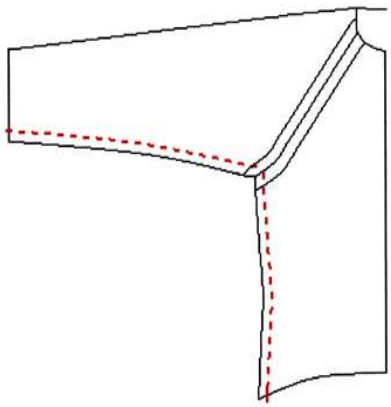
For the sleeve cut in two separate pieces, line up the pieces together, right sides facing in and sew the edge. Finish the edges and continue to the next step.



This is how the raglan sleeve jacket is layed-out and joined.



Join the front part of the sleeve to the front part of the jacket and the back part of the sleeve to the back of the jacket (right sides facing each other). As you see the sleeves also make up part of the neckline. Press the seams open and finish the hems.



Sew the sleeve and side seams in one operation. Finish the seam allowances and press towards the back.

Self-Check 5	**Written Test**

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Explain sleeve as functional and design element of garment. (5 point)
2. Explain the basic types of sleeve in detail. (5 point)
3. Which types of sleeve are suitable for leather garment? (6 points)

Note: **Satisfactory rating - 8 points** **Unsatisfactory - below 8 points**
You can ask you teacher for the copy of the correct answers.

Answer Sheet

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Information Sheet- 6	Perform appropriate cuff preparation

A cuff is an extra layer of fabric at the lower edge of the sleeve of a garment covering the arms. In US usage the word may also refer to the end of the leg of a pair of trousers. The functional purpose of turned cuffs is to protect the material from fraying and, when frayed, to allow the cuffs to be repaired or replaced without major changes to the garment.

Cuffs may be made by turning back the material, or a separate band of material may be sewn on or worn separately attached by buttons or studs. A cuff may show an ornamental border, or have an addition of lace or other trimming.

Shirts cuff

Except on casual clothing, shirt cuffs are generally divided down one edge and then fastened together, so they can let a hand through and then fit more comfortably around the wrist.

Trouser cuffs

Most trouser legs are finished by hemming the bottom to prevent fraying or rolling. Trousers with turn-ups ("cuffs" in American English), after hemming, are rolled outward and sometimes pressed or stitched into place. The main reason for the cuffs is to add weight to the bottom of the leg, to help the drape of the trousers.

Jacket cuffs

The buttons and buttonholes at the end of suit jacket sleeves are generally decorative and non-functional. "Surgeon's cuffs" can be opened at the wrist and are traditionally associated with modified tailoring. Ribbed jacket cuffs can also be used for leather jackets. Ribbed cuffs are that either contain elastic or are knitted so as to stretch around a hand and still fit snugly.

Fig 6:1 jacket cuffs

Self-Check 6	**Written Test**

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What is cuff? (5 point)
2. Explain how cuffs can be made? (5 point)
3. What are the uses of cuffs? (6 points)

Note: **Satisfactory rating - 8 points** **Unsatisfactory - below 8 points**
You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____
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Information Sheet- 7	Preparation of components are carried out according to OHS practices

2.7.1 Hazard identification and control

Hazards exist from four areas.

People

• Improperly trained or poorly supervised

• Not paying attention to surroundings

• Not wearing the assigned or appropriate safety equipment

• Not following safe work practices

Equipment

• Poorly maintained or uninspected equipment

• Unguarded equipment

• Using improper or worn out equipment for the task

Materials

• Working with materials that are flammable or require special storage and handling

• Working with chemicals that are volatile or dangerous when inhaled or in contact with skin

Environment

• A wet floor

• Insufficient lighting

• Loud or constant sounds

• Inclement weather

A safety system is a process to help you identify seen and unseen hazards and risks in all four areas – risks from things that people are doing or NOT doing. It is also a way for them to report injuries and near misses and for you to track them.

Hazards control

Once you have identified tasks and their hazards, you can set them into this matrix. High-risk issues with high likelihood/high impact need immediate attention.

The next step is to develop and implement hazard controls. How you control a hazard depends on the circumstances. Consider the seriousness of the risk and then identify what controls are reasonable and practical in the circumstances.

Ways to deal with hazards

1. Elimination

Eliminate the workplace conditions, equipment, chemical or act that is causing the hazard. Elimination is the best method of control, but it's difficult to eliminate some hazards.

• Replace a toxic substance with a non-toxic substance.

• Replace broken tools.

• Insist workers wear personal protective equipment such as fall protection.

2. Substitution

Substitution is the process of replacing a hazard with a less hazardous method, equipment, chemical or condition.

• Replace a toxic substance with a less toxic substance.

• purchase a stepladder for someone who stands on a chair to retrieve items from a shelf.

3. Engineering

Engineer ways to eliminate or contain hazards.

• Add ventilation to remove toxic fumes.

• Install adjustable-height ergonomic surfaces to eliminate strain from repetitive movements.

4. Administration

Create administrative policies and procedures that reduce exposure to hazards.

• Create specific job procedures for operating equipment.

5. Personal protective equipment (P.P.E.)

This is your final approach to reducing hazards. Personal protective equipment is your last line of protection.

• Personal protective equipment includes items such as safety glasses, steel-toed boots, work gloves and hard hats.

2.7.2 RISK ASSESSMENT AND IMPLEMENTATION OF RISK REDUCTION

Risk analysis is the first stage of risk assessment that identifying hazards that may occur due to characteristics or properties of the device during normal use or foreseeable misuse. After hazards are identified, risks are estimated for each of the identified hazards, using available information.
Risk evaluations determine an appropriate level of risk reduction by comparing the estimated risks against the risk acceptability criteria. The combination of risk analysis and risk evaluation is called risk assessment.

A) Risk assessment aims

The aims of risk assessment are to:

a) provide a basis for identifying, evaluating, defining and justifying the selection of control measures for eliminating or reducing risk, and to therefore lay the foundations for demonstrating the adequacy of the standards of safety proposed for the facility;
b) provide the employer and employees with sufficient objective knowledge, awareness and understanding of the risks of major accidents at the facility;
c) Capture knowledge of risk of a major accident at the facility so it can be managed, disseminated and maintained. The management of knowledge generated in the risk assessment will also greatly assist the efficient development of a safety report for the facility, for example by handling assumptions and actions arising; and
d) Provide practical effect to the employer's safety report philosophy. For example, if the employer intends to base the safety report largely on the facility's compliance with specific codes or standards, the risk assessment should address corresponding issues such as the basis of the codes and standards and their applicability to the facility.

B) Creating and transferring knowledge using risk assessment

Understanding the risks of major accidents may be accompanied by uncertainty, but the risk assessment will be successful if it reduces this uncertainty to an acceptable or tolerable level. The results of risk assessment must be captured and disseminated to those who require the knowledge, to enable the uncertainty of the entire organization to be reduced to an acceptable level.
An effective risk assessment should involve the processes of debating, analyzing, sharing views and generating information and knowledge on the risk of major accidents and their means of control. It should include the active participation of

employees or contractors who influence safe operations. This is the definitive criterion for participation of employees and contractors. There are no limits to the activity or sources that can be used to understand the facility and its risks. For example, it could incorporate information from incident investigations, discussions during safety meetings about hazards and ways of controlling them, condition monitoring programs, analysis of process behavior, and evaluation of process trends or deviations from critical operating parameters, procedure reviews or flood or weather records.

Risk assessment results are a useful input to training needs analyses. For example, if a procedure or task carried out by employees is an important control measure that can fail if there is inadequate employee knowledge, then the risk assessment should identify that risk and the need for that knowledge. It can then be a tool to assist in imparting that knowledge to employees, either by direct involvement in their defined roles or as a source of information to develop instruction or training sessions.

C) Identifying and evaluating control measures using risk assessment

The risk assessment should consider a range of control measures and provide a basis for the selection of control measures. Risk assessment can be a useful tool, which can save or optimise the use of resources, by determining the effectiveness and costs of different control options, improving the decision-making process and providing a basis for allocating resources in the most effective manner. The risk assessment process should provide the following in relation to control measures:

a) identification or clarification of existing and potential control measure options;
b) evaluation of effects of control measures on risk levels;
c) basis for selection or rejection of control measures and the associated justification of adequacy; and
d) Basis for defining performance indicators for selected control measures.

The risk assessment should evaluate the range of control measures in terms of viability and effectiveness to provide a basis for selection or rejection of each control measure:

a) **Viability** relates to the practicability of implementing the control measure within the facility; and
b) **Effectiveness** relates to the effect of the control measure on the level of risk. For example, the reliability and availability of control measures influence the likelihood of an incident occurring, while the functionality and survivability of the control measures during the incident influence the consequences.

2.7.3 Manual handling hazards

Any job that involves heavy labor or manual material handling may include a high risk for injury on the job. Manual material handling entails lifting, but also usually includes climbing, pushing, pulling, and pivoting, all of which pose the risk of injury to

the back. Manual material handling (MMH) contributes to a musculoskeletal disorder. Musculoskeletal disorders often involve strains and sprains to the lower back, shoulders, and upper limbs. Potentially injurious tasks may involve bending and twisting, repetitive motions, carrying or lifting heavy loads, and maintaining fixed positions for a long time. MMH under these conditions can lead to damaged muscles, tendons, ligaments, nerves, and blood vessels.

2.7.4 STANDARD OPERATING PROCEDURES

Standard Operating Procedures (SOPs) help maximum safety and operational efficiency for leather goods manufacturing unit: SOPs are detailed written instructions to achieve uniformity of the performance of a specific function. A well-written SOP can be used to satisfy compliance requirements. SOPs are recommended for all procedures that pose a potential risk to the health and safety of personnel.
Standard Operating Procedures (SOPs) lets you operationalize documents such as plans, regulation, compliance, and policies. SOPs distil requirements contained in these documents into a format that can be used by staff members in their work environment. Standard Operating Procedures (SOPs) should be transferred without every modification to insure the expected results. Every modification or divergence of a given standard, the Procedure should being served, while an investigation and results of the investigation documented according to the internal divergence procedure. All high-class processes and procedures should be put on in a Standard Operating Procedure. This Standard Operating Procedure should be the base for the everyday training programmed of every employee. The Standard Operating Procedure should be often updated to insure of obedience to the realization conditions and the working practice.

A minimum review list of 3 years is recommended. Changes of the Standard Operating Procedure are activated generally by the process or the procedure changes or the adaptations. These changes should be led by the internal site controlling procedure. A part of the activity list of such changes should be to update the coherent standard operating procedure. Standard operating procedure should be in the place for all high-class systems plus the specific operational activities on the side.


The structure of the Procedure System and the sum of all SOPs should be considered carefully. Too many standard operating procedure could lead to a breakdown of the SOP System.

2.7.5 Personal protective equipment

Garment manufacturing, like other industrial processes, can be hazardous work. It is important for employers and workers to be aware of the hazards associated with garment manufacturing and take precautions to guard against work-related illnesses and injuries.

There are many different types of **machinery** used in the garment industry. Some are used to sew or cut patterns and cloth; some press or steam; and others transport garment pieces on the factory floor. But before any work begins on a piece of machinery, the operator should be aware of proper operation and all safety precautions to follow. Workers should know that any machinery with exposed moving parts should be properly guarded.

As **cutting tools** and sewing needles can pose cut and puncture hazards, workers should follow basic safety precautions while working with sharp and cutting instruments. Precautions include: using sharp tools that are in good repair; carrying and storing sharp tools properly; and always cutting away from the eyes and body.

Workers need to stay alert when working with sharp objects and make sure needles are properly guarded.

Chemicals also play a part in garment manufacturing in case of chemical application after garment stitching. Dyes, enzymes, solvents, and other chemicals are used to create different garment finishes and durability. So, proper ventilation, **respiratory protection**, and other personal protective equipment are important to protect workers during chemical processing. The same safety steps should be taken for workers who handle the finished material and may be exposed to excess chemicals and off-gassing.

Because much of garment work involves close viewing of the garment, **eye protection** is critical. Garment workers can avoid eye injuries by using proper shields on high speed sewing machinery or safety glasses where appropriate. Also, adequate task lighting at individual work stations can prevent eye strain.

Some garment manufacturing equipment can be very loud, so proper **hearing protection** may be necessary. Because a garment factory uses many heated processes, it is important for workers to avoid **heat stress** by labeling and guarding hot surfaces and drinking plenty of water during their shift. Proper ventilation can help to reduce ambient temperatures and ensure worker comfort.

Many tasks in garment manufacturing require **repetitive motions**. To prevent ergonomic injuries workers should be encouraged to rotate tasks or take frequent, short breaks to stretch and relax muscles. Work stations should allow enough space for the task, have appropriate working height, and provide proper seating. Manufacturing tools and machinery should incorporate ergonomic design principles and should not require an excessive amount of force to operate.

With proper training and instruction, machine guarding, personal protective equipment, and ergonomically designed work systems, garment workers can manufacture products in safe and healthy workplaces.

2.7.6 SAFE MATERIAL HANDLING

Organization safety is extremely important both to staffs/ workers and managers and owners. Generally leather product processing is not as dangerous as many other manufacturing plants. Occasionally accidents can happen .It is easier and cheaper to prevent accidents before rather than later. In leather products some of the high inflammable materials are used, such as Rubber Solution, Dendrite, Rubber Sheet,

Eva Sheet, Spirit, Synthetic material and others. But It is needed proper storage and maintenance. For Safety precautions we have to keep in our mind such as –

1) ELECTRICITY :
    - Cables used should be good quality and high resistance,
    - Loose connection should always checked,
    - Fuses are too strong to protect current flow.

2) FIRE :
    - Handling of inflammable materials such as adhesive, chemicals, spirits, rubber sheet etc are dangerous,
    - Due to loose connection can cause an accident,
    - Sourcing of metal causes small sparks which can glow for hours before igniting, usually occurs when nobody is around.

3) OTHERS :
    - Poor knowledge of machines and equipments
    - Poor conditions of tools and equipments,
    - Bad condition of storage can cause of accidents,
    - Poor knowledge of infrastructure planning etc.

2.7.7 Ergonomic arrangement of work place

What is ergonomics?

Ergonomics is a science concerned with the ‘fit’ between people and their work. It puts people first, taking account of their capabilities and limitations. Ergonomics aims to make sure that tasks, equipment, information and the environment suit each worker.

Ergonomists consider all the physical aspects of a person, such as:

■ Body size and shape;

■ Fitness and strength;

■ Posture;

■ The senses, especially vision, hearing and touch; and

■ The stresses and strains on muscles, joints, nerves.

Ergonomists also consider the psychological aspects of a person, such as:

■ Mental abilities

■ Personality

■ Knowledge and

■ Experience

How can ergonomics improve health and safety?

Applying ergonomics to the workplace:

■ reduces the potential for accidents;

■ reduces the potential for injury and ill health; and

■ improves performance and productivity.

2.7.8 Safe storage of equipment

This leather goods unit deals with the skills and knowledge required to use hand tools for the manufacturing leather goods. It also applies to the use of hand and power tools in the maintenance. This unit is based and equivalent to the leather goods unit Use hand tools, which has been contextualized to meet the requirements of the leather exports.

This article has covered the importance of using hand tools safely and treating them with respect. Always remember, safety is essential to good job performance. Pay attention to what's going on around you, be flexible, and adapt to changing conditions. Think before you react, and keep your head in the game.

Think about tool safety each and every time you begin a job, and you'll perform your job safely and effectively. Those are your hands that are being extended by the knife or the hammer. Treat your tools as carefully as you treat your hands.

2.7.9 Reporting accidents and incidents

Accidents and incidents at work must be reported. Sometimes this means filling in a form. Sometimes it means speaking to your supervisor or Health and Safety representative.

The difference between incident and accident:

An incident describes any event which is unexpected or unusual. It may cause injury or damage but not always.

An accident is also an unplanned event. It always results in some harm, injury or damage.

Accidents and incidents are investigated in order to meet legislative requirements, identify the cause and relationships involved in the occurrence of accidents and incidents and *to recommend changes to equipment, procedures and any other matters* that will ensure the health and safety of workers.

Incidents include the following:

- personal injury
- occupational illness
- fire or explosion
- chemical, biological or radioactive
- collapse or structural failure
- near miss incidents (those incidents that could have resulted in any of the above)

2.7.10 Environmental practice

Environmentally sustainable work practices are those which reduce harm on the environment and reduce wastage of resources.

General guidelines for sustainable environmental work practices

All employees can help protect the environment by following the guidelines below:

Reduce

- Use goods which stop waste being generated.
- Reduce waste by choosing products that have minimal packaging and can be used productively and then recycled.

Re-use

- Re-use containers, packaging or waste products, wherever possible.

Recycle

- Recycle waste material into useable products, wherever possible.

For waste that can't be avoided, reused or recycled

- Treat the waste to make it less harmful or reduce the volume of the harmful component.
- Dispose of the waste safely.

Self-Check 7	**Written Test**

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Explain four areas that hazards can come from. (5 point)
2. Explain ways of hazards control. (5 point)
3. Explain how you protect yourself from hazards in garment industry. (5 point)
4. What are general guidelines for sustainable environmental work practices? (5 points)

Note: **Satisfactory rating - 8 points** **Unsatisfactory - below 8 points**
You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____
Rating: _____

Name: _____ Date: _____

Short Answer Questions

1. _____
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