

MAYYO



FELT ROLLER DRYING TABLE

Operators Manual

MAYO MANUFACTURING, INC. LIMITED WARRANTY

THE FOLLOWING WARRANTIES FOR MACHINERY, EQUIPMENT OR PARTS SOLD BY MAYO MANUFACTURING, INC. ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, OR THOSE WARRANTIES IMPOSED BY STATUTE, INCLUDING, BUT NOT LIMITED TO ANY AND ALL IMPLIED WARRANTIES OR MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND OF ANY AND ALL OTHER WARRANTY OBLIGATIONS ON THE PART OF MAYO MANUFACTURING, INC. (The Company).

The Company warrants the machinery, equipment or parts delivered against faulty workmanship or the use of parts delivered against faulty workmanship or the use of defective materials for a period of one (1) year from the date of shipment.

The Company's warranties set forth above are the only warranties made by the Company and shall not be enlarged, diminished or affected by, and no obligation or liability shall arise out of the Company's rendering technical or other advice or service in connection with the machinery, equipment or parts.

Parts or components furnished to the Company by third persons are guaranteed only to the extent of the original manufacturer's guarantee to the Company, a copy of which will be supplied to the Purchaser upon written request to the Company.

LIABILITY

THE COMPANY'S SOLE AND EXCLUSIVE MAXIMUM LIABILITY, AND PURCHASER'S SOLE AND EXCLUSIVE REMEDY under the above warranty shall be, at the Company's option, the repair, or replacement of the machine, equipment or part which is found to be defective due to faulty workmanship or defective materials, and is returned by the Purchaser to the Company within the warranty period. Shipment both ways and in transit damage shall be at the purchaser's risk and expense. If the Company elects to repair or replace the machine, equipment, or part, the Company will have a reasonable time within which to do so.

The remedies set forth above are available upon the following conditions:

1. Purchaser has promptly notified Company upon discovery that the machinery, equipment, or parts are defective due to faulty workmanship or defective materials; and
2. Purchaser provides Company with a detailed description of the deficiencies; and
3. Company's examination discloses that the alleged deficiencies exist and were not caused by accident, fire, misuse, neglect, alteration, or any other hazard or by Purchaser's improper installation, use or maintenance.

Such repair or replacement shall constitute fulfilment of all Company's liability to Purchaser, whether based on contract or tort.

This warranty does not apply to any machine that has been altered outside the factory in any way so as, in the judgement of Mayo, to affect its operation, reliability or safety, or which has been subject to misuse, neglect or accident.

In the event the Company breach any other provisions of the Purchase Agreement, the Company's EXCLUSIVE MAXIMUM LIABILITY AND PURCHASER'S EXCLUSIVE REMEDY, whether in contract or tort, otherwise shall not in any event exceed the contract price for the particular machine, piece of equipment or parts involved.

IN NO EVENT SHALL COMPANY BE LIABLE TO ANYONE FOR SPECIAL, COLLATERAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES FOR BREACH OF ANY PROVISIONS OF THIS CONTRACT OR WARRANTY. SUCH EXCLUDE DAMAGES INCLUDE, BUT ARE NOT LIMITED TO, costs of REMOVAL AND REINSTALLATION OF ITEMS, Loss of GOODWILL, LOSS OF PROFITS, LOSS OF USE OR INTERRUPTION OF BUSINESS.

WARRANTY VOID IF NOT REGISTERED

MAYO
FELT ROLLER DRYING TABLE

WARRANTY REGISTRATION FORM & INSPECTION REPORT

WARRANTY REGISTRATION (please print)

This form must be filled out by the dealer and signed by both the dealer and the customer at the time of delivery.

Customer's Name _____

Dealer Name _____

Address _____

Address _____

City, State/Province, Code _____

City, State/Province, Code _____

Phone Number (____) _____

Phone Number (____) _____

Contact Name _____

Felt Roller Drying Table Model _____

Serial Number _____

Delivery Date _____

DEALER INSPECTION REPORT

- ___ Sponge Rollers in Good Condition
- ___ Squeege Rollers Set
- ___ Inspect Electrical System
- ___ Scrapers Set
- ___ Sprocket Clearence Set
- ___ Roller Chain Tensioned and Aligned
- ___ Lubricate Machine

SAFETY

- ___ All Decals Installed
- ___ Review Operating and
- ___ Safety Instructions

I have thoroughly instructed the buyer on the above described equipment which review included the Operator's Manual content, equipment care, adjustments, safe operation and applicable warranty policy.

Date _____

Dealer's Rep. Signature _____

The above equipment and Operator's Manual have been received by me and I have been thoroughly instructed as to care, adjustments, safe operation and applicable warranty policy.

Date _____

Owner's Signature _____

WHITE	YELLOW	PINK
MAYO MFG., INC	DEALER	CUSTOMER

SERIAL NUMBER LOCATION

Always give your dealer the serial number of your Mayo Felt Roller Drying Table when ordering parts or requesting service or other information.

The serial number plate is located where indicated. Please mark the number in the space provided for easy reference.



SERIAL NUMBER LOCATION

Model _____

Serial Number _____

TABLE OF CONTENTS

SECTION	DESCRIPTION	PAGE
1	Introduction	1
2	Safety	3
2.1	General Safety	4
2.2	Equipment Safety Guidelines	5
2.3	Storage Safety	5
2.4	Safety Training	6
2.5	Safety Signs.....	6
2.6	Preparation	7
2.7	Installation Safety	8
2.8	Lock-Out Tag-Out Safety.....	8
2.9	Operating Safety	8
2.10	Maintenance Safety	8
2.11	Electrical Safety	9
2.12	Transport Safety.....	9
2.13	Employee Sign-Off Form	10
3	Safety Sign Locations	11
4	Operation.....	15
4.1	To the New Operator or Owner.....	15
4.2	Machine Components.....	16
4.3	General Operation Theory	18
4.4	Machine Break-In.....	19
4.5	Pre-Operation Checklist.....	20
4.6	Controls	20
4.7	Machine Preparation.....	21
4.8	Operating	22
4.9	Transport.....	28
4.10	Storage	29
5	Service and Maintenance.....	31
5.1	Service.....	31
5.2	Maintenance	35
6	Trouble Shooting	39
7	Specifications	41
7.1	Mechanical.....	41
7.2	Bolt Torque.....	42
7.3	Electrical Schematic	43
7.4	Lubricant Specifications.....	44
8	Index	45

1 INTRODUCTION

Congratulations on your choice of a Mayo Felt Roller Drying Table and welcome to Mayo's quality line of potato handling equipment. This equipment is designed and manufactured to meet the needs of a discriminating buyer in the agricultural industry for the loading, unloading, processing and storing of harvest yields.

Safe, efficient and trouble free operation of your new Mayo Drying Table requires that you, and anyone else who will be operating or maintaining the Drying Table, read, understand and practice ALL of the Safety, Operation, Maintenance and Trouble Shooting recommendations contained within this Operator's Manual.



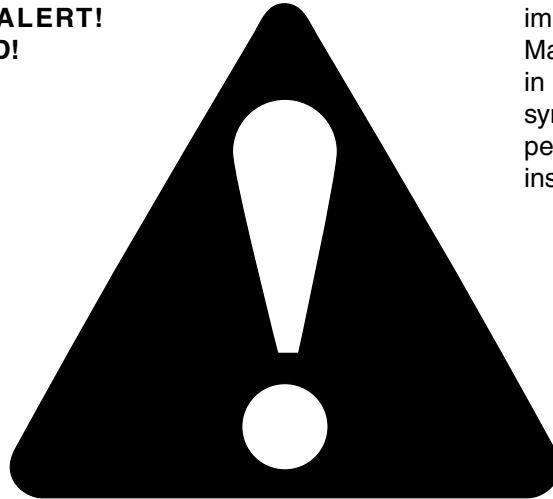
This manual applies to all Felt Roller Drying Tables manufactured by Mayo. Certain options may be available to specifically tailor the Drying Table to your operation and may not be included in this manual. Please contact the manufacturer regarding additional information about these options. Use the Table of Contents and Index as a guide to find specific information.

Keep this manual handy for frequent reference and so that it will be passed on to new operators or owners. Call your Mayo dealer if you need assistance, information or additional copies of this manual.

MACHINE ORIENTATION - The intake end of the Felt Roller Drying Table is the front.

SAFETY ALERT SYMBOL

This Safety Alert symbol means
ATTENTION! BECOME ALERT!
YOUR SAFETY IS INVOLVED!



The Safety Alert symbol identifies important safety messages on your Mayo Felt Roller Drying Table and in the manual. When you see this symbol, be alert to the possibility of personal injury or death. Follow the instructions in the safety message.

Why is SAFETY important to you?

3 Big Reasons

Accidents Disable and Kill
Accidents Cost You Money
Accidents Can Be Avoided

SIGNAL WORDS:

Note the use of the signal words **DANGER**, **WARNING** and **CAUTION** with the safety messages. The appropriate signal word for each message has been selected using the following guide-lines:

- DANGER** - Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations, typically for machine components that, for functional purposes, cannot be guarded.
- WARNING** - Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.
- CAUTION** - Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

If you have any questions not answered in this manual or require additional copies or the manual is damaged, please contact your dealer or Mayo, P.O. Box 497, Bus Highway 2, East Grand Forks, Minnesota, 56721. (Telephone) 218-773-1234, (FAX) 218-773-6693 or toll free at 1-800-223-5873.

SAFETY

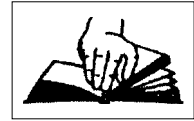
YOU are responsible for the **SAFE** operation and maintenance of your Mayo Felt Roller Drying Table. **YOU** must ensure that you and anyone else who is going to operate, maintain or work around the Drying Table be familiar with the operating and maintenance procedures and related **SAFETY** information contained in this manual. This manual will take you step-by-step through your working day and alerts you to all good safety practices while operating the Drying Table.

Remember, **YOU** are the key to safety. Good safety practices not only protect you but, also the people around you. Make these practices a working part of your safety program. Be certain that **EVERYONE** operating this machine is familiar with the procedures recommended and follows safety precautions. Remember, most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.

- Drying Table owners must give operating instructions to operators or employees before allowing them to operate the Drying Table, and at least annually thereafter.
- The most important safety device on this equipment is a **SAFE** operator. It is the operator's responsibility to read and understand ALL Safety and Operating instructions in the manual and to follow these. Most accidents can be avoided.
- A person who has not read and understood all operating and safety instructions is not qualified to operate this machine. An untrained operator exposes himself and bystanders to possible serious injury or death.
- Do not modify the equipment in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the equipment.
- Think **SAFETY!** Work **SAFELY!**

2.1 GENERAL SAFETY

1. Read and understand the Operator's Manual and all safety signs before supplying power, operating, maintaining or adjusting equipment.

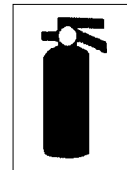


2. Only trained, competent persons shall operate the equipment. An untrained operator is not qualified to operate this machine.

3. Provide a first-aid kit for use in case of an accident. Store in a highly visible place.



4. Provide a fire extinguisher for use in case of an accident. Store in a highly visible place.



5. Install and properly secure all guards and shields before operating.

6. Wear appropriate protective gear. This list includes but is not limited to:

- Protective shoes with slip resistant soles
- Protective glasses or goggles
- Heavy gloves
- Hearing protection



7. Turn machine OFF, shut down and lockout power supply and wait for all moving parts to stop before servicing, adjusting, maintaining, repairing or cleaning. (Safety lockout devices are available through your Mayo dealer parts department).
8. Know the emergency medical center number for your area.
9. Review safety related items with all operators annually.

2.2 EQUIPMENT SAFETY GUIDELINES

1. Safety of the operator and bystanders is one of the main concerns in designing and developing a machine. However, every year many accidents occur which could have been avoided by a few seconds of thought and a more careful approach to handling equipment. You, the operator, can avoid many accidents by observing the following precautions in this section. To avoid personal injury or death, study the following precautions and insist those working with you, or for you, follow them.
2. In order to provide a better view, certain photographs or illustrations in this manual may show an assembly with a safety shield removed. However, equipment should never be operated in this condition. Keep all shields in place. If shield removal becomes necessary for repairs, replace the shield prior to use.
3. Replace any safety sign or instruction sign that is not readable or is missing. Location of such safety signs is indicated in this manual.
4. Never use alcoholic beverages or drugs which can hinder alertness or coordination while operating this equipment. Consult your doctor about operating this machine while taking prescription medications.
5. **Under no circumstances should young children be allowed to work with this equipment. Do not allow persons to operate or assemble this unit until they have read this manual and have developed a thorough understanding of the safety precautions and of how it works.** Review the safety instructions with all users annually.
6. This equipment is dangerous to children and persons unfamiliar with its operation. The operator should be a responsible, properly trained and physically able person familiar with farm machinery and trained in this equipment's operations. If the elderly are assisting with farm work, their physical limitations need to be recognized and accommodated.
7. Never exceed the limits of a piece of machinery. If its ability to do a job, or to do so safely, is in question - **DON'T TRY IT.**
8. Do not modify the equipment in any way. Unauthorized modification result in serious injury or death and may impair the function and life of the equipment.
9. In addition to the design and configuration of this implement, including Safety Signs and Safety Equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training of personnel involved in the operation, transport, maintenance, and storage of the machine. Refer also to Safety Messages and operation instruction in each of the appropriate sections of the auxiliary equipment and machine Manuals. Pay close attention to the Safety Signs affixed to the auxiliary equipment and the machine.

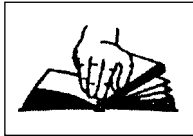
2.3 STORAGE SAFETY

1. Store the Drying Table on a firm level surface.
2. If required, make sure the unit is firmly blocked up.
3. Make certain that all mechanical locks are safely and positively connected before storing.
4. Store away from areas of human activity.
5. Do not allow children to play on or around the stored Drying Table.
6. Lock out power by turning off master control panel or junction box and padlocking the door shut to prevent electrocution or unauthorized start up of the Drying Table.

2.4 SAFETY TRAINING

1. Safety is a primary concern in the design and manufacture of our products. Unfortunately, our efforts to provide safe equipment can be wiped out by a single careless act of an operator or bystander.
2. In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of this equipment.

3. It has been said, "The best safety feature is an informed, careful operator." We ask you to be that kind of an operator. It is the



operator's responsibility to read and understand ALL Safety and Operating instructions in the manual and to follow these. Accidents can be avoided.

4. **Working with unfamiliar equipment can lead to careless injuries. Read this manual, and the manual for your auxiliary equipment, before assembly or operating, to acquaint yourself with the machines. If this machine is used by any person other than yourself. It is the machine owner's responsibility to make certain that the operator, prior to operating:**
 - a. **Reads and understands the operator's manuals.**
 - b. **Is instructed in safe and proper use.**
5. Know your controls and how to stop pilers, conveyors and any other auxiliary equipment quickly in an emergency. Read this manual and the one provided with your other equipment.
6. Train all new personnel and review instructions frequently with existing workers. Be certain only a properly trained and physically able person will operate the machinery. A person who has not read and understood all operating and safety instructions is not qualified to operate the machine. An untrained operator exposes himself and bystanders to possible serious injury or death. If the elderly are assisting with farm work, their physical limitations need to be recognized and accommodated.

2.5 SAFETY SIGNS

1. Keep safety signs clean and legible at all times.
2. Replace safety signs that are missing or have become illegible.
3. Replaced parts that displayed a safety sign should also display the current sign.
4. Safety signs are available from your authorized Distributor or Dealer Parts Department or the factory.

How to Install Safety Signs:

- Be sure that the installation area is clean and dry.
- Be sure temperature is above 50°F (10°C).
- Determine exact position before you remove the backing paper. (See Section 3).
- Remove the smallest portion of the split backing paper.
- Align the sign over the specified area and carefully press the small portion with the exposed sticky backing in place.
- Slowly peel back the remaining paper and carefully smooth the remaining portion of the sign in place.
- Small air pockets can be pierced with a pin and smoothed out using the piece of sign backing paper.

2.6 PREPARATION

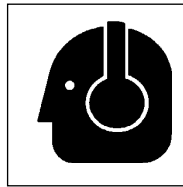
1. Never operate the Drying Table and auxiliary equipment until you have read and completely understand this manual, the auxiliary equipment Operator's Manual, and each of the Safety Messages found on the safety signs on the Drying Table and auxiliary equipment.

2. Personal protection equipment including hard hat, safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, adjustment, maintaining, repairing, removal, or moving the implement. Do not allow long hair, loose fitting clothing or jewelry to be around equipment.



3. **PROLONGED EXPOSURE TO LOUD NOISE MAY CAUSE PERMANENT HEARING LOSS!**

Motors or equipment attached can often be noisy enough to cause permanent, partial hearing loss. We recommend that you wear hearing protection on a full-time basis if the noise in the Operator's position exceeds 80db. Noise over 85db on a long-term basis can cause severe hearing loss. Noise over 90db adjacent to the Operator over a long-term basis may cause permanent, total hearing loss. **NOTE:** Hearing loss from loud noise (from tractors, chain saws, radios, and other such sources close to the ear) is cumulative over a lifetime without hope of natural recovery.



4. Clear working area of debris, trash or hidden obstacles that might be hooked or snagged, causing injury, damage or tripping.
5. Operate only in daylight or good artificial light.
6. Be sure machine is properly anchored, adjusted and in good operating condition.
7. Ensure that all safety shielding and safety signs are properly installed and in good condition.
8. Before starting, give the machine a "once over" for any loose bolts, worn parts, cracks, leaks, frayed belts and make necessary repairs. Always follow maintenance instructions.

2.7 INSTALLATION SAFETY

1. Disconnect and remove all mechanical locks, anchor chains and any other transport devices that would hinder or prohibit the normal functioning of the Drying Table upon start up. Serious damage to the machine and/or personal injury to the operator and bystanders may result from attempting to operate the machine while mechanical locking devices are still attached.
2. Position the machine on firm, level ground before operating.
3. Extend feet to level the frame before loading. Use a level to be sure.
4. Have at least one extra person available to assist when elevating, moving or connecting to other equipment.
5. Make certain that sufficient amperage, at the proper voltage and frequency (60Hz) is available before connecting power. If you are uncertain, have a licensed electrician provide power to the machine.
6. If using Drying Table as part of material handling system, anchor securely to other equipment before starting.

2.8 LOCK-OUT TAG-OUT SAFETY

1. Establish a formal Lock-Out Tag-Out program for your operation.
2. Train all operators and service personnel before allowing them to work around the Drying Table.
3. Provide tags at the work site and a sign-up sheet to record tag out details.
4. Do not service or maintain the Drying Table unless motors are OFF and the power locked out at the master panel. Keep others away.

2.9 OPERATING SAFETY

1. Read and understand the Operator's Manual and all safety signs before operating, maintaining, adjusting or repairing the Drying Table.
2. **Turn machine OFF, shut down and lock out power supply (safety lockout devices are available through your Mayo dealer parts department), relieve hydraulic pressure and wait for all moving parts to stop before servicing, adjusting, maintaining or repairing.**
3. Establish a lock-out tag-out policy for the work site. Be sure all personnel are trained in and follow all procedures. Lock-out tag-out all power sources before servicing the unit or working around loading/unloading equipment.
4. Install and properly secure all guards and shields before operating.
5. Keep hands, feet, hair and clothing away from all moving parts.
6. Clear the area of bystanders, especially small children, before starting.
7. Make sure all control switches are in the off position before connecting power supply.
8. Extend leg feet to level the frame before using.
9. Before supplying electrical power to the machine, be sure that you have adequate amperage at the proper phase and voltage to run it. If you do not know or are unsure, consult a licensed electrician.
10. Load machine on trailer before moving or transporting.
11. Keep the working area clean and dry.
12. Review safety instructions annually.

2.10 MAINTENANCE SAFETY

1. Read and understand all the information contained in the Operator's Manual regarding operating, servicing, adjusting, maintaining and repairing.
2. Turn machine OFF, shut down and lock out power supply (safety lockout devices are available through your Mayo dealer parts department), relieve hydraulic pressure and wait for all moving parts to stop before servicing, adjusting, maintaining or repairing.
3. Exercise extreme caution when working around, or with, high-pressure hydraulic systems. Depressurize the system before working on it.
4. Follow good shop practices:
 - Keep service area clean and dry.
 - Be sure electrical outlets and tools are properly grounded.
 - Use adequate light for the job at hand.
5. Wear heavy gloves and eye protection when searching for suspected hydraulic leaks. Use a piece of wood or cardboard as a backstop instead of hand to isolate and identify a leak. A high pressure concentrated stream of hydraulic fluid can pierce the skin. If such happens, seek immediate medical attention as infection and toxic reaction could develop.
6. Make sure all guards and doors are in place and properly secured when operating the Drying Table.
7. **Do not work on Drying Table electrical system unless the power cord is unplugged or the power supply is locked out. Lock-out tag-out power source before performing any maintenance work.**



2.11 ELECTRICAL SAFETY

1. Have only a qualified licensed electrician supply power.
2. Make certain that the Drying Table is properly grounded at the power source.
3. Make certain that all electrical switches are in the OFF position before plugging the Drying Table in.
4. **Turn machine OFF, shut down and lock out power supply (safety lockout devices are available through your Mayo dealer parts department), relieve hydraulic pressure and wait for all moving parts to stop before servicing, adjusting, maintaining or repairing.**
5. Disconnect power before resetting any motor or breaker overload.
6. Replace any damaged electrical plugs, cords, switches and components immediately.
7. Do not work on Drying Table electrical system unless the power cord is unplugged or the power supply is locked-out tagged-out.

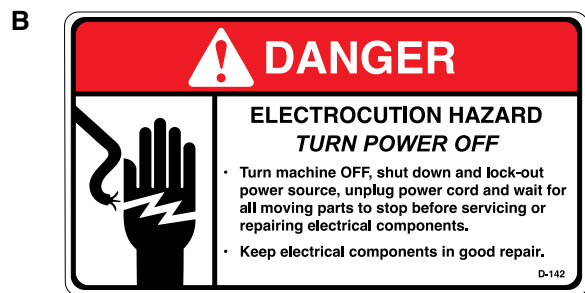
2.12 TRANSPORT SAFETY

1. Make certain that you are in compliance with local, state/provincial and federal regulations regarding transporting agricultural equipment on public roadways.
2. Do not exceed 15 MPH (25 Km/H). Reduce speed on rough roads and surfaces.
3. Do not allow anyone to ride on the Drying Table or towing vehicle during transport.
4. Always use hazard flashers on the towing vehicle when transporting.
5. The drying table is always loaded on a trailer for transporting.

3 SAFETY SIGN LOCATIONS

The types of safety signs and locations on the equipment are shown in the illustrations that follow. Good safety requires that you familiarize yourself with the various Safety Signs, the type of warning and the area, or particular function related to that area, that requires your SAFETY AWARENESS.

- Think SAFETY! Work SAFELY!



REMEMBER - If Safety Signs have been damaged, removed, become illegible or parts replaced without safety signs, new signs must be applied. New safety signs are available from your authorized dealer.

The types of safety signs and locations on the equipment are shown in the illustrations that follow. Good safety requires that you familiarize yourself with the various Safety Signs, the type of warning and the area, or particular function related to that area, that requires your SAFETY AWARENESS.

- Think SAFETY! Work SAFELY!



REMEMBER - If Safety Signs have been damaged, removed, become illegible or parts replaced without safety signs, new signs must be applied. New safety signs are available from your authorized dealer.

The types of safety signs and locations on the equipment are shown in the illustrations that follow. Good safety requires that you familiarize yourself with the various Safety Signs, the type of warning and the area, or particular function related to that area, that requires your SAFETY AWARENESS.

- Think SAFETY! Work SAFELY!



REMEMBER - If Safety Signs have been damaged, removed, become illegible or parts replaced without safety signs, new signs must be applied. New safety signs are available from your authorized dealer.

4 OPERATION



OPERATING SAFETY

- Read and understand the Operator's Manual and all safety signs before operating, maintaining, adjusting or repairing the Drying Table.
- Turn machine OFF, shut down and lock out power supply (safety lockout devices are available through your Mayo dealer parts department), relieve hydraulic pressure and wait for all moving parts to stop before servicing, adjusting, maintaining or repairing.
- Install and properly secure all guards and shields before operating.
- Keep hands, feet, hair and clothing away from all moving parts.
- Clear the area of bystanders, especially small children, before starting.
- Make sure all control switches are in the off position before connecting power supply.
- Extend leg ratchets to level the frame before using.
- Before supplying electrical power to the machine, be sure that you have adequate amperage at the proper phase and voltage to run it. If you do not know or are unsure, consult a licensed electrician.
- Before applying pressure to the hydraulic system, make sure all components are tight and that all steel lines, hoses and couplings are not damaged.
- Keep the working area clean and dry.
- Review safety instructions annually.

4.1 TO THE NEW OPERATOR OR OWNER

The Mayo Manufacturing Felt Roller Drying Table is designed to be used as a stand alone unit or part of a system to wash and dry potatoes to prepare them for market. Be familiar with the machine before starting.

It is the responsibility of the owner or operator to read this manual and to train all other operators before they start working with the machine. Follow all safety instructions exactly. Safety is everyone's business. By following recommended procedures, a safe working environment is provided for the operator, bystanders and the area around the worksite. Untrained operators are not qualified to operate the machine.

Follow all safety instructions exactly. Safety is everyone's business. By following recommended procedures, a safe working environment is provided for the operator, bystanders and the area around the worksite. Untrained operators are not qualified to operate the machine.

Many features incorporated into this machine are the result of suggestions made by customers like you. Read this manual carefully to learn how to operate the machine safely and how to set it to provide maximum efficiency. By following the operating instructions in conjunction with a good maintenance program, your Drying Table will provide many years of trouble-free service.

4.2 MACHINE COMPONENTS

The Mayo Manufacturing Felt Roller Drying Table is designed to be part of a finishing line of a potato storage facility. Potatoes are sent through this line to wash and dry them prior to moving to market.

Potatoes move through a washer and then into the Felt Dryer to remove any residual water and dry the product.

The Drying Table is part of the processing line and wired up as part of the system. The system provides power. When the system is turned on, power to the dryer is available.

All controls are located on the system master control panel.

Wet product is fed into the drying bed for drying. All drying rolls are covered with felt to absorb the moisture from the potatoes. Under each felt roll is a steel roll used to squeeze the moisture out of the felt. A scraper under the steel roll is used to remove any debris from the roll. Each steel roll is designed with a spring to maintain its force against the felt to remove moisture.

All rolls are driven together with a roller chain and sprockets on the end of the felt rolls on the left side of the frame. Each felt roll must be installed so the felt layer continues to wrap during operation.

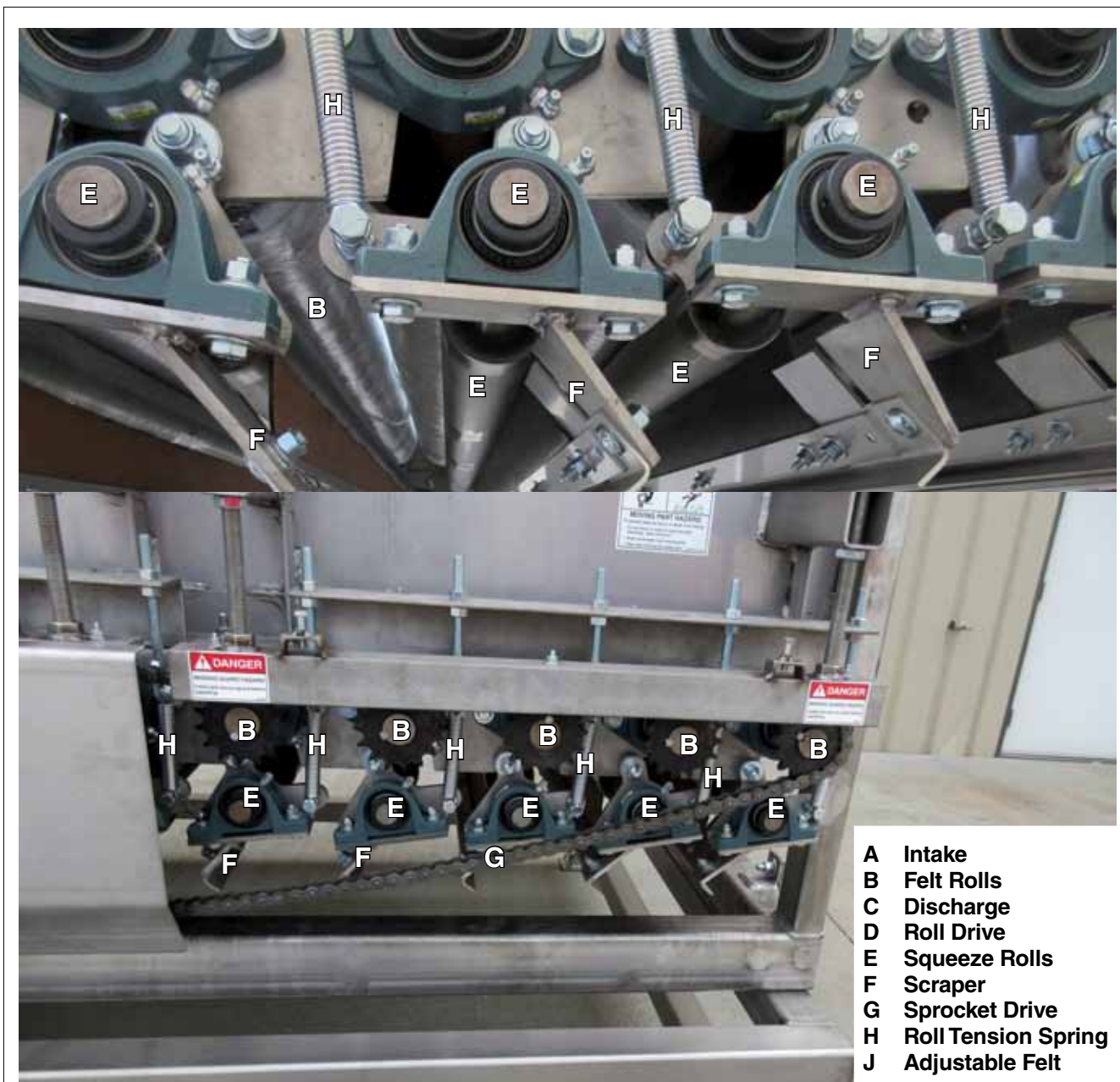


FIG. 1 MACHINE COMPONENTS



4.3 GENERAL OPERATION THEORY

The Mayo Felt Dryer is one of the machines in a potato processing facility that takes potatoes from a storage or field operation and prepares them to go to the marketplace. Generally the potatoes go through a washer and then into the Felt Dryer. Each felt roll dries the potato more than the previous roll until they are virtually dry and can be packaged for the market.

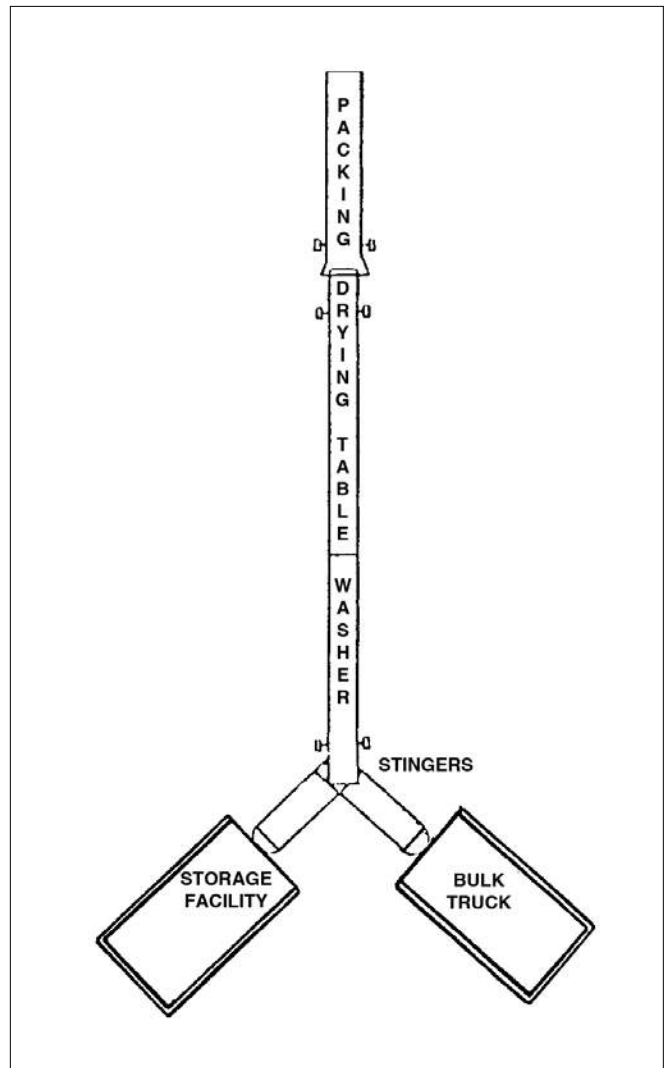


FIG. 2 POSITIONED (TYPICAL)

4.4 MACHINE BREAK-IN

Although there are no operational restrictions on the Drying Table when used for the first time, it is recommended that the following mechanical items be checked:

A. Before starting:

1. Read Drying Table and auxiliary manuals before starting.
2. Turn gearbox breather 1/4 turn to open breather and remove tags.

3. Retorque fasteners.

B. After operating for 1/2 hour:

1. Retorque all fasteners and hardware.
2. Check that all electrical connections are tight and cords are routed out of the way or protected.
3. Check the alignment and tension of all drive-chains. Realign or tighten as required.
4. Check condition of each squeegee roller tension spring.
5. Check oil level in speed reduction gear box for each drive. Top up as required.
6. Check condition of felt rollers, squeegee rollers and scrapers.
7. Lubricate all grease fittings.
8. Check for and remove any entangled materials.

C. After 2, 5 and 10 hours of operation:

1. Repeat items 1 through 8 of Section B.
2. Then go to the regular servicing and maintenance schedule as defined in the Maintenance Section.



FIG. 3 BREATHER (TYPICAL)



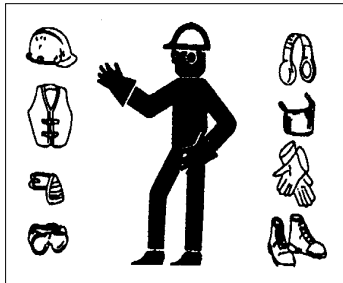
FIG. 4 FASTENERS

4.5 PRE-OPERATION CHECKLIST

Safe and efficient operation of your new Drying Table requires that each operator reads and follows all safety precautions and operating procedures contained in this section. Performing the following pre-operation checklist is important for personal safety as well as for continued mechanical soundness and longevity of your new Mayo Drying Table. The checklist should be performed before operating the Drying Table and prior to each operation thereafter.

1. Lubricate the machine according to the schedule prescribed in the "Maintenance Section".
2. Insure that proper protective gear is in good repair and available for use by each operator. Make certain that each operator uses the protective gear. Protective gear includes but, is not limited to:

- Leather gloves
- Safety glasses or face shield
- Full length protective clothing
- Steel toed boots with slip resistant soles.



3. Insure that all safety guards and shields are in good repair and securely in place.
4. Check that the drive chain is centered on the head and tail rollers. Adjust if necessary as outlined in the "Maintenance Section".
5. Make sure that all electrical switches are in the OFF position before supplying power.
6. Check that all electrical connections are tight and cords are routed out of the way or protected.
7. Be sure the working area is clean and dry to prevent tripping or slipping.
8. Check the condition of the felt rollers, squeegee rollers and scrapers. Clean, repair or replace as required.
9. Remove any entangled material.

4.6 CONTROLS

It is recommended that all operators review the control section of the system manual to familiarize themselves with the location and function of all machine controls before starting. Some machines may vary slightly due to custom features but they are similar and all controls are labelled.

Always refer to the system operating manual for detailed instructions.



FIG. 5 CONTROLS

4.7 MACHINE PREPARATION

The machine must be properly prepared prior to using. Before starting machine, be sure that the following items are appropriate for your machine and operating requirements:

1. **Power:**

Have a licensed electrician provide power at the required voltage, phase and amperage for your machine. An improper source of power will cause damage to electrical components and could create an electrical hazard to the operator, workers or bystanders.

Be sure to use a hard wiring or an extension cord of the correct specifications for the power being carried. Route the cord so that it does not interfere with the working area. Provide appropriate protection when people or equipment must go over the cord. Inspect the cord occasionally to be sure it is not damaged. Replace immediately if it is damaged.

2. **Equipment Attachment:**

Each customer must provide a means of supplying a steady flow of potatoes to the Drying Table. Normally this is done by using another piece of equipment such as a washer or a conveyor. When the Drying Table is used as a component in a system, it is recommended that it be securely attached to the adjacent piece of equipment. If connecting to equipment made by other manufacturers, connect securely using a chain, straps or other means.



FIG. 6 EQUIPMENT ATTACHMENT

4.8 OPERATING



OPERATING SAFETY

- Read and understand the Operator's Manual and all safety signs before operating, maintaining, adjusting or repairing the Drying Table.
- Turn machine OFF, shut down and lock out power supply (safety lockout devices are available through your Mayo dealer parts department), relieve hydraulic pressure and wait for all moving parts to stop before servicing, adjusting, maintaining or repairing.
- Install and properly secure all guards and shields before operating.
- Keep hands, feet, hair and clothing away from all moving parts.
- Clear the area of bystanders, especially small children, before starting.
- Make sure all control switches are in the off position before connecting power supply.
- Extend leg ratchets to level the frame before using.
- Before supplying electrical power to the machine, be sure that you have adequate amperage at the proper phase and voltage to run it. If you do not know or are unsure, consult a licensed electrician.
- Before applying pressure to the hydraulic system, make sure all components are tight and that all steel lines, hoses and couplings are not damaged.
- Keep the working area clean and dry.
- Review safety instructions annually.

Follow this procedure when using the Drying Table:

1. Review Section 4.7 Machine Preparation and follow all the instructions.
2. Review and follow the pre-operation checklist (See Section 4.5).
3. Review the location and function of all controls (See Section 4.6).



FIG. 7 DRYING SYSTEM (TYPICAL)

4. **Starting Drying Table:**

Generally a Drying Table is part of a finishing line in a potato processing center. All machines that are part of the finishing line are wired to a central control panel. A CPU can be used to control to system or control it manually.

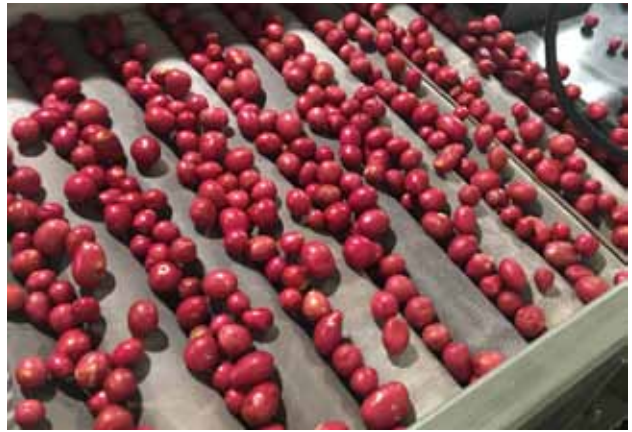
When turned on and control by a CPU, the machine removing the potatoes (usually a conveyor) starts. 2 seconds later the Drying Table starts. 2 seconds later the machine bringing potatoes into the Drying Table (usually a washer) starts. If controlled manually, the operator starts each machine in sequence. This sequence insure the potatoes move smoothly through the system.

5. **Stopping Machine:**

When the system is turned off, the machine bringing potatoes to the dryer stops (automatically or manually). 10 seconds later (automatically) the dryer stops or when operator turns dryer off. Then 10 seconds later, the machine removing potatoes stops or operator turns machine off.

6. **Emergency STOP:**

Depress the red STOP button(s) on the control panel(s) as required.



Drying



Operating



White

FIG. 8 OPERATION (TYPICAL)

7. Equipment Attachment:

Each customer must provide a means of supplying a steady flow of potatoes to the Drying Table. Normally this is done by using another piece of equipment such as a washer or a conveyor. When the Drying Table is used as a component in a finishing system, it is recommended that it be securely attached to the adjacent piece of equipment.



Intake



Discharge



System

FIG. 9 EQUIPMENT ATTACHMENT

8. **Height:**

Each corner of the frame is equipped with adjustable feet that are used to level the frame. When the frame is level the potatoes move evenly across the drying bed and not to either side.



FIG. 10 FRAME FEET

9. **Felt Wrapping:**

The machine operates under the principle that felt absorbs the moisture on the potato as they roll through the machine. The moisture is removed by the squeeze rolls and the potatoes get dryer as they move through the machine. It is important that the felt continues to be rolled on its shaft as the roll rolls. If it isn't, the felt will peel off. Refer to arrows on packaging for direction.



FIG. 11 ARROW (TYPICAL)

10. **Squeeze Roll Springs:**

Each squeeze roll is designed with a tension spring that provides a force to hold the roll against the felt to remove moisture. Check daily to verify they are in good condition. Replace when damaged or broken.



Left



Right

FIG. 12 SQUEEZE ROLLER SPRINGS

11. **Drop Height:**

Potatoes are sensitive to bruising during the gathering, transporting and handling phases of harvesting. Bruising is kept to a minimum by maintaining a full flow of potatoes through each machine and minimizing all drop heights. Bruising during the conveying phase can be minimized by keeping the drop height between each piece of conveying equipment as small as possible. Use the adjustable feet on each corner frame to set the height. Use 2 men (one on each jack) when setting the height of an end to prevent frame twisting.



Intake



Discharge

FIG. 13 DROP HEIGHT

12. **Felt Rollers:**

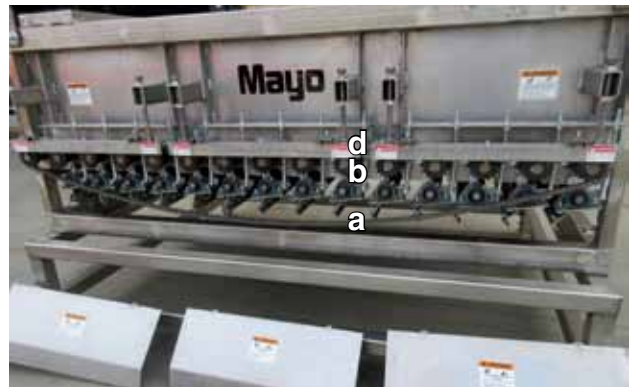
All Felt Rollers are turned together by a roller chain moved next to sprocket mounted on the end of felt shaft. A plastic strip holds the roller chain against the sprockets to insure all sprockets work together.

Use the position bolts to maintain the required clearance between the chain and sprockets.

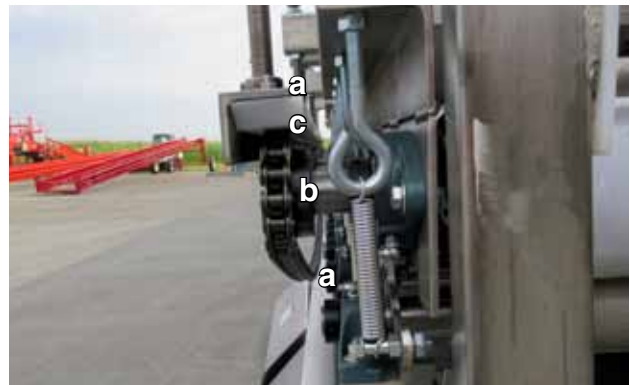
- a. Roller Chain
- b. Sprocket
- c. Plastic Strip
- d. Clamp
- e. Clamp Jam Nut
- f. Clamp Position Bolt
- g. Felt Roll Shaft

Important

Always tighten jam nut to its specified torque after clamp position has been set.



Side View



End View

FIG. 14 FELT ROLLER DRIVE

13. Operating Hints:

- a. Be sure that all workers and operators are supplied with and use the required safety gear.
- b. Keep the working area clean and dry to prevent slipping and tripping.
- c. Train all operators before starting. An untrained operator is not qualified to operate this machine and can expose himself and others to needless hazards.
- d. Secure all pieces of equipment together to prevent unexpected movement and separation.
- e. Keep the Drying Table as full as possible to minimize bruising during the unloading process.
- f. Set the height of each corner of the frame with the adjustable feet so the drop height to the adjacent piece of equipment is at a minimum to prevent bruising.



FIG. 15 OPERATING SYSTEM

4.9 TRANSPORT



TRANSPORT SAFETY

- Make certain that you are in compliance with local, state/provincial and federal regulations regarding transporting agricultural equipment on public roadways.
- Do not exceed 15 MPH (25 Km/H). Reduce speed on rough roads and surfaces.
- Do not allow anyone to ride on the Drying Table or towing vehicle during transport.
- Always use hazard flashers on the towing vehicle when transporting.
- The drying table is always loaded on a trailer for transporting.

Mayo Drying Tables are designed to be easily and conveniently moved from location to location by loading on a transport truck.

When transporting, follow this procedure:

1. Disconnect and remove all auxiliary equipment from the Drying Table.
2. Install long forks on a forklift so they reach across the frame.
3. Use the forklift to load the unit on a trailer.
4. Tie down and secure to trailer.
5. Transport to appropriate location and unload.
6. Check and re-torque fasteners.



FIG. 16 FASTENERS

4.10 STORAGE



STORAGE SAFETY

- Store the Drying Table on a firm level surface.
- If required, make sure the unit is firmly blocked up.
- Make certain that all mechanical locks are safely and positively connected before storing.
- Store away from areas of human activity.
- Do not allow children to play on or around the stored Drying Table.
- Lock out power by turning off master control panel or junction box and padlocking the door shut to prevent electrocution or unauthorized start up of the Drying Table.

4.10.1 PLACING IN STORAGE

At the end of the season, the machine should be thoroughly inspected and prepared for storage. Repair or replace any worn or damaged components to prevent any unnecessary down time at the beginning of the next season. Follow this procedure:

1. Turn the power OFF at the master electrical panel and lock out.
2. Unplug and remove power cord from machine.
3. Thoroughly wash the machine using a pressure washer to remove all dirt, mud, debris or residue.
4. Lubricate all grease fittings. Make sure all grease cavities have been filled with grease to remove any water residue from the washing.
5. Inspect all the electrical cords, lines, junction boxes and motors. Tighten any loose connections. Replace any cord that is badly cut, nicked or abraded. Replace any damaged components.
6. Inspect each felt and squeegee roller. Repair or replace if damaged.
7. Check all rotating parts for entangled material. Remove.
8. Touch up all paint nicks and scratches to prevent rusting.
9. Select a storage area that is dry, level and free of debris.

4.10.2 REMOVING FROM STORAGE

When preparing to use the machine at the start of the season, follow this procedure:

1. Transport or move to the working area.
2. Check
 - a. Electrical systems and components.
 - b. Felt and squeegee rollers.
 - c. All hardware. Tighten as required.
3. Replace any defective components.
4. Go through the pre-operation checklist (Section 4.6) before starting.

5 SERVICE AND MAINTENANCE



MAINTENANCE SAFETY

- Read and understand all the information contained in the Operator's Manual regarding operating, servicing, adjusting, maintaining and repairing.
- Turn machine OFF, shut down and lock out power supply (safety lockout devices are available through your Mayo dealer parts department), relieve hydraulic pressure and wait for all moving parts to stop before servicing, adjusting, maintaining or repairing.
- Exercise extreme caution when working around, or with, high-pressure hydraulic systems. Depressurize the system before working on it.
- Follow good shop practices:
 - Keep service area clean and dry.
 - Be sure electrical outlets and tools are properly grounded.
 - Use adequate light for the job at hand.
- Wear heavy gloves and eye protection when searching for suspected hydraulic leaks. Use a piece of wood or cardboard as a backstop instead of hand to isolate and identify a leak. A high pressure concentrated stream of hydraulic fluid can pierce the skin. If such happens, seek immediate medical attention as infection and toxic reaction could develop.
- Make sure all guards and doors are in place and properly secured when operating the Drying Table.
- **Do not work on Drying Table electrical system unless the power cord is unplugged or the power supply is locked out. Lock-out tag-out power source before performing any maintenance work.**

5.1 SERVICE

5.1.1 FLUIDS AND LUBRICANTS

1. **Grease:**
Use an SAE multi-purpose high temperature grease with extreme pressure (EP) performance meeting or exceeding the NLGI #2 rating for all requirements.
2. **Speed Reducer Gear Box Lubricant:**
Use a Mobil Glygoyle synthetic lubricant 150 VG 460 or equivalent.

Capacities: 1 qt (1 liter) each gear box.
3. **Storing Lubricants:**
Your machine can operate at top efficiency only if clean lubricants are used. Use clean containers to handle all lubricants. Store them in an area protected from dust, moisture and other contaminants.

5.1.2 GREASING

Refer to Section 5.1.1.1 for recommended lubricants. Use the Maintenance Checklist provide to keep a record of all scheduled maintenance.

1. Use only a hand-held grease gun for all greasing. Air powered greasing systems can damage the seals on bearings and lead to early bearing failure.
2. Wipe grease fitting with a clean cloth before greasing to avoid injecting dirt and grit.
3. Replace and repair broken fittings immediately.
4. If a fitting will not take grease, remove and clean thoroughly. Also clean lubricant passageway. Replace fitting if necessary.
5. **Drying Table Bearings:**
Only sealed bearings are used on the Drying Table. Sealed bearings should never be greased more often than weekly or every 50 hours. Do not over-grease. Do not give bearing more than 1 shot of grease each time it is greased. Once the bearing seal is broken, the bearing must be greased each day or the bearing will fail.

5.1.3 SERVICING INTERVALS

8 Hours or Daily

1. Check the condition of the felt on the rollers. Repair or replace as required.



FIG. 17 FELT

2. Check the condition of the felt roller drive roller chain, sprockets and clamping clearance.
3. Inspect electrical system and all components.



FIG. 18 FELT ROLLER DRIVE

Weekly or 50 Hours

1. Grease roller shaft bearings with 1 shot of grease.

IMPORTANT

Only sealed bearings are used on the roller bearings. Sealed bearings should never be greased more often than weekly or every 50 hours. Do not over-grease. Do not give bearing more than 1 shot of grease each time it is greased. Once the bearing seal is broken, the bearing must be greased each day or the bearing will fail.

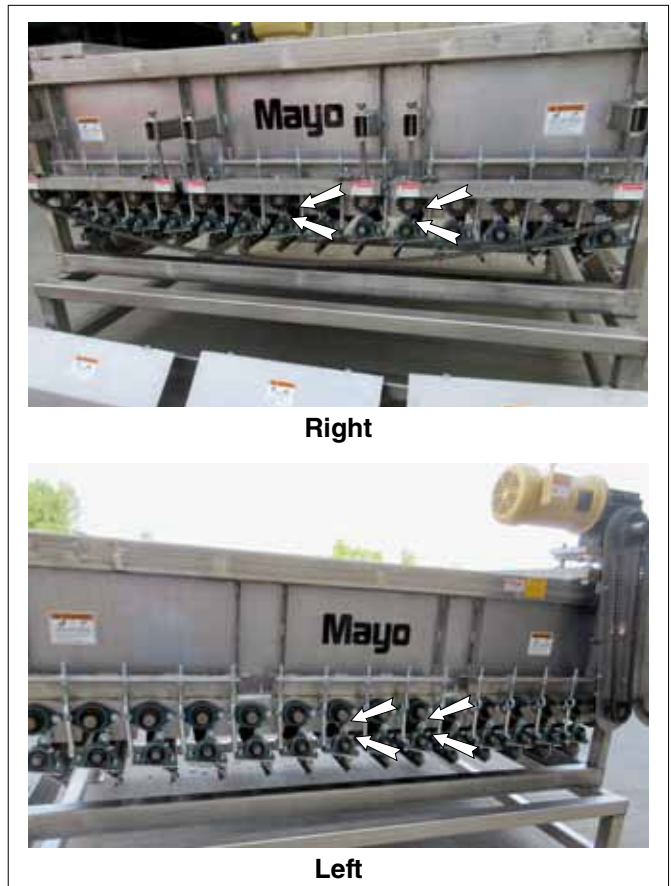


FIG. 19 ROLLER SHAFTS (TYPICAL)

2. Lubricate the roller drive roller chain.

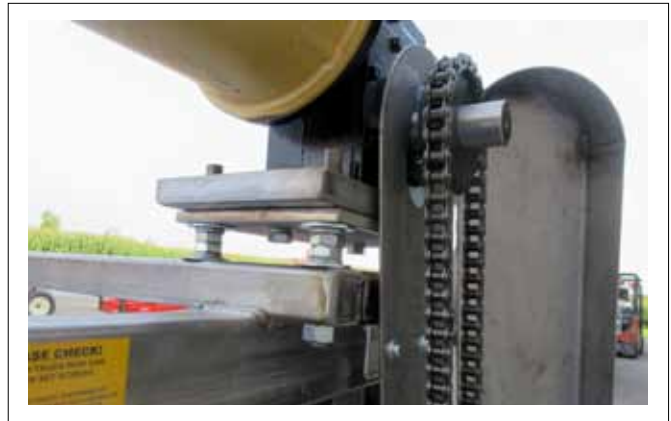


FIG. 20 ROLLER DRIVE

100 Hours or Annually

1. Check the oil level in the right angle speed reducing gearbox in the drive system.



FIG. 21 GEARBOX (TYPICAL)

500 Hours or Annually

1. Change the oil in each gearbox.
2. Clean each gearbox breather plug.



FIG. 22 GEARBOX (TYPICAL)

3. Clean machine.



FIG. 23 MACHINE (TYPICAL)

5.1.4 SERVICE RECORD

See Lubrication and Maintenance sections for details of service. Copy this page to continue record.

ACTION CODE: CK CHECK CH CHANGE CL CLEAN
 LU LUBRICATE RE REPACK IN INSPECT

Maintenance

Hours																																							
Serviced by																																							
8 Hours or Daily																																							
CK Felt on Rollers																																							
CK Felt Roller Drive Chain																																							
IN Electrical System and Components																																							
50 Hours or Weekly																																							
LU Roller Shaft Bearings																																							
LU Roller Drive Roller Chain																																							
100 hours or Annually																																							
CK Gearbox Oil Levels																																							
500 Hours or Annually																																							
CH Gearbox Oil																																							
CL Gearbox Breather Plug																																							
CL Machine																																							

5.2 MAINTENANCE

By following a careful service and maintenance program on your machine, you will enjoy many years of trouble-free use.

5.2.1 ELECTRIC SYSTEM INSPECTION

Electricity provides power to the drive systems on the Drying Table. To maintain the integrity of the system and provide a safe working environment for the operator, it is important that a daily inspection be done to make sure that all systems and components are in good working condition. To provide a safe working environment, have a licensed electrician provide power to the machine.

When inspecting the electrical system and components, follow this procedure:

1. Place all controls in the OFF or neutral position.
2. Turn power OFF at the master panel and lock-out before starting the inspection.
3. Inspect all electrical components looking for:

IMPORTANT

Do not operate the machine unless the master panel is equipped with a lock-out device. Always engage lock-out device before performing any maintenance work. Lock-out devices are available from your dealer or the factory.

- a. Physical damage. (Includes all components: starters, switches, enclosures, as well as plugs).
 - b. Frayed or loose wires.
 - c. Cut or cracked insulation.
4. Replace any damaged components immediately.
 5. Be sure all components are grounded.
 6. Be sure there is not water or moisture in any junction box or enclosure. Dry the components before turning power on. Be sure that all compartments seal properly when closed.

5.2.2 SPEED REDUCER GEARBOX OIL

Each rollers are driven by an electric motor that is attached to a high ratio speed reducing gearbox to give the required operating speed. Each gearbox is equipped with a drain, level and fill plug. Every 100 hours, the oil level should be checked. Every 500 operating hours or annually, whichever comes first, the oil should be replaced. Check more frequently if there are leaks around any of the plugs or shaft seals. When checking oil level or changing oil, follow this procedure. Reducer lubricant: Mobil Glygoyle 460.

1. Run the machine until the gearbox is warm. Warm oil will remove more contaminants than cold stagnant oil.
2. Stop the machine.
3. Place all controls in their OFF or neutral position.
4. Turn the power OFF at the master panel and lock-out.
5. **Checking oil level:**
 - a. When the gearbox is cold, remove the level plug from the side of the gearbox.
 - b. When the oil just fills the threads of the level plug, it is at the correct level.
 - c. Add oil through the fill plug as required.
 - d. Install and tighten level and fill plugs.
6. **Changing oil:**
 - a. Place a container under the drain plug.
 - b. Remove the drain.
 - c. Allow 10 minutes to drain.
 - d. Install and tighten the drain plug.

NOTE

It may be necessary to add teflon tape or pipe sealant to the drain plug prior to installation to prevent leaking.

- e. Remove the level and fill plugs.
- f. Add approximately 1 qt (1 liter) of Mobil Glygoyle 460 or equivalent. Use the level plug to determine the proper amount of oil.
- g. Check that the air passage through the breather is open.
- h. Install and tighten the fill and level plugs.
- i. Dispose of the used oil in an environmentally safe manner.



FIG. 24 GEARBOX (TYPICAL)

5.2.3 BREATHER CLEANING

Each gearbox is equipped with a breather in the fill plug that vents the internal pressure to atmosphere. As the gearbox temperature increases and decreases during the operating and stopped modes, the pressure in the gearbox will increase or decrease if it is not vented to atmosphere. An increase in internal pressure will cause the shaft seals to leak until the gearbox runs low on or out of oil. To check on or clean the breather, follow this procedure:

1. Place all controls in their OFF or neutral position.
2. Turn the power OFF at the master panel and lock-out.
3. Remove the fill plug/breather from the gearbox.
4. Check that the vent passage through the plug is open.
5. If plugged, soak in a solvent over night.
6. Use a high-pressure air hose to blow the passage open. Use a probe to clear the passage if the hole is caked with dirt.
7. Install and tighten the breather plug.

IMPORTANT

Always clean the breather if any leaks are noticed around shafts.

5.2.4 FELT ROLLER DRIVE

All Felt Rolls are turned together by a roller chain moved next to sprocket mounted on the end of felt shaft. A plastic strip holds the roller chain against the sprockets to insure all sprockets work together. Use the position bolts to maintain the required clearance between the chain and sprockets.

- a. Roller Chain
- b. Sprocket
- c. Plastic Strip
- d. Clamp
- e. Clamp Jam Nut
- f. Clamp Position Bolt
- g. Felt Roll Shaft

IMPORTANT

Always tighten jam nut to its specified torque after clamp position has been set.



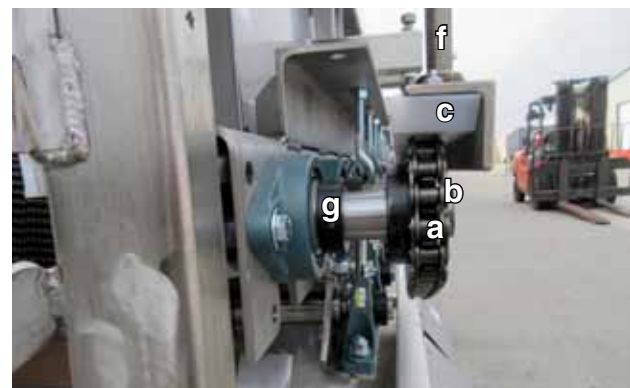
FIG. 25 BREATHER (TYICAL)



System Drive



Drive System



End View

FIG. 26 FELT ROLLER DRIVE

6 TROUBLE SHOOTING

The Mayo Felt Roller Drying Table uses a series of rotating shafts covered with felt to remove moisture from potatoes as they move across the bed. It is a simple and reliable system that requires minimum maintenance.

In the following section, we have listed many of the problems, causes and solutions to the problems that you may encounter.

If you encounter a problem that is difficult to solve, even after having read through this trouble shooting section, please contact your local Mayo dealer or the factory. Before you call, please have this Operator's Manual from your machine and its serial number ready.

PROBLEM	CAUSE	SOLUTION
System won't run.	No power.	Turn power ON at master panel.
	Tripped motor starter.	Reset motor starter.
	Emergency stop switch depressed.	Release emergency stop switch.
<hr/>		
Dryer won't run.	No power.	Turn system ON.
	Sheared motor key.	Replace key.
	Sheared reducer key.	Replace key.
	Felt material binding.	Repair felt or replace roll.
	Sprockets skipping.	Tighten clearance between roller chain and plastic strip.
<hr/>		

7 SPECIFICATIONS

7.1 MECHANICAL

FELT ROLLER DYING TABLE

Drying table physical dimensions and power specifications configurations vary substantially for each machine.

Please contact factory at 1-218-773-1234 or 1-800-223-5873 for your machines particular specifications.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

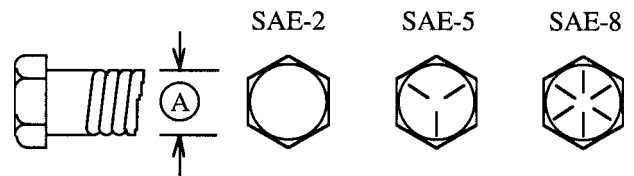
7.2 BOLT TORQUE

CHECKING BOLT TORQUE

The tables shown below give correct torque values for various bolts and capscrews. Tighten all bolts to the torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt.

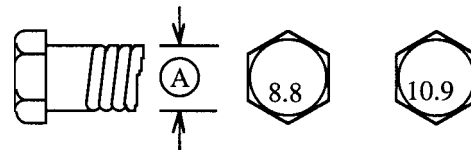
ENGLISH TORQUE SPECIFICATIONS

Bolt Diameter "A"	Bolt Torque*					
	SAE 2 (N.m) (lb-ft)		SAE 5 (N.m) (lb-ft)		SAE 8 (N.m) (lb-ft)	
1/4"	8	6	12	9	17	12
5/16"	13	10	25	19	36	27
3/8"	27	20	45	33	63	45
7/16"	41	30	72	53	100	75
1/2"	61	45	110	80	155	115
9/16"	95	60	155	115	220	165
5/8"	128	95	215	160	305	220
3/4"	225	165	390	290	540	400
7/8"	230	170	570	420	880	650
1"	345	225	850	630	1320	970



METRIC TORQUE SPECIFICATIONS

Bolt Diameter "A"	Bolt Torque*			
	8.8 (N.m) (lb-ft)		10.9 (N.m) (lb-ft)	
M3	.5	.4	1.8	1.3
M4	3	2.2	4.5	3.3
M5	6	4	9	7
M6	10	7	15	11
M8	25	18	35	26
M10	50	37	70	52
M12	90	66	125	92
M14	140	103	200	148
M16	225	166	310	229
M20	435	321	610	450
M24	750	553	1050	774
M30	1495	1103	2100	1550
M36	2600	1917	3675	2710



Torque figures indicated above are valid for non-greased or non-oiled threads and heads unless otherwise specified. Therefore, do not grease or oil bolts or capscrews unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.

* Torque value for bolts and capscrews are identified by their head markings.

7.3 ELECTRICAL SCHEMATIC

Line phasing, line voltage, control voltage, and accessory options can vary substantially for each machine.

Please contact factory at 1-800-223-5873 for your machine's specific electrical layout.

7.4 LUBRICANT SPECIFICATIONS

MAYO MFG. RECOMMENDS THE FOLLOWING MOBIL PRODUCTS OR THEIR EQUIVALENTS				
Lubricant Type	Component	Specification	Recommended Lubricant	Recommended Temperature / Service Interval
Hydraulic Oil	Hydraulic Reservoir	ISO 32, Synthetic Food Grade, NSF-H1	Mobil SHC Cibus 32	All Temperatures/Oil sample guidance or 12 months
	Hydraulic Reservoir	ISO 32, Food Grade, NSF-H1	Mobil DTE FM 32	10F to 140F/Oil sample guidance or 12 months
Grease	Greased Bearings/ Points	Food Grade	Mobilgrease FM 222	All/Weekly or as needed
	Greased Bearings/ Points	Non-Food	Mobilgrease XHP 222	
Gear Oil	Winsmith Worm Gear Reducer	Poly Alkylene Glycol (PAG) ISO 460 NSF H1	Mobil Glygoyle 460	All/See Manual Note: Do not Substitute
	Browning Helical Gear Reducer	Synthetic, PAO Type ISO 220 NSF H1	Mobil SHC 630 or Mobil SHC Cibus 220 (NSF H1)	All/Change Every Two Years
	Auburn Planetary Wheel Drives	SAE GL-5 75w90	Mobil Delvac Synthetic 75w90	All/Change Every Two Years

8 INDEX

	PAGE		PAGE
		I	
Introduction.....	1		
		O	
Operation.....	19		
Controls.....	25		
General Operation Theory	22		
Machine Break-In.....	23		
Machine Components	20		
Machine Preparation	27		
Operating	30		
Pre-Operation Checklist	24		
Storage.....	39		
To the New Operator or Owner	19		
Transport.....	36		
		S	
		Safety	3
		Electrical Safety	9
		Employee Sign-Off Form.....	10
		Equipment Safety Guidelines.....	5
		General Safety	4
		Installation Safety.....	8
		Lock-Out Tag-Out Safety.....	8
		Maintenance Safety	9
		Operating Safety	8
		Preparation.....	7
		Safety Signs	6
		Safety Training.....	6
		Storage Safety	5
		Transport Safety.....	9
		Safety Sign Locations.....	11
		Service and Maintenance.....	31
		Maintenance.....	34
		Service.....	31
		Specifications	41
		Bolt Torque	42
		Electrical Schematic.....	43
		Lubrication Specifications	44
		Mechanical.....	41
		T	
		Trouble Shooting.....	39

MAYO MANUFACTURING CO.

**BUS HIGHWAY 2 BOX 497
EAST GRAND FORKS, MN 56721**

**PHONE (218) 773-1234
TOLL FREE (800) 223-5873
FAX (218) 773-6693**