



Furniture Making

Level II

Learning Guide #3

Unit of Competence: Set-up and Operate Woodwork
Machines

Module Title: Setting-up and Operating Woodworking
Machines

LG Code: IND FMK2 M02 0919 LO2-LG-02

TTLM Code IND FMK2 M02 TTLM 0919V1

LO4.Cleanup work area



Instruction Sheet	Learning Guide #2
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This learning guide is developed to provide you the necessary information regarding the following Learning out come and content coverage and topics; –

4.1. Collect and store material

4.2. Remove waste and scrap

4.3. Clean and inspect equipment and work area

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 and minimize waste quantities
- Recycle or discard items that do not meet quality requirements
- Identify and report problems with required work
- Collect and store material for reused
- Remove waste and scrap with workplace procedures
- Clean and inspect equipment and work area for serviceable condition

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below.
3. Read the information written in the information “Sheet 1, Sheet 2, and Sheet 3”.
4. Accomplish the “Self-check 1, Self-check 2, and Self-check 3” in **page -4, 6, and 12** respectively.
5. Do the “LAP test” in **page – 12** (if you are ready).



Information Sheet-1

Collect and store material

Collecting, storing and reusing materials

- It is every student's responsibility to clean the shop at the end of class.
- Keep the floor clean and free of scrap material, sawdust, oil, wax, and grease.
- Such messes cause slips, trips, and falls. If you see it, it is up to you to clean it! No "step-overs."
- Keep work areas clean. Messy work areas are unsafe areas. Always use a hand brush to clean up scrap material, shavings, and sawdust. Never use your hand.
- Always wait for moving parts (blades, drill bits, sanding discs, etc.) to come to a complete stop before removing scrap material or saw dust. Moving parts, no matter how slow, are still a danger.
- Put away leftover wood immediately. Do not leave scrap material behind for someone else to move out of their way. Put away your own material.
- Place electrical cords and vacuums out of the path of travel. To avoid tripping accidents, make certain electrical cords are flat on the floor and not suspended in the air.
- Clean paint brushes immediately after using. Put used rags in the proper container.
- Keep your behavior clean: Absolutely no vulgar, crude, or rude behavior will be tolerated.
- That means no cussing (including the misuse of religious names of God, prophets, or priests), no coarse joking, and no inappropriate touching or show of affection.
- Report all breakage or damage to tools or machinery to the instructor immediately. Moreover, if a machine is running poorly, making an unusual sound, or is out of adjustment, the student shall turn it off immediately, unplug it so that others don't use it, and inform the instructor directly. If conditions of the shop are such that a hazard is beyond the control of the teacher then it will be reported to the principal.

↪ Carrying, moving, storing

- ↪ When lifting, keep your back straight and lift with your legs. Do not strain yourself.
- ↪ If something is too heavy, ask for help or use a hand-truck, a lever, dolly, jack, wheels, or rollers. If you must strain to lift or carry something then it is too heavy for you.
- ↪ Always carry long objects with the front end high enough to avoid hitting someone. If the front end is low, it may not only hit someone, but also strike the ground and put a sudden stop to your movement causing injury to someone following you.
- ↪ Any left-over wood should be returned to the proper area immediately, do not leave it behind for someone else. Small specialty wood (oak, maple, walnut, etc.) goes in marked bins. Long specialty wood should be returned to their marked shelves. Other "common



↳ Woods” shall be placed in the upright bins. Plywood is stored in plywood racks.

Storage: - Develop a system of racks, bins and tool panels to make it easy to find the right tool or materials quickly. Don't store tools, supplies or spare parts in the aisle or on the floor where they become tripping hazards. Keep other flammable materials away from heaters and welding areas to prevent fire. Grease, oil, paint and solvents should be stored in a closed metal container, preferably in metal cabinets. Gasoline or other fuels should never be stored inside the shop. Supplies and equipment should be stored in an area designed specifically for them

Self-Check -1	Written Test
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Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What are methods collecting, storing and reusing materials? (2 points)

Note: Satisfactory rating – 2 points

Unsatisfactory - below 2 points

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

Answer Sheet

Score = _____
Rating: _____

Name: _____

Date: _____



Information Sheet-2

Remove waste and scrap

- **Keep the work area clean.**
 - Safe systems of work are in place and being followed.
 - Keep the floor free of scraps and oil.
 - Cluttered work areas invite accidents.
- Keeping workshop and storage spaces clean and dry can help prevent many accidents.
 - Sparks can ignite scraps, sawdust and solvents.
 - Water can conduct electricity.
 - Do not stand in water, on damp floors or in the rain when working with electrical tools.
 - Keep hands and tools dry.
- Keep wastage of the wood in the garbage cabinet.
- **Housekeeping:** - Each user is expected to clean up after him/her self. Good housekeeping helps ensure long tool life and a safer work area for everyone

Clean tool and equipment

- **Keep tools clean and in good repair.** Always clean up power tools before putting them away. Avoid using tools that are or appear to be in disrepair. Use power tools only, for their intended functions.
- **Repairing and Cleaning Power Tools:**-Always turn off and unplug a power tool before
 - (1) Adjusting, oiling, cleaning or repairing it;
 - (2) Attaching an accessory;
 - (3) Changing bits, blades or grinding wheels. Unplug or lockout tools when not in use. Unplug tools by pulling directly on the plug. Jerking on the cord can cause damage to the tool.
- Do not leave tools, hardware and other materials out when not in use. Before making adjustments or changing bits or cutters, disconnect the power cord to avoid accidentally touching the switch and possible injury when the tool starts.



Self-Check -2	Written Test
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Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. List the benefit of keep the work area clean? (2 points)

Note: Satisfactory rating – 3 points

Unsatisfactory - below 3 points

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

Answer Sheet

Score = _____
Rating: _____

Name: _____

Date: _____



Information Sheet-3

Clean and inspect equipment and work area

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

The other should be oily to prevent rust and corrosion.

1. Clean floor jacks

Wipe off any oil or grease on the floor jack and check for fluid leaks. If you find any, top up the hydraulic fluid.

Occasionally, apply a few drops of lubricating oil to the wheels and a few drops to the posts of the safety stands.

2. Clean electrical power tools

Keep power tools clean by brushing off any dust and wiping off excess oil or grease with a clean rag.

Inspect any electrical cables for dirt, oil or grease, and for any chafing or exposed wires.

With drills, inspect the chuck and lubricate it occasionally with machine oil.

3. Clean air powered tools

Apply a few drops of oil into the inlet of your air tools every day. Although these tools have no motor, they do need regular lubrication of the internal parts to prevent wear.

4. Clean hoists and heavy machinery

locate the checklist or maintenance record for each hoist or other major piece of equipment before carrying out cleaning activities.

You should clean operating mechanisms and attachments of excess oil or grease.

A Clean and Safe Workplace

- Poor housekeeping on the job site is a frequent cause of workplace incidents and worker injuries
- These types of incidents can be easily be prevented by keeping the workplace clean.
- Good housekeeping makes jobs more efficient and safe. Housekeeping on the job means cleaning up scrap and debris, putting it in containers, and making sure the containers are emptied regularly.
- It also means proper storage of materials and equipment.
- Good on-the-job housekeeping is one of the easiest ways to improve your safety and that of your co-workers. Poor workplace housekeeping creates incidents waiting to happen.



- We all know how fast rubbish accumulates on site scrap lumber, broken bricks, pieces of drywall, garbage from coffee breaks and lunches.
- Construction rubbish is often irregular in shape, hard to handle, and full of sharp objects. One of the biggest problems is packaging. Too often it gets removed from material and left where it falls. This creates tripping and slipping hazards. It also makes other hazards difficult to see.
- Even worse, it invites more mess. When the site is not cleaned up, no one cares about leaving garbage where it drops.
- People often do not recognize housekeeping as a safety issue until after an incident has occurred. That is when bad housekeeping is revealed.
- Day-to-day housekeeping and cleanliness should not be left for employees to do
- During the last few minutes of the work day. Housekeeping should be an ongoing effort. Whether employees or employers fill out work orders, pick up after each task or clean the workplace themselves, each one plays a role in keeping the job site clean and safe.

All students are responsible for end of class clean up. All machines are shut down seven minutes prior to the end of class to ensure the shop is clean and ready for the next class. This included but not limited to:

- ✓ Projects put away in the appropriate location
- ✓ Wood is either recycled or placed in the storage bins
- ✓ Saw dust is cleaned up, floors are swept
- ✓ Machines are swept down
- ✓ Work stations/tables are cleaned
- ✓ Tools put away in their proper places
- ✓ Report any problems that may be associated with the equipment (e.g., funny noises, dull blades, etc.)

What is housekeeping?

When we think of “housekeeping” we tend to think of the common phrase: “A place for everything and everything in its place.” But housekeeping means more than this. Good housekeeping means having no unnecessary items about and keeping all necessary items in their proper places.

What’s so important about housekeeping?

Think about what could happen if a bunch of oily rags suddenly caught fire one night, or if, in an emergency, employees couldn’t get out of the work area safely because aisles were cluttered. Imagine those same employees unable to get out altogether because of a blocked exit.

Experience has shown that good housekeeping is an essential part of your company’s health and safety program.

What are the benefits of good housekeeping at work?

Good housekeeping at work benefits both employers and employees alike. Good housekeeping can:

- eliminate clutter which is a common cause of accidents, such as slips, trips, and falls, and fires and explosions;

- reduce the chances of harmful materials entering the body (e.g., dusts, vapours);
- improve productivity (the right tools and materials for the job will be easy to find);
- improve your company’s image (good housekeeping reflects a well-run business. An orderly workplace will impress all who enter it – employees, visitors, customers, etc.
- help your company to keep its inventory to a minimum (good housekeeping makes it easier to keep an accurate count of inventories);
- help your company to make the best use of its space;
- make the workplace neat, comfortable and pleasant – not a dangerous eyesore.



Keeping work areas organized and clean can help make work safer, healthier and easier

What are some signs of poor housekeeping?

There are many signs of poor housekeeping. You may recognize some of these in your own workplace:

- cluttered and poorly arranged work areas;
- untidy or dangerous storage of materials (for example, materials stuffed in corners; overcrowded shelves);
- dusty, dirty floors and work surfaces;
- items that are in excess or no longer needed;
- blocked or cluttered aisles and exits;
- tools and equipment left in work areas instead of being returned to proper storage places;
- broken containers and damaged materials;
- overflowing waste bins and containers;
- spills and leaks.

How to improve housekeeping in your workplace

Good housekeeping requires effort and teamwork, but it's worth it. Here are some general pointers:

- Set housekeeping standards. Make sure they are clear, objective and attainable. Standards should make work easier, safer and healthier. It is best to involve employees when setting standards.
- Measure how well the standards are met. (Remember: what gets measured gets done.)
- Use checklists to help you to systematically measure housekeeping. (See page 3 for a sample checklist.)

- Provide positive feedback. Let employees know how well they are doing and how to improve.
- Encourage housekeeping as a way of life – not just a special activity when visitors are coming.

Whether your workplace is an office, plant, store, or warehouse, here are some recommended housekeeping practices:

- Follow safe work procedures and the requirements of the law.
- Keep work areas clean.
- Keep aisles clear.
- Keep exits and entrances clear.
- Keep floors clean, dry and in good condition.
- Vacuum or wet sweep dusty areas frequently.
- Stack and store items safely.
- Store all work materials (for example, paper products, flammable liquids, etc.) in approved, clearly labelled containers in designated storage areas only.
- Use proper waste containers.
- Keep sprinklers, fire alarms and fire extinguishers clear.
- Clean up spills and leaks of any type quickly and properly.
- Clean and store tools, items and equipment properly.
- Fix or report broken or damaged tools, equipment, etc.
- Keep lighting sources clean and clear.
- Follow maintenance requirements.

Inspection

- A critical appraisal involving examination, measurement, testing, gauging and comparison of material or item
- It determines if the material, equipment, facility etc... are in accordance with standards

Procedures in Conducting a Maintenance Inspection Activity

1. Prepare a **Standard Checklist**. Checklist should be very detailed and stringent based on the set of standard values for inspection.
2. Implement a **periodic clean-up schedule**; and an **award and sanction scheme**
3. Evaluate **workstations** according to the Standard Checklist

Tips in preparing a checklist

- ✓ Keep it simple – one page per checklist.
- ✓ Follow a logical sequence
- ✓ Use bullet or enumerated points, as possible
- ✓ Avoid making assumptions

Sample Checklist

WORK AREA		Criteria
Y	N	
<input type="checkbox"/>	<input type="checkbox"/>	1. Is flooring clear of obstacles and spilled substances?
<input type="checkbox"/>	<input type="checkbox"/>	2. Are aisles, exits and traffic areas clear?
<input type="checkbox"/>	<input type="checkbox"/>	3. Are walls clear and clean?
<input type="checkbox"/>	<input type="checkbox"/>	4. Is ceiling free from cobwebs?
<input type="checkbox"/>	<input type="checkbox"/>	5. Are equipment arranged for the purpose of safety and ease in maintenance?
<input type="checkbox"/>	<input type="checkbox"/>	6. Is work area organized and kept clear of trash and other hazards?
<input type="checkbox"/>	<input type="checkbox"/>	7. Are trash and waste materials properly thrown out?
<input type="checkbox"/>	<input type="checkbox"/>	8. Are there appropriate and sufficient cleaning supplies for the work area?



LAP Test	Practical Demonstration
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Name: _____ Date: _____

Time started: _____ Time finished: _____

Instructions: Given necessary templates, tools and materials you are required to perform the following tasks within 6 hours.

Task 1: Reuse material that can be collect and store.

Task 2: Remove Waste and scrap following workplace procedures.

Task 3: Cleaned and Inspected equipment and work area for serviceable condition in accordance with work place procedures.

Self-Check -3	Written Test
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Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

2. What are some signs of poor housekeeping? (2 points)
3. How to improve housekeeping in your workplace? (2 points)
4. List procedures in conducting a maintenance inspection activity? (2 points)

Note: Satisfactory rating – 6 points

Unsatisfactory - below 6 points

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

Answer Sheet

Score = _____

Rating: _____

Name: _____

Date: _____



Reference:

1. *Yale Environmental Health & Safety*
2. **OCTE toolSAFE TCJ Construction Technology**
3. *UC Davis Shop Safety Manual*
4. **ERNEST JOYCE** *The Technique of FURNITURE MAKING* Fourth Edition • Revised by **ALAN PETERS** First published 1970 Reprinted, 2000
5. *The complete Book of stationary poma tool techniques 1988 R.J.ED cristofore.*
6. *Wood machining complete guide to effective and safe working practice 1987, N.S Voisey*
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