Ethiopian TVET-System

Basic Leather Garments and Goods Production

Operations LEVEL I

Based on May 2012 Occupational Standards

May, 2020

Module Title: Performing Basic Stitching

TTLM Code: IND BLG1 M10 TTLM 0919v1

This module includes the following Learning Guides

LG30: Set Up Sewing Machine
LG Code: IND BLG1 M08 LO1-LG-30

LG31: Perform Sewing Operation
LG Code: IND BLG1 M08 LO2-LG-31

LG32: Check Stitched Component
LG Code: IND BLG1 M04 LO3-LG-32

LG33: Dispatch Completed Work
LG Code: IND BLG1 M08 LO2-LG-33

LG34: Check and Rectify Problems of Sewing Machine
LG Code: IND BLG1 M08 LO2-LG-34

Instruction sheet	LG30: Set Up Sewing Machine

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

- Adjustment and set up of sewing machine for operation according to task requirement
- Selection of stitching tools and attachments according to specified work
- Cleaning and maintenance for sewing machine

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 –

- Set up and adjust sewing machine for operation according to task requirements
- Select and prepare stitching tools and attachments according to specified work

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described in number 3 to 16
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 9.
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 #2.
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 15.
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. Read the information written in the “Information Sheets 3 and 4”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
12. Accomplish the “Self-check 3” in page 20.
13. 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).
14. If you earned a satisfactory evaluation proceed to “Operation Sheets”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Instruction #6.
15. Read the “Operation Sheets 1, 2, 3, 4 &5” and try to understand the procedures discussed.
16. Do the “LAP tests 1, 2, 3, 4 & 5” in pages 24, 29, 32, 34 & 37 respectively (if you are ready). Request your teacher to evaluate your performance and outputs. Your teacher will give you feedback and the evaluation will be either satisfactory or unsatisfactory. If unsatisfactory, your teacher shall advice you on additional work. But if satisfactory you can proceed to Learning Guide #31.

Information Sheet	Adjustment and set up of sewing machine for operation according to task requirement

1.1 Adjustment and set up of sewing machine for operation according to task requirement

Sewing machine needs to be set properly and adjust its part too before start sewing operation. Fixing needle, threading, winding &inserting bobbin, tension adjusting are including there

1.1.1 Fixing needle

The needle was one of humankind's first tools. Over the centuries it developed from a simple craft item to the precision tool for sewing machines.
The most ancient sewing needles (28,000 BC) had a split end which gripped the thread to be Sewn (often raffia, gut or sinew).
Needles from later than 17,500 BC already had the two characteristic features of the hand sewing needle today, the eye at one end and the tapered point at the other end.
The invention of the sewing machine gave rise to the development of the sewing machine needle the selection of the correct needle size and point shape has a big influence on the sewing result.
The choice of the optimum needle depends on the material to be sewn, its thickness and the Intended sewing process (sewing, topstitching, embroidering, etc.). The following gives an overview about the most important needle systems

A sewing machine needle consists of the elements □-

- **Shank:** There are round shanks and flat shanks.
- **Blade with groove**: The groove guides the needle thread to
- **The eye:** The diameter of the used thread should have Maximum 40% of the needle's thickness.
- **Scarf:** It supports the hook to pick up the sewing thread Loop.
- **Point and eye:** The point shape is relevant for the Application of the sewing machine nee

Sewing machine needles are the most changeable part of sewing machine and
They can change how your machine forms stitches .understanding how the parts of a sewing machine needle work will help you choose the correct size for the fabric and thread you are sewing.
Changing /fixing / the machine needle is the first step to solving most sewing machine Problems

The causes of (needle breakage) that are needed fix needle again

- improper needle insertion
- Pulling on fabric
- Faulty threading.
- Tension problem
- using an inappropriate needle with a particular type of fabric

1.1.2 Threading

Proper threading of your sewing machine is essential for attractive, secure stitches. Although sewing machines can differ in size and style, the mechanism for creating a stitch on a home sewing machine is basically the same—it create stitches by interlocking the needle thread with a second thread coming from the bobbin. Your sewing machine manual provides instructions for threading. It's clearly set up the procedure of threading on the operational sheet of threading
See operational sheet 2

1.1.3 Winding and inserting bobbin in to shuttle

Winding a sewing machine bobbin one of the main parts of sewing machine is Bobbin with its winder. Its thread has great role to make sewing formation with upper thread while it wind properly Balance looping system cannot be done without bobbin thread

Winding a sewing machine bobbin requires setting up the spool of thread on the spindle, threading the empty bobbin, switching the machine to the bobbin winding mode and pressing the pedal until the bobbin is wound half full. Wind a bobbin on the sewing machine

Inserting a Sewing Machine Bobbin

The bobbin in a sewing machine contains thread to create the bottom part of a seam. The bobbin can be plastic or metal. The bobbin fits into a bobbin case and that case is inserted into the machine from a location where the needle thread can loop with the bobbin thread.

1.4 Setting stitch length

The Purpose of the Stitch Length Adjustment

- The stitch length adjustment adjusts the length of the stitches your sewing machine makes. The adjustment takes place at the feed dog not the machine needle.
- Shortening the stitch length shortens the amount of fabric that is fed under the presser foot before the needle comes down.
- Lengthening the stitch length lengthens the amount of fabric that is fed under the presser foot before the needle comes down.

Set your stitch length to the button whole settings between 0 & 1 depending on how close you want the stitches to be Stitches set too close especially on a light weight fabric can jam up.

1.1.5 Setting tension

Before making any adjustments to the tension on your sewing machine, be sure that the machine is properly threaded. The thread in machine must feed through three main points on the sewing machine; the tension disks, the take-up, and the needle. The bobbin must also be threaded properly to enable the machine to form a Good stitch. Bobbins have their own mechanism for controlling tension on the thread.
Upper and lower tensions must be balanced to produce a perfect stitch. The upper tension varies in location on different machines. It may be on the faceplate, on the front of the needle-bar housing, or on the upper arm of the machine head. It is usually adjusted with a dial.

The lower tension, located on the bobbin case, may be adjusted by a screw. If two screws fasten the lower tension spring to the bobbin case, adjust by turning the screw nearest the center of the spring—not the screw on the end.

Assume the lower tension to be correct until proved wrong, and make adjustments on the upper tension as much as possible. Lower tension should only be adjusted if the problem cannot be fixed by adjusting the upper tension. If the lower tension has been disturbed during cleaning or prior adjustment, set both lower and upper tensions so there will be a slight drag on each thread. Use the same size thread on both bobbin and spool.

Self-Check 1	Written Test

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

1. What are consists of the elements of needle? (5) Point
2. What are the causes of needle breakage? (5) Point
3. Write the use of threading? (2) Point
4. Write is the difference between Shortening the stitch length& lengthening the stitch length? (5) Point
5. What is the function of bobbin and its thread use? (5) Point
6. Mention two type of tension? (2) Point

Satisfactory rating - 24 points **Unsatisfactory - below 24 points**

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

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

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Information Sheet-2	Selection of stitching tools and attachments according to specified work

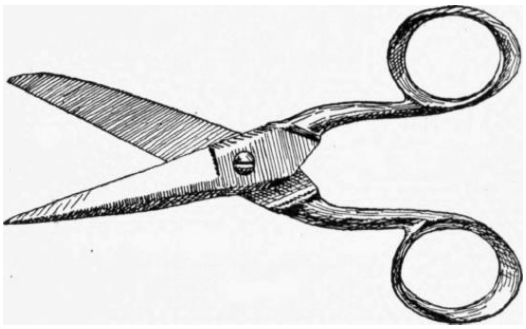
1.2 Selection of stitching tools and attachments according to specified work

There are some sewing tools that you can't even begin without. The correct sewing tool makes any sewing project easier. Knowing which tool to select and where to use it will simplify and improve the outcome of each sewing step

1.2.1 Scissors

Scissors are used for cutting objects, or materials. Scissors are not for heavy duty tools, but are usually used every day for cutting fabric or paper.

Scissors, come in a wide range of lengths, with 5" to 7" most often recommended. These tools feature finely Shaped blades with one pointed and one rounded tip The dull tip prevents fabric tearing when trimming and grading seams.



Sewing scissors,

1.2.2 Trimmer

Thread nippers/trimmer/ Are simple thread scissors that are designed primarily for cutting threads in a concise and clean manner? Generally, the design for these types of scissors is smaller than a pair of sewing shears and will fit easily into the palm of the hand. Many versions of thread nippers/trimmer/ are no more than four inches in length.

The purpose for thread nippers is to cut through thread, even when the thread is thick or made from a particularly sturdy material. Because of the non-traditional design for the scissors, it is possible to apply more pressure for threads that are more durable, such as some synthetic blends.

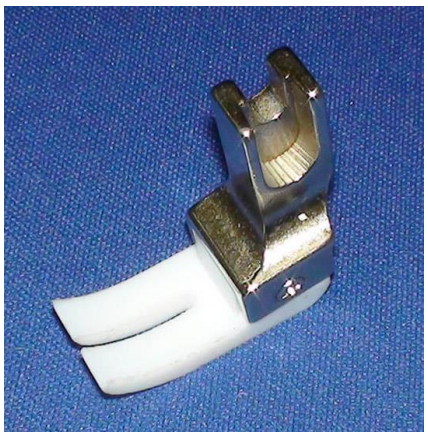
1.2.4 Guides

Guides also called a **sewing gauge**; this 6" ruler with a sliding red marker has many uses. Use it to mark hems, buttons and buttonholes as well as design details, such as pleats and tucks.

1.2.5 Presser foots

A presser foot is an attachment **used** with sewing machines to hold fabric flat as it is fed through the machine and stitched. It exerts downward pressure on the fabric as it is fed under the needle

The all-purpose presser foot comes on the sewing machine. It is the foot that you will use for all regular straight sewing. If your machine has zigzag capability, this foot has an opening wide enough for the needle in any position.



1.2.6 **Piping attachments**

In sewing, **piping** is a type of trim or embellishment consisting of a strip of folded fabric so as to form a "pipe" inserted into a seam to define the edges or style lines of a garment or other textile object. Usually the fabric strip is cut on the bias. It may be made from either self-fabric (the same fabric as the object to be ornamented) or contrasting fabric, or of leather.

Today, piping is common on upholstery and decorative pillows, but it is also used on clothing. Piped pocket openings, garment edges, and seams are characteristic of Western wear.

1.2.7 **Binding attachments**

A strip of fabric, leather or tape sewn or attached over or along an edge for protection, reinforcement, or ornamentation.

Self-Check 2	Written Test

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

1. Write how sewing scissors are differ from the other cutting tool? (5) Point
2. What is the d/b trimmer and scissor? (5) Point
3. Write the use of sewing gauge? (5) Point
4. For what situation of stitching operation can use presser foot? (5) Point

Satisfactory rating - 20 points **Unsatisfactory - below 20 points**

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

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

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Information Sheet-3	Cleaning and maintenance for sewing machine

1.3 Cleaning and maintenance for sewing machine

A well-made sewing machine traditional ,new or old, used often or only occasionally will sew perfectly for many years if it is given proper care. It may need to be adjusted or a part may need tube replaced, but a sewing machine that is given proper maintenance and cleaned regularly seldom actually “wears out.”

Sewing machines generally require the basic maintenance of cleaning, oiling, and lubricating.

A sewing machine is like any other piece of machinery. It will work better if you have a regular schedule of cleaning and maintenance. Here are some tips to help you get into the habit of taking care of your sewing machine.

When you are sewing, the fabric will give off lint. But, the biggest source of lint is your thread. If you use a higher quality thread, there will be less lint in your machine. But, you will still need to keep an eye on the lint in your machine. This builds up in the moving parts of your machine. It can clog the needle entry area in the bobbin case or clog up the tension discs. If you let this build up, your machine is sure to break down, eventually.

1.3.1 Flatbed sewing machine

The most common type, these machines resemble traditional sewing machines in that the arm and needle extend to the flat base of the machine. Workers typically use this machine for sewing flat pieces of fabric together.

Before you do any cleaning or maintenance, be sure to unplug your machine. Some machines will come with a nylon brush included with the other accessories. This will do very well cleaning out the lint in all the tight areas inside your sewing machine. Once you open your machine, clean out any visible lint you can find. While you are using your machine, if you see any lint in the thread guides, this should be cleaned out immediately.

1.3.2 Cylinder bed sewing machine

These machines feature a narrow, horizontal column as opposed to a flat base. This allows fabric to pass around and under the column. The diameter of the cylinder-bed varies from 5 cm to 16 cm. Workers employ the cylinder-bed machine for sewing cylindrical pieces such as cuffs, but it is also useful for bulky items such as saddles and shoes.

And, if you keep your machine dust and lint free, that will go a long way towards keeping your machine functional.
To clean between the tensions discs, you may need to raise the presser foot. Use a nylon brush with long bristles. Or you might also use a very narrow pick. If lint is left here, it will affect the tension. So, if you have trouble with the tension not working correctly, try cleaning here first.

1.3.3 Post bed sewing machine

These machines feature bobbins, feed dogs and/or loopers in a vertical column that rises above the flat base of the machine. The height of this column ranges from 10 cm to 45 cm. Applications that make access to the sewing area difficult, such as attaching emblems, boot making and glove making utilize the post-bed machine.

The needle feeds also need to be kept free from lint. You will probably need to remove the needle plate to get them thoroughly clean. It will either slide out or be held in with a screw. Reach as far inside as you can with your brush and get as much

lint out as possible. You can also use canned air to clean your sewing machine. It is not just for computers.
It is good to get into the habit of cleaning any visible lint in or around the bobbin case each time you have it open. If you have the time, take out the bobbin case and get the lint in there, as well.
Read in your manual and see where and how often your machine needs to be oiled. Some machines will have parts that do not need addition oiling. They have been permanently lubricated in the factory. If your sewing machine will need oiling, there will probably be a small bottle in the accessories that come with the machine. It is usually adequate to oil your sewing machine once a year. But, that will depend on how much you use it.

1.3.4 Zigzag sewing machine

It is a back-and-forth stitch used where a straight stitch will not suffice, such as in reinforcing buttonholes, in stitching stretchable fabrics, and in temporarily joining two work pieces edge-to-edge. When creating a zigzag stitch, the side to side motion of the sewing machine's needle is controlled by a cam.

Once a year or so, you might want to remove the cover of your sewing machine and do a more thorough cleaning. If you do not feel comfortable doing this, you can take your sewing machine to a service center and have it done for you. If you are cleaning it yourself, be sure to add a small drop of oil where any shafts run through bushings.

Keeping your sewing machine clean and well maintained will help it last much longer. It will also help it run better. Hopefully, these tips will help you keep your sewing machine in tip top shape so you can enjoy many years of sewing.

Self-Check 3	Written Test

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

1) If you don't keep your machine from dust and lint what problem will be appear on your sewing machine (5)

2) _____ A activity it can be done either cleaning or maintenance of sewing Machine (5)

3) Mention at least 3 tools of maintenance for sewing machine (5)

4) What is lint? And how remove lint from different part of your sewing machine (5)

Satisfactory rating - 20 points **Unsatisfactory - below 20 points**

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

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

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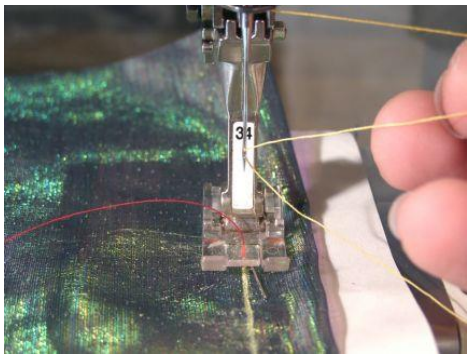
Operation Sheet 1	Fixing needle

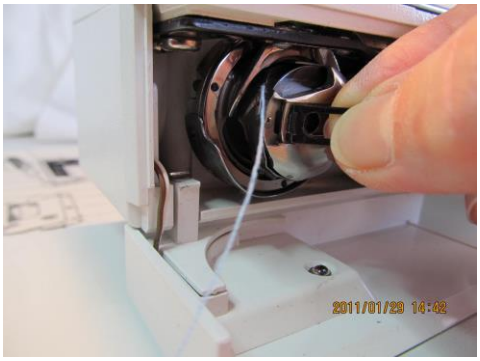
Procedure of needle inserting/fixing

1. Move the power foot control away to prevent accidently pressing it while changing the needle. Turn the hand wheel that is located on the upper right side

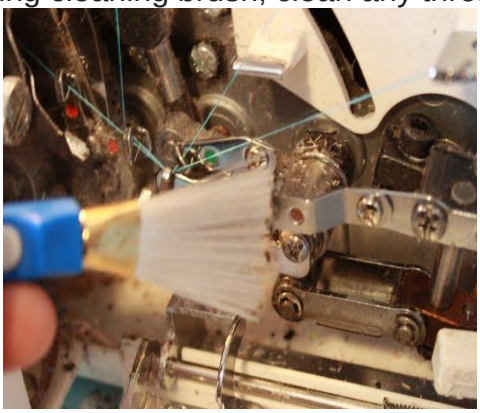
of the sewing machine. Watch the needle while you are turning the wheel and stop when the needle is as high as it can go. If the thread is still inserted into the needle ,pull it out



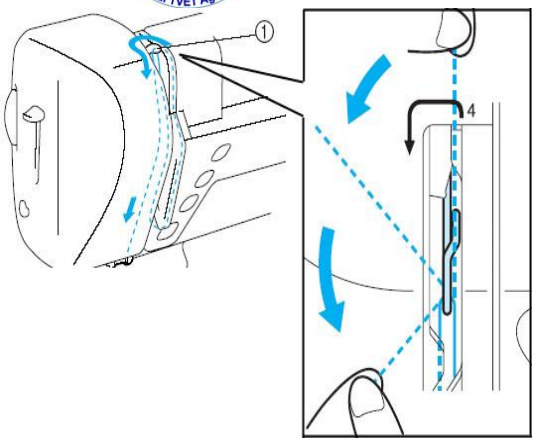
2. Remove bobbin case from hook assembly



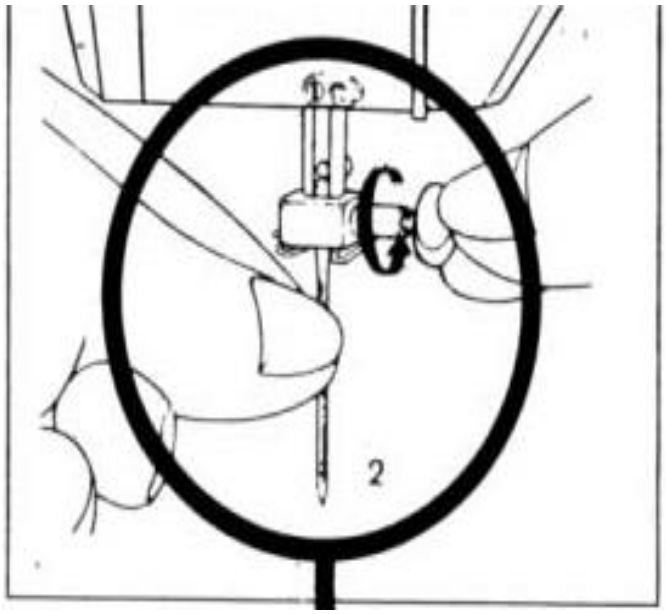
3. Using cleaning brush, clean any thread debris or lint from hook area



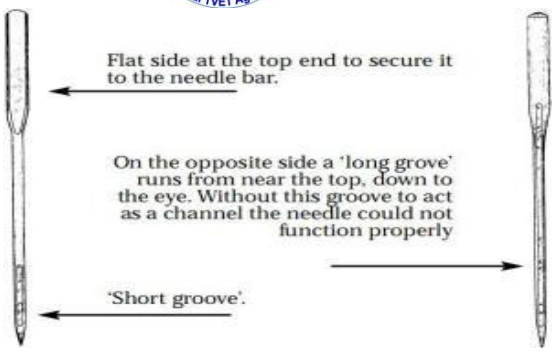
4. While standing in front of training sewing head, rotate gangs hat until take-up levers Are in up position, this is called color change position



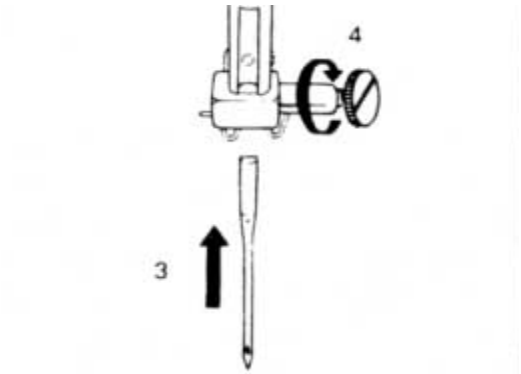
5. Using needle screwdriver, loosen needle set screw.



6. Insert new needle correctly. (Groove facing front and scarf



7. Remove and discard old needle.



LAP Test 1	Practical Demonstration

Name: _____ Date: _____

Time started: _____ Time finished: _____

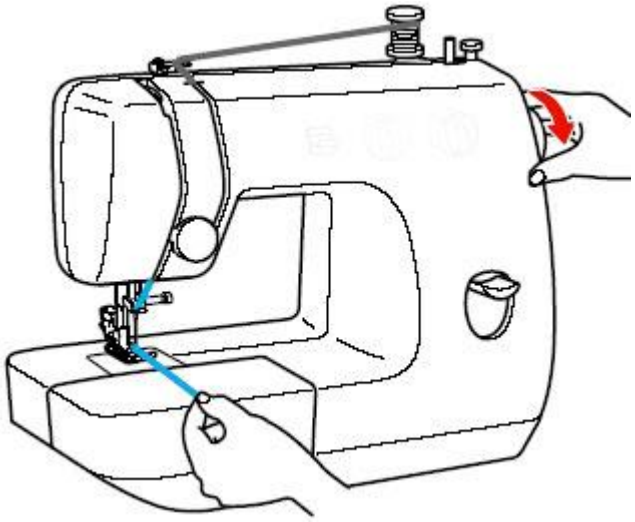
Instructions: Given necessary templates, workshop, tools and materials you are required to perform the following tasks within 30 minute.

Task 1: Turn the hand wheel and make the needle bar up
Task 2: use screw driver and loose needle set screw
Task 3: remove or discard broken needle and clean the area
Task 4: make sure which part of needle front and back
Task 5: insert new needle and tighten set screw

Operation Sheet 2	Threading

Threading

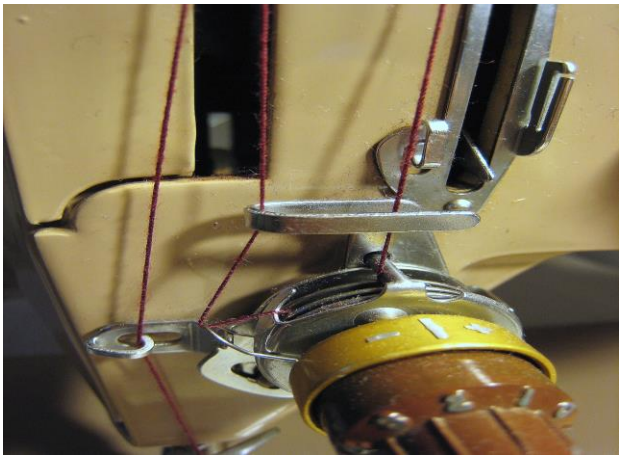
1. Check if the needle is already in its highest position; if not just turn the hand wheel towards you.



2. The presser foot must be in its upward position so if it's not, place it accordingly.

3. Make sure the spool holder already has a spool of thread

4. Look for a tension mechanism and bring the thread downward towards it. The thread should slip between the metal disks of the tension mechanism.

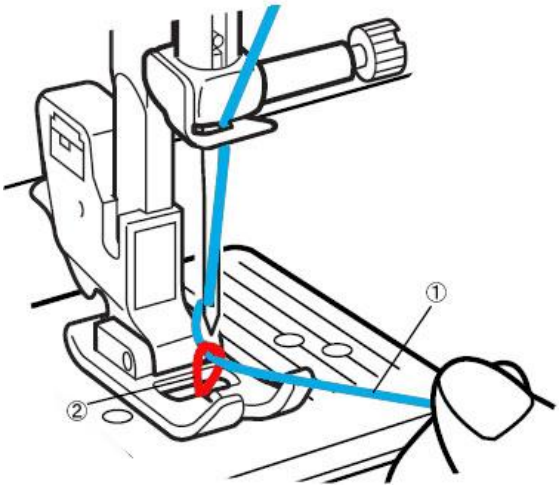


5. Find the area of the machine that goes up and down on the hand wheel's turn (referred to as the take up mechanism). The thread should be placed through the take up lever. Depending on your machine, you would either slide the thread or put it through a hole.

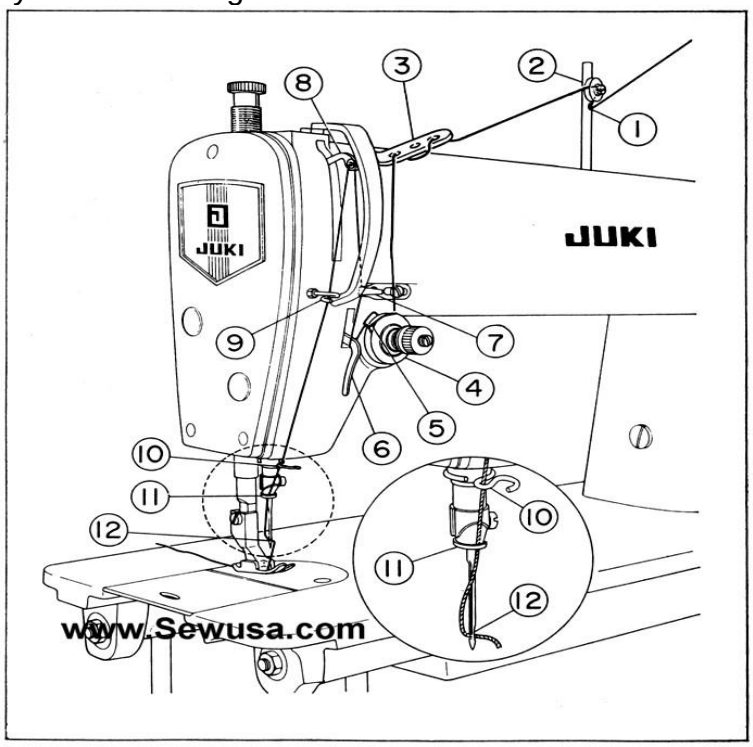
6. The thread should now go downward located on the left side of the take up lever

7. Lead down the thread down to the sewing machine needle

8. Thread the sewing machine needle by holding the thread on your left hand and then turning the hand wheel with your right.



9. Observe carefully if any of the thread flaps. If this occurs look and see if you missed any of the thread guides.



LAP Test 2	Practical Demonstration

Name: _____ Date: _____

Time started: _____ Time finished: _____

Instructions: Given necessary templates, workshop, tools and materials you are required to perform the following tasks within 45 minute.

Task 1: check the thread guide and tension clear from lint or other thread
Task 2: bring the thread downward towards tension mechanism

Task 3: slip the thread between metal disk of the tension mechanism

Task 4: put the thread in to take-up lever hole

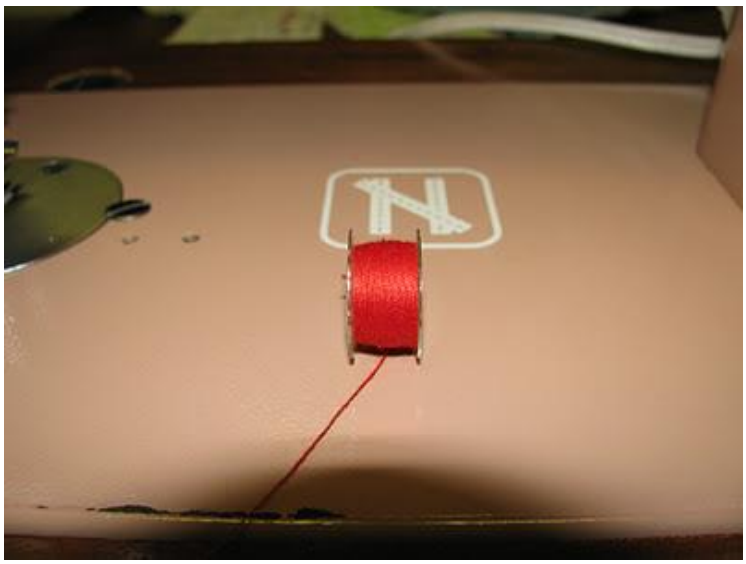
Task 5: insert the thread in the eye of needle

Task 6: make sure threading done properly

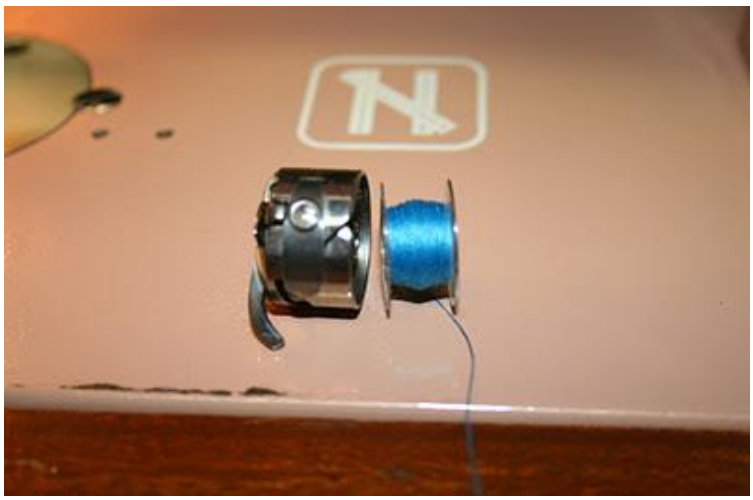
Operation Sheet 3	Winding and inserting bobbin in to shuttle

Procedure to insert bobbin in to shuttle

Hold the bobbin between the thumb and fore finger of your right hand and pull off about 15cm (6 inches of thread.



1. Hold the bobbin case in your left hand as shown and place the filled bobbin inside



2. Pull the thread in to the slot in the edge of the bobbin case

3. Now pull the thread under the tension spring and in to the thread eyelet

   To insert the bobbin case in the bobbin

Insure that about 15(6 inches) of thread extends out of bobbin. Hold the bobbin case so that long finger on case points up. Open the latch of bobbin case. Slip the bobbin case over the center pin of hook and press in place until long finger of the bobbin case inters notch. Release latch and press down.

LAP Test 3	Practical Demonstration

Name: _____ Date: _____

Time started: _____ Time finished: _____

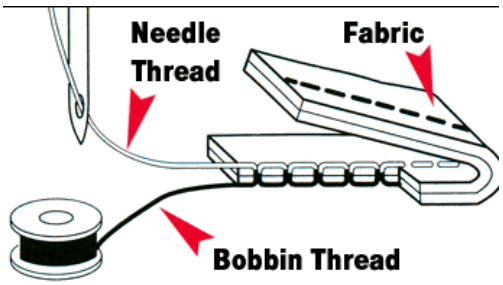
Instructions: Given necessary templates, workshop, tools and materials you are required to perform the following tasks within 1 hour.

Task 1: wind the bobbin thread
Task 2: place the filled bobbin inside the bobbin case
Task 3: Pull the thread in to the slot in the edge of the bobbin case
Task 4: insert the bobbin in its place

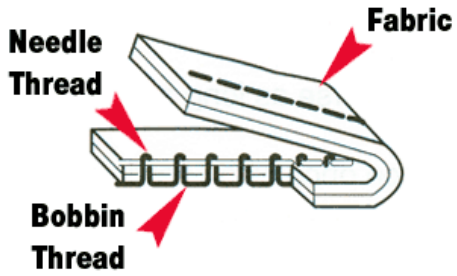
Operation Sheet 4	Setting tension

Now, to guide you in the adjusting, take a look at the stitching the machine makes. Set stitch-length control for a medium length of stitch. Fold a 6- or 8-inch square of medium weight cloth and stitch diagonally across it at an angle of about 45 degrees.

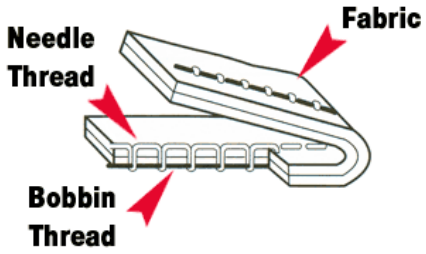
Now, inspect the stitching. A perfect stitch will have threads locked midway between the two layers of cloth, with no loops on the top or bottom of the seam and no puckers in the cloth.



If the bobbin thread loops show on the top side of the seam and the top thread is straight, the upper tension is tighter than the lower.



If spool thread loops show on the underside of the seam and the lower thread is straight, the upper tension is looser than the lower



LAP Test 4	Practical Demonstration

Name: _____ Date: _____

Time started: _____ Time finished: _____

Instructions: Given necessary templates, workshop, tools and materials you are required to perform the following tasks within 1.30 hours.

Task 1: Make sure the sewing machine have the upper thread and lower (bobbin) thread

Task 2: Prepare scrap leather

Task 3: Start stitching and see what both thread loop formation look like

Task 4: Start adjusting tension either the bobbin thread loops or spool thread loops where not proper

Task 5: At the last check both loops threads locked midway between the two layers of cloth

Operation Sheet 5	Cleaning and maintenance for sewing machine

Cleaning for sewing machine

1. Unplug your sewing machine and remove needle, thread spool and bobbin
2. Remove lint from the exterior of your machine by gently wiping the machine casing and exposed parts with a soft, lint-free cloth. Remove stubborn dirt stains with a dampened cloth and mild soap.
3. Use small lint brush and/or canned compressed air to remove lint from thread guides and other tight areas.
4. Move the slide plate toward you as far as it will go and remove throat plate as per instructions found in your owner's manual. Some throat plates can be snapped out of position, others must be unscrewed
5. Remove lint from area in and around bobbin case with canned air and/or lint brush.
6. Remove excess lint from in and around bobbin case by removing bobbin case as per owner's manual instructions and using tweezers to extract lint that has been packed under or around bobbin case.
7. Place one or two drops of machine oil in oiling points indicated in either the owner's manual or on the sewing machine.

Basic maintenance for sewing machine

➢ **Unplug Your Machine**

- For your own safety and to prevent damage to your machine always unplug the machine before you start cleaning and oiling your machine.

➢ **Remove Lint**

- Fabric and thread are a combination that is going to produce lint. Lint can build up in unseen areas of your machine leading to wear and tear that is preventable.
- Open all areas that you can and clean the lint out of the machine. Use the brush that came with your sewing machine to remove lint in cracks and crevices and from under the bobbin case.
- Try to get in the habit of cleaning the lint out of your machine every time you finish a project. That way the machine will be ready to sew when you are!

➢ **Sewing Machine Oil**

- Sewing machine oil is not something you borrow from the garage. It is clear white oil. Be sure to use the proper oil. Refer to your owner's manual for the proper spots to oil. Some of the older machines have these areas marked.
- After oiling your machine run stitches on some scrap fabric before you tackle your project. This allows oil to escape on to the scraps, if it's going to, instead of the project you are working on.

- Oiling the machine not only lubricates your moving parts, to prevent wear, it reduces the risk of rust. Rust forms rapidly with any dampness, even just the humidity in the air. Surface rust can act just like loose sand granule in your machine, and create excess wear.

➢ **Loose Screws**

- As you clean and oil the machine you will find many screws and set-screws. As a general rule, tighten regular screws as you run across them. Set screws which usually require hex key wrenches, should only be adjusted by a repair person unless you have a complete understanding of the timing of your sewing machine.
- If the set screws are missing or loose, take the machine to a repair shop. It may seem easy to just replace the screw or tighten it, but all of these details go in to the timing of the machine. If the timing is off you can do great damage and the repair bill will be much more then a tune up.

➢ **Wires**

- You should always be watching for wear signs on wires but while you're cleaning your machine, take the time to honestly inspect the wires.
- Check the entire length of the wire for abrasions to the plastic coating or for damage a pet may have done.
- Check that all the electrical prongs are tight and secure.
- Consult a repair person or electrician for any problems you may find

LAP Test 5	Practical Demonstration

Name: _____ Date: _____

Time started: _____ Time finished: _____

Instructions: Given necessary templates, workshop, tools and materials you are required to perform the following tasks within 3 hours.

Task 1: make sure unplug the machine
Task 2: remove lint from exterior part of machine with a soft, lint-free cloth
Task 3: remove lint from thread guides and other tight areas, throat plates, bobbin case with canned air and/or lint brush.
Task 4: Place one or two drops of machine oil in oiling points indicated on the sewing machine
Task 5: using screw driver you can start repairing machine

Instruction Sheet	LG31: Perform Sewing Operation

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

- Material positioning consistent with stitch requirement
- Sewing material according to specification
- Sewing according to OHS practice

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 –

- position and sew materials accurately in accordance with stitch specification
- carry out sewing according to OHS practices

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described in number 3 to 12
3. Read the information written in the “Information Sheet 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 9.
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 “ Operation Sheet 1”. 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. Go through Operation Sheet1 and do LAP test-1 in page 34 (if you are ready). Request your teacher to evaluate your performance and outputs. Your teacher will give you feedback and the evaluation will be either satisfactory or unsatisfactory. If unsatisfactory, your teacher shall advice you on additional work. But if satisfactory you can proceed to Information Sheet 2.
9. 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.
10. Accomplish the “Self-check 2” in page 33.

11. 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).

12. If you earned a satisfactory evaluation submit your accomplished Self-check that will form part of your training portfolio and then you can proceed to Learning Guide # 32. If you earned unsatisfactory evaluation go back to instruction # 9.

Information Sheet-1	**Material positioning consistent with stitch requirement**

2.1 **Material positioning consistent with stitch requirement**

2.1.1 **Leather**

The major raw materials required to produce leather garments or goods are leather,fabric, lining and accessories. Accessory materials required for leather garment production include zippers, button, and sewing thread. To get qulaity product the material position consisten with stitch requirement is the main thing and we shoud give priority from starting how to handle the materials when you are operating stiching machine.

When stitching with your sewing machine, be sure maintain your stitch length to optimum (3 for Leather). Stitch very, very slow around curves, as the leather does not heal after a wrong stitch and the hole made is a permanent damage. The machine has an up-down button; use that instead of the foot pedal when hitting those curves. Also, you may want to keep a needle specifically for sewing through leather, mark with a Sharpie (add stripes to the needle, for example) to identify it from your other needles. Standard thread works just fine for the small leather projects.

2.1.2 Synthetic materials

Synthetic leather, in simple terminology, is a fabric that has been impregnated with a type of polyurethane dried into and on the fabric. Usually, the fabric is a woven knit. The synthetic leather has a plastic feel and is impermeable to water, which makes it an ideal fabric to use for outer-wear such as suit, coats, jackets or winter coats.

2.1.3 Fabrics

Most stretch knit garments are seamed with over edge and/or cover stitch seam constructions because these stitches offer the best seam elasticity and coverage of the raw edge of the fabric. When sewing stretch knit fabrics, it is important to train the sewing operators to guide the fabric into the sewing machine without stretching the fabric excessively. Excessive stretch of the fabric when feeding the fabric into the seam can impact seam appearance, seam elasticity, and garment fit.

Since many performance garments are very tight fitting, sometimes there are complaints that the seam is 'rough' to the touch and not soft like they should be. This appears to be more of a problem with the thread on the inside than on the outside of the sewn product. When sewing with a cover stitch or bottom cover stitch, the thread that is located inside is actually the needle thread loops rather than the lopper thread. To minimize this roughness, use the smallest needle thread possible and make sure the Needle loop is pulled up to the bottom side of the fabric. Then you will primarily feel the lopper thread which if sewn with a textured thread, will have a nice and soft feel. Another solution is to sew the garments with the lopper thread side to the outside of the garment.

2.1.4 Reinforcements

As we know reinforcement material are not only fusing in apparel production but also includes padding, zipper and shoulder pad so we can see below how those things are stitched using Stitching machine. The use of reinforcements Materials are to give strength, to keep body warm, comfortable.

Attaching Shoulder Pads

Tape the shoulder pad to the shoulder seam slip the strap between the hook and loop tape. Foam Shoulder Pads sit on your shoulders and do not require stitching. Several styles are available namely Set-In, All-Purpose, Raglan Shoulder Pads etc and they can either be hand-tacked or sewn into a garment. The exception is a pad with hook & loop fastener tape. This requires stitching the loop side of the fastener with hidden strap holders. That secures the pad to the bra strap for extra security.

2.1.5 Wadding material

Wadding comes in natural black and white. The natural color is fine for using with any colored fabrics. If you are using black fabrics then it is advised to go for black wadding, but if you are using white fabrics then it is better to go for white wadding which will give a brighter appearance.

Wadding material

Self-Check 1	Written Test

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

1. What are the important material required to produce leather goods & garments? (5)
2. What is the use of reinforcement materials?(5)
3. What is the meaning of accessory materials?(5)

Satisfactory rating - 15 points **Unsatisfactory - below 15 points**

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

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answers

7. _____

_____

_____

8. _____

9. _____

Operational sheet 1	Paper Exercise

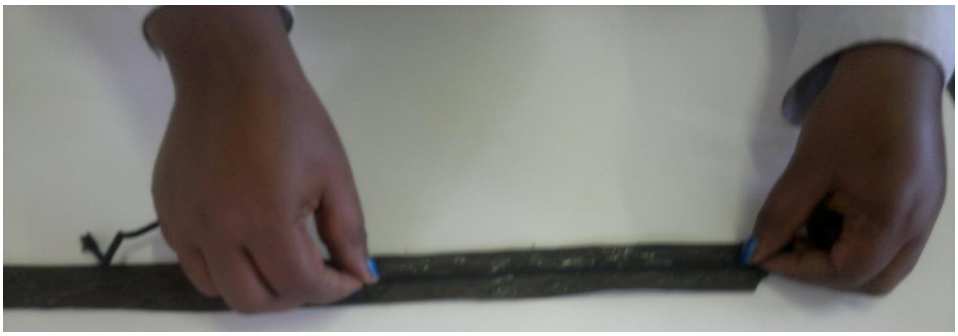
Exercise1: Different line stitching exercise. Under this each exercise you are required to sew 5 pieces of papers.

Operational sheet 2	Component sewing exercise

Exercise1

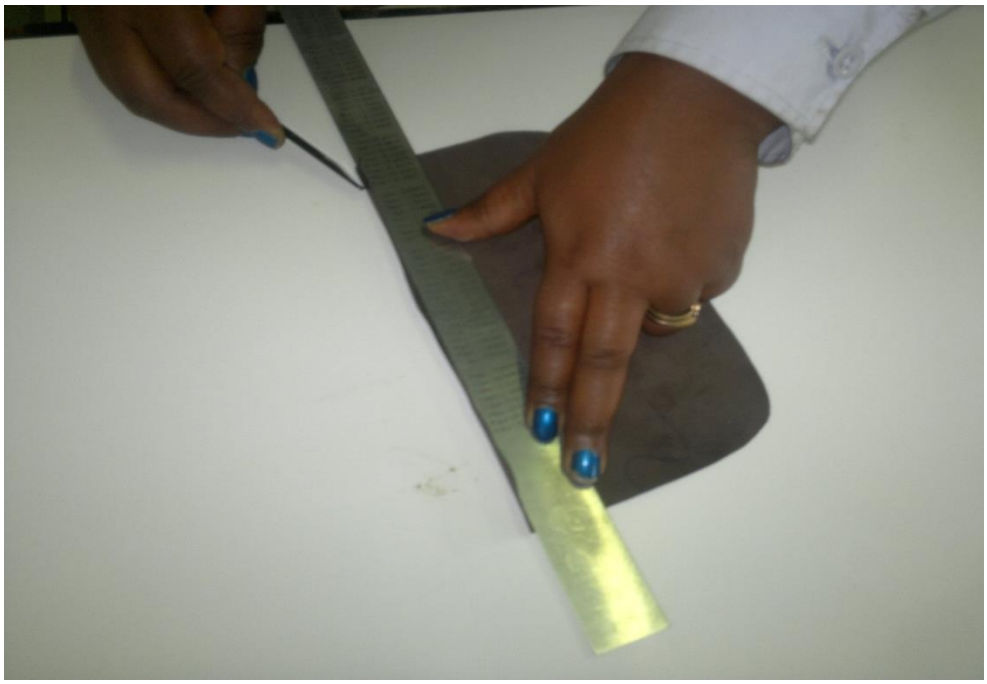
Operational sheet 3	Sewing material according to Specification

1. Once the components are ready prepare your pipe



2. After measuring 1 cm for folding apply an adhesive on the top of the back and front part

3. Make a crease line using your bone folder and scale so that a good folding could be achieved



4. Fold based on the crease line and hammer as needed

5. Attach the pipe that you have made earlier on the front part. While attaching, make fringes on the curve so that the pipe will fit on the part.

6. Stitch the part that you have attached first and stitch it with the back part

7. Prepare the lining part attaching it with the zipper

8. Apply adhesive at the mouth part of the purse and put the lining inside the purse that you have prepared finally stitch all around the mouth part.

The final product

Information Sheet-2	sewing according to OHS practice

What is occupational health and safety? (OHS)

Occupational health and safety is a discipline with a broad scope involving many specialized fields. In its broadest sense, it should aim at:

- the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations;
- the prevention among workers of adverse effects on health caused by their working conditions;
- the protection of workers in their employment from risks resulting from factors adverse to health;
- the placing and maintenance of workers in an occupational environment adapted to physical and mental needs;
- The adaptation of work to humans.

In other words, occupational health and safety encompasses the **social, mental and physical well-being of workers** that is the “whole person”.

Successful occupational health and safety practice requires the collaboration and participation of both employer and workers in health and safety programmes, and involves the consideration of issues relating to occupational medicine, industrial hygiene, toxicology, education, engineering safety, ergonomics, psychology, etc.

2.3.1 Hazard identification and control

A workplace hazard is something that can hurt you, or has the potential to hurt you. There are hazards in every type of job and every type of workplace. Everyone at the workplace: workers, managers and the employer, share in the responsibility to identify and control hazards. For workers, this first step means recognizing what a workplace hazard is (or could be) and how to report it to the employer. For employers, the first step is to inform workers of potential hazards, to have control systems in place to decrease the risk of injury. But what if you’re not quite sure what to look for? What is a workplace hazard, anyway?

WORKPLACE HAZARDS: CLASSES

Even though hazards look different in every workplace and in every type of industry, there are five defined classes. Here’s a list and introductory definitions for each.

- **Physical**

Physical hazards are things or agents that may come into contact with the body with potential for harm. Many physical hazards are things that can be seen, like a slippery work surface, a loose railing on a scaffold, or a missing guard on a meat slicer. Other physical hazards are referred to as ‘physical agents’. These are sources of energy that can’t always be seen, but still have potential to harm the body. Physical agents include things like level and nature of noise, Vibration, radiation, temperature and pressure.

- **Chemical**

Chemicals are in everything around us. They can be natural or manufactured, and come in the form of liquids, gases, vapors, solids or particulates (very small pieces). Naturally occurring and manufactured chemicals both carry potential for harm for

people working around them. This potential is based on the level and type of exposure that someone is subjected to.

• Biological

Biological hazards are typically in the form of bacteria and viruses transmitted by contact with insects, birds, animals, plants, fungi, and humans. Unprotected exposure to biological hazards can result in a range of infections and illnesses. Some may appear fairly commonplace, like catching a cold or a skin rash, but has serious side effects such as poor recovery. Other types of biological hazards, like body fluid borne diseases or bacteria carried by some fungi, can be extremely dangerous.

• Ergonomic

Ergonomic hazards are caused by the way work tasks are designed and carried out. The injuries that result from ergonomic hazards always affect the muscles and the skeleton, and are the most common type of workplace injury in Nova Scotia. These injuries may happen suddenly, but are more likely to form over very long periods of time. Ergonomic hazards can be seen in work that involves awkward body postures (Working in the same body posture for long periods), High body force (lifting or carrying heavy or awkward loads), and high task repetition (same movements over long periods). Improper or poorly designed work Stations, tools and equipment are also a part of ergonomic hazards.

• Psycho-social

Psycho-social hazards can arise in many different ways that people interact with each other. This type of hazard may show up as negative workplace conditions like bullying, violence or sexual harassment. It can be due to stress outside or inside the workplace, the type of work being done or because of the attitudes and behaviors that different people bring to their jobs. Psycho-social hazards have the potential to harm our physical and mental health and safety, and the safety of the workplace. Nova Scotia's Workplace Violence Regulation is one example of safety law that guides employer and workers to recognize and deal with psycho-social hazards

Hazard controls

Hazard controls can be thought of in three ways. Each describes how and where the controls are placed on the 'path' between the worker, and the hazard.

• **Control at the Source**:

The best way to control a hazard is to eliminate it. If this is not possible, the next step is the substitution of a non-hazardous or less-hazardous material or process. If there is no acceptable substitution, then the hazard has to be isolated from workers. An example of this may be closing a high-voltage electrical panel and sealing it off from workers in an office. This would be controlling the hazard 'at the source.'

• **Control along the Path**:

Some hazards are part of work processes that cannot be enclosed or isolated. Placing a control 'along the path' means different protective measures are put in place between the hazard and workers. In the electrical panel example, office workers have been sealed off from the hazard but electricians will still have to Work safely on the panel. To protect the electricians, controls 'along the path' would probably include using energy lockout procedures and devices and non-conductive tools.

• **Control at the Worker**:

If controls 'at the source 'and 'along the path' may not be enough to prevent injury, then placing controls 'at the worker' will be necessary. Control at the worker often consists of personal protective clothing and equipment that must be worn while performing certain tasks. Common types of this control are wearing gloves to protect the hands, hearing protection, or masks or respirators to protect airways. 'At the worker' is often the first type of hazard control that businesses put into place. Employers always need to consider controlling hazards 'at the source' and 'along the path' as well.

2.3.2 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 any 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 period 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 a Procedure System and the sum of all SOPs should be considered carefully. Too many standard operating procedures could lead to a breakdown of the SOP System.

2.3.3 Personal protective equipment

PPE is defined in the personal protective equipment work regulation as:
All equipment (including clothing affording protection against the weather) which is intended to be worn or held by a person at work which protects them against one or more risks to their health and safety. PPE includes equipment such as safety foot wear, hardhats, high visibility waistcoats, life jackets, respirators and safety harnesses. Water proof, weather proof or insulated clothing is subject to the

regulation only if its use is necessary to protect employees against adverse climatic conditions that could otherwise affect their health and safety.

When to use PPE

PPE must always be regarded as a 'last resort' to protect against risks to safety and health. Engineering controls and safe systems of work must always be considered first. For example it may be possible to do the job using methods that will not require the use of PPE if this is not possible, more effective safeguards should be put in place. For example fixing needle could be provided rather than individual eye protection. There are a number of reasons why PPE must be considered as a 'last resort'

- PPE only protects the person wearing it ,whereas controlling the risk at source protect everyone in the work place
- Theoretical maximum levels of protection are difficult to achieve and the actual level of protection is difficult to assess. Effective protection is only achieved by selecting suitable PPE and it is correctly fitted, maintained and used
- PPE may restrict the wearer to some extent by limiting mobility or visibility or by requiring additional weight to be carried.

Suitability of PPE

To be able to choose the right type of PPE the hazards involved in the task or work environment must be considered carefully. PPE must also meet the needs of the individual.

The following factors should be considered when assessing the suitability of PPE

- Does the PPE prevent or adequately control the risk involved without increasing the overall risk? E.g. gloves should not be worn when using a pillar drill, due to the increased risk of entanglement
- Can the PPE be adjusted to fit the wearer correctly? e.g. if a person wears glasses, ear defenders may not provide a proper seal to protect against noise hazards

- What are the needs and demands of the job it places on the wearer? How long will the PPE need to be worn? What are the requirements for visibility and communication?
- If more than one item of PPE is being worn, are they compatible? For example, does a particular type of respirator make it difficult for eye protection to fit properly?

Storage of PPE

Where PPE is provided, adequate storage facilities for PPE must be provided (e.g. foot wear or clothing)

Accommodation may be simple (e.g. pegs for water proof clothing or safety helmets) and it need not be fixed (e.g. a case for safety glasses or a container in a vehicle)

Storage should be adequate to protect the PPE from contamination, loss damage, damp or sunlight

Where ever PPE become contaminated during use, storage should be separate from any storage provided for ordinary clothing

Duties of employees regarding PPE

The regulations also have the following duties on employees:

- PPE must be worn and used in accordance with the instructions provided to them
- Employees must take all reasonable steps to ensure that PPE is returned to the storage provided for it after it has been used .
- PPE must be examined before use
- Any loss or obvious defect must be immediately reported to their supervisor

2.3.4 Safe materials handling

Organization safety is extremely important to both staff/workers and employer. 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 happening 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 they need proper storage and maintenance. For Safety precautions we have to keep in our mind the following –

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,
   - Lose connection can cause a fire accident,
   - Rubbing 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 equipment's
   - Poor conditions of tools and equipment's,
   - Bad condition of storage,
   - Poor knowledge of infrastructure planning etc.

2.3.5 Ergonomic arrangement of work places

The word ergonomics is derived from two words: ergos meaning work & nomos meaning the law. Ergonomics is the scientific study of the relationship between the man, the machine (with which he works) & the environment (in which he works). Ergonomics is also termed as human engineering. The modern approach of ergonomics is "fit man & machine together".

Therefore it is very useful tool to make man & machine compatible for maximum efficiency.

Seated neutral body position

Feet flat on floor under knees, knees parallel with floor at same height as hips, head straight and over shoulders, back straight and not slouched, head straight and not tilted up, down or sideways are the recommended body positions. The elbows should be kept low and close to the body whenever possible. While seated, the wrists and elbows should be at the same height or parallel with the floor. Wrists can be slightly above the elbows when your hands are on the sewing machine

Ergonomic body position

Sewing Surface & Sewing Table

There is a distinct difference between the sewing surface (needle area) height and the sewing table height particularly with free-arm machines. If your machine is set into a table or a cabinet, the sewing surface and table height are one in the same. If your machine sits on top of a table, then the Sewing table height is lower than the sewing surface (needle area) height. First find the proper sewing surface height; then raise or lower the table or cabinet so the needle area is at that height. To find the proper sewing surface height, sit in your chair, hold a magazine in front of you and read comfortably. Measure from your elbow to the floor and add 5.5" to 7" to that amount (the additional height is the difference between where your elbow is and

where your hands will fall when sewing). This exercise will also give you the angle at which our machine should be tilted. When sewing, your hands should be in a straight line with your wrists and fore arms, not bent forward

2.3.6 Reporting accidents and incidents

An **accident** - Refers to an event or sequences of events which is/are unplanned, undesired that causes an unintended injury, death or property damage.

An **incident** is an undesired event that may cause personal harm or other damage.

Dangerous incident means an incident in relation to a workplace that exposes a worker or any other person to a serious risk to their health or safety emanating from an immediate or imminent exposure to:

a) An uncontrolled escape, spillage or leakage of a substance; or

b) An uncontrolled implosion, explosion or fire; or

c) An uncontrolled escape of gas or steam; or

d) An uncontrolled escape of a pressurized substance; or

e) Electric shock; or

f) The fall or release from a height of any plant, substance or thing; or

g) the collapse, overturning, failure or malfunction of, or damage to, any plant that is required to be authorized for use in accordance with the regulations; or

h) The collapse or partial collapse of a structure; or

i) The collapse or failure of an excavation or of any shoring supporting an excavation or

j) The inrush of water, mud or gas in workings, in an underground excavation or tunnel; or

k) The interruption of the main system of ventilation in an underground excavation or tunnel, or

l) Any other event prescribed by the regulations;

What must be reported?

Deaths and injuries

Deaths and injuries do not have to be automatically reported, but must be reported if they occur as the result of an accident arising out of or in connection with work.

An accident is a separate event to a death or injury, and is simply more than an event; it is something harmful that happens unexpectedly. When deciding if the accident that led to the death or injury has arisen out of or in connection to work, the key issues to consider are whether the accident was related to:

■ the way in which the work was carried out;

■ Any machinery, plant, substances or equipment used for work; and

■ the condition of the site or premises where the accident happened.

If any of the above factors were related to the cause of the accident, then it is likely That the injury will need to be reported to the enforcing authority. If none of the above factors are satisfied, it is likely that you will not be required to send a report

Reporting sheet of accident or incident

What happened?	Accident or incident
A small electrical fire starts in the building, everyone is evacuated safely	
A passenger refuses to pay his fare and shouts abuse at the train manager	
A man falls a ladder and injures his back	
A shelf falls on a store man he bruises his head and arms	
Worker gets a skin disease from handling chemicals at work	
A batch of protective gloves is found to have holes in them before they are given out to the work force	
A person working outside hits an electrical cable he has a severe electrical shock.	

2.3.7 Environmental practices

The objective of good environmental practices is to create a safe, comfortable workplace that will reduce the potential for injury. The results can be loss of productivity and product quality. Safety means not only preventing accidents but also doing something about poor work conditions.

- Employ smooth, rhythmical movement – avoid sudden changes of direction.
- Keep things on the level to avoid vertical movements.
- Position your cutting block at the right height to minimize your back strain and give easy of working. Sometimes it may be necessary to place wooden blocks under the cutting board to raise its height to the correct position.
- Keep your workplace tidy, scrap leather around your feet could cause a bad fall.

- Working areas, Pedestrian walkways clearly marked.
- Are pedestrian walkways kept clear?
- Avoid poor conditions such as – Poor Lighting, Loud Noise.
- Follow up and respect written instructions.

Self-Check 2	Written Test

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

1. What is OHS? (5)
2. What is hazard control method? (5)
3. What is the use of SOP? (5)

4. What is PPE & why it is considered as a “last resort” explain (5)
5. What is ergomics & how it can be considered as one of the OHS practice(5)
6. How to report when death occur in our working area? (5)

Note: **Satisfactory rating - 30 points** **Unsatisfactory - below 30 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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LAP Test 1	Practical Demonstration

Name: _____ Date: _____

Time started: _____ Time finished: _____

Instructions: Given necessary templates, workshop, tools and materials you are required to perform the following tasks within 3 hours.

1. Do assembling and stitching this product using the picture below?

Instruction Sheet	LG32: Check Stitched Component

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

- Component checking against job specifications and work place standards

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 –

- Check components against job specifications and work place standards
- Address or resolve faults of irregularities

Learning Instructions:

17. Read the specific objectives of this Learning Guide.
18. Follow the instructions described in number 3 to 9.
19. 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.
20. Accomplish the “Self-check 1” in page 8.
21. 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).
22. 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 #2.
23. Read the information written in the “Information Sheets 2”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
24. Accomplish the “Self-check 2” in page 11.
25. If you earned a satisfactory evaluation submit your accomplished Self-checks that will form part of your training portfolio. And then you can proceed to Learning Guide # 33. However, if you earned unsatisfactory evaluation go back to instruction #7.

Information Sheet-1	checking component

3.1 checking components

The word specification according to garment and goods production

Specification: a detailed description of design criteria for a piece of work .The specification must be described using clear details with full disclosures about the invention. Drawings are included in the specification when required. And there is specification sheet to implement what specification mean.

A specification sheet: describes the technical characteristics of an item or product. It can be published by a manufacturer to help people choose products or to help use the products.

Specification sheet should be fulfilled

A specification sheet shows the measurements at many points of the garment/goods, such as sleeve length, hem height, knee circumference, /base width. Length of bag, width of bag, strap length etc. All measurements are done front and back and then totaled. It also includes pertinent information such as the season, designer, collection, production number, size, fabric contents, and trims. The sheet is used in production and patternmaking to ensure the correct fit. Before we are going to production processed we have to ensure/check our specification sheet according to below

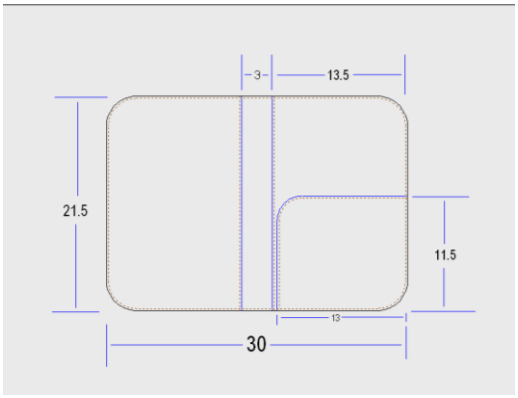
- Ensure that the product details are correct and up to date, particularly if information from a previous project is being recycled.
- Specify clearly which of the available product options are required, using the designations and terms used in the Standard or by the manufacturer.
- Specify any required product attributes not covered or covered inadequately by the Standard.

Specification sheet of folder case

Key measurement of folder case

	cm
Bag height	
Width	
Length	

Front view Back view



Material list

Leather specification	color	Ft2/yard/cm	
Thread specification			
Synthetic /fabric specification			
Adhesive specification			

Notice :the allowance does not include around the master pattern and the other
Special care needs to be taken for cutting the side panels(curved)
Stitching should be the specific to the measurement panels given stitch pre inch

Using the speciation the production person can do the folder case perfectly
See below

Self-Check 1	Written Test

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

1 *What is specification sheet ? (5pts)*
2 write the use of specific sheet in the production process *(5pts)*
3 what are the continent that should be written in the specific sheet *(5pts)*

Note: **Satisfactory rating - 15 points Unsatisfactory - below 15 points**

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

Answer Sheet

Score = _____
Rating: _____

Name: _____ Date: _____

Short Answer Questions

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Information Sheet-2	Resolving and addressing regularities or faults

Stitching is the basic operation to produce product but there is problem appear when we are stitching process first we have to find what the problem is then take solution for that specific problem

CAUSE	RECOMMENDATION
Poor thread quality	Change to thread with correct finish
Throat plate needle hole burred	Polish needle hole or replace throat plate.
Wrong needle size	. Change needle size to match thread size
Needle thread not unwinding	Adjust overhead thread properly from Cone guides, check cone
Needle thread snarling before tension discs.	Increase wraps on Tension discs. pre-tension thread guides and/ Increase tension.
Excessive needle heat.	Apply needle coolers like thread lubrication / Air or use core spun thread.
When applying more Quantity of glue on leather	Apply right amount of glue needed for the t specific material/ pattern
stitch length	Proper adjustment of stitch length ,according to the given measurement
Flagging of fabric due to poor, presser foot contact	Readjust foot pressure use special presser foot.

Self-Check 2	**Written Test**

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

1. *What are* sewing *faults? (5pts)*
2. discuss about case of sewing fault and write the solution. *(5pts)*
3. What are the prevention technique before occurring sewing fault? *(5pts)*

Note: **Satisfactory rating - 15 points Unsatisfactory - below 15 points**

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

Answer Sheet

Score = _____
Rating: _____

Name: _____ Date: _____

Short Answer Questions

Instruction Sheet	LG33: Dispatch Completed Work

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

- Bundling ,staking ,storing or dispatching components parts, panels or pieces
- Recording sewing faults
- Completing records in accordance with work workplace procedures and format

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 –

- Bundle ,stack ,store or dispatch completed components parts, panels or pieces in accordance with workplace procedures
- Record sewing faults in accordance with workplace standards & procedures

Learning Instructions:

26. Read the specific objectives of this Learning Guide.
27. Follow the instructions described in number 3 to 13
28. 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.
29. Accomplish the “Self-check 1” in page 8.

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 1).

31. 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 #2.

32. Accomplish the “Self-check 2” in page 15.

33. 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).

34. 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.

35. Accomplish the “Self-check 3” in page 23.

36. 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).

37. Submit your accomplished Self-check. This will form part of your training portfolio. And then proceed to Learning Guide # 34.

Information Sheet-1	Bundling, stacking, storing or dispatching components parts or pieces

4.1 Bundling, stacking, storing or Dispatching components parts, panels or pieces

What are bundle and its use?

Tie or roll up a number of leather together as though into a parcel it will be called bundle of leather. It used to

- keep leather from different leather related problem
- keep leather quality & save time for assortment of different leather panels
- easy to keep in the store

After bundling processes we are intended for storing process .before proceeding storing process let us to know what is storing first.

<u>Storing Leather</u>

What is storing: Keep or accumulate (something) for future use. to apply storing process preparing store should done first.

Storing leather properly when it is not being used is the most important thing you can do to keep it in its best condition. When leather is stored it should not be in extreme hot or cold, or in excessive dryness or humidity.

<u>Here are a few techniques for keeping leather in its prime</u>.

- **No sun**. Keep leather out of sunlight, which can cause it to fade.
- **Cleaning**. Clean leather regularly by brushing it with a microfiber cloth. For a more aggressive cleaning, dampen the cloth and add a little moisturizing soap.
- **Conditioning**. To keep leather elastic, apply leather conditioner with a soft cloth
- **Storage**. Store leather or suede garments in a dry, well-ventilate area.

- Leather can be virtually indestructible if treated properly. With a little bit of care and attention, your new leather will last well into vintage age and your vintage leather will continue to have a long happy life.

  The most important things to remember about leather is not to get it soiled, soaked, or let it dry out. Despite the fact that all of these things can be rectified to some extent, it is helpful to not let leather get into such a condition in the first place. Proper storage, cleaning, and conditioning will keep leather looking as good as new no matter how old it is

Self-Check 1	Written Test

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

1. Write the use of bundling leather? (5pts)
2. What is the difference between bundling and storing of leather? (5pts)
3. Mention at leas3 Technique of leather storing? (5pts)

Satisfactory rating - 15 points **Unsatisfactory - below 15 points**

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

Answer Sheet

Score = _____
Rating: _____

Name: _____ Date: _____

Short Answer Questions

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Information Sheet-2	Recording sewing fault

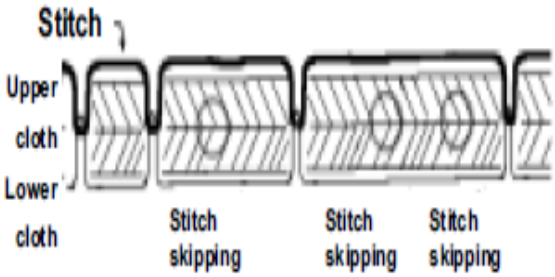
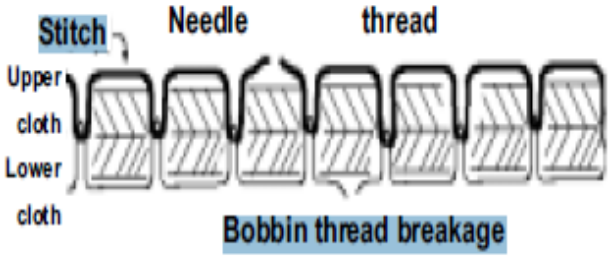
Mainly there are three types of sewing faults

1) Defects due to problem of stitch formation.

The first step in producing a stitch on a sewing machine is the formation of the needle thread loop. This step is always the same regardless of the type of stitching being produced, or the nature of the machine being used.

Proper formation of this loop depends on the tendency of the thread to bulge away from the needle as it is drawn upward after reaching the lowest point of its stroke – due to inertia and friction against the material through which it passes.

Any interference with the formation of the needle thread loop will result in faulty stitch formation. One of the most common conditions is that the material stitched is not held firmly by the presser foot at the point where the needle passes through, allowing the material to flag, or move upward with the needle as it rises. Either no loop is formed at all, or the loop is formed too late. **Skipped or broken stitches result**.

Stitch skipping	Stitches of sewing thread partially skip and stitching is not performed completely.	
Thread breakage	When the force is applied to stitch, sewing thread is cut.	

Correct setting of the needle is necessary for the forming of a good loop. At the proper height, with the eye at ninety degrees to the direction from which the point of the shuttle (or hook, or lopper) enters the loop, the needle is positioned for normal loop formation.

Since the thread tends to form an equal loop on each side of the needle, a guard is used to push the loop through to the side from which the thread is taken by the stitch

forming mechanism (shuttle, hook or lopper). Correct setting of this guard is necessary for good loop formation.

2) Defects due to fabric distortion.

Causes: Bad and bent needles, bent trick walls, uneven yarn tension, needle Timing, yarn carriers set wrong

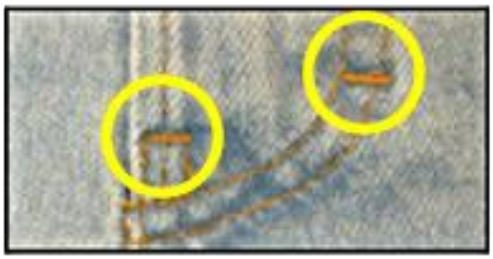
3) Defects due to fabric damage along seam line.

A) Open seam /seam failure/ fabric

DESCRIPTION: Where the stitch line is still intact but the yarns in the fabric have ruptured.

MINIMIZING SEAM FAILURES - FABRIC:

1) Reinforce stress points with Bartacks. Make sure the bartacks are the proper length and width for the application;



2) Check to make sure the patterns have been designed for proper fit;

3) Make sure the ideal seam construction is being used; 4) Contact your fabric supplier.

B) Improper Stitch Balance

Over edge

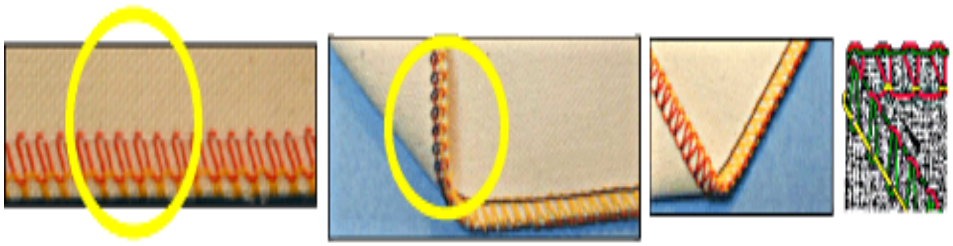
DESCRIPTION: Where the needle loop is not pulled up to the underside of the seam and the
"Purl" is not on the edge of the seam.

SOLUTIONS:

1) Use a quality thread with consistent frictional characteristics; 2) Properly balance the stitch

   so that when the lopper thread is unraveled, the needle loop lays over half way to the next

   Needle loop on the underside of the seam.



Self-Check 2	Written Test

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

Next page:

1.Discus the cause of occurring defect due to stitch formation and write the solution (5pts)

2.Mention at least 2 technique of minimizing seam failures(5pts)

3.Write how could be improper stitch balance happen and what is your recommendation to solve this problem? (5pts)

Note: **Satisfactory rating - 15 points Unsatisfactory - below 15 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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Information Sheet-3	**4.3 completing records in accordance with work place procedures and format**

What do we mean by work place and its use?

A place those are prepared to operate the specific work. It has material, Tools & equipment Electrical installation etc …used to perform the work

Work place procedure are used to: provide employees with approved methods of carrying out particular tasks one way of writing up a work place procedure is to use the format of a safe operating procedure, or sop. This can be posted up on laminated page near the machine. Some companies also use sops to verify that the operator has been trained in that procedure by asking them to sign a copy, which is then kept in their personnel file.

More complex safety procedures can be documented in the form of a job safety analysis also referred to as a safe work method statement .the layout of these documents make it easier to show multiples tasks and include the responsibilities of deferent personnel.

Particular types of procedures are included in the company's policies and procedures manual .these includes tasks such as keeping work shop, machine isolation and reporting faults. Some of these are also reproduced in the employee induction manual; so that new employees can be made aware of them before e they start work

- **Below are three examples of work place procedures, written up in different formats**

Machine Isolation Procedure

Isolation procedures have been developed by the company to minimize the likelihood of machines being activated when they are faulty or in the process of being serviced. Set out below is the general procedure for isolating machines.

General procedure

When a machine is isolated, an authorized person shuts down the power supply and Attaches a lock-out tag to the switch. They also place a lock through the switch to

mechanically lock it out. The tag and lock remain in position until the machine is safeto use again. Once it has been tested to ensure that all functions are back to normal, the same person removes their tag and informs the Supervisor that the machine isback in service. In some cases, several people may be working on a machine or system at the same time, in which case each individual will place a lock-out tag on the machine.Each person is responsible for removing their own personal lock-out tag. At no timeis anyone allowed to remove another person's tag unless there is an emergency situation and that person is away from the site. In this instance, the Site manager or another authorized officer must establish that the person cannot be contacted, and then seek the opinion from a qualified person as to whether the lock-out can be Removed.

Employees' responsibilities

Employees are responsible for ensuring that:

 Electrical faults or hazards are reported to your Supervisor immediately, and the Machinery is isolated and tagged out

 Correct site isolation procedure is followed at all times

 Electrical equipment and leads are checked for obvious faults before being used; Including exposed wires and broken insulation

 Extension leads are kept off the workshop floor and away from water.

1) Safe Operating Procedure

Potential hazards and safety controls

E.g

Hand injuries	Always keep hands well clear of the blade, hold the longest end of the Piece where possible, and never cross your arms while cutting.Push material hard up against the fence while cutting. Always stand to one side of saw (not in front of blade). Maintain a correct stance and cut with even motion – do not jerk the saw. Do not attempt to cut wedges, angles or rip lengthwise on a straight

	Crosscut saw.

Pre-start checks

Check that:

1) saw blade is in good condition and electrical leads are not faulty,
2) extraction dust collection box is empty,
3) guards are in place and adjusted,
4) stop button is working properly.

Operational procedure

1. Turn on saw and listen for any unusual noises or vibrations.
2. Put timber in position; push it hard against the fence with free hand, well clear of the blade; and stand to one side of the saw with feet positioned to give comfortable balance.
3. Pull the saw forward with the other hand, allowing the blade to cut smoothly without laboring, and then push it fully back behind the fence.
4. Push the off cut away from the blade with the longer length, and then remove both pieces from the bench.

3) Job safety analysis

E.g

Activity	Hazards	Risk Controls	Responsible personnel
Taking delivery: - unloading	Body sprains and strains from lifting materials	• use correct lifting techniques • get assistance when lifting heavy loads	(names of personne

the truck - moving materials manually to the work area	Being struck by materials	• wear gloves and other protective clothing	l involved)
	Trips and falls	• take care when moving materials by hand • maintain an awareness of other people in the area	
	Being hit by moving vehicles or falling materials	• park vehicle off the road before unloading • make sure materials are not unloaded on to the road • watch for passing vehicles • make sure remaining materials are stable on the truck	

Self-Check 3	Written Test

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

1) *What is work place? (5pts)*

2) List out 3 kind of work place procedure? *(5pts)*

3) Write the employee responsibility to ensure that the general procedures were applied? (*5pts)*

Note: **Satisfactory rating - 15 points Unsatisfactory - below 15 points**

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

Answer Sheet

Score = _____
Rating: _____

Name: _____ Date: _____

Short Answer Questions

Instruction Sheet	LG34: Check and Rectify Problems of Sewing Machine

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

- Checking sewing machine for problems and faulty operations
- Diagnosing minor problems in the sewing machine

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 –

- Sewing machine is checked for problems and faulty operations
- Minor problems in the sewing machine are diagnosed and rectified
- Major problems are identified and reported to the concerned authority
- Sewing machine is oiled and cleaned following manufacturers instruction

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described in number 3 to 6.
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 page14 .
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 your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Instruction #2. If you earned a satisfactory evaluation submit your accomplished Self-check which will form part of your training portfolio. And that will be the completion of the Module (Competency).

Information Sheet-1	Check and rectify minor problems of sewing machine

Check and rectify minor problems of sewing machine

Most problems associated with sewing machines can be resolved with basic maintenance and minor sewing machine repairs. So don't worry if your machine gives

loud and terrifying noises, or seizes on a frequent basis; the cause for all this is generally something you can repair on your own.

Continued use of your sewing machine can lead to an accumulation of lint fragments and thread in the machine's machinery that clogs the machine's gears. In fact, depending on the type of thread you use, this can happen rather quickly, within a few hours' time.

Clean the clogged fiber

So if you find your machine doesn't sew properly, just open the chambers through which its thread passes. Then check for the accumulation of thread debris, which is maximum in the winder and bobbin chamber.

Clean this clogged fiber using the brush and thread cutter that accompanies most machines. Of course, if you don't have one, don't fret. They can be easily bought at a craft or fabric store for reasonable rates. An alternate option you have for cleaning is using your vacuum's crevice attachment. In case of thread lodged in hard to reach places, just use a pair of needle-nose tweezers to pull it out.

Remove all debris before lubrication

Lubrication is an important part of sewing machine repairs as the fast moving parts of the machine requires constant and proper lubrication. Though you can buy sewing machine oil anywhere, old or special sewing machines need special oil that can be ordered via the web.

It is important that you ensure all the thread debris is removed from the machine's inner machinery before oiling. Then, you have to carefully oil the machine, especially the inside chamber of the bobbin hole, as it requires frequent oiling. First apply little oil, and only if you find that the machine still hangs up, should you add a little more oil.

Remember to use only gnat sized oil drops for your machine lubrication. Anything more can lead to possible slippage in the machine, and can cause oil stains on the thread and fabric you are sewing.

Tighten loose screws

Check your sewing machine for loose screws which causes rattling and moving of your machine and hampers the machine's smooth operation. This is best done using eyeglass screwdrivers. However while tightening the screws, make sure you don't over-tighten the screws> Just keep tightening till you find a bit of resistance, when you have to stop. If you over-tighten your machine screws, it will only strip the screws.

Sometimes your machine may become too hot. This is usually a consequence of prolonged use of the machine at low speed or improper lubrication. Even entangling of the thread in the machine's mechanism can make the machine motor hot. The best thing to do if the machine gets hot of if the motor emits a burning odor is to unplug the machine. Also remove the thread from needle and bobbin to ensure thread entanglement is not a cause for the heat.

5.1: Checking sewing machine for problems

Faults may include:

- contamination
- incorrect thread tension
- mechanical breakdown
- electrical or electronic fault
- poor feeding and threading of needle/s
- dirty or oily marks on thread or fabric
- incorrect stitch
- thread, lint or debris in rotary hook, bobbin case, needle plate and feed dog and the motor and oil reservoir
- puckering
- thread breakages
- uneven thread delivery including loop stitches and slip stitches
- poor lubrication and cooling resulting in needle overheating and fabric burn

5.2 Diagnosing minor problem s in the sewing machine

- Machine Suddenly Stops Running
- Machine is Making a Sound and Stops Running
- Needle is Not Moving
- Needle Breaks
- Upper Thread Breaks
- Bobbin Thread Breaks
- Thread is Bunching Up Under the Fabric
- Machine is Skipping the Stitches
- Loops are Forming While Stitching or the Stitches are Uneven
- Seams are Coming out Puckered

5.2.1 Needle breakage

Today, many high-speed industrial sewing machines sew at very high speeds from 4,000 to 10,000 stitches per minute. Also, most apparel or non-apparel items are sewn With synthetic threads like polyester or nylon. Since these synthetic threads are Produced using a melt-spinning process, they can melt if the needle temperature Surpasses the melting point of the thread. Many fabrics being sewn are also made from Synthetic fibers that can be impacted by excessive heat. Some needle holes that appear to be needle-cuts are actually caused by excessively hot needles.

Needle heat is the result of the friction between the needle and the fabric during Sewing. The following factors can impact the amount of heat that is generated:

* Thicker fabrics
* Fabrics with harsher finishes or greater density
* Fabric color or density (darker colors generally are worse than lighter Colors)
* Higher sewing machine speeds
* Needle contact surface
  - Larger Needle Sizes have more contact area
  - Longer Needle Types have more contact area
  - Single grooved needle has more contact area than double Grooved needles.
  - Some needle surfaces generate more friction than others.

5.2.2 Thread breakages

IS THREAD BREAKAGE OCCURING ON ALL OPERATIONS AND ON MOST

TYPES OF MACHINES?

Check the following:

a) Has there been a thread change:

- From one type to another?
- From one size to another?
- From one supplier to another?

b) Check the quality of the thread for obvious defects:

- Knots, slubs, neps, improper twist, etc.
- Does the thread feel weak?
- Does the thread feel dry or pull through the sewing machine with a rough drag?

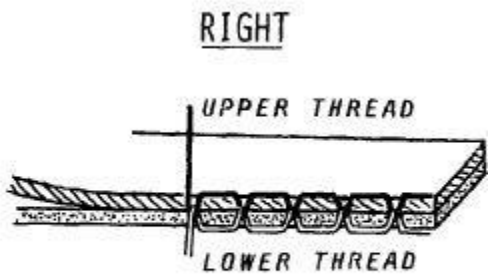
c) Check the quality of the piece goods being sewn:

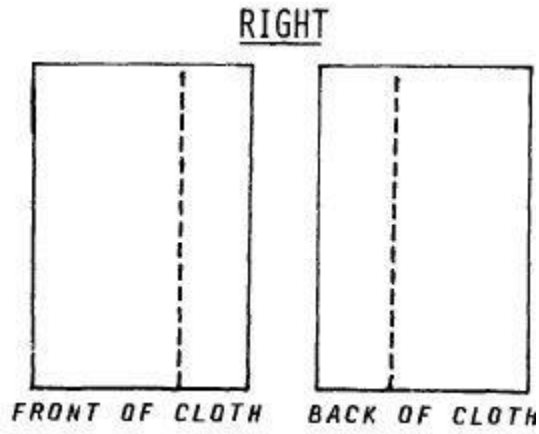
- Has there been a change from one supplier to another?
- From one type to another?
- In the weight or stiffness of the fabric?

5.2.3 Tension adjustments

Change the thread tensions

1. The tension of the upper thread should be the same as the tension of the lower thread. Both threads should fasten together in the centre of the sewn cloth. When both tensions are right/ the stitches on both sides of the sewn cloth are the same size.

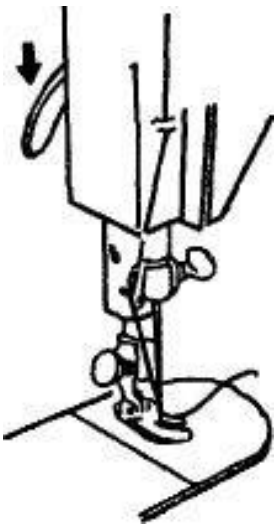




To get the right tensions you must:

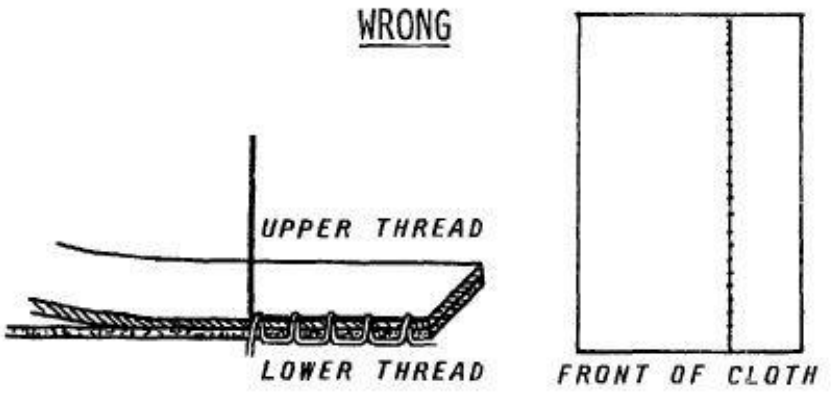
a) Be sure the presser foot is down when you sew

b) use the same cotton for both the upper thread and the lower thread.

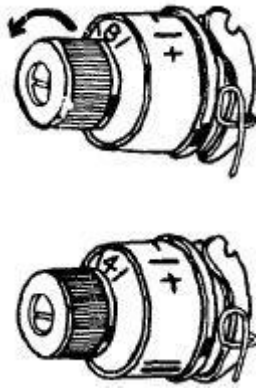


NOTE: The thickness of the cloth you are sewing may affect the tensions. You will then need to change the thread tensions/ as shown below.

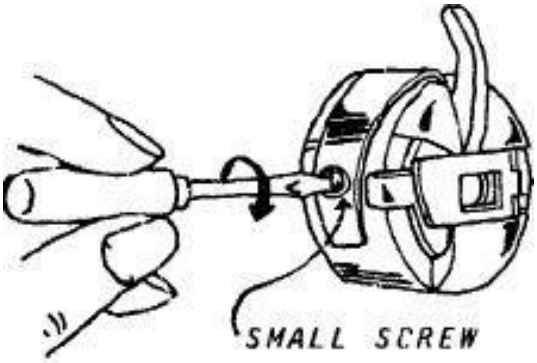
2. When the tension of the upper thread is too tight, or when the tension of the lower thread is too loose, the sewing looks like this!



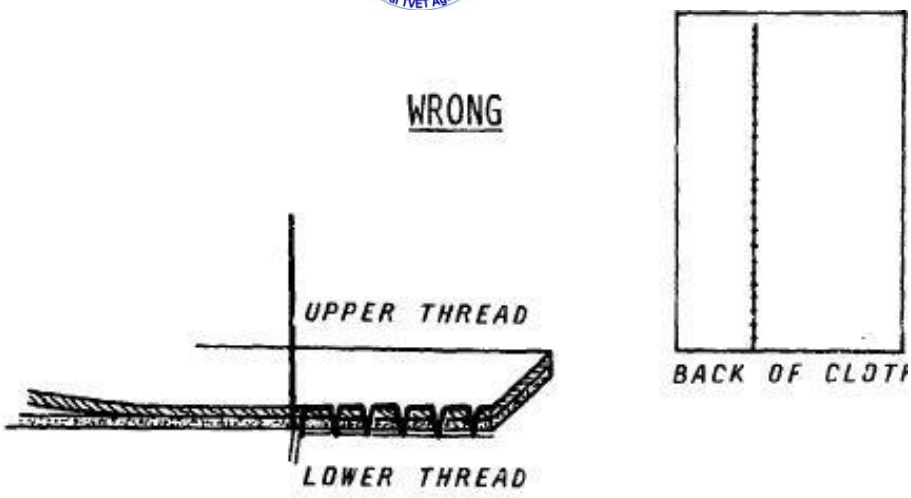
To make the tension of the upper thread looser, turn the tension regulator so a lower number is on top, (if the tension regulator is on the side of the machine, turn it backwards or away from you. If it is on the front, turn it to the left.)



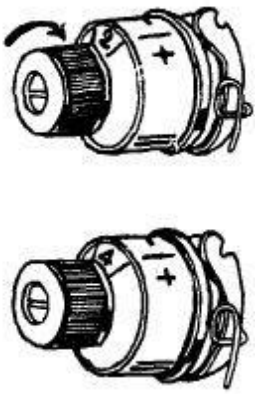
To make the tension of the lower thread tighter: take out the bobbin case, find the small screw, use a small screwdriver to tighten the screw.



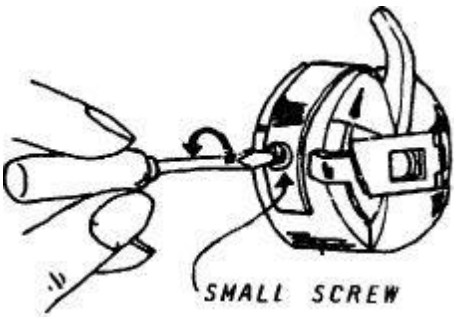
3. When the tension of the upper thread is too loose, or when the tension of the lower thread is too tight, the sewing looks like this:



To make the tension of the upper thread tighter, turn the tension regulator so a higher number is on top. (If the tension regulator is on the side of the machine, turn it forward or towards you. If it is on the front, turn it to the right.)



To make the tension of the lower thread looser: take out the bobbin case, find the small screw, use a small screwdriver to loosen the screw.

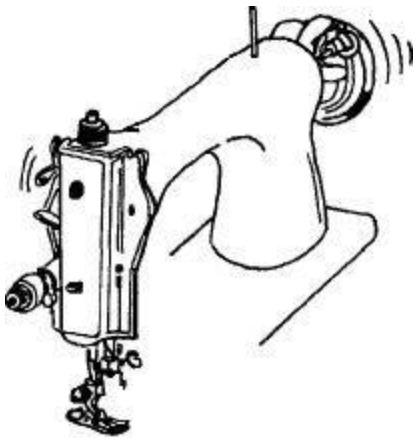


5.2.4 Oiling and cleaning sewing machine by Following manufacturer's instruction

Sewing machine oil.

Do not use any other kind of oil. Put only one or two drops of oil at each hole. Too much oil will get on the sewing.

2. When you have put oil in all the holes take out the needle, and run the machine very fast for a few minutes so the oil will spread to all the places it is needed.



IMPORTANT: when you are oiling the machine, do not loosen Any of the screws underneath the machine.

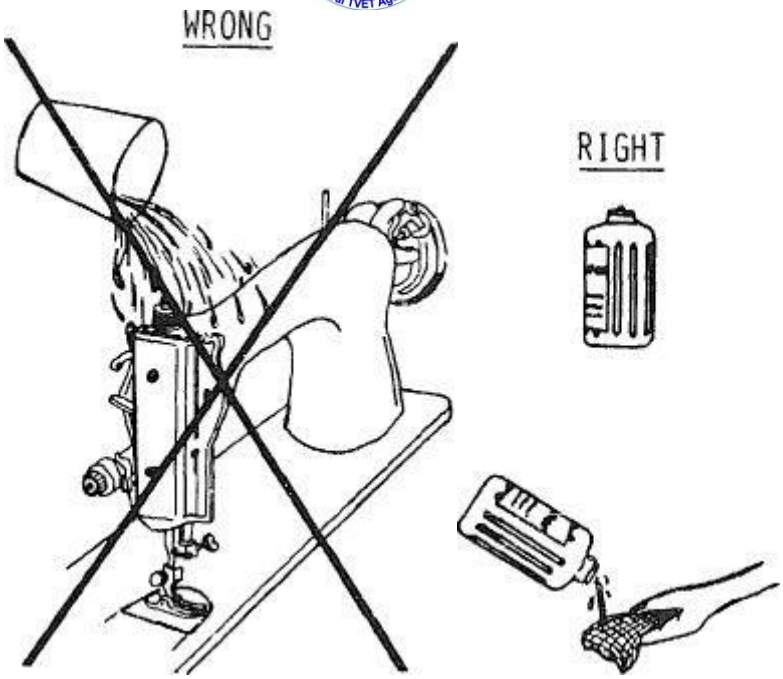
Taking care of the machine

To keep your machine running well, clean it and oil it after you have done a lot of sewing, and oil it once more before*you start sewing again, be especially careful to clean the feed dog and the shuttle race often.

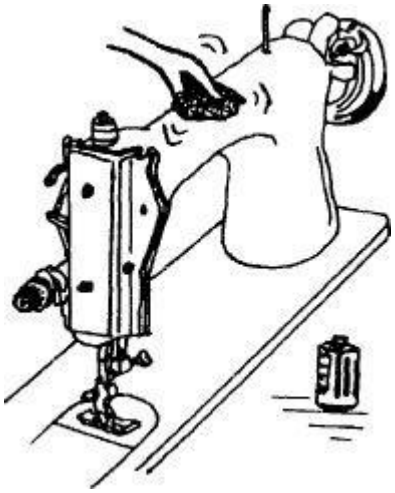
To clean the machine

To clean the machine, or any parts, do not use water, use kerosene

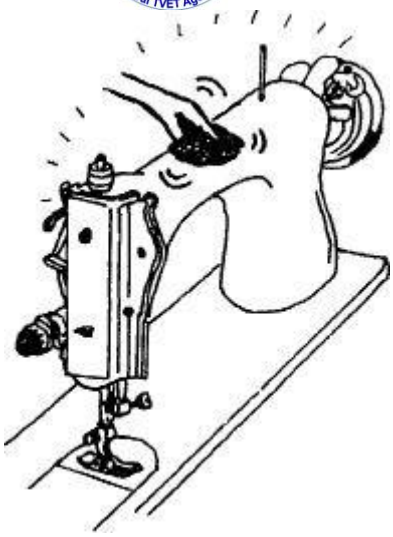
1. Soak a cloth in kerosene,



2. Use a cloth to clean all parts of the machine and make them shiny.



3. Wipe away the kerosene with a clean cloth.



5.2.5 Identification and report major problems to the supervisor

Report any problems

● Report to supervisor/manager any problems around machines and guards, for example: Broken or missing guards and devices.

● Loose parts, unusual noise, leaks, or vibration.

● Strange odours, heat, smoke, dust, fumes.

● Messy work area and floor, not enough light.

Self-Check 1	Written Test

Instructions: Write all your answers in the provided answer sheet

1. What is the cause of needle breakage?(5)
2. Write at least 8 minor problem of sewing machine? (5)
3. How can we prevent breakage of thread? Explain (5)
4. Discuses about tension adjustments and write which type of adjusting system will be best to perform good stitch formation? (5)
5. Which career shall be performing oiling and cleaning? (5)
6. What is the use of reporting sewing problem to supervisor? (5)

Note: **Satisfactory rating - 30 points Unsatisfactory - below 30 points**

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

Answer Sheet

Score = _____
Rating: _____

Name: _____ Date: _____

LIST OF REFERENCE MATERIALS

- http://www.retirementlivingarticledirectory.com/
- http://www.sewing.about.com/
- http://www.wikihow.com/
- http://www.sewing.about.com/od/sewingmachineind

- ex/a/machinemaintain.html